

2005-08 TRANSMISSION

Automatic Transmission - RL

AUTOMATIC TRANSMISSION

SPECIAL TOOLS

Ref. No.	Tool Number	Description	Qty
①	07GAB-PF50101 or 07GAB-PF50100	Mainshaft Holder	1
②	07GAD-PG40100	Oil Seal Driver Attachment	1
③	07GAD-SD40101	Attachment, 78 x 90 mm	1
④	07GAE-PG40200 or 07GAE-PG4020A	Clutch Spring Compressor Bolt Assembly	1
⑤	07HAD-SG00100	Attachment, 83 mm	1
⑥	07JAH-PH80101	Oil Seal Driver Attachment	1
⑦	07JAD-SH30100	Attachment, 65 mm	1
⑧	07LAD-PW50601	Attachment, 40 x 50 mm	1
⑨	07LAE-PX40100	Clutch Spring Compressor Attachment	2
⑩	07MAD-PR90100	Attachment, 45 x 55 mm	1
⑪	07MAF-SP0011A	Tapered Bearing Race Installer	1
⑫	07MAF-SP0013A	Installer Shaft	1
⑬	07MAJ-PY4011A	A/T Pressure Hose, 2,210 mm	3
⑭	07MAJ-PY40120	A/T Pressure Hose Adapter	3
⑮	07NAD-PX40100	Attachment, 78 x 80 mm	1
⑯	07SAZ-001000A	Backprobe Set	2
⑰	07XAA-002010A	Wrench, 40 x 42 mm	1
⑱	07XAB-0010101	Companion Flange Holder	1
⑲	07ZAE-PRP0100	Clutch Compressor Attachment	1
⑳	070AG-SJAA10S	Frame Positioning Guide Pin	1

07HAE-PL50101 may be used to substitute one of these tools.

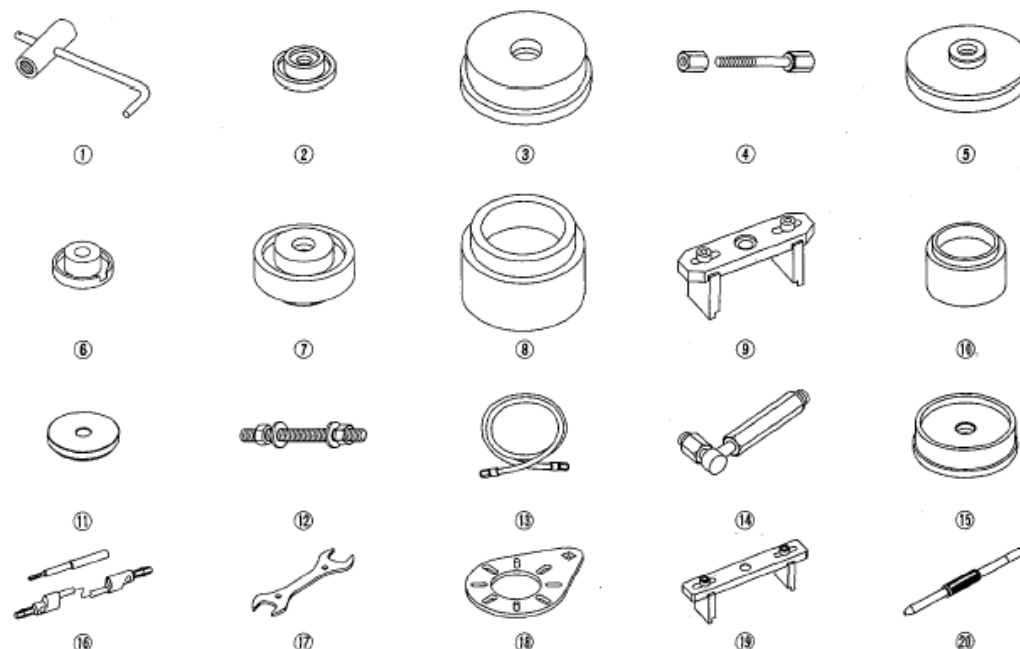


Fig. 1: Identifying Special Tools (1 Of 2)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Ref. No.	Tool Number	Description	Qty
21	070AJ-0020101	Preload Inspection Tool	1
22	07406-0020400 or 07406-0020401	A/T Oil Pressure Gauge Set	1
23	07736-A01000B or 07736-A01000A	Adjustable Bearing Puller, 25—40 mm	1
24	07741-0010201	Sliding Hammer Weight	1
25	07746-0010200	Attachment, 37 x 40 mm	1
26	07746-0010300	Attachment, 42 x 47 mm	1
27	07746-0010400	Attachment, 52 x 55 mm	1
28	07746-0010500	Attachment, 62 x 68 mm	1
29	07746-0010600	Attachment, 72 x 75 mm	1
30	07746-0010800	Attachment, 22 x 24 mm	1
31	07746-0030100	Driver, 40 mm I.D.	1
32	07746-0030300	Attachment, 30 mm I.D.	1
33	07749-0010000	Driver	1
34	07936-1660101	Bearing Remover Shaft Set, 12 mm	1
35	07936-3710100	Bearing Remover Shaft Handle	1
36	07936-3710600	Bearing Remover Shaft Set, 20 mm	1
37	07936-8890300	Bearing Remover Shaft Set, 30 mm	1
38	07936-GE00100	Bearing Remover Shaft, 10 mm	1
39	07936-GE00200	Bearing Remover Head, 10 mm	1
40	07947-6340500	Driver Attachment	1

07736-A01000B or 07736-A01000A must be used with commercially available 3/8"-16 slide hammer.

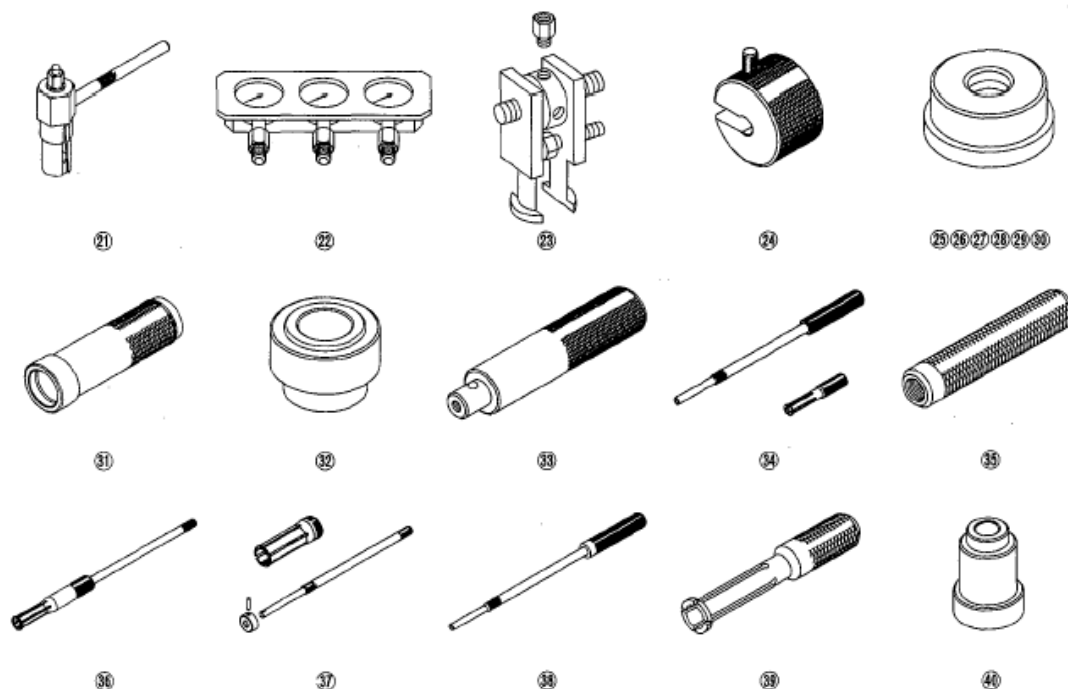


Fig. 2: Identifying Special Tools (2 Of 2)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

GENERAL TROUBLESHOOTING INFORMATION

How to Check for DTCs with the Honda Diagnostic System (HDS)

When the powertrain control module (PCM) senses an abnormality in the input or output system, the D indicator (A) in the gauge control module (B) will usually blink.

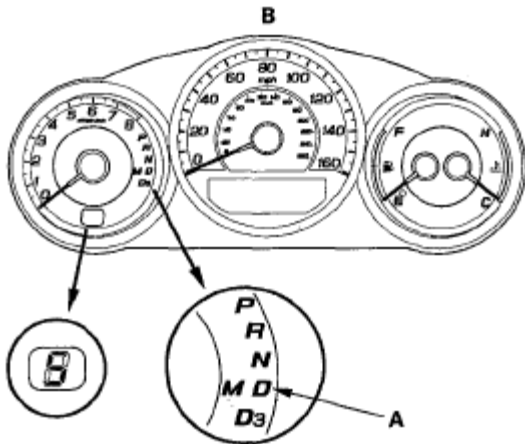


Fig. 3: Identifying D Indicator In Gauge Control Module
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

When the Honda Diagnostic System (HDS) is connected to the data link connector (DLC) (A) located under the left side of the dash, it will indicate the diagnostic trouble code (DTC) when the ignition switch is turned to ON (II) and the appropriate menu is selected.

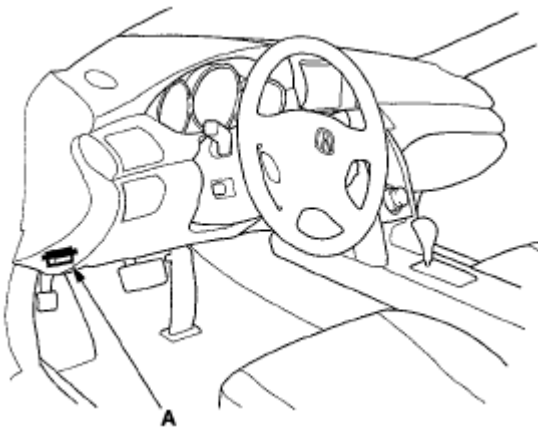


Fig. 4: Identifying Data Link Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

If the D indicator or the malfunction indicator lamp (MIL) has been reported on, or if a driveability problem is suspected, do this:

1. Connect the HDS to the DLC. (See the HDS user's manual for specific instructions.)
2. Turn the ignition switch to ON (II), select A/T system, and observe the DTC in the DTCs MENU on the HDS screen.

NOTE: If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see '05-07 MODELS), '08 model (see '08 MODEL).

3. Record the freeze data and on-board snapshots for all fuel and emissions DTC, and A/T DTCs.
4. If there is a fuel and emissions DTC, first check the fuel and emissions system as indicated by the DTC (except for DTC P0700, which means there is one or more A/T DTCs, and no problems were detected in the fuel and emissions circuit of the PCM).
5. Clear the DTC and data.
6. Drive the vehicle for several minutes under the same conditions as those indicated by the freeze data, and then recheck for a DTC. If the A/T DTC returns, go to the **INDICATED DTCS TROUBLESHOOTING**. If the DTC does not return, there was an intermittent problem within the circuit. Make sure all pins and terminals in the circuit are tight.

Symptom Troubleshooting Versus DTC Troubleshooting

Some symptoms will not trigger diagnostic trouble codes (DTCs) or cause the D indicator to blink. If the malfunction indicator lamp (MIL) was reported ON or the D indicator has been blinking, check for DTCs. If the vehicle has an abnormal symptom, and there are no DTCs stored, do the symptom troubleshooting. Check the list of probable cause(s) for the symptom, in the sequence listed, until you find the problem.

How to Check for DTCs with the SCS Mode (retrieving the flash codes)

NOTE: The preferred method is to use the HDS to retrieve the P-code.

When the PCM senses an abnormality in the input or output system, the D indicator (A) in the gauge control module (B) will usually blink.

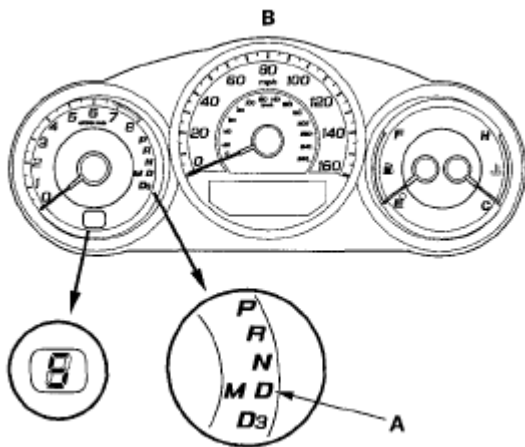


Fig. 5: Identifying D Indicator In Gauge Control Module
Courtesy of AMERICAN HONDA MOTOR CO., INC.

When the D indicator has been reported on, connect the HDS to the DLC (A) located under the left side of the dash. Turn the ignition switch to ON (II), select SCS mode, then the D indicator will flash the DTC.

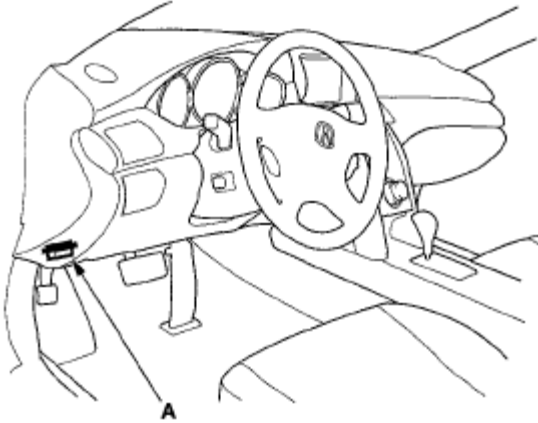


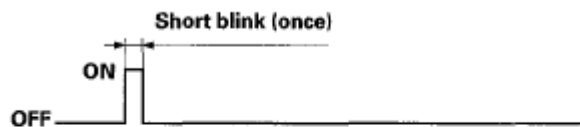
Fig. 6: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

If the D indicator and the MIL come on at the same time, or if a driveability problem is suspected, do this:

1. Connect the HDS to the DLC. (See the HDS user's manual for specific instructions.)
2. Turn the ignition switch to ON (II), select SCS mode, then observe the D indicator in the gauge control module. Codes 1 through 9 are indicated by individual short blinks. Code 10 and above are indicated by a series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the code.

Example: DTC 1-1



Example: DTC 15-5

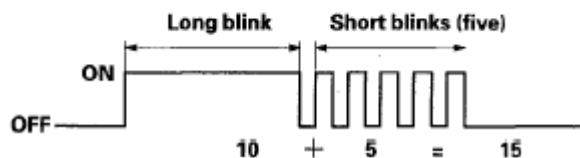


Fig. 7: Identifying DTC Blinking Pattern

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Record all fuel and emissions DTCs and A/T DTCs.
4. If there is a fuel and emissions DTC, first check the fuel and emissions system as indicated by the DTC (except DTC 70, which means there is one or more A/T DTCs, and no problems were detected in the fuel and emissions circuit of the PCM).
5. Clear the DTC and data.
6. Drive the vehicle for several minutes under the same conditions as those indicated by the freeze data, and then recheck for DTC. If the A/T DTC returns, go to the **INDICATED DTCS TROUBLESHOOTING**.

If the DTC does not return, there was an intermittent problem within the circuit. Make sure all pins and terminals in the circuit are tight.

How to Troubleshoot Circuits at the PCM

Special Tools Required

Backprobe set 07SAZ-001000A (two required)

1. Pull back the carpet, and remove the passenger's front console cover and rear vent duct (see step 5 under **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Inspect the circuit on the PCM, according to the DTC troubleshooting, with the special tools and a digital multimeter.
3. Connect the backprobe adapters (A) to the stacking patch cords (B), and connect the cords to a multimeter (C).

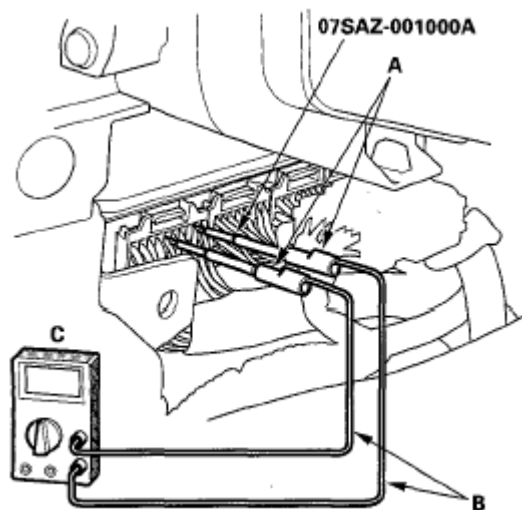


Fig. 8: Connecting Backprobe Adapters To Stacking Patch Cords
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Using the wire insulation as a guide for the contoured tip of the backprobe adapter, gently slide the tip into the connector from the wire side until it touches the end of the wire terminal.
5. If you cannot get to the wire side of the connector or the wire side is sealed, disconnect the connector and use the tester probe to probe the connectors from the terminal side. Do not force the probe into the connector.

How to Clear A/T DTCs

1. Connect the HDS to the DLC (A).

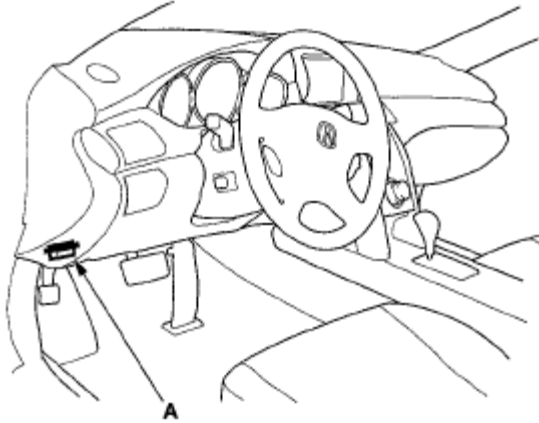


Fig. 9: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Turn the ignition switch to ON (II).
3. Clear the DTC(s) on the HDS screen.

NOTE: If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see '05-07 MODELS), '08 model (see '08 MODEL).

PCM Reset

This command clears stored specific data from the PCM such as DTCs freeze data, and readiness codes. It does not clear CKP PATTERN data.

1. Reset the PCM with the HDS when the engine is stopped.
2. Turn the ignition switch to LOCK (0).
3. Turn the ignition switch to ON (II), and wait for 30 seconds.
4. Turn the ignition switch to LOCK (0), and disconnect the HDS from the DLC.
5. Do the PCM idle learn procedure (see PCM IDLE LEARN PROCEDURE).

OBD Status

The OBD Status shows the current system status of each DTC and all of the parameters. This function is used to see if the repair was successfully completed. The results of diagnostic tests for the DTC are displayed as:

- PASSED: The on-board diagnosis is successfully finished.
- FAILED: The on-board diagnosis has finished but failed.
- NOT COMPLETED: The on-board diagnosis was running but is out of the enable conditions of the DTC.

How to End a Troubleshooting Session (required after any troubleshooting)

1. Reset the PCM with the HDS while the engine is stopped.

2. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
3. Turn the ignition switch to LOCK (0).
4. Turn the ignition switch to ON (II), and wait for 30 seconds.
5. Turn the ignition switch to LOCK (0), and disconnect the HDS from the DLC.
6. Start the engine in P or N, and warm it to normal operating temperature (the radiator fan comes on).
7. To verify that the problem is repaired, test-drive the vehicle for several minutes at speeds over 30 mph (50 km/h) or under the same conditions as those indicated by the freeze data.

Updating the PCM

Special Tools Required

- Honda diagnostic system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA600 and an iN workstation with HDS and CM update software

Use this procedure when you have to update the PCM during troubleshooting procedures.

NOTE:

- **Make sure the HDS/HIM has the latest software version.**
- **Before you update the PCM, make sure the battery in the vehicle is fully charged.**
- **Never turn the ignition switch to LOCK (0) during the update. If there is a problem with the update, leave the ignition switch ON (II).**
- **To prevent PCM damage, do not operate anything electrical (headlights, audio system, brakes, A/C, power windows, door locks, etc.) during the update.**
- **To ensure the latest program is installed, do PCM update whenever the PCM is substituted or replaced.**
- **You cannot update PCM with a program it already has. It will only accept a new program.**
- **If you need to diagnose the Honda interface module (HIM) because the HIM's red (#3) lamp came on or was flashed during the update, leave the ignition switch in the ON (II) position when you disconnect the HIM from the data link connector (DLC). This will prevent PCM damage.**

1. Turn the ignition switch to ON (II), but do not start the engine.
2. Connect the HDS to the DLC (A).

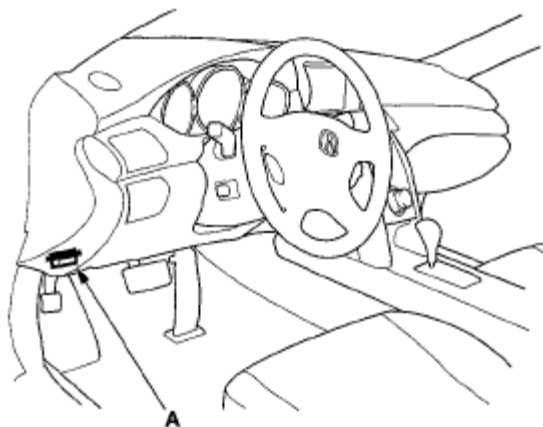


Fig. 10: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Make sure the HDS communicates with the PCM. If it doesn't, go to the DLC circuit troubleshooting; '05-07 models (see **'05-07 MODELS**), '08 model (see **'08 MODEL**). If you are returning from the DLC circuit troubleshooting, skip steps 4 and 5, and clean the throttle body after updating the PCM (see **'08 MODEL**).
4. Select the INSPECTION MENU with the HDS.
5. Select the ETCS TEST, then select the TP POSITION CHECK, and follow the screen prompts with the HDS.

NOTE: If the TP POSITION CHECK indicates FAILED, continue this procedure.

6. Exit the HDS, then select the CM update, and follow the screen prompts to update the PCM.
7. If the software in the PCM is the latest, disconnect the HDS/HIM from the DLC, and go back to the procedure that you were doing. If the software in the PCM is not the latest, follow the instructions on the screen. If prompted to choose the PGM-FI system or the A/T system, make sure you update both.

NOTE: If the PCM update procedure requires you to cool the PCM, follow the screen prompts. If you run into a problem during the update procedure (programming takes over 15 minutes, status bar goes over 100 %, D or immobilizer light flashes, HDS tablet freezes, etc.), follow these steps to minimize the chance of damaging the PCM:

- Leave the ignition switch in the ON (II) position.
- Connect a jumper battery (do not connect a battery charger).
- Shut down the HDS.
- Disconnect the HDS from the DLC.
- Reboot the HDS.
- Reconnect the HDS to the DLC, and try the update procedure again.

8. If the TP POSITION CHECK failed in step 6, clean the throttle body (see **THROTTLE BODY CLEANING**).
9. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).
10. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).

Substituting the PCM

Special Tools Required

- Honda diagnostic system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA600 and an iN workstation with HDS and CM update software

Use this procedure when you have to substitute a known-good PCM during troubleshooting procedure.

1. Connect the HDS to the DLC (A).

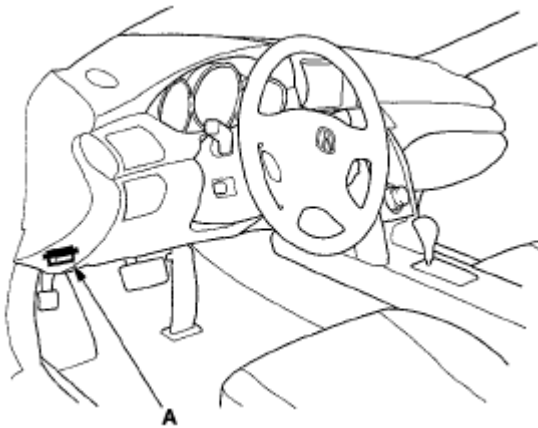


Fig. 11: Identifying Data Link Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the PCM. If it doesn't, go to the DLC circuit troubleshooting; '05-'07 models (see **'05-'07 MODELS**), '08 model (see **'08 MODEL**). If you are returning from DLC circuit troubleshooting, skip steps 4 to 5, then clean the throttle body after substituting the PCM (see **'08 MODEL**).
4. Select the INSPECTION MENU with the HDS.
5. Select the ETCS TEST, then select the TP POSITION CHECK, and follow the HDS screen prompts.

NOTE: If the TP POSITION CHECK indicates FAILED, continue to the end of this

procedure.

6. Jump the SCS line with the HDS.
7. Remove the front console cover (A) (see step 5 under **CENTER CONSOLE REMOVAL/INSTALLATION**) and pull back the carpet.

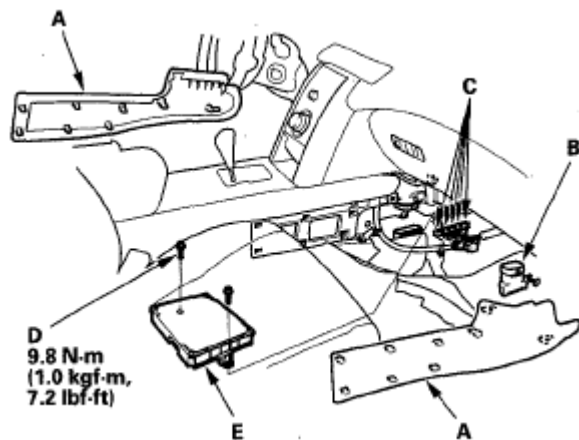


Fig. 12: Identifying Front Console Cover, Ducts, PCM Connectors And PCM With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Remove the ducts (B).
9. Disconnect the PCM connectors (C).
10. Remove the two bolts (D), and remove the PCM (E).
11. Install a known-good PCM in the reverse order of removal.
12. Open the SCS with the HDS.
13. Turn the ignition switch to ON (II).

NOTE: DTC P0630 "VIN Not Programmed or Mismatch" may be stored because the VIN has not been programmed into the PCM; ignore it, and continue this procedure.

14. Manually input the VIN to the PCM with the HDS.
15. Update the PCM if it does not have the latest software.
16. Select the IMMOBI SYSTEM with the HDS.
17. Enter the immobilizer code using the PCM replacement procedure in the HDS; this allows you to start the engine.
18. Reset the PCM with the HDS.
19. If the TP POSITION CHECK failed in step 6, clean the throttle body (see **THROTTLE BODY CLEANING**).
20. Do the PCM idle learn procedure (see **PCM IDLE LEARN PROCEDURE**).

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21. Do the CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN**).

DTC TROUBLESHOOTING INDEX

NOTE: Record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**) before you troubleshoot.

DTC TROUBLESHOOTING CHART

DTC⁽¹⁾	D Indicator	MIL	Detection Item
<u>P0705</u> (5-2) ⁽²⁾	Blinks	ON	Short in Transmission Range Switch Circuit (Multiple Shift-position Input)
<u>P0706</u> (6-2) ⁽²⁾	OFF	ON	Open in Transmission Range Switch Circuit
<u>P0711</u> (28-5) ⁽²⁾	Blinks	OFF	Problem in ATF Temperature Sensor Circuit
<u>P0712</u> (28-3) ⁽²⁾	Blinks	OFF	Short in ATF Temperature Sensor Circuit
<u>P0713</u> (28-4) ⁽²⁾	Blinks	OFF	Open in ATF Temperature Sensor Circuit
<u>P0716</u> (15-5) ⁽²⁾	Blinks	ON	Problem in Input Shaft (Mainshaft) Speed Sensor Circuit
<u>P0717</u> (15-3) ⁽²⁾	Blinks	ON	Problem in Input Shaft (Mainshaft) Speed Sensor Circuit (No Signal Input)
<u>P0718</u> (15-6) ⁽²⁾	Blinks	ON	Input Shaft (Mainshaft) Speed Sensor Intermittent Failure
<u>P0721</u> (9-5) ⁽²⁾	Blinks	ON	Problem in Output Shaft (Countershaft) Speed Sensor Circuit
<u>P0722</u> (9-3) ⁽²⁾	Blinks	ON	Problem in Output Shaft (Countershaft) Speed Sensor Circuit (No Signal Input)
<u>P0723</u> (9-6) ⁽²⁾	Blinks	ON	Output Shaft (Countershaft) Speed

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			Sensor Intermittent Failure
P0731 (64-1)	Blinks	OFF	Problem in 1st Clutch and 1st Clutch Hydraulic Circuit
P0732 (64-2)	Blinks	OFF	Problem in 2nd Clutch and 2nd Clutch Hydraulic Circuit
P0733 (64-3)	Blinks	OFF	Problem in 3rd Clutch and 3rd Clutch Hydraulic Circuit
P0734 (64-4)	Blinks	OFF	Problem in 4th Clutch and 4th Clutch Hydraulic Circuit
P0735 (64-5)	Blinks	OFF	Problem in 5th Clutch and 5th Clutch Hydraulic Circuit
P0741 (40-3)	Blinks	OFF	Torque Converter Clutch Hydraulic Circuit Stuck OFF
P0746 (76-3)	Blinks	ON	A/T Clutch Pressure Control Solenoid Valve A Stuck OFF
P0747 (76-4)	Blinks	ON	A/T Clutch Pressure Control Solenoid Valve A Stuck ON
P0751 (70-3)	Blinks	ON	Shift Solenoid Valve A Stuck OFF
P0752 (70-4)	Blinks	ON	Shift Solenoid Valve A Stuck ON
P0756 (71-3)	Blinks	ON	Shift Solenoid Valve B Stuck OFF
P0757 (71-4)	Blinks	ON	Shift Solenoid Valve B Stuck ON
P0761 (72-3)	Blinks	ON	Shift Solenoid Valve C Stuck OFF
P0762 (72-4)	Blinks	ON	Shift Solenoid Valve C Stuck ON
P0766 (73-3)	Blinks	ON	Shift Solenoid Valve D Stuck OFF
P0767 (73-4)	Blinks	ON	Shift Solenoid Valve D Stuck ON
P0776 (77-3)	Blinks	ON	A/T Clutch Pressure Control Solenoid Valve B

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			Stuck OFF
P0777 (77-4)	Blinks	ON	A/T Clutch Pressure Control Solenoid Valve B Stuck ON
P0796 (78-3)	Blinks	ON	A/T Clutch Pressure Control Solenoid Valve C Stuck OFF
P0797 (78-4)	Blinks	ON	A/T Clutch Pressure Control Solenoid Valve C Stuck ON
P0812 (65-2) ⁽²⁾	Blinks	ON	Open in Transmission Range Switch ATP R Switch Circuit
P0815 (24-5) ⁽²⁾	Blinks	ON	Short in Transmission Gear Selection Switch Upshift Switch Circuit, or Transmission Gear Selection Switch Upshift Switch Stuck ON
P0816 (24-6) ⁽²⁾	Blinks	ON	Short in Transmission Gear Selection Switch Downshift Switch Circuit, or Transmission Gear Selection Switch Downshift Switch Stuck ON
P0842 (25-3) ⁽²⁾	Blinks	ON	Short in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck ON
P0843 (25-4) ⁽²⁾	Blinks	ON	Open in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck OFF
P0847 (26-3) ⁽²⁾	Blinks	ON	Short in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck ON
	Blinks	ON	Open in 3rd Clutch

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P0848 (26-4) ⁽²⁾			Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck OFF
P0872 (27-3) ⁽²⁾	Blinks	OFF	Short in 4th Clutch Transmission Fluid Pressure Switch Circuit, or 4th Clutch Transmission Fluid Pressure Switch Stuck ON
P0873 (27-4) ⁽²⁾	Blinks	OFF	Open in 4th Clutch Transmission Fluid Pressure Switch Circuit, or 4th Clutch Transmission Fluid Pressure Switch Stuck OFF
P0957 (24-3) ⁽²⁾	Blinks	ON	Short in Transmission Gear Selection Switch Circuit, or Transmission Gear Selection Switch Stuck ON
P0958 (24-4) ⁽²⁾	Blinks	ON	Open in Transmission Gear Selection Switch Circuit, or Transmission Gear Selection Switch Stuck OFF
P0962 (16-3) ⁽²⁾	Blinks	ON	Problem in A/T Clutch Pressure Control Solenoid Valve A Circuit
P0963 (16-4) ⁽²⁾	Blinks	ON	Problem in A/T Clutch Pressure Control Solenoid Valve A
P0966 (23-3) ⁽²⁾	Blinks	ON	Problem in A/T Clutch Pressure Control Solenoid Valve B Circuit
P0967 (23-4) ⁽²⁾	Blinks	ON	Problem in A/T Clutch Pressure Control Solenoid Valve B
P0970 (29-3) ⁽²⁾	Blinks	ON	Problem in A/T Clutch Pressure Control Solenoid Valve C Circuit
P0971 (29-4) ⁽²⁾	Blinks	ON	Problem in A/T Clutch Pressure Control Solenoid

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			Valve C
P0973 (7-3) ⁽²⁾	Blinks	ON	Short in Shift Solenoid Valve A Circuit
P0974 (7-4) ⁽²⁾	Blinks	ON	Open in Shift Solenoid Valve A Circuit
P0976 (8-3) ⁽²⁾	Blinks	ON	Short in Shift Solenoid Valve B Circuit
P0977 (8-4) ⁽²⁾	Blinks	ON	Open in Shift Solenoid Valve B Circuit
P0979 (22-3) ⁽²⁾	Blinks	ON	Short in Shift Solenoid Valve C Circuit
P0980 (22-4) ⁽²⁾	Blinks	ON	Open in Shift Solenoid Valve C Circuit
P0982 (60-3) ⁽²⁾	Blinks	ON	Short in Shift Solenoid Valve D Circuit
P0983 (60-4) ⁽²⁾	Blinks	ON	Open in Shift Solenoid Valve D Circuit
P1717 (62-1)	Blinks	ON	Open in Transmission Range Switch ATP RVS Switch Circuit
P1743 (45-11)	Blinks	OFF	Problem in Shift Control System; Shift Valve E Stuck OFF
P1744 (45-12)	Blinks	OFF	Problem in Shift Control System; Shift Valve E Stuck ON
P1745 (45-13)	Blinks	OFF	Problem in Shift Control System; Servo Control Valve Stuck OFF or Servo Control Valve Stuck ON
P1780 (49-1)	Blinks	ON	Problem in Shift Control System

NOTE:

(1) The DTC in parentheses is the Honda code that you will see when you use the HDS. The first number(s) before the - (hyphen) is the flash code the D indicator indicates when the data link connector (DLC) is connected to the HDS, and in the SCS mode.

(2) This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

SYMPTOM TROUBLESHOOTING INDEX

TROUBLESHOOTING CHART

Symptom	Probable cause(s)	Notes
When you turn the ignition		

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switch to ON (II), the D indicator comes on and stays on in all shift lever positions, or it never comes on at all

- F-CAN communication line error
- Gauge control module defective
- PCM defective

- Check the F-CAN communication line for a DTC (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH PCM (ENG MESSAGE)**); **DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGE)**); **DTC B1178: F-CAN COMMUNICATION ERROR**).
- Check the F-CAN communication line by using the gauge control module self-diagnostic function (see **THE COMMUNICATION LINE CHECK**).
- Check the indicator drive circuit in the gauge control module by using the gauge control module self-diagnostic function (see **THE INDICATOR DRIVE CIRCUIT CHECK**).

A/T gear position indicator does not come on while the shift lever is in that position

- F-CAN communication line error
- Gauge control module defective
- PCM defective
- Transmission range switch defective

- Check the F-CAN communication line for a DTC (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH PCM (ENG MESSAGE)**); **DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGE)**); **DTC B1178: F-CAN COMMUNICATION ERROR**).
- Check the F-CAN

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		<p>communication line by using the gauge control module self-diagnostic function (see <u>THE COMMUNICATION LINE CHECK</u>).</p> <ul style="list-style-type: none">• Check the indicator drive circuit in the gauge control module by using the gauge control module self-diagnostic function (see <u>THE INDICATOR DRIVE CIRCUIT CHECK</u>).• Inspect the transmission range switch (see <u>TRANSMISSION RANGE SWITCH TEST</u>).
Shift indicator does not work	<ul style="list-style-type: none">• F-CAN communication line error• Gauge control module defective• PCM defective• Transmission range switch defective	<ul style="list-style-type: none">• Check the F-CAN communication line for a DTC (see <u>DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH PCM (ENG MESSAGE)</u>; <u>DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGE)</u>; <u>DTC B1178: F-CAN COMMUNICATION ERROR</u>).• Check the F-CAN communication line by using the gauge control module self-diagnostic function (see <u>THE COMMUNICATION LINE CHECK</u>).• Check the indicator drive circuit in the gauge control module by using the gauge control module self-diagnostic function (see <u>THE INDICATOR DRIVE CIRCUIT CHECK</u>).

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		<ul style="list-style-type: none"> Inspect the transmission range switch (see <u>TRANSMISSION RANGE SWITCH TEST</u>).
When you press the paddle shifter + (upshift switch) in M, the transmission does not upshift gears	A problem in the paddle shifter + (upshift switch) circuit	Check the paddle shifter + (upshift switch) circuit (see <u>PADDLE SHIFTER + (UPSHIFT SWITCH) CIRCUIT TROUBLESHOOTING</u>).
When you press the paddle shifter - (downshift switch) in M, the transmission does not downshift gears	A problem in the paddle shifter - (downshift switch) circuit	Check the paddle shifter - (downshift switch) circuit (see <u>PADDLE SHIFTER - (DOWNSHIFT SWITCH) CIRCUIT TROUBLESHOOTING</u>).
Shift lever cannot be moved from P while you are pressing on the brake pedal	<ul style="list-style-type: none"> Accelerator pedal position sensor circuit Accelerator pedal position sensor defective Brake pedal position switch circuit Brake pedal position switch defective Shift lock solenoid defective Shift lock solenoid control circuit Shift lock mechanism defective Throttle body defective Transmission range switch ATP P switch stuck OFF Transmission range switch ATP P switch line opened 	<ul style="list-style-type: none"> Inspect the APP sensor signal (see <u>APP SENSOR SIGNAL INSPECTION</u>). Troubleshoot the shift lock system circuit (see <u>SHIFT LOCK SYSTEM/REVERSE LOCK SYSTEM CIRCUIT TROUBLESHOOTING</u>). Test the shift lock solenoid (see <u>SHIFT LOCK SOLENOID TEST</u>). Inspect the transmission range switch (see <u>TRANSMISSION RANGE SWITCH TEST</u>).
Shift lever cannot pass through R from N	A problem in the reverse lock system of the interlock system	Check the interlock system - reverse lock system circuit (see <u>SHIFT LOCK SYSTEM/REVERSE LOCK SYSTEM CIRCUIT TROUBLESHOOTING</u>).
Ignition switch cannot be moved from ACCESSORY (1) to LOCK (0) (key is pushed in, the shift lever in P)	A problem in the key interlock system of the interlock system	Check the interlock system - key interlock system circuit (see <u>KEY INTERLOCK SYSTEM CIRCUIT</u>).

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		<u>TROUBLESHOOTING</u>).
HDS does not communicate with the PCM or the vehicle	DLC circuit	Troubleshoot the DLC circuit; '05-'07 models (see <u>'05-'07 MODELS</u>), '08 model (see <u>'08 MODEL</u>).
Engine runs, but vehicle does not move in any gear	<ol style="list-style-type: none">1. Low ATF level2. Shift cable broken or out of adjustment3. Connection between shift cable and transmission or body is worn4. ATF pump worn or binding5. Regulator valve stuck or spring worn6. ATF strainer clogged7. Mainshaft worn or damaged8. Final gears worn or damaged9. Park mechanism defective10. Transmission-to-engine assembly error11. Axle disengaged	<ul style="list-style-type: none">• Check the ATF level and check the ATF cooler lines for leakage and loose connections. If necessary, clean the ATF cooler lines.• Check for a loose shift cable at the shift lever and the transmission control lever.• Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump seizure. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.• Check the line pressure.• Check the ATF strainer for debris. If the strainer is clogged, find the damaged components that caused the debris.• Inspect the differential pinion gears for wear. If the differential pinion gears are worn, replace the differential assembly, replace the ATF strainer, and thoroughly clean the transmission, and clean the cooler and lines. Replace the torque converter.• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will result in ATF pump seizure if not detected. Use the proper tools.• Install the main seal flush with the torque converter

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		housing. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.
Vehicle moves in R, but not in D, D3, or 1st in M	<ol style="list-style-type: none">1. 1st accumulator defective2. Idler gears worn or damaged3. 1st clutch defective	<ul style="list-style-type: none">• Check the 1st clutch pressure.• Inspect the secondary shaft and 1st/1st-hold the clutch assembly for wear and damage.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Vehicle moves in D, D3, and R, but not in 1st in M	<ol style="list-style-type: none">1. 1st-hold accumulator defective2. 1st-hold clutch defective	<ul style="list-style-type: none">• Check the 1st-hold clutch pressure.• Inspect the secondary shaft and 1st/1st-hold clutch assembly for wear and damage.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the

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		clutch wave-plate height. If the discs and the flat-plates are worn or damaged, replace the discs and the flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and the plates are OK, adjust the clearance with the clutch end-plate.
Vehicle moves in D, D3, and R, but not in 2nd in M	<ol style="list-style-type: none">1. 2nd accumulator defective2. 2nd clutch defective	<ul style="list-style-type: none">• Check the 2nd clutch pressure.• Inspect the secondary shaft and the 2nd clutch assembly for wear and damage.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Vehicle moves in D, D3, and M, but not in R (or moves forward in R)	<ol style="list-style-type: none">1. Shift fork shaft stuck2. Modulator valve defective3. Reverse CPC valve defective4. 5th accumulator defective5. 5th clutch defective6. Reverse gears worn or damaged	<ul style="list-style-type: none">• Check the line pressure and the 5th clutch pressure.• Check for a missing shift fork bolt on the shift fork shaft.• Check the ATF strainer for debris. If the ATF strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the

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		<p>debris. If no cause for the contamination is found, replace the torque converter.</p> <ul style="list-style-type: none">• Inspect the reverse selector gear teeth chamfers, and inspect the engagement teeth chamfers of the countershaft 5th gear and the reverse gear. Replace the reverse gears and the reverse selector if they are worn or damaged. If the transmission makes clicking, grinding, or whirring noises, also replace the mainshaft 5th gear, reverse idler gear, and the countershaft 5th gear.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the flat-plates are worn or damaged, replace the discs and the flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Poor acceleration; flares when starting off in D and R; stall speed high in R	<ol style="list-style-type: none">1. Low ATF level2. Shift cable broken or out of adjustment3. ATF pump worn or binding4. Regulator valve stuck or spring worn5. ATF strainer clogged6. Torque converter check valve defective	<ul style="list-style-type: none">• Check the ATF level and check the ATF cooler lines for leakage and loose connections. If necessary, clean the ATF cooler lines.• Check for a loose shift cable at the shift lever and the transmission control lever.• Check the line pressure.

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		<ul style="list-style-type: none">• Check the ATF strainer for debris. If the strainer is clogged, find the damaged components that caused the debris.• Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump seizure. The symptom is mostly an rpm-related ticking noise or a high pitched squeak.• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will result in the ATF pump seizure if not detected. Use the proper tools.
Poor acceleration; flares when starting off in D, D3, and R; stall speed high in D and D3	<ol style="list-style-type: none">1. 1st accumulator defective2. 1st clutch defective	<ul style="list-style-type: none">• Check the 1st clutch pressure.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the flat-plates are worn or damaged, replace the discs and the flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and the plates are OK, adjust the clearance with the clutch end-plate.
Poor acceleration; flares when starting off in D, D3, and R; stall speed high in R	<ol style="list-style-type: none">1. Shift solenoid valve C defective2. Shift cable broken or out of	<ul style="list-style-type: none">• Check for a stored DTC, and check for loose connectors. Inspect the O-ring, and check

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	<p>adjustment</p> <ol style="list-style-type: none">3. Reverse CPC valve defective4. 5th accumulator defective5. 5th clutch defective	<p>the shift solenoid valve seizure.</p> <ul style="list-style-type: none">• Check for a loose shift cable at the shift lever and the transmission control lever.• Check the 5th clutch pressure.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the flat-plates are worn or damaged, replace the discs and the flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Poor acceleration; flares when starting off in D5, D4, D3, and R; stall speed low	<ol style="list-style-type: none">1. Shift solenoid valve D defective2. Torque converter one-way clutch defective3. Engine output low4. Torque converter clutch piston defective5. Lock-up shift valve defective	Check for a stuck lock-up valve in the valve body.
Engine idle vibration	<ol style="list-style-type: none">1. Low ATF level2. Torque converter clutch solenoid valve defective3. Drive plate defective or transmission misassembled4. Engine output low5. Torque converter clutch piston defective	<ul style="list-style-type: none">• Adjust the engine and the transmission mounts.• Check the ATF level and check the ATF cooler lines for leakage and loose connections. If necessary, clean the ATF cooler lines.

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	<ol style="list-style-type: none"> 6. ATF pump worn or binding 7. Lock-up shift valve defective 	
Vehicle moves in N	<ol style="list-style-type: none"> 1. Excessive ATF 2. Foreign material in separator plate orifice 3. Relief valve defective 4. Lubrication control valve defective 5. 1st-hold clutch defective 6. 1st clutch defective 7. 2nd clutch defective 8. 3rd clutch defective 9. 4th clutch defective 10. 5th clutch defective 11. Clutch end-plate clearance incorrect 12. Needle bearing seized up, worn, or damaged 13. Thrust washer seized up, worn, or damaged 	<ul style="list-style-type: none"> • Check the ATF level, and drain the ATF if necessary. • Check all clutch pressures. • Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Late shift after shifting from N to D or D3, or excessive shock when shifting	<ol style="list-style-type: none"> 1. Shift solenoid valve C defective 2. A/T clutch pressure control solenoid valve A defective 3. A/T clutch pressure control solenoid valve B defective 4. A/T clutch pressure control solenoid valve C defective 5. Shift cable broken or out of adjustment 6. Connection between shift cable and transmission or body is worn 7. Input shaft (mainshaft) speed sensor defective 8. Output shaft (countershaft) speed sensor defective 9. ATF temperature sensor 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the O-ring, and check the shift solenoid valve for seizure. • Inspect the A/T clutch pressure control solenoid valve body gasket and the ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid valve is stuck, inspect the CPC valves. • Check for a loose shift cable at the shift lever and the transmission control lever. • Check the 1st clutch pressure. • Inspect the clutch piston, clutch piston check valve, and

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	<p>defective</p> <ol style="list-style-type: none"> 10. CPC valve A defective 11. CPC valve B defective 12. CPC valve C stuck 13. Foreign material in separator plate orifice 14. Shift valve C defective 15. Shift valve E defective 16. Servo control valve defective 17. 1st accumulator defective 18. 1st check ball stuck 19. One-way check ball stuck 20. 1st clutch defective 	<p>the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and the plates are OK, adjust the clearance with the clutch end-plate.</p>
<p>Late shift after shifting from N to R, or excessive shock when shifting</p>	<ol style="list-style-type: none"> 1. Shift solenoid valve C defective 2. A/T clutch pressure control solenoid valve B defective 3. A/T clutch pressure control solenoid valve C defective 4. Shift cable broken or out of adjustment 5. Connection between shift cable and transmission or body is worn 6. Input shaft (mainshaft) speed sensor defective 7. Output shaft (countershaft) speed sensor defective 8. ATF temperature sensor defective 9. Shift fork shaft stuck 10. CPC valve C stuck 11. Reverse CPC valve defective 12. Foreign material in separator plate orifice 13. Shift valve E defective 14. 5th accumulator defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the O-ring, and check the shift solenoid valve for seizure. • Inspect the A/T clutch pressure control solenoid valve body gasket and the ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid valve is stuck, inspect the CPC valves. • Check for a loose shift cable at the shift lever and the transmission control lever. • Check the 5th clutch pressure. • Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the

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	15. 5th clutch defective	clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Transmission does not shift	<ol style="list-style-type: none"> 1. Input shaft (mainshaft) speed sensor defective 2. Output shaft (countershaft) speed sensor defective 3. Modulator valve defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Check the line pressure.
Erratic shifting: fails to shift in D and D3; starts off in 5th	<ol style="list-style-type: none"> 1. Shift solenoid valve B defective 2. Shift valve B defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the O-ring, and check the shift solenoid valve for seizure.
Erratic shifting: fails to shift in 2nd in M; starts off in 4th	<ol style="list-style-type: none"> 1. Shift solenoid valve B defective 2. Shift valve B defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the O-ring, and check the shift solenoid valve for seizure.
Erratic shifting: fails to shift in D, D3, and 1st in M; starts off in 3rd	<ol style="list-style-type: none"> 1. Shift solenoid valve A defective 2. Shift valve A defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the O-ring, and check the shift solenoid valve for seizure.
Erratic shifting: fails to shift in 2nd in M; starts off in 1st	<ol style="list-style-type: none"> 1. Shift solenoid valve A defective 2. Shift valve A defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the O-ring, and check the shift solenoid valve for seizure.
Excessive shock or flares on all upshifts and downshifts	<ol style="list-style-type: none"> 1. A/T clutch pressure control solenoid valve A defective 2. Input shaft (mainshaft) speed sensor defective 3. Output shaft (countershaft) speed sensor defective 4. ATF temperature sensor defective 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the A/T clutch pressure control solenoid valve body gasket and ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid valve is stuck, inspect the

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	<ol style="list-style-type: none"> CPC valve A defective Foreign material in separator plate orifice 	<p>CPC valves.</p> <ul style="list-style-type: none"> Inspect the sensor O-rings.
Excessive shock or flares on 1-2 upshift or 2-1 downshift	<ol style="list-style-type: none"> A/T clutch pressure control solenoid valve A defective A/T clutch pressure control solenoid valve C defective 2nd clutch transmission fluid pressure switch defective CPC valve A defective CPC valve C defective Foreign material in separator plate orifice 2nd accumulator defective 2nd check ball stuck 2nd clutch defective 	<ul style="list-style-type: none"> Check for a stored DTC, and check for loose connectors. Inspect the A/T clutch pressure control solenoid valve body gasket and the ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid valve is stuck, inspect the CPC valves. Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector. Check the 1st and 2nd clutch pressures. Inspect the clutch piston, clutch piston check valve, and O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Excessive shock or flares on 2-3 upshift or 3-2 downshift	<ol style="list-style-type: none"> Shift solenoid valve C defective A/T clutch pressure control solenoid valve B defective A/T clutch pressure control 	<ul style="list-style-type: none"> Check for a stored DTC, and check for loose connectors. Inspect the O-rings, and check the shift solenoid valve for seizure.

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	<p>solenoid valve C defective</p> <ol style="list-style-type: none"> 3rd clutch transmission fluid pressure switch defective CPC valve B defective CPC valve C defective Foreign material in separator plate orifice Shift valve C defective 2nd accumulator defective 3rd accumulator defective 2nd check ball stuck 2nd clutch defective 3rd clutch defective 	<ul style="list-style-type: none"> Inspect the A/T clutch pressure control solenoid valve body gasket and the ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid valve is stuck, inspect the CPC valves. Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector. Check the 2nd and 3rd clutch pressures. Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Excessive shock or flares on 3-4 upshift or 4-3 downshift	<ol style="list-style-type: none"> Shift solenoid valve C defective A/T clutch pressure control solenoid valve B defective A/T clutch pressure control solenoid valve A defective 4th clutch transmission fluid pressure switch defective CPC valve A defective 	<ul style="list-style-type: none"> Check for a stored DTC, and check for loose connectors. Inspect the O-rings, and check the shift solenoid valve for seizure. Inspect the A/T clutch pressure control solenoid valve body gasket and the ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid

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	<ol style="list-style-type: none">6. CPC valve B defective7. Foreign material in separator plate orifice8. Shift valve C defective9. 3rd accumulator defective10. 4th accumulator defective11. 3rd clutch defective12. 4th clutch defective	<p>valve is stuck, inspect the CPC valves.</p> <ul style="list-style-type: none">• Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector.• Check the 3rd and 4th clutch pressures.• Inspect the clutch piston, clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.
Excessive shock or flares on 4-5 upshift or 5-4 downshift	<ol style="list-style-type: none">1. Shift solenoid valve C defective2. A/T clutch pressure control solenoid valve B defective3. A/T clutch pressure control solenoid valve C defective4. CPC valve B defective5. CPC valve C defective6. Foreign material in separator plate orifice7. Shift valve C defective8. Shift valve E defective9. Kick-down valve or kick-down short valve defective10. 4th accumulator defective	<ul style="list-style-type: none">• Check for a stored DTC, and check for loose connectors.• Inspect the O-rings, and check the shift solenoid valve for seizure.• Inspect the A/T clutch pressure control solenoid valve body gasket and the ATF feed pipes for wear and damage. If the A/T clutch pressure control solenoid valve is stuck, inspect the CPC valves.• Check the 4th and 5th clutch pressures.• Inspect the clutch piston, clutch piston check valve, and

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	<ol style="list-style-type: none"> 11. 5th accumulator defective 12. 4th clutch defective 13. 5th clutch defective 	<p>O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and plates for wear and damage, and inspect the clutch wave-plate height. If the discs and flat-plates are worn or damaged, replace the discs and flat-plates as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If the discs and plates are OK, adjust the clearance with the clutch end-plate.</p>
Noise from transmission in all shift lever positions	<ol style="list-style-type: none"> 1. ATF pump worn or binding 2. Idler gears worn or damaged 3. Thrust washer seized up, worn, or damaged 	<p>Improper alignment of ATF pump and the torque converter housing may cause the ATF pump seizure. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.</p>
Vehicle does not accelerate above 31 mph (50 km/h)	Torque converter one-way clutch defective	Replace the torque converter.
Vibration in all shift lever positions	Drive plate defective or transmission misassembled	<ul style="list-style-type: none"> • Check for a misinstalled/damaged drive plate. • Adjust the engine and transmission mounts. • Check the stall speed.
Shift lever does not operate smoothly	<ol style="list-style-type: none"> 1. Transmission range switch defective or out of adjustment 2. Shift cable broken or out of adjustment 3. Connection between shift cable and transmission or body is worn 	<ul style="list-style-type: none"> • Check for a stored DTC, and check for loose connectors. • Inspect the transmission range switch. If the transmission range switch is faulty, replace it. If the transmission range switch is out of adjustment, adjust it and the shift cable. • Check for a loose shift cable at the shift lever and the transmission control lever.
Transmission does not shift into P	<ol style="list-style-type: none"> 1. Shift cable broken or out of adjustment 	<ul style="list-style-type: none"> • Check for a loose shift cable at the shift lever and the transmission control lever.

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	<ol style="list-style-type: none">2. Connection between shift cable and transmission or body is worn3. Park mechanism defective	<ul style="list-style-type: none">• Check the park pawl, control shaft, and park lever link for wear and damage. Check if the control shaft lever pin is disengaged from the manual valve guide.
Torque converter clutch does not disengage	<ol style="list-style-type: none">1. Shift solenoid valve D defective2. A/T clutch pressure control solenoid valve C defective3. Torque converter clutch piston defective4. Lock-up shift valve defective5. Lock-up control valve defective6. Lock-up timing valve defective	<ul style="list-style-type: none">• Check for a stored DTC, and check for loose connectors.• Inspect the A/T clutch pressure control solenoid valve C body gasket for wear and damage. If the A/T clutch pressure control solenoid valve C is stuck, inspect the CPC valves.
Torque converter clutch does not operate smoothly	<ol style="list-style-type: none">1. Shift solenoid valve D defective2. A/T clutch pressure control solenoid valve C defective3. Lock-up clutch piston defective4. Torque converter check valve defective5. Lock-up shift valve defective6. Lock-up control valve defective7. Lock-up timing valve defective	<ul style="list-style-type: none">• Check for a stored DTC, and check for loose connectors.• Inspect the A/T clutch pressure control solenoid valve C body gasket for wear and damage. If the A/T clutch pressure control solenoid valve C is stuck, inspect the CPC valves.• Center all engine mounts.
Torque converter clutch does not engage	<ol style="list-style-type: none">1. Shift solenoid valve D defective2. A/T clutch pressure control solenoid valve C defective3. Input shaft (mainshaft) speed sensor defective4. Output shaft (countershaft) speed sensor defective5. Torque converter clutch	<ul style="list-style-type: none">• Check for a stored DTC, and check for loose connectors.• Inspect the A/T clutch pressure control solenoid valve C body gasket for wear and damage. If the A/T clutch pressure control solenoid valve C is stuck, inspect the CPC valves.

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	<p>piston defective</p> <p>6. Torque converter check valve defective</p> <p>7. Lock-up shift valve defective</p> <p>8. Lock-up control valve defective</p>	
A/T gear position indicator does not indicate shift lever positions	<p>1. Transmission range switch defective or out of adjustment</p> <p>2. Shift cable broken or out of adjustment</p> <p>3. Connection between shift cable and transmission or body is worn</p>	<ul style="list-style-type: none">• Check for a stored DTC, and check for loose connectors.• Inspect the transmission range switch. If the transmission range switch is faulty, replace it. If the transmission range switch is out of adjustment, adjust it and the shift cable.• Check for a loose shift cable at the shift lever and the transmission control lever.
Speedometer and odometer do not work	Output shaft (countershaft) speed sensor defective	Check for a stored DTC, and check for loose connectors.
Engine does not rev to high rpm, and the transmission upshifts at low rpm (engine at normal operating temperature)	VTEC rocker arms defective	Check the engine rocker arms.

COMPONENT LOCATION INDEX

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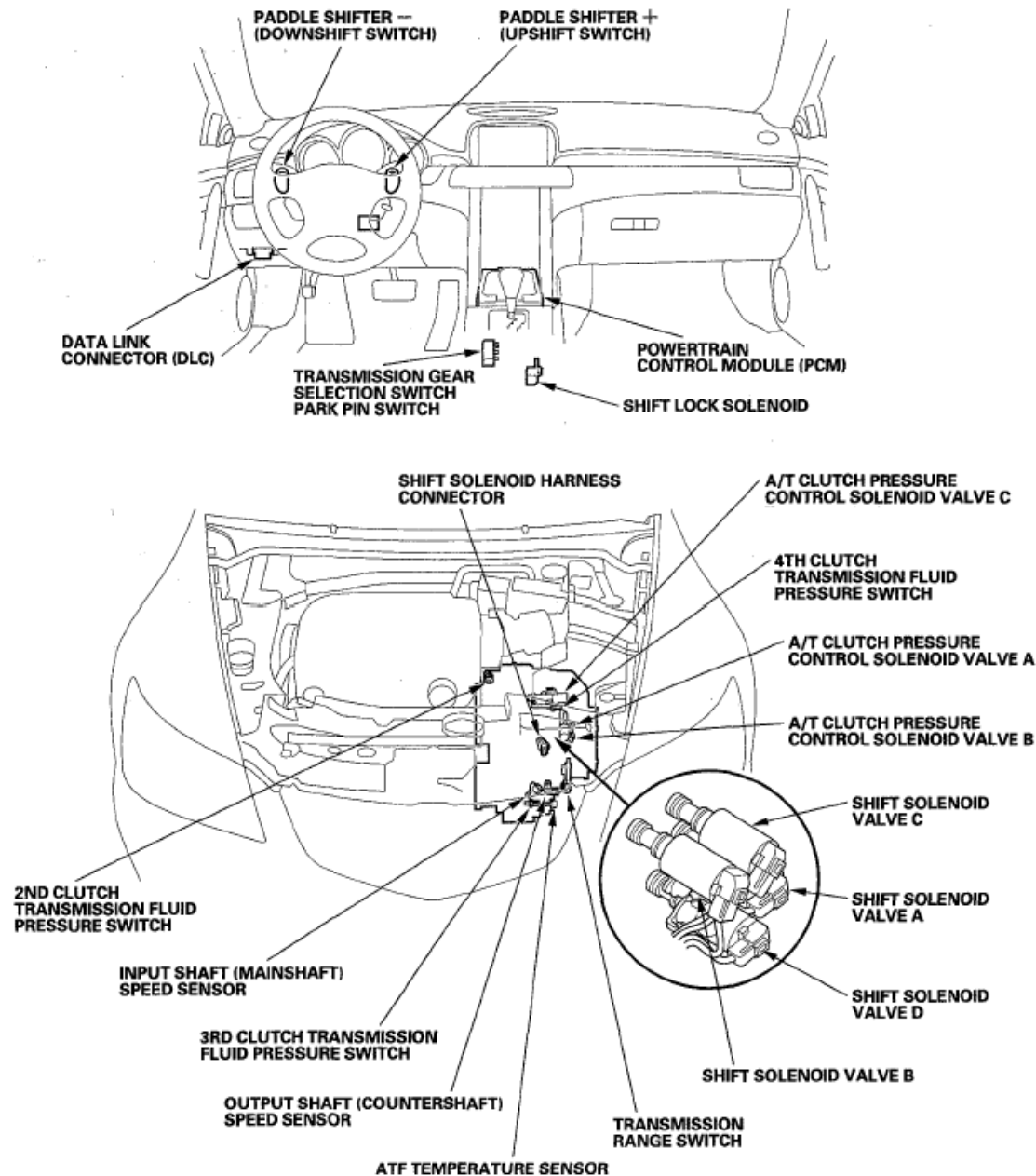


Fig. 13: Identifying Automatic Transmission System Components Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYSTEM DESCRIPTION

General Operation

The automatic transmission is a combination of a three-element torque converter and a four-shaft electronically controlled unit which provides five forward speeds and one in reverse. The entire unit is positioned in line with the engine.

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Torque Converter, Shafts, Gears, and Clutches

The torque converter consists of a pump, turbine, and stator assembly in a single unit. The converter housing (pump) is connected to the engine crankshaft and turns as the engine turns. Around the outside of the torque converter is a ring gear which meshes with the starter pinion when the engine is being started. The entire torque converter assembly serves as a flywheel, transmitting power to the transmission mainshaft. The transmission has four parallel shafts; the mainshaft, the countershaft, the secondary shaft, and the intermediary shaft. The mainshaft is in line with the engine crankshaft. The mainshaft includes the 4th and 5th clutches, and gears for 3rd, 4th, 5th, and reverse (reverse gear is integral with 5th gear). The countershaft includes gears for the final drive, 2nd, idler, 1st, 4th, 5th, and reverse (the final drive gear is integral with the countershaft). The secondary shaft includes the 1st, 1st-hold, and 2nd clutches, and gears for park, 2nd, idler, and 1st. The intermediary shaft includes the 3rd clutch, and gears for 3rd and 4th. The countershaft 5th gear and the countershaft reverse gear can be locked to the countershaft at its left end, providing 5th gear or reverse, depending with which way the selector is moved. The gears on the mainshaft, secondary shaft, and intermediary shaft are in constant mesh with those on the countershaft. When certain conditions of gears in the transmission are engaged by the clutches, power is transmitted through the mainshaft, and/or to the secondary shaft, intermediary shaft, then to the countershaft to provide drive.

Electronic Control

The electronic control system consists of the powertrain control module (PCM), sensors, and seven solenoid valves. Shifting and lock-up are electronically controlled for comfortable driving under all conditions. The PCM is located behind the driver's dashboard cover.

Hydraulic Control

The valve bodies include the main valve body, the regulator valve body, the secondary valve body, and the accumulator body. They are bolted to the torque converter housing. The main valve body: '05 model contains the manual valve, the modulator valve, shift valves A, B, and E, CPC valve A, the servo control valve, the lubrication check valve, the lubrication control valve, the torque converter check valve, the lock-up timing valve, the relief valve, the lock-up shift valve, the cooler check valve, and the ATF pump gears; '06-08 models contain the manual valve, the modulator valve, shift valves A, B, and E, CPC valve A, the servo control valve, the lubrication check valve, the lubrication control valve, the torque converter check valve, the lock-up timing valve, the relief valve, the lock-up shift valve, and the ATF pump gears. The regulator valve body: '05 model contains the regulator valve, the lock-up control valve, the servo valve, and the 3rd accumulator; '06-08 models contain the regulator valve, the cooler check valve, the lock-up control valve, the servo valve, and the 3rd accumulator. The secondary valve body contains shift valves C and D, CPC valves B and C, the reverse CPC valve, and the reverse control valve. The accumulator body contains the 1st, 1st-hold, 2nd, 4th, and 5th accumulators, shift solenoid valves A, B, C, and D. Fluid from the regulator valve passes through the manual valve to the various control valves. All the clutch receive fluid from the internal hydraulic circuit.

Shift Control Mechanism

To shift gears, the PCM controls shift solenoid valves A, B, C, and D, and automatic transmission (A/T) clutch pressure control solenoid valves A, B, and C, while receiving input signals from various sensors and switches located throughout the vehicle. The shift solenoid valves shift the positions of the shift valves to switch the port to send hydraulic pressure to the clutches. A/T clutch pressure control solenoid valves A, B, and C control CPC valves A and B, and the reverse CPC valve to shift smoothly between lower and higher gears. This pressurizes a

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line to one of the clutches, engaging the clutch and its corresponding gear.

Lock-up Mechanism

The lock-up mechanism operates in 2nd, 3rd, 4th, and 5th gears in D, and in 2nd and 3rd gears in the D3. The pressurized fluid is drained from the back of the torque converter through a fluid passage, causing the torque converter clutch piston to be held against the torque converter cover. As this takes place, the mainshaft rotates at the same speed as the engine crankshaft. Together with hydraulic control, the PCM optimizes the timing and volume of the lock-up mechanism. When shift solenoid valve D is turned on by the PCM, shift solenoid valve D pressure switches the lock-up shift valve lock-up on and off. A/T clutch pressure control solenoid valve C, the lock-up control valve, and the lock-up timing valve control the amount of the lock-up conditions. Shift solenoid valve D is located on the accumulator body in the transmission, and A/T clutch pressure control solenoid valve C is mounted on the transmission housing.

Gear Selection

The shift lever has five positions; P: PARK, R: REVERSE, N: NEUTRAL, D: DRIVE 1st through 5th gear range with automatic shift and sequential sport shift in M (sequential sport shift mode), and D3: DRIVE 1st through 3rd gear range with automatic shift.

SHIFT LEVER POSITION

Position		Description
P: PARK		Front wheels locked; park pawl engaged with park gear on secondary shaft. All clutches are released.
R: REVERSE		Reverse; reverse selector engaged with countershaft reverse gear and 5th clutch engaged.
N: NEUTRAL		All clutches are released.
D: DRIVE (1st through 5th)	Automatic shift mode	General driving; starts off in 1st, shifts automatically to 2nd, 3rd, 4th, then 5th, depending on vehicle speed and accelerator pedal position. Downshifts through 4th, 3rd, 2nd, and 1st on deceleration to stop. The lock-up mechanism operates in 2nd, 3rd, 4th, and 5th gears.
	M: Sequential sport shift mode	Manual gear shift driving; vehicle can start off in 1st gear, and does not upshift automatically. Vehicle can also start off in 2nd gear, and does not upshift and downshift automatically. Downshifts automatically to 1st on deceleration to stop. The lock-up

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		mechanism operates in 2nd, 3rd, 4th, and 5th gears.
D3: DRIVE (1st through 3rd)		Used for rapid acceleration at highway speeds and general driving, up-hill and down-hill driving; starts off in 1st, shifts automatically to 2nd, then 3rd, depending on vehicle speed and accelerator pedal position. Downshifts through 2nd and 1st on deceleration to stop. The lock-up mechanism operates in 2nd and 3rd gears.

Starting is possible only in P and N because of a slide-type neutral-safety switch.

Automatic Transmission (A/T) Gear Position Indicator

The A/T gear position indicator in the gauge control module shows which shift lever position has been selected without having look down at the console.

Shift Indicator and M indicator

When the shift lever is shifted into M (sequential sportshift mode), the M indicator next to the D indicator comes on, and the shift indicator at the bottom of the tachometer displays the gear selected.

Transfer Assembly

The transfer assembly consists of the transfer drive gear on the differential, the transfer output shaft in the transmission, the transfer drive gear (hypoid gear), the transfer shaft, the transfer output shaft (hypoid gear), and the companion flange. The transfer assembly is on the rear side of the transmission, beside the differential. The transfer drive gear on the differential drives the transfer output shaft in the transmission. The transfer output shaft in the transmission is connected to the transfer drive gear (hypoid gear) by splines. Power is transmitted from the transfer drive gear on the differential to the rear differential via the transfer assembly and the propeller shaft.

Clutches and Gears

The five-speed automatic transmission uses hydraulically-actuated clutches to engage or disengage the transmission gears. When hydraulic pressure is introduced into the clutch drum, the clutch piston moves. This presses the friction discs and steel plates together, locking them so they don't slip. Power is then transmitted through the engaged clutch pack to its hub-mounted gear. Likewise, when the hydraulic pressure is bled from the clutch pack, the piston releases the friction discs and the steel plates, and they are free to slide past each other. This allows the gear to spin independently on its shaft, transmitting no power.

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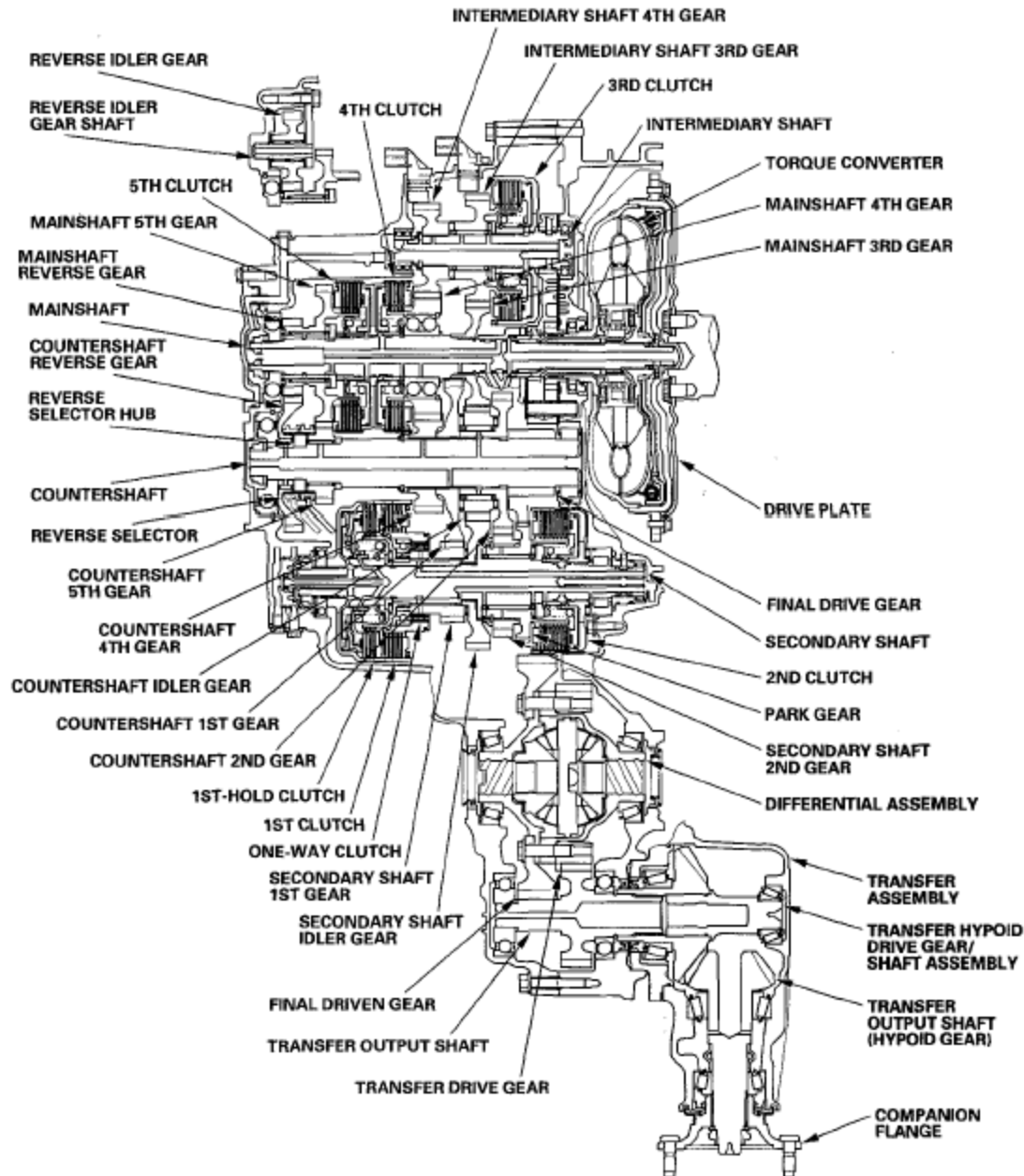


Fig. 14: Identifying Five-Speed Automatic Transmission System Components
Courtesy of AMERICAN HONDA MOTOR CO., INC.

1st Clutch

The 1st clutch engages/disengages 1st gear, and is located at the left end of the secondary shaft. The 1st clutch is supplied hydraulic pressure by its ATF feed pipe within the secondary shaft.

1st-hold Clutch

The 1st-hold clutch engages/disengages 1st-hold in 1st gear in M, and is located in the 1st clutch drum. The 1st-

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hold clutch is supplied hydraulic pressure by its ATF feed pipe within the secondary shaft.

2nd Clutch

The 2nd clutch engages/disengages 2nd gear, and is located at the right end of the secondary shaft. The 2nd clutch is supplied hydraulic pressure through the secondary shaft by a circuit connected to the internal hydraulic circuit.

3rd Clutch

The 3rd clutch engages/disengages 3rd gear, and is located at the end of the intermediary shaft. The 3rd clutch is supplied hydraulic pressure through the intermediary shaft by a circuit connected to the internal hydraulic circuit.

4th Clutch

The 4th clutch engages/disengages 4th gear, and is located at the middle of the mainshaft. The 4th clutch is joined back-to-back to the 5th clutch. The 4th clutch is supplied hydraulic pressure through the mainshaft by a circuit connected to the internal hydraulic circuit.

5th Clutch

The 5th clutch engages/disengages 5th gear, as well as reverse gear, and is located at the middle of the mainshaft. The 5th clutch is joined back-to-back to the 4th clutch. The 5th clutch is supplied hydraulic pressure through the mainshaft by a circuit connected to the internal hydraulic circuit.

One-way Clutch

The one-way clutch is positioned between the 1st clutch hub and the secondary shaft 1st gear. The secondary shaft 1st gear is splined to the 1st-hold clutch hub, with the 1st-hold clutch hub splined to the secondary shaft. The secondary shaft 1st gear provides the outer race surface, and the 1st clutch hub provides the inner race surface. The one-way clutch locks when power is transmitted from the secondary shaft 1st gear to the countershaft 1st gear. The 1st clutch and gears remain engaged in 1st, 2nd, 3rd, 4th, and 5th gear ranges in D or D3.

However, the one-way clutch disengages when the 2nd, 3rd, 4th, or 5th clutches and gears are applied in D or D3. This is because the increased rotational speed of the gears on the secondary shaft causes the one-way clutch to free-wheel with the 1st clutch still engaged.

Gear Operation

Gears on the mainshaft:

- 4th gear is engaged/disengaged with the mainshaft by the 4th clutch.
- 5th gear is engaged/disengaged with the mainshaft by the 5th clutch.
- Reverse gear is engaged/disengaged with the mainshaft by the 5th clutch.
- 3rd gear is splined with the mainshaft and rotates with the mainshaft.

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Gears on the countershaft:

- Final drive gear is integral with the countershaft.
- 1st gear, 2nd gear, and 4th gear are splined with the countershaft, and rotate with the countershaft.
- 5th gear and reverse gear rotate freely from the countershaft. The reverse selector engages 5th gear and reverse gear with the reverse selector hub. The reverse selector hub is splined to the countershaft so 5th gear and reverse gear engage with the countershaft.
- Idler gear is located over the 2nd gear, and rotates freely from the countershaft.

Gears on the secondary shaft:

- 1st gear is engaged/disengaged with the secondary shaft by the 1st clutch. 1st gear is engaged with the secondary shaft by the one-way clutch and the 1st-hold clutch when decelerating for engine braking.
- 2nd gear is engaged/disengaged with the secondary shaft by the 2nd clutch.
- Idler gear is splined with the secondary shaft, and rotates with the secondary shaft.
- Park gear is integral with the 2nd gear.

Gears on the intermediary shaft:

- 3rd gear is engaged/disengaged with the intermediary shaft by the 3rd clutch.
- 4th gear is splined with the intermediary shaft.

Power Flow

P Position

Hydraulic pressure is not applied to the clutches. Power is not transmitted to the countershaft. The countershaft is locked by the park pawl interlocking the park gear.

N Position

Engine power transmitted from the mainshaft drives the mainshaft 3rd gear, the intermediary shaft 3rd gear, but hydraulic pressure is not applied to the clutches. Power is not transmitted to the countershaft. In this position, the position of the reverse selector differs according to whether the shift lever shifted from D or R:

- When shifted from D, the reverse selector engages with the countershaft 5th gear and the reverse selector hub, and 5th gear engages with the countershaft.
- When shifted from R, the reverse selector engages with the countershaft reverse gear, and the reverse selector hub, and the reverse gear engages with the countershaft.

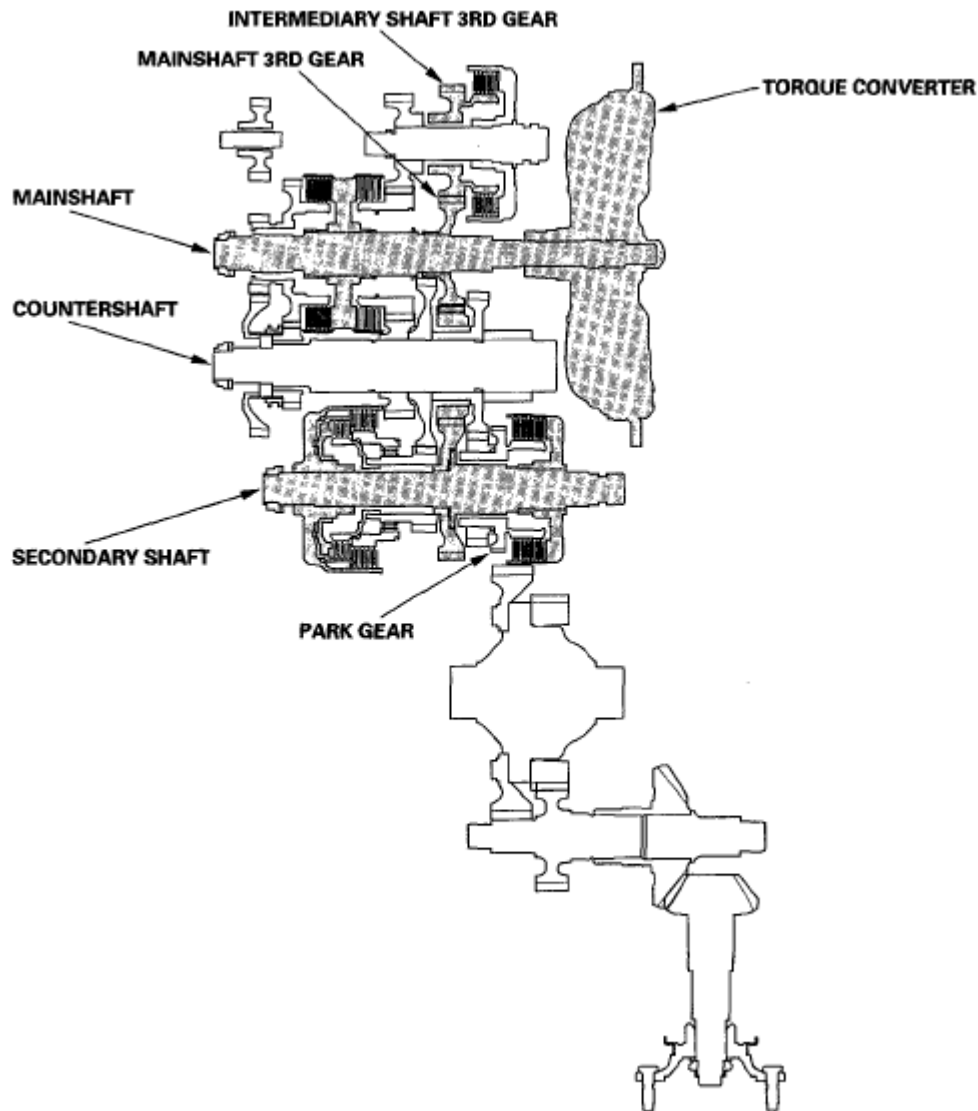


Fig. 15: Power Flow Diagram (N Position)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

D and D3 Positions

In D, the optimum gear is automatically selected from 1st, 2nd, 3rd, 4th, and 5th gears; and 1st, 2nd, and 3rd gears in D3 according to conditions such as the balance between the throttle opening (engine loading) and vehicle speed.

In 1st gear

- Hydraulic pressure is applied to the 1st clutch, then the 1st clutch engages the secondary shaft 1st gear with the secondary shaft by the one-way clutch.
- The mainshaft 3rd gear drives the secondary shaft via the countershaft idler gear and secondary shaft idler gear.

- The secondary shaft 1st gear drives the countershaft 1st gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.
- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).

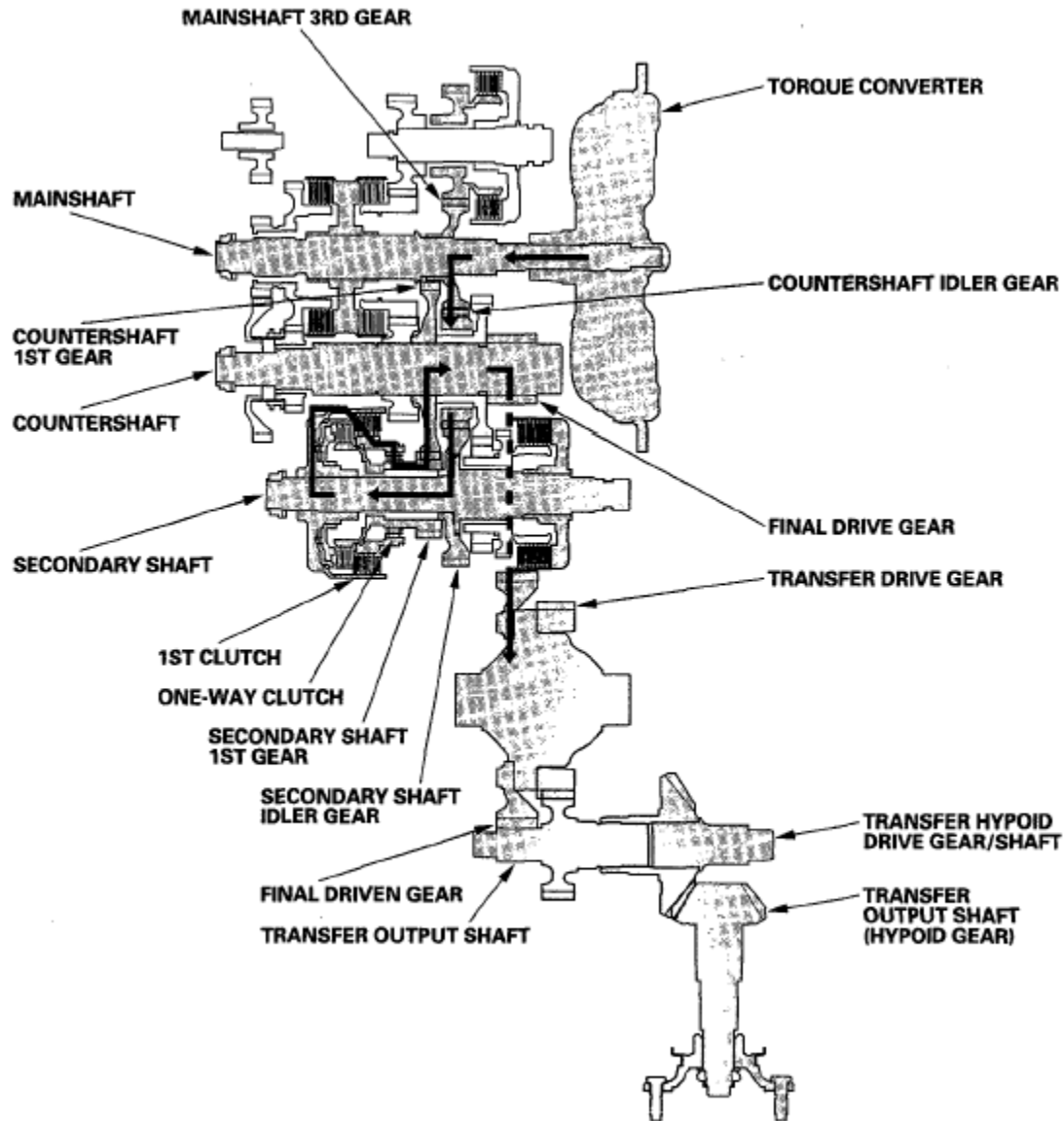


Fig. 16: Power Flow Diagram - D And D3 Positions (In 1st Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

In 2nd gear

- Hydraulic pressure is applied to the 2nd clutch, then the 2nd clutch engages the secondary shaft 2nd gear with the secondary shaft.

- The mainshaft 3rd gear drives the secondary shaft via the countershaft idler gear and secondary shaft idler gear.
- The secondary shaft 2nd gear drives the countershaft 2nd gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.
- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).
- Hydraulic pressure is also applied to the 1st clutch, but since the rotation speed of 2nd gear exceeds that of 1st gear, power from 1st gear is cut off at the one-way clutch.

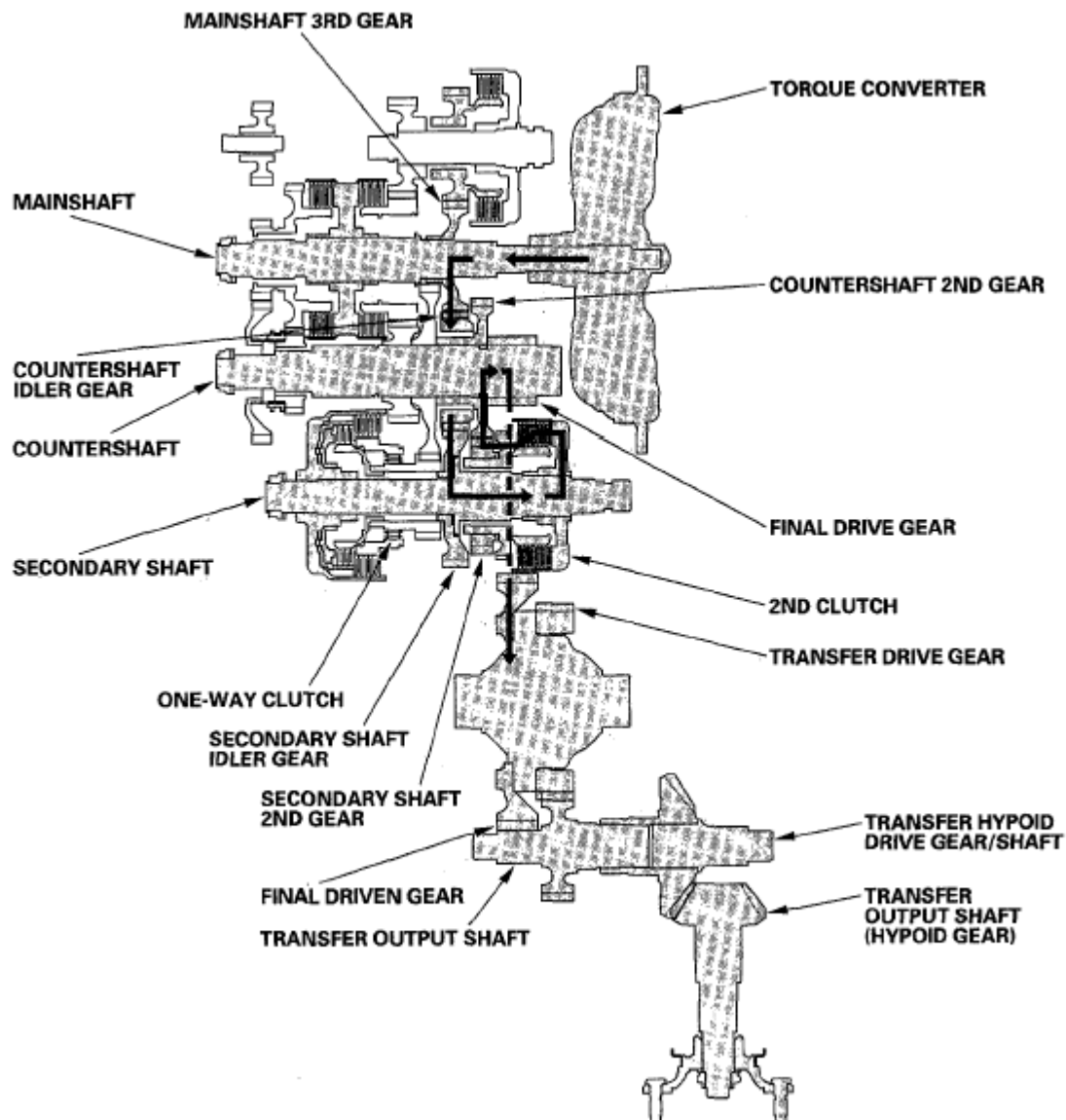
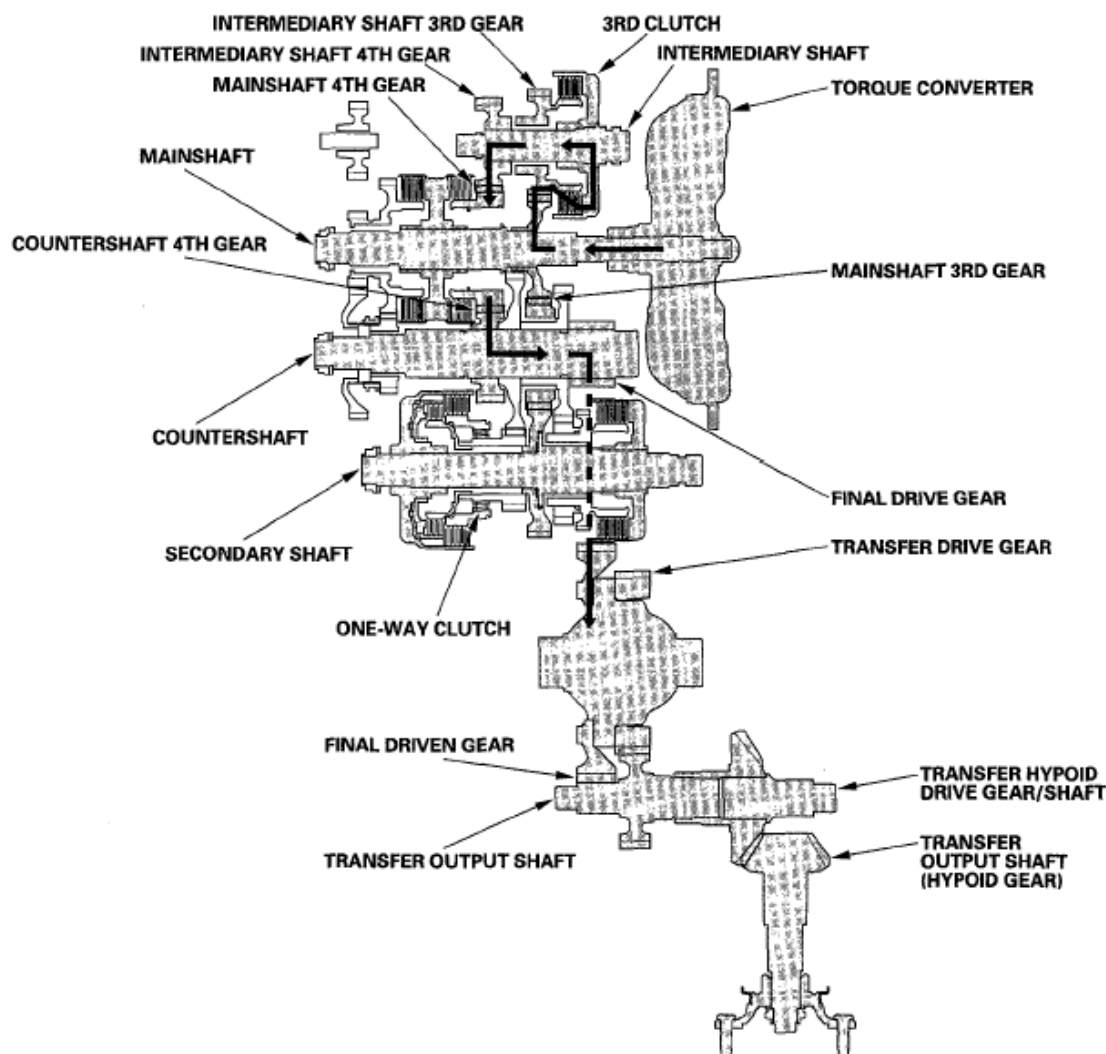


Fig. 17: Power Flow Diagram - D And D3 Positions (In 2nd Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

In 3rd gear

- Hydraulic pressure is applied to the 3rd clutch, then 3rd clutch engages the intermediary shaft 3rd gear with the intermediary shaft.
- The mainshaft 3rd gear drives the intermediary shaft 4th gear via the intermediary shaft 3rd gear and the 3rd clutch.
- The intermediary shaft 4th gear drives the countershaft 4th gear and the countershaft via the mainshaft 4th gear.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.
- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).
- Hydraulic pressure is also applied to the 1st clutch, but since the rotation speed of 3rd gear exceeds that of 1st gear, power from 1st gear is cut off at the one-way clutch.

**Fig. 18: Power Flow Diagram - D And D3 Positions (In 3rd Gear)**

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Courtesy of AMERICAN HONDA MOTOR CO., INC.

In 4th gear

- Hydraulic pressure is applied to the 4th clutch, then the 4th clutch engages the mainshaft 4th gear with the mainshaft.
- The mainshaft 4th gear drives the countershaft 4th gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.
- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).
- Hydraulic pressure is also applied to the 1st clutch, but since the rotation speed of 4th gear exceeds that of 1st gear, power from 1st gear is cut off at the one-way clutch.

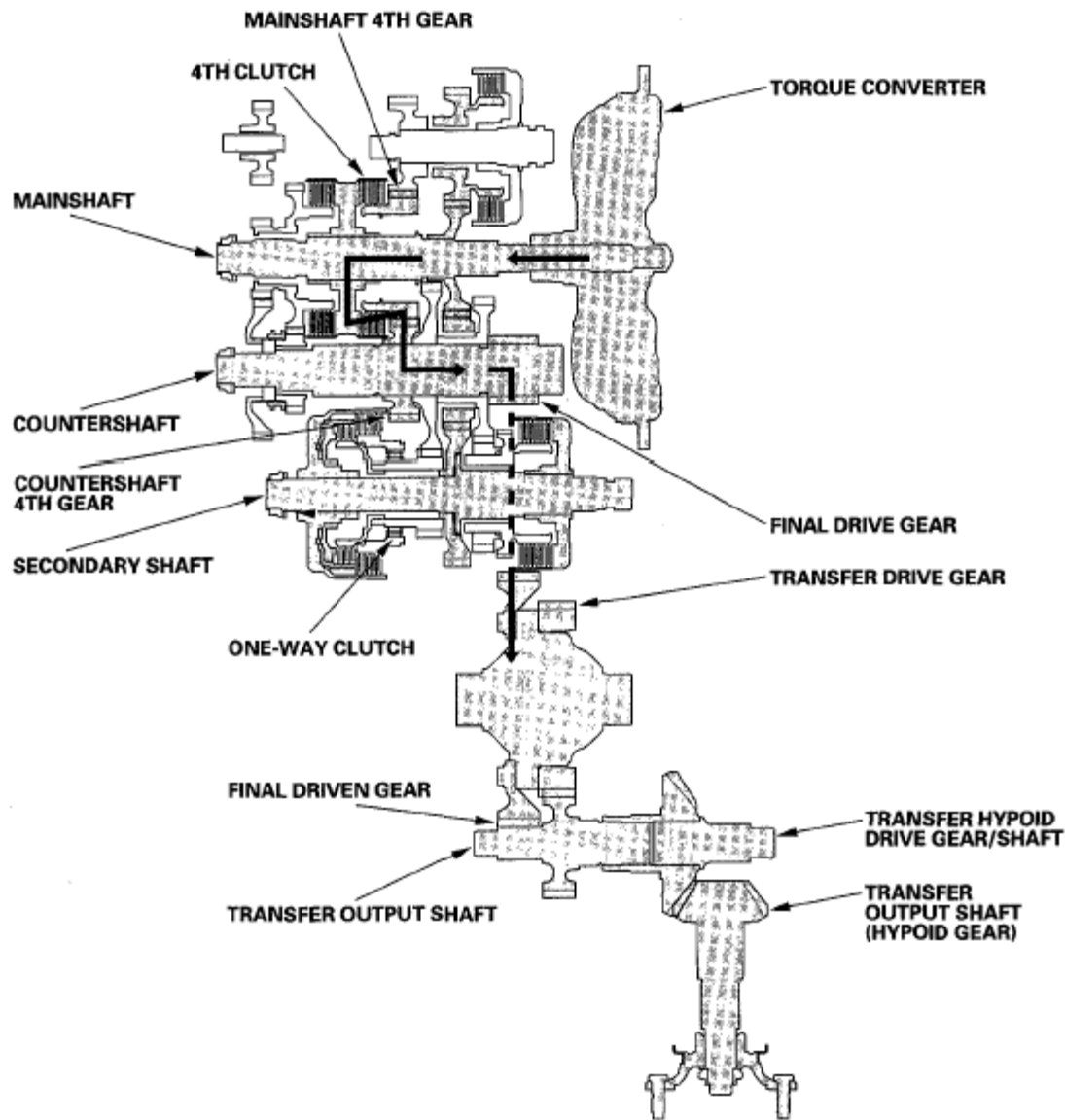


Fig. 19: Power Flow Diagram - D And D3 Positions (In 4th Gear)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

In 5th gear

- Hydraulic pressure is applied to the servo valve to engage the reverse selector with the countershaft 5th gear when the shift lever is in a forward range (D, D3, and M).
- Hydraulic pressure is also applied to the 5th clutch, then the 5th clutch engages the mainshaft 5th gear with the mainshaft.
- The mainshaft 5th gear drives the countershaft 5th gear, which drives the reverse selector hub and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.

- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).
- Hydraulic pressure is also applied to the 1st clutch, but since the rotation speed of 5th gear exceeds that of 1st gear, power from 1st gear is cut off at the one-way clutch.

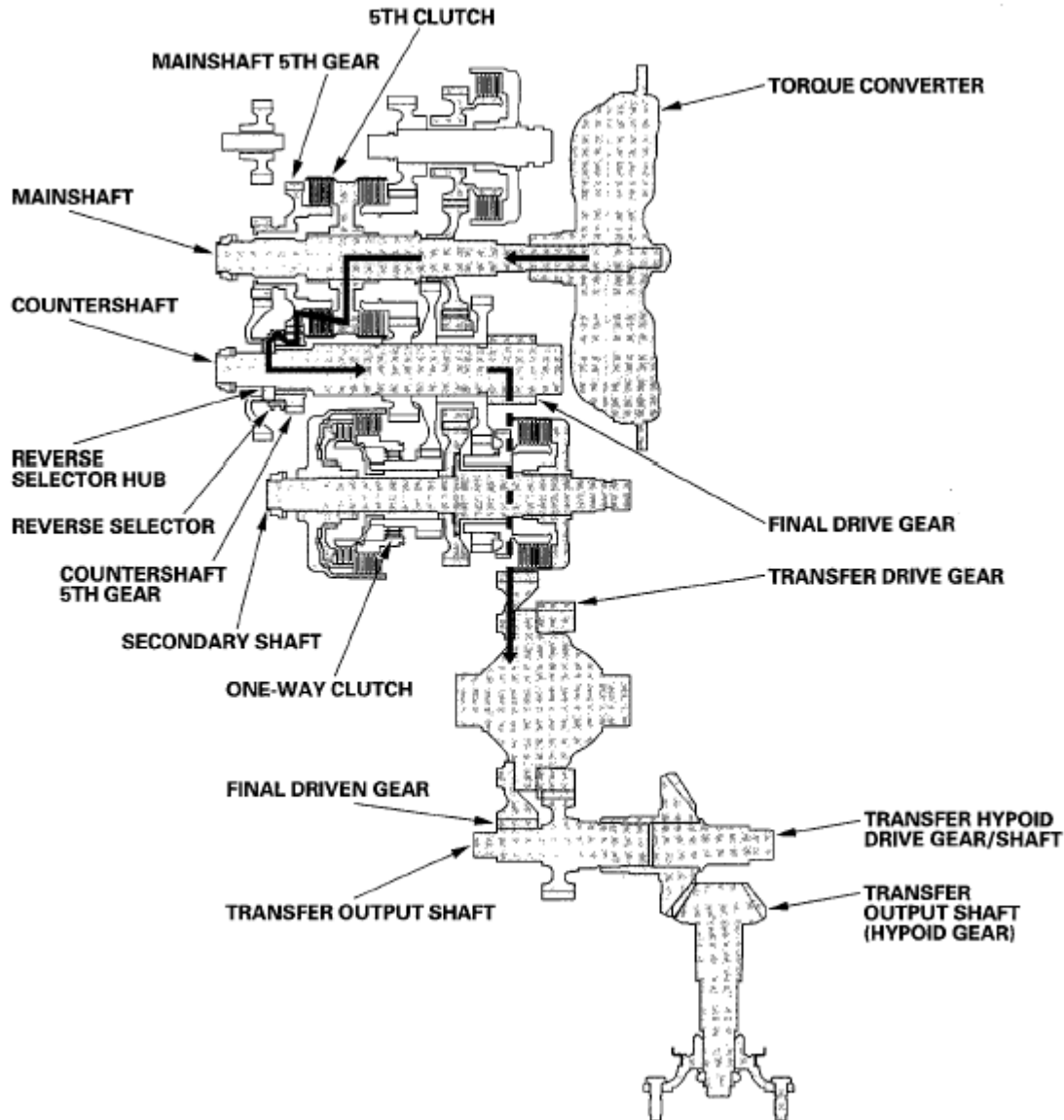


Fig. 20: Power Flow Diagram - D And D3 Positions (In 5th Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Acceleration in 1st in gear in M (sequential sportshift mode)

In 1st gear in M, hydraulic pressure is applied to the 1st clutch and the 1st-hold clutch. The power flow when accelerating is as follows:

- Hydraulic pressure is applied to the 1st clutch, then the 1st clutch engages the secondary shaft 1st gear with the secondary shaft by the one-way clutch.
- Hydraulic pressure is also applied to the 1st-hold clutch, and the 1st-hold clutch engages the secondary shaft 1st gear with the secondary shaft.
- The mainshaft 3rd gear drives the secondary shaft via the countershaft idler gear and the secondary shaft idler gear.
- The secondary shaft 1st gear drives the countershaft 1st gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.
- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).

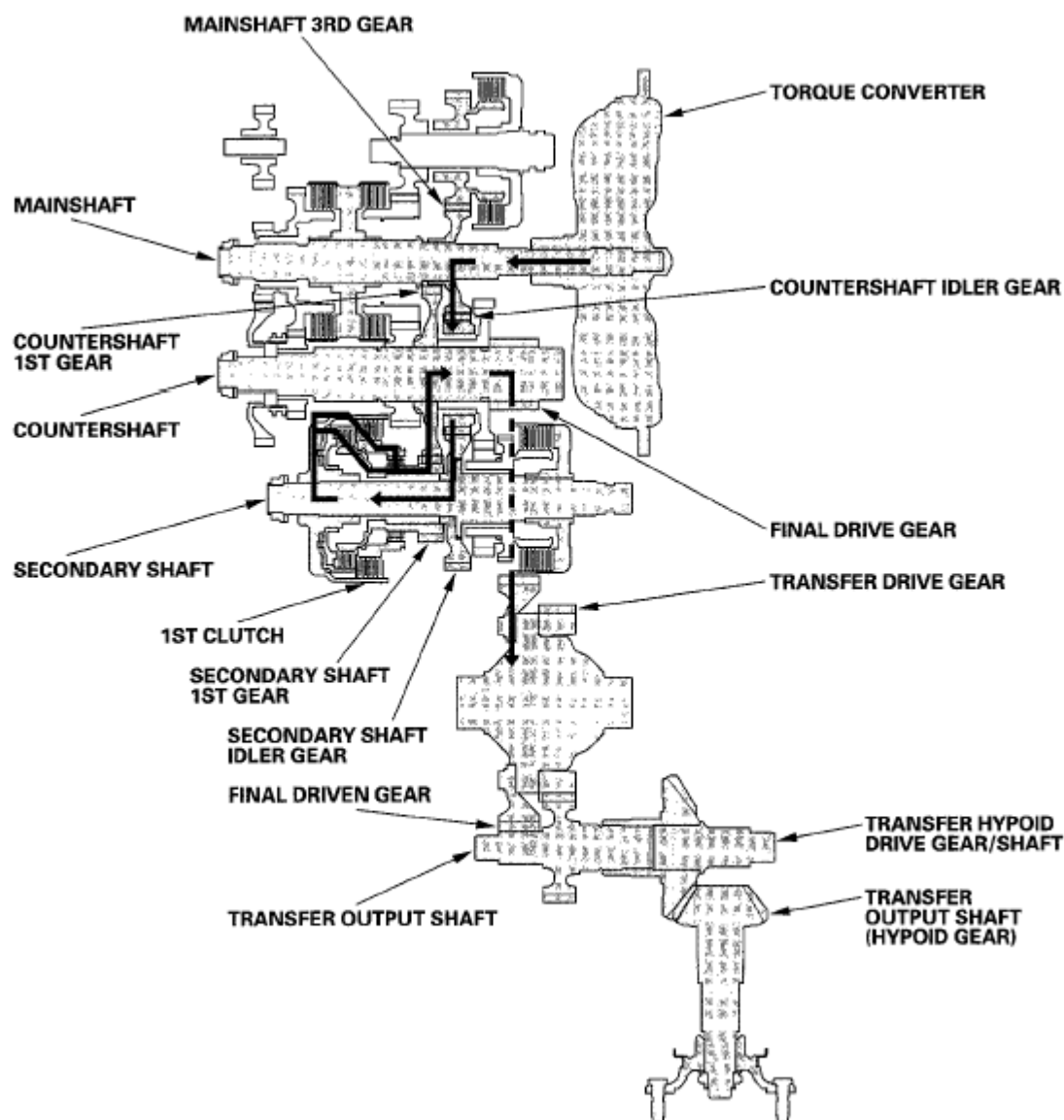


Fig. 21: Power Flow Diagram - Acceleration In 1st In Gear In M (Sequential Sportshift Mode)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Deceleration in 1st gear in M (sequential sportshift mode)

The power flow in 1st gear in M (sequential sportshift mode) when decelerating is as follows:

- Hydraulic pressure is applied to the 1st clutch and the 1st-hold clutch.
- Rolling resistance from the road surface goes through the front wheels to the final drive gear, then to the countershaft 3rd gear.
- The one-way clutch cannot transfer power because the application of torque is reversed.
- The force conveyed to the secondary shaft idler gear turns the mainshaft 3rd gear via the countershaft idler gear. As a result, engine braking can be obtained with 1st gear.

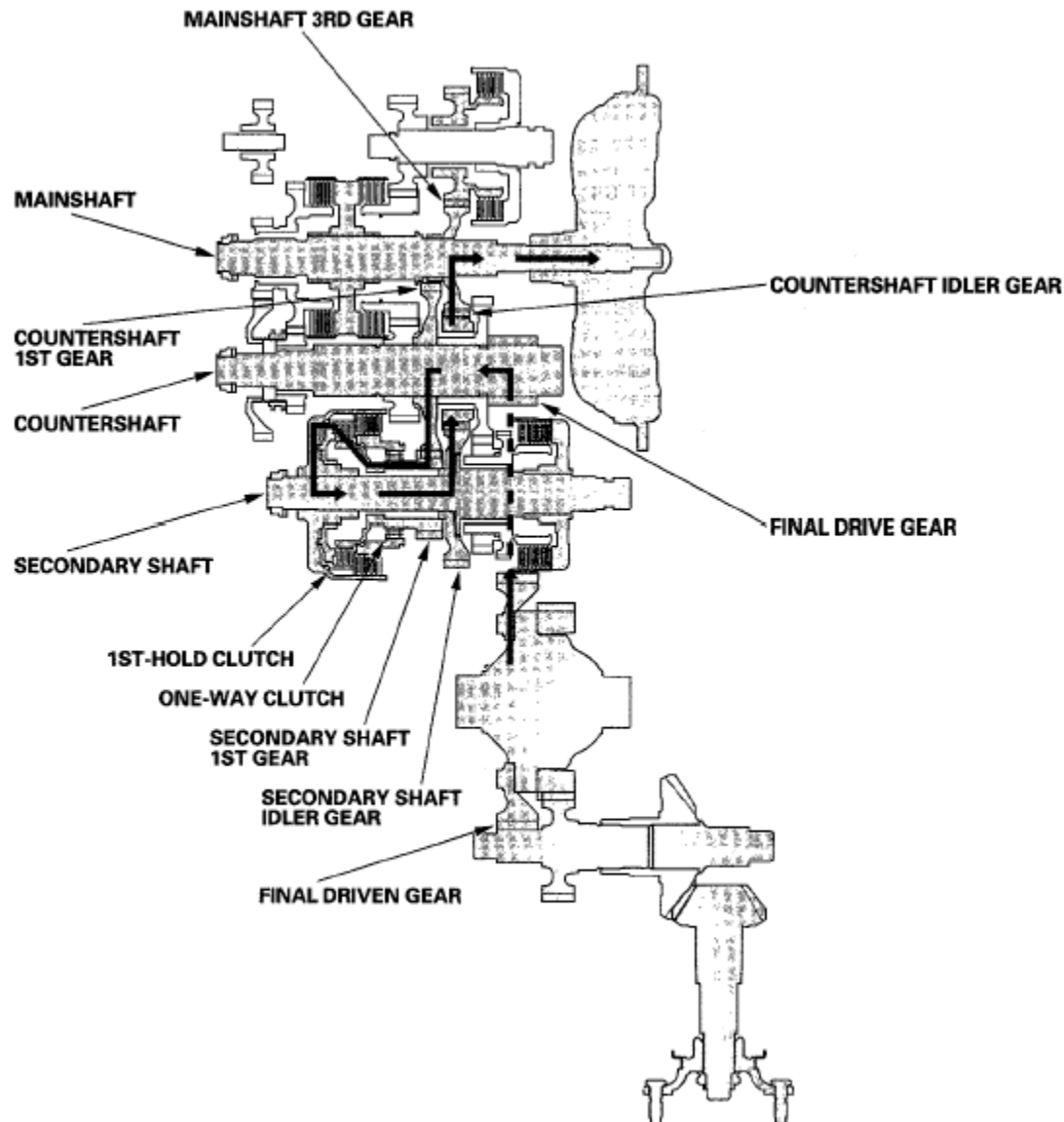


Fig. 22: Power Flow Diagram - Deceleration In 1st Gear In M (Sequential Sportshift Mode)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

R Position

- Hydraulic pressure is applied to the servo valve to engage the reverse selector with the countershaft reverse gear when the shift lever is in R.
- Hydraulic pressure is also applied to the 5th clutch, then the 5th clutch engages the mainshaft reverse gear with the mainshaft.
- The mainshaft reverse gear drives the countershaft reverse gear via the reverse idler gear.
- The countershaft reverse gear drives the countershaft via the reverse selector which drives the reverse selector hub.
- The rotation direction of the countershaft reverse gear is changed via the reverse idler gear.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear and the transfer drive gear.
- The transfer output shaft drives the transfer hypoid drive gear/shaft and the transfer output shaft (hypoid gear).

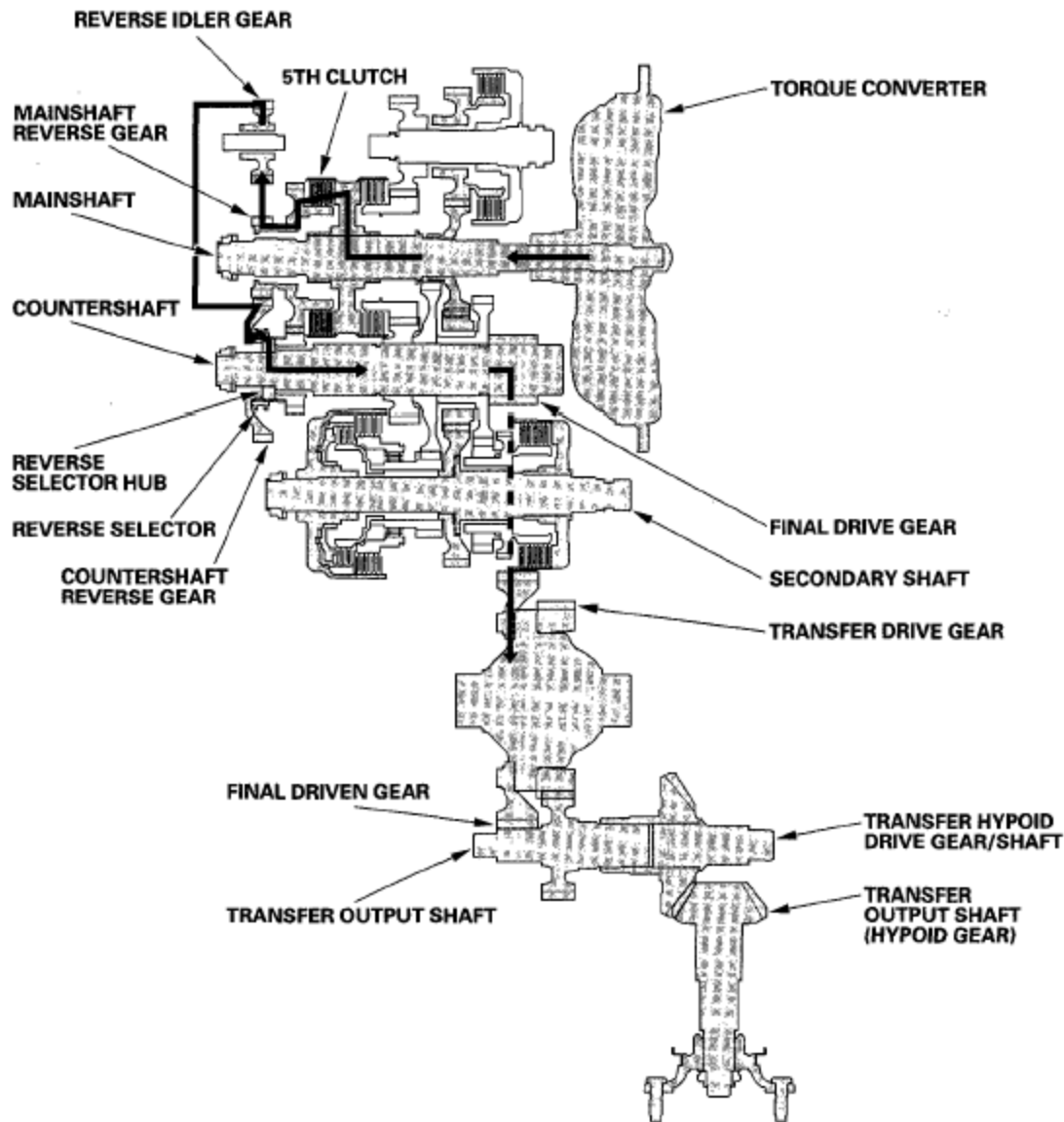


Fig. 23: Power Flow Diagram (R Position)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Electronic Control System

Electronic Control

The electronic control system consists of the powertrain control module (PCM), sensors, and seven solenoid valves. Shifting and lock-up are electronically controlled for comfortable driving under all conditions.

Functional Diagram

The PCM receives input signals from the sensors, switches, and other control units, processes data, and outputs signals for the engine control system and A/T control system. The A/T control system includes shift control,

clutch pressure control, and lock-up control. The PCM switches the shift solenoid valves and the A/T clutch pressure control solenoid valves to control shifting transmission gears and lock-up torque converter clutch.

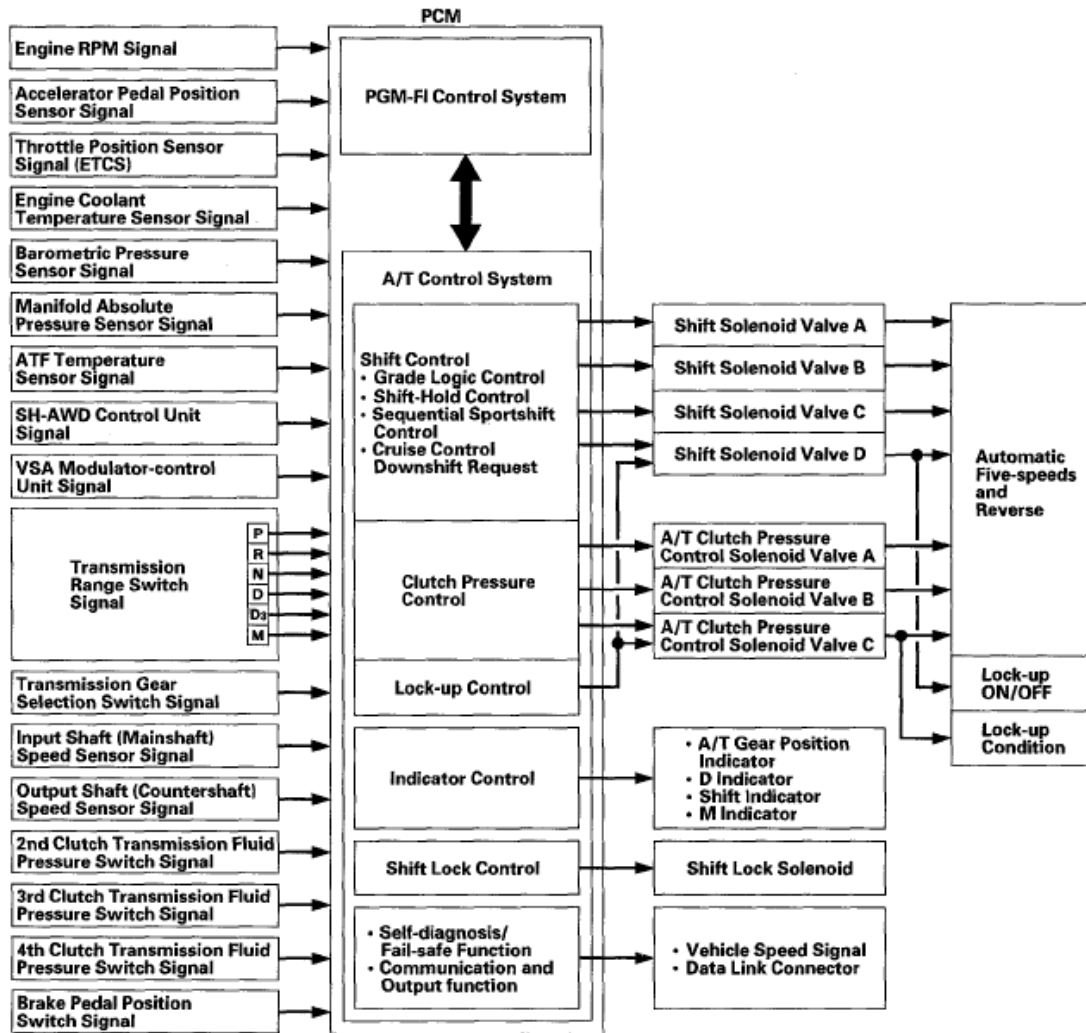


Fig. 24: Electronic Control System Functional Diagram
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Shift Control

The PCM instantly determines which gear should be selected by various signals sent from sensors and switches, and it actuates shift solenoid valves A, B, C, and D to control gear selection.

There are two types of shift solenoid valves:

- Shift solenoid valves A and D use the ON-OPEN/OFF-CLOSE type; the shift solenoid valve opens the port of shift solenoid valve pressure while the shift solenoid valve is turned ON by the PCM, and closes the port when shift solenoid valve is OFF.
- Shift solenoid valves B and C use the ON-CLOSE/OFF-OPEN type; the shift solenoid valve closes the

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port of shift solenoid valve pressure while the shift solenoid valve is turned ON by the PCM, and opens the port when shift solenoid valve is OFF.

The combination of driving signals to shift solenoid valves A, B, C, and D are shown in the table.

SHIFT SOLENOID VALVES REFERENCE

Position	Gear position	Shift solenoid valves			
		A	B	C	D
D and D3	Shifting from N	OFF	ON	OFF	OFF
	Stays in 1st	OFF	ON	ON	OFF
	Shifting gears between 1st and 2nd	ON	ON	ON	OFF or ON
	Stays in 2nd	ON	ON	OFF	OFF or ON
	Shifting gears between 2nd and 3rd	ON	ON	ON	OFF or ON
	Stays in 3rd	ON	OFF	ON	OFF or ON
D	Shifting gears between 3rd and 4th	ON	OFF	OFF	OFF or ON
	Stays in 4th	OFF	OFF	OFF	OFF or ON
	Shifting gears between 4th and 5th	OFF	OFF	ON	OFF or ON
	Stays in 5th	OFF	ON	ON	OFF or ON
M	1st	OFF	ON	ON	OFF or ON
	2nd	ON	ON	OFF	OFF or ON
	3rd	ON	OFF	ON	OFF or ON
	4th	OFF	OFF	OFF	OFF or ON
	5th	OFF	ON	ON	OFF or ON
N	Neutral	OFF	ON	OFF	OFF
R	Shifting from P and N	OFF	ON	OFF	ON
	Stays in reverse	ON	ON	OFF	ON
	Reverse inhibit control	OFF	ON	OFF	OFF
P	Park	OFF	ON	OFF	ON

Shift Control - Grade Logic Control

The grade logic control system is used to control shifting in D and D3. The PCM compares actual driving conditions with programmed driving conditions, based on the input from the throttle position sensor, the engine coolant temperature sensor, the barometric pressure sensor, the brake pedal position switch signal, and the shift

lever position signal, to control shifting while the vehicle is ascending or descending a slope.

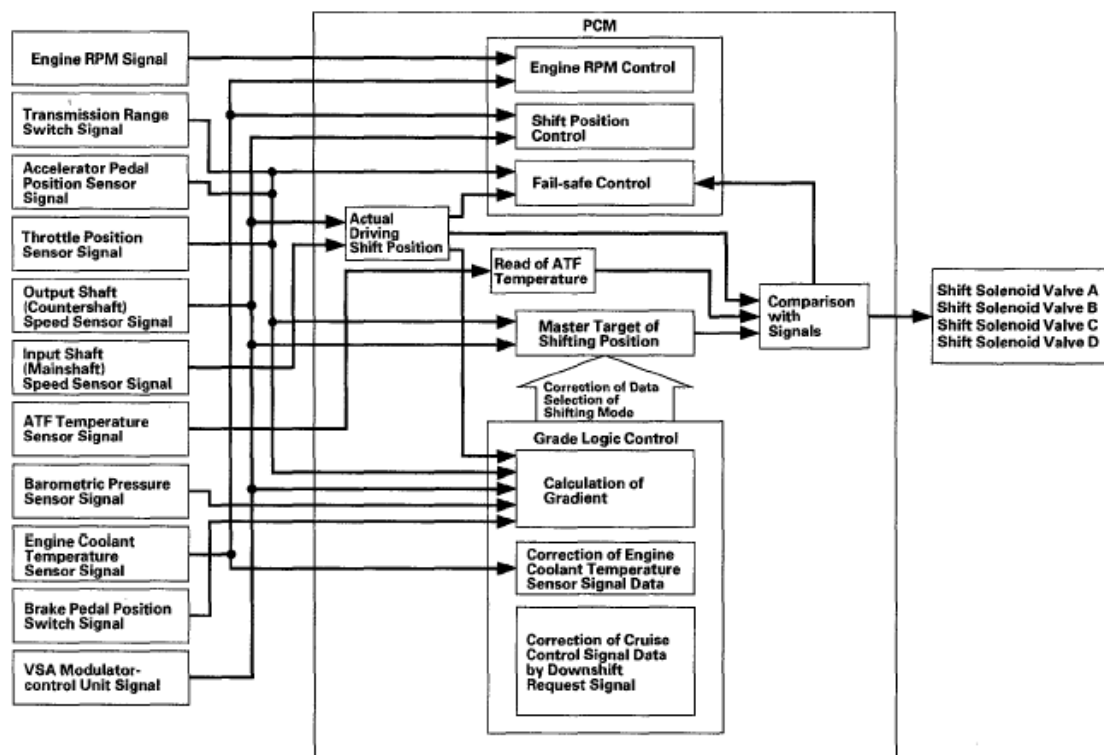


Fig. 25: Shift Control Diagram - Grade Logic Control
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Grade Logic Control: Ascending Control

When the PCM determines that the vehicle is climbing a hill in D and D3, the system extends the engagement area of 2nd gear, 3rd gear, and 4th gear to prevent the transmission from frequently shifting between 2nd and 3rd gears, between 3rd and 4th gears, and between 4th and 5th gears, so the vehicle can run smoothly and have more power when needed.

NOTE: Shift commands stored in the PCM between 2nd and 3rd gears, between 3rd and 4th gears, and between 4th and 5th gears, enable the PCM to automatically select the most suitable gear according to the magnitude of a gradient.

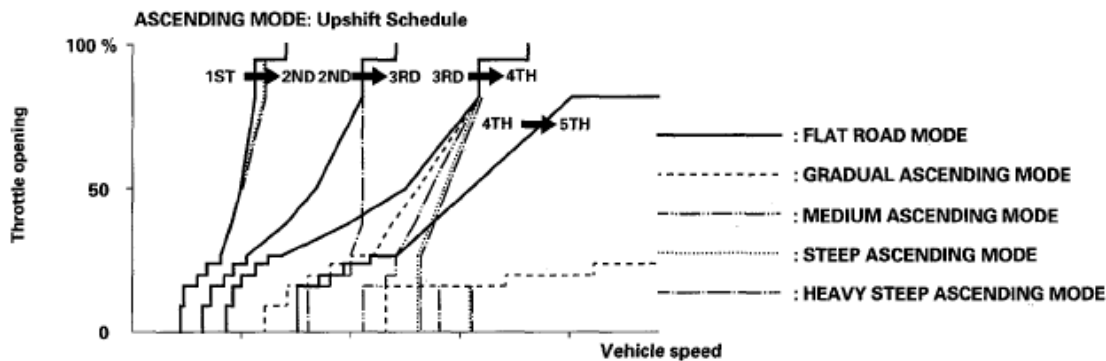


Fig. 26: Throttle Opening And Vehicle Speed Graph (Grade Logic Control: Ascending Control)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Grade Logic Control: Descending Control

When the PCM determines that the vehicle is going down a hill in D and D3, the shift-up speed from 4th to 5th gear, 3rd to 4th gear, and from 2nd to 3rd (when the throttle is closed) becomes faster than the set speed for flat road driving to extend the 4th gear, 3rd gear, and 2nd gear driving areas. This, in combination with engine braking from the deceleration lock-up, achieves smooth driving when the vehicle is descending. There are three descending modes with different 4th gear driving areas, 3rd gear driving areas, and 2nd gear driving areas according to the magnitude of a gradient stored in the PCM. When the vehicle is in 5th or 4th gear and you are decelerating while applying the brakes on a steep hill, the transmission downshifts to a lower gear. When you accelerate, the transmission then returns to a higher gear.

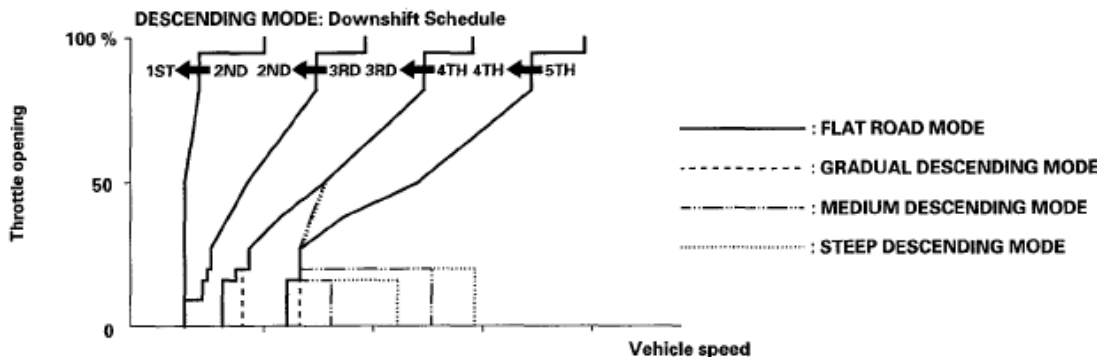


Fig. 27: Throttle Opening And Vehicle Speed Graph (Grade Logic Control: Descending Control)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Deceleration Control

When the vehicle goes around a corner and needs to decelerate first and then accelerate, the PCM sets the data for deceleration control to reduce the number of times the transmission shifts. When the vehicle is decelerating from speeds above 27 mph (43 km/h), the PCM shifts the transmission from 4th to 3rd earlier than normal to cope with upcoming acceleration.

Shift-Hold Control

When negotiating winding roads, the throttle is suddenly released and the brakes are applied, as is the case when decelerating at the entrance of a corner, Shift-Hold Control keeps the transmission in its current (lower) ratio as it negotiates the corner and accelerates out.

When the vehicle is driven aggressively on a winding road, the PCM extends the engagement time of 3rd gear and 4th gear to prevent the transmission from frequently shifting between 3rd, 4th, and 5th gears. This allows the driver to have more control for both acceleration and deceleration.

The PCM monitors the average change in vehicle speed and throttle over time. When these values exceed those for normal driving conditions, the shift-up from 3rd to 4th gear and 4th to 5th gear is delayed. This gives more control over power, and engine braking when the driver is driving aggressively around winding roads. The transmission resumes the normal shift-up pattern after the PCM determines that normal driving has resumed.

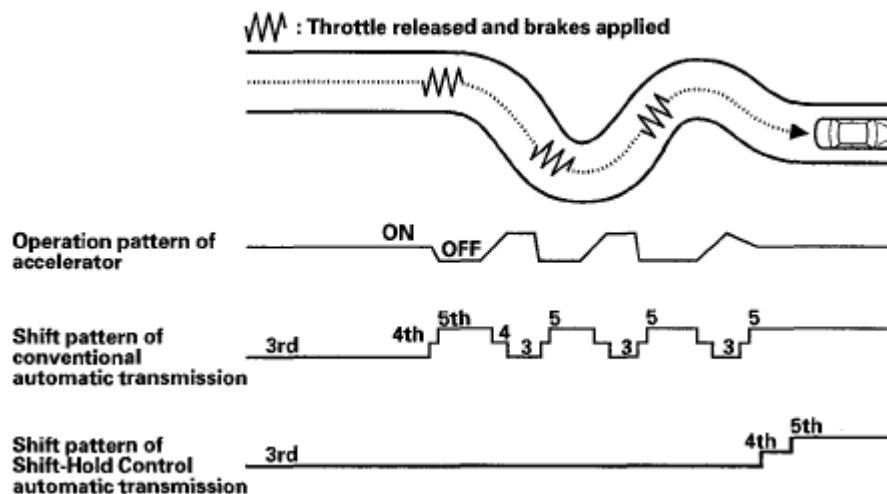


Fig. 28: Identifying Conventional Automatic Transmission Shift Pattern
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Shift Control - Sequential Sportshift Mode

The RL transmission is provided a sequential sportshift mode in D. In D, the transmission has two shifting modes; the automatic shift mode and the sequential sportshift mode. In the automatic shift mode used for general driving, the transmission upshifts and downshifts automatically from 1st through 5th gear. In the automatic shift mode, the shift indicator and the M indicator in the gauge control module do not come on.

The transmission is switched to the sequential sportshift mode by moving the shift lever into M from D, the automatic shift mode is canceled, and the sequential sportshift mode comes into operation. The shift indicator displays the number of the selected gear, and the M indicator comes on. In the sequential sportshift mode, the driver can shift up and down manually from 1st through 5th gear by using the paddle shifters as well as the shift lever, much like a manual transmission. The paddle shifters are installed on the back of the steering wheel, and the driver can shift gears by pulling the paddle shifters without taking either hand off the steering wheel.

In the sequential sportshift mode, the transmission must be shifted up and down by using the shift lever or paddle shifters. However, the transmission cannot downshift and stays in the current gear if the shift lever is pulled or the downshift paddle shifter (-, downshift switch) is pulled while the vehicle is coasting at a speed that

would cause the engine to over-rev by downshifting the transmission, and the shift indicator blinks the number of the selected gear several times, then returns to the number of the current gear. If the vehicle speed reaches an appropriate speed while the shift indicator is blinking the number of the selected gear, the transmission downshifts and the shift indicator displays the selected gear. The transmission also cannot upshift and stays in the current gear if the shift lever is pushed or the upshift paddle shifter (+, upshift switch) is pulled while driving below an appropriate upshifting speed, the shift indicator blinks the number of the selected gear several times, then returns to the number of the current gear. If the vehicle speed reaches an appropriate upshift speed while the shift indicator is blinking the number of the selected gear, the transmission upshifts and the shift indicator displays the selected gear.

When the transmission decelerates to a stop, the transmission shifts to 1st gear automatically. The transmission can be shifted to 2nd gear by pushing the shift lever or pulling the upshift paddle shifter while the vehicle is stopped, and the vehicle can start off in 2nd gear.

The sequential sportshift mode is canceled when moving the shift lever to any position other than M.

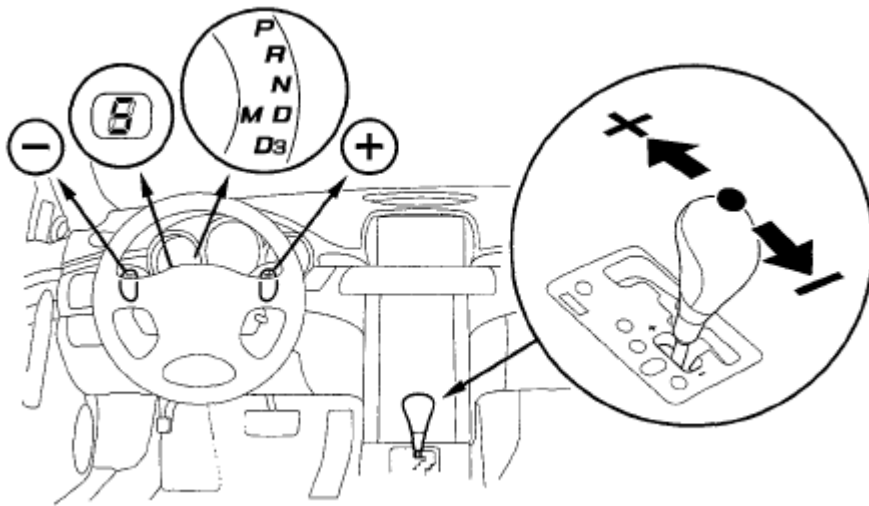
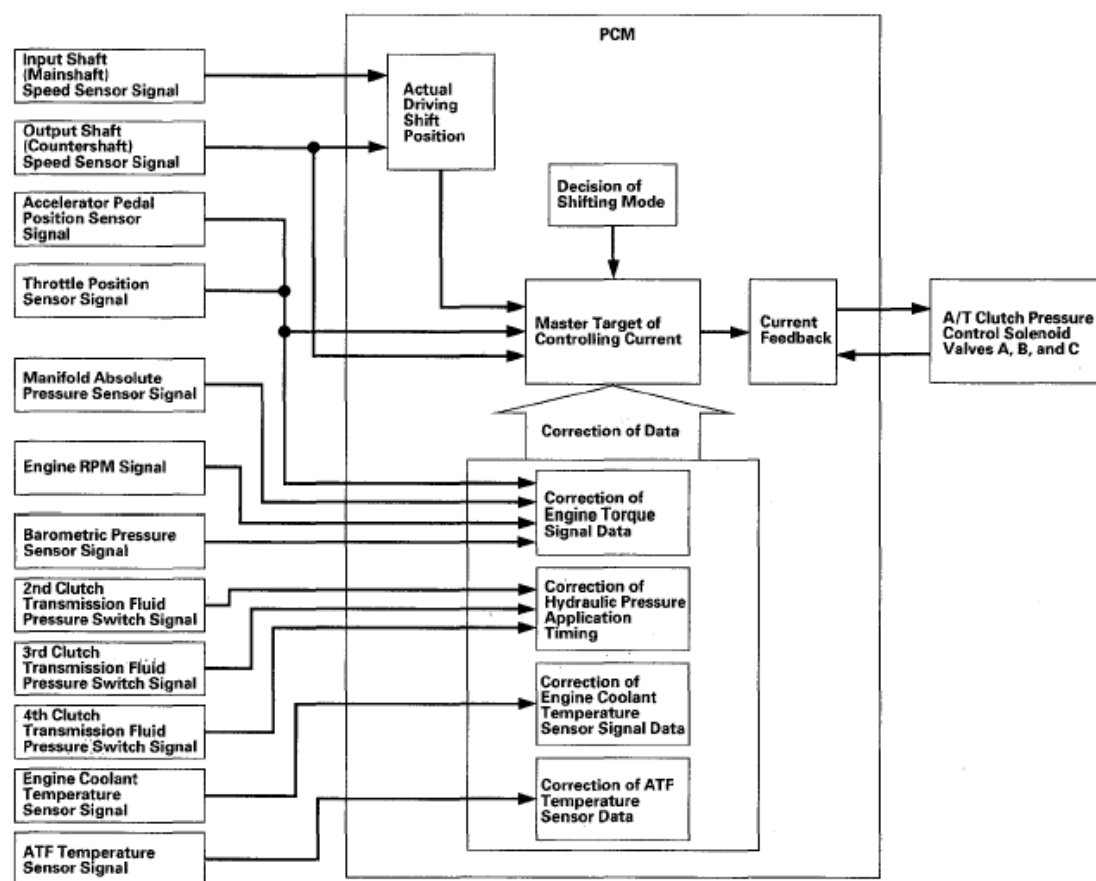


Fig. 29: Shift Control - Sequential Sportshift Mode
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Clutch Pressure Control

The PCM actuates A/T clutch pressure control solenoid valves A, B, and C to control the clutch pressure. When shifting between gears, the clutch pressure regulated by A/T clutch pressure control solenoid valves A, B, and C engages and disengages the clutch smoothly.

The PCM receives input signals from the various sensors and switches, processes data, and outputs the current to A/T clutch pressure control solenoid valves A, B, and C.

**Fig. 30: Clutch Pressure Control Diagram**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Lock-up Control

Shift solenoid valve D controls the hydraulic pressure to switch the lock-up shift valve and lock-up ON and OFF. When the PCM turns shift solenoid valve D and A/T clutch pressure control solenoid valve C ON, and lock-up starts. A/T clutch pressure control solenoid valve C regulates and applies hydraulic pressure to the lock-up control valve to control the amount of the lock-up.

The lock-up mechanism operates in 2nd, 3rd, 4th, and 5th gears in D, and in 2nd and 3rd gears in D3.

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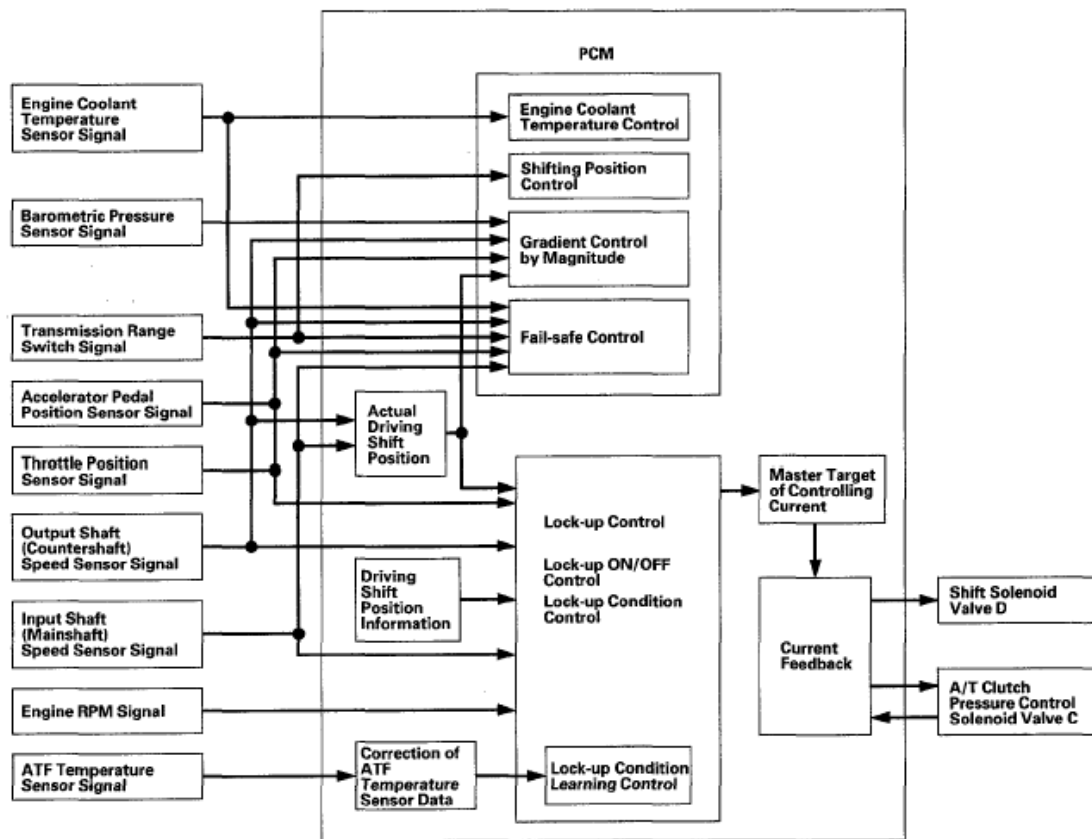


Fig. 31: Lock-Up Control Diagram
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PCM A/T Control System Electrical Connections

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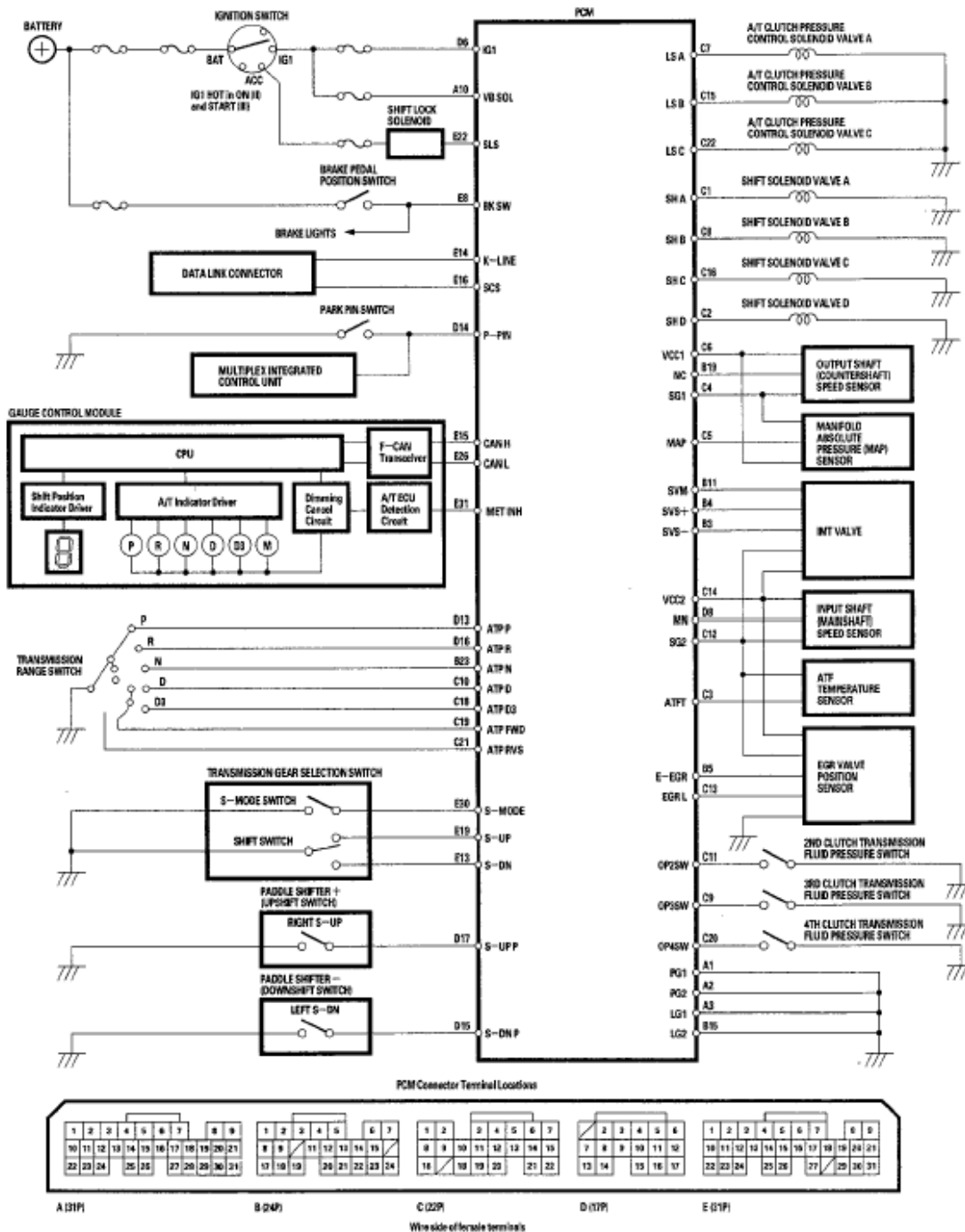


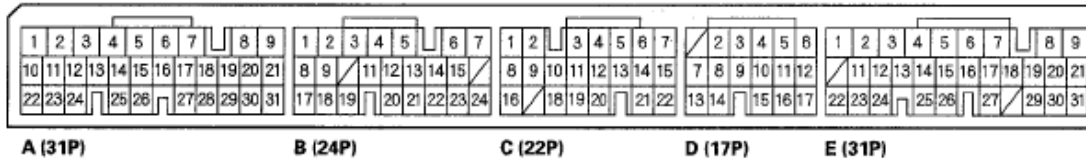
Fig. 32: PCM A/T Control System Electrical Connections Diagram
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PCM A/T Control System Inputs and Outputs

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PCM Connector Terminal Locations



Wire side of female terminals

Fig. 33: Identifying PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PCM CONNECTOR A (31P)

PCM CONNECTOR TERMINAL REFERENCE A - (31P)

Terminal number	Wire color	Terminal name	Description	Signal
A1	BLK	PG2 (POWER GROUND)	Ground circuit for PCM circuit	Less than 1.0 V at all times
A2	BLK	PG1 (POWER GROUND)	Ground circuit for PCM circuit	Less than 1.0 V at all times
A3	BRN/YEL	LG1 (LOGIC GROUND)	Ground circuit for PCM circuit	Less than 1.0 V at all times
A4	YEL/BLK	IGP (POWER SOURCE)	Power source for PCM circuit	With ignition switch ON (II): Battery voltage With ignition switch LOCK (0): About 0 V
A10	BLK/YEL	VB SOL (POWER SOURCE FOR SOLENOID VALVE)	Power source for solenoid valves	With ignition switch ON (II): Battery voltage With ignition switch LOCK (0): About 0 V

PCM CONNECTOR B (24P)

PCM CONNECTOR TERMINAL REFERENCE B - (24P)

Terminal number	Wire color	Terminal name	Description	Signal
B3	WHT/RED	IMT- (INTAKE MANIFOLD TUNING (IMT) ACTUATOR - SIDE)	Ground for IMT actuator	With ignition switch ON (II): Battery voltage
B4	WHT/BLU	IMT+ (INTAKE	Drives IMT actuator	With ignition

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		MANIFOLD TUNING (IMT) ACTUATOR + SIDE)		switch ON (II): Battery voltage
B5	BLU/RED	EGR (EXHAUST GAS RECIRCULATION (EGR) VALVE)	Drives EGR valve	With EGR operating: Duty controlled With EGR not operating: About 0 V
B11	WHT/BLK	IMTM (INTAKE MANIFOLD TUNING (IMT) ACTUATOR MONITOR)	Detects IMT actuator position	With engine running: About 5.0 V With engine speed above 3,800 rpm: About 0 V
B15	BRN/YEL	LG2 (LOGIC GROUND)	Ground circuit for PCM	Less than 1.0 V at all times
B19	BLU	NC (OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR)	Detects output shaft (countershaft) speed sensor signal	With ignition switch ON (II) and front wheels rotated by hand: Pulses
B23	RED/BLK	ATP N (TRANSMISSION RANGE SWITCH N POSITION)	Detects transmission range switch N position signal	In N: About 0 V In any position other than N: Battery voltage

PCM CONNECTOR C (22P)**PCM CONNECTOR TERMINAL REFERENCE C - (22P)**

Terminal number	Wire color	Terminal name	Description	Signal
C1	BLU/YEL	SH A (SHIFT SOLENOID VALVE A)	Drives shift solenoid valve A	In R, and 2nd and 3rd in D, D3, and M: Battery voltage In P and N, and 1st in D, D3 and M, 4th, 5th in D and M: About 0 V
C2	GRN/RED	SHD (SHIFT SOLENOID VALVE D)	Drives shift solenoid valve D	In N, in D and D3 during no lock-up condition: About 0 V In P and R, and D and D3 during lock- up condition: Battery voltage

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C3	BLU/YEL	ATFT (ATF TEMPERATURE SENSOR)	Detects ATF temperature sensor signal	With ignition switch ON (II): About 0.2-4.0 V depending on ATF temperature With ignition switch LOCK (0): About 0 V
C4	GRN/WHT	SG1 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
C5	GRN/RED	MAP (MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR)	Detects MAP sensor signal	With ignition switch ON (II): Battery voltage At idle: About 1.0 V (depending on engine speed)
C6	YEL/RED	VCC1 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): About 5.0 V With ignition switch LOCK (0): About 0 V
C7	RED	LS A (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A)	Drives A/T clutch pressure control solenoid valve A	With ignition switch ON (II): Pulses
C8	GRN/WHT	SH B (SHIFT SOLENOID VALVE B)	Drives shift solenoid valve B	In P, R, and N, and 1st and 2nd in D, D3, and M, in 5th in D and M: Battery voltage In 3rd in D, D3, and M, and 4th in D: About 0 V
C9	BLU/WHT	OP3SW (3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH)	Detects 3rd clutch transmission fluid pressure switch signal	With ignition switch ON (II): <ul style="list-style-type: none"> Without 3rd clutch pressure: About 5.0 V With 3rd clutch pressure: About 0 V
C10	YEL/GRN	ATP D	Detects	In D: About 0 V

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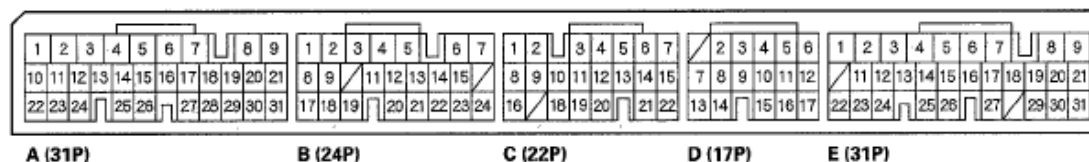
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		(TRANSMISSION RANGE SWITCH D POSITION)	transmission range switch D position signal input	In any position other than D: Battery voltage
C11	BLU/BLK	OP2SW (2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH)	Detects 2nd clutch transmission fluid pressure switch signal	With ignition switch ON (II): <ul style="list-style-type: none"> Without 2nd clutch pressure: About 5.0 V With 2nd clutch pressure: About 0 V
C12	GRN/YEL	SG2 (SENSOR GROUND)	Sensor ground	Less than 1.0 V at all times
C13	WHT/BLK	EGRP (EXHAUST GAS RECIRCULATION (EGR) VALVE POSITION SENSOR)	Detects EGR valve position sensor signal	With engine running: About 1.2-3.0 V (depending on EGR valve lift)
C14	YEL/BLU	VCC2 (SENSOR VOLTAGE)	Provides sensor voltage	With ignition switch ON (II): About 5.0 V With ignition switch LOCK (0): About 0 V
C15	BRN/WHT	LS B (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B)	Drives A/T clutch pressure control solenoid valve B	With ignition switch ON (II): Pulses
C16	GRN	SH C (SHIFT SOLENOID VALVE C)	Drives shift solenoid valve C	In 1st and 3rd in D, D3, and M, and 5th in D and M: Battery voltage In P, R, and N, and 2nd in D, D3, and M, and 4th in D and M: About 0 V
C18	RED	ATP D3 (TRANSMISSION RANGE SWITCH D3)	Detects transmission range switch D3 signal input	In D3: About 0 V In any position other than D3: Battery voltage

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PCM Connector Terminal Locations



Wire side of female terminals

Fig. 34: Identifying PCM Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PCM CONNECTOR C (22P)

PCM CONNECTOR TERMINAL REFERENCE C - (22P)

Terminal number	Wire color	Terminal name	Description	Signal
C19	BLU/YEL	ATP FWD (TRANSMISSION RANGE SWITCH D AND D3)	Detects transmission range switch D and D3 signal input	In D and D3: About 0 V In any position other than D and D3: Battery voltage
C20	BLU/YEL	OP4SW (4TH CLUTCH TRANSMISSION FLUID PRESSURE SWITCH)	Detects 4th clutch transmission fluid pressure switch signal	With ignition switch ON (II): <ul style="list-style-type: none"> Without 4th clutch pressure: About 5.0 V With 4th clutch pressure: About 0 V
C21	RED/WHT	ATP RVS (TRANSMISSION RANGE SWITCH R POSITION)	Detects transmission range switch P, R, and N position signal	In P, R, and N: About 0 V In any position other than P, R, and N: Battery voltage
C22	GRN/RED	LS C (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C)	Drives A/T clutch pressure control solenoid valve C	With ignition switch ON (II): Pulses

PCM CONNECTOR D (17P)

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PCM CONNECTOR TERMINAL REFERENCE D - (17P)

Terminal number	Wire color	Terminal name	Description	Signal
D6	YEL	IG1 (IGNITION SIGNAL)	Detects ignition signal	With ignition switch ON (II): Battery voltage With ignition switch LOCK (0): About 0 V
D8	RED	NM (INPUT SHAFT (MAINSHAFT) SPEED SENSOR)	Detects input shaft (mainshaft) speed sensor signal	With ignition switch ON (II): About 0 V or about 5.0 V With engine running in N: About 2.5 V
D12	ORN	VB SOL2 (POWER SOURCE FOR SOLENOID VALVE)	Power source for solenoid valves	With ignition switch ON (II): Battery voltage With ignition switch LOCK (0): About 0 V
D13	GRN	ATP P (TRANSMISSION RANGE SWITCH P POSITION)	Detects transmission range switch P position signal	In P: About 0 V In any position other than P: Battery voltage
D14	LT BLU	P PIN (PARK PIN SWITCH)	Detects park pin switch signal	With ignition switch ON (II) in P: Battery voltage With ignition switch ON (II) in other than P: About 0 V

PCM CONNECTOR D (17P)**PCM CONNECTOR TERMINAL REFERENCE D - (17P)**

Terminal number	Wire color	Terminal name	Description	Signal
D15	PUR	SDNP (PADDLE SHIFTER - (DOWNSHIFT SWITCH))	Detects paddle shifter - (downshift switch) signal	In M, paddle shifter - (downshift switch) pressed: About 0.V In M, paddle shifter - (downshift switch) released: Battery voltage
D16	PUR	ATP R (TRANSMISSION	Detects transmission range switch R	In R: About 0 V In any position

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		RANGE SWITCH R POSITION)	position signal	other than R: Battery voltage
D17	BLU	SUP P (PADDLE SHIFTER + (UPSHIFT SWITCH))	Detects paddle shifter + (upshift switch) signal	In M, paddle shifter + (upshift switch) pressed: About 0 V In M, paddle shifter + (upshift switch) released: Battery voltage

PCM CONNECTOR E (31P)**PCM CONNECTOR TERMINAL REFERENCE E - (31P)**

Terminal number	Wire color	Terminal name	Description	Signal
E8	LT GRN	BK SW (BRAKE PEDAL POSITION SWITCH)	Detects brake pedal position switch signal	With brake pedal released: About 0 V With brake pedal pressed: Battery voltage
E13	GRN	SDN (DOWNSHIFT SWITCH)	Detects downshift switch signal	In M and shift lever pushed toward downshift position: About 0 V In M and shift lever in neutral position: Battery voltage
EH	RED	K-LINE	Sends and receives HDS signal	With ignition switch ON (II): Pulses or battery voltage
E15	WHT	CAN H (CAN COMMUNICATION SIGNAL HIGH)	Sends communication signal	With ignition switch ON (II): Pulses
E16	BRN	SCS (SERVICE CHECK SIGNAL)	Detects service check signal	With service check signal shorted with the HDS: About 0 V With service check signal opened: About 5.0 V
E19	BLU	SUP (UPSHIFT SWITCH)	Detects upshift switch signal	In M and shift lever pushed toward upshift position: About 0 V In M and shift lever in neutral position:

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				Battery voltage
E21	LT GRN	STRLY (STARTER CUT RELAY)	Drives starter cut relay 2 (ST CUT)	With ignition switch ON (II): About 0 V
E22	PNK	SLS (SHIFT LOCK SOLENOID)	Drives shift lock solenoid	With ignition switch ON (II), in P, brake pedal pressed, and accelerator released: About 0 V
E26	BLK	CAN L (CAN COMMUNICATION SIGNAL LOW)	Sends communication signal	With ignition switch ON (II): Pulses
E30	PUR	SMODE (SEQUENTIAL SPORT SHIFT MODE)	Detects sequential sports shift mode switch signal	In M: About 0 V In other than M: Battery voltage
E31	GRN	MET INH (METER DISPLAY INHIBIT SIGNAL)	Sends A/T shift position inhibit signal	With ignition switch ON (II): About 10.0 V

Hydraulic Controls

The valve body includes the main valve body, the regulator valve body, the secondary valve body, and the accumulator body. The ATF pump is driven by splines on the end of the torque converter which is attached to the engine. Fluid flows through the regulator valve to maintain specified pressure through the main valve body to the manual valve, directing pressure to each of the clutches. The shift solenoid valves A, B, C, and D are mounted on the accumulator body. The A/T clutch pressure control solenoid valves A, B, and C are mounted on the transmission housing.

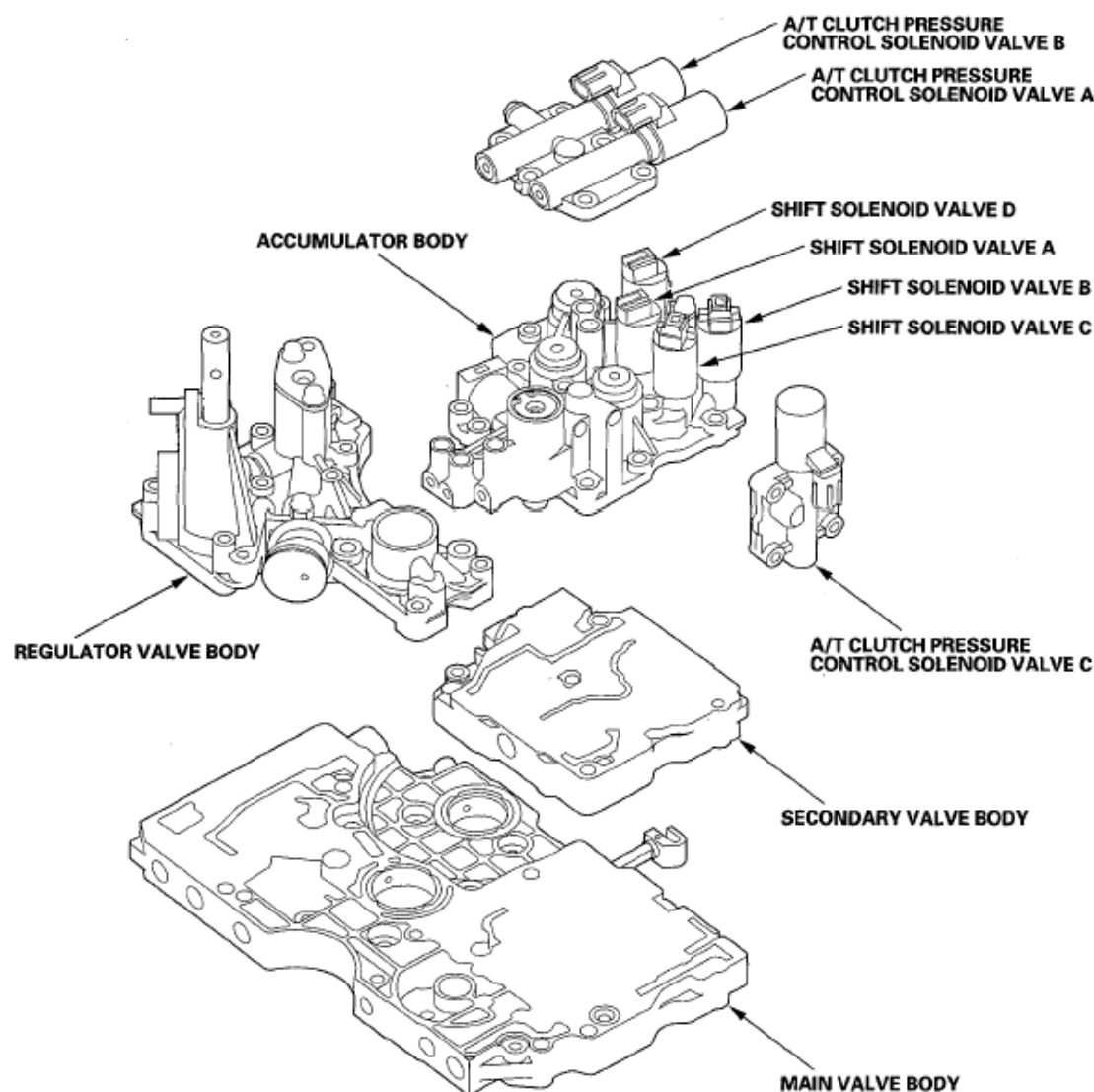


Fig. 35: Identifying Valve Body Components
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Main Valve Body ('05 Model)

The main valve body contains the manual valve, the modulator valve, the shift valve A, the shift valve B, the shift valve E, the CPC valve A, the servo control valve, the lubrication check valve, the lubrication control valve, the torque converter check valve, the lock-up timing valve, the relief valve, the cooler check valve, the lock-up shift valve, and the ATF pump gears. The primary function of the main valve body is to switch fluid pressure on and off to control hydraulic pressure going to the hydraulic control system.

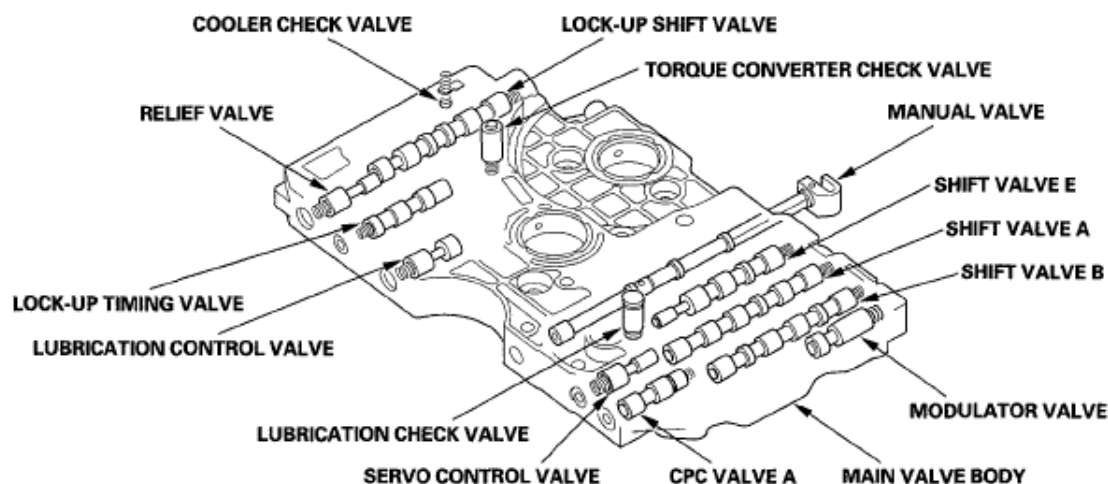


Fig. 36: Identifying Main Valve Body Components (05 Model)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Main Valve Body ('06-08 Models)

The main valve body contains the manual valve, the modulator valve, the shift valve A, the shift valve B, the shift valve E, the CPC valve A, the servo control valve, the lubrication check valve, the lubrication control valve, the torque converter check valve, the lock-up timing valve, the relief valve, the lock-up shift valve, and the ATF pump gears. The primary function of the main valve body is to switch fluid pressure on and off to control hydraulic pressure going to the hydraulic control system.

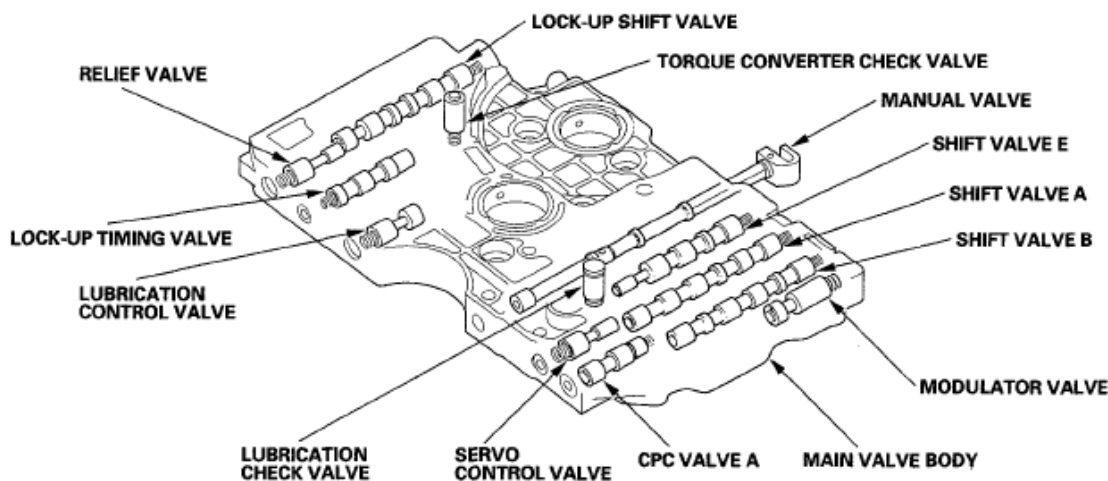


Fig. 37: Identifying Main Valve Body Components (06-08 Models)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Regulator Valve Body ('05 Model)

The regulator valve body is located on the main valve body. The regulator valve body contains the regulator valve, the lock-up control valve, the servo valve, and the 3rd accumulator.

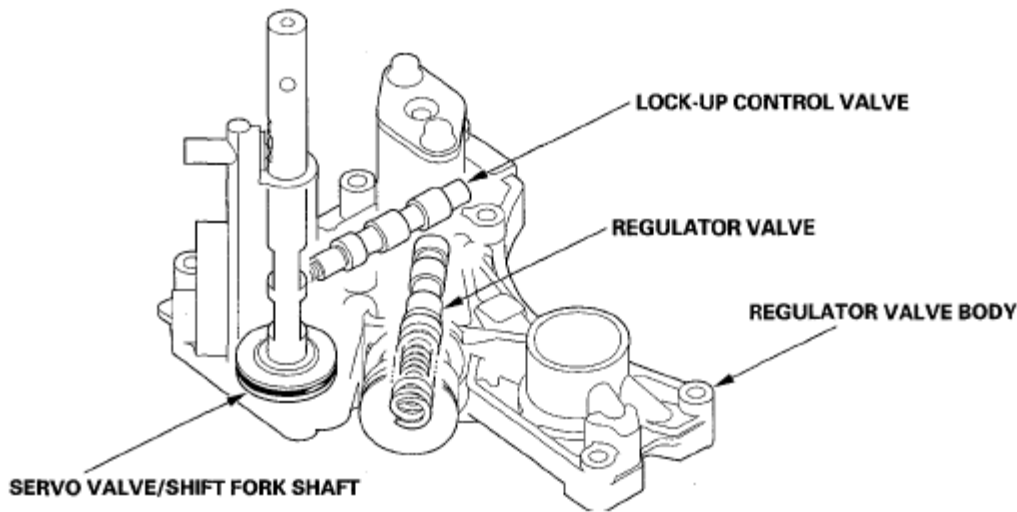


Fig. 38: Identifying Regulator Valve Body Components (05 Model)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Regulator Valve Body ('06-08 Models)

The regulator valve body is located on the main valve body. The regulator valve body contains the regulator valve, the cooler check valve, the lock-up control valve, the servo valve, and the 3rd accumulator.

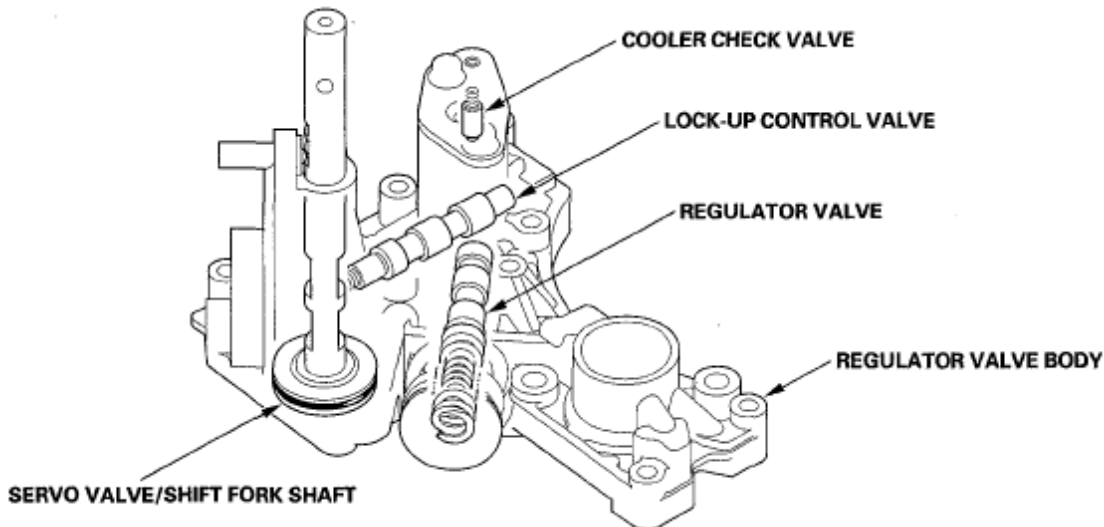


Fig. 39: Identifying Regulator Valve Body Components (06-08 Models)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Regulator Valve

The regulator valve maintains constant hydraulic pressure from the ATF pump to the hydraulic control system, while also furnishing fluid to the lubricating system and torque converter. Fluid from the ATF pump flows through B and B'. Fluid entering from B flows through the valve orifice to the A cavity. This pressure of the A

cavity pushes the regulator valve to the spring side, and this movement of the regulator valve uncovers the fluid port to the torque converter and the relief valve. The fluid flows out to the torque converter and the relief valve, and the regulator valve returns under spring force. According to the level of the hydraulic pressure through B, the position of the regulator valve changes, and the amount of fluid from B' through the torque converter changes. This operation is continued, maintaining the line pressure.

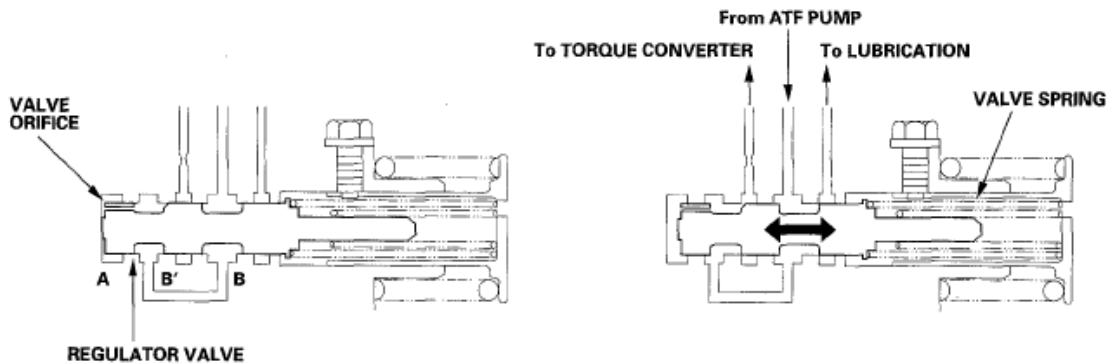


Fig. 40: Checking Regulator Valve

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Increases in hydraulic pressure according to torque are regulated by the regulator valve using stator torque reaction. The stator shaft is splined to the stator in the torque converter, and its arm end contacts the regulator spring cap. When the vehicle is accelerating or climbing (torque converter range), stator torque reaction acts on the stator shaft, and the stator arm pushes the regulator spring cap in the direction of the arrow in proportion to the reaction. The stator reaction spring compresses, and the regulator valve moves to increase the line pressure which is regulated by the regulator valve. The line pressure reaches its maximum when the stator torque reaction reaches its maximum.

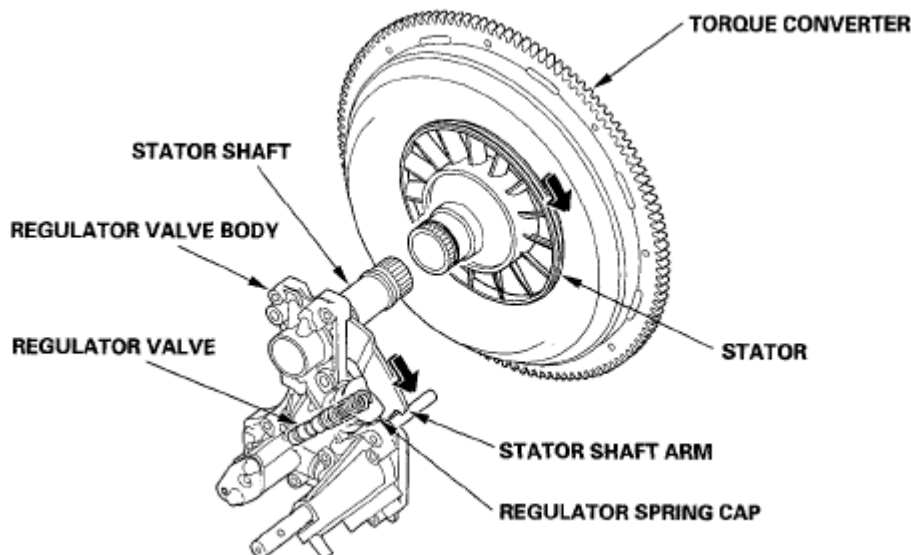


Fig. 41: Identifying Regulator Spring Cap Pushing Direction

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Secondary Valve Body

The secondary valve body is on the main valve body. The secondary valve body contains the shift valve C, the shift valve D, the CPC valve B, the CPC valve C, the reverse control valve, and the reverse CPC valve.

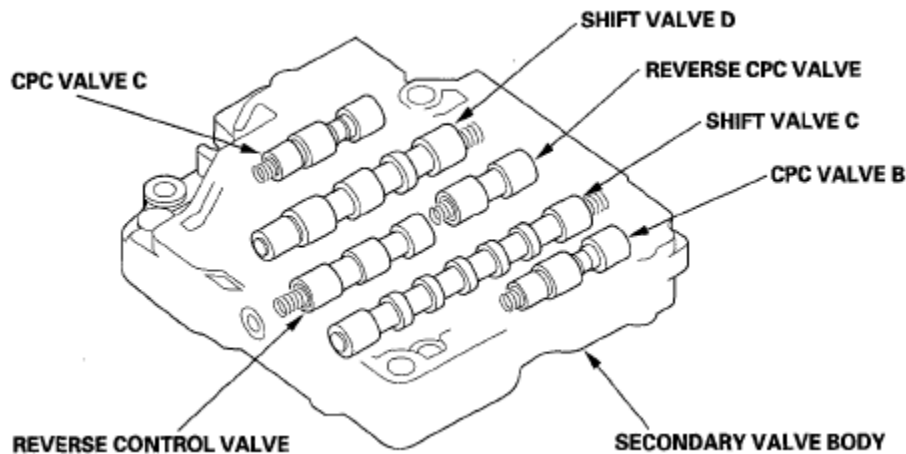


Fig. 42: Identifying Secondary Valve Body Components
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Accumulator Body

The accumulator body is on the secondary valve body, and contains the 1st, 1st-hold, 2nd, 4th, and 5th accumulators. The 3rd accumulator is in the regulator valve body.

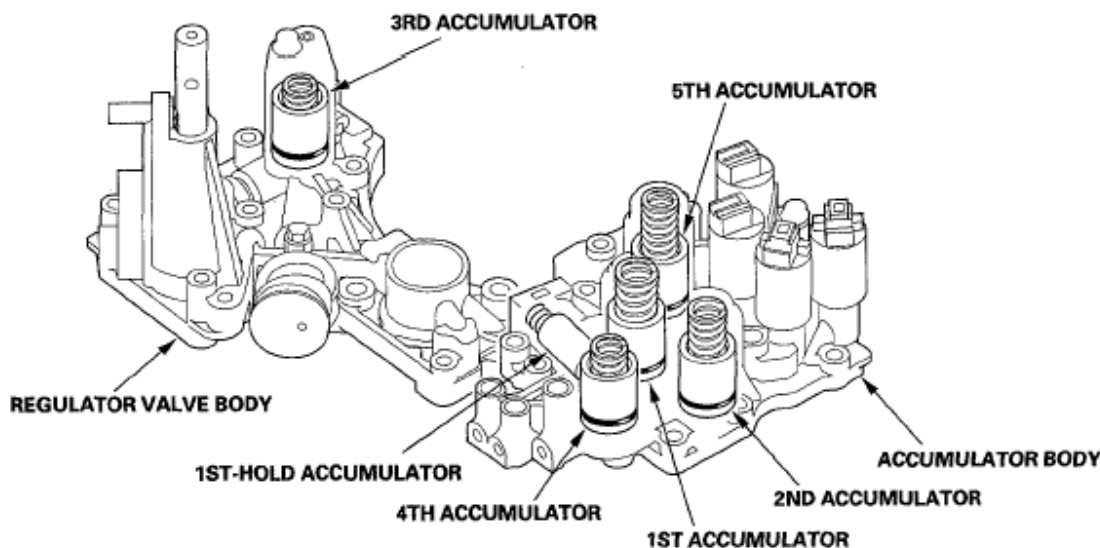


Fig. 43: Identifying Accumulator Body Components
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Hydraulic Flow

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Distribution of Hydraulic Pressure

As the engine turns, the ATF pump starts to operate. Automatic transmission fluid (ATF) is drawn through the ATF strainer (filter) and discharged into the hydraulic circuit. Then, ATF flowing from the ATF pump becomes line pressure that is regulated by the regulator valve. Torque converter pressure from the regulator valve enters the torque converter through the lock-up shift valve and lock-up control valve, and it is discharged from the torque converter. The torque converter check valve prevents torque converter pressure from rising.

The PCM controls shift solenoid valves A, B, C, and D ON and OFF, and the shift solenoid valves control shift solenoid pressure to the shift valves. Applying shift solenoid pressure to the shift valves moves the position of the shift valve, and switches the port of hydraulic pressure. The PCM also controls A/T clutch pressure control solenoid valves A, B, and C. The A/T clutch pressure control solenoid valves regulate hydraulic pressure, and apply the pressure to CPC valves A, B, and C, and the reverse CPC valve.

When shifting between gears, the clutches are engaged by pressure from the CPC pressure mode. The PCM controls one of the shift solenoid valves to move the position of the shift valve. This movement switches the port of CPC pressure and line pressure. Line pressure is then applied to the clutch, and CPC pressure is released. The clutch is engaged with line pressure after shifting is completed.

Hydraulic Pressure at the Port for use in the hydraulic circuit:

HYDRAULIC PRESSURE PORT REFERENCE CHART

Port	Hydraulic Pressure	Port	Hydraulic Pressure
1	Line	SC	Shift solenoid valve C
2	Line	SC'	Shift solenoid valve C
3	Line	SD	Shift solenoid valve D
3'	Line	10	1st clutch
3"	Reverse CPC or Line	15	1st-hold clutch
3A	Line	20	2nd clutch
3B	Reverse CPC	30	3rd clutch
4	Line	40	4th clutch
4'	Line	50	5th clutch
4"	Line	51	5th clutch
4A	CPC A	56	A/T clutch pressure control solenoid valve A
4B	CPC B	57	A/T clutch pressure control solenoid valve B
4C	CPC C	5R	A/T clutch pressure control solenoid valve B
5A	CPC A	58	A/T clutch pressure control solenoid valve C
5B	CPC A or Line	90	Torque converter
5C	CPC B or Line	90'	Torque converter
5D	CPC B	91	Torque converter

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5E	CPC C	91'	Torque converter
5F	CPC C	92	Torque converter
5G	CPC C	93	ATF cooler
5H	CPC B or Line	94	Torque converter
5J	CPC B or Line	95	Lubrication
5K	CPC A or Line	95'	Lubrication
5L	CPC A or Line	96	Torque converter
5M	Line	99	Suction
5N	CPC C	X	Drain
6	Modulator	HX	High position drain
SA	Shift solenoid valve A	AX	Air drain
SB	Shift solenoid valve B	-	-

N Position

Line pressure (1) regulated by the regulator valve flows to shift solenoid valves. The PCM switches the shift solenoid valves ON and OFF. The conditions of the shift solenoid valves and positions of the shift valve are as follows:

- Shift solenoid valve A is OFF, and closes the port of shift solenoid valve A pressure (SA); shift valve A remains on the left side.
- Shift solenoid valve B is turned ON, and closes the port of shift solenoid valve B pressure (SB); shift valve B and shift valve E remain on the left side.
- Shift solenoid valve C is OFF, and opens the port of shift solenoid valve C pressure (SO; shift valve C and shift valve D move to the right side.
- Shift solenoid valve D is OFF, and closes the port of shift solenoid valve D pressure (SD).

Line pressure (1) also flows to the modulator valve and becomes modulator pressure (6). Modulator pressure (6) flows to the A/T clutch pressure control solenoid valves. The manual valve covers the port leading pressure to the clutches, and hydraulic pressure is not applied to the clutches.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

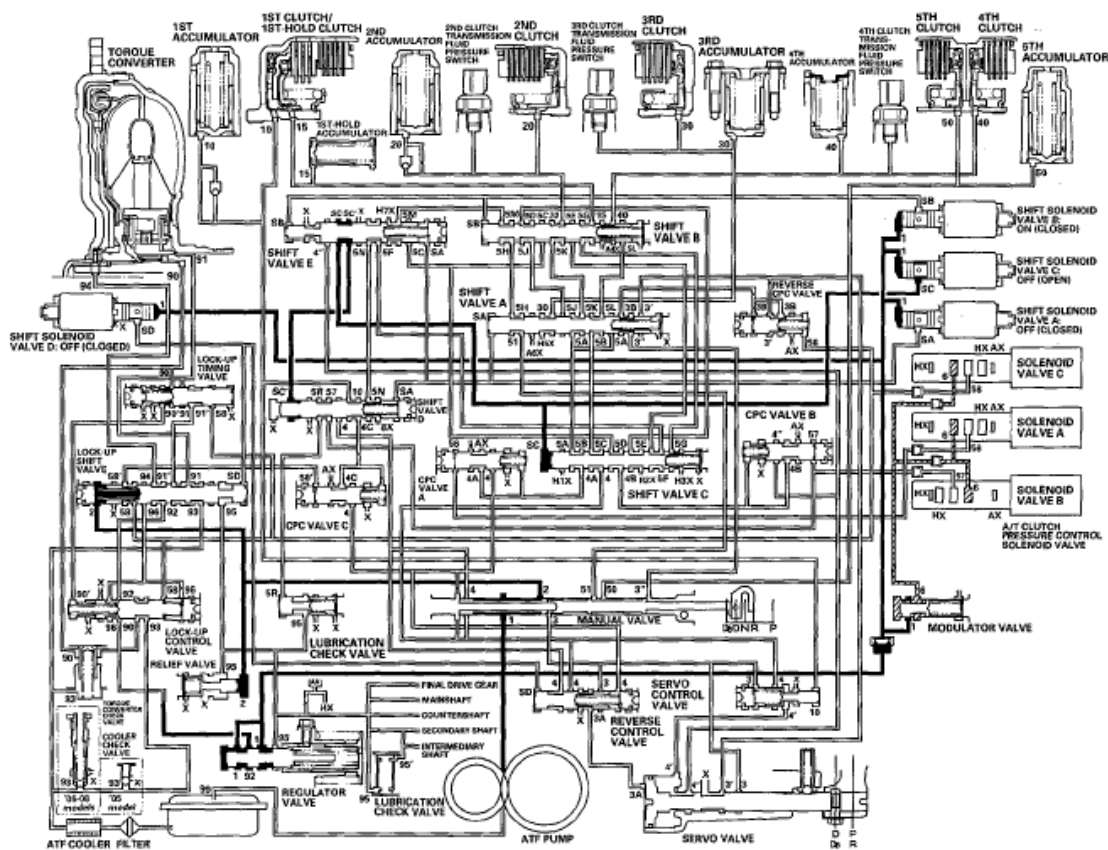


Fig. 44: Hydraulic Pressure Flow Diagram (N Position)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: 1st gear shifting from the N position

The shift solenoid valves remain the same as in N when shifting to D from N. The manual valve is moved to D position, and uncovers the port of line pressure (4) leading to CPC valves A and C. The PCM actuates A/T clutch pressure control solenoid valves A and C, A/T clutch pressure control solenoid valve A pressure (56) flows to CPC valve A, and A/T clutch pressure control solenoid valve C pressure (58) flows to CPC valve C. CPC valves A and C regulate line pressure (4), line pressure (4) becomes CPC C pressure (4C) at CPC valve C, and becomes CPC A pressure at CPC valve A. CPC C pressure (4C) becomes 1st clutch pressure (10) at shift valve D, and 1st clutch pressure flows to the 1st clutch. CPC A pressure (4A) becomes 2nd clutch pressure (20) at shift valve B via shift valves A and C. The 1st clutch and 2nd clutch engage gently by the CPC pressure.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

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The PCM turns shift solenoid valve C ON, and shift solenoid valve C covers the port of shift solenoid valve C pressure (SC) to shift valve C and shift valve D via shift valve E. Shift solenoid valve A remains OFF, and shift solenoid valve B remains ON. Shift valves C and D are moved to the left side, shift valve D switches the port of line pressure (4) and CPC C pressure (4C) leading to the 1st clutch, and shift valve C switches the port of CPC A pressure (4A) releasing 2nd clutch pressure. Line pressure (4) becomes 1st clutch pressure (10) at shift valve D, and flows to the 1st clutch. The 1st clutch is engaged securely by the line pressure.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

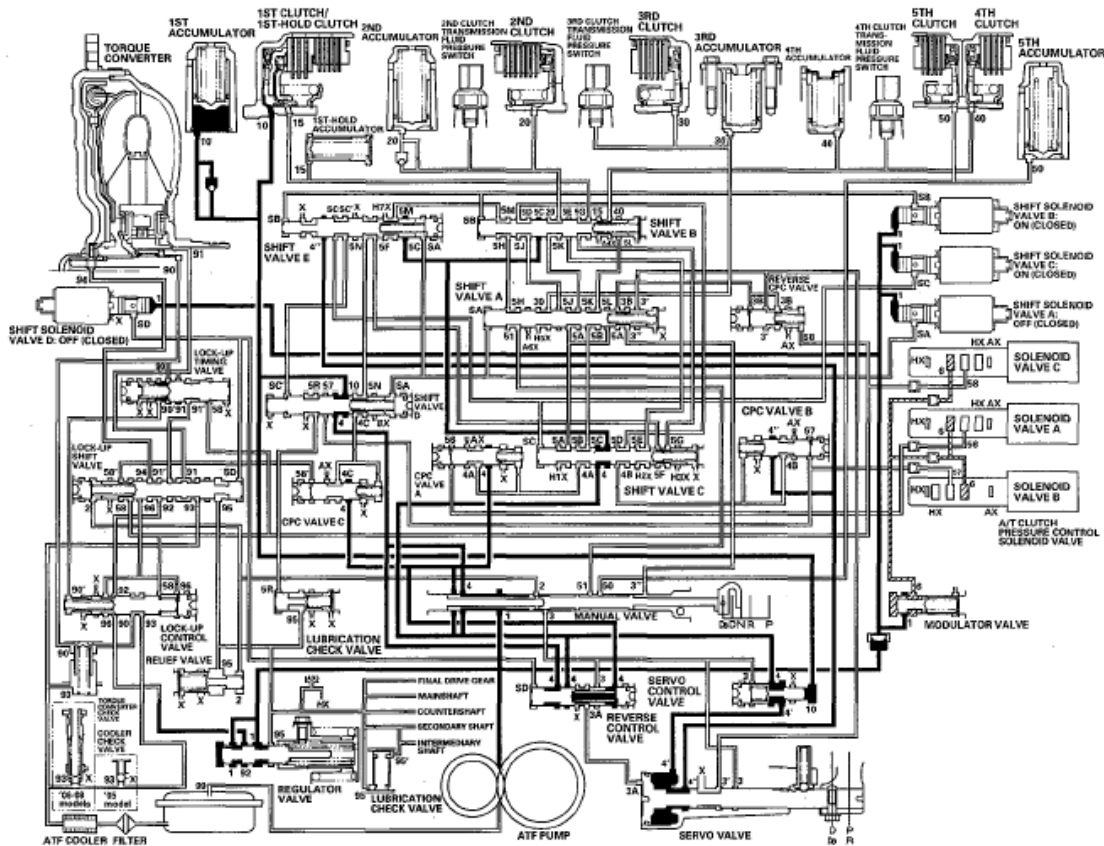


Fig. 46: Hydraulic Pressure Flow Diagram (D Position: Driving In 1st Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Shifting between 1st gear and 2nd gear

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A ON, and shift solenoid valve A uncovers the port of shift solenoid valve A pressure (SA) to shift valve A. Shift solenoid valves B and C remain ON. Shift valve A is moved to the right side to uncover the port of CPC A pressure (4A) leading to the 2nd clutch. The PCM actuates A/T clutch pressure control solenoid valve A, and A/T clutch pressure control solenoid valve A pressure (56) is applied to CPC valve A. CPC valve A regulates line pressure (4), and line pressure (4) becomes CPC A pressure (4A). CPC A pressure (4A) flows to shift valve B via shift valves C and A, and becomes 2nd clutch pressure (20) at shift valve B. The 2nd clutch is engaged by the CPC pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

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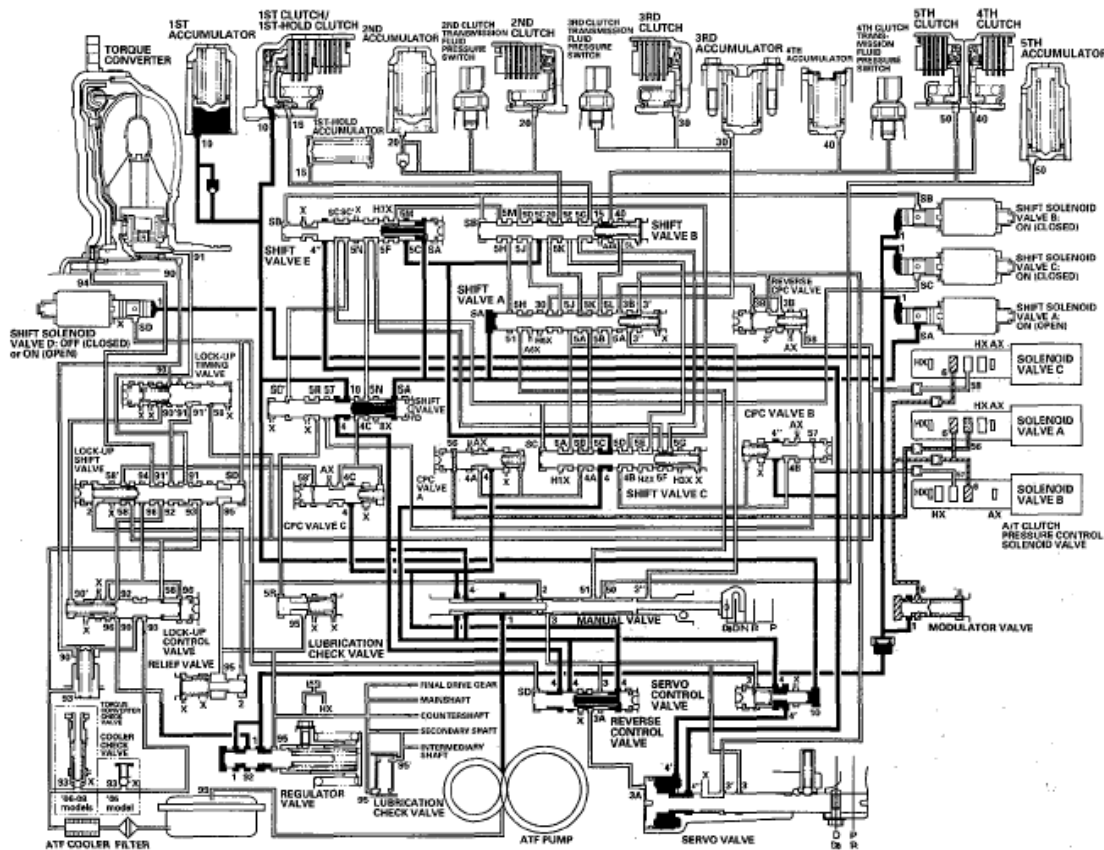


Fig. 47: Hydraulic Pressure Flow Diagram (D Position: Shifting Between 1st Gear And 2nd Gear)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Driving in 2nd gear

The PCM turns shift solenoid valve C OFF, and shift solenoid valve C uncovers the port of shift solenoid valve C pressure (SC) to shift valve C. Shift solenoid valves A and B remain ON. Shift valve C is moved to the right side to switch the port of line pressure (4) and CPC A pressure (4A) leading to the 2nd clutch. CPC A pressure (5B) (5K) changes to line pressure (5B) (5K) and 2nd clutch pressure (20) is changed to line pressure, and the 2nd clutch is engaged by the line pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

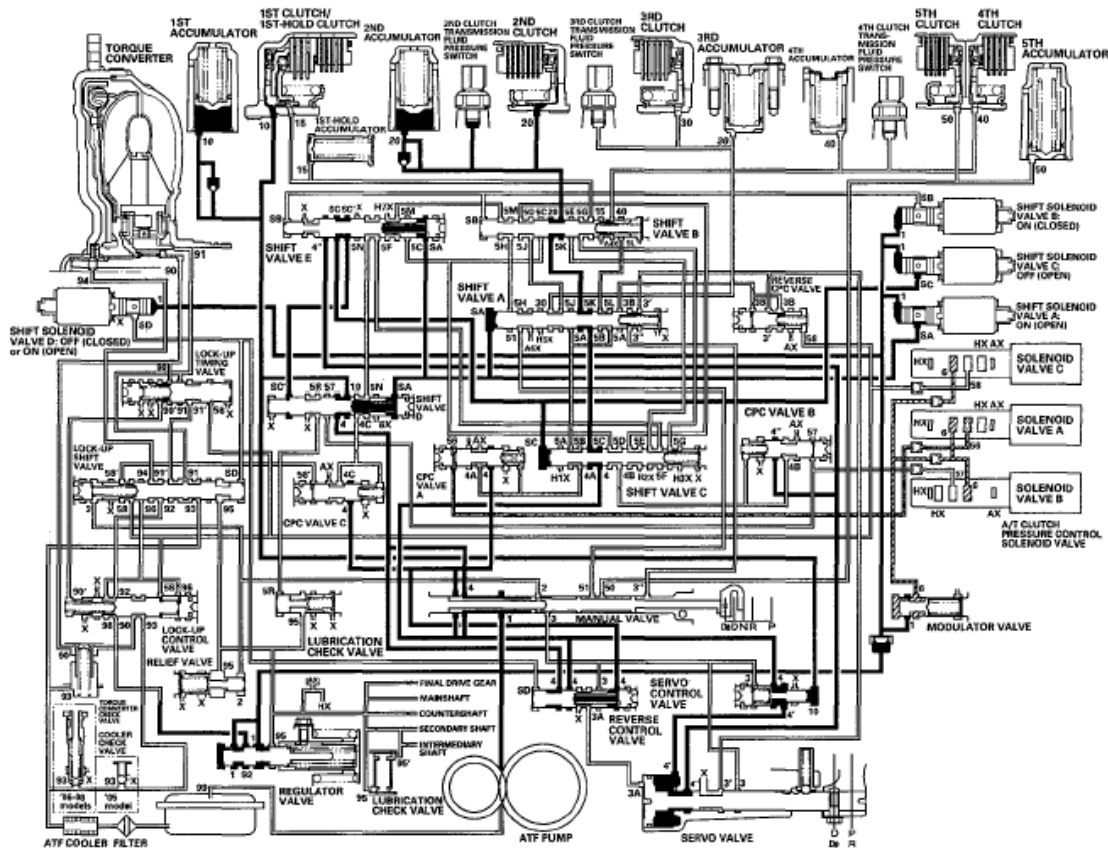


Fig. 48: Hydraulic Pressure Flow Diagram (D Position: Driving In 2nd Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Shifting between 2nd gear and 3rd gear

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve C ON, and shift solenoid valve C covers the port of shift solenoid valve C pressure (SC) to shift valve C. Shift solenoid valves A and B remain ON. Shift valve C is moved to the left side to switch the port of line pressure (4) and CPC A pressure (4A) leading to the 2nd clutch. Shift valve C also uncovers the port of CPC B pressure (4B) leading to the 3rd clutch. The PCM actuates A/T clutch pressure control solenoid valves A and B. A/T clutch pressure control solenoid valve A pressure (56) is applied to CPC valve A, and A/T clutch pressure control solenoid valve B pressure (57) is applied to CPC valve B. CPC valve B regulates line pressure (4"), and line pressure (4") becomes CPC B pressure (4B). CPC B pressure flows to shift valve A via shift valves C and B, and becomes 3rd clutch pressure (30) at shift valve A. The 2nd clutch pressure (20) is changed to CPC pressure, and the 3rd clutch is engaged by the CPC pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

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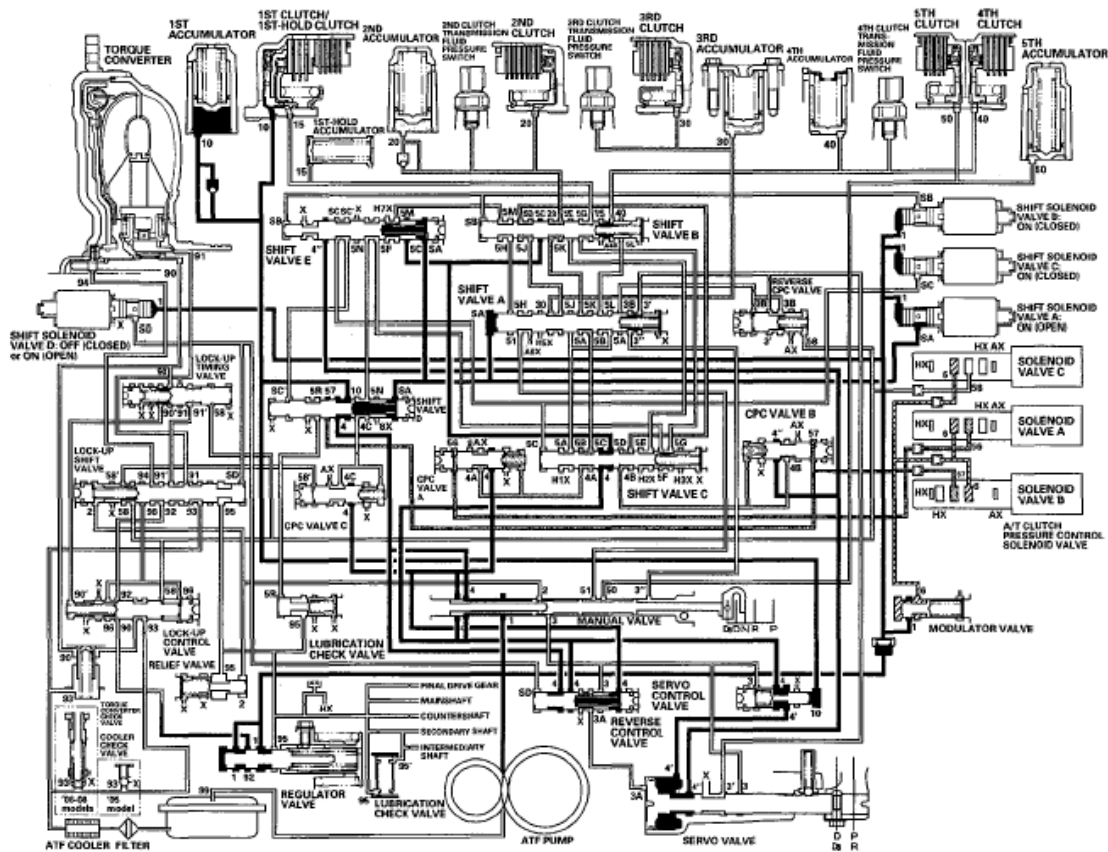


Fig. 49: Hydraulic Pressure Flow Diagram (D Position: Shifting Between 2nd Gear And 3rd Gear)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Driving in 3rd gear

The PCM turns shift solenoid valve B OFF, and shift solenoid valve B uncovers the port of shift solenoid valve B pressure (SB) to shift valve B. Shift solenoid valves A and C remain ON. Shift valve B is moved to the right side to switch the port of line pressure (5C), CPC B pressure (5J) leading to the 3rd clutch, and 2nd clutch pressure (20) releasing 2nd clutch pressure. CPC B pressure (5J) changes to line pressure (5J) and 3rd clutch pressure (30) is changed to line pressure, and the 3rd clutch is engaged by the line pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

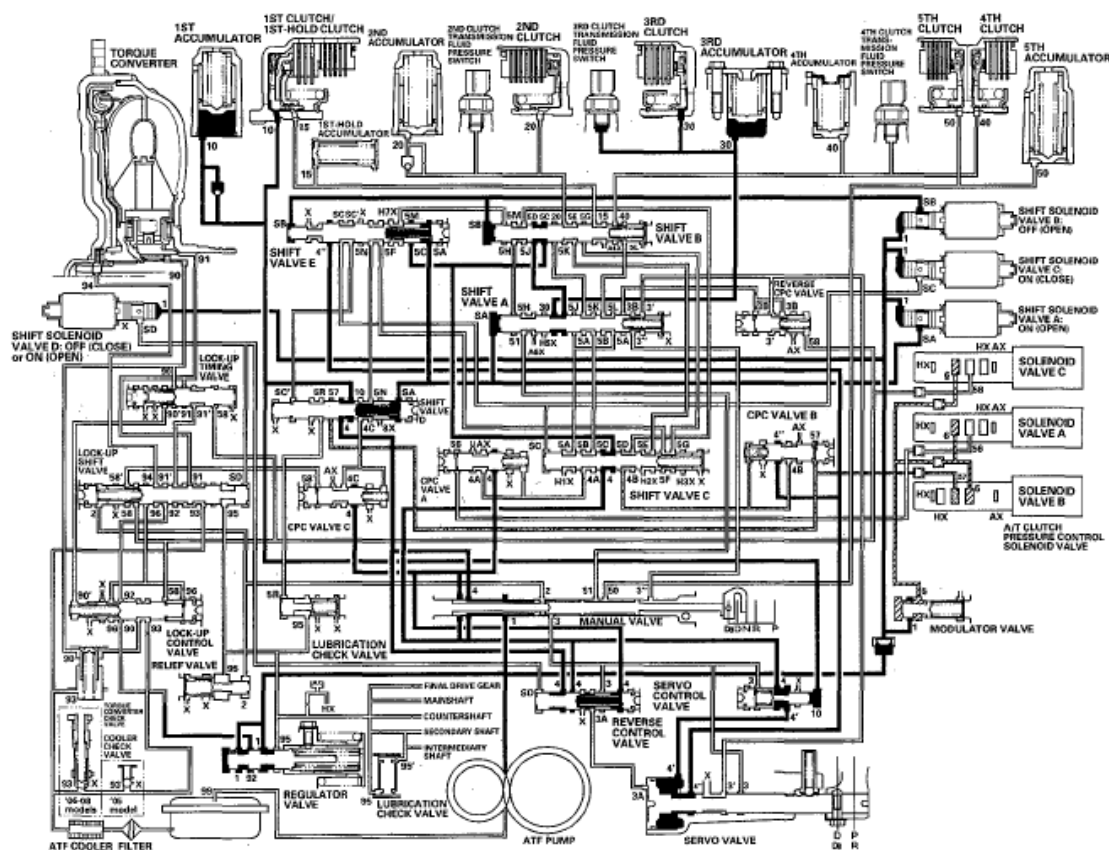


Fig. 50: Hydraulic Pressure Flow Diagram (D Position: Driving In 3rd Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Shifting between 3rd gear and 4th gear

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve C OFF, and shift solenoid valve C uncovers the port of shift solenoid valve C pressure (SC) to shift valve C. Shift solenoid valve A remains ON, and shift solenoid valve B remains OFF. Shift valve C is moved to the right side to switch the port of line pressure (4) and CPC B pressure (4B) leading to the 3rd clutch. Shift valve C also uncovers the port of CPC A pressure (4A) leading to the 4th clutch. The PCM actuates A/T clutch pressure control solenoid valves A and B. A/T clutch pressure control solenoid valve A pressure (56) is applied to CPC valve A, and A/T clutch pressure control solenoid valve B pressure (57) is applied to CPC valve B. CPC valve A regulates line pressure (4), and line pressure (4) becomes CPC A pressure (4A). CPC A pressure (4A) flows to shift valve B via shift valves C and A, and becomes 4th clutch pressure (40) at shift valve B. The 3rd clutch pressure (30) is changed to CPC pressure, and the 4th clutch is engaged by the CPC pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

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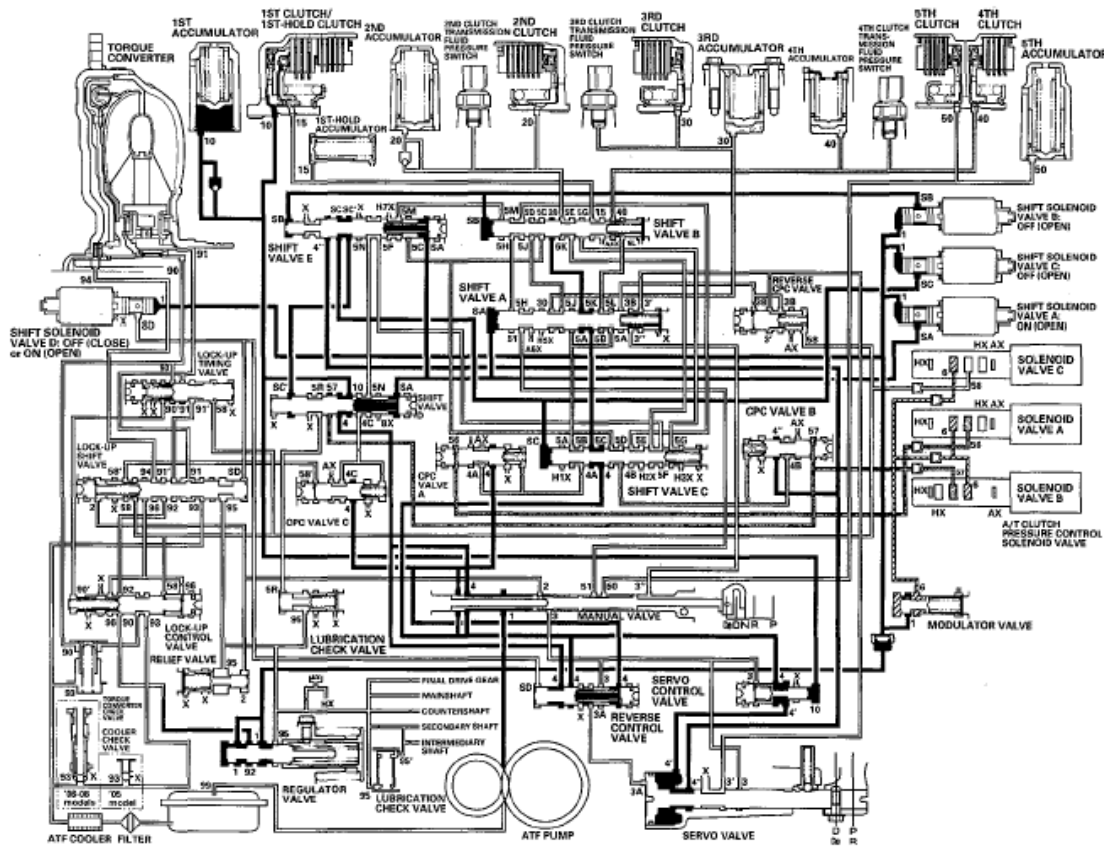


Fig. 51: Hydraulic Pressure Flow Diagram (D Position: Shifting Between 3rd Gear And 4th Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Driving in 4th gear

The PCM turns shift solenoid valve A OFF, and shift solenoid valve A covers the port of shift solenoid valve A pressure (SA) to shift valve A. Shift solenoid valves B and C remain OFF. Shift valve A is moved to the left side to switch the port of line pressure (5B), CPC A pressure (5A) (5L) leading to the 4th clutch, and 3rd clutch pressure (30) releasing 3rd clutch pressure. CPC A pressure (5L) changes to line pressure (5L) and 4th clutch pressure (40) is changed to line pressure, and the 4th clutch is engaged by the line pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

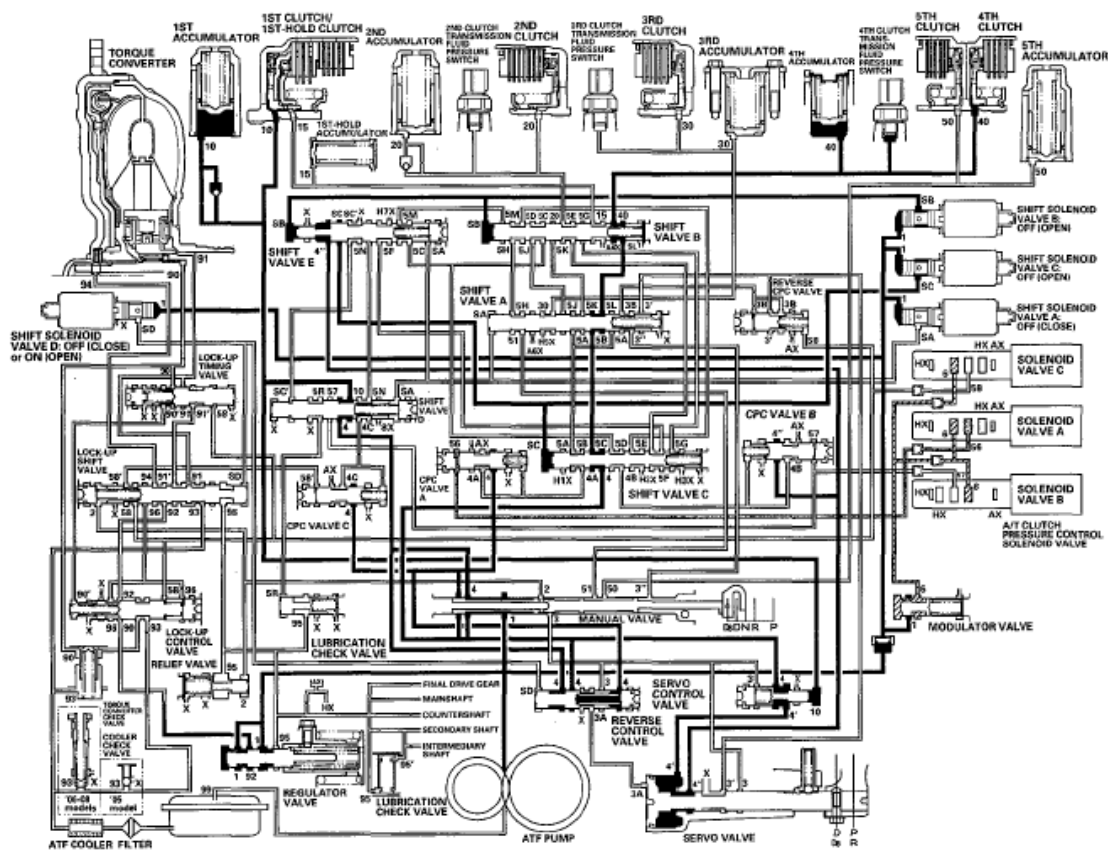


Fig. 52: Hydraulic Pressure Flow Diagram (D Position: Driving In 4th Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

D Position: Shifting between 4th gear and 5th gear

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve CON, and shift solenoid valve C covers the port of shift solenoid valve C pressure (SC) to shift valve C. Shift solenoid valve A remains OFF, and shift solenoid valve B remains OFF. Shift valve C is moved to the left side to switch the port of line pressure (4) and CPC A pressure (4A) leading to the 4th clutch. Shift valve C also uncovers the port of CPC B pressure (4B) leading to the 5th clutch. The PCM actuates A/T clutch pressure control solenoid valves A and B. A/T clutch pressure control solenoid valve A pressure (56) is applied to CPC valve A, and A/T clutch pressure control solenoid valve B pressure (57) is applied to CPC valve B. CPC valve B regulates line pressure (4"), and line pressure (4") becomes CPC B pressure (4B). CPC B pressure (4B) flows to shift valve A via shift valves C and B, and becomes 5th clutch pressure (51) at shift valve A. The 4th clutch pressure (40) is changed to CPC pressure, and the 5th clutch is engaged by the CPC pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.



The PCM turns shift solenoid valve B ON, and shift solenoid valve B covers the port of shift solenoid valve B pressure (SB) to shift valve B. Shift solenoid valve A remains OFF, and shift solenoid valve C remains ON. Shift valve B is moved to the left side to switch the port of line pressure (5H), CPC B pressure (5D) leading to the 5th clutch, and 4th clutch pressure (40) releasing 4th clutch pressure. CPC B pressure (5H) changes to line pressure (5H) and 5th clutch pressure (51) (50) is changed to line pressure, and the 5th clutch is engaged by the line pressure. The 1st clutch is also engaged, but no power is transmitted because of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

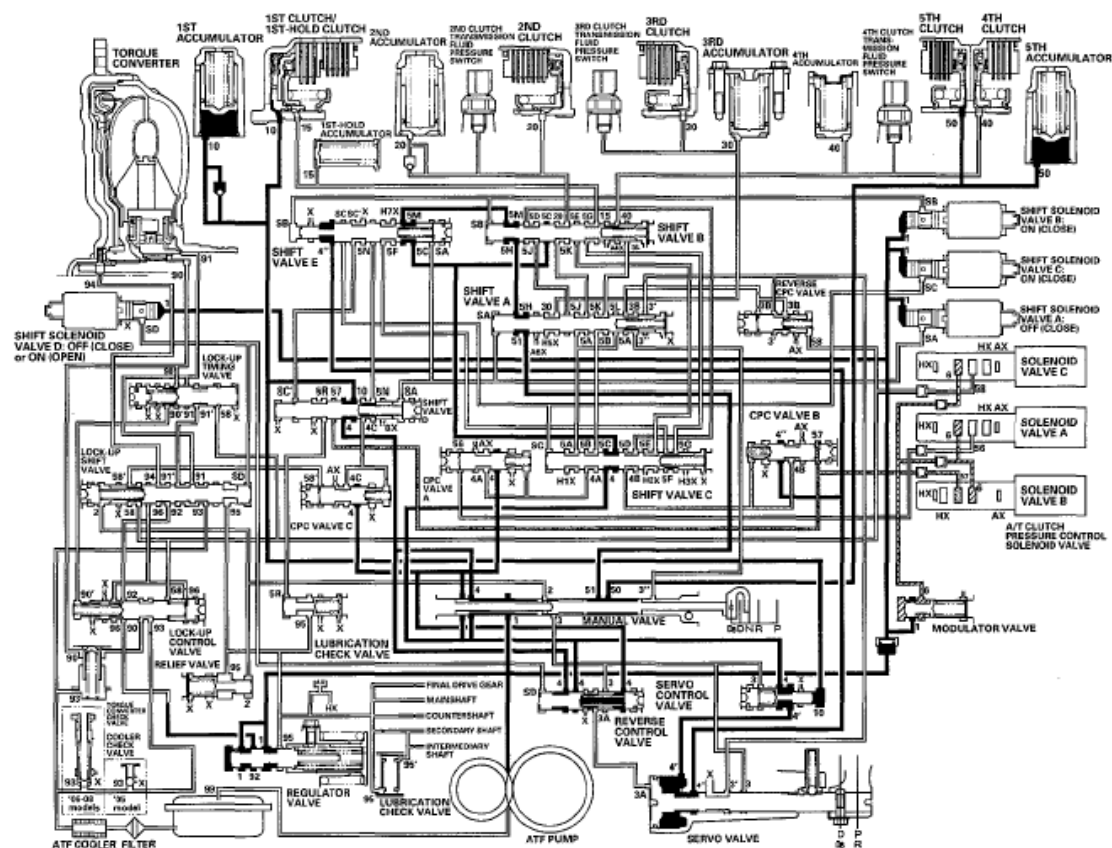


Fig. 54: Hydraulic Pressure Flow Diagram (D Position: Driving In 5th Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

M Position: Driving in 1st gear (engaged with 1st and 1st-hold clutches)

Line pressure (1) regulated by the regulator valve flows to shift solenoid valves. The PCM switches the shift solenoid valves ON and OFF. The conditions of the shift solenoid valves and positions of the shift valves are as follows:

- Shift solenoid valve A is OFF, and closes the port of shift solenoid valve A pressure (SA); shift valve A remains on the left side.
- Shift solenoid valve B is turned ON, and closes the port of shift solenoid valve B pressure (SB); shift valve B and shift valve E remain on the left side.
- Shift solenoid valve C is turned ON, and closes the port of shift solenoid valve C pressure (SC); shift valve C and shift valve D remain on the left side.
- Shift solenoid valve D is OFF, and closes the port of shift solenoid valve D pressure (SD).

Line pressure (4) becomes 1st clutch pressure (10) at shift valve D, and flows to the 1st clutch. The 1st clutch is engaged. The PCM actuates A/T clutch pressure control solenoid valve C, and A/T clutch pressure control solenoid valve C pressure (58) is applied to CPC valve C via the lock-up shift valve. CPC valve C regulates line pressure (4), and line pressure (4) becomes CPC C pressure (4C). CPC C pressure (4C) flows to shift valve B via shift valves D, E, and C, and becomes 1st-hold clutch pressure (15) at shift valve B. 1st-hold clutch pressure

(15) is applied to the 1st-hold clutch, and the 1st-hold clutch is engaged.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

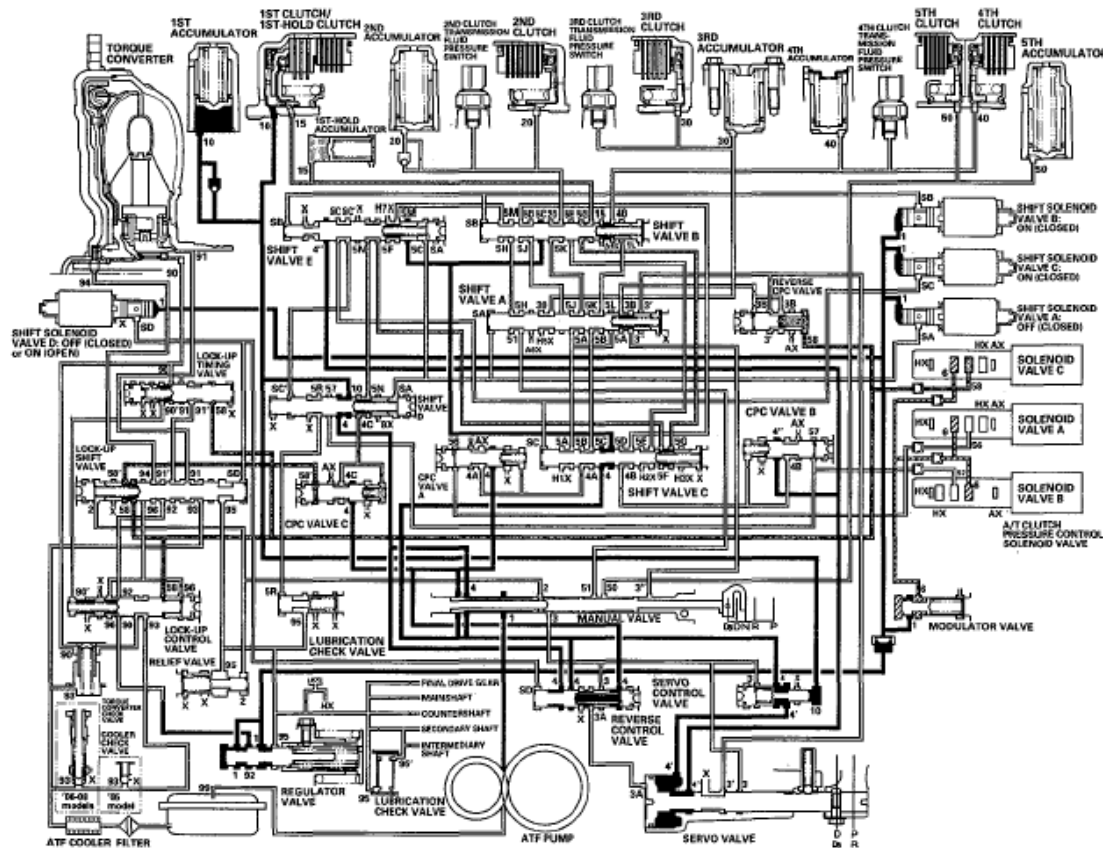


Fig. 55: Hydraulic Pressure Flow Diagram (M Position: Driving In 1st Gear)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

R Position: Shifting to the R position from the P or N position

The PCM switches the shift solenoid valves ON and OFF. The conditions of the shift solenoid valves and positions of the shift valves are as follows:

- Shift solenoid valve A is OFF, and closes the port of shift solenoid valve A pressure (SA); shift valve A remains on the left side.
- Shift solenoid valve B is turned ON, and closes the port of shift solenoid valve B pressure (SB); shift valve B and shift valve E remain on the left side.
- Shift solenoid valve C is OFF, and opens the port of shift solenoid valve C pressure (SC); shift valve C and shift valve D move to the right side.
- Shift solenoid valve D is turned ON, and opens the port of shift solenoid valve D pressure (SD); reverse control valve moves to the right side.

The manual valve is moved to the R position, and line pressure (1) becomes line pressure (3) at the manual valve. Line pressure (3) passes through the reverse control valve, and becomes line pressure (3A), then flows to the servo valve. Line pressure (3A) pushes the servo valve to the reverse position. Line pressure (3) also flows to the reverse CPC valve, and becomes reverse CPC pressure (3B) (3"). Reverse CPC pressure (3") becomes 5th clutch pressure (50) at the manual valve, and 5th clutch pressure (50) flows to the 5th clutch. The 5th clutch is engaged by the reverse CPC pressure.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

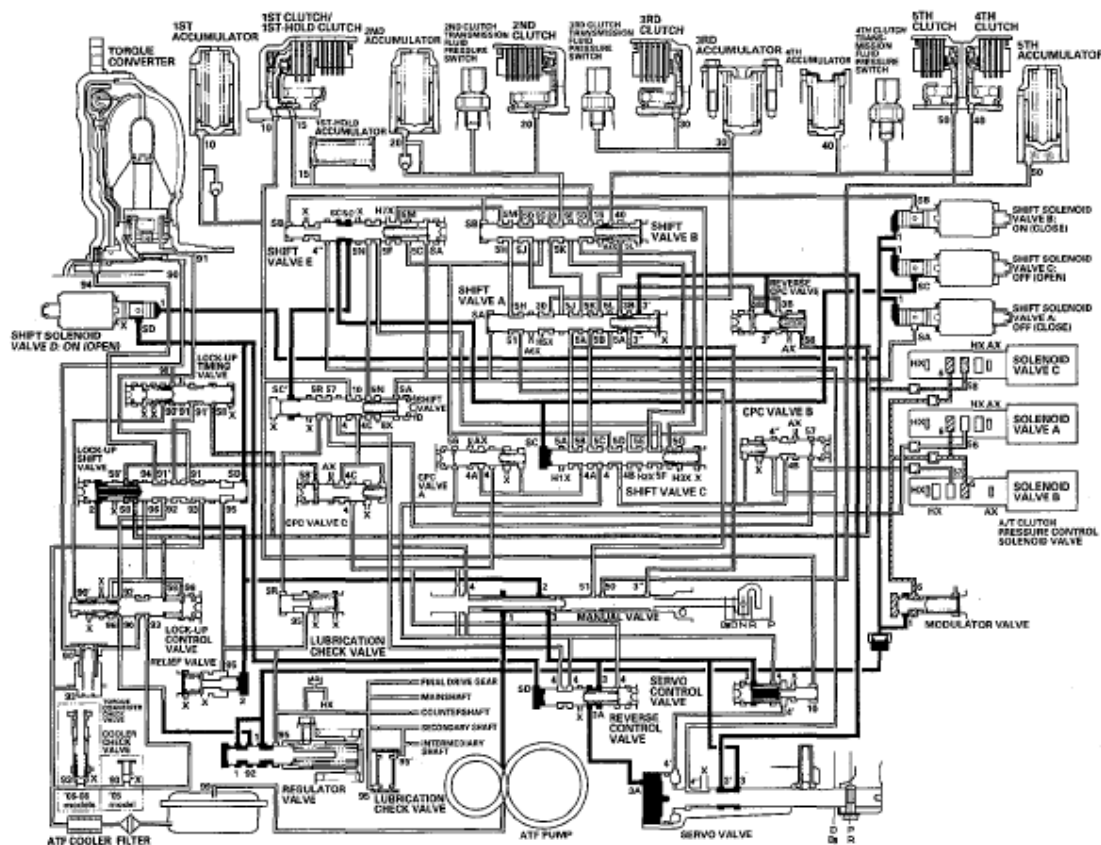


Fig. 56: Hydraulic Pressure Flow Diagram (R Position: Shifting To R Position From P Position)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

R Position: Driving in reverse gear

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A ON, and shift solenoid valve A uncovers the port of shift solenoid valve A pressure (SA) to shift valve A. Shift valve A is moved to the right side to switch the port of line pressure (3') and reverse CPC pressure (3B) leading to the 5th clutch. Line pressure (3) flows to the manual valve via the servo valve and shift valve A, and becomes 5th clutch pressure (50) at the manual valve. The 5th clutch pressure (50) flows to the 5th clutch, and the 5th clutch is engaged by the line pressure.

Reverse Inhibitor Control

When R is selected while the vehicle is moving forward, the PCM keeps shift solenoid valve D OFF so that shift solenoid valve D pressure (SD) is not applied to the reverse control valve. Line pressure (3) stops at the reverse control valve, and is not applied to the servo valve. No power is transmitted to the reverse direction.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

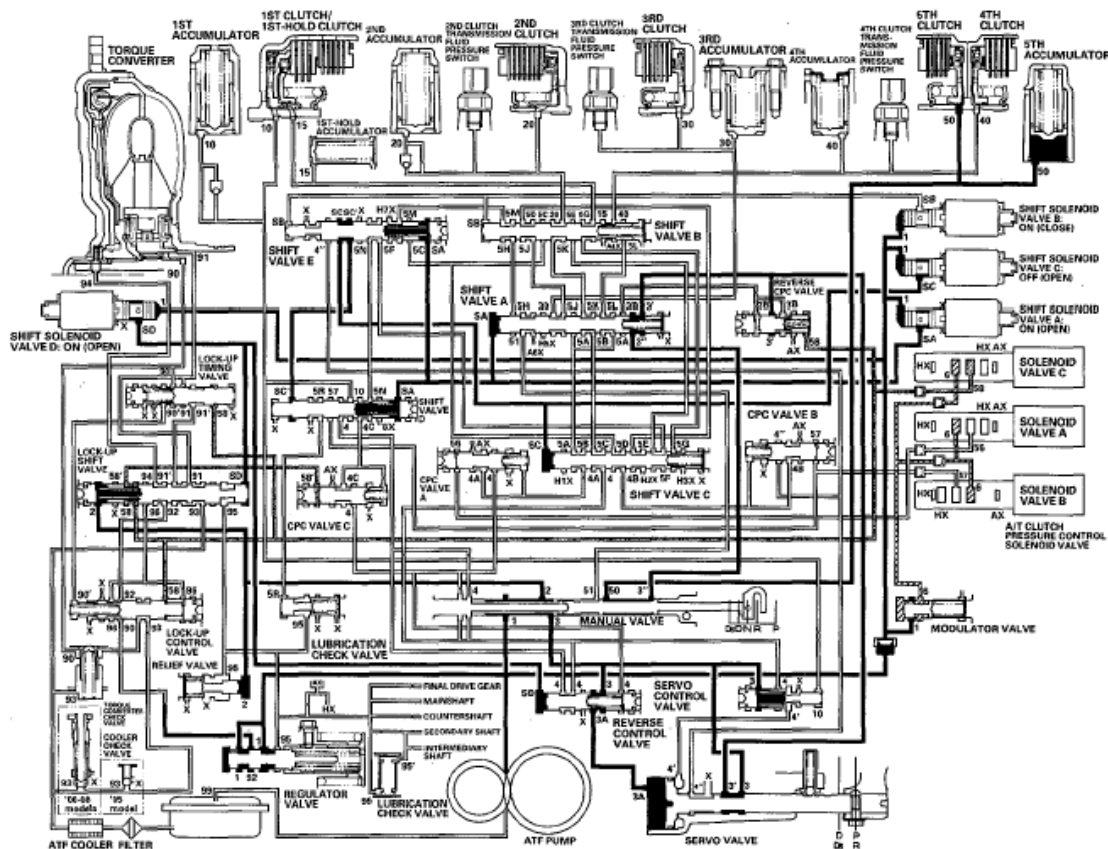


Fig. 57: Hydraulic Pressure Flow Diagram (R Position: Driving In Reverse Gear)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

P Position

The PCM switches the shift solenoid valves ON and OFF. The conditions of the shift solenoid valves and positions of the shift valves are as follows:

- Shift solenoid valve A is OFF, and closes the port of shift solenoid valve A pressure (SA); shift valve A remains on the left side.
- Shift solenoid valve B is turned ON, and closes the port of shift solenoid valve B pressure (SB); shift valve B and shift valve E remain on the left side.
- Shift solenoid valve C is OFF, and opens the port of shift solenoid valve C pressure (SC); shift valve C and shift valve D move to the right side.
- Shift solenoid valve D is turned ON, and opens the port of shift solenoid valve D pressure (SD); reverse

control valve moves to the right side.

The manual valve is moved to P, and line pressure (1) becomes line pressure (3) at the manual valve. Line pressure (3) passes through the reverse control valve, and becomes line pressure (3A), then flows to the servo valve. Line pressure (3A) pushes the servo valve to the reverse position. Line pressure (3) flows to the manual valve via the reverse CPC valve and shift valve A, and stops at the manual valve. Hydraulic pressure is not applied the clutches.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

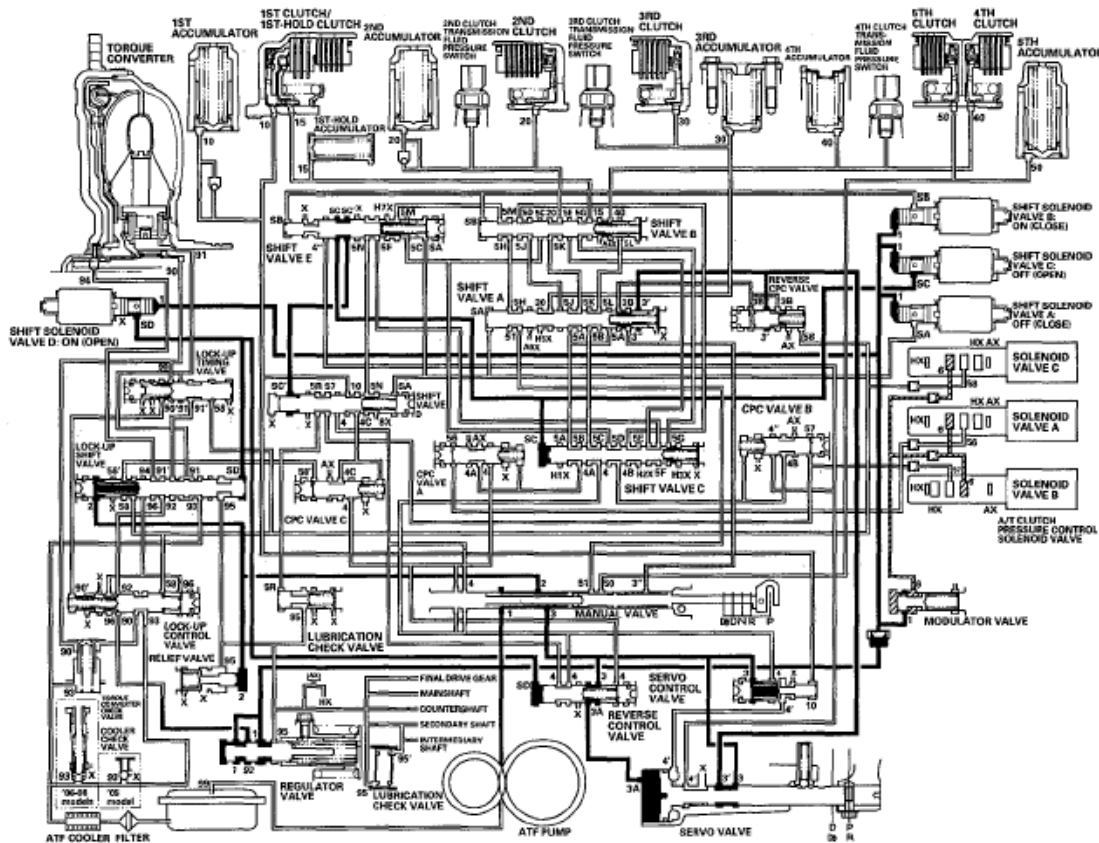


Fig. 58: Hydraulic Pressure Flow Diagram (P Position)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Lock-up System

The lock-up mechanism of the torque converter clutch operates in D (2nd, 3rd, 4th, and 5th), and D3 (2nd and 3rd). The pressurized fluid is drained from the back of the torque converter through a fluid passage, causing the torque converter clutch piston to be held against the torque converter cover. As this takes place, the mainshaft rotates at the same speed as the engine crankshaft. Together with the hydraulic control, the PCM optimizes the timing and amount of the lock-up mechanism. When shift solenoid valve D is turned on by the PCM, shift solenoid valve D pressure switches the lock-up shift valve lock-up on and off. The A/T clutch pressure control solenoid valve C, the lock-up control valve, and lock-up timing valve control the amount of lock-up.

Torque Converter Clutch Lock-up ON (Engaging Torque Converter Clutch)

Fluid in the chamber between the torque converter cover and the torque converter clutch piston is drained off, and fluid entering from the chamber between the pump and stator exerts pressure through the torque converter clutch piston against the torque converter cover. The torque converter clutch piston engages with the torque converter cover; torque converter clutch lock-up ON, and the mainshaft rotates at the same speed as the engine.

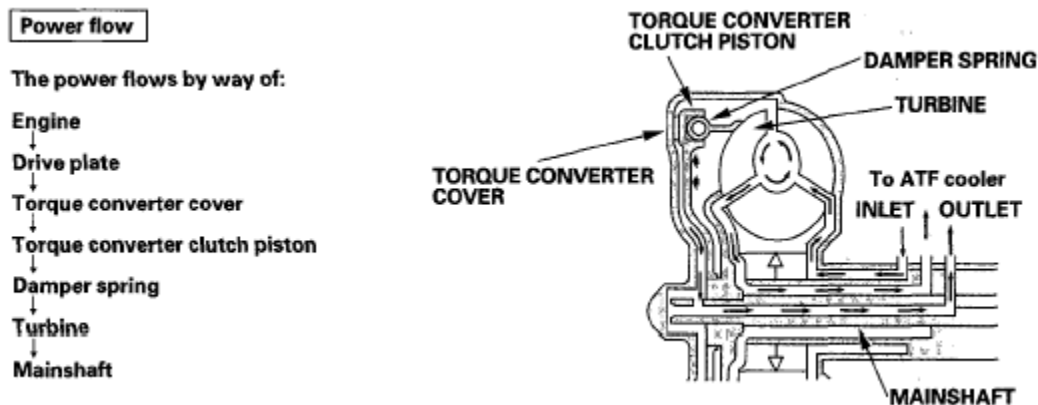


Fig. 59: Power Flow Diagram (Torque Converter Clutch Lock-Up On /Engaging Torque Converter Clutch)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Torque Converter Clutch Lock-up OFF (Disengaging Torque Converter Clutch)

Fluid entered from the chamber between the torque converter cover and the torque converter clutch piston passes through the torque converter and goes out from the chambers between the turbine and the stator, and between the pump and the stator. As a result, the torque converter clutch piston moves away from the torque converter cover, and the torque converter clutch lock-up is released; torque converter clutch lock-up OFF.

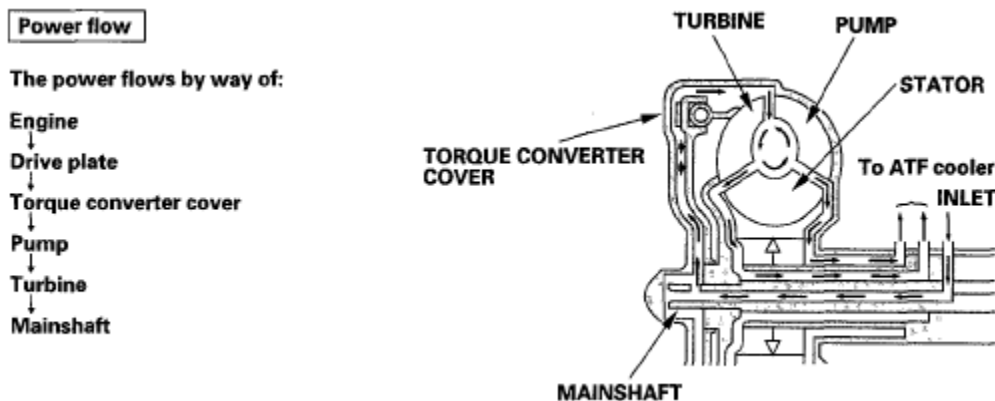


Fig. 60: Power Flow Diagram (Torque Converter Clutch Lock-Up Off /Disengaging Torque Converter Clutch)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

No Lock-up

The PCM commands shift solenoid valve D to remain OFF, and shift solenoid valve D covers the port of shift solenoid valve D pressure (SD) to the lock-up shift valve. The lock-up shift valve is in the right side, and uncover the port leading torque converter pressure (92) to the left side of the torque converter. Torque converter pressure (92) from regulator valve becomes torque converter pressure (94) at the lock-up shift valve, and enters into the left side of the torque converter to disengage the torque converter clutch. The torque converter clutch is OFF.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

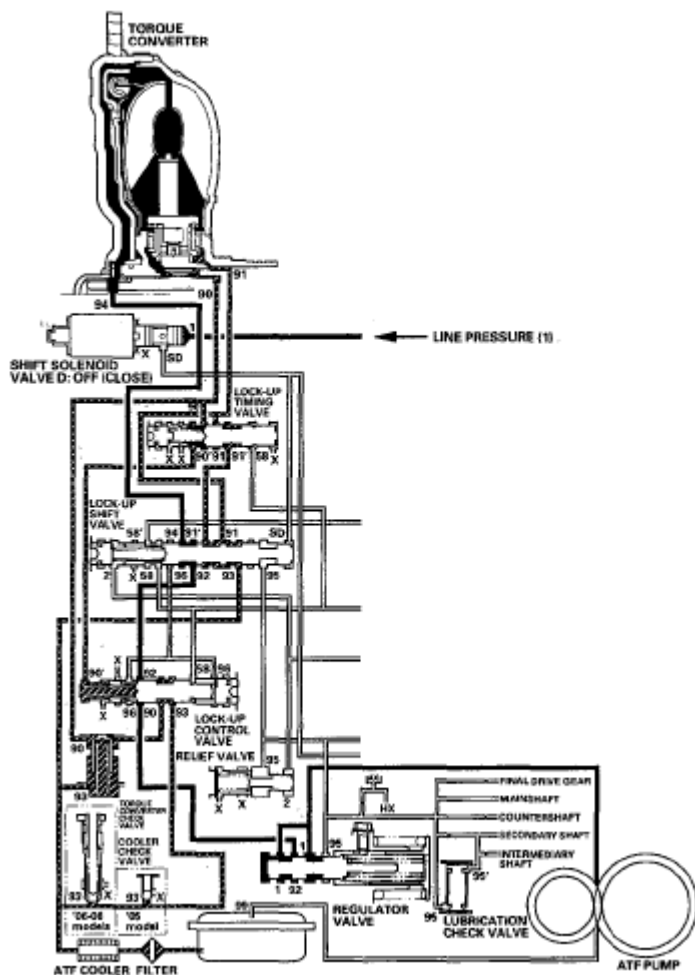


Fig. 61: Power Flow Diagram (No Lock-Up)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Partial Lock-up

As the speed of the vehicle reaches the programmed value, PCM turns shift solenoid valve D ON, and shift solenoid valve D uncovers the port of shift solenoid valve D pressure (SD) to the lock-up shift valve. The lock-up shift valve is moved to the left side to uncover the port of torque converter pressure (91) leading to the right side of the torque converter to engage the torque converter clutch. The PCM also actuates A/T clutch pressure control solenoid valve C, and A/T clutch pressure control solenoid valve C pressure (58) is applied to the lock-

up control valve and lock-up timing valve. When A/T clutch pressure control solenoid valve C pressure (58) is low, torque converter pressure (91) from the lock-up timing valve is low. The torque converter clutch is engaged partially. A/T clutch pressure control solenoid valve C pressure (58) increases, and the lock-up timing valve is moved to the left side to uncover the port leading torque converter pressure to high. Under this condition, the torque converter clutch is engaged by pressure from the right side of the torque converter; this condition is partial lock-up.

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.

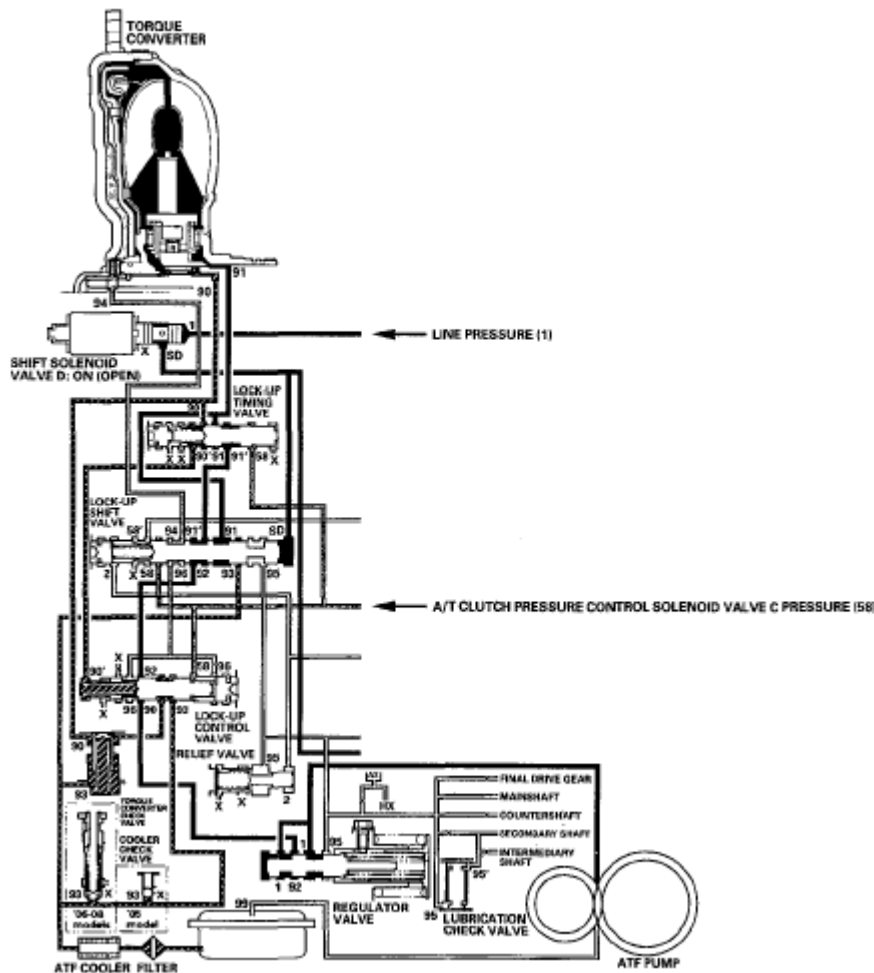


Fig. 62: Power Flow Diagram (Partial Lock-Up)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Full Lock-up

When the vehicle speed further increases, the PCM actuates A/T clutch pressure control solenoid valve C to increase A/T clutch pressure control solenoid valve C pressure (58). A/T clutch pressure control solenoid valve C pressure (58) is applied to the lock-up control valve and lock-up timing valve, and the lock-up control valve and lock-up timing valve are moved to the left side. Torque converter pressure (94) from the left side of the torque converter releases at the lock-up control valve, and lock-up timing valve uncovers the port of torque

NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.



The shift lever has five positions; P, R, N, D, and D3. D has two modes; automatic shift mode and sequential shift mode with the shift lever moved to M. The shift lever movement and position is indicated by the A/T gear position indicator panel. The shift lock/reverse lock mechanism is an additional shift lever lockout mechanism; the shift lever can be shifted out of P and into R without pressing the shift lever. The shift lever is engaged with the shift lever link in P, R, N, D, and D3. This unit shifts the transmission using the shift cable connected between the shift cable link and the transmission control shaft.

In M, the shift lever is disengaged from the shift lever link, and the shift lever can be used to shift gears manually between 1st through 5th, much like a manual transmission.

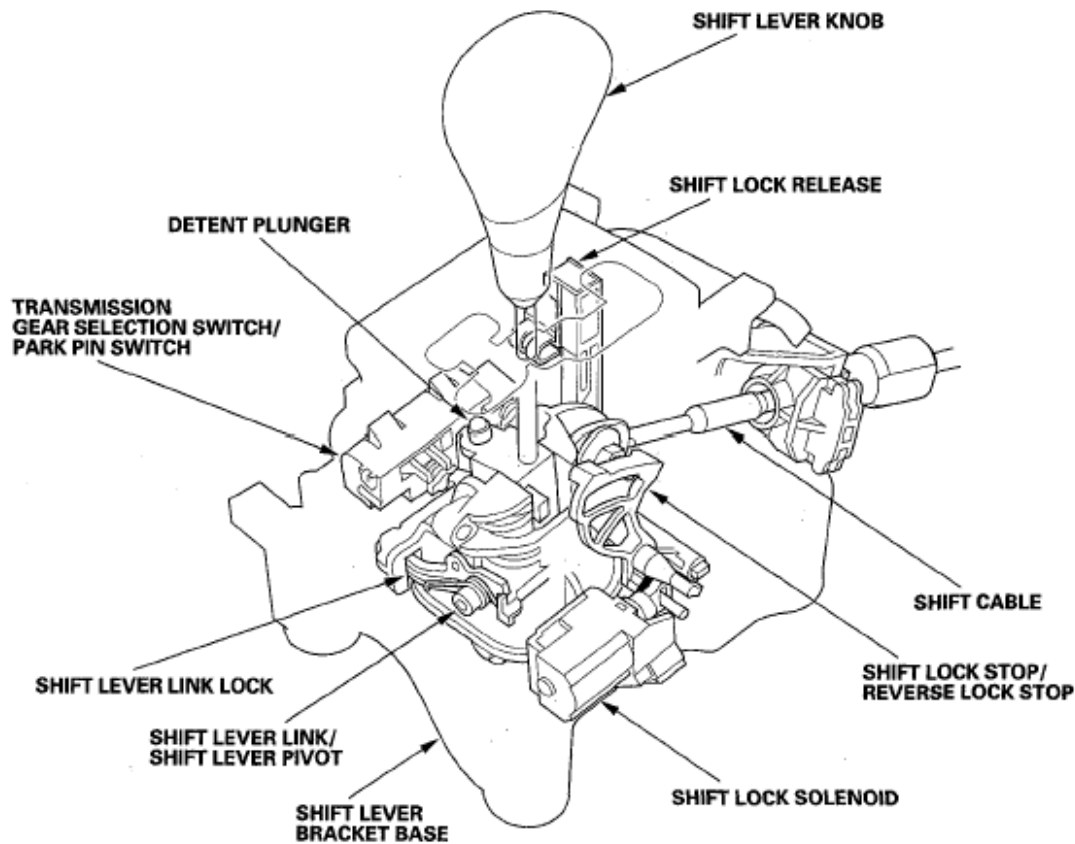
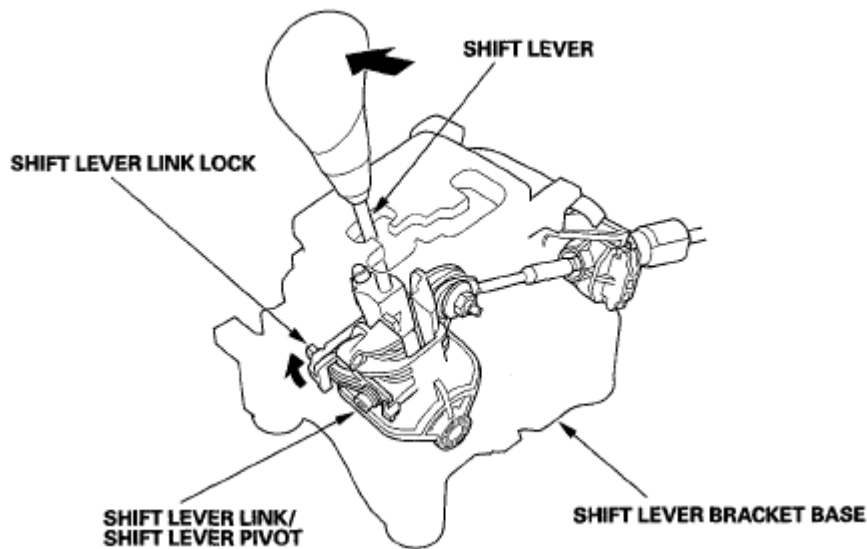


Fig. 64: Identifying Shift Lever Mechanism Components
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Shift Lever Mechanism in M

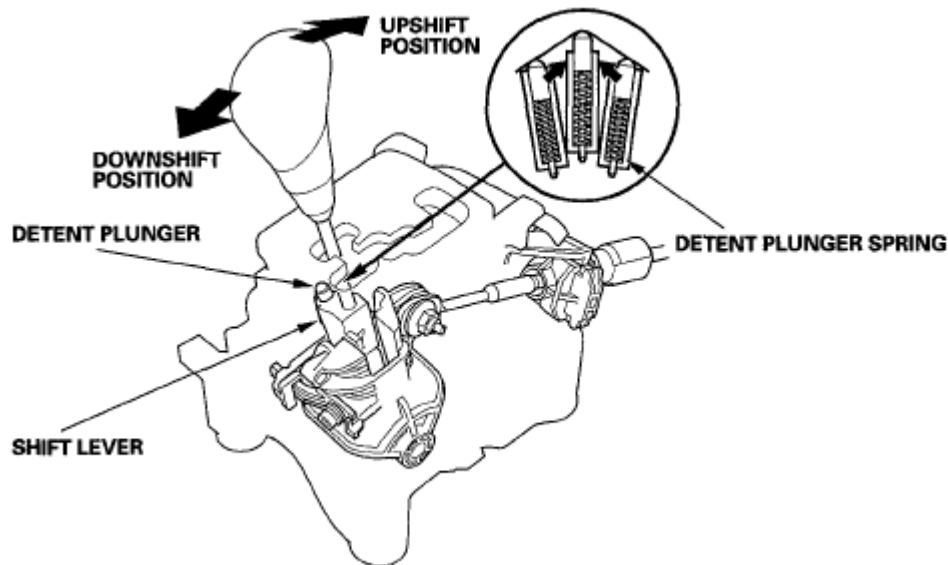
When the shift lever shifts to M, the shift lever is disengaged from the shift lever link/shift lever pivot, and the shift lever link lock pops up to engage with the shift lever bracket base; the shift lever link/shift lever pivot and shifting position in the transmission are held in D.

The shift lever link lock is spring loaded, it pops up in M, and does not engage the shift lever link/shift lever pivot in any position except M.

**Fig. 65: Moving Shift Lever**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

The shift lever fits into M by using a detent plunger with a spring. When shifting to upshift and downshift positions, the detent plunger is depressed by the detent bracket inner wall, and detent plunger spring puts the shift lever back into the neutral position. The detent plunger also works in P.

**Fig. 66: Moving Shift Lever To Upshift And Downshift Positions**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Shift Lock/Reverse Lock Mechanism

The shift lock system reduces the risk of the starting the engine in gear. Starting the engine is possible only in P and N. The shift lock mechanism consists of the shift lock solenoid, shift lock stop/reverse lock stop, shift lock

release, and related parts. The reverse lock mechanism shares the shift lock mechanism. The shift lock solenoid is electronically controlled by the shift lock/reverse lock control system signals. If the shift lock solenoid does not operate, the shift lock/reverse lock mechanism can be released by pressing the shift lock release.

In P while pressing the brake pedal and throttle fully closed, the shift lock solenoid is turned ON, and the shift lock solenoid plunger is retracted, releasing the shift lock stop. This allows the shift lever to be moved.

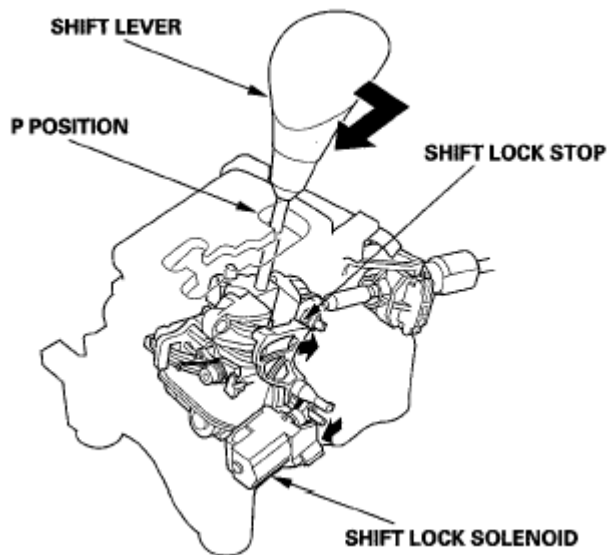


Fig. 67: Releasing Shift Lock Stop

Courtesy of AMERICAN HONDA MOTOR CO., INC.

When the brake pedal is released or the accelerator is pressed, the shift lock solenoid stays OFF, and the shift lock stop locks the shift lever in P.

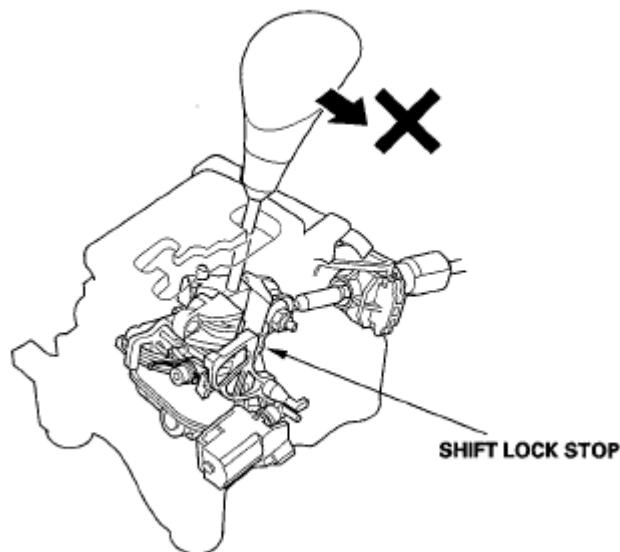


Fig. 68: Moving Shift Lever

Courtesy of AMERICAN HONDA MOTOR CO., INC.

When the shift lever is shifted to R from N, the shift lock solenoid is turned ON, and the shift lock solenoid plunger is retracted to release the reverse lock stop. This allows the shift lever to be moved to R.

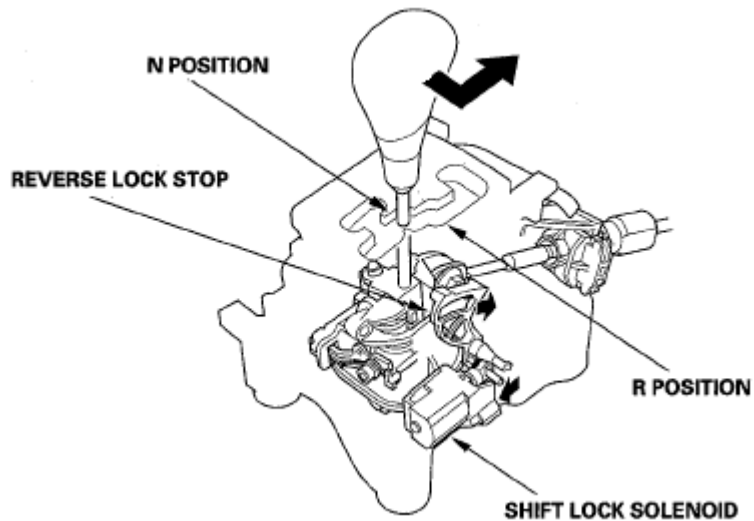


Fig. 69: Releasing Shift Lock Stop

Courtesy of AMERICAN HONDA MOTOR CO., INC.

If the conditions (acceleration at 6 mph (10 km/h) or less, and deceleration at 5 mph (8 km/h) or less in D) for turning ON the solenoid are not met, the shift lock solenoid stays OFF, and the reverse lock stop locks the shift lever in N.

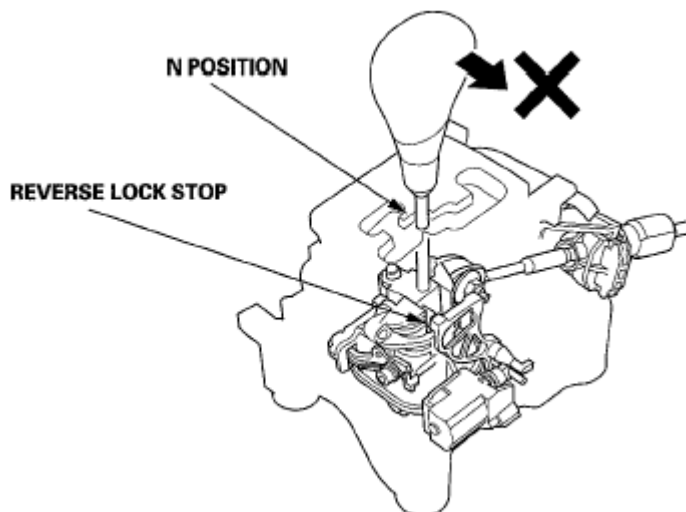


Fig. 70: Moving Shift Lever

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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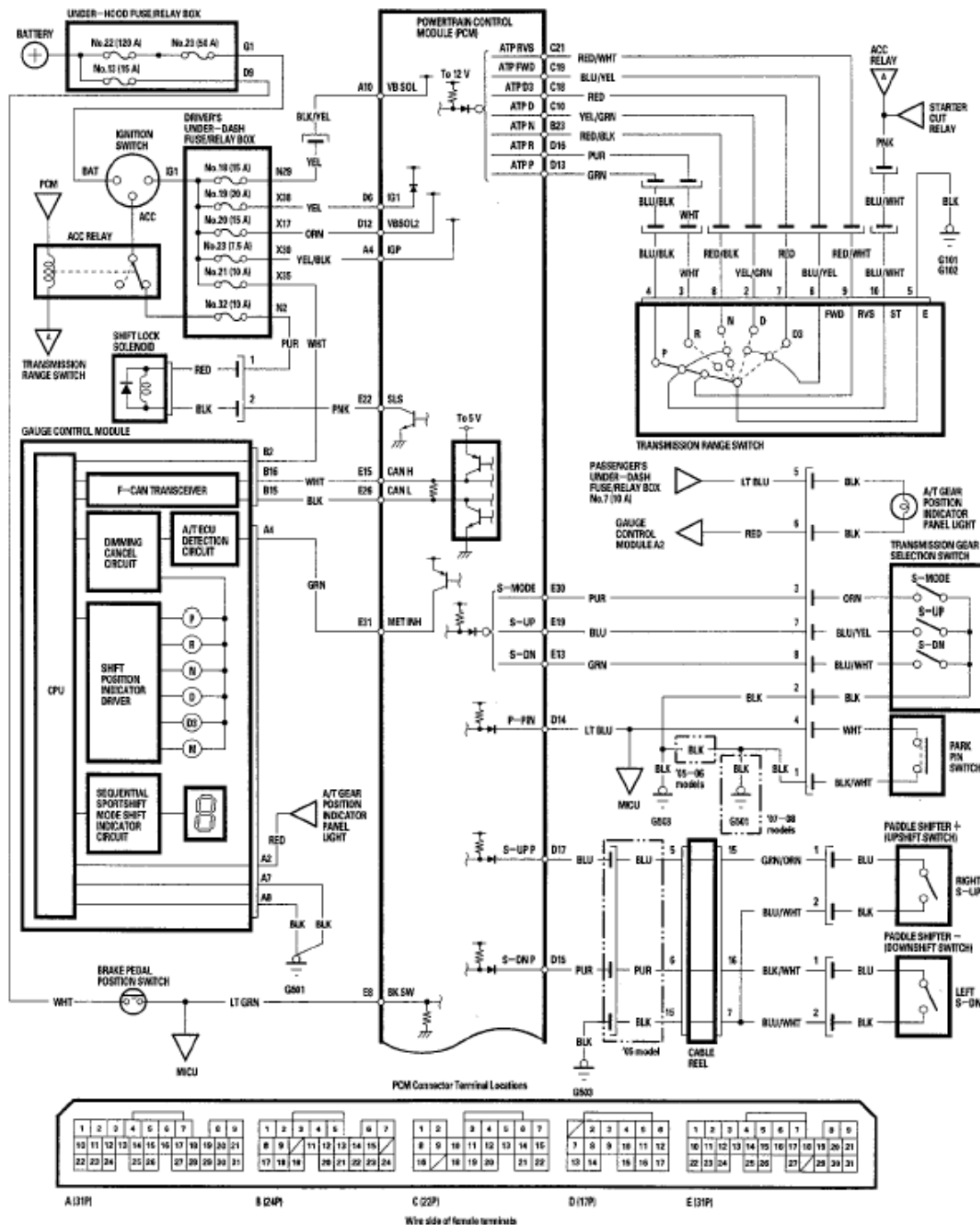


Fig. 71: PCM A/T Control System Circuit Diagram (1 Of 2)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

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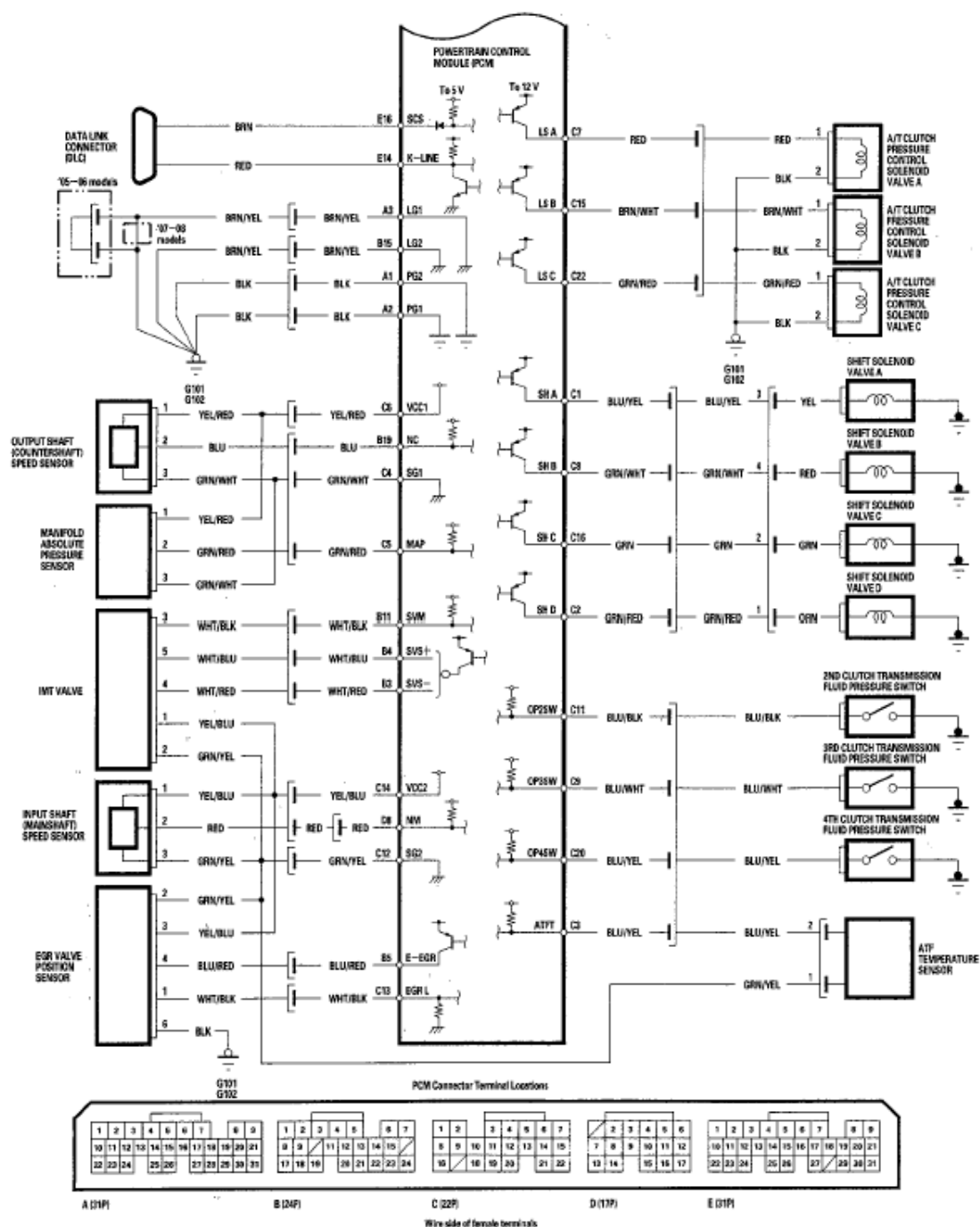


Fig. 72: PCM A/T Control System Circuit Diagram (2 Of 2)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

DTC TROUBLESHOOTING

DTC P0705: Short in Transmission Range Switch Circuit (Multiple Shift-position Input)

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Start the engine.
3. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position, and monitor the OBD STATUS for P0705 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 4.

NO - Intermittent failure, the system is OK at this time. Check for an intermittent short in the wire between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 2 and recheck.

4. Turn the ignition switch to LOCK (0).
5. Inspect the transmission range switch (see TRANSMISSION RANGE SWITCH TEST).

Is the switch OK?

YES - Connect the switch connector, then go to step 6.

NO - Replace the transmission range switch (see TRANSMISSION RANGE SWITCH REPLACEMENT), then go to step 45.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between PCM connector terminals D13 and A3 or B15, in all positions other than P.

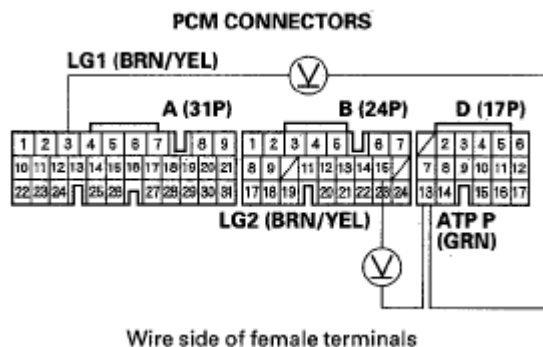


Fig. 73: Measuring Voltage Between PCM Connector Terminals D13 And A3 Or B15

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 14.

NO - Go to step 8.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connector D (17P).
11. Check for continuity between PCM connector terminal D13 and body ground.

PCM CONNECTOR D (17P)



Wire side of female terminals

Fig. 74: Checking Continuity Between PCM Connector Terminal D13 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal D13 and the transmission range switch, then go to step 45.

NO - Go to step 12.

12. Disconnect PCM connectors A (31P) and B (24P).
13. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

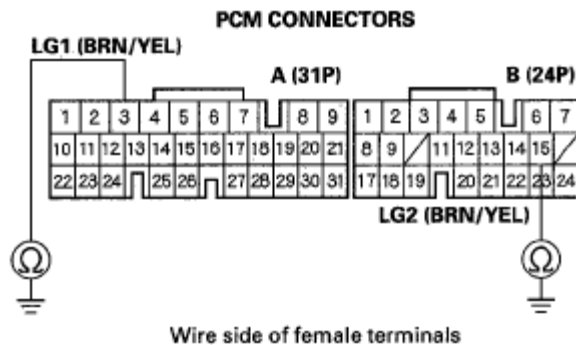


Fig. 75: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 39.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 45.

14. Measure the voltage between PCM connector terminals D16 and A3 or B15, in all positions other than R.

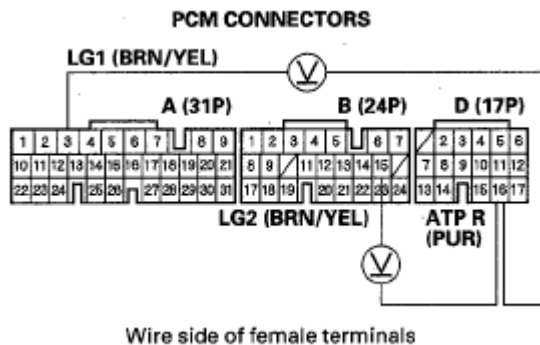


Fig. 76: Measuring Voltage Between PCM Connector Terminals D16 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

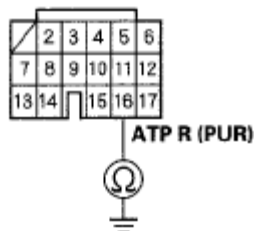
Is there battery voltage?

YES - Go to step 19.

NO - Go to step 15.

15. Turn the ignition switch to LOCK (0).
16. Jump the SCS line with the HDS.
17. Disconnect PCM connector D (17P).
18. Check for continuity between PCM connector terminal D16 and body ground.

PCM CONNECTOR D (17P)



Wire side of female terminals

Fig. 77: Checking Continuity Between PCM Connector Terminal D16 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

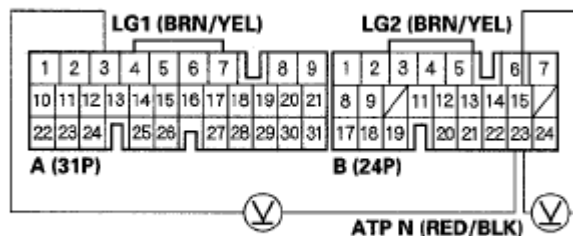
Is there continuity?

YES - Repair short in the wire between PCM connector terminal D16 and the transmission range switch, then go to step 45.

NO - Go to step 39.

19. Measure the voltage between PCM connector terminals B23 and A3 or B15, in all positions other than N.

PCM CONNECTORS



Wire side of female terminals

Fig. 78: Measuring Voltage Between PCM Connector Terminals B23 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

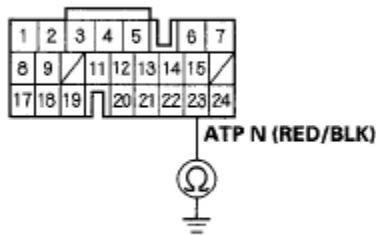
Is there battery voltage?

YES - Go to step 24.

NO - Go to step 20.

20. Turn the ignition switch to LOCK (0).
21. Jump the SCS line with the HDS.
22. Disconnect PCM connector B (24P).
23. Check for continuity between PCM connector terminal B23 and body ground.

PCM CONNECTOR B (24P)



Wire side of female terminals

Fig. 79: Checking Continuity Between PCM Connector Terminal B23 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal B23 and the transmission range switch, then go to step 45.

NO - Go to step 39.

24. Measure the voltage between PCM connector terminals C10 and A3 or B15, in all positions other than D.

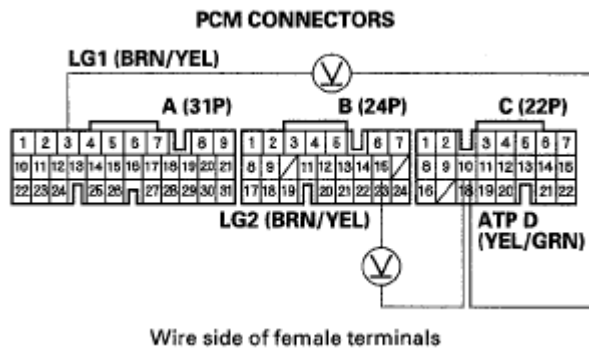


Fig. 80: Measuring Voltage Between PCM Connector Terminals C10 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

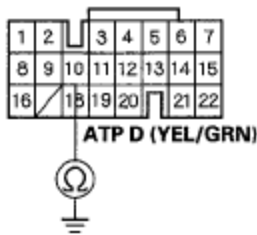
Is there battery voltage?

YES - Go to step 29.

NO - Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Jump the SCS line with the HDS.
27. Disconnect PCM connector C (22P).
28. Check for continuity between PCM connector terminal C10 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 81: Checking Continuity Between PCM Connector Terminal C10 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C10 and the transmission range switch, then go to step 45.

NO - Go to step 39.

29. Measure the voltage between PCM connector terminals G18 and A3 or B15, in all positions other than D3.

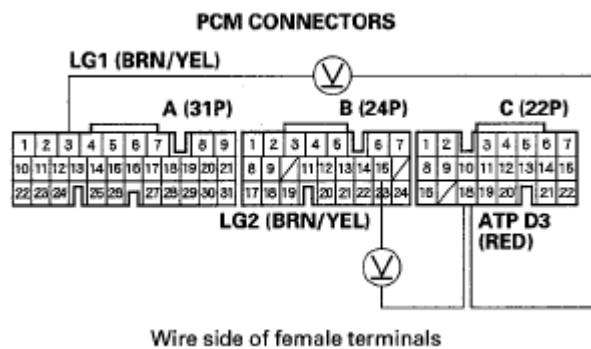


Fig. 82: Measuring Voltage Between PCM Connector Terminals G18 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

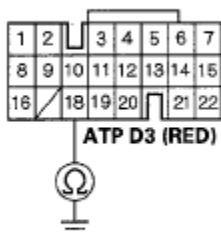
YES - Go to step 34.

NO - Go to step 30.

30. Turn the ignition switch to LOCK (0).
31. Jump the SCS line with the HDS.
32. Disconnect PCM connector C (22P).

33. Check for continuity between PCM connector terminal C18 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 83: Checking Continuity Between PCM Connector Terminal C18 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

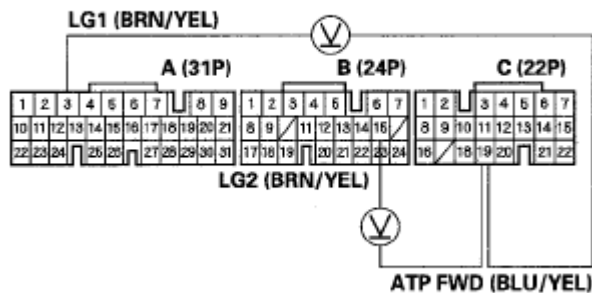
Is there continuity?

YES - Repair short in the wire between PCM connector terminal C18 and the transmission range switch, then go to step 45.

NO - Go to step 39.

34. Measure the voltage between PCM connector terminals C19 and A3 or B15, in all positions other than D and D3.

PCM CONNECTORS



Wire side of female terminals

Fig. 84: Measuring Voltage Between PCM Connector Terminals C19 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

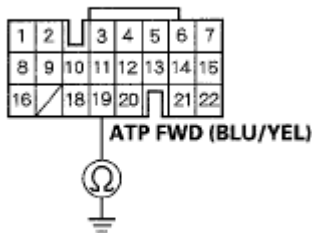
Is there battery voltage?

YES - Go to step 40.

NO - Go to step 35.

35. Turn the ignition switch to LOCK (0).
36. Jump the SCS line with the HDS:
37. Disconnect PCM connector C (22P).
38. Check for continuity between PCM connector terminal C19 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 85: Checking Continuity Between PCM Connector Terminal C19 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C19 and the transmission range switch, then go to step 45.

NO - Go to step 39.

39. Reconnect all connectors.
40. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
41. Start the engine.
42. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
43. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0705 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 44.

44. Monitor the OBD STATUS for P0705 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

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YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 43, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 40 and recheck.

45. Clear the DTC with the HDS.
46. Start the engine.
47. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
48. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0705 indicated?

YES - Check for poor connections and loose terminals at the transmission range switch and the PCM, then return to step 47 and recheck.

NO - Go to step 49.

49. Monitor the OBD STATUS for P0705 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 48, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 46 and recheck.

DTC P0706: Open in Transmission Range Switch Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Raise the vehicle on a lift, make sure it is securely supported, and allow all four wheels to rotate freely.
3. Start the engine, and turn the VSA off (the light on the VSA OFF switch comes on). Run the engine in D until the vehicle speed reaches 25 mph (40 km/h), then slow down, stop the wheels, and turn the ignition switch to LOCK (0).

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4. Restart the engine, and run it in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.
5. Monitor the OBD STATUS for P0706 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST**).

Is the switch OK?

YES - Go to step 7.

NO - Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT**), then go to step 28.

7. Install the transmission range switch correctly, and adjust the shift cable (see **SHIFT CABLE ADJUSTMENT**).
8. Clear the DTC with the HDS.
9. Shift to the D, and verify the ATP FWD and ATP D inputs with the HDS in the A/T data list.

Are ATP FWD and ATP D ON?

YES - Go to step 10.

NO - Go to step 15.

10. Shift to the D3, and verify the ATF FWD and ATP D3 inputs with the HDS in the A/T data list.

Are ATP FWD and ATP D3 ON?

YES - Go to step 11.

NO - Go to step 15.

11. Clear the DTC with the HDS, and turn the ignition switch to LOCK (0).
12. Run the engine in D until the vehicle speed reaches 25 mph (40 km/h), then slow down, stop the wheels, and turn the ignition switch to LOCK (0).
13. Restart the engine, and run it in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.

14. Monitor the OBD STATUS for P0706 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

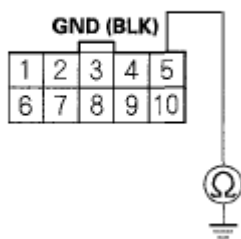
Does the HDS indicate FAILED?

YES - Go to step 15.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

15. Turn the ignition switch to LOCK (0).
16. Disconnect the transmission range switch connector.
17. Check for continuity between transmission range switch connector terminal No. 5 and body ground.

**TRANSMISSION RANGE
SWITCH CONNECTOR**



Wire side of female terminals

Fig. 86: Checking Continuity Between Transmission Range Switch Connector Terminal No. 5 And Body Ground

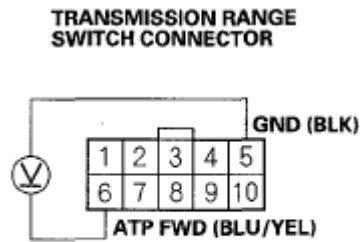
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 18.

NO - Repair open in the wire between the transmission range switch and ground (G101, G102), or repair poor ground (G101, G102), then go to step 28.

18. Turn the ignition switch to ON (II).
19. Measure the voltage between transmission range switch connector terminals No. 5 and No. 6.



Wire side of female terminals

Fig. 87: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 6

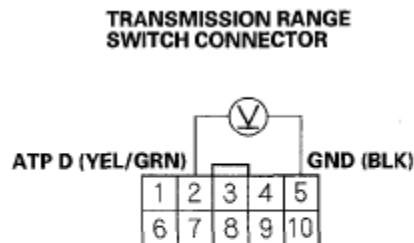
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there voltage?

YES - Go to step 20.

NO - Repair open in the wire between the transmission range switch and PCM connector terminal C19, then go to step 28.

20. Measure the voltage between transmission range switch connector terminals No. 2 and No. 5.



Wire side of female terminals

Fig. 88: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 2 And No. 5

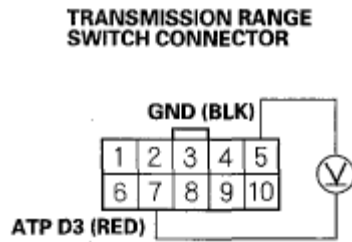
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there voltage?

YES - Go to step 21.

NO - Repair open in the wire between the transmission range switch and PCM connector terminal C10, then go to step 28.

21. Measure the voltage between transmission range switch connector terminals No. 5 and No. 7.



Wire side of female terminals

Fig. 89: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 7

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there voltage?

YES - Go to step 22.

NO - Repair open in the wire between the transmission range switch and PCM connector terminal C18, then go to step 28.

22. Connect the transmission range switch connector.
23. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
24. Run the engine in D until the vehicle speed reaches 30 mph (48 km/h), then slow down, stop the wheels, and turn the ignition switch to LOCK (0).
25. Restart the engine, and run it in D until the vehicle speed reaches 30 mph (48 km/h), then slow down and stop the wheels.
26. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0706 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 27.

27. Monitor the OBD STATUS for P0706 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 26, go to the **INDICATED DTCS TROUBLESHOOTING**.

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NO - Check for poor connections and loose terminals at the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 24 and recheck.

28. Connect the transmission range switch connector.
29. Clear the DTC with the HDS.
30. Run the engine in D until the vehicle speed reaches 30 mph (48 km/h), then slow down, stop the wheels, and turn the ignition switch to LOCK (0).
31. Restart the engine, and run it in D until the vehicle speed reaches 30 mph (48 km/h), then slow down and stop the wheels.
32. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0706 indicated?

YES - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1.

NO - Go to step 33.

33. Monitor the OBD STATUS for P0706 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 32, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 30 and recheck.

DTC P0711: Problem in ATF Temperature Sensor Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Turn the ignition switch to ON (II), and wait for 20 seconds.
2. Check the ATF temperature with the HDS in the A/T data list.

Does the ATF temperature exceed the ambient air temperature?

YES - Record the ATF temperature. Leave the engine off for at least 30 minutes, and go to step 3.

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NO - Record the ATF temperature. Test the stall speed RPM (see **STALL SPEED TEST**) three times. Go to step 3 after stall speed testing.

3. Check the ATF temperature with the HDS.

Did the ATF temperature change?

YES - Leave the engine off for at least 30 minutes, and go to step 4.

NO - Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR REPLACEMENT**), then go to step 13.

4. Check the ECT SENSOR with the HDS.

Is the ECT SENSOR equal to the ambient air temperature?

YES - Go to step 5.

NO - Leave the engine off until the ECT SENSOR reads the same as ambient air temperature, then go to step 5.

5. Check the ATF TEMP SENSOR with the HDS.

Does the ATF temperature read about the same as the ECT SENSOR?

YES - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM. If the connection is OK, go to step 6.

NO - Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR REPLACEMENT**), then go to step 13.

6. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
7. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine. Warm the engine up to normal operating temperature (the radiator fan comes on).
8. Turn the ignition switch to LOCK (0), and leave it off until the engine coolant cools to the ambient air temperature (the ECT SENSOR reads the same as the ambient air temperature).
9. Raise the vehicle on a lift, make sure it is securely supported, and allow the all four wheels to rotate freely.
10. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine. Warm the engine up to normal operating temperature (the radiator fan comes on). Start off in D, accelerate with the throttle opened at least 4 degrees, and run the vehicle at speeds over 19 mph (30 km/h) coasting for at least 5 minutes.
11. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

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Is DTC P0711 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 12.

12. Monitor the OBD STATUS for P0711 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 11, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

13. Clear the DTC with the HDS.
14. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine. Warm the engine up to normal operating temperature (the radiator fan comes on).
15. Turn the ignition switch to LOCK (0), and leave it off until the engine coolant cools to the ambient air temperature (the ECT SENSOR reads the same as the ambient air temperature).
16. Raise the vehicle on a lift, make sure it is securely supported, and allow the all four wheels to rotate freely.
17. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine. Warm the engine up to normal operating temperature (the radiator fan comes on). Start off in D, accelerate with the throttle opened at least 4 degrees, and run the vehicle at speeds over 19 mph (30 km/h) coasting for at least 5 minutes.
18. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0711 indicated?

YES - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM, then go to step 1.

NO - Go to step 19.

19. Monitor the OBD STATUS for P0711 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 18, go to the **INDICATED**

DTCS TROUBLESHOOTING.

NO - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [14](#) and recheck.

DTC P0712: Short in ATF Temperature Sensor Circuit**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II), and wait for 20 seconds.
2. Check the ATF temperature sensor voltage with the HDS in the A/T data list.

Is ATF TEMP SENSOR voltage 0.07 V or less?

YES - Go to step 3.

NO - Intermittent failure, the system is OK at this time. Check for an intermittent short in the wire between the ATF temperature sensor and the PCM.

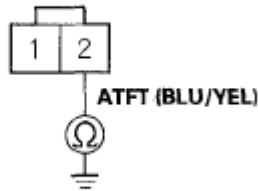
3. Turn the ignition switch to LOCK (0).
4. Disconnect the ATF temperature sensor connector at the transmission end cover.
5. Turn the ignition switch to ON (II).
6. Check the ATF temperature sensor voltage with the HDS.

Is ATF TEMP SENSOR voltage 0.07 V or less?

YES - Go to step 7.

NO - Replace the ATF temperature sensor (see ATF TEMPERATURE SENSOR REPLACEMENT), then go to step 16.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector C (22P).
10. Check for continuity between ATF temperature sensor connector terminal No. 2 and body ground.

ATF TEMPERATURE
SENSOR CONNECTOR

Wire side of female terminals

Fig. 90: Checking Continuity Between ATF Temperature Sensor Connector Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C3 and ATF temperature sensor connector terminal No. 2, then go to step 16.

NO - Go to step 11.

11. Reconnect all connectors.
12. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
13. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine in P. Run the engine for at least 10 seconds.
14. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0712 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 15.

15. Monitor the OBD STATUS for P0712 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If

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the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 13 and recheck.

16. Reconnect all connectors.
17. Clear the DTC with the HDS.
18. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine in P. Run the engine for at least 10 seconds.
19. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0712 indicated?

YES - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM, then go to step 1.

NO - Go to step 20.

20. Monitor the OBD STATUS for P0712 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [18](#) and recheck.

DTC P0713: Open in ATF Temperature Sensor Circuit

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II), and wait for 20 seconds.
2. Check the ATF temperature sensor voltage with the HDS in the A/T data list.

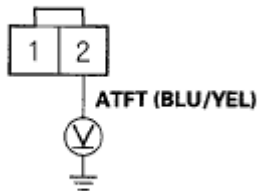
Does ATF TEMP SENSOR voltage exceed 4.93 V?

YES - Go to step 3.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the ATF temperature sensor and the PCM.

3. Turn the ignition switch to LOCK (0).

4. Disconnect the ATF temperature sensor connector at the transmission end cover.
5. Turn the ignition switch to ON (II).
6. Measure the voltage between ATF temperature sensor connector terminal No. 2 and body ground.

**ATF TEMPERATURE
SENSOR CONNECTOR**

Wire side of female terminals

Fig. 91: Measuring Voltage Between ATF Temperature Sensor Connector Terminal No. 2 And Body Ground

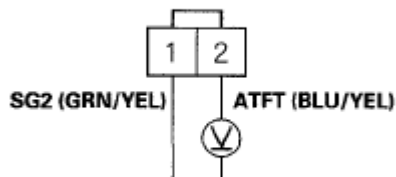
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Go to step 7.

NO - Go to step 8.

7. Measure the voltage between ATF temperature sensor connector terminals No. 1 and No. 2.

**ATF TEMPERATURE
SENSOR CONNECTOR**

Wire side of female terminals

Fig. 92: Measuring Voltage Between ATF Temperature Sensor Connector Terminals No. 1 And No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR REPLACEMENT**), then go to step 14.

NO - Repair open in the wire between PCM connector terminal C12 and the ATF temperature sensor connector, then go to step 14.

8. Measure the voltage between PCM connector terminal C3 and body ground.

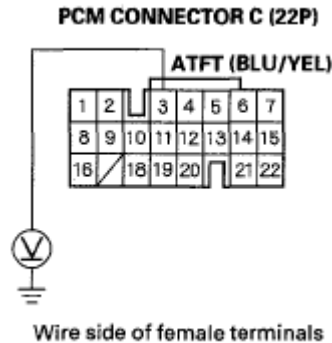


Fig. 93: Measuring Voltage Between PCM Connector Terminal C3 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal C3 and the ATF temperature sensor connector, then go to step 14.

NO - Go to step 9.

9. Connect the ATF temperature sensor connector.
10. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
11. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine in P. Run the engine for at least 10 seconds.
12. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0713 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 13.

13. Monitor the OBD STATUS for P0713 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 12, go to the

INDICATED DTC'S TROUBLESHOOTING.

NO - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 11 and recheck.

14. Connect the ATF temperature sensor connector.
15. Clear the DTC with the HDS.
16. Turn the ignition switch to ON (II), and wait for 20 seconds, then start the engine in P: Run the engine for at least 10 seconds.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0713 indicated?

YES - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM, then go to step 1.

NO - Go to step 18.

18. Monitor the OBD STATUS for P0713 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 17, go to the **INDICATED DTC'S TROUBLESHOOTING.**

NO - Check for poor connections and loose terminals at the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [16](#) and recheck.

DTC P0716: Problem in Input Shaft (Mainshaft) Speed Sensor Circuit; DTC P0717: Problem in Input Shaft (Mainshaft) Speed Sensor Circuit (No Signal Input)

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Check for proper input shaft (mainshaft) speed sensor installation (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**). If the sensor is installed improperly, correct the problem, then go to step 36.
3. Raise the vehicle on a lift, make sure it is securely supported, and allow the all four wheels to rotate freely.

4. Start the engine, and turn the VSA off (the light on the VSA OFF switch comes on). Run the vehicle in either 2nd, 3rd, 4th, or 5th gear (not 1st) in M (sequential sportshift mode) at speeds over 12 mph (20 km/h) and an engine speed of 500 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
5. Monitor the OBD STATUS for P0716 or P0717 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for loose or poor connections at the PCM and the input shaft (mainshaft) speed sensor connectors. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Jump the SCS line with the HDS.
8. Disconnect PCM connectors A (31P) and B (24P).
9. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

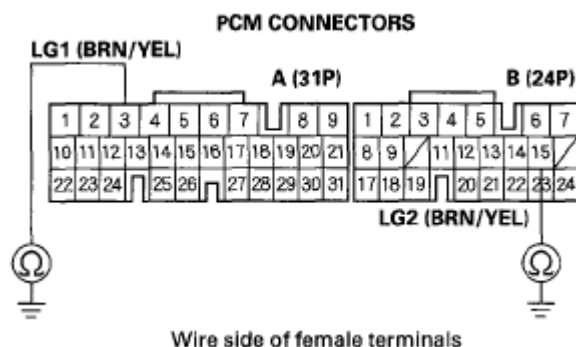


Fig. 94: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

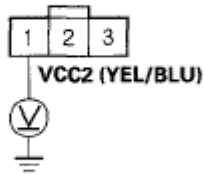
YES - Go to step 10.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 36.

10. Connect PCM connectors A (31P) and B (24P).
11. Disconnect the input shaft (mainshaft) speed sensor connector.
12. Turn the ignition switch to ON (II).
13. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 1 and body

ground.

**INPUT SHAFT (MAINSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

Fig. 95: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal No. 1 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

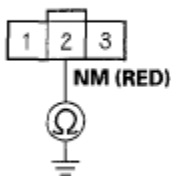
Is there about 5 V?

YES - Go to step 14.

NO - Go to step 27.

14. Turn the ignition switch to LOCK (0).
15. Disconnect PCM connector D (17P).
16. Check for continuity between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

**INPUT SHAFT (MAINSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

Fig. 96: Checking Continuity Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal D8 and the input shaft (mainshaft) speed sensor connector, then go to step 36.

NO - Go to step 17.

17. Disconnect PCM connector C (22P).
18. Check for continuity between PCM connector terminal C12 and input shaft (mainshaft) speed sensor connector terminal No. 3.

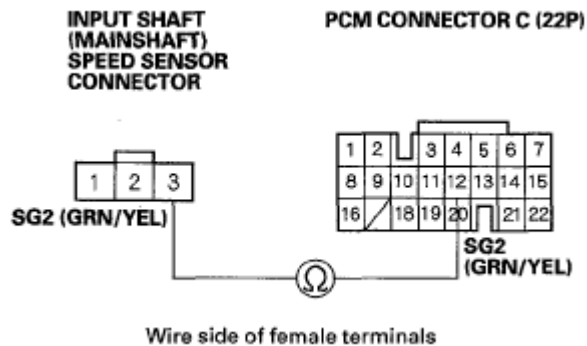


Fig. 97: Checking Continuity Between PCM Terminal C12 And Input Shaft (Mainshaft) Speed Sensor Terminal No. 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 19.

NO - Repair open in the wire between the input shaft (mainshaft) speed sensor connector and PCM connector terminal C12, then go to step 36.

19. Connect PCM connectors C (22P) and D (17P).
20. Turn the ignition switch to ON (II).
21. Measure the voltage between input shaft (mainshaft) speed sensor connector terminals No. 2 and No. 3.

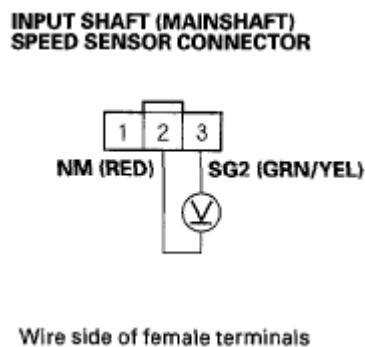


Fig. 98: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminals No. 2 And 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Go to step 22.

NO - Go to step 26.

22. Connect the input shaft (mainshaft) speed sensor connector.
23. Measure the voltage between PCM connector terminals D8 and A3 or B15.

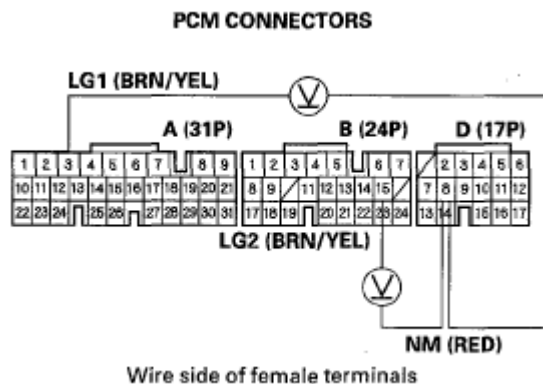


Fig. 99: Measuring Voltage Between PCM Connector Terminals D8 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there voltage 0 V or about 5 V?

YES - Go to step 24.

NO - Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**), then go to step 37.

24. Shift to P. Start the engine, and let it idle.
25. With the engine idling, measure the voltage between PCM connector terminals D8 and A3 or B15.

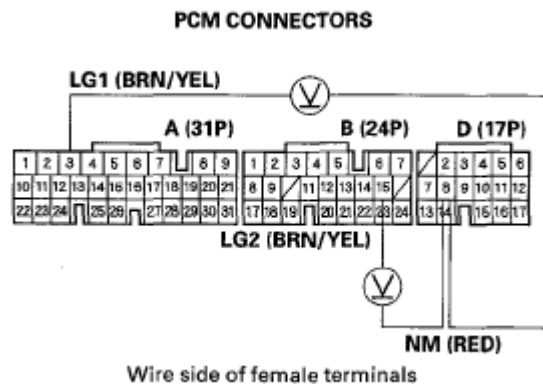


Fig. 100: Measuring Voltage Between PCM Connector Terminals D8 And A3 Or B15

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 1.5-3.5 V?

YES - Go to step 31.

NO - Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**), then go to step 37.

26. Measure the voltage between PCM connector terminals D8 and A3 or B15.

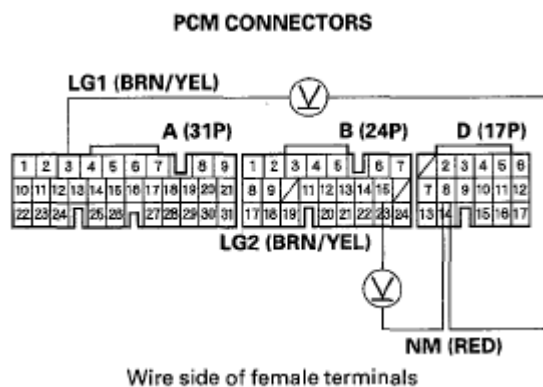


Fig. 101: Measuring Voltage Between PCM Connector Terminals D8 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal D8 and the input shaft (mainshaft) speed sensor, then go to step 36.

NO - Go to step 31.

27. Measure the voltage between PCM connector terminals C14 and A3 or B15.

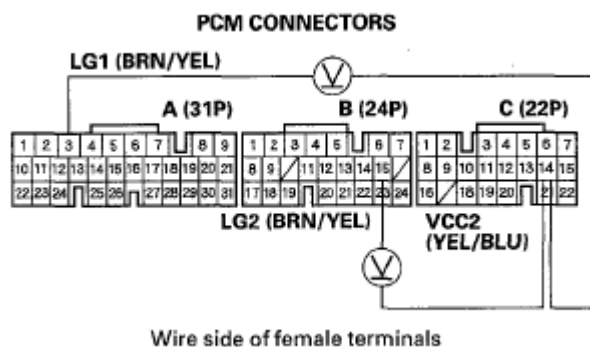


Fig. 102: Measuring Voltage Between PCM Connector Terminals C14 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

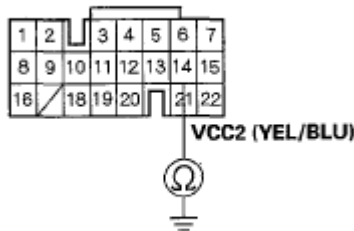
Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal C14 and the input shaft (mainshaft) speed sensor, then go to step 36.

NO - Go to step 28.

28. Turn the ignition switch to LOCK (0).
29. Disconnect PCM connector C (22P).
30. Check for continuity between PCM connector terminal C14 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 103: Checking Continuity Between PCM Connector Terminal C14 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C14 and the input shaft (mainshaft) speed sensor, then go to step 36.

NO - Go to step 31.

31. Reconnect all connectors.
32. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
33. Start the engine. Run the vehicle in either 2nd, 3rd, 4th, or 5th gear (not 1st) in M (sequential sportshift mode) at speeds over 12 mph (20 km/h) and an engine speed of 500 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
34. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0716 or P0717 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 35.

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35. Monitor the OBD STATUS for P0716 or P0717 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 34, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 33 and recheck.

36. Reconnect all connectors.
37. Clear the DTC with the HDS.
38. Start the engine. Run the vehicle in either 2nd, 3rd, 4th, or 5th gear (not 1st) in M (sequential sportshift mode) at speeds over 12 mph (20 km/h) and an engine speed of 500 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
39. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0716 or P0717 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor and the PCM, then go to step 1.

NO - Go to step 40.

40. Monitor the OBD STATUS for P0716 or P0717 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS Indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 39, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 38 and recheck.

DTC P0718: Input Shaft (Mainshaft) Speed Sensor Intermittent Failure

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused

by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h) for several minutes. Slow down and stop the wheels.
3. Turn the ignition switch to LOCK (0). Repeat step 2, then go to step 4.
4. Monitor the OBD STATUS for P0718 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 5.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, return to step 2 and recheck.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the input shaft (mainshaft) speed sensor connector, and inspect the connector and connector terminals to be sure they are making good contact.

Are the connector terminals OK?

YES - Go to step 7.

NO - Repair the connector terminals, then go to step 7.

7. Connect the input shaft (mainshaft) speed sensor connector.
8. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h) for several minutes. Slow down and stop the wheels.
9. Turn the ignition switch to LOCK (0). Repeat step 8, then go to step 10.
10. Monitor the OBD STATUS for P0718 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

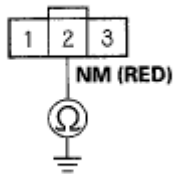
YES - Go to step 11.

NO - The troubleshooting is complete. If the HDS indicates NOT COMPLETED, return to step 8 and recheck.

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector D(17P).
14. Disconnect the input shaft (mainshaft) speed sensor connector.

15. Check for continuity between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

**INPUT SHAFT (MAINSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

Fig. 104: Checking Continuity Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

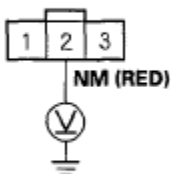
Is there continuity?

YES - Repair short in the wire between PCM connector terminal D8 and the input shaft (mainshaft) speed sensor connector, then go to step 28.

NO - Go to step 16.

16. Connect PCM connector D(17P).
17. Turn the ignition switch to ON (II).
18. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

**INPUT SHAFT (MAINSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

Fig. 105: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**), then go to step 28.

NO - Go to step 19.

19. Turn the ignition switch to LOCK (0).
20. Disconnect PCM connector D (17P).
21. Check for continuity between PCM connector terminal D8 and input shaft (mainshaft) speed sensor connector terminal No. 2.

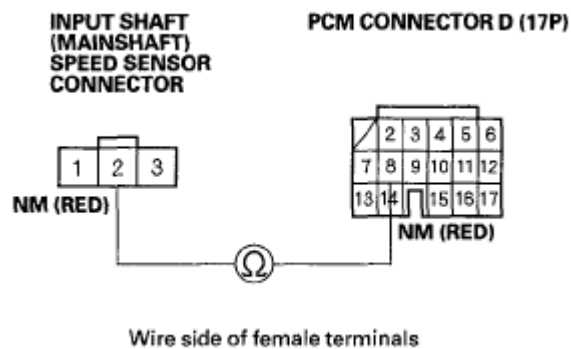


Fig. 106: Checking Continuity Between PCM Terminal D8 And Input Shaft (Mainshaft) Speed Sensor Terminal No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 22.

NO - Repair open in the wire between PCM connector terminal D8 and the input shaft (mainshaft) speed sensor, then go to step 28.

22. Reconnect all connectors.
23. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
24. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h) for several minutes. Slow down and stop the wheels.
25. Turn the ignition switch to LOCK (0). Repeat step 24, then go to step 26.
26. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0718 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 27.

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27. Monitor the OBD STATUS for P0718 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 26, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 24 and recheck.

28. Reconnect all connectors.
29. Clear the DTC with the HDS.
30. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h) for several minutes. Slow down and stop the wheels.
31. Turn the ignition switch to LOCK (0). Repeat step 30, then go to step 32.
32. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0718 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor and the PCM, then go to step 1.

NO - Go to step 33.

33. Monitor the OBD STATUS for P0718 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 32, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 30 and recheck.

DTC P0721: Problem in Output Shaft (Countershaft) Speed Sensor Circuit; DTC P0722: Problem in Output Shaft (Countershaft) Speed Sensor Circuit (No Signal Input)

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Check for proper output shaft (countershaft) speed sensor installation (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**). If the sensor is installed improperly, correct the problem, then go to step 38.
3. Raise the vehicle on a lift, make sure it is securely supported, and allow the all four wheels to rotate freely.
4. Start the engine, and turn the VSA off (the light on the VSA OFF switch comes on). Run the vehicle in either 2nd, 3rd, 4th, or 5th gear (not 1st) in M (sequential sportshift mode) with the engine speed at 2,000 rpm or higher for at least 10 seconds. Slow down and stop the wheels.
5. Monitor the OBD STATUS for P0721 or P0722 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for loose or poor connections at the PCM and the output shaft (countershaft) speed sensor connectors. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Jump the SCS line with the HDS.
8. Disconnect PCM connectors A (31P) and B (24P).
9. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

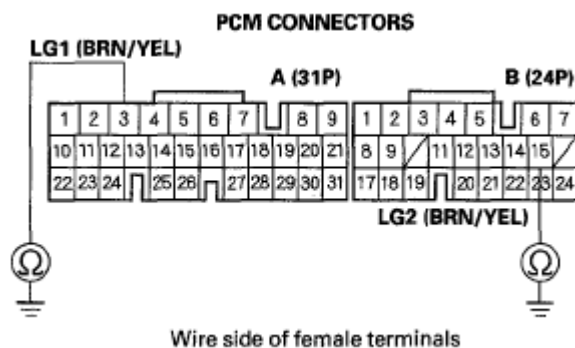


Fig. 107: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

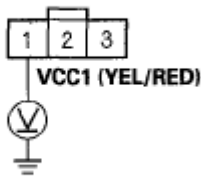
YES - Go to step 10.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or

repair poor ground (G101, G102), then go to step 37.

10. Connect PCM connectors A (31P) and B (24P).
11. Disconnect the output shaft (countershaft) speed sensor connector.
12. Turn the ignition switch to ON (II).
13. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 1 and body ground.

**OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

Fig. 108: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal No. 1 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

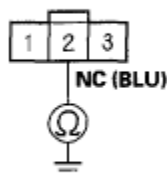
Is there about 5 V?

YES - Go to step 14.

NO - Go to step 27.

14. Turn the ignition switch to LOCK (0).
15. Disconnect PCM connector B (24P).
16. Check for continuity between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

**OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

Fig. 109: Checking Continuity Between Output Shaft (Countershaft) Speed Sensor Connector

Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal B19 and the output shaft (countershaft) speed sensor connector, then go to step 37.

NO - Go to step 17.

17. Disconnect PCM connector C (22P).
18. Check for continuity between PCM connector terminal C4 and output shaft (countershaft) speed sensor connector terminal No. 3.

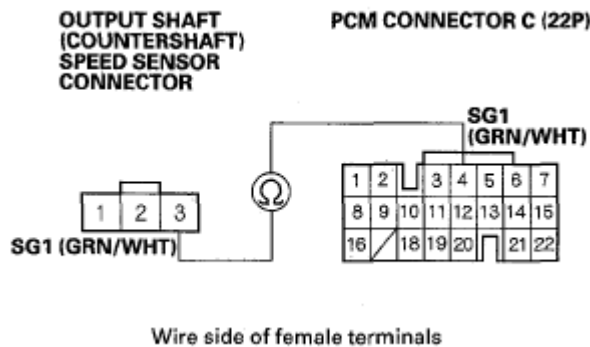


Fig. 110: Checking Continuity Between PCM Terminal C4 And Output Shaft (Countershaft) Speed Sensor Terminal No. 3

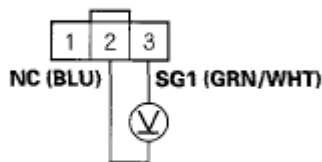
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 19.

NO - Repair open in the wire between the output shaft (countershaft) speed sensor connector and PCM connector terminal C4, then go to step 37.

19. Connect PCM connectors B (24P) and C (22P).
20. Turn the ignition switch to ON (II).
21. Measure the voltage between output shaft (countershaft) speed sensor connector terminals No. 2 and No. 3.

**OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR**

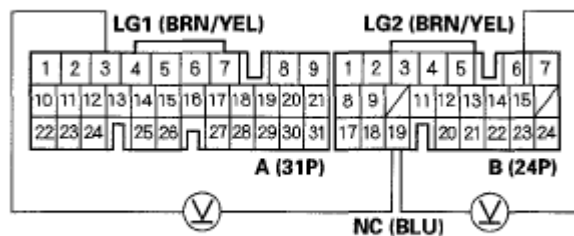
Wire side of female terminals

Fig. 111: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminals No. 2 And 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there about 5 V?***YES** - Go to step 22.**NO** - Go to step 26.

22. Connect the output shaft (countershaft) speed sensor connector.
23. Measure the voltage between PCM connector terminals B19 and A3 or B15.

PCM CONNECTORS

Wire side of female terminals

Fig. 112: Measuring Voltage Between PCM Connector Terminals B19 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.*Is there voltage 0 V or about 5 V?***YES** - Go to step 24.**NO** - Replace the output shaft (countershaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**), then go to step 37.

24. Start the engine, and run the vehicle in D (on the lift).
25. While holding the engine at an engine speed 2,000 rpm or higher, measure the voltage between PCM

connector terminals B19 and A3 or B15.

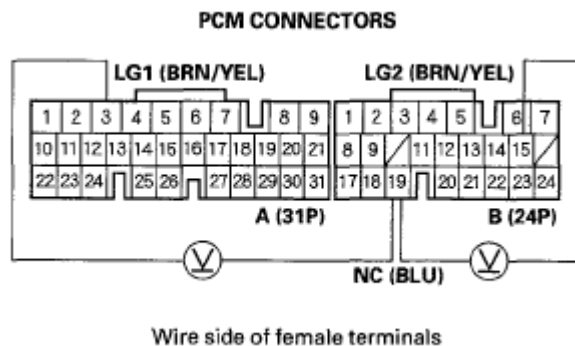


Fig. 113: Measuring Voltage Between PCM Connector Terminals B19 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 1.5-3.5 V?

YES - Go to step 32.

NO - Replace the output shaft (countershaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**), then go to step 37.

26. Measure the voltage between PCM connector terminals B19 and A3 or B15.

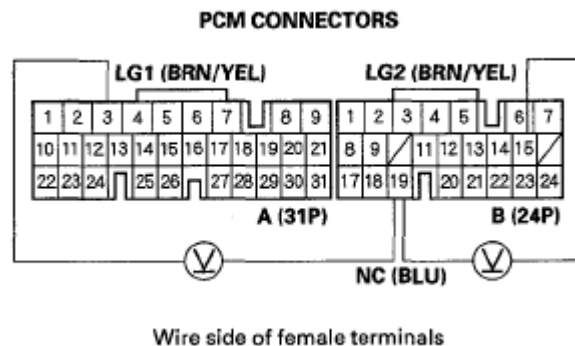


Fig. 114: Measuring Voltage Between PCM Connector Terminals B19 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal B19 and the output shaft (countershaft) speed sensor, then go to step 37.

NO - Go to step 32.

27. Measure the voltage between PCM connector terminals C6 and A3 or B15.

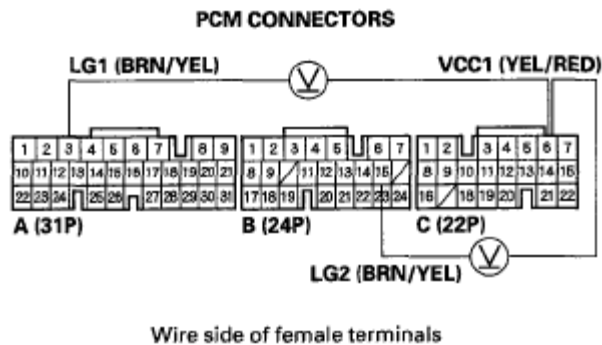


Fig. 115: Measuring Voltage Between PCM Connector Terminals C6 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal C6 and the output shaft (countershaft) speed sensor, then go to step 37.

NO - Go to step 28.

28. Turn the ignition switch to LOCK (0).
29. Jump the SCS line with the HDS.
30. Disconnect PCM connector C (22P).
31. Check for continuity between PCM connector terminal C6 and body ground.

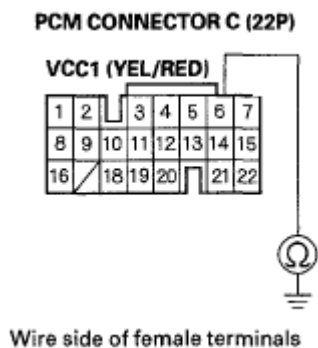


Fig. 116: Checking Continuity Between PCM Connector Terminal C6 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C6 and the output shaft (countershaft) speed sensor, then go to step 37.

NO - Go to step 32.

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32. Reconnect all connectors.
33. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
34. Start the engine. Run the vehicle in either 2nd, 3rd, 4th, or 5th gear (not 1st) in M (sequential sportshift mode) with the engine speed at 2,000 rpm or higher for at least 10 seconds. Slow down and stop the wheels.
35. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0721 or P0722 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 36.

36. Monitor the OBD STATUS for P0721 or P0722 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 35, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 34 and recheck.

37. Reconnect all connectors.
38. Clear the DTC with the HDS.
39. Start the engine. Run the vehicle in either 2nd, 3rd, 4th, or 5th gear (not 1st) in M (sequential sportshift mode) with the engine speed at 2,000 rpm or higher for at least 10 seconds. Slow down and stop the wheels.
40. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0721 or P0722 indicated?

YES - Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM, then go to step 1.

NO - Go to step 41.

41. Monitor the OBD STATUS for P0721 or P0722 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 39 and recheck.

DTC P0723: Output Shaft (Countershaft) Speed Sensor Intermittent Failure

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Record all freeze data, and clear the DTC with the HDS.
2. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears under the same conditions as those indicated by the freeze data. Slow down and stop the wheels.
3. Monitor the OBD STATUS for P0723 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 4.

NO - Intermittent failure, the system is OK at this time. Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, return to step 2 and recheck.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the output shaft (countershaft) speed sensor connector, and inspect the connector and connector terminals to be sure they are making good contact.

Are the connector terminals OK?

YES - Go to step 6.

NO - Repair the connector terminals, then go to step 6.

6. Connect the output shaft (countershaft) speed sensor connector.
7. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears under the same conditions as those indicated by the freeze data. Slow down and stop the wheels.
8. Monitor the OBD STATUS for P0723 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

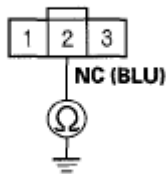
Does the HDS indicate FAILED?

YES - Go to step 9.

NO - The troubleshooting is complete. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

9. Turn the ignition switch to LOCK (0).
10. Jump the SCS line with the HDS.
11. Disconnect PCM connector B (24P).
12. Disconnect the output shaft (countershaft) speed sensor connector.
13. Check for continuity between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

**OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR**



Wire side of female terminals

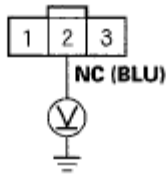
Fig. 117: Checking Continuity Between Output Shaft (Countershaft) Speed Sensor Connector Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal B19 and the output shaft (countershaft) speed sensor connector, then go to step 26.

NO - Go to step 14.

14. Connect PCM connector B (24P).
15. Turn the ignition switch to ON (II).
16. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

**OUTPUT SHAFT (COUNTERSHAFT)
SPEED SENSOR CONNECTOR**

Wire side of female terminals

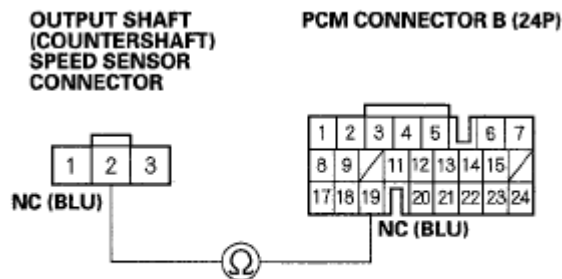
Fig. 118: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal No. 2 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Replace the output shaft (countershaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**), then go to step 26.

NO - Go to step 17.

17. Turn the ignition switch to LOCK (0).
18. Disconnect PCM connector B (24P).
19. Check for continuity between PCM connector terminal B19 and output shaft (countershaft) speed sensor connector terminal No. 2.



Wire side of female terminals

Fig. 119: Checking Continuity Between PCM Terminal B19 And Output Shaft (Countershaft) Speed Sensor Terminal No. 2
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 20.

NO - Repair open in the wire between PCM connector terminal B19 and the output shaft (countershaft)

speed sensor, then go to step 26.

20. Reconnect all connectors.
21. Update the A/T software in the PCM if it does not. have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
22. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h). Slow down and stop the wheels.
23. Turn the ignition switch to LOCK (0). Repeat step 22, then go to step 24.
24. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0723 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 25.

25. Monitor the OBD STATUS for P0723 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 24, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 22 and recheck.

26. Reconnect all connectors.
27. Clear the DTC with the HDS.
28. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h). Slow down and stop the wheels.
29. Turn the ignition switch to LOCK (0). Repeat step 28, then go to step 30.
30. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0723 indicated?

YES - Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM, then go to step 1.

NO - Go to step 31.

31. Monitor the OBD STATUS for P0723 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 30, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the output shaft (countershaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 28 and recheck.

DTC P0731: Problem in 1st Clutch and 1st Clutch Hydraulic Circuit

NOTE: **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

NO - Replace the ATF (see step 6), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST**).

Is the line pressure within the service limits?

YES - Go to step 5.

NO - Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 11.

5. Measure the 1st clutch pressure (see **PRESSURE TEST**).

Is the 1st clutch pressure within the service limits?

YES - Go to step 6.

NO - Shift valves B and C are stuck. Repair these valves and the related hydraulic circuit, or replace the transmission, then go to step 11.

6. Clear the DTC with the HDS.

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7. Test-drive the vehicle: Start off in D, accelerate at 10 % opened-throttle or more, and run the vehicle in 1st gear at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
8. Turn the ignition switch to LOCK (0). Repeat step 7, then go to step 9.
9. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0731 indicated?

YES - Repair the 1st clutch, or replace the transmission, then go to step 11.

NO - Go to step 10.

10. Monitor the OBD STATUS for P0731 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Intermittent failure, the system is OK at this time. If any other DTCs were indicated on step 9, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then recheck. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle: Start off in D, accelerate at 10 % opened-throttle or more, and run the vehicle in 1st gear at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0731 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 1.

NO - Go to step 15.

15. Monitor the OBD STATUS for P0731 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the

output shaft (countershaft) speed sensor, and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0732: Problem in 2nd Clutch and 2nd Clutch Hydraulic Circuit

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

NO - Replace the ATF (see step 6), then go to step 4.

4. Measure the line pressure (see PRESSURE TEST).

Is the line pressure within the service limits?

YES - Go to step 5.

NO - Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 11.

5. Measure the 2nd clutch pressure (see PRESSURE TEST).

Is the 2nd clutch pressure within the service limits?

YES - Go to step 6.

NO - Shift valves A, B, and C are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 11.

6. Clear the DTC with the HDS.
7. Test-drive the vehicle in 2nd gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
8. Turn the ignition switch to LOCK (0). Repeat step 7, then go to step 9.
9. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0732 indicated?

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YES - Repair the 2nd clutch, or replace the transmission, then go to step 11.

NO - Go to step 10.

10. Monitor the OBD STATUS for P0732 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Intermittent failure, the system is OK at this time. If any other DTCs were indicated on step 9, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then recheck. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle in 2nd gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0732 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 1.

NO - Go to step 15.

15. Monitor the OBD STATUS for P0732 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0733: Problem in 3rd Clutch and 3rd Clutch Hydraulic Circuit

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).

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1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

NO - Replace the ATF (see step 6), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST**).

Is the line pressure within the service limits?

YES - Go to step 5.

NO - Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 11.

5. Measure the 3rd clutch pressure (see **PRESSURE TEST**).

Is the 3rd clutch pressure within the service limits?

YES - Go to step 6.

NO - Shift valves A, B, and C are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 11.

6. Clear the DTC with the HDS.
7. Test-drive the vehicle in 3rd gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
8. Turn the ignition switch to LOCK (0). Repeat step 7, then go to step 9.
9. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0733 indicated?

YES - Repair the 3rd clutch, or replace the transmission, then go to step 11.

NO - Go to step 10.

10. Monitor the OBD STATUS for P0733 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Intermittent failure, the system is OK at this time. If any other DTCs were indicated on step 9, go

to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then recheck. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle in 3rd gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0733 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 1.

NO - Go to step 15.

15. Monitor the OBD STATUS for P0733 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0734: Problem in 4th Clutch and 4th Clutch Hydraulic Circuit

NOTE: **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

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NO - Replace the ATF (see step 6), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST**).

Is the line pressure within the service limits?

YES - Go to step 5.

NO - Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 11.

5. Measure the 4th clutch pressure (see **PRESSURE TEST**).

Is the 4th clutch pressure within the service limits?

YES - Go to step 6.

NO - Shift valves A, B, C, and D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 11.

6. Clear the DTC with the HDS.
7. Test-drive the vehicle in 4th gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
8. Turn the ignition switch to LOCK (0). Repeat step 7, then go to step 9.
9. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0734 indicated?

YES - Repair the 4th clutch, or replace the transmission, then go to step 11.

NO - Go to step 10.

10. Monitor the OBD STATUS for P0734 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Intermittent failure, the system is OK at this time. If any other DTCs were indicated on step 9, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then recheck. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle in 4th gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.

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13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0734 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 1.

NO - Go to step 15.

15. Monitor the OBD STATUS for P0734 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0735: Problem in 5th Clutch and 5th Clutch Hydraulic Circuit

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

NO - Replace the ATF (see step 6), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST**).

Is the line pressure within the service limits?

YES - Go to step 5.

NO - Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 11.

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5. Measure the 5th clutch pressure (see **PRESSURE TEST**).

Is the 5th clutch pressure within the service limits?

YES - Go to step 6.

NO - Shift valves A, B, C, and D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 11.

6. Clear the DTC with the HDS.
7. Test-drive the vehicle in 5th gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
8. Turn the ignition switch to LOCK (0). Repeat step 7, then go to step 9.
9. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0735 indicated?

YES - Repair the 5th clutch, or replace the transmission, then go to step 11.

NO - Go to step 10.

10. Monitor the OBD STATUS for P0735 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Intermittent failure, the system is OK at this time. If any other DTCs were indicated on step 9, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then recheck. If the HDS indicates NOT COMPLETED, return to step 7 and recheck.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle in 5th gear in D at speeds over 7 mph (12 km/h) with the engine speed at 1,000 rpm or higher, for at least 12 seconds. Slow down and stop the wheels.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0735 indicated?

YES - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 1.

NO - Go to step 15.

15. Monitor the OBD STATUS for P0735 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 14, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the input shaft (mainshaft) speed sensor, the output shaft (countershaft) speed sensor, and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0741: Torque Converter Clutch Hydraulic Circuit Stuck OFF

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 12.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Select Shift Solenoid D in the Miscellaneous Test Menu, and check that shift solenoid valve D operates with the HDS.

Is a clicking sound heard?

YES - Go to step 6.

NO - Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 12.

6. Run the engine until the engine coolant temperature reaches 176°F (80°C).
7. Select Clutch Pressure Control (Linear) Solenoid C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

Does the HDS indicate NORMAL?

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YES - Go to step 8.

NO - Follow the instructions indicated on the HDS by the test result, but if the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

8. Test-drive the vehicle on a level road with a steady throttle at 60 mph (96 km/h) for at least 22 seconds, or test-drive the vehicle for several minutes under the same conditions as those indicated by the freeze data.
9. Turn the ignition switch to LOCK (0). Repeat step 8, then go to step 10.
10. Monitor the OBD STATUS for P0741 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair the faulty torque converter clutch mechanism, torque converter clutch hydraulic circuit, lock-up shift valve, or lock-up control valve, or replace the transmission, then go to step 12.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 8 and recheck.

11. Inspect A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST**).

Does A/T clutch pressure control solenoid valve C work properly?

YES - Repair the hydraulic system related to the lock-up shift valve, lock-up control valve, and lockup timing valve, or replace the transmission, then go to step 12.

NO - Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C REPLACEMENT**), then go to step 12.

12. Clear the DTC with the HDS.
13. Test-drive the vehicle on a level road with a steady throttle at 60 mph (96 km/h) for at least 22 seconds, or test-drive the vehicle for several minutes under the same conditions as those indicated by the freeze data.
14. Turn the ignition switch to LOCK (0). Repeat step 13, then go to step 15.
15. Monitor the OBD STATUS for P0741 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 5 and recheck. If the HDS indicates NOT COMPLETED, return to step 13 and recheck.

DTC P0746: A/T Clutch Pressure Control Solenoid Valve A Stuck OFF; DTC P0747: A/T Clutch Pressure Control Solenoid Valve A Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0746 or P0747 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Clutch Pressure Control (Linear) Solenoid A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

Does the HDS indicate NORMAL?

YES - Intermittent failure, the system is OK at this time.

NO - Follow the instructions indicated on the HDS by the test result, but if the HDS has not determined the cause of the failure, go to step 10. If any part is replaced, go to step 11.

10. Inspect A/T clutch pressure control solenoid valve A (see A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST).

Does A/T clutch pressure control solenoid valve A work properly?

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YES - Repair the hydraulic system related with shift valve A, or replace the transmission, then go to step 11.

NO - Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**), then go to step 11.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Monitor the OBD STATUS for P0746 or P0747 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 11 and recheck. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0751: Shift Solenoid Valve A Stuck OFF; DTC P0752: Shift Solenoid Valve A Stuck ON

NOTE: **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 13.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0751 or P0752 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

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Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Shift Solenoid A in the Miscellaneous Test Menu, and check that shift solenoid valve A operates with the HDS.

Is a clicking sound heard?

YES - Go to step 10.

NO - Replace shift solenoid valve A (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 13.

10. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
11. Turn the ignition switch to LOCK (0). Repeat step 10, then go to step 12.
12. Monitor the OBD STATUS for P0751 or P0752 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair shift valve A, or replace the transmission, then go to step 13.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 10 and recheck.

13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
15. Turn the ignition switch to LOCK (0). Repeat step 14, then go to step 16.
16. Monitor the OBD STATUS for P0751 or P0752 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 13 and recheck. If the HDS indicates NOT COMPLETED, return to step 14 and recheck.

DTC P0756: Shift Solenoid Valve B Stuck OFF; DTC P0757: Shift Solenoid Valve B Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review **General Troubleshooting Information** (see **GENERAL TROUBLESHOOTING INFORMATION**).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 13.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0756 or P0757 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Shift Solenoid B in the Miscellaneous Test Menu, and check that shift solenoid valve B operates with the HDS.

Is a clicking sound heard?

YES - Go to step 10.

NO - Replace shift solenoid valve B (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 13.

10. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.

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11. Turn the ignition switch to LOCK (0). Repeat step 10, then go to step 12.
12. Monitor the OBD STATUS for P0756 or P0757 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair shift valve B, or replace the transmission, then go to step 13.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 10 and recheck.

13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
15. Turn the ignition switch to LOCK (0). Repeat step 14, then go to step 16.
16. Monitor the OBD STATUS for P0756 or P0757 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 13 and recheck. If the HDS indicates NOT COMPLETED, return to step 14 and recheck.

DTC P0761: Shift Solenoid Valve C Stuck OFF; DTC P0762: Shift Solenoid Valve C Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 13.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then

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slow down to a stop.

6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0761 or P0762 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Shift Solenoid C in the Miscellaneous Test Menu, and check that shift solenoid valve C operates with the HDS.

Is a clicking sound heard?

YES - Go to step 10.

NO - Replace shift solenoid valve C (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 13.

10. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
11. Turn the ignition switch to LOCK (0). Repeat step 10, then go to step 12.
12. Monitor the OBD STATUS for P0761 or P0762 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair shift valve C, or replace the transmission, then go to step 13.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 10 and recheck.

13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
15. Turn the ignition switch to LOCK (0). Repeat step 14, then go to step 16.
16. Monitor the OBD STATUS for P0761 or P0762 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

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YES - Troubleshooting is complete.

NO - Return to step 13 and recheck. If the HDS indicates NOT COMPLETED, return to step 14 and recheck.

DTC P0766: Shift Solenoid Valve D Stuck OFF; DTC P0767: Shift Solenoid Valve D Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 13.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0766 or P0767 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Shift Solenoid D in the Miscellaneous Test Menu, and check that shift solenoid valve D operates with the HDS.

Is a clicking sound heard?

YES - Go to step 10.

NO - Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE TEST AND**

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REPLACEMENT), then go to step 13.

10. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
11. Turn the ignition switch to LOCK (0). Repeat step 10, then go to step 12.
12. Monitor the OBD STATUS for P0766 or P0767 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair shift valve D, or replace the transmission, then go to step 13.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 10 and recheck.

13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
15. Turn the ignition switch to LOCK (0). Repeat step 14, then go to step 16.
16. Monitor the OBD STATUS for P0766 or P0767 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 13 and recheck. If the HDS indicates NOT COMPLETED, return to step 14 and recheck.

DTC P0776: A/T Clutch Pressure Control Solenoid Valve B Stuck OFF; DTC P0777: A/T Clutch Pressure Control Solenoid Valve B Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

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NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0776 or P0777 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Clutch Pressure Control (Linear) Solenoid B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

Does the HDS indicate NORMAL?

YES - Intermittent failure, the system is OK at this time.

NO - Follow the instructions indicated on the HDS by the test result, but if the HDS has not determined the cause of the failure, go to step 10. If any part is replaced, go to step 11.

10. Inspect A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B TEST**).

Does A/T clutch pressure control solenoid valve B work properly?

YES - Repair the hydraulic system related with shift valve B, or replace the transmission, then go to step 11.

NO - Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**), then go to step 11.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Monitor the OBD STATUS for P0776 or P0777 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

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Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 11 and recheck. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0796: A/T Clutch Pressure Control Solenoid Valve C Stuck OFF; DTC P0797: A/T Clutch Pressure Control Solenoid Valve C Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 11.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Start the engine. With the brake pedal pressed, shift to D, and wait for at least 3 seconds. Shift to R, wait for at least 3 seconds, then reverse the vehicle for at least 3 seconds. Slow down and stop the wheels.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P0796 or P0797 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Select Clutch Pressure Control (Linear) Solenoid C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

Does the HDS indicate NORMAL?

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YES - Intermittent failure, the system is OK at this time.

NO - Follow the instructions indicated on the HDS by the test result, but if the HDS has not determined the cause of the failure, go to step 10. If any part is replaced, go to step 11.

10. Inspect A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST**).

Does A/T clutch pressure control solenoid valve C work properly?

YES - Repair the hydraulic system related with shift valve C, or replace the transmission, then go to step 11.

NO - Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C REPLACEMENT**), then go to step 11.

11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
13. Turn the ignition switch to LOCK (0). Repeat step 12, then go to step 14.
14. Monitor the OBD STATUS for P0796 or P0797 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 11 and recheck. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

DTC P0812: Open in Transmission Range Switch ATP R Switch Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Turn the ignition switch to ON (II).
2. Shift the shift lever into R, and verify the A/T R SWITCH signal with the HDS in the A/T data list.

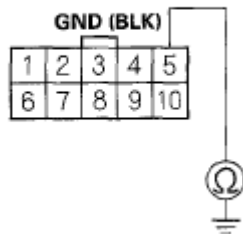
Is the A/T Ft SWITCH ON?

YES - Intermittent failure, the system is OK at this time.

NO - Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the transmission range switch connector.
5. Check for continuity between transmission range switch connector terminal No. 5 and body ground.

**TRANSMISSION RANGE
SWITCH CONNECTOR**



Wire side of female terminals

Fig. 120: Checking Continuity Between Transmission Range Switch Connector Terminal No. 5 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

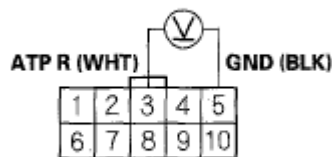
Is there continuity?

YES - Go to step 6.

NO - Repair open in the wire between the transmission range switch and ground (G101, G102), or repair poor ground (G101, G102), then go to step 15.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between transmission range switch connector terminals No. 3 and No. 5.

**TRANSMISSION RANGE
SWITCH CONNECTOR**



Wire side of female terminals

Fig. 121: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 3 And No. 5

Courtesy of AMERICAN HONDA MOTOR CO., INC.

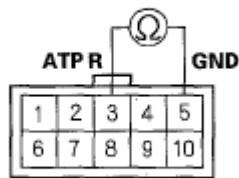
Is there voltage?

YES - Go to step 8.

NO - Repair open in the wire between the transmission range switch and PCM connector terminal D16, then go to step 15.

8. Check for continuity between connector terminals No. 3 and No. 5 at the transmission range switch.

**TRANSMISSION RANGE
SWITCH CONNECTOR**



Terminal side of male terminals

Fig. 122: Checking Continuity Between Transmission Range Switch Connector Terminals No. 3 And No. 5

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity when the shift lever is in R, and no continuity when the shift lever is shifted to any position other than R?

YES - Check for poor connections and loose terminals at the transmission range switch and the PCM. If the connections are OK, go to step 9.

NO - Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT**), then go to step 15.

9. Connect the transmission range switch connector.
10. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
11. Test-drive the vehicle in R at speeds below 3 mph (5 km/h) for at least 2 seconds, then increase the speed and test-drive at speeds over 3 mph (5 km/h) for at least 2 seconds. Slow down and stop the wheels.
12. Turn the ignition switch to LOCK (0). Repeat step 11, then go to step 13.
13. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0812 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 14.

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14. Monitor the OBD STATUS for P0812 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 13, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 11 and recheck.

15. Clear the DTC with the HDS.
16. Test-drive the vehicle in R at speeds below 3 mph (5 km/h) for at least 2 seconds, then increase the speed and test-drive at speeds over 3 mph (5 km/h) for at least 2 seconds. Slow down and stop the wheels.
17. Turn the ignition switch to LOCK (0). Repeat step 16, then go to step 18.
18. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0812 indicated?

YES - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1.

NO - Go to step 19.

19. Monitor the OBD STATUS for P0812 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 18, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

DTC P0815: Short in Transmission Gear Selection Switch Upshift Switch Circuit, or Transmission Gear Selection Switch Upshift Switch Stuck ON

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Start the engine in P, and wait for at least 10 seconds.
2. Verify the transmission gear selection switch upshift switch signal input with the HDS in the A/T data list.

Is UPSHIFT SW ON?

YES - Go to step 3.

NO - Intermittent failure, the system is OK at this time. Check the S-UP wire for an intermittent short to ground between the transmission gear selection switch and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector at the shift lever bracket.
5. Turn the ignition switch to ON (II).
6. Verify the transmission gear selection switch upshift switch signal input with the HDS in the A/T data list.

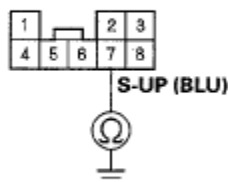
Is UPSHIFT SW ON?

YES - Go to step 7.

NO - Replace the transmission gear selection switch (see **TRANSMISSION GEAR SELECTION SWITCH TEST**), then go to step 18.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector E (31P).
10. Check for continuity between transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminal No. 7 and body ground.

**TRANSMISSION GEAR SELECTION SWITCH/
PARK PIN SWITCH/A/T GEAR POSITION
INDICATOR PANEL LIGHT CONNECTOR**



Wire side of female terminals

Fig. 123: Checking Continuity Between Transmission Gear Selection Switch Connector Terminal No. 7 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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Is there continuity?

YES - Repair short in the wire between PCM connector terminal E19 and the transmission gear selection switch, then go to step 18.

NO - Go to step 11.

11. Connect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector.
12. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
13. Start the engine in P, wait for at least 10 seconds, then shift to M.
14. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least 10 times.
15. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least 10 times.
16. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0815 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 17.

17. Monitor the OBD STATUS for P0815 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 16, go to the **INDICATED DTCs TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 13 and recheck.

18. Clear the DTC with the HDS.
19. Start the engine in P, wait for at least 10 seconds, then shift to M.
20. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least 10 times.
21. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least 10 times.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

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Is DTC P0815 indicated?

YES - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0815 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 19 and recheck.

DTC P0816: Short in Transmission Gear Selection Switch Downshift Switch Circuit, or Transmission Gear Selection Switch Downshift Switch Stuck ON

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Start the engine in P, and wait for at least 10 seconds.
2. Verify the transmission gear selection switch downshift switch signal input with the HDS in the A/T data list.

Is DOWNSHIFT SW ON?

YES - Go to step 3.

NO - Intermittent failure, the system is OK at this time. Check the S-DN wire for an intermittent short to ground between the transmission gear selection switch and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector at the shift lever bracket.
5. Turn the ignition switch to ON (II).
6. Verify the transmission gear selection switch downshift switch signal input with the HDS in the A/T data list.

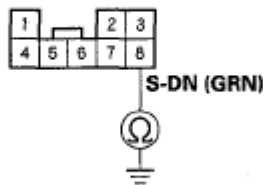
Is DOWNSHIFT SW ON?

YES - Go to step 7.

NO - Replace the transmission gear selection switch (see **TRANSMISSION GEAR SELECTION SWITCH TEST**), then go to step 18.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector E (31P).
10. Check for continuity between transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminal No. 8 and body ground.

**TRANSMISSION GEAR SELECTION SWITCH/
PARK PIN SWITCH/A/T GEAR POSITION
INDICATOR PANEL LIGHT CONNECTOR**



Wire side of female terminals

Fig. 124: Checking Continuity Between Transmission Gear Selection Switch Connector Terminal No. 8 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal E13 and the transmission gear selection switch, then go to step 18.

NO - Go to step 11.

11. Connect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector.
12. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
13. Start the engine in P, wait for at least 10 seconds, then shift to M.
14. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least 10 times.
15. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least 10 times.
16. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0816 indicated?

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YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 17.

17. Monitor the OBD STATUS for P0816 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 16, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return step 13 and recheck.

18. Clear the DTC with the HDS.
19. Start the engine in P, wait for at least 10 seconds, then shift to M.
20. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least 10 times.
21. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least 10 times.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0816 indicated?

YES - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0816 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 19 and recheck.

DTC P0842: Short in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck ON

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Check the 2nd PRESSURE SWITCH signal with the HDS in the A/T data list when not in 2nd gear.

Is the 2nd PRESSURE SWITCH OFF?

YES - Go to step 3.

NO - Go to step 6.

3. Start the engine and warm it up to normal operating temperature (the radiator fan comes on).
4. Test-drive the vehicle in 3rd gear in M for at least 2 seconds, then slow down to a stop.
5. Monitor the OBD STATUS for P0842 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check the 0P2SW wire for an intermittent short between the 2nd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

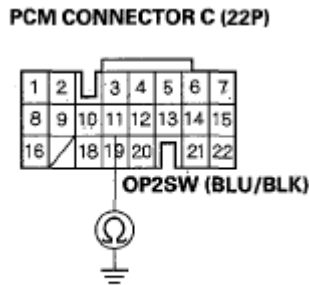
6. Turn the ignition switch to LOCK (0).
7. Disconnect the 2nd clutch transmission fluid pressure switch connector.
8. Turn the ignition switch to ON (II).
9. Check the 2nd PRESSURE SWITCH signal with the HDS in the A/T data list.

Is the 2nd PRESSURE SWITCH OFF?

YES - Replace the 2nd clutch transmission fluid pressure switch (see 2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT), then go to step 19.

NO - Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Jump the SCS line with the HDS.
12. Disconnect PCM connector C (22P).
13. Check for continuity between PCM connector terminal C11 and body ground.



Wire side of female terminals

Fig. 125: Checking Continuity Between PCM Connector Terminal C11 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C11 and the 2nd clutch transmission fluid pressure Switch, then go to step 19.

NO - Go to step 14.

14. Reconnect all connectors.
15. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
16. Test-drive the vehicle in 2nd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0842 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 18.

18. Monitor the OBD STATUS for P0842 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 17, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED,

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return to step 16 and recheck.

19. Clear the DTC with the HDS.
20. Test-drive the vehicle in 2nd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
21. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0842 indicated?

YES - Check for poor connections and loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1.

NO - Go to step 22.

22. Monitor the OBD STATUS for P0842 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 21, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 20 and recheck.

DTC P0843: Open in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck OFF

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
3. Shift into M while pressing the brake pedal, upshift to 2nd gear by pushing the shift lever toward the upshift position (+) or pulling the paddle shifter + (upshift switch), and verify with the HDS in the A/T data list that the SHIFT COMMAND indicates 2nd.
4. Check the 2nd PRESSURE SWITCH signal with the HDS in the A/T data list.

Is the 2nd PRESSURE SWITCH ON?

YES - Go to step 5.

NO - Go to step 7.

5. Test-drive the vehicle in 2nd gear in M for at least 2 seconds, then slow down to a stop.
6. Monitor the OBD STATUS for P0843 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

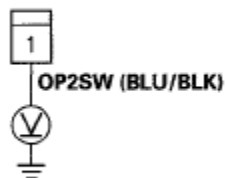
Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 2nd clutch transmission fluid pressure switch connector.
9. Turn the ignition switch to ON (II).
10. Measure the voltage between the 2nd clutch transmission fluid pressure switch connector terminal and body ground.

**2ND CLUTCH TRANSMISSION FLUID
PRESSURE SWITCH CONNECTOR**



Wire side of female terminals

Fig. 126: Measuring Voltage Between 2nd Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

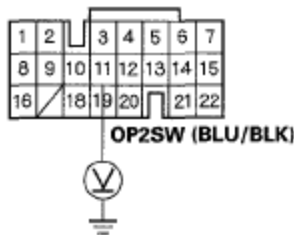
Is there about 5 V?

YES - Replace the 2nd clutch transmission fluid pressure switch (see **2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**), then go to step 17.

NO - Go to step 11.

11. Measure the voltage between PCM connector terminal C11 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 127: Measuring Voltage Between PCM Connector Terminal C11 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal C11 and the 2nd clutch transmission fluid pressure switch, then go to step 17.

NO - Go to step 12.

12. Connect the 2nd clutch transmission fluid pressure switch connector.
13. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
14. Test-drive the vehicle in 2nd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
15. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0843 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 16.

16. Monitor the OBD STATUS for P0843 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED,

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return to step 14 and recheck.

17. Clear the DTC with the HDS.
18. Test-drive the vehicle in 2nd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
19. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0843 indicated?

YES - Check for poor connections and loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1.

NO - Go to step 20.

20. Monitor the OBD STATUS for P0843 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 18 and recheck.

DTC P0847: Short in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck ON

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Check the 3rd PRESSURE SWITCH signal with the HDS in the A/T data list when not in 3rd gear.

Is the 3rd PRESSURE SWITCH OFF?

YES - Go to step 3.

NO - Go to step 6.

3. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
4. Test-drive the vehicle in 4th gear in M for at least 2 seconds, then slow down to a stop.

5. Monitor the OBD STATUS for P0847 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check the 0P3SW wire for an intermittent short between the 3rd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the 3rd clutch transmission fluid pressure switch connector.
8. Turn the ignition switch to ON (II).
9. Check the 3rd PRESSURE SWITCH signal with the HDS in the A/T data list.

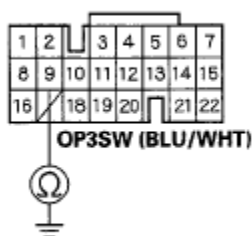
Is the 3rd PRESSURE SWITCH OFF?

YES - Replace the 3rd clutch transmission fluid pressure switch (see **3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**), then go to step 19.

NO - Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Jump the SCS line with the HDS.
12. Disconnect PCM connector C (22P).
13. Check for continuity between PCM connector terminal C9 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 128: Checking Continuity Between PCM Connector Terminal C9 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C9 and the 3rd clutch transmission fluid pressure switch, then go to step 19.

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NO - Go to step 14.

14. Reconnect all connectors.
15. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
16. Test-drive the vehicle in 3rd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0847 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 18.

18. Monitor the OBD STATUS for P0847 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 17, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

19. Clear the DTC with the HDS.
20. Test-drive the vehicle in 3rd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
21. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0847 indicated?

YES - Check for poor connections and loose terminals at the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1.

NO - Go to step 22.

22. Monitor the OBD STATUS for P0847 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 21, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 20 and recheck.

DTC P0848: Open in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck OFF

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
3. Test-drive the vehicle in 3rd gear in M, and verify with the HDS in the A/T data list that the SHIFT COMMAND indicates 3rd.
4. Check the 3rd PRESSURE SWITCH signal with the HDS in the A/T data list.

Is the 3rd PRESSURE SWITCH ON?

YES - Go to step 5.

NO - Go to step 7.

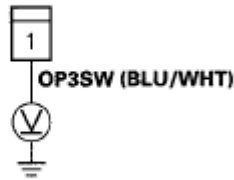
5. Test-drive the vehicle in 3rd gear in M for at least 2 seconds, then slow down to a stop.
6. Monitor the OBD STATUS for P0848 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the 3rd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 3rd clutch transmission fluid pressure switch connector.
9. Turn the ignition switch to ON (II).
10. Measure the voltage between the 3rd clutch transmission fluid pressure switch connector terminal and body ground.

**3RD CLUTCH TRANSMISSION FLUID
PRESSURE SWITCH CONNECTOR**

Wire side of female terminals

Fig. 129: Measuring Voltage Between 3rd Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground

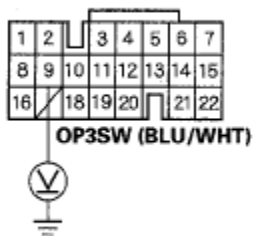
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Replace the 3rd clutch transmission fluid pressure switch (see **3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**), then go to step 17.

NO - Go to step 11.

11. Measure the voltage between PCM connector terminal C9 and body ground.

PCM CONNECTOR C (22P)

Wire side of female terminals

Fig. 130: Measuring Voltage Between PCM Connector Terminal C9 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal C9 and the 3rd clutch transmission fluid pressure switch, then go to step 17.

NO - Go to step 12.

12. Connect the 3rd clutch transmission fluid pressure switch connector.
13. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE**

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PCM), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).

14. Test-drive the vehicle in 3rd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
15. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0848 Indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 16.

16. Monitor the OBD STATUS for P0848 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 15, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 14 and recheck.

17. Clear the DTC with the HDS.
18. Test-drive the vehicle in 3rd gear in M for at least 2 seconds, then upshift to 4th gear, and drive in 4th gear for at least 2 seconds. Slow down and stop the wheels.
19. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0848 indicated?

YES - Check for poor connections and loose terminals at the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1.

NO - Go to step 20.

20. Monitor the OBD STATUS for P0848 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 3rd clutch transmission fluid pressure switch

and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 18 and recheck.

DTC P0872: Short in 4th Clutch Transmission Fluid Pressure Switch Circuit, or 4th Clutch Transmission Fluid Pressure Switch Stuck ON

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Check the 4th PRESSURE SWITCH signal with the HDS in the A/T data list when not in 4th gear.

Is the 4th PRESSURE SWITCH OFF?

YES - Go to step 3.

NO - Go to step 6.

3. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
4. Test-drive the vehicle in 5th gear in M for at least 2 seconds, then slow down to a stop.
5. Monitor the OBD STATUS for P0872 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check the 0P4SW wire for an intermittent short between the 4th clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, return to step [4](#) and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the 4th clutch transmission fluid pressure switch connector.
8. Turn the ignition switch to ON (II).
9. Check the 4th PRESSURE SWITCH signal with the HDS in the A/T data list.

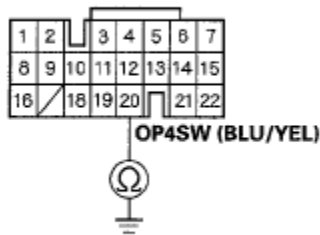
Is the 4th PRESSURE SWITCH OFF?

YES - Replace the 4th clutch transmission fluid pressure switch (see **4TH CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**), then go to step 11.

NO - Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Jump the SCS line with the HDS.
12. Disconnect PCM connector C (22P).
13. Check for continuity between PCM connector terminal C20 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 131: Checking Continuity Between PCM Connector Terminal C20 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C20 and the 4th clutch transmission fluid pressure switch, then go to step 19.

NO - Go to step 14.

14. Reconnect all connectors.
15. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
16. Test-drive the vehicle in 4th gear in M for at least 2 seconds, then upshift to 5th gear, and drive in 5th gear for at least 2 seconds. Slow down and stop the wheels.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0872 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 18.

18. Monitor the OBD STATUS for P0872 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the

original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 17, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 4th clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

19. Clear the DTC with the HDS.
20. Test-drive the vehicle in 4th gear in M for at least 2 seconds, then upshift to 5th gear, and drive in 5th gear for at least 2 seconds. Slow down and stop the wheels.
21. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0872 indicated?

YES - Check for poor connections and loose terminals at the 4th clutch transmission fluid pressure switch and the PCM, then go to step 1.

NO - Go to step 22.

22. Monitor the OBD STATUS for P0872 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 21, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 4th clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 20 and recheck.

DTC P0873: Open in 4th Clutch Transmission Fluid Pressure Switch Circuit, or 4th Clutch Transmission Fluid Pressure Switch Stuck OFF

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
3. Test-drive the vehicle in 4th gear in M, and verify with the HDS in the A/T data list that the SHIFT COMMAND indicates 4th.
4. Check the 4th PRESSURE SWITCH signal with the HDS in the A/T data list.

Is the 4th PRESSURE SWITCH ON?

YES - Go to step 5.

NO - Go to step 7.

5. Test-drive the vehicle in 4th gear in M for at least 2 seconds, then slow down to a stop.
6. Monitor the OBD STATUS for P0873 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

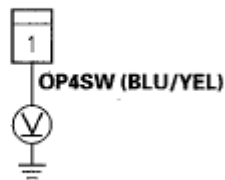
Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the 4th clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 4th clutch transmission fluid pressure switch connector.
9. Turn the ignition switch to ON (II).
10. Measure the voltage between the 4th clutch transmission fluid pressure switch connector terminal and body ground.

**4TH CLUTCH TRANSMISSION FLUID
PRESSURE SWITCH CONNECTOR**



Wire side of female terminals

Fig. 132: Measuring Voltage Between 4th Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

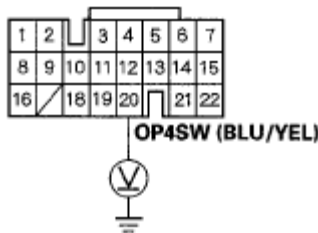
Is there about 5 V?

YES - Replace the 4th clutch transmission fluid pressure switch (see **4TH CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**), then go to step 17.

NO - Go to step 11.

11. Measure the voltage between PCM connector terminal C20 and body ground.

PCM CONNECTOR C (22P)



Wire side of female terminals

Fig. 133: Measuring Voltage Between PCM Connector Terminal C20 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there about 5 V?

YES - Repair open in the wire between PCM connector terminal C20 and the 4th clutch transmission fluid pressure switch, then go to step 17.

NO - Go to step 12.

12. Connect the 4th clutch transmission fluid pressure switch connector.
13. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
14. Test-drive the vehicle in 4th gear in M for at least 2 seconds, then upshift to 5th gear, and drive in 5th gear for at least 2 seconds. Slow down and stop the wheels.
15. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0873 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 16.

16. Monitor the OBD STATUS for P0873 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 4th clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED,

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return to step 14 and recheck.

17. Clear the DTC with the HDS.
18. Test-drive the vehicle in 4th gear in M for at least 2 seconds, then upshift to 5th gear, and drive in 5th gear for at least 2 seconds. Slow down and stop the wheels.
19. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0873 indicated?

YES - Check for poor connections and loose terminals at the 4th clutch transmission fluid pressure switch and the PCM, then go to step 1.

NO - Go to step 20.

20. Monitor the OBD STATUS for P0873 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 19, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the 4th clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 18 and recheck.

DTC P0957: Short in Transmission Gear Selection Switch Circuit, or Transmission Gear Selection Switch Stuck ON

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Start the engine in P, and wait for at least 10 seconds.
2. Verify the transmission gear selection switch sequential sportshift mode switch signal inputs with the HDS in the A/T data list.

Is sequential sportshift mode SW ON?

YES - Go to step 3.

NO - Intermittent failure, the system is OK at this time. Check the S-MODE wire for an intermittent short between the transmission gear selection switch and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light

connector.

5. Turn the ignition switch to ON (II).
6. Verify the transmission gear selection switch sequential sportshift mode switch signal inputs with the HDS in the A/T data list.

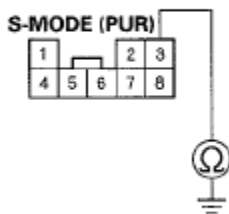
Is sequential sportshift mode SW ON?

YES - Go to step 7.

NO - Replace the transmission gear selection switch (see **TRANSMISSION GEAR SELECTION SWITCH TEST**), then go to step 18.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector E (31P).
10. Check for continuity between transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminal No. 3 and body ground.

**TRANSMISSION GEAR SELECTION SWITCH/
PARK PIN SWITCH/A/T GEAR POSITION
INDICATOR PANEL LIGHT CONNECTOR**



Wire side of female terminals

Fig. 134: Checking Continuity Between Transmission Gear Selection Switch Connector Terminal No. 3 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal E30 and the transmission gear selection switch, then go to step 18.

NO - Go to step 11.

11. Connect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector.
12. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
13. Start the engine in P, wait for at least 10 seconds, then shift to M.

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14. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least 10 times.
15. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least 10 times.
16. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0957 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 17.

17. Monitor the OBD STATUS for P0957 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 13 and recheck.

18. Clear the DTC with the HDS.
19. Start the engine in P, wait for at least 10 seconds, then shift to M.
20. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least 10 times.
21. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least 10 times.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0957 indicated?

YES - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0957 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 19 and recheck.

DTC P0958: Open in Transmission Gear Selection Switch Circuit, or Transmission Gear Selection Switch Stuck OFF

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Start the engine.
2. With the brake pedal pressed, shift to M.
3. Verify the transmission gear selection switch sequential sportshift mode switch signal inputs with the HDS in the A/T data list.

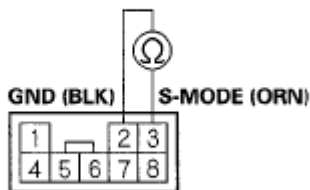
Is sequential sportshift mode SW OFF?

YES - Go to step 4.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the transmission gear selection switch and the PCM.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector.
6. Check for continuity between transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminals No. 2 and No. 3.

**TRANSMISSION GEAR SELECTION SWITCH/
PARK PIN SWITCH/A/T GEAR POSITION
INDICATOR PANEL LIGHT CONNECTOR**



Terminal side of male terminals

Fig. 135: Checking Continuity Between Transmission Gear Selection Switch Connector Terminals No. 2 And No. 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity when the shift lever is in M, and no continuity when the shift lever is shifted out of the

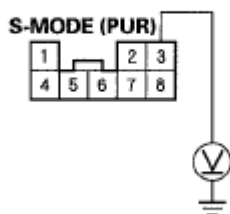
M?

YES - Go to step 7.

NO - Replace the transmission gear selection switch (see **TRANSMISSION GEAR SELECTION SWITCH TEST**), then go to step 17.

7. Turn the ignition switch to ON (II).
8. Measure the voltage between transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminal No. 3 and body ground.

**TRANSMISSION GEAR SELECTION SWITCH/
PARK PIN SWITCH/A/T GEAR POSITION
INDICATOR PANEL LIGHT CONNECTOR**



Wire side of female terminals

Fig. 136: Measuring Voltage Between Transmission Gear Selection Switch Connector Terminal No. 3 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

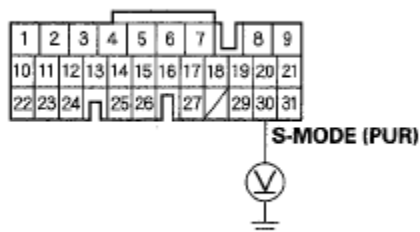
Is there battery voltage?

YES - Repair open in the wire between transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminal No. 2 and ground (G503), or repair poor ground (G503), then go to step 17.

NO - Go to step 9.

9. Measure the voltage between PCM connector terminal E30 and body ground.

PCM CONNECTOR E (31P)



Wire side of female terminals

Fig. 137: Measuring Voltage Between PCM Connector Terminal E30 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Repair open in the wire between PCM connector terminal E30 and the transmission gear selection switch connector, then go to step 17.

NO - Go to step 10.

10. Connect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector.
11. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
12. Start the engine, and shift to M while pressing the brake pedal firmly.
13. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least twice.
14. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least twice.
15. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0958 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 16.

16. Monitor the OBD STATUS for P0958 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

17. Clear the DTC with the HDS.
18. Start the engine, and shift to M while pressing the brake pedal firmly.
19. Push the shift lever toward the upshift position (+) slowly, and release it; repeat this test at least twice.
20. Pull the shift lever toward the downshift position (-) slowly, and release it; repeat this test at least twice.
21. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

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Is DTC P0958 indicated?

YES - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1.

NO - Go to step 22.

22. Monitor the OBD STATUS for P0958 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 21, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission gear selection switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 18 and recheck.

DTC P0962: Problem in A/T Clutch Pressure Control Solenoid Valve A Circuit

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Check that DTC P0962 recurs.

Is DTC P0962 indicated?

YES - Go to step 6.

NO - Go to step 3.

3. Select Clutch Pressure Control (Linear) Solenoid A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

Does the HDS indicate NORMAL?

YES - Go to step 4.

NO - Go to step 6.

4. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T Clutch Pressure Control Solenoid Valve A at 1.0 A.

5. Monitor the OBD STATUS for P0962 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

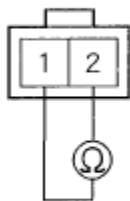
Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at A/T clutch pressure control solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the A/T clutch pressure control solenoid valve A connector.
8. Measure the resistance between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE A CONNECTOR**



Terminal side of male terminals

Fig. 138: Measuring Resistance Between Clutch Pressure Control Solenoid Valve A Connector Terminals No. 1 And No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

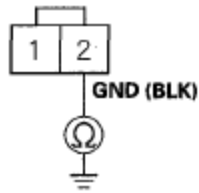
Is there 3-10 ohms?

YES - Go to step 9.

NO - Replace the A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**), then go to step 22.

9. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 2 and body ground.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE A CONNECTOR**



Wire side of female terminals

Fig. 139: Checking Continuity Between Clutch Pressure Control Solenoid Valve A Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

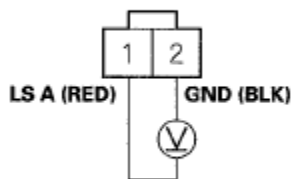
Is there continuity?

YES - Go to step 10.

NO - Repair open in the wire between A/T clutch pressure control solenoid valve A and ground (G101, G102), or repair poor ground (G101, G102), then go to step 22.

10. Turn the ignition switch to ON (II).
11. Measure the voltage between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE A CONNECTOR**



Wire side of female terminals

Fig. 140: Measuring Voltage Between Clutch Pressure Control Solenoid Valve A Connector Terminals No. 1 And No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 12.

NO - Repair open or short in the wire between PCM connector terminal C7 and A/T clutch pressure control solenoid valve A, then go to step 22.

12. Measure the voltage between PCM connector terminals A10 and A3 or B15.

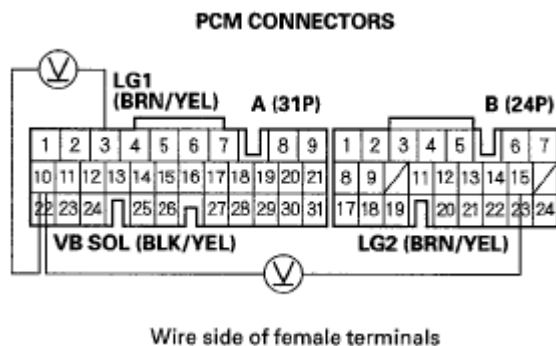


Fig. 141: Measuring Voltage Between PCM Connector Terminals A10 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 17.

NO - Go to step 13.

13. Turn the ignition switch to LOCK (0).
 14. Jump the SCS line with the HDS.
 15. Disconnect PCM connectors A (31P) and B (24P).
 16. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

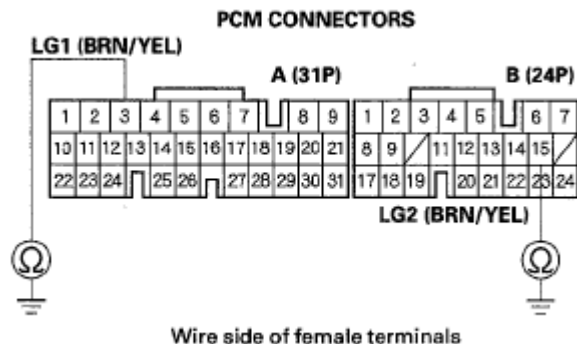


Fig. 142: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 18 fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between PCM connector terminal A10 and the under-dash fuse/relay box, then go to step 22.

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NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 22.

17. Connect the A/T clutch pressure Control solenoid valve A connector.
18. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
19. Start the engine, and wait for at least 1 second.
20. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0962 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 21.

21. Monitor the OBD STATUS for P0962 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 19 and recheck.

22. Clear the DTC with the HDS.
23. Start the engine, and wait for at least 1 second.
24. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0962 indicated?

YES - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve A and the PCM, then go to step 1.

NO - Go to step 25.

25. Monitor the OBD STATUS for P0962 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 24, go to the **INDICATED**

DTC'S TROUBLESHOOTING.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 23 and recheck.

DTC P0963: Problem in A/T Clutch Pressure Control Solenoid Valve A**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Check that DTC P0963 recurs.

Is DTC P0963 indicated?

YES - Go to step 6.

NO - Go to step 3.

3. Select Clutch Pressure Control (Linear) Solenoid A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

Does the HDS indicate NORMAL?

YES - Go to step 4.

NO - Go to step 6.

4. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T Clutch Pressure Control Solenoid Valve A at 0.2 A.
5. Monitor the OBD STATUS for P0963 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

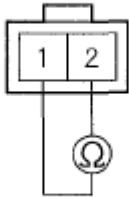
YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at A/T clutch pressure control solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the A/T clutch pressure control solenoid valve A connector.

8. Measure the resistance between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE A CONNECTOR**



Terminal side of male terminals

Fig. 143: Measuring Resistance Between Clutch Pressure Control Solenoid Valve A Connector Terminals No. 1 And No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

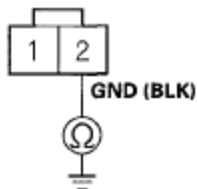
Is there 3-10 ohms?

YES - Go to step 9.

NO - Replace the A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**), then go to step 15.

9. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 2 and body ground.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE A CONNECTOR**



Wire side of female terminals

Fig. 144: Checking Continuity Between Clutch Pressure Control Solenoid Valve A Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 10.

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NO - Repair open in the wire between A/T clutch pressure control solenoid valve A and ground (G101, G102), or repair poor ground (G101, G102), then go to step 15.

10. Connect the A/T clutch pressure control solenoid valve A connector.
11. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
12. Start the engine, and wait for at least 1 second.
13. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0963 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 14.

14. Monitor the OBD STATUS for P0963 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 13, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

15. Clear the DTC with the HDS.
16. Start the engine, and wait for at least 1 second.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0963 indicated?

YES - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve A and the PCM, then go to step 1.

NO - Go to step 16.

18. Monitor the OBD STATUS for P0963 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 17, go to the **INDICATED**

DTC'S TROUBLESHOOTING.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

DTC P0966: Problem in A/T Clutch Pressure Control Solenoid Valve B Circuit**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Check that DTC P0966 recurs.

Is DTC P0966 indicated?

YES - Go to step 6.

NO - Go to step 3.

3. Select Clutch Pressure Control (Linear) Solenoid B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

Does the HDS indicate NORMAL?

YES - Go to step 4.

NO - Go to step 6.

4. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T Clutch Pressure Control Solenoid Valve B at 1.0 A.
5. Monitor the OBD STATUS for P0966 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

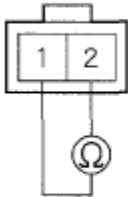
YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at A/T clutch pressure control solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the A/T clutch pressure control solenoid valve B connector.

8. Measure the resistance between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE B CONNECTOR**



Terminal side of male terminals

Fig. 145: Measuring Resistance Between Clutch Pressure Control Solenoid Valve B Connector Terminals No. 1 And No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

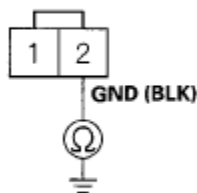
Is there 3-10 ohms?

YES - Go to step 9.

NO - Replace the A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**), then go to step 22.

9. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 2 and body ground.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE B CONNECTOR**



Wire side of female terminals

Fig. 146: Checking Continuity Between Clutch Pressure Control Solenoid Valve B Terminal No. 2 And Body Ground

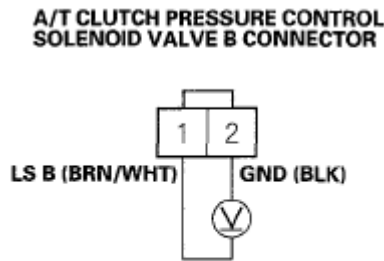
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 10.

NO - Repair open in the wire between A/T clutch pressure control solenoid valve B and ground (G101, G102), or repair poor ground (G101, G102), then go to step 22.

10. Turn the ignition switch to ON (II).
11. Measure the voltage between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.



Wire side of female terminals

Fig. 147: Measuring Voltage Between Clutch Pressure Control Solenoid Valve B Connector Terminals No. 1 And No. 2

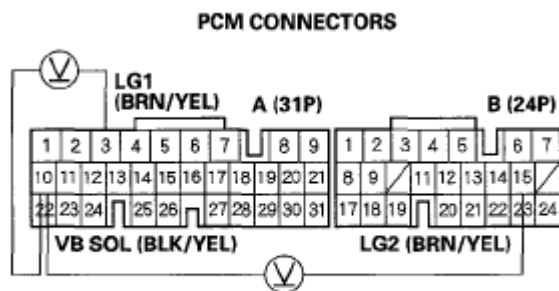
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 12.

NO - Repair open or short in the wire between PCM connector terminal C15 and A/T clutch pressure control solenoid valve B, then go to step 22.

12. Measure the voltage between PCM connector terminals A10 and A3 or B15.



Wire side of female terminals

Fig. 148: Measuring Voltage Between PCM Connector Terminals A10 And A3 Or B15

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 17.

NO - Go to step 13.

13. Turn the ignition switch to LOCK (0).
14. Jump the SCS line with the HDS.
15. Disconnect PCM connectors A (31P) and B (24P).
16. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

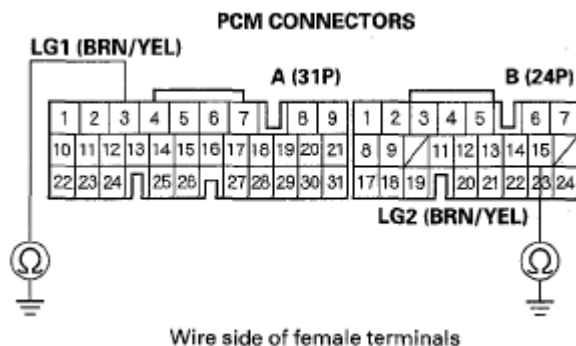


Fig. 149: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 18 fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between PCM connector terminal A10 and the under-dash fuse/relay box, then go to step 22.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 22.

17. Connect the A/T clutch pressure control solenoid valve B connector.
18. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
19. Start the engine, and wait for at least 1 second.
20. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0966 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 21.

21. Monitor the OBD STATUS for P0966 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

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Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 19 and recheck.

22. Clear the DTC with the HDS.
23. Start the engine, and wait for at least 1 second.
24. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0966 indicated?

YES - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve B and the PCM, then go to step 1.

NO - Go to step 25.

25. Monitor the OBD STATUS for P0966 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 23 and recheck.

DTC P0967: Problem in A/T Clutch Pressure Control Solenoid Valve B

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Check that DTC P0967 recurs.

Is DTC P0967 indicated?

YES - Go to step 6.

NO - Go to step 3.

3. Select Clutch Pressure Control (Linear) Solenoid B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

Does the HDS indicate NORMAL?

YES - Go to step 4.

NO - Go to step 6.

4. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T Clutch Pressure Control Solenoid Valve B at 0.2 A.
5. Monitor the OBD STATUS for P0967 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

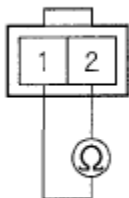
Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at A/T clutch pressure control solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the A/T clutch pressure control solenoid valve B connector.
8. Measure the resistance between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE B CONNECTOR**



Terminal side of male terminals

Fig. 150: Measuring Resistance Between Clutch Pressure Control Solenoid Valve B Connector Terminals No. 1 And No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

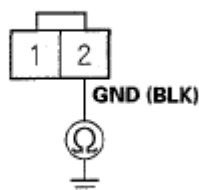
Is there 3-10 ohms?

YES - Go to step 9.

NO - Replace the A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**), then go to step 15.

9. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 2 and body ground.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE B CONNECTOR**



Wire side of female terminals

Fig. 151: Checking Continuity Between Clutch Pressure Control Solenoid Valve B Terminal No. 2 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 10.

NO - Repair open in the wire between A/T clutch pressure control solenoid valve B and ground (G101, G102), or repair poor ground (G101, G102), then go to step 15.

10. Connect the A/T clutch pressure control solenoid valve B connector.
11. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
12. Start the engine, and wait for at least 1 second.
13. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0967 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 14.

14. Monitor the OBD STATUS for P0967 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

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YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 13, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

15. Clear the DTC with the HDS.
16. Start the engine, and wait for at least 1 second.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0967 indicated?

YES - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve Band the PCM, then go to step 1.

NO - Go to step 18.

18. Monitor the OBD STATUS for P0967 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 17, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve Band the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

DTC P0970: Problem in A/T Clutch Pressure Control Solenoid Valve C Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Check that DTC P0970 recurs.

Is DTC P0970 indicated?

YES - Go to step 6.

NO - Go to step 3.

3. Select Clutch Pressure Control (Linear) Solenoid C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

Does the HDS indicate NORMAL?

YES - Go to step 4.

NO - Go to step 6.

4. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T Clutch Pressure Control Solenoid Valve C at 1.0 A.
5. Monitor the OBD STATUS for P0970 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

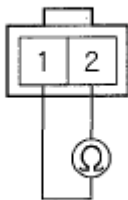
Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at A/T clutch pressure control solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the A/T clutch pressure control solenoid valve C connector.
8. Measure the resistance between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE C CONNECTOR**



Terminal side of male terminals

Fig. 152: Measuring Resistance Between Clutch Pressure Control Solenoid Valve C Connector Terminals No. 1 And 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

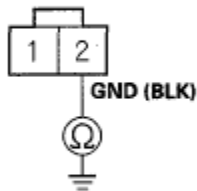
Is there 3-10 ohms?

YES - Go to step 9.

NO - Replace the A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C REPLACEMENT**), then go to step 22.

9. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 2 and body ground.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE C CONNECTOR**



Wire side of female terminals

Fig. 153: Checking Continuity Between Clutch Pressure Control Solenoid Valve C Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

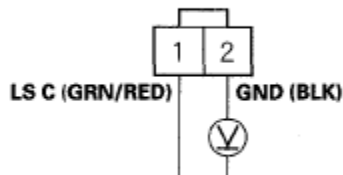
Is there continuity?

YES - Go to step 10.

NO - Repair open in the wire between A/T clutch pressure control solenoid valve C and ground (G101, G102), or repair poor ground (G101, G102), then go to step 22.

10. Turn the ignition switch to ON (II).
11. Measure the voltage between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE C CONNECTOR**



Wire side of female terminals

Fig. 154: Measuring Voltage Between Clutch Pressure Control Solenoid Valve C Connector Terminals No. 1 And 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 12.

NO - Repair open or short in the wire between PCM connector terminal C22 and A/T clutch pressure control solenoid valve C, then go to step 22.

12. Measure the voltage between PCM connector terminals A10 and A3 or B15.

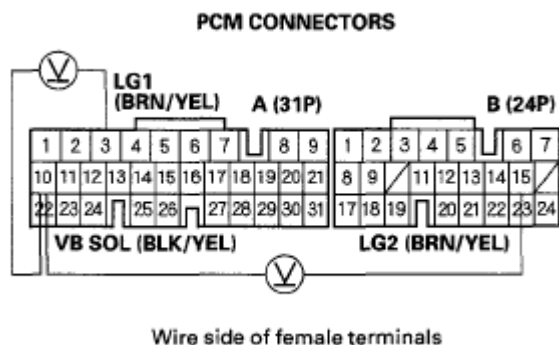


Fig. 155: Measuring Voltage Between PCM Connector Terminals A10 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 17.

NO - Go to step 13.

13. Turn the ignition switch to LOCK (0).
 14. Jump the SCS line with the HDS.
 15. Disconnect PCM connectors A (31P) and B (24P).
 16. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

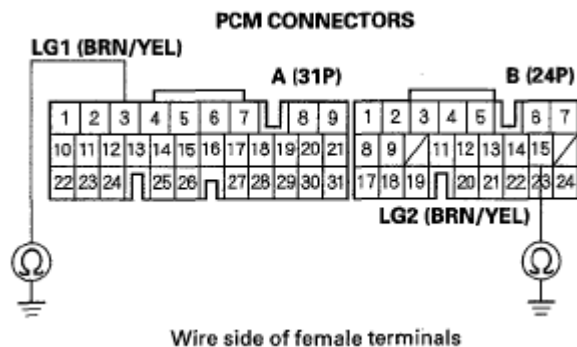


Fig. 156: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 18 fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between PCM connector terminal A10 and the under-dash fuse/relay box, then go to step 22.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 22.

17. Connect the A/T clutch pressure control solenoid valve C connector.
18. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
19. Start the engine, and wait for at least 1 second.
20. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0970 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 21.

21. Monitor the OBD STATUS for P0970 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 19 and recheck.

22. Clear the DTC with the HDS.
23. Start the engine, and wait for at least 1 second.
24. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0970 indicated?

YES - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve C and the PCM, then go to step 1.

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NO - Go to step 25.

25. Monitor the OBD STATUS for P0970 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve C and the PCM, then go to step 1, If the HDS indicates NOT COMPLETED, return to step 23 and recheck.

DTC P0971: Problem in A/T Clutch Pressure Control Solenoid Valve C

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Check that DTC P0971 recurs.

Is DTC P0971 indicated?

YES - Go to step 6.

NO - Go to step 3.

3. Select Clutch Pressure Control (Linear) Solenoid C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

Does the HDS indicate NORMAL?

YES - Go to step 4.

NO - Go to step 6.

4. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T Clutch Pressure Control Solenoid Valve C at 0.2 A.
5. Monitor the OBD STATUS for P0971 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

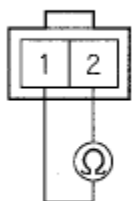
Does the HDS indicate FAILED?

YES - Go to step 6.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at A/T clutch pressure control solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, return to step 3 and recheck.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the A/T clutch pressure control solenoid valve C connector.
8. Measure the resistance between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE C CONNECTOR**



Terminal side of male terminals

Fig. 157: Measuring Resistance Between Clutch Pressure Control Solenoid Valve C Connector Terminals No. 1 And 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

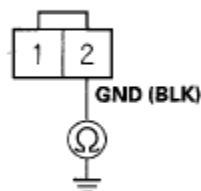
Is there 3-10 ohms?

YES - Go to step 9.

NO - Replace the A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C REPLACEMENT**), then go to step 15.

9. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 2 and body ground.

**A/T CLUTCH PRESSURE CONTROL
SOLENOID VALVE C CONNECTOR**



Wire side of female terminals

Fig. 158: Checking Continuity Between Clutch Pressure Control Solenoid Valve C Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 10.

NO - Repair open in the wire between A/T clutch pressure control solenoid valve C and ground (G101, G102), or repair poor ground (G101, G102), then go to step 15.

10. Connect the A/T clutch pressure control solenoid valve C connector.
11. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
12. Start the engine, and wait for at least 1 second.
13. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0971 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 14.

14. Monitor the OBD STATUS for P0971 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 13, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

15. Clear the DTC with the HDS.
16. Start the engine, and wait for at least 1 second.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0971 indicated?

YES - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve C and the PCM, then go to step 1.

NO - Go to step 18.

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18. Monitor the OBD STATUS for P0971 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 17, go to the **INDICATED DTC'S TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at A/T clutch pressure control solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

DTC P0973: Short in Shift Solenoid Valve A Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Start the engine. With the brake pedal pressed, shift to R, and wait for at least 1 second.
3. Check that DTC P0973 recurs.

Is DTC P0973 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid A in Miscellaneous Test Menu, and test shift solenoid valve A with the HDS.

Is a clicking sound heard ?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine. With the brake pedal pressed, shift to the R, and wait for at least 1 second.
6. Monitor the OBD STATUS for P0973 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

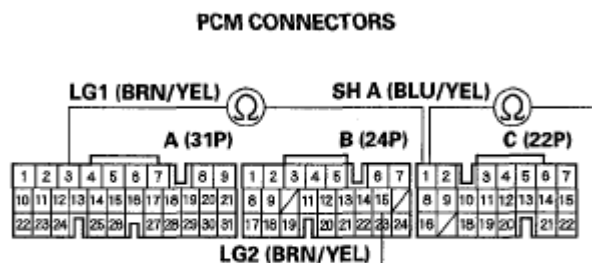
Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check the SH A wire for an intermittent short between shift solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, return to step 4.

and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C1 and A3 or B15.



Wire side of female terminals

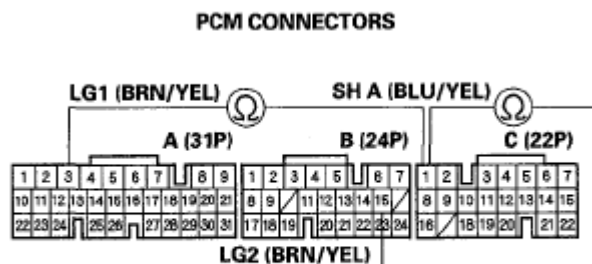
Fig. 159: Measuring Resistance Between PCM Connector Terminals C1 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there less than 12 ohms?

YES - Go to step 11.

NO - Go to step 19.

11. Disconnect the shift solenoid harness connector at the transmission housing.
12. Check for continuity between PCM connector terminals C1 and A3 or B15.



Wire side of female terminals

Fig. 160: Checking Continuity Between PCM Connector Terminals C1 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C1 and the shift solenoid harness

connector, then go to step 24.

NO - Go to step 13.

13. Inspect shift solenoid valve A (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).

Is shift solenoid valve A OK?

YES - Go to step 14.

NO - Replace shift solenoid valve A or the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 24.

14. Disconnect PCM connector D (17P).
 15. Turn the ignition switch to ON (II).
 16. Measure the voltage between PCM connector terminals D12 and A3 or B15.

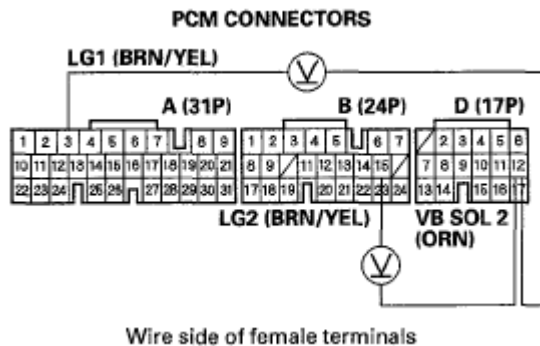


Fig. 161: Measuring Voltage Between PCM Connector Terminals D12 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 19.

NO - Go to step 17.

17. Turn the ignition switch to LOCK (0).
 18. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

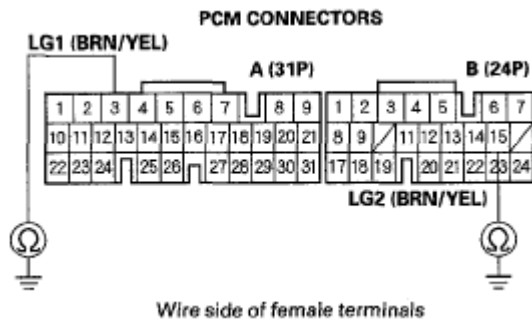


Fig. 162: Checking Continuity Between PCM Connector Terminal A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 20 fuse in the driver's under-dash fuse/relay box. If the fuse is OK, repair open in the wire between PCM connector terminal D12 and the driver's under-dash fuse/relay box, then go to step 24.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 24.

19. Reconnect all connectors.
20. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
21. Start the engine in P. With the brake pedal pressed, shift to R, and wait for at least 1 second, then move the shift lever back into P.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0973 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0973 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the

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PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 21 and recheck.

24. Clear the DTC with the HDS.
25. Start the engine in P. With the brake pedal pressed, shift to R, and wait for at least 1 second, then move the shift lever back into P.
26. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0973 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve A and the PCM, then go to step 1.

NO - Go to step 27.

27. Monitor the OBD STATUS for P0973 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 26, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [25](#) and recheck.

DTC P0974: Open in Shift Solenoid Valve A Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Start the engine in P, and wait for at least 1 second.
3. Check that DTC P0974 recurs.

Is DTC P0974 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid A in Miscellaneous Test Menu, and test shift solenoid valve A with the HDS.

Is a clicking sound heard ?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine in P, and wait for at least 1 second.
6. Monitor the OBD STATUS for P0974 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at shift solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C1 and A3 or B15.

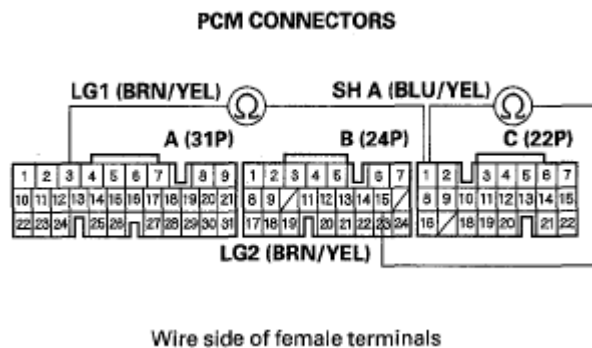


Fig. 163: Measuring Resistance Between PCM Connector Terminals C1 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 12-25 ohms?

YES - Go to step 15.

NO - Go to step 11.

11. Disconnect the shift solenoid harness connector.
12. Check for continuity between PCM connector terminal C1 and shift solenoid harness connector terminal No. 3.

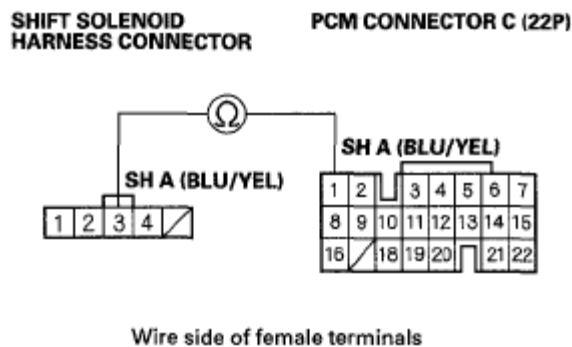


Fig. 164: Checking Continuity Between PCM Connector Terminal C1 And Shift Solenoid Connector Terminal No. 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 13.

NO - Repair open in the wire between PCM connector terminal C1 and the shift solenoid harness connector, then go to step 20.

13. Remove the shift solenoid harness connector (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).
14. Check for continuity between shift solenoid harness connector terminal No. 3 and the shift solenoid valve A connector terminal.

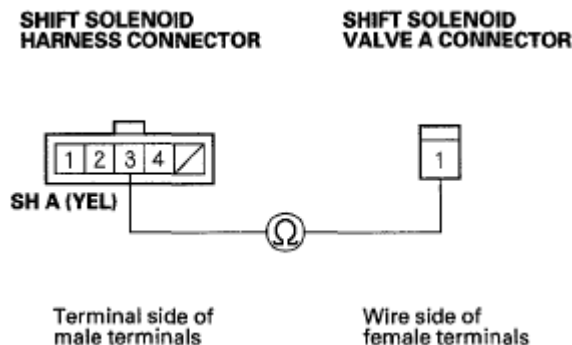


Fig. 165: Checking Continuity Between Shift Solenoid Terminal No. 3 And Shift Solenoid Valve A Connector Terminal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Replace shift solenoid valve A (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

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NO - Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

15. Connect PCM connectors A (31P), B (24P), and C(22P).
16. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
17. Start the engine in P. With the brake pedal pressed, shift to R, and wait for at least 1 second, then move the shift lever back into P.
18. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0974 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 19.

19. Monitor the OBD STATUS for P0974 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 18, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 17 and recheck.

20. Clear the DTC with the HDS.
21. Start the engine in P. With the brake pedal pressed, shift to R, and wait for at least 1 second, then move the shift lever back into P.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0974 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve A and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0974 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

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YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [21](#) and recheck.

DTC P0976: Short in Shift Solenoid Valve B Circuit

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Start the engine in P, and wait for at least 1 second.
3. Check that DTC P0976 recurs.

Is DTC P0976 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid B in Miscellaneous Test Menu, and test shift solenoid valve B with the HDS.

Is a clicking sound heard?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine in P, and wait for at least 1 second.
6. Monitor the OBD STATUS for P0976 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check the SH B wire for an intermittent short between shift solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED* return to step 4 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.

9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C8 and A3 or B15.

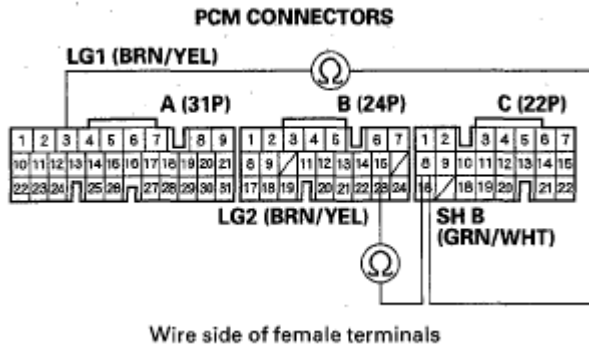


Fig. 166: Measuring Resistance Between PCM Connector Terminals C8 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there less than 12 ohms?

YES - Go to step 11.

NO - Go to step 18.

11. Disconnect the shift solenoid harness connector at the transmission housing.
12. Check for continuity between PCM connector terminals C8 and A3 or B15.

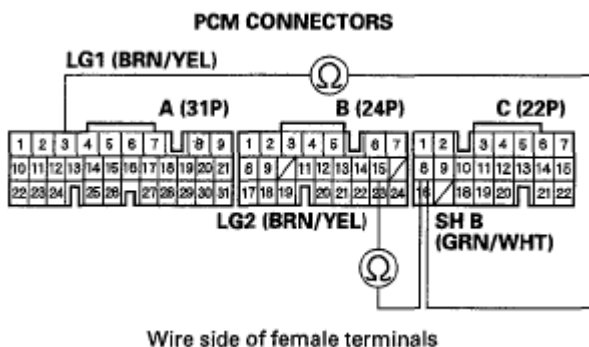


Fig. 167: Checking Continuity Between PCM Connector Terminals C8 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C8 and the shift solenoid harness connector, then go to step 23.

NO - Go to step 13.

13. Inspect shift solenoid valve B (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).

Is shift solenoid valve B OK?

YES - Go to step 14.

NO - Replace shift solenoid valve B or the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 23.

14. Turn the ignition switch to ON (II).
15. Measure the voltage between PCM connector terminals A4 and A3 or B15.

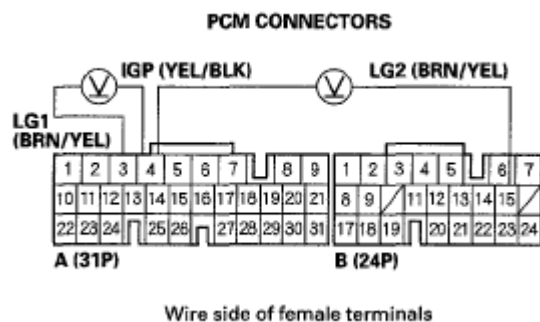


Fig. 168: Measuring Voltage Between PCM Connector Terminals A4 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 18.

NO - Go to step 16.

16. Turn the ignition switch to LOCK (0).
17. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

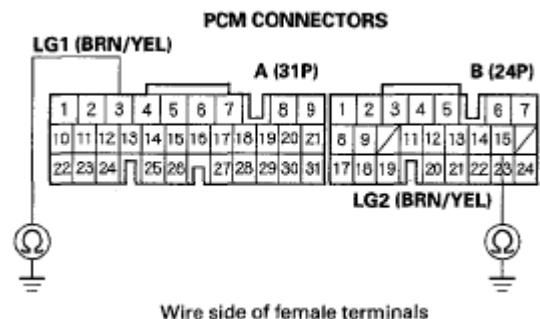


Fig. 169: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 23 fuse in the driver's under-dash fuse/relay box. If the fuse is OK, repair open in the wire between PCM connector terminal A4 and the driver's under-dash fuse/relay box, then go to step 23.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 23.

18. Reconnect all connectors.
19. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
20. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 3rd or 4th gear at least 1 second, then slow down to a stop.
21. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0976 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 22.

22. Monitor the OBD STATUS for P0976 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 21, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 20 and recheck.

23. Clear the DTC with the HDS.
24. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 3rd or 4th gear at least 1 second, then slow down to a stop.
25. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0976 indicated?

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YES - Check for poor connections and loose terminals at shift solenoid valve B and the PCM, then go to step 1.

NO - Go to step 26.

26. Monitor the OBD STATUS for P0976 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 25, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [24](#) and recheck.

DTC P0977: Open in Shift Solenoid Valve B Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Test-drive the vehicle in 3rd or 4th gear in D for at least 1 second, then slow down to a stop.
3. Check that DTC P0977 recurs.

Is DTC P0977 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid B in Miscellaneous Test Menu, and test shift solenoid valve B with the HDS.

Is a clicking sound heard?

YES - Go to step 5.

NO - Go to step 7.

5. Test-drive the vehicle in 3rd or 4th gear in D for at least 1 second, then slow down to a stop.
6. Monitor the OBD STATUS for P0977 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at shift solenoid valve Band the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C8 and A3 or B15.

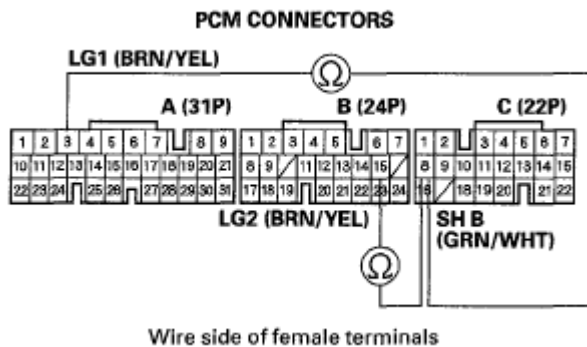


Fig. 170: Measuring Resistance Between PCM Connector Terminals C8 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 12-25 ohms?

YES - Go to step 15.

NO - Go to step 11.

11. Disconnect the shift solenoid harness connector.
12. Check for continuity between PCM connector terminal C8 and shift solenoid harness connector terminal No. 4.

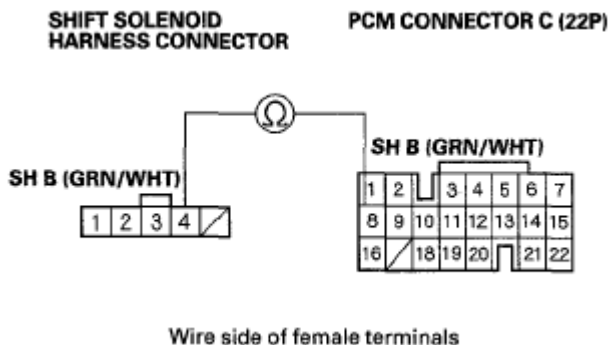


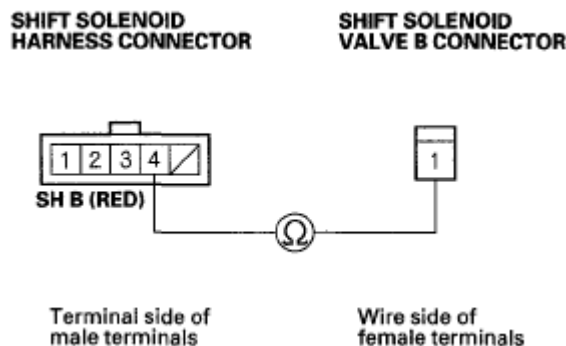
Fig. 171: Checking Continuity Between PCM Connector Terminal C8 And Shift Solenoid

Connector Terminal No. 4

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there continuity?***YES** - Go to step 13.**NO** - Repair open in the wire between PCM connector terminal C8 and the shift solenoid harness connector, then go to step 20.

13. Remove the shift solenoid harness connector (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).
14. Check for continuity between shift solenoid harness connector terminal No. 4 and the shift solenoid valve B connector terminal.

**Fig. 172: Checking Continuity Between Shift Solenoid Terminal No. 4 And Shift Solenoid Valve B Terminal**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there continuity?***YES** - Replace shift solenoid valve B (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.**NO** - Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

15. Connect PCM connectors A (31P), B(24P), and C (22P).
16. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
17. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 3rd or 4th gear at least 1 second, then slow down to a stop.
18. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0977 indicated?

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YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 19.

19. Monitor the OBD STATUS for P0977 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 18, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 17 and recheck.

20. Clear the DTC with the HDS.
21. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 3rd or 4th gear at least 1 second, then slow down to a stop.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0977 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve B and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0977 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [21](#) and recheck.

DTC P0979: Short in Shift Solenoid Valve C Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).

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- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Start the engine, and run the vehicle in 1st gear in D for at least 1 second.
3. Check that DTC P0979 recurs.

Is DTC P0979 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid C in Miscellaneous Test Menu, and test shift solenoid valve C with the HDS.

Is a clicking sound heard?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine, and run the vehicle in 1st gear in D for at least 1 second.
6. Monitor the OBD STATUS for P0979 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check the SH C wire for an intermittent short between shift solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C16 and A3 or B15.

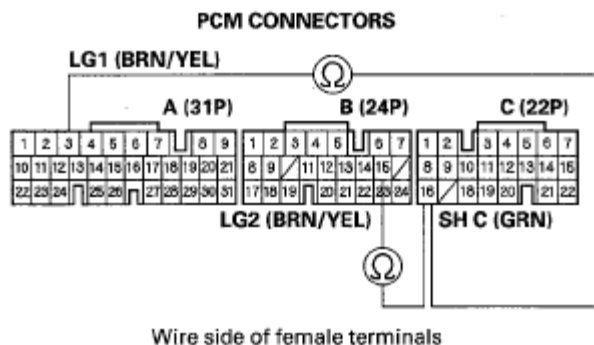


Fig. 173: Measuring Resistance Between PCM Connector Terminals C16 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there less than 12 ohms?

YES - Go to step 11.

NO - Go to step 18.

11. Disconnect shift solenoid harness connector at the transmission housing.
12. Check for continuity between PCM connector terminals C16 and A3 or B15.

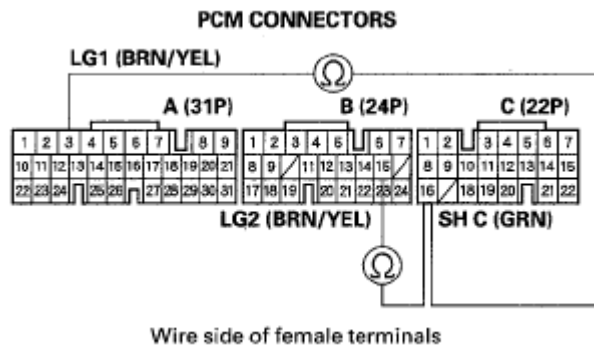


Fig. 174: Checking Continuity Between PCM Connector Terminals C16 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C16 and the shift solenoid harness connector, then go to step 23.

NO - Go to step 13.

13. Inspect shift solenoid valve C (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).

Is shift solenoid valve C OK?

YES - Go to step 14.

NO - Replace shift solenoid valve C or the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 23.

14. Turn the ignition switch to ON (II).
15. Measure the voltage between PCM connector terminals A4 and A3 or B15.

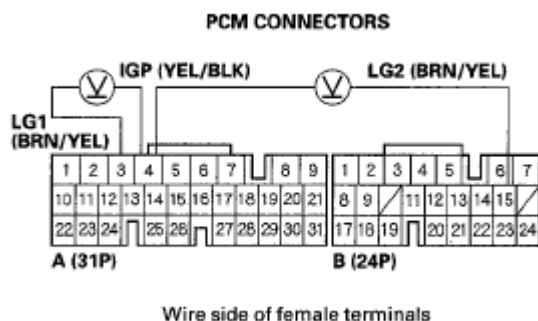


Fig. 175: Measuring Voltage Between PCM Connector Terminals A4 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 18.

NO - Go to step 16.

16. Turn the ignition switch to LOCK (0).
17. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

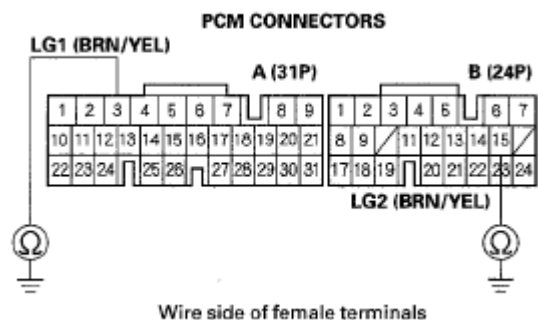


Fig. 176: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 23 fuse in the driver's under-dash fuse/relay box. If the fuse is OK, repair

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open in the wire between PCM connector terminal A4 and the driver's under-dash fuse/relay box, then go to step 23.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 23.

18. Reconnect all connectors.
19. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
20. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 3rd or 4th gear at least 1 second, then slow down to a stop. Put the shift lever into N or P.
21. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0979 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 22.

22. Monitor the OBD STATUS for P0979 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 21, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 20 and recheck.

23. Clear the DTC with the HDS.
24. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 3rd or 4th gear at least 1 second, then slow down to a stop. Put the shift lever into N or P.
25. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

is DTC P0979 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve C and the PCM, then go to step 1.

NO - Go to step 26.

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26. Monitor the OBD STATUS for P0979 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 25, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [24](#) and recheck.

DTC P0980: Open in Shift Solenoid Valve C Circuit

NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Start the engine in P, and wait for at least 1 second.
3. Check that DTC P0980 recurs.

Is DTC P0980 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid C in Miscellaneous Test Menu, and test shift solenoid valve C with the HDS.

Is a clicking sound heard?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine, and run the vehicle in 1st gear in D for at least 1 second.
6. Monitor the OBD STATUS for P0980 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at shift solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and

recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C16 and A3 or B15.

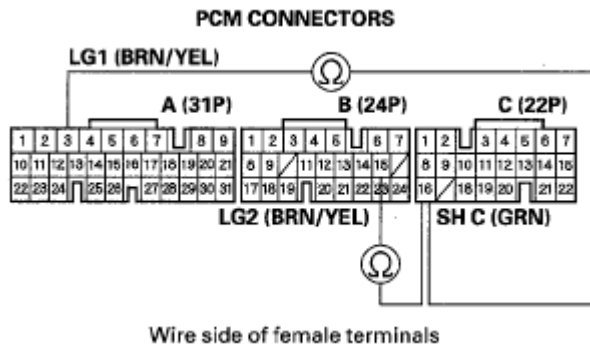


Fig. 177: Measuring Resistance Between PCM Connector Terminals C16 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 12-25 ohms?

YES - Go to step 15.

NO - Go to step 11.

11. Disconnect the shift solenoid harness connector.
12. Check for continuity between PCM connector terminal C16 and shift solenoid harness connector terminal No. 2.

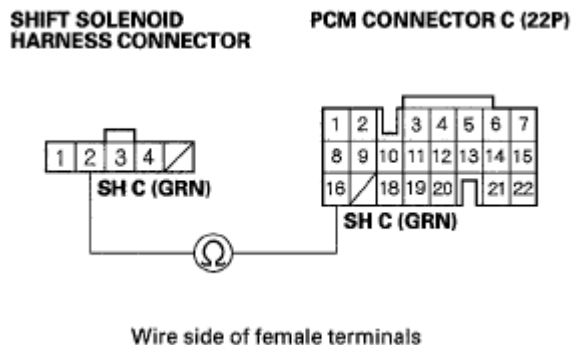


Fig. 178: Checking Continuity Between PCM Connector Terminal C16 And Shift Solenoid Connector Terminal No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 13.

NO - Repair open in the wire between PCM connector terminal C16 and the shift solenoid harness connector, then go to step 20.

13. Remove the shift solenoid harness connector (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).
14. Check for continuity between shift solenoid harness connector terminal No. 2 and the shift solenoid valve C connector terminal.

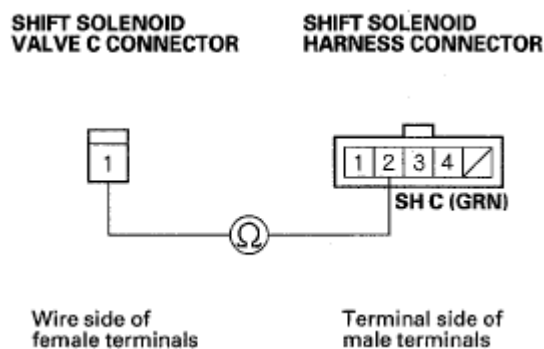


Fig. 179: Checking Continuity Between Shift Solenoid Terminal No. 2 And Shift Solenoid Valve C Connector Terminal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Replace shift solenoid valve C (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

NO - Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

15. Connect PCM connectors A (31P), B(24P), and C (22P).
16. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
17. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 1st gear at least 1 second, then slow down to a stop. Put the shift lever into N or P.
18. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0980 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 19.

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19. Monitor the OBD STATUS for P0980 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 18, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 17 and recheck.

20. Clear the DTC with the HDS.
21. Start the engine in P, wait for at least 1 second, then test-drive the vehicle in D. Run the vehicle in 1st gear at least 1 second, then slow down to a stop. Put the shift lever into N or P.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0980 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve C and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0980 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [21](#) and recheck.

DTC P0982: Short in Shift Solenoid Valve D Circuit

NOTE:

- Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).
- This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

1. Clear the DTC with the HDS.
2. Start the engine in P, and wait for at least 1 second.

3. Check that DTC P0982 recurs.

Is DTC P0982 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid D in Miscellaneous Test Menu, and test shift solenoid valve D with the HDS.

Is a clicking sound heard?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine in P, and wait for at least 1 second.

6. Monitor the OBD STATUS for P0982 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check the SH D wire for an intermittent short between shift solenoid valve D and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C2 and A3 or B15.

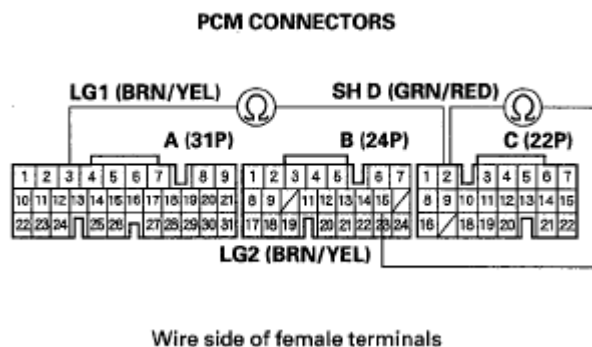


Fig. 180: Measuring Resistance Between PCM Connector Terminals C2 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there less than 12 ohms?

YES - Go to step 11.

NO - Go to step 19.

11. Disconnect shift solenoid harness connector at the transmission housing.
12. Check for continuity between PCM connector terminals C2 and A3 or B15.

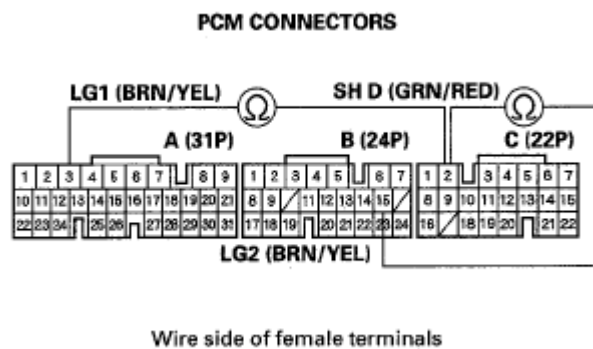


Fig. 181: Checking Continuity Between PCM Connector Terminals C2 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short in the wire between PCM connector terminal C2 and the shift solenoid harness connector, then go to step 24.

NO - Go to step 13.

13. Inspect shift solenoid valve D (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**).

Is shift solenoid valve D OK?

YES - Go to step 14.

NO - Replace shift solenoid valve D or the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 16.

14. Disconnect PCM connector D (17P).
15. Turn the ignition switch to ON (II).
16. Measure the voltage between PCM connector terminals D12 and A3 or B15.

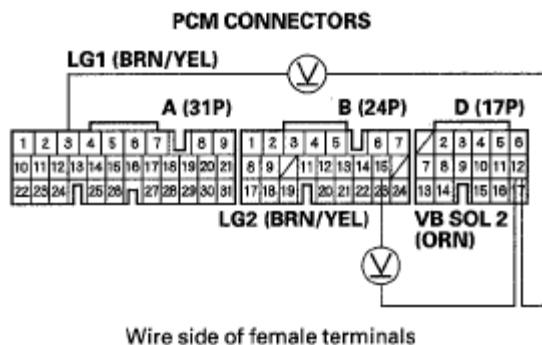


Fig. 182: Measuring Voltage Between PCM Connector Terminals D12 And A3 Or B15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 19.

NO - Go to step 17.

17. Turn the ignition switch to LOCK (0).
18. Check for continuity between PCM connector terminals A3 and body ground, and between B15 and body ground.

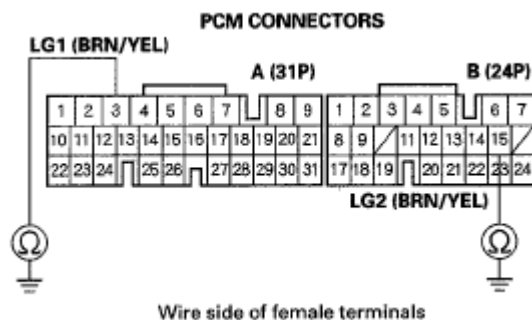


Fig. 183: Checking Continuity Between PCM Connector Terminals A3[B15] And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Check for blown No. 20 fuse in the driver's under-dash fuse/relay box. If the fuse is OK, repair open in the wire between PCM connector terminal D12 and the driver's under-dash fuse/relay box, then go to step 24.

NO - Repair open in the wires between PCM connector terminals A3, B15, and ground (G101, G102), or repair poor ground (G101, G102), then go to step 24.

19. Reconnect all connectors.

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20. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
21. Start the engine in P, and wait for at least 1 second.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0982 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0982 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 21 and recheck.

24. Clear the DTC with the HDS.
25. Start the engine in P, and wait for at least 1 second.
26. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0982 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve D and the PCM, then go to step 1.

NO - Go to step 27.

27. Monitor the OBD STATUS for P0982 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 26, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve D and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [25](#) and recheck.

DTC P0983: Open in Shift Solenoid Valve D Circuit**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Clear the DTC with the HDS.
2. Start the engine in P. With the brake pedal pressed, shift to N, and wait for at least 1 second.
3. Check that DTC P0983 recurs.

Is DTC P0983 indicated?

YES - Go to step 7.

NO - Go to step 4.

4. Select Shift Solenoid D in Miscellaneous Test Menu, and test shift solenoid valve D with the HDS.

Is a clicking sound heard?

YES - Go to step 5.

NO - Go to step 7.

5. Start the engine in P. With the brake pedal pressed, shift to N, and wait for at least 1 second.
6. Monitor the OBD STATUS for P0983 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Go to step 7.

NO - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at shift solenoid valve D and the PCM. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connectors A (31P), B (24P), and C (22P).
10. Measure the resistance between PCM connector terminals C2 and A3 or B15.

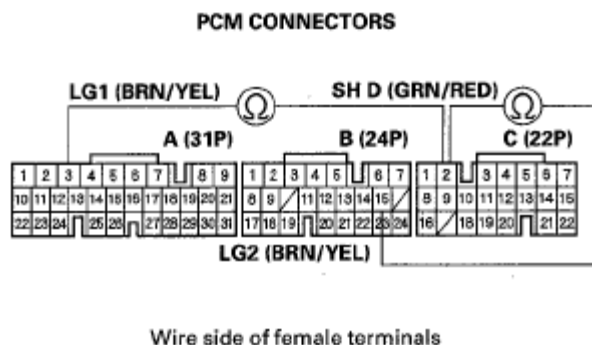


Fig. 184: Measuring Resistance Between PCM Connector Terminals C2 And A3 Or B15
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 12-25 ohms?

YES - Go to step 15.

NO - Go to step 11.

11. Disconnect the shift solenoid harness connector.
12. Check for continuity between PCM connector terminal C2 and shift solenoid harness connector terminal No. 1.

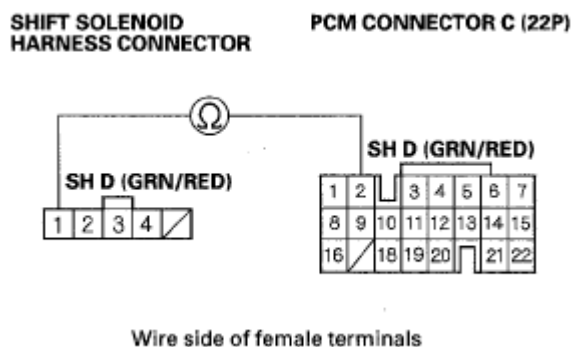


Fig. 185: Checking Continuity Between PCM Connector Terminal C2 And Shift Solenoid Connector Terminal No. 1
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 13.

NO - Repair open in the wire between PCM connector terminal C2 and the shift solenoid harness connector, then go to step 20.

13. Remove the shift solenoid harness connector (see **SHIFT SOLENOID VALVE TEST AND**

REPLACEMENT).

14. Check for continuity between shift solenoid harness connector terminal No. 1 and the shift solenoid valve D connector terminal.

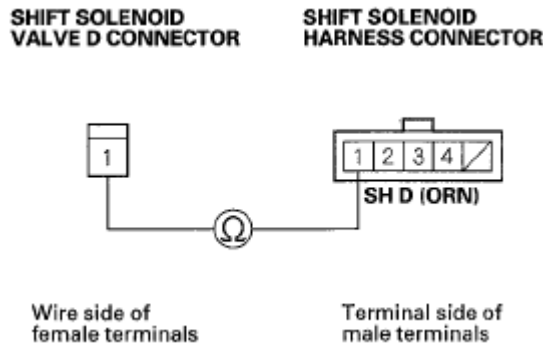


Fig. 186: Checking Continuity Between Shift Solenoid Terminal 1 And Shift Solenoid Valve D Connector Terminal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

NO - Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST AND REPLACEMENT**), then go to step 20.

15. Connect PCM connectors A (31P), B (24P), and C (22P).
16. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
17. Start the engine in P. With the brake pedal pressed, shift to N, and wait for at least 1 second.
18. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0983 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 19.

19. Monitor the OBD STATUS for P0983 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 18, go to the

INDICATED DTCS TROUBLESHOOTING.

NO - Check for poor connections and loose terminals at shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 17 and recheck.

20. Clear the DTC with the HDS.
21. Start the engine in P. With the brake pedal pressed, shift to N, and wait for at least 1 second.
22. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P0983 indicated?

YES - Check for poor connections and loose terminals at shift solenoid valve D and the PCM, then go to step 1.

NO - Go to step 23.

23. Monitor the OBD STATUS for P0983 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 22, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at shift solenoid valve D and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step [21](#) and recheck.

DTC P1717: Open in Transmission Range Switch ATP RVS Switch Circuit**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see **GENERAL TROUBLESHOOTING INFORMATION**).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Shift to R, and check the A/T R SWITCH signal with the HDS in the A/T data list.

Is the A/T R SWITCH ON?

YES - Go to step 3.

NO - Check for proper transmission range switch installation (see **TRANSMISSION RANGE SWITCH TEST**), and adjust the shift cable (see **SHIFT CABLE ADJUSTMENT**), then recheck.

3. Check the REVERSE SWITCH signal with the HDS.

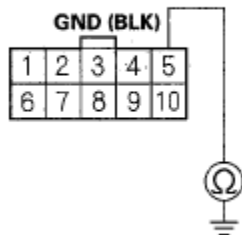
Is the REVERSE SWITCH ON?

YES - Intermittent failure, the system is OK at this time.

NO - Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the transmission range switch connector.
6. Check for continuity between transmission range switch connector terminal No. 5 and body ground.

**TRANSMISSION RANGE
SWITCH CONNECTOR**



Wire side of female terminals

Fig. 187: Checking Continuity Between Transmission Range Switch Connector Terminal No. 5 And Body Ground

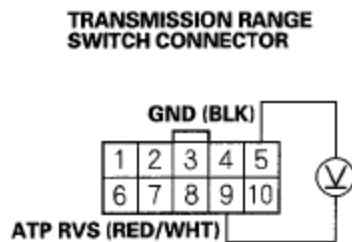
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 7.

NO - Repair open in the wire between transmission range switch connector terminal No. 5 and ground (G101, G102), or repair poor ground (G101, G102), then go to step 9.

7. Turn the ignition switch to ON (II).
8. Measure the voltage between transmission range switch connector terminals No. 5 and No. 9.



Wire side of female terminals

Fig. 188: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 9

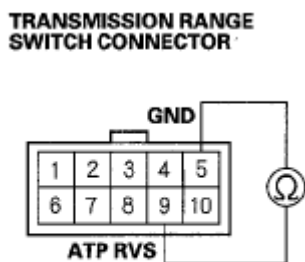
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there voltage?

YES - Go to step 9.

NO - Repair open in the wire between the transmission range switch and PCM connector terminal C21, then go to step 15.

9. Check for continuity between connector terminals No. 5 and No. 9 at the transmission range switch.



Terminal side of male terminals

Fig. 189: Checking Continuity Between Transmission Range Switch Connector Terminals No. 5 And No. 9

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity when the shift lever is in P, R, and N, and no continuity when the shift lever is in D and D3?

YES - Go to step 10.

NO - Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT**), then go to step 15.

10. Connect the transmission range switch connector.

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11. Update the A/T software in the PCM if it does not have the latest software (see **UPDATING THE PCM**), or substitute a known-good PCM (see **SUBSTITUTING THE PCM**).
12. Start the engine in P. With the brake pedal pressed, shift to R, and wait for at least 2 seconds in R, then shift to N.
13. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P1717 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 14.

14. Monitor the OBD STATUS for P1717 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **PCM REPLACEMENT**). If any other DTCs were indicated on step 13, go to the **INDICATED DTCS TROUBLESHOOTING**.

NO - Check for poor connections and loose terminals at the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 12 and recheck.

15. Clear the DTC with the HDS.
16. Start the engine in P. With the brake pedal pressed, shift to R, and wait for at least 2 seconds in R, then shift to N.
17. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P1717 indicated?

YES - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1.

NO - Go to step 18.

18. Monitor the OBD STATUS for P1717 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete. If any other DTCs were indicated on step 17, go to the **INDICATED DTCS TROUBLESHOOTING**.

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NO - Check for poor connections and loose terminals at the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, return to step 16 and recheck.

DTC P1743: Problem in Shift Control System; Shift Valve E Stuck OFF

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 8.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P1743 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair shift valve E in the main valve body (see VALVE BODY), replace the main valve body, or replace the transmission, then go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
10. Turn the ignition switch to LOCK (0). Repeat step 9, then go to step 11.
11. Monitor the OBD STATUS for P1743 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

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NO - Return to step 8 and recheck. If the HDS indicates NOT COMPLETED, return to step 9 and recheck.

DTC P1744: Problem in Shift Control System; Shift Valve E Stuck ON

NOTE: Before you troubleshoot, record all freeze' data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 8.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P1744 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair shift valve E in the main valve body (see VALVE BODY), replace the main valve body, or replace the transmission, then go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 4 and recheck.

8. Clear the DTC with the HDS.
9. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
10. Turn the ignition switch to LOCK (0). Repeat step 9, then go to step 11.
11. Monitor the OBD STATUS for P1744 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

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NO - Return to step 8 and recheck. If the HDS indicates NOT COMPLETED, return to step 9 and recheck.

DTC P1745: Problem in Shift Control System; Servo Control Valve Stuck OFF or Servo Control Valve Stuck ON

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 4) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

Does the strainer have metal debris or excessive clutch material?

YES - Replace the transmission, then go to step 8.

NO - Replace the ATF (see step 6), then go to step 4.

4. Clear the DTC with the HDS.
5. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
6. Turn the ignition switch to LOCK (0). Repeat step 5, then go to step 7.
7. Monitor the OBD STATUS for P1745 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate FAILED?

YES - Repair the servo control valve in the main valve body (see **VALVE BODY**), servo valve in the regulator valve body (see ATF PUMP INSPECTION), or replace the main valve body, regulator valve body, or replace the transmission, then go to step 8.

NO - Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, return to step 5 and recheck.

8. Clear the DTC with the HDS.
9. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
10. Turn the ignition switch to LOCK (0). Repeat step 9, then go to step 11.
11. Monitor the OBD STATUS for P1745 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - Troubleshooting is complete.

NO - Return to step 8 and recheck. If the HDS indicates NOT COMPLETED, return to step 9 and recheck.

DTC P1780: Problem in Shift Control System

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Clear the DTC with the HDS.
2. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
3. Turn the ignition switch to LOCK (0). Repeat step 2, then go to step 4.
4. Check for other DTCs indicated simultaneously with DTC P1780.

NOTE: DTC P1780 means there is one or more A/T DTCs about the shift control system.

Are there other DTCs?

YES - Troubleshoot the problem indicated by the DTC.

NO - Go to step 5.

5. Update the A/T software in the PCM if it does not have the latest software (see UPDATING THE PCM), or substitute a known-good PCM (see SUBSTITUTING THE PCM).
6. Test-drive the vehicle for several minutes with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop.
7. Turn the ignition switch to LOCK (0). Repeat step 6, then go to step 8.
8. Check for DTC(s) in the DTCs/Freeze Data in A/T Mode Menu with the HDS.

Is DTC P1780 indicated?

YES - If the PCM was updated, substitute a known-good PCM (see SUBSTITUTING THE PCM), then recheck. If the PCM was substituted, go to step 1.

NO - Go to step 9.

9. Monitor the OBD STATUS for P1780 in the DTCs/Freeze Data in A/T Mode Menu for a pass/fail.

Does the HDS indicate PASSED?

YES - If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see PCM REPLACEMENT). If any other DTCs were indicated on step 8, go to the

INDICATED DTC'S TROUBLESHOOTING.

NO - Check for poor connections and loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM**), then recheck. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, return to step 6 and recheck.

ROAD TEST

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Apply the parking brake, and block all four wheels. Start the engine, then shift to D while pressing the brake pedal. Press the accelerator pedal, and release it suddenly. The engine should not stall.
3. Repeat step 2 in all shift lever positions.
4. Connect the HDS to the DLC (A), and go to the A/T data list. If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see **'05-07 MODELS**), '08 model (see **'08 MODEL**).

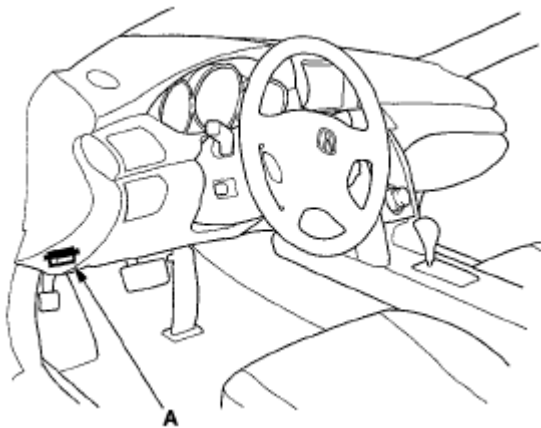


Fig. 190: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Prepare the HDS to take a HIGH SPEED SNAPSHOT (refer to the HDS user's guide for more details if needed):
 - Select High Speed icon.
 - Select these parameters:
 - VSS veh speed
 - Output Shaft (Countershaft) Speed
 - Input Shaft (Mainshaft) Speed (rpm)
 - RPM engine speed
 - Relative TP Sensor
 - APP Sensor A
 - ATF Temp sensor
 - Battery voltage

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- Shift control
 - Brake Switch
- Set the Trigger Type to Parameter.
 - Adjust the Parameter setting to APP Sensor A above 0.75 V.
 - Set the recording time to 60 seconds.
 - Set the trigger point to -30 seconds.
6. Find a suitable level road. When you are ready to do the test, press OK on the HDS.
 7. Monitor the HDS, and accelerate quickly until the APP Sensor A reads 0.75 V. Maintain a steady throttle until the transmission shifts to 5th gear, then slow the vehicle and come to a stop.
 8. Save the snapshot if the entire event was recorded, or increase the recording time setting as necessary, and repeat step 7.
 9. Adjust the parameter setting to 2.25 V. Test-drive the vehicle again. While monitoring the HDS, accelerate quickly until the APP Sensor A reads 2.25 V. Maintain a steady throttle until the transmission shifts to 5th gear (or reasonable speed), then slow the vehicle and come to a stop.
 10. Save the snapshot if the entire event was recorded, or increase the recording time setting as necessary, and repeat step 9.
 11. Accelerate quickly until the accelerator pedal is to the floor. Maintain a steady pedal until the transmission shifts to 3rd gear, then slow to a stop, and save the snapshot.
 12. Review each snapshot individually, and compare the Shift Command, the APP Sensor A voltage, and the Vehicle Speed to the table below.

Upshift: D Position

VEHICLE SPEED - UPSHIFT D POSITION

Accelerator pedal position sensor voltage: 0.75 V	
1st-->2nd	9-10 mph (14-16 km/h)
2nd-->3rd	15-17 mph (24-28 km/h)
3rd-->4th	23-27 mph (37-43 km/h)
4th-->5th	42-46 mph (68-74 km/h)
Lock-up ON	48-51 mph (77-82 km/h)
Accelerator pedal position sensor voltage: 2.25 V	
1st-->2nd	23-25 mph (37-41 km/h)
2nd-->3rd	45-48 mph (72-78 km/h)
3rd-->4th	65-68 mph (104-110 km/h)
4th-->5th	85-88 mph (136-142 km/h)
Lock-up ON	96-99 mph (154-160 km/h)
Fully-opened throttle	
Accelerator pedal position sensor voltage: 4.5 V	
1st-->2nd	34-38 mph (55-61 km/h)
2nd-->3rd	62-65 mph (99-105 km/h)
3rd-->4th	91-95 mph (147-153 km/h)

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Downshift: D Position (reference)

VEHICLE SPEED - DOWNSHIFT D POSITION

Accelerator pedal position sensor voltage: 0.75 V	
Lock-up OFF	45-48 mph (72-77 km/h)
5th-->4th	36-39 mph (58-62 km/h)
4th-->3rd	16-18 mph (25-29 km/h)
2nd-->1st	6-8 mph (9-13 km/h)
Accelerator pedal position sensor voltage: 2.25 V	
Lock-up OFF	66-70 mph (107-113 km/h)
5th-->4th	56-59 mph (90-94 km/h)
4th-->3rd	30-33 mph (49-53 km/h)
3rd-->2nd	17-21 mph (28-34 km/h)
2nd-->1st	6-8 mph (9-13 km/h)
Fully-opened throttle	
Accelerator pedal position sensor voltage: 4.5 V	
4th-->3rd	83-86 mph (133-138 km/h)
3rd-->2nd	53-59 mph (86-94 km/h)
2nd-->1st	27-29 mph (43-47 km/h)

13. Drive the vehicle in 4th or 5th gear in the sequential sportshift mode in M, then downshift to 2nd gear. The vehicle should immediately begin to slow down from engine braking.
14. Shift to R, accelerate from a stop at full throttle momentarily, and check for abnormal noise and clutch slippage.
15. Park the vehicle on a slope (about 16 degrees), apply the brake, and shift into P. Release the brake; the vehicle should not move.

NOTE: Always use the brake to hold the vehicle, when stopped on an incline in gear. Depending on the grade of the incline, the vehicle could roll backwards if the brake is released.

STALL SPEED TEST

1. Make sure the transmission fluid is filled to the upper level (see **ATF LEVEL CHECK**).
2. Apply the parking brake, and block all four wheels.
3. Connect the HDS to the DLC (A), and go to the A/T data list. If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see **'05-07 MODELS**), '08 model (see **'08 MODEL**).

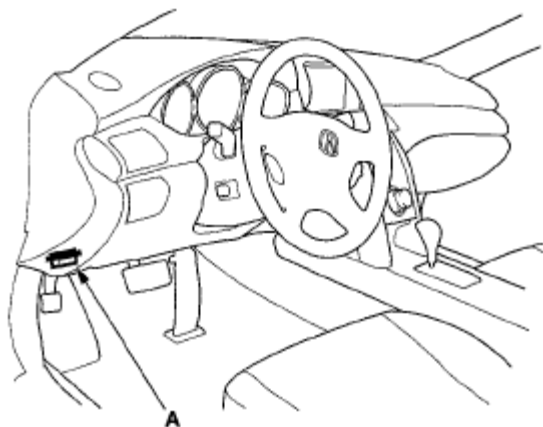


Fig. 191: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Make sure the A/C switch OFF.
5. After the engine has warmed up to normal operating temperature (the radiator fan comes on), shift to D.
6. Firmly press and hold the brake pedal, then fully press the accelerator pedal for 6 to 8 seconds, and note the engine speed. Do not move the shift lever while raising the engine speed.
7. Allow 2 minutes for cooling, then repeat the test in R.

NOTE:

- Do not test stall speed for more than 10 seconds at a time.
- Record the engine speed at 6-8 seconds after pressing the accelerator pedal. Higher engine speed will be indicated for 5 seconds.
- Stall speed tests should be used for diagnostic purposes only.
- The stall speed should be the same in D and R.
- Do not test stall speed with the A/T pressure gauges installed.

Stall Speed rpm:

Specification: 1,850 rpm

Service Limit: 1,700-2,000 rpm

8. If any of the stall speeds are out of the service limit, refer to the problems and probable causes listed in the table.

PROBLEMS AND PROBABLE CAUSES

Problem	Probable causes
Stall speed rpm high in D and R	<ul style="list-style-type: none"> • ATF pump output low • Regulator valve stuck

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	<ul style="list-style-type: none">• Slipping clutch
Stall speed rpm high in R	Slippage of 5th clutch
Stall speed rpm low in D and R	<ul style="list-style-type: none">• Engine output low• Engine throttle valve closed• Torque converter one-way clutch slipping

PRESSURE TEST

Special Tools Required

- A/T clutch pressure gauge set 07406-0020400 or 07406-0020401
 - A/T pressure hose, 2,210 mm 07MAJ-PY4011A
 - A/T pressure hose adapter 07MAJ-PY40120
1. Make sure the transmission fluid is filled to the proper level (see **ATF LEVEL CHECK**).
 2. Raise the vehicle on a lift, and make sure it is securely supported.
 3. Allow all four wheels to rotate freely.
 4. Remove the splash shield.
 5. Connect the HDS to the DLC (A). If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see **'05-07 MODELS**), '08 model (see **'08 MODEL**).

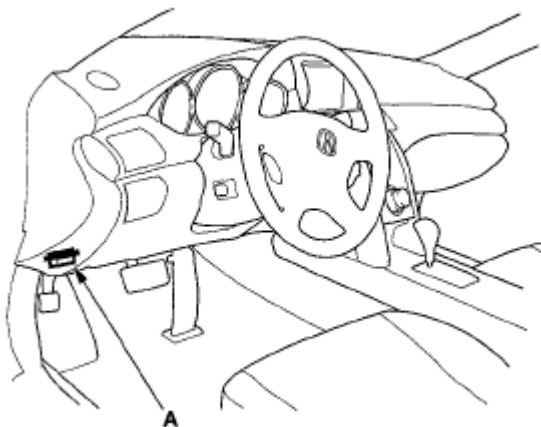
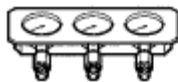


Fig. 192: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Connect the oil pressure gauge to the line pressure inspection port (A). Do not allow dust or other foreign particles to enter the hole while connecting the gauge.

**A/T OIL PRESSURE
GAUGE SET W/PANEL**
07406-0020400 or
07406-0020401



**A/T PRESSURE
HOSE, 2,210 mm**
07MAJ-PY4011A
(3 required)



**A/T PRESSURE
HOSE ADAPTER**
07MAJ-PY40120
(3 required)

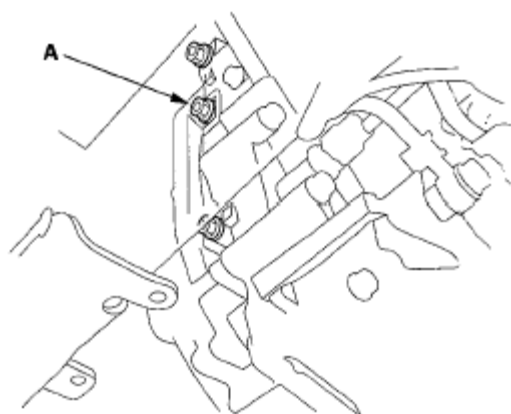


Fig. 193: Identifying Line Pressure Inspection Port And A/T Oil Pressure Gauge Set
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Warm up the engine (the radiator fan comes on), then stop it.
8. Start the engine, and run it at 2,000 rpm in P or N.
9. Measure the line pressure at the line pressure inspection port (A).

NOTE: Higher pressure may be indicated if measurements are made in the shift lever positions other than P or N.

FLUID PRESSURE SPECIFICATION

Pressure	Fluid Pressure	
	Standard	Service Limit
Line (A)	950-1,010 kPa (9.7-10.3 kgf/cm ² , 140-146 psi)	900 kPa (9.2 kgf/cm ² , 130 psi)

10. Turn the engine off, then disconnect the oil pressure gauge from the line pressure inspection port.
11. Install the sealing bolt to the line pressure inspection port with the new sealing washer, and tighten the bolt to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.

12. Connect the oil pressure gauge to the 1st clutch pressure inspection port (B) and the 1st-hold clutch pressure inspection port (C).

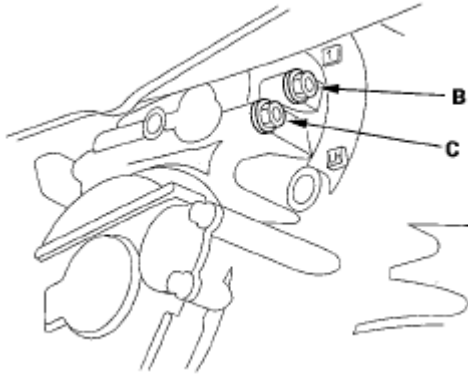


Fig. 194: Identifying 1st Clutch Pressure Inspection Port And 1st-Hold Clutch Pressure Inspection Port

Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**), and connect the oil pressure gauge to the 2nd clutch pressure inspection port (D). Then temporarily install the air cleaner.

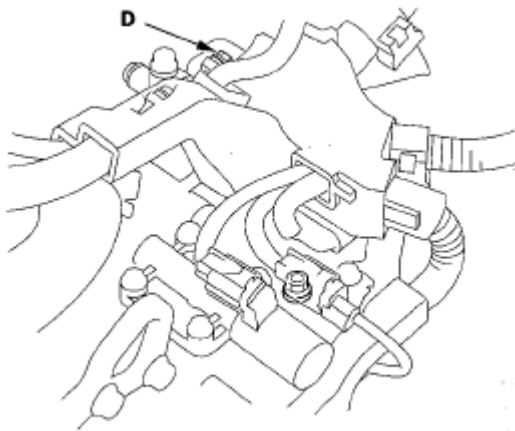


Fig. 195: Identifying 2nd Clutch Pressure Inspection Port

Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Start the engine, and shift into M.
15. Shift to 1st gear, and measure the 1st clutch pressure at the 1st clutch pressure inspection port and the 1st-hold clutch pressure at the 1st-hold clutch pressure inspection port while holding the engine speed at 2,000 rpm.
16. Shift up to 2nd gear, and measure the 2nd clutch pressure at the 2nd clutch pressure inspection port while holding the engine speed at 2,000 rpm.

FLUID PRESSURE SPECIFICATION

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Pressure	Fluid Pressure	
	Standard	Service Limit
1st clutch (B) 2nd clutch (D)	940-1,020 kPa (9.6-10.4 kgf/cm ² , 140-148 psi)	890 kPa (9.1 kgf/cm ² , 130 psi)
1st-hold clutch (C)	680-760 kPa (6.9-7.7 kgf/cm ² , 98-110 psi)	630 kPa (6.4 kgf/cm ² , 91 psi)

17. Turn the engine off, then disconnect the oil pressure gauges from the 1st clutch pressure, 1st-hold clutch pressure, and 2nd clutch pressure inspection ports.
18. Install the sealing bolts to the 1st clutch pressure, 1st-hold clutch pressure, and 2nd clutch pressure inspection ports with the new sealing washers, and tighten the bolts to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washers.
19. Connect the oil pressure gauge to the 3rd clutch pressure inspection port (E) and the 5th clutch pressure inspection port (G).

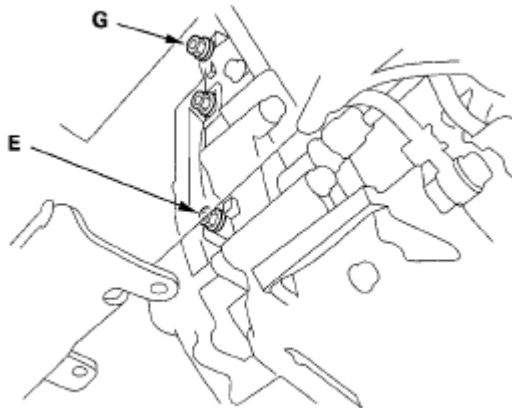


Fig. 196: Identifying 3rd Clutch Pressure Inspection Port And 5th Clutch Pressure Inspection Port
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Connect the oil pressure gauge to the 4th clutch pressure inspection port (F).

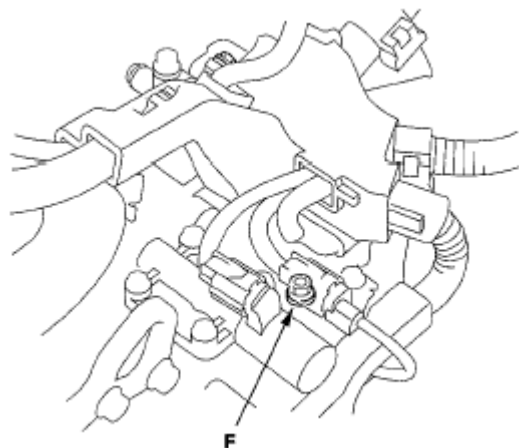


Fig. 197: Identifying 4th Clutch Pressure Inspection Port
Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Start the engine with the transmission in P while pressing the brake pedal.
22. Shift to M, and release the brake pedal; the transmission is in 1st gear.
23. Press the accelerator pedal to increase the engine speed to 2,500 rpm, then shift to 2nd gear.
24. Release the accelerator pedal; the engine speed decreases to 1,000 rpm with the transmission in 2nd gear.
25. Press the accelerator pedal very slowly so that the engine speed increases to 2,000 rpm in 5 seconds, then hold the accelerator. Shift to 3rd gear, and measure the 3rd clutch pressure at the 3rd clutch pressure inspection port while holding the engine speed at 2,000 rpm.
26. Shift to 4th gear, and measure the 4th clutch pressure at the 4th clutch pressure inspection port while holding the engine speed at 2,000 rpm.
27. Measure the 5th clutch pressure at the 5th clutch pressure inspection port while holding the engine speed at 2,000 rpm.

FLUID PRESSURE SPECIFICATION

Pressure	Fluid Pressure	
	Standard	Service Limit
3rd clutch (E) 4th clutch (F) 5th clutch (G)	940-1,020 kPa (9.6-10.4 kgf/cm ² , 140-148 psi)	890 kPa (9.1 kgf/cm ² , 130 psi)

28. Bring the engine back to an idle, then apply the brake pedal to stop the wheels from rotating.
29. Shift to R, then release the brake pedal. Raise the engine speed to 2,000 rpm, and measure the 5th clutch pressure at the 5th clutch pressure inspection port.

FLUID PRESSURE SPECIFICATION

Pressure	Fluid Pressure	
	Standard	Service Limit
5th clutch (G) in R	940-1,020 kPa (9.6-10.4 kgf/cm ² , 140-148 psi)	890 kPa (9.1 kgf/cm ² , 130 psi)

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30. Turn the engine off, then disconnect the oil pressure gauges from the 3rd, 4th, and 5th clutch pressure inspection ports.
31. Install the sealing bolts to the 3rd, 4th, and 5th clutch pressure inspection ports with the new sealing washers, and tighten the bolts to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washers.
32. If any of the pressures out of the service limit, refer to the problems and probable causes listed in the table.

PROBLEMS AND PROBABLE CAUSES

Problem	Probable causes
No or low line pressure	<ul style="list-style-type: none">• Torque converter• ATF pump• Regulator valve• Torque converter check valve• Low fluid level• Clogged ATF strainer
No or low 1st clutch pressure	<ul style="list-style-type: none">• 1st clutch• O-rings
No or low 2nd clutch pressure	<ul style="list-style-type: none">• 2nd clutch• O-rings
No or low 3rd clutch pressure	<ul style="list-style-type: none">• 3rd clutch• O-rings
No or low 4th clutch pressure	<ul style="list-style-type: none">• 4th clutch• O-rings
No or low 5th clutch pressure	<ul style="list-style-type: none">• 5th clutch• O-rings
No or low 5th clutch pressure in R	<ul style="list-style-type: none">• Servo valve• 5th clutch• O-rings
No or low 1st-hold clutch pressure	<ul style="list-style-type: none">• 1st-hold clutch• rings

33. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
34. Install the splash shield.

SHIFT SOLENOID VALVE TEST AND REPLACEMENT

1. Connect the HDS to the DLC (A).

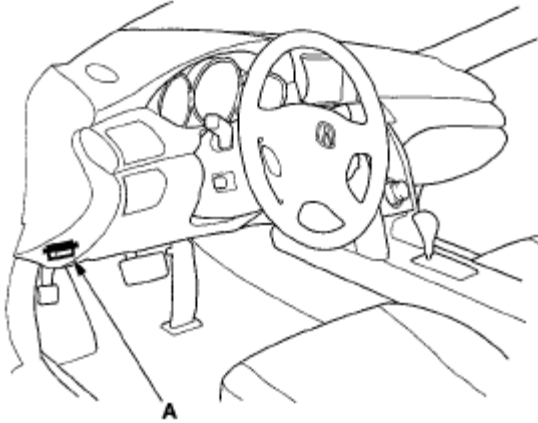


Fig. 198: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Select SHIFT SOLENOID A, B, C, and D in the MISCELLANEOUS TEST MENU on the HDS.

NOTE: If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see '05-07 MODELS), '08 model (see '08 MODEL).

3. Check that shift solenoid valves A, B, C, and D operate with the HDS. A clicking sound should be heard.
 - If a clicking sound is heard, the valves are OK.
 - If no clicking sound is heard, go to step 4.
4. The shift solenoid test is finished if the tests are OK. If no sound is heard, remove the shift solenoid valve, and test the solenoid valve.
5. Make sure you have the anti-theft codes for the audio system and the navigation system.
6. Remove the battery trim and left upper fender cover.
7. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
8. Remove the battery hold-down bracket, and remove the battery and battery tray.
9. Remove the air cleaner (see AIR CLEANER REMOVAL/INSTALLATION).
10. Remove the battery base.
11. Remove the nuts securing the shift cable bracket (A).

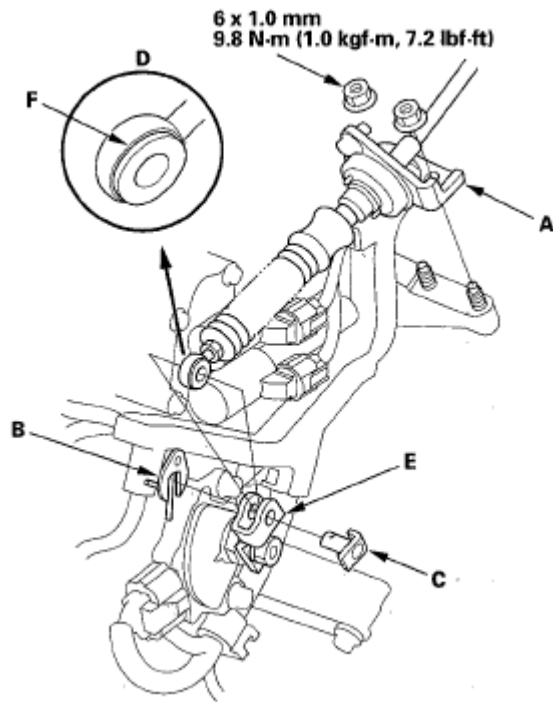


Fig. 199: Identifying Shift Cable End Transmission Side With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Remove the spring clip/washer (B) and the control pin (C), then separate the shift cable end (D) from the control lever (E). Check the bushing (F) in the shift cable end for a proper fit and wear. If the bushing is loose or worn, replace the shift cable (see **SHIFT CABLE REPLACEMENT**).
13. Disconnect the connectors from A/T clutch pressure control solenoid valves A and B, solenoid harness, transmission range switch, ATF temperature sensor, output shaft (countershaft) speed sensor, input shaft (mainshaft) speed sensor, 3rd clutch transmission fluid pressure switch, and 4th clutch transmission fluid pressure switch.
14. Remove the bolt securing the harness cover (A).

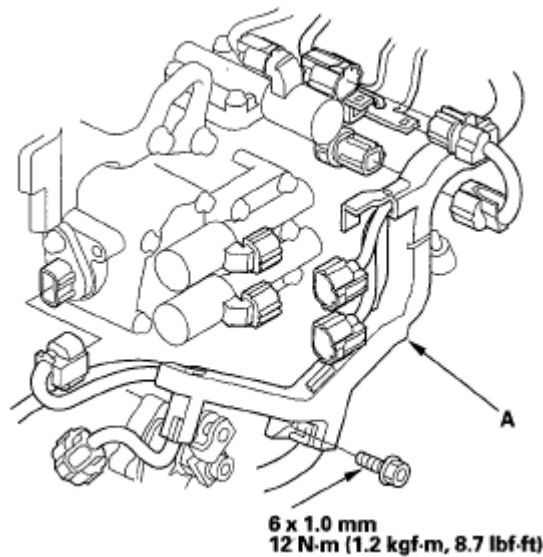


Fig. 200: Identifying Harness Cover Bolt With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Remove A/T clutch pressure control solenoid valves A and B, ATF pipes (C), and gasket (D).

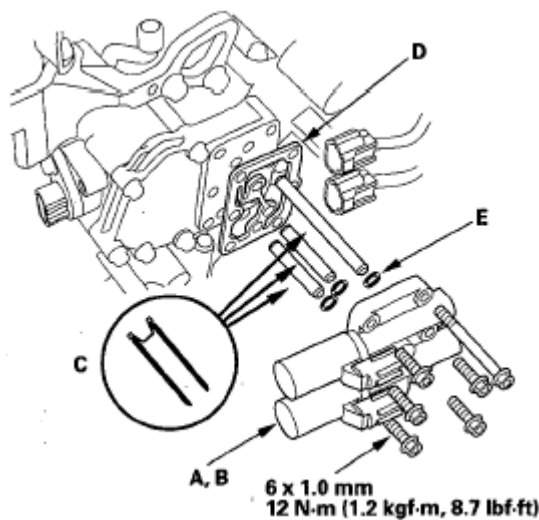


Fig. 201: Identifying A/T Clutch Pressure Control Solenoid Valves And ATF Pipes With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Replace the gasket and O-rings (E) with new ones when installing A/T clutch pressure control solenoid valves A and B.
17. Remove the solenoid valve cover (A), dowel pins (B), and gasket (C).

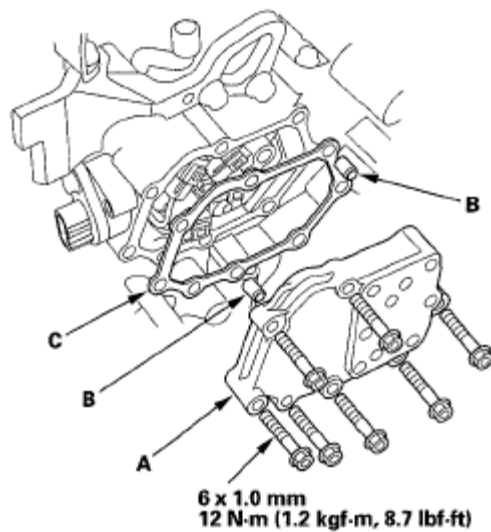


Fig. 202: Identifying Solenoid Valve Cover, Dowel Pins And Gasket With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Replace the gasket with a new one when installing the solenoid cover.
19. Disconnect each solenoid valve connector.

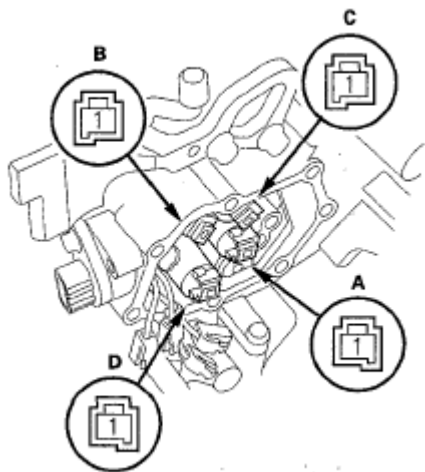


Fig. 203: Identifying Solenoid Valve Connectors
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Measure the resistance between each connector terminal of the shift solenoid valve and body ground.

Standard: 12-25 ohms

- Replace the solenoid valve if the resistance is out of standard.
 - If the resistance is within the standard, go to step 21.
21. Connect the negative battery terminal to the body ground, and connect the positive battery terminal to

each solenoid terminal individually.

- If a clicking sound is heard, go to step 22 and replace the solenoid harness.
- If no clicking sound is heard, go to step 23 and replace the shift solenoid valve.

22. Remove the solenoid harness, install a new O-ring (A) on the solenoid harness connector (B), and install the connector in the transmission housing.

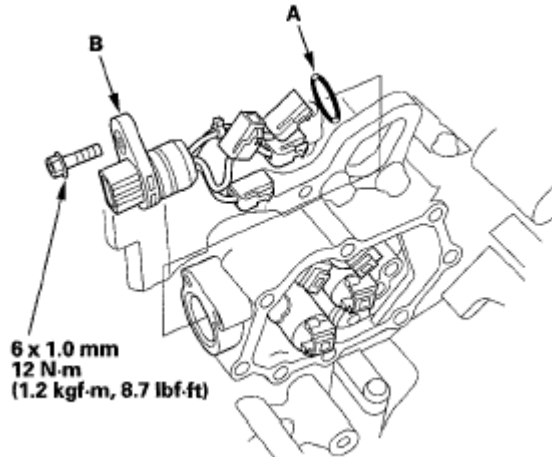


Fig. 204: Identifying O-Ring And Solenoid Harness Connector With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Remove the mounting bolts, then remove the solenoid valves.

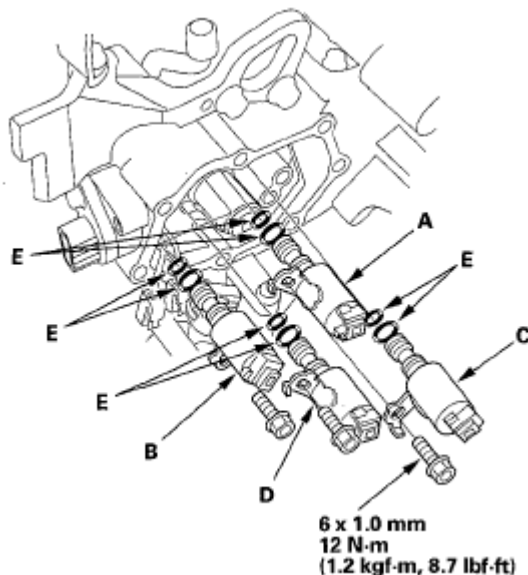


Fig. 205: Identifying Shift Solenoid Valves And O-Rings With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

24. Install new O-rings (E) on each solenoid valve.

NOTE: **A new solenoid valve comes with new O-rings. If you install a new solenoid valve, use the O-rings provided with it.**

25. Install shift solenoid valve D (black connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the accumulator body.

NOTE: **Do not hold the solenoid valve connector to install the solenoid valve. Be sure to hold the solenoid valve body.**

26. Install shift solenoid valve A (black connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the accumulator body.
27. Install shift solenoid valve C (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the bracket of shift solenoid valve A.

NOTE: **Do not install shift solenoid valve C before installing shift solenoid valve A. If shift solenoid valve C is installed before installing shift solenoid valve A, it may damage the hydraulic control system.**

28. Install shift solenoid valve B (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the accumulator body.
29. Connect the harness terminals to the solenoids:
- YEL wire connector to shift solenoid valve A.
 - GRN wire connector to shift solenoid valve C.
 - RED wire connector to shift solenoid valve B.
 - ORN wire connector to shift solenoid valve D.
30. Install the shift solenoid valve cover, dowel pins, and a new gasket.
31. Install the new solenoid valve body gasket on the solenoid valve cover, and install the ATF pipes with the filter end in the transmission housing. Install new O-rings over the ATF pipes.
32. Install A/T clutch pressure control solenoid valves A and B.
33. Secure the harness cover with the bolt.
34. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connectors securely.
35. Apply molybdenum grease to the hole in the bushing in the shift cable end. Attach the shift cable end to the control lever, then insert the control pin into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer.
36. Secure the shift cable bracket with the nuts.
37. Install the battery base.
38. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
39. Install the battery tray, battery, and battery hold-down bracket, then connect the battery terminals.
40. Install the left upper fender cover and battery trim.
41. Enter the anti-theft codes for the audio system and the navigation system.

42. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST

1. Connect the HDS to the DLC (A).

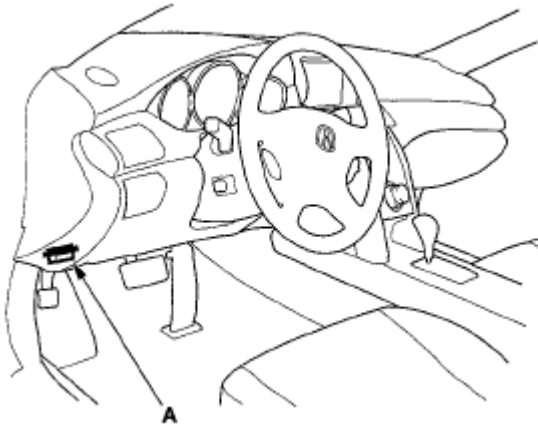


Fig. 206: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Select CLUTCH PRESSURE CONTROL (Linear) SOLENOID A in the MISCELLANEOUS TEST MENU on the HDS.

NOTE: If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see **'05-07 MODELS**), '08 model (see **'08 MODEL**).

3. Test A/T clutch pressure control solenoid valve A with the HDS.
- If the valve tests OK, the test is complete. Disconnect the HDS.
 - If the valve does not test OK, follow the instructions on the HDS.
 - If the valve does not test OK, and the HDS does not determine the cause, go to step 4.
4. Make sure you have the anti-theft codes for the audio system and the navigation system.
5. Remove the battery trim and left upper fender cover.
6. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
7. Remove the battery hold-down bracket, and remove the battery and battery tray.
8. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
9. Remove the battery base.
10. Disconnect the A/T clutch pressure control solenoid valve A connector.

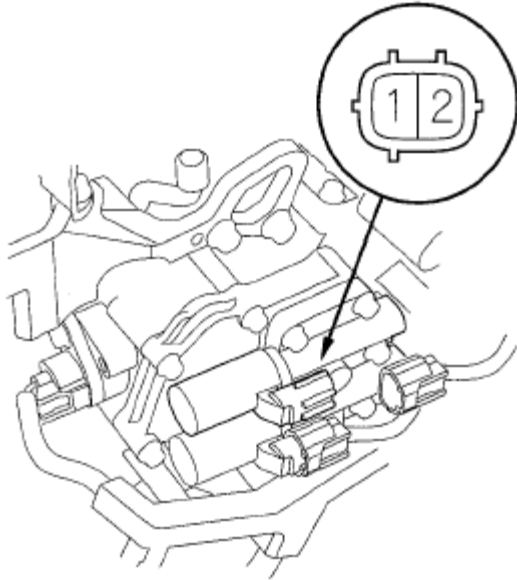


Fig. 207: Identifying A/T Clutch Pressure Control Solenoid Valve A Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Measure A/T clutch pressure control solenoid valve A resistance at the connector terminals.

Standard: 3-10 ohms

- If the resistance is out of standard, replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**).
 - If the resistance is within the standard, go to step 12.
12. Connect the negative battery terminal to solenoid valve A connector terminal No. 2, and connect the positive battery terminal to the connector terminal No. 1.
 - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
 - If no clicking sound is heard, go to step 13.
 13. Remove the nuts securing the shift cable bracket (A).

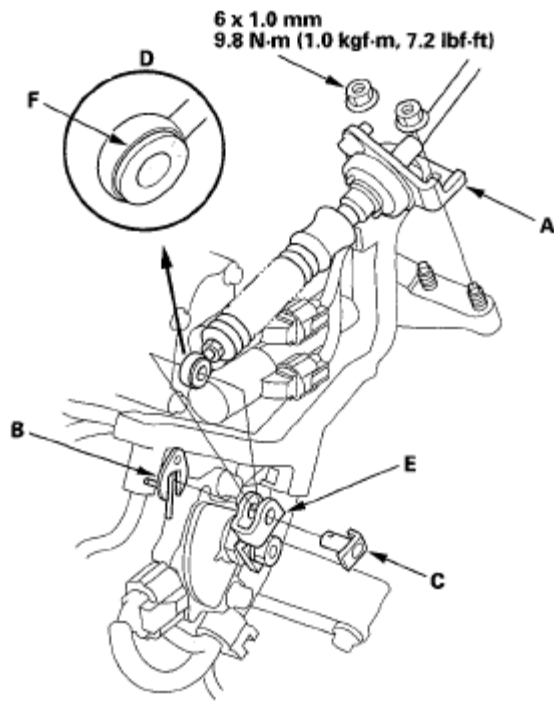


Fig. 208: Identifying Shift Cable End Transmission Side With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Remove the spring clip/washer (B) and the control pin (C), then separate the shift cable end (D) from the control lever (E). Check the bushing (F) in the shift cable end for a proper fit and wear. If the bushing is loose or worn, replace the shift cable (see **SHIFT CABLE REPLACEMENT**).
15. Disconnect the connectors from A/T clutch pressure control solenoid valves A and B, solenoid harness, transmission range switch, ATF temperature sensor, output shaft (countershaft) speed sensor, input shaft (mainshaft) speed sensor, 3rd clutch transmission fluid pressure switch, and 4th clutch transmission fluid pressure switch.
16. Remove the bolt securing the harness cover (A).

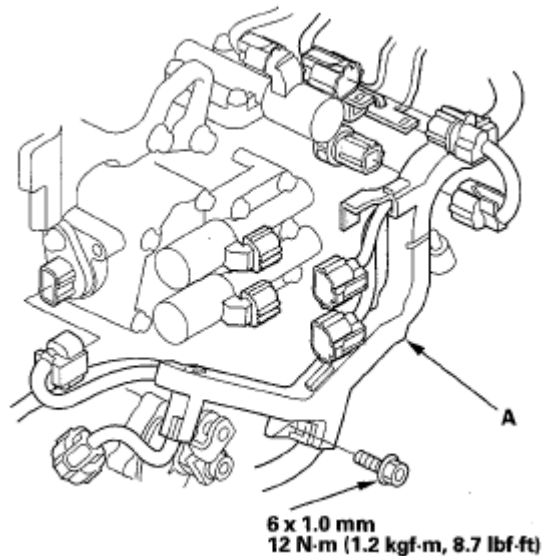


Fig. 209: Identifying Harness Cover Bolt With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Remove A/T clutch pressure control solenoid valves A and B, ATF pipes (C), gasket (D), and O-rings (E).

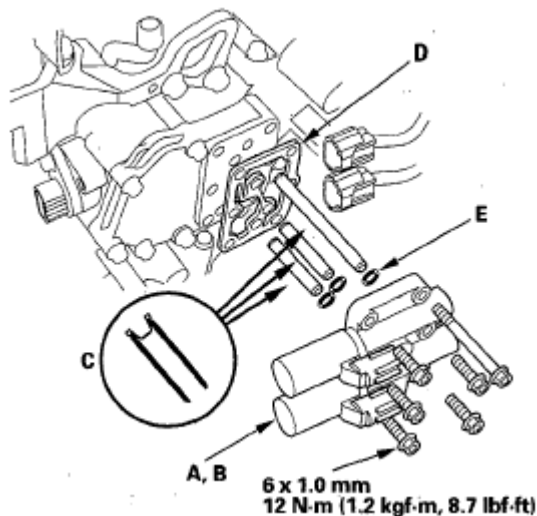


Fig. 210: Identifying A/T Clutch Pressure Control Solenoid Valves, Gasket And ATF Pipes With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Check the fluid passage of the solenoid valve for contamination.
19. Connect the negative battery terminal to A/T clutch pressure control solenoid valve A connector terminal No. 2, and connect the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve A moves.

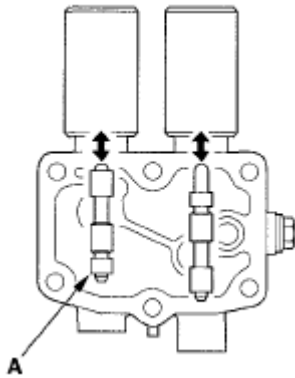


Fig. 211: Checking A/T Clutch Pressure Control Solenoid Valve (A)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Disconnect one of the battery terminals, and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valves A and B.
21. Clean the mounting surfaces and the fluid passages of the solenoid valve body and the solenoid valve cover.
22. Install the new solenoid valve body gasket on the solenoid valve cover, and install the ATF pipes with the filter end in the transmission housing. Install new O-rings over the ATF pipes.
23. Install A/T clutch pressure control solenoid valves A and B.
24. Secure the harness cover with the bolt.
25. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connectors securely.
26. Apply molybdenum grease to the hole in the bushing in the shift cable end. Attach the shift cable end to the control lever, then insert the control pin into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer.
27. Secure the shift cable bracket with the nuts.
28. Install the battery base.
29. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
30. Install the battery tray, battery, and battery hold-down bracket, then connect the battery terminals.
31. Install the left upper fender cover and battery trim.
32. Enter the anti-theft codes for the audio system and the navigation system.
33. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B TEST

1. Connect the HDS to the DLC (A).

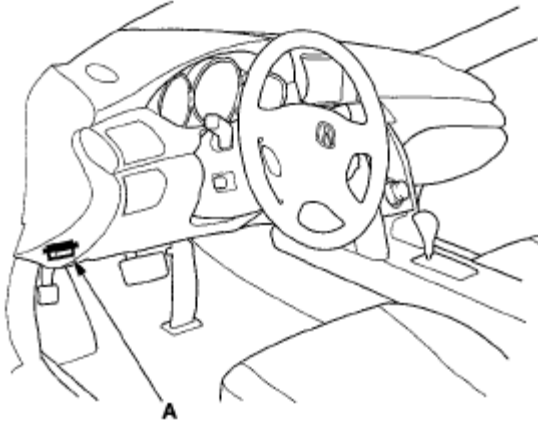


Fig. 212: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Select CLUTCH PRESSURE CONTROL (Linear) SOLENOID B in the MISCELLANEOUS TEST MENU on the HDS.

NOTE: If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see '05-07 MODELS), '08 model (see '08 MODEL).

3. Test A/T clutch pressure control solenoid valve B with the HDS.
 - If the valve tests OK, the test is complete. Disconnect the HDS.
 - If the valve does not test OK, follow the instructions on the HDS.
 - If the valve does not test OK, and the HDS does not determine the cause, go to step 4.
4. Make sure you have the anti-theft codes for the audio system and the navigation system.
5. Remove the battery trim and left upper fender cover.
6. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
7. Remove the battery hold-down bracket, and remove the battery and battery tray.
8. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
9. Remove the battery base.
10. Disconnect the A/T clutch pressure control solenoid valve B connector.

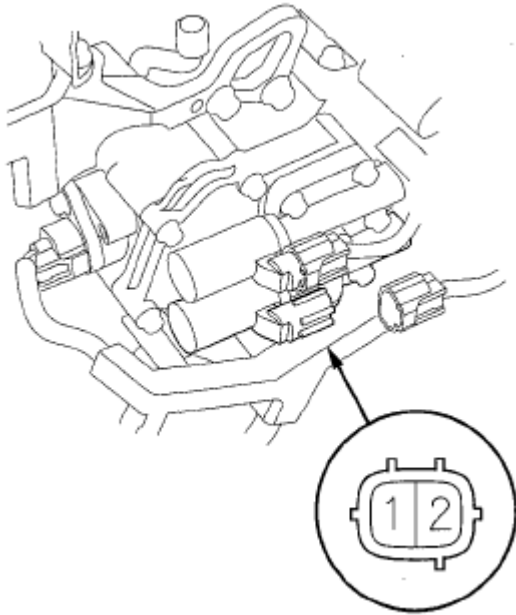


Fig. 213: Identifying A/T Clutch Pressure Control Solenoid Valve B Connector Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Measure A/T clutch pressure control solenoid valve B resistance at the connector terminals.

Standard: 3-10 ohms

- If the resistance is out of standard, replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT**).
 - If the resistance is within the standard, go to step 12.
12. Connect the negative battery terminal to solenoid valve B connector terminal No. 2, and connect the positive battery terminal to the connector terminal No. 1.
 - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
 - If no clicking sound is heard, go to step 13.
 13. Remove the nuts securing the shift cable bracket (A).

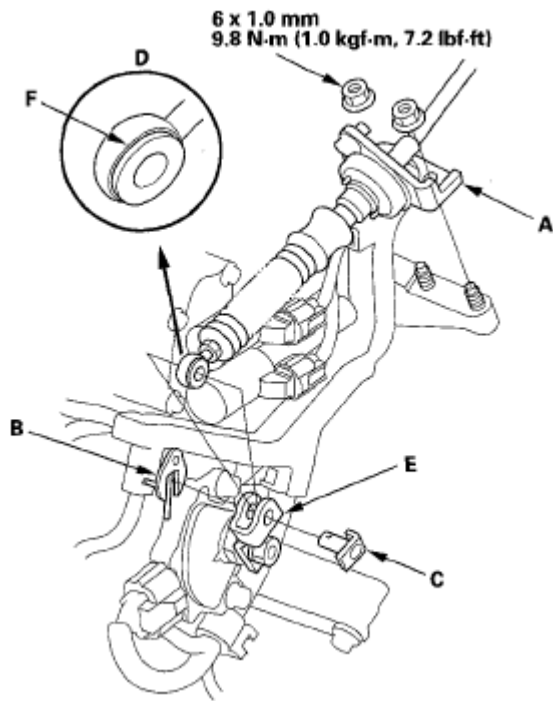


Fig. 214: Identifying Shift Cable End Transmission Side With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Remove the spring clip/washer (B) and the control pin (C), then separate the shift cable end (D) from the control lever (E). Check the bushing (F) in the shift cable end for a proper fit and wear. If the bushing is loose or worn, replace the shift cable (see **SHIFT CABLE REPLACEMENT**).
15. Disconnect the connectors from A/T clutch pressure control solenoid valves A and B, the solenoid harness, transmission range switch, ATF temperature sensor, output shaft (countershaft) speed sensor, input shaft (mainshaft) speed sensor, 3rd clutch transmission fluid pressure switch, and 4th clutch transmission fluid pressure switch.
16. Remove the bolt securing the harness cover (A).

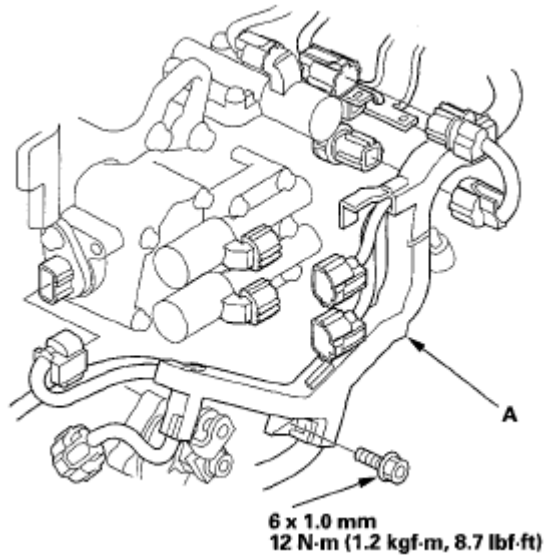


Fig. 215: Identifying Harness Cover Bolt With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Remove A/T clutch pressure control solenoid valves A and B, ATF pipes (C), gasket (D), and O-rings (E).

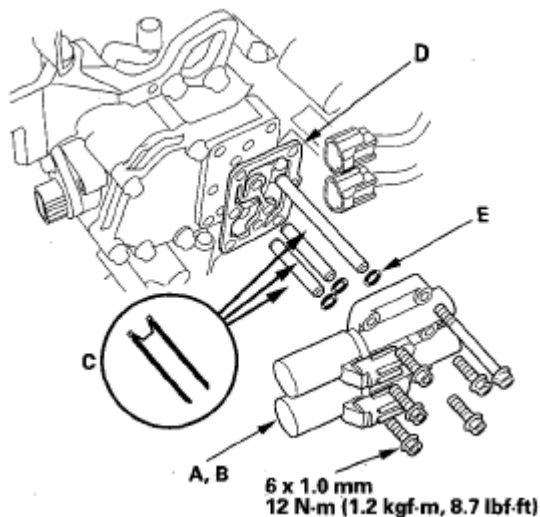


Fig. 216: Identifying A/T Clutch Pressure Control Solenoid Valves, Gasket And ATF Pipes With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Check the fluid passage of the solenoid valve for contamination.
19. Connect the negative battery terminal to A/T clutch pressure control solenoid valve B connector terminal No. 2, and connect the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve B moves.

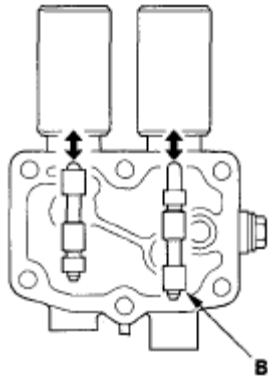


Fig. 217: Checking A/T Clutch Pressure Control Solenoid Valve (B)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Disconnect one of the battery terminals, and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valves A and B.
21. Clean the mounting surfaces and the fluid passages of the solenoid valve body and the solenoid valve cover.
22. Install the new solenoid valve body gasket on the solenoid valve cover, and install the ATF pipes with the filter end in the transmission housing. Install the new O-rings over the ATF pipes.
23. Install A/T clutch pressure control solenoid valves A and B.
24. Secure the harness cover with the bolt.
25. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connectors securely.
26. Apply molybdenum grease to the hole in the bushing in the shift cable end. Attach the shift cable end to the control lever, then insert the control pin into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer.
27. Secure the shift cable bracket with the nuts.
28. Install the battery base.
29. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
30. Install the battery tray, battery, and battery hold-down bracket, then connect the battery terminals.
31. Install the left upper fender cover and battery trim.
32. Enter the anti-theft codes for the audio system and the navigation system.
33. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A AND B REPLACEMENT

1. Make sure you have the anti-theft codes for the audio system and the navigation system. Make sure the ignition switch is in LOCK (0).
2. Remove the battery trim and left upper fender cover.
3. Disconnect the negative terminal from the battery, then disconnect the positive terminal.

4. Remove the battery hold-down bracket, and remove the battery and battery tray.
5. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
6. Remove the battery base.
7. Remove the nuts securing the shift cable bracket (A).

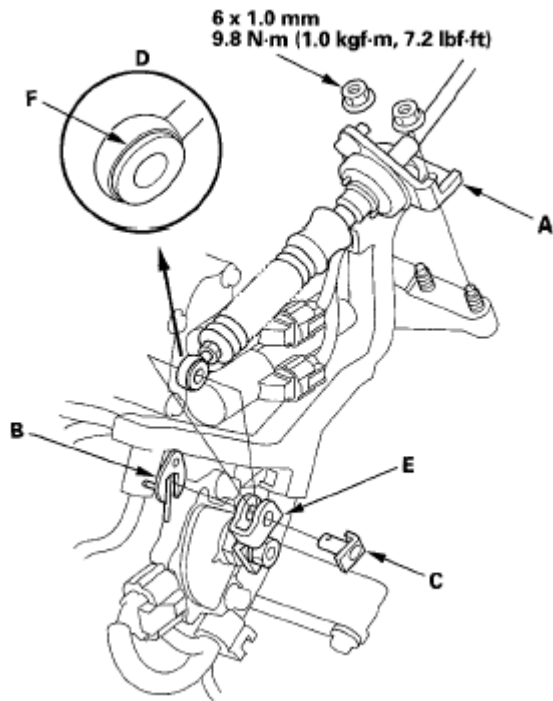


Fig. 218: Identifying Shift Cable End Transmission Side With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Remove the spring clip/washer (B) and control pin (C), then separate the shift cable end (D) from the control lever (E). Check the bushing (F) in the shift cable end for a proper fit and wear. If the bushing is loose or worn, replace the shift cable (see **SHIFT CABLE REPLACEMENT**).
9. Disconnect the connectors from A/T clutch
10. pressure control solenoid valves A and B, solenoid harness, transmission range switch, ATF temperature sensor, output shaft (countershaft) speed sensor, input shaft (mainshaft) speed sensor, 3rd clutch transmission fluid pressure switch, and 4th clutch transmission fluid pressure switch.
11. Remove the bolt securing the harness cover (A).

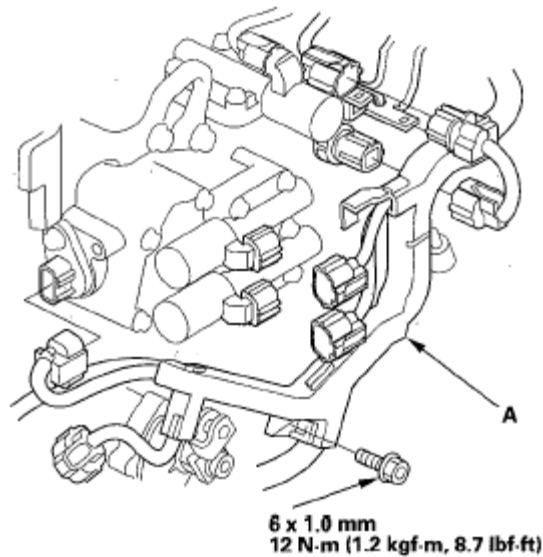


Fig. 219: Identifying Harness Cover Bolt With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Remove A/T clutch pressure control solenoid valves A and B, ATF pipes (C), gasket (D), and O-rings (E).

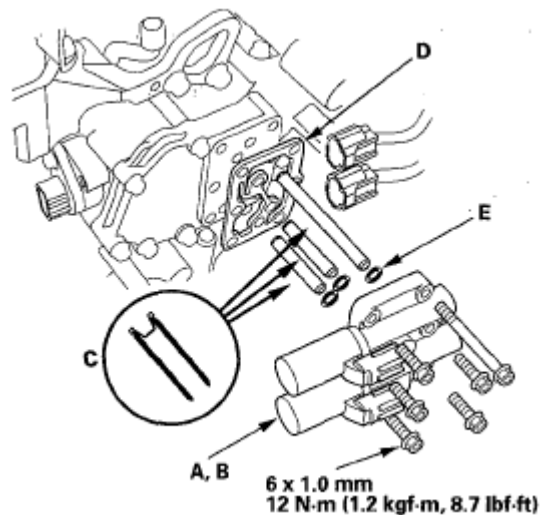


Fig. 220: Identifying O-Rings, ATF Pipes And A/T Clutch Pressure Control Solenoid Valves With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Check the fluid passage of the A/T clutch pressure control solenoid valve for dust and dirt, and clean the passage if necessary.
14. Install the new solenoid valve body gasket on the solenoid valve cover, and install the ATF pipes with the filter end in the transmission housing. Install new O-rings over the ATF pipes.
15. Install A/T clutch pressure control solenoid valves A and B.

16. Secure the harness cover with the bolt.
17. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connectors securely.
18. Apply molybdenum grease to the hole in the bushing in the shift cable end. Attach the shift cable end to the control lever, then insert the control pin into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer.
19. Secure the shift cable bracket with the nuts.
20. Install the battery base.
21. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
22. Install the battery tray, battery, and battery hold-down bracket, then connect battery terminals.
23. Install the left upper fender cover and battery trim.
24. Enter the anti-theft codes for the audio system and the navigation system.
25. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST

1. Connect the HDS to the DLC (A).

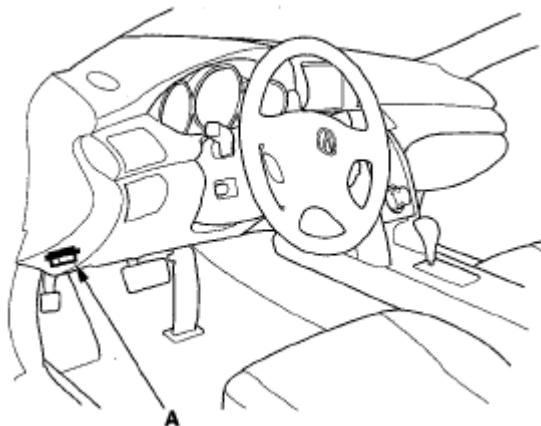


Fig. 221: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Select CLUTCH PRESSURE CONTROL (Linear) SOLENOID C in the MISCELLANEOUS TEST MENU on the HDS.

NOTE: If the HDS does not communicate with the PCM, troubleshoot the DLC circuit; '05-07 models (see **'05-07 MODELS**), '08 model (see **'08 MODEL**).

3. Test A/T clutch pressure control solenoid valve C with the HDS.
 - If the valve tests OK, the test is complete. Disconnect the HDS.
 - If the valve does not test OK, follow the instructions on the HDS.

- If the valve does not test OK, and the HDS does not determine the cause, go to step 4.
- 4. Remove the battery trim and left upper fender cover.
- 5. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
- 6. Disconnect the A/T clutch pressure control solenoid valve C connector.

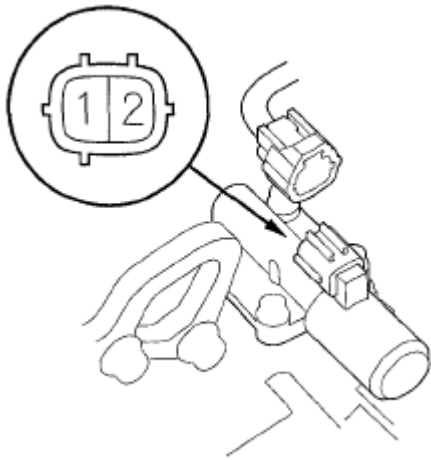


Fig. 222: Identifying A/T Clutch Pressure Control Solenoid Valve C Connector Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

- 7. Measure the A/T clutch pressure control solenoid valve C resistance at the connector terminals.

Standard: 3-10 ohms

- If the resistance is out of standard, replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C REPLACEMENT**).
- If the resistance is within the standard, go to step 8.
- 8. Connect the negative battery terminal to the solenoid valve C connector terminal No. 2, and connect the positive battery terminal to the connector terminal No. 1.
 - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
 - If no clicking sound is heard, go to step 9.
- 9. Remove A/T clutch pressure control solenoid valve C.

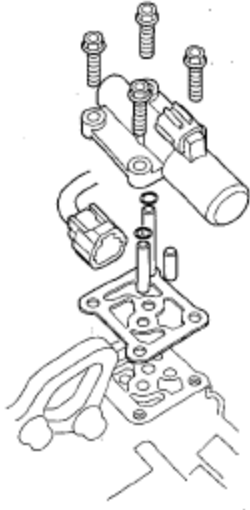


Fig. 223: Identifying A/T Clutch Pressure Control Solenoid Valve C
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Remove the ATF joint pipes, O-rings, ATF pipe, and gasket.
11. Check the fluid passage of the solenoid valve for contamination.
12. Connect the negative battery terminal to the A/T clutch pressure control solenoid valve C connector terminal No. 2, and connect the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve C moves.

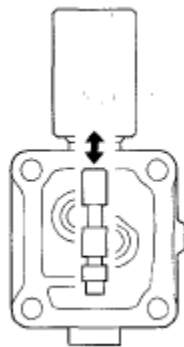


Fig. 224: Checking A/T Clutch Pressure Control Solenoid Valve C
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Disconnect one of the battery terminals, and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valve C.
14. Clean the mounting surfaces and the fluid passages of the solenoid valve body and the transmission housing.
15. Install the 8 x 53 mm ATF joint pipe (A) with the filter side into its mounting hole (B).

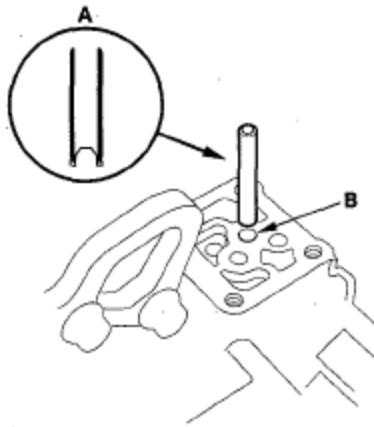


Fig. 225: Identifying ATF Joint Pipe

Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Check the height (A) of the 8 x 53 mm ATF joint pipe (B) between the top (C) of the pipe and the solenoid valve body mounting surface (D). The height is about 7 mm (0.3 in.). If the height is over 7 mm (0.3 in.), push the pipe until it bottoms in the accumulator body.

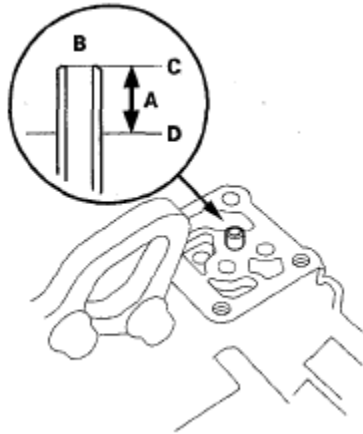


Fig. 226: Identifying ATF Joint Pipe Height

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Install the new gasket (A) on the transmission housing, and install the 8 x 34.5 mm ATF joint pipe (B) with the filter side into the transmission housing and 8 x 25.2 mm ATF pipe (D).

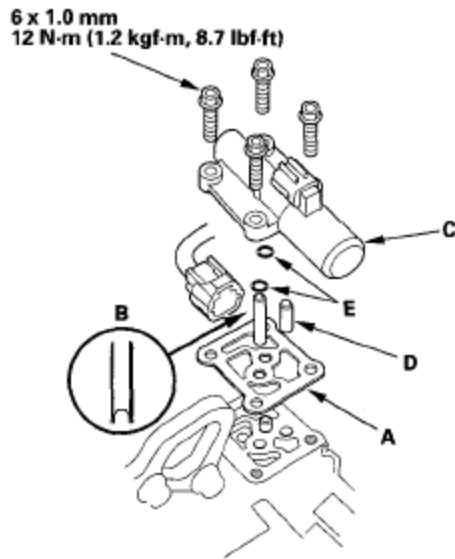


Fig. 227: Identifying ATF Joint Pipe And A/T Clutch Pressure Control Solenoid Valve (C) With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Install new O-rings (E) over the ATF joint pipes.
19. Install A/T clutch pressure control solenoid valve C.
20. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
21. Install the left upper fender cover and battery trim.

A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C REPLACEMENT

1. Remove the battery trim and left upper fender cover.
2. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
3. Disconnect the A/T clutch pressure control solenoid valve connector.

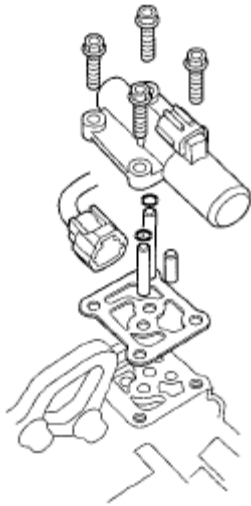


Fig. 228: Identifying A/T Clutch Pressure Control Solenoid Valve Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove A/T clutch pressure control solenoid valve C.
5. Remove the ATF joint pipes, O-rings, ATF pipe, and gasket.
6. Clean the mounting surfaces and the fluid passages of the solenoid valve body and the transmission housing.
7. Install the 8 x 53 mm ATF joint pipe (A) with the filter side into its mounting hole (B).

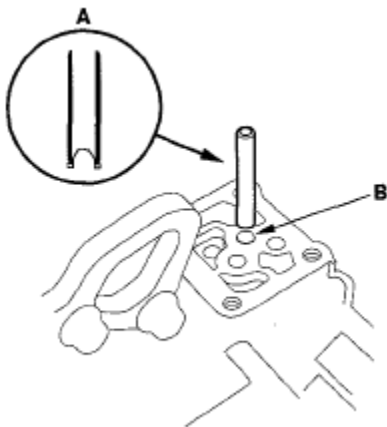


Fig. 229: Identifying ATF Joint Pipe
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check the height (A) of the 8 x 53 mm ATF joint pipe (B) between the top (C) of the pipe and the solenoid valve body mounting surface (D). The height is about 7 mm (0.3 in.). If the height is over 7 mm (0.3 in.), push the pipe until it bottoms in the accumulator body.

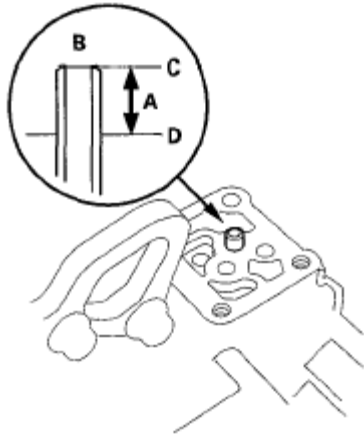


Fig. 230: Identifying ATF Joint Pipe Height
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the new gasket (A) on the transmission housing, and install the 8 x 34.5 mm ATF joint pipe (B) with the filter side into the transmission housing and 8 x 25.2 mm ATF pipe (D).

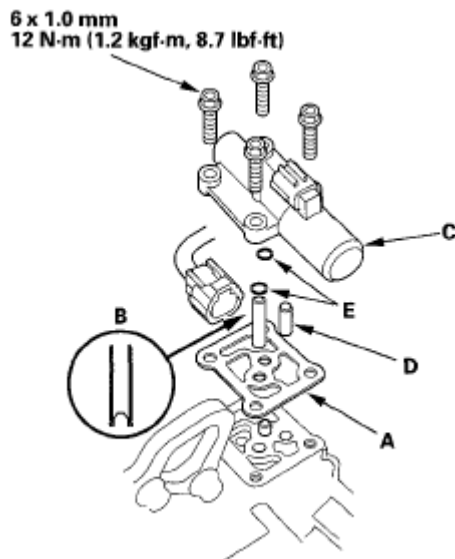


Fig. 231: Identifying ATF Joint Pipe And A/T Clutch Pressure Control Solenoid Valve (C) With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install new O-rings (E) over the ATF joint pipes.
11. Install A/T clutch pressure control solenoid valve C.
12. Install the air cleaner (see [AIR CLEANER REMOVAL/INSTALLATION](#)).
13. Install the left upper fender cover and battery trim.

INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT

1. Disconnect the input shaft (mainshaft) speed sensor connector, and remove the input shaft (mainshaft) speed sensor (A).

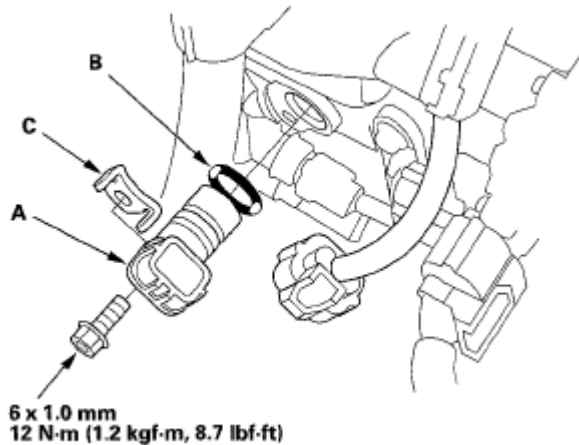


Fig. 232: Identifying Input Shaft (Mainshaft) Speed Sensor And Sensor Washer With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install a new O-ring (B) on the new input shaft (mainshaft) speed sensor, then install the input shaft (mainshaft) speed sensor and sensor washer (C) in the transmission housing.
3. Check the connector for rust, dirt, or oil, then connect the connector securely.

OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT

1. Disconnect the output shaft (countershaft) speed sensor connector, and remove the output shaft (countershaft) speed sensor (A).

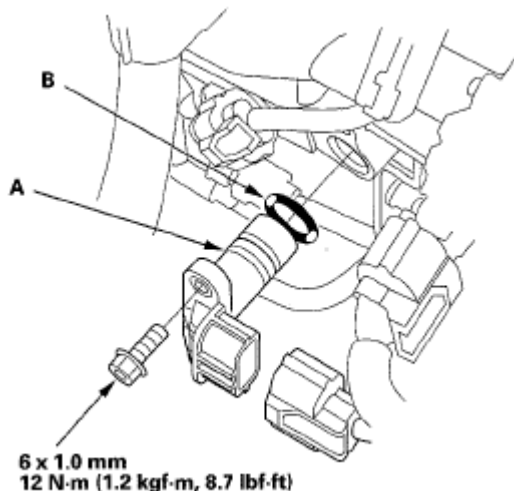


Fig. 233: Identifying Output Shaft (Countershaft) Speed Sensor And O-Ring With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install a new O-ring (B) on the new output shaft (countershaft) speed sensor, then install the output shaft (countershaft) speed sensor in the transmission housing.
3. Check the connector for rust, dirt, or oil, then connect the connector securely.

2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT

1. Make sure you have the anti-theft codes for the audio system and the navigation system. Make sure the ignition switch is in LOCK (0).
2. Remove the battery trim and left upper fender cover.
3. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
4. Remove the battery hold-down bracket, and remove the battery and battery tray.
5. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
6. Remove the bolts securing the under-hood fuse/relay box, and move the fuse/relay box.
7. Disconnect the 2nd clutch transmission fluid pressure switch connector, and remove the 2nd clutch transmission fluid pressure switch (A).

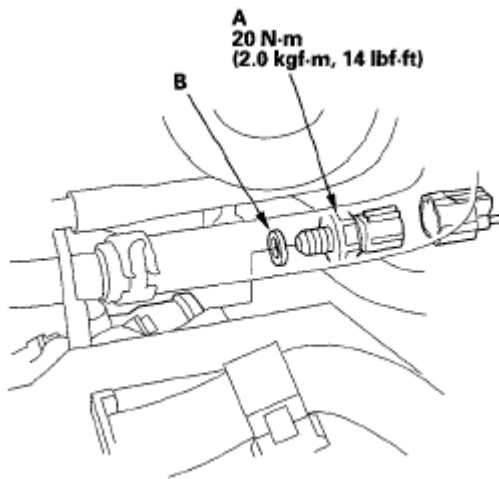


Fig. 234: Identifying 2nd Clutch Transmission Fluid Pressure Switch With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Make sure there is no water, oil, dust, or foreign particles inside the connector.
9. Install the new 2nd clutch transmission fluid pressure switch and a new sealing washer (B), and tighten the switch.
10. Connect the connector securely.
11. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
12. Install the battery tray, battery, and battery hold-down bracket, then connect the battery terminals.
13. Install the left upper fender cover and battery trim.
14. Enter the anti-theft codes for the audio system and the navigation system.

15. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).
16. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).

3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT

1. Remove the splash shield.
2. Disconnect the 3rd clutch transmission fluid pressure switch connector, and remove the 3rd clutch transmission fluid pressure switch (A).

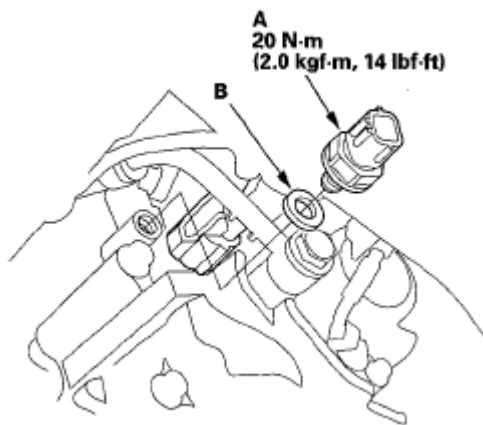


Fig. 235: Identifying 3rd Clutch Transmission Fluid Pressure Switch And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Make sure there is no water, oil, dust, or foreign particles inside the connector.
4. Install the new 3rd clutch transmission fluid pressure switch and a new sealing washer (B), and tighten the switch.
5. Connect the connector securely.
6. Install the splash shield.

4TH CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT

1. Remove the battery trim and left upper fender cover.
2. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
3. Disconnect the 4th clutch transmission fluid pressure switch harness connectors (A).

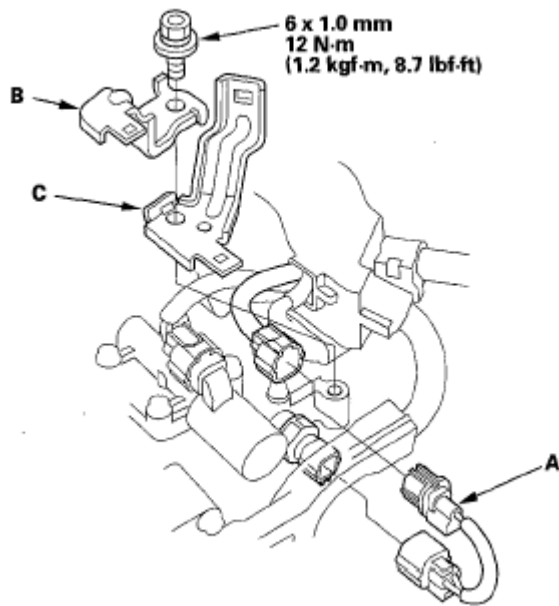


Fig. 236: Identifying 4th Clutch Transmission Fluid Pressure Switch Connectors And Harness Clamp Bracket With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the bolt securing the connector bracket, and remove the connector bracket (B) and harness clamp bracket (C).
5. Remove the 4th clutch transmission fluid pressure switch (A).

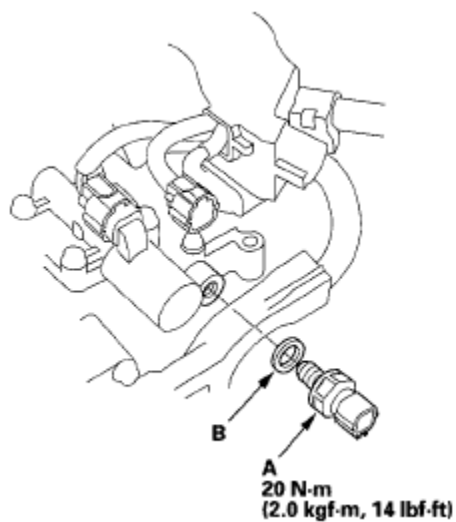


Fig. 237: Identifying 4th Clutch Transmission Fluid Pressure Switch And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Make sure there is no water, oil, dust, or foreign particles inside the connector.

7. Install the new 4th clutch transmission fluid pressure switch and a new sealing washer (B), and tighten the switch.
8. Install the harness clamp bracket and connector bracket with the mounting bolt.
9. Connect the connectors securely.
10. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
11. Install the left upper fender cover and battery trim.

ATF TEMPERATURE SENSOR REPLACEMENT

1. Raise the vehicle on a lift, or apply the parking brake, block both rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

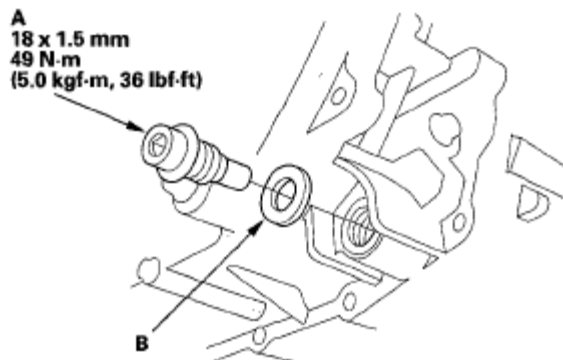


Fig. 238: Identifying Drain Plug And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Reinstall the drain plug with a new sealing washer (B).
5. Disconnect the ATF temperature sensor connector (A), then remove the connector from the connector bracket (B).

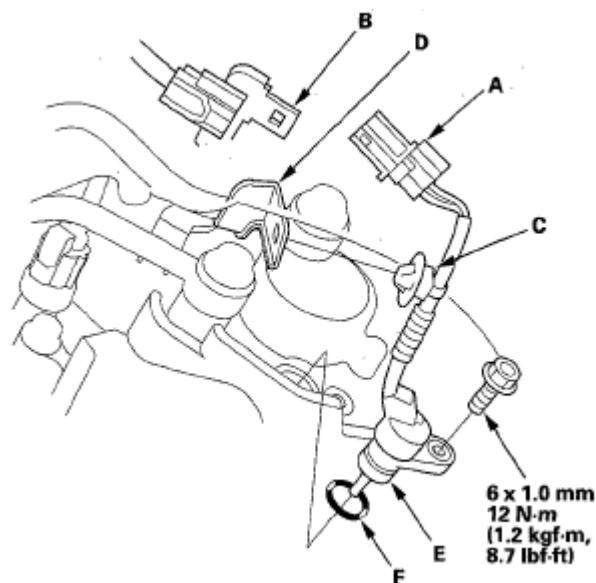


Fig. 239: Identifying ATF Temperature Sensor Connector, Connector Bracket And ATF Temperature Sensor With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the harness clamp (C) from its bracket (D).
7. Remove the ATF temperature sensor (E), and replace the sensor.
8. Install the new O-ring (F) on the new ATF temperature sensor, and install the ATF temperature sensor.
9. Check the connector for rust, dirt, or oil. Connect the connector securely, and install it on its bracket.
10. Install the harness clamp on its bracket.
11. Refill the transmission with ATF (see step 6).
12. Install the splash shield.

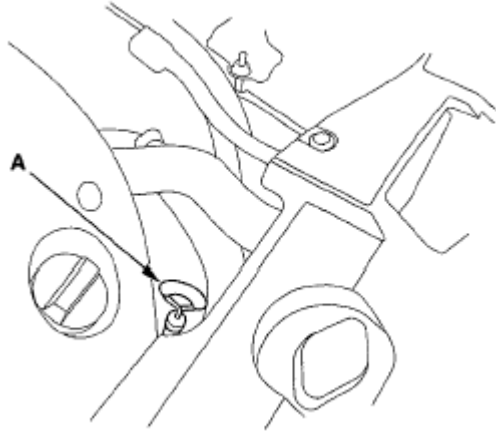
ATF LEVEL CHECK

NOTE: Keep all foreign particles out of the transmission.

1. Park the vehicle on the level ground.
2. Warm up the engine to normal operating temperature (the radiator fan comes on), and turn the engine off. Do not allow the engine to warm up longer than the time it takes for the radiator fan to come on twice.

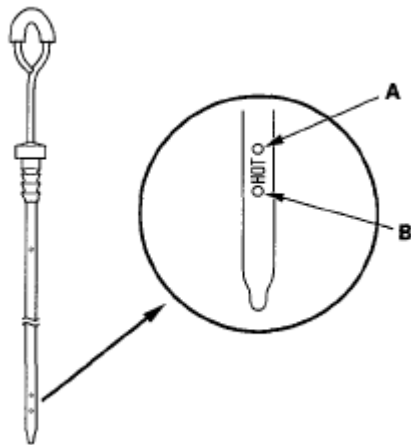
NOTE: Check the fluid level within 60-90 seconds after turning the engine off. Higher fluid level may be indicated if the radiator fan comes on twice or more.

3. Remove the dipstick (yellow loop) (A) from the dipstick guide tube, and wipe it with a clean cloth.

**Fig. 240: Identifying Dipstick**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Insert the dipstick into the guide tube.
5. Remove the dipstick and check the fluid level. It should be between the upper mark (A) and lower mark (B).

**Fig. 241: Identifying Fluid Level**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. If the level is below the lower mark, check for fluid leaks at the transmission, and hose and line joints. If a problem is found, fix it before filling the transmission.

NOTE:

If the vehicle is driven when the ATF level is below the lower mark one or more of these symptoms may occur:

- Transmission damage.
- Vehicle does not move in any gear.
- Vehicle accelerates poorly, and flares when starting off in D and R.

- **The engine vibrates at idle.**

7. If the level is above the upper mark, drain the ATF to proper level (see step 4).

NOTE: **If the vehicle is driven when the ATF level is above the upper mark, the vehicle may creep forward while in N, or have shifting problems.**

8. If necessary, fill the transmission with the ATF through the dipstick guide tube opening (A) to bring the fluid level midway between the upper mark and lower mark of the dipstick. Do not fill past the upper mark. Always use Acura ATF-Z1 Automatic Transmission Fluid (ATF). Using a non-Acura ATF can affect shift quality.

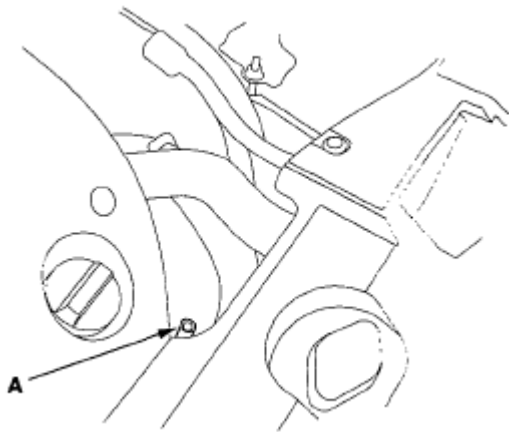


Fig. 242: Identifying Dipstick Guide Tube Opening
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Insert the dipstick back into the dipstick guide tube.

ATF REPLACEMENT

NOTE: **Keep all foreign particles out of the transmission.**

1. Warm up the engine to normal operating temperature (the radiator fan comes on), and turn the engine off.
2. Raise the vehicle on a lift, or apply the parking brake, block both rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
3. Remove the splash shield.
4. Remove the ATF filler bolt and drain plug (A), and drain the automatic transmission fluid (ATF).

NOTE: **If a cooler cleaning is done, refer to ATF Cooler Cleaning (see ATF COOLER CLEANING).**

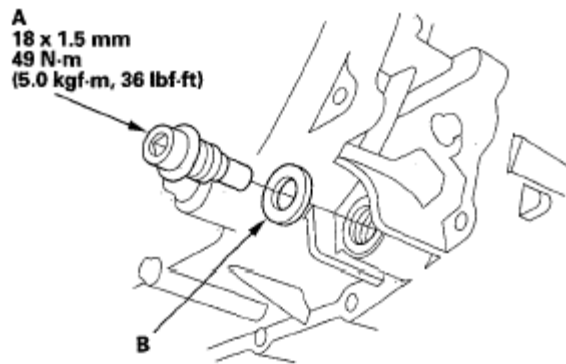


Fig. 243: Identifying Drain Plug And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Reinstall the drain plug with a new sealing washer (B).
6. Refill the transmission with the recommended fluid through the filler hole (A). Always use Acura ATF-Z1 Automatic Transmission Fluid (ATF). Using a non-Acura ATF can affect shift quality.

Automatic Transmission Fluid Capacity:

2.7 L (2.9 US qt) at change

7.2 L (7.6 US qt) at overhaul

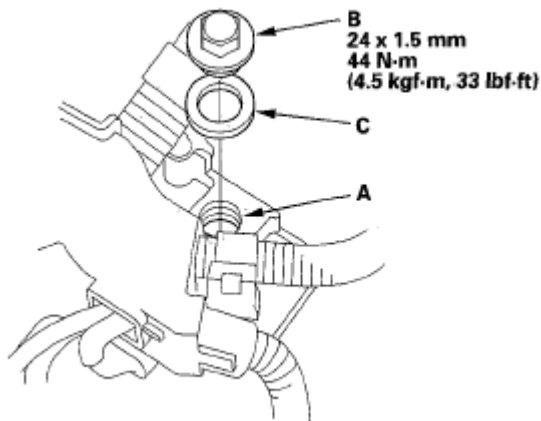


Fig. 244: Identifying ATF Filler Bolt And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the ATF filler bolt (B) and a new sealing washer (C).
8. Check the ATF level (see **ATF LEVEL CHECK**).

TRANSFER ASSEMBLY FLUID REPLACEMENT

1. Warm up the engine to normal operating temperature (the radiator fan comes on), then turn the engine

off.

2. Raise the vehicle on a lift, and make sure it is securely supported.
3. Remove the drain plug (A), and drain the transfer fluid (hypoid gear oil).

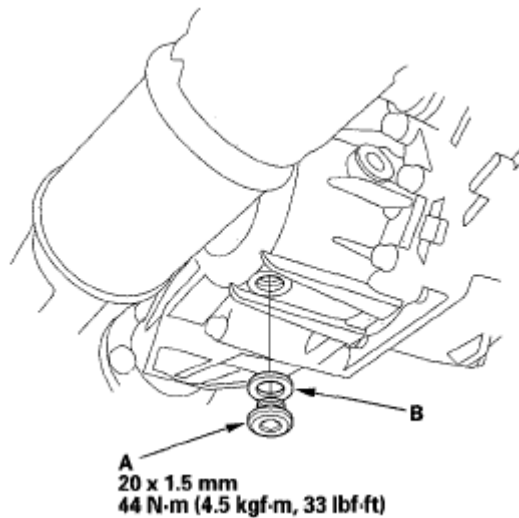


Fig. 245: Identifying Drain Plug And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Reinstall the drain plug with a new sealing washer (B).
5. Remove the filler plug (A) and sealing washer (B).

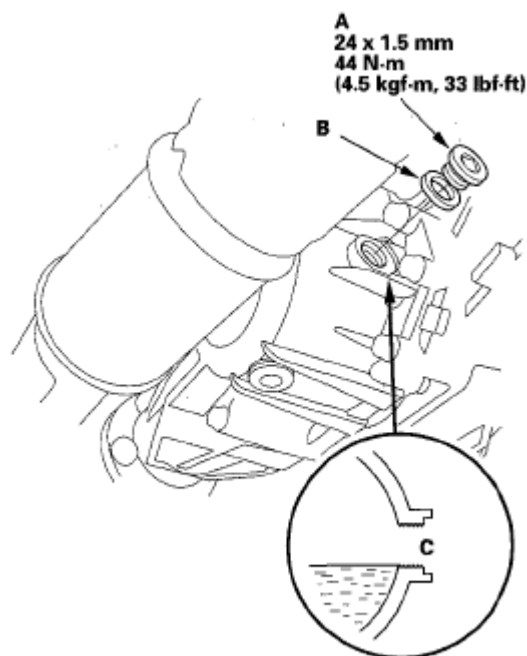


Fig. 246: Identifying Filler Plug And Sealing Washer With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Refill the transfer assembly with the recommended fluid (hypoid gear oil) through the filler hole (C) until the fluid flows out. Use a SAE 90 or SAE 80W-90 viscosity hypoid gear oil, API classified GL4 or GL5 only.

Viscosity:

SAE 90: Above 0°F (-18°C)

SAE 80W-90: Below 0°F (-18°C)

Transfer Fluid (Hypoid Gear Oil) Capacity:

0.43 L (0.45 US qt) at fluid change

7. Install the filler plug with a new sealing washer.

TRANSFER ASSEMBLY INSPECTION

1. Raise the vehicle on a lift, and make sure it is supported securely.
2. Shift the transmission into N.
3. Make a reference mark (A) across the propeller shaft (B) and the transfer companion flange (C).

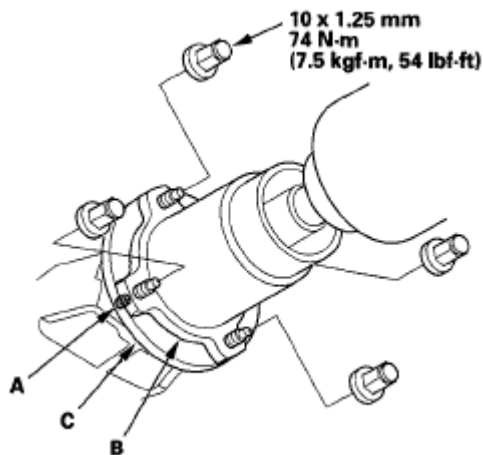


Fig. 247: Identifying Reference Mark Across Propeller Shaft And Transfer Companion Flange With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Separate the propeller shaft from the transfer companion flange.
5. Set a dial indicator (A) on the transfer companion flange (B); position the dial indicator tip (C) on the top of the bolt (D).

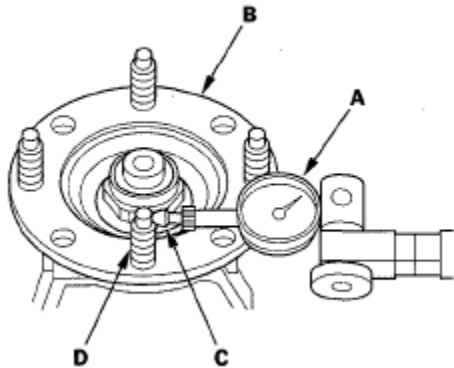


Fig. 248: Measuring Transfer Gear Backlash
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Measure the transfer gear backlash.

Standard: 0.06-0.16 mm (0.002-0.006 in.)

7. If the backlash is out of standard, remove the transfer assembly, and adjust the transfer gear backlash (see **REASSEMBLY**).
8. Check for fluid leaks between the mating surfaces of the transfer assembly and the transmission.
9. If there is a leak, remove the transfer assembly, remove the transfer cover, and replace the O-ring.
10. Check for fluid leaks between the transfer companion flange and the transfer oil seal.
11. If there is a leak, remove the transfer assembly from the transmission, and replace the transfer oil seal and O-ring on the transfer output shaft (hypoid gear). If an oil seal and O-ring replacement is required, you will need to check and adjust the transfer gear tooth contact, the transfer gear backlash, the tapered roller bearing starting torque, and the total starting torque (see **REASSEMBLY**). Do not replace the oil seal with the transfer assembly on the transmission.

TRANSFER ASSEMBLY REMOVAL

1. Raise the vehicle on a lift, and make sure it is supported securely.
2. Shift the transmission into N.
3. Remove the ATF filler bolt and drain plug (A), and drain the automatic transmission fluid (ATF).

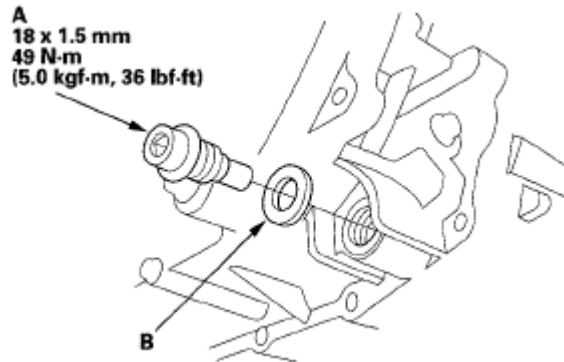


Fig. 249: Identifying Drain Plug And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Reinstall the drain plug and a new sealing washer (B).
5. Remove exhaust pipe A.

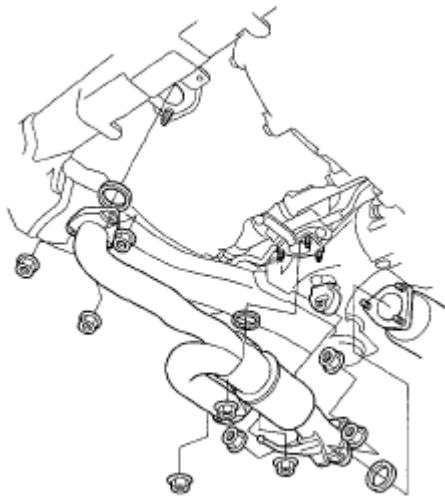


Fig. 250: Identifying Exhaust Pipe
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the bolt securing the transfer breather tube bracket (A), and disconnect the breather tube (B) from the breather pipe (C) on the transfer assembly. Cap the breather pipe to prevent fluid from leaking out.

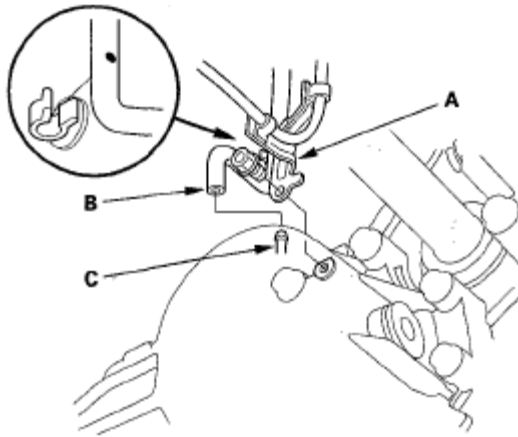


Fig. 251: Identifying Transfer Breather Tube Bracket, Breather Tube And Breather Pipe
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Make a reference mark (A) across the propeller shaft (B) and the transfer companion flange (C).

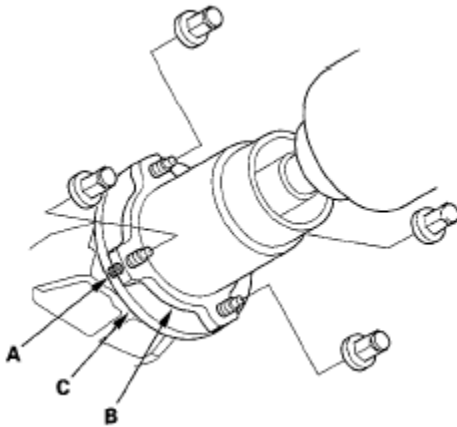


Fig. 252: Identifying Reference Mark Across Propeller Shaft And Transfer Companion Flange
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Separate the propeller shaft from the transfer companion flange.
9. Remove the transfer assembly from the transmission.

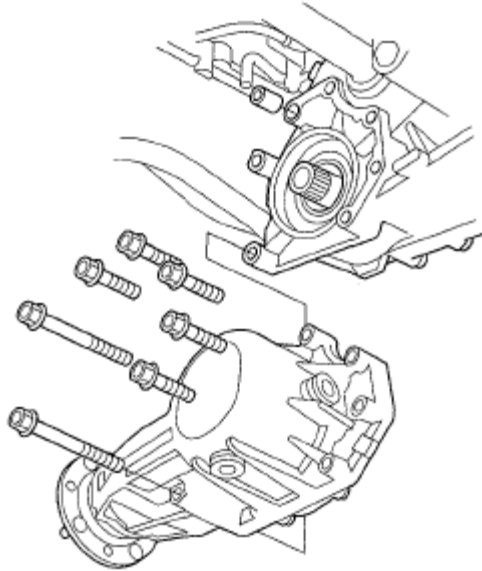


Fig. 253: Identifying Transfer Assembly
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER ASSEMBLY INSTALLATION

1. Clean the areas where the transfer assembly contacts the transmission with solvent, and dry with compressed air. Then apply transmission fluid to the contact area.
2. Install the dowel pin (A) in the transmission, and install the transfer assembly (B) on the transmission.

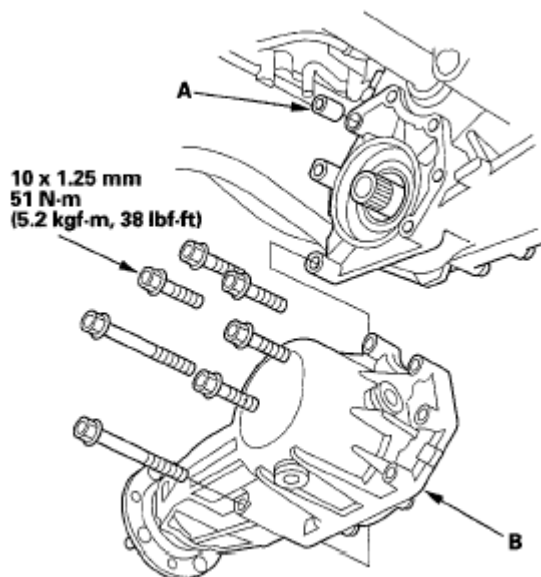


Fig. 254: Identifying Dowel Pin And Transfer Assembly Bolts With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the propeller shaft (A) to the transfer companion flange (B) by aligning the previously made

reference mark (C).

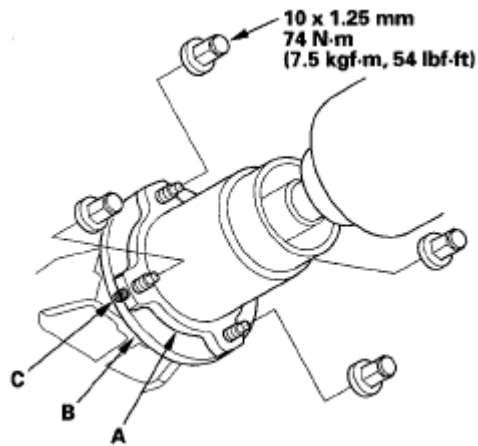


Fig. 255: Identifying Reference Mark Across Propeller Shaft And Transfer Companion Flange With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Secure the transfer breather tube bracket (A) on the transfer assembly with the bolt, and install the breather tube (B) over the breather pipe (C). If the breather tube was removed from the clamp, install the tube at the dot (D) on the clamp (E).

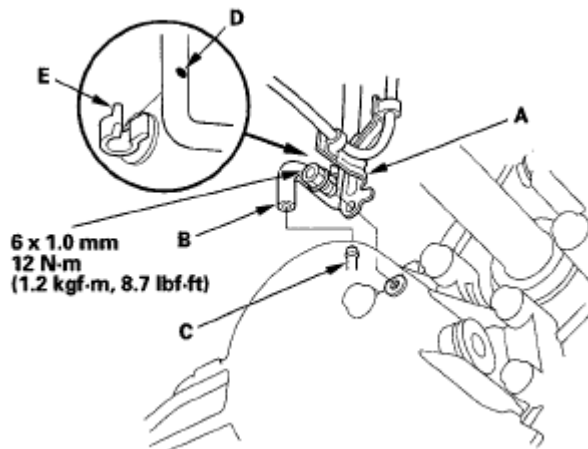


Fig. 256: Identifying Transfer Breather Tube Bracket, Breather Tube And Breather Pipe With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install exhaust pipe A with the new self-locking nuts and new gaskets (B) (C).

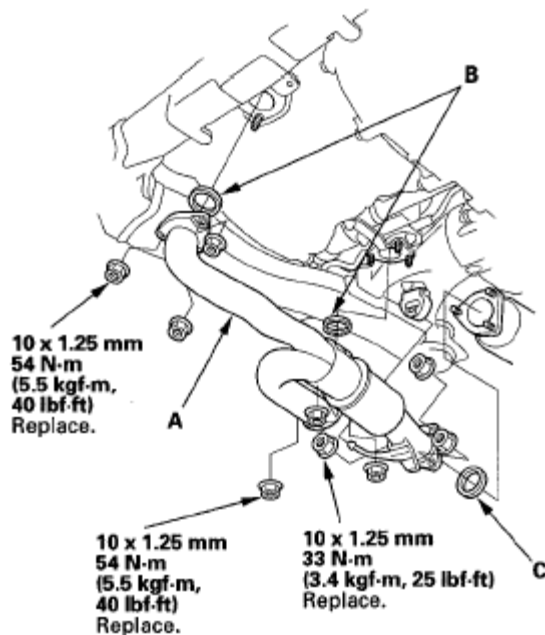


Fig. 257: Identifying Exhaust Pipe Nuts And Gaskets With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Refill the transfer assembly with transfer fluid (hypoid gear oil), if necessary (see **TRANSFER ASSEMBLY FLUID REPLACEMENT**).
7. Refill the transmission with ATF (see step 6).

TRANSMISSION REMOVAL

Special Tools Required

- Engine support hanger, A and Reds AAR-T-12566
- Engine hanger balancer bar VSB02C000019
- Front subframe adapter VSB02C000016

These special tools are available through the Acura Tool and Equipment Program 1-888-424-6857.

NOTE:

- Use fender covers to avoid damaging painted surfaces.
- Special tool Reds engine support hanger AAR-T-12566 must be used with the side engine mount installed.

1. Make sure you have the anti-theft codes for the audio system and the navigation system. Make sure the ignition switch is in LOCK (0).
2. Remove the covers in the following order: battery trim (A), left upper fender trim (B), cowl cover upper trim (C), right upper fender trim (D), upper grille cover (E), and intake manifold cover (F).

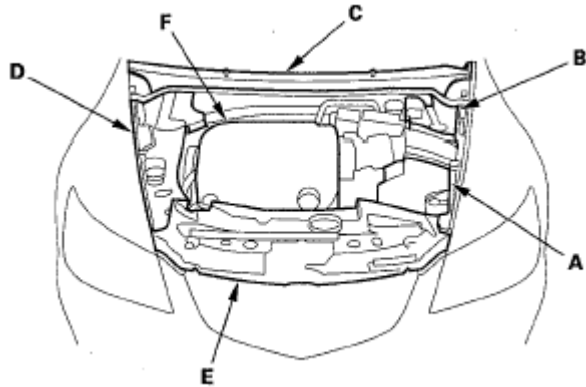


Fig. 258: Identifying Battery Trim, Cowl Cover Upper Trim, Upper Grille Cover And Intake Manifold Cover

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the windshield wiper arms (see **WIPER MOTOR REPLACEMENT**) and cowl cover (see **WIPER MOTOR REPLACEMENT**).
4. Disconnect the support strut from the pivot ball on both sides (bolted to the hood). Raise and secure the hood in a vertical position. Remove the right side pivot ball and install it into the lower threaded hole, then reattach the support strut.

NOTE: Do not attempt to close the hood with the support strut in the vertical position; it will damage the support strut and the hood.

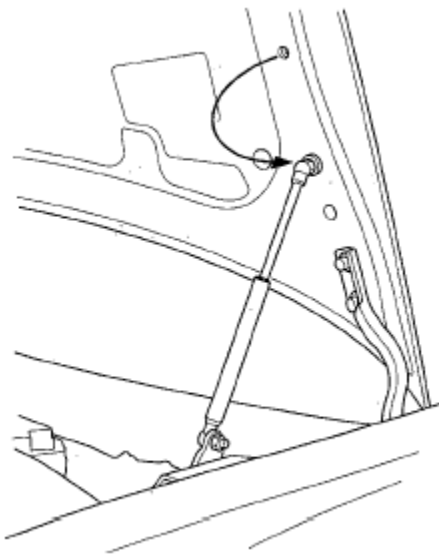


Fig. 259: [Removing Right Side Pivot Ball]

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Set the wheels in the straight ahead position, and lock the steering wheel.
6. Drain the power steering system fluid from the reservoir (see **FLUID CHECK/REPLACEMENT**).

7. Make sure the ignition switch is in LOCK (0). Disconnect the negative terminal from the battery, then disconnect the positive terminal.
8. Remove the battery hold-down bracket, and remove the battery cover, battery, and battery tray.
9. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
10. Remove the battery base.
11. Raise the vehicle on a lift, and make sure it is securely supported.
12. Remove the splash shield.
13. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

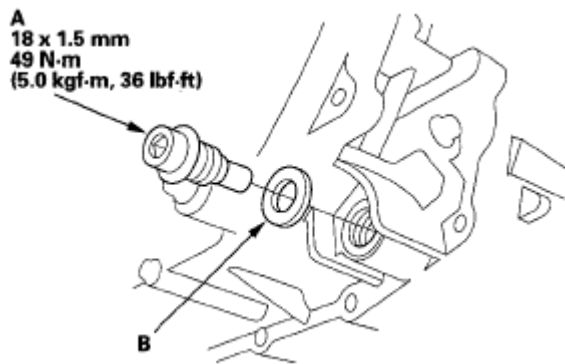


Fig. 260: Identifying Drain Plug And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Reinstall the drain plug with a new sealing washer (B).
15. Remove the strut brace.

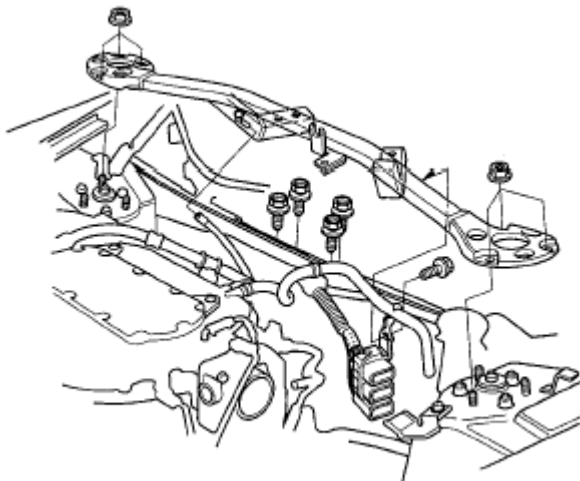


Fig. 261: Identifying Strut Brace
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Disconnect the steering joint (see **STEERING COLUMN REMOVAL AND INSTALLATION**).

17. Remove the power steering pump outlet line (A) from the power steering pump, and remove the hose (B) from its clamp (C).

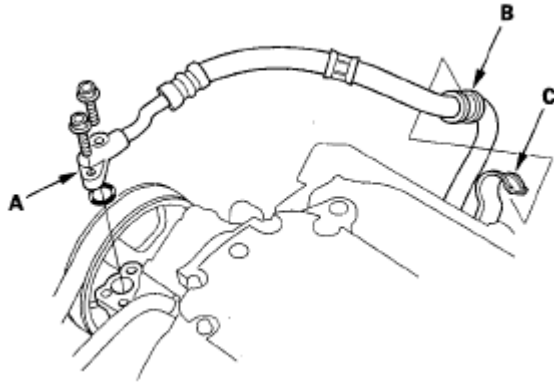


Fig. 262: Identifying Power Steering Pump Outlet Line, Hose And Clamp
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Disconnect the power steering pressure switch connector.

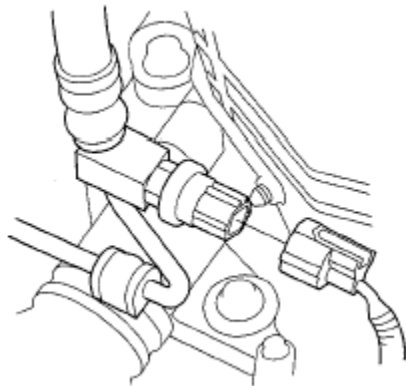


Fig. 263: Identifying Power Steering Pressure Switch Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Remove the starter cables (A) from the starter, and remove the harness clamp (B) from the clamp bracket (C).

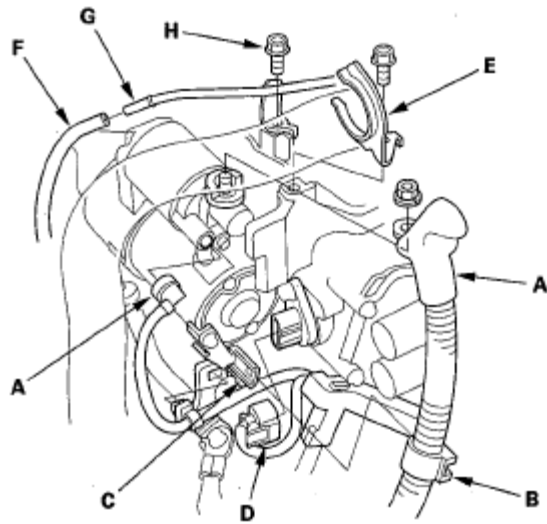


Fig. 264: Identifying Starter Cables, Vacuum Hose, Radiator Hose Clamp, Clamp Bracket And Solenoid Harness Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Disconnect the solenoid harness connector (D).
21. Remove the bolt securing the radiator hose clamp (E).
22. Disconnect the vacuum hose (F) from the vacuum line (G), and remove the vacuum line bolt (H).
23. Remove the starter and gasket from the transmission.

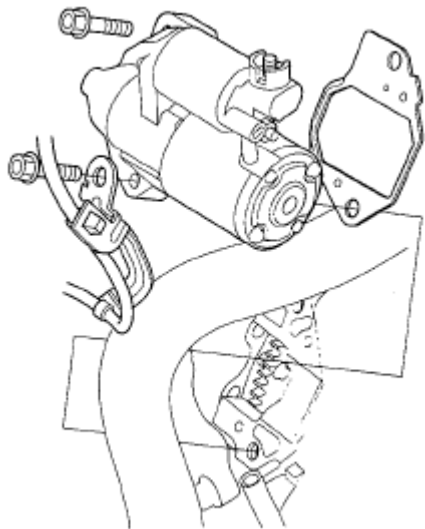


Fig. 265: Identifying Starter Bolts

Courtesy of AMERICAN HONDA MOTOR CO., INC.

24. Remove the nuts securing the shift cable bracket (A).

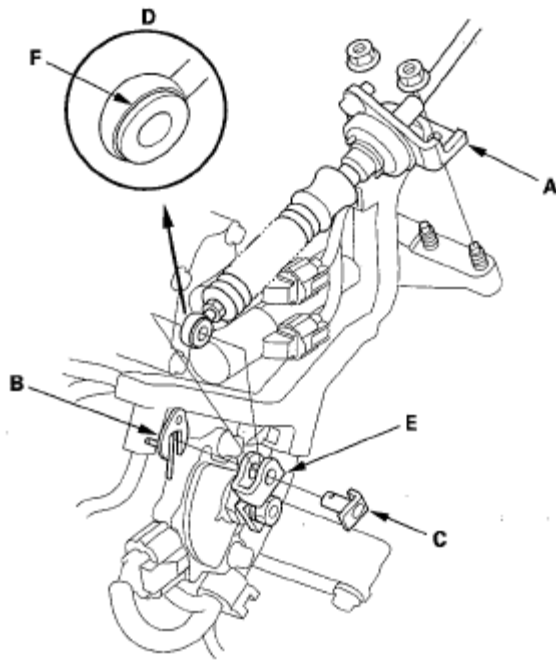


Fig. 266: Identifying Shift Cable End Transmission Side
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

25. Remove the spring clip/washer (B) and the control pin (C), then separate the shift cable end (D) from the control lever (E).
26. Check the bushing (F) in the shift cable end for a proper fit and wear. If the bushing is loose or worn, replace the shift cable (see **SHIFT CABLE REPLACEMENT**).
27. Disconnect the A/T clutch pressure control solenoid valve A connector, A/T clutch pressure control solenoid valve B connector, and 4th clutch transmission fluid pressure switch connectors (C), and remove the harness cover mounting bolt (D).

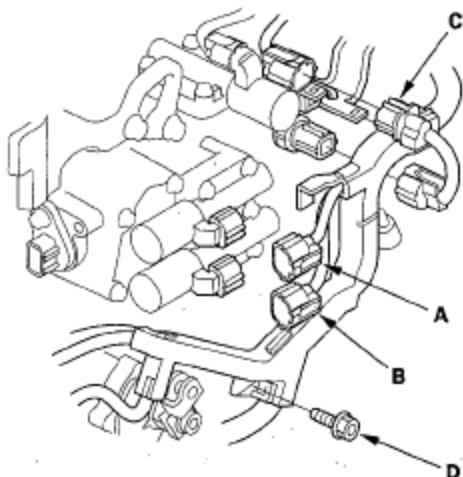


Fig. 267: Identifying 4th Clutch Transmission Fluid Pressure Switch Connectors And Harness Cover Mounting Bolt

Courtesy of AMERICAN HONDA MOTOR CO., INC.

28. Remove the harness cover mounting bolt, and remove the harness clamps (A) from the clamp brackets (B).

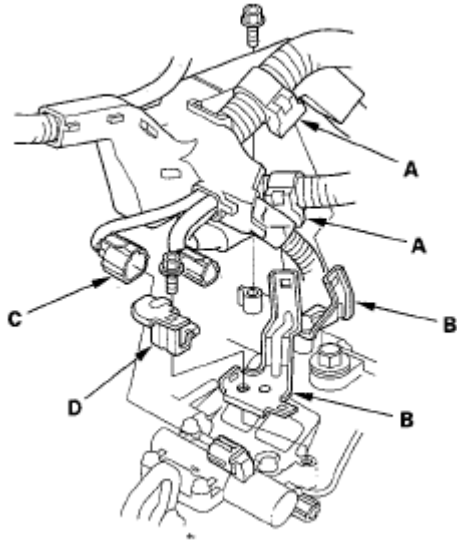


Fig. 268: Identifying Harness Clamps, Clamp Brackets And Connector Bracket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

29. Disconnect the A/T clutch pressure control solenoid valve C connector, and remove the connector bracket (D) and harness clamp bracket.
30. Disconnect the transmission range switch connector (A), and remove the harness clamp (B) from the clamp bracket (C).

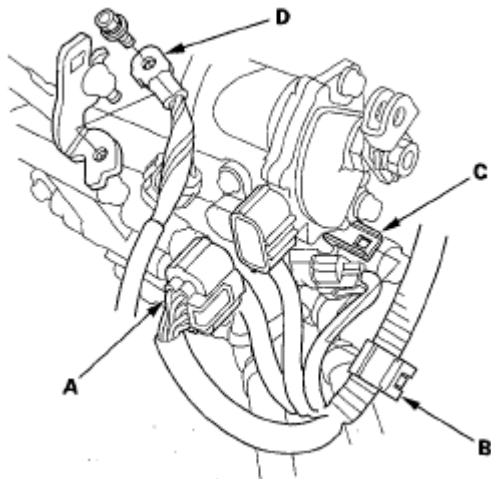


Fig. 269: Identifying Transmission Range Switch Connector, Harness Clamp, Transmission Ground Cable And Clamp Bracket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

31. Remove the transmission ground cable (D).
32. Disconnect the output shaft (countershaft) speed sensor connector (A), input shaft (mainshaft) speed sensor connector (B), 3rd clutch transmission fluid pressure switch connector (C), and ATF temperature sensor connector (D).

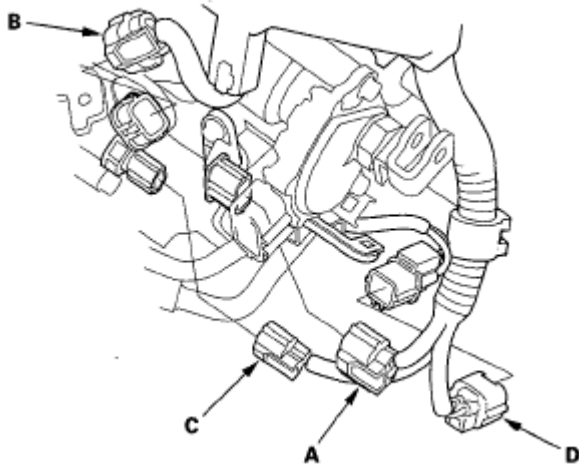


Fig. 270: Identifying Input Shaft (Mainshaft) Speed Sensor Connector And 3rd Clutch Transmission Fluid Pressure Switch Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

33. Disconnect the 2nd clutch transmission fluid pressure switch connector (A), and remove the vacuum line bolt(B).

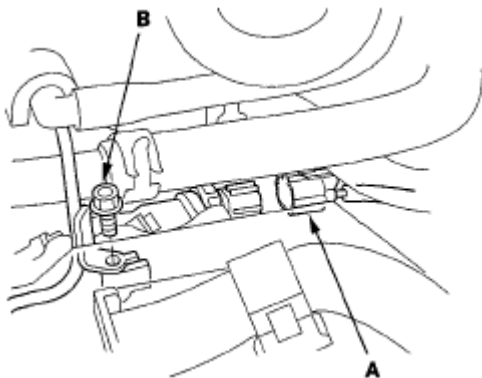


Fig. 271: Identifying 2nd Clutch Transmission Fluid Pressure Switch Connector And Vacuum Line Bolt
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

34. Remove the ATF cooler hoses (A) from the ATF cooler lines (B). Turn the ends of the cooler hoses up to prevent ATF from flowing out, then plug the cooler hoses and lines.

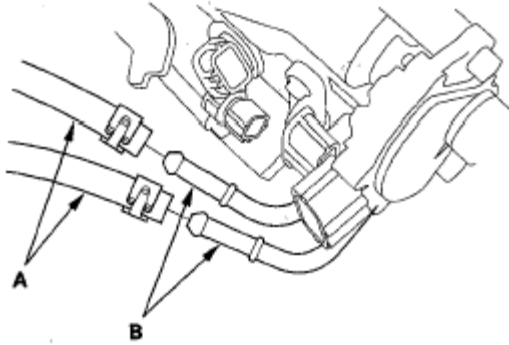


Fig. 272: Identifying ATF Cooler Hoses And ATF Cooler Lines
Courtesy of AMERICAN HONDA MOTOR CO., INC.

35. Check for any sign of leakage at the hose joints.
36. Remove the connector bracket from the engine front cylinder head; use the bracket bolt hole to attach the engine hanger balancer bar front arm.

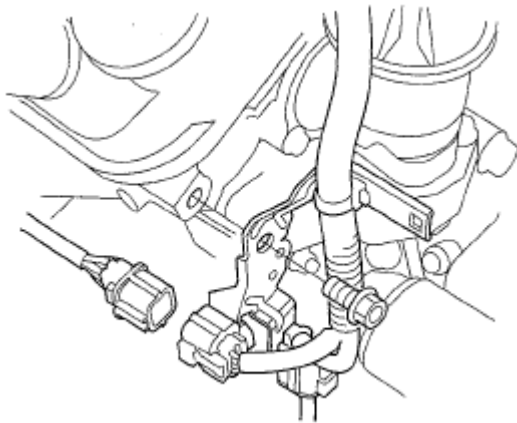


Fig. 273: Identifying Connector Bracket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

37. Disconnect the solenoid connector, disconnect the vacuum tube from the joint, then remove the bracket from the engine rear cylinder head; use the bracket bolt hole to attach the engine hanger balancer bar rear arm.

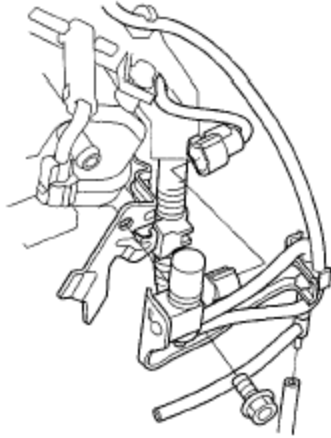


Fig. 274: Identifying Solenoid Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

38. Install the engine balancer bar (VSB02C000019); attach the front arm (A) to the front cylinder head with the spacer and the 10 mm bolt, and attach the rear arm (B) to the rear cylinder head with the 8 mm bolt.

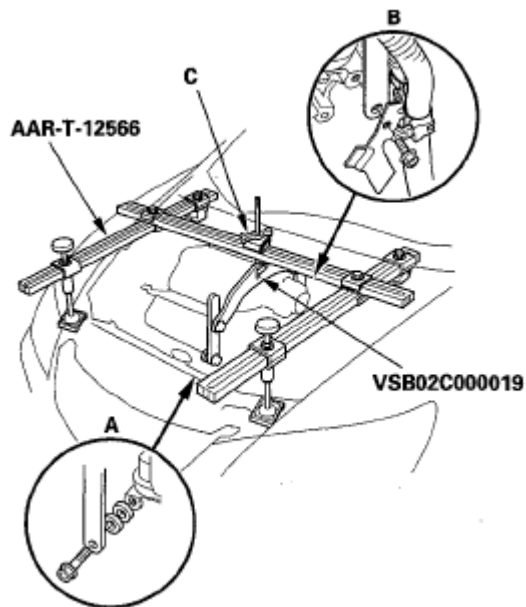


Fig. 275: Identifying Engine Balancer Bar, Front Arm And Rear Arm

Courtesy of AMERICAN HONDA MOTOR CO., INC.

39. Install the engine support hanger (AAR-T-12566) to the vehicle, and attach the hook to the engine balancer bar slot. Tighten the wing nut (C) by hand, and lift and support the engine.
40. Remove the front mount stop (A) and front mount bolt (B).

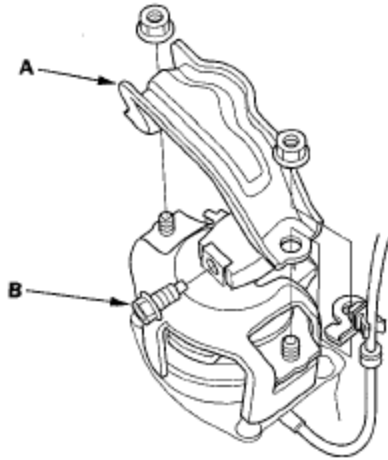


Fig. 276: Identifying Front Mount Stop And Front Mount Bolt
Courtesy of AMERICAN HONDA MOTOR CO., INC.

41. Remove exhaust pipe A.

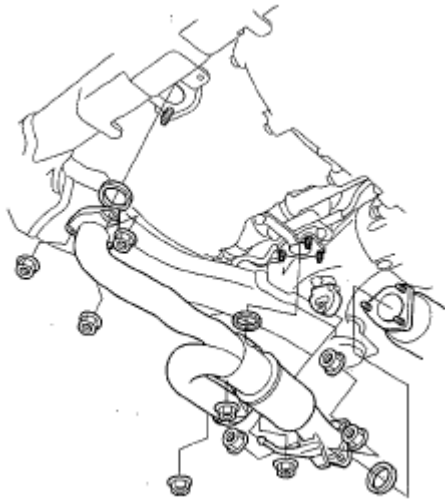


Fig. 277: Identifying Exhaust Pipe
Courtesy of AMERICAN HONDA MOTOR CO., INC.

42. Make a reference mark (A) across the propeller shaft (B) and the transfer companion flange (C).

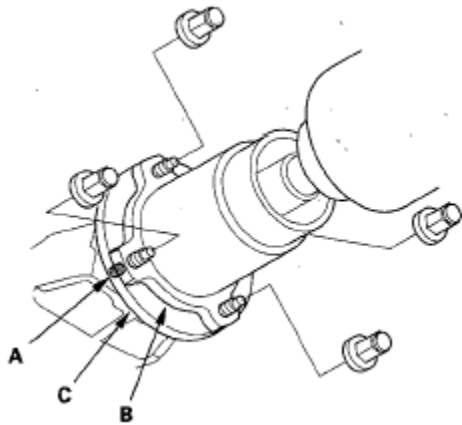


Fig. 278: Identifying Reference Mark Across Propeller Shaft And Transfer Companion Flange
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

43. Separate the propeller shaft from the transfer companion flange.
44. Remove the propeller shaft (see **PROPELLER SHAFT REMOVAL**).
45. Insert a 6 mm Allen wrench (A) in the top of the ball joint pin (B), and remove the nuts (C), then separate the stabilizer link (D) from the lower arms (E).

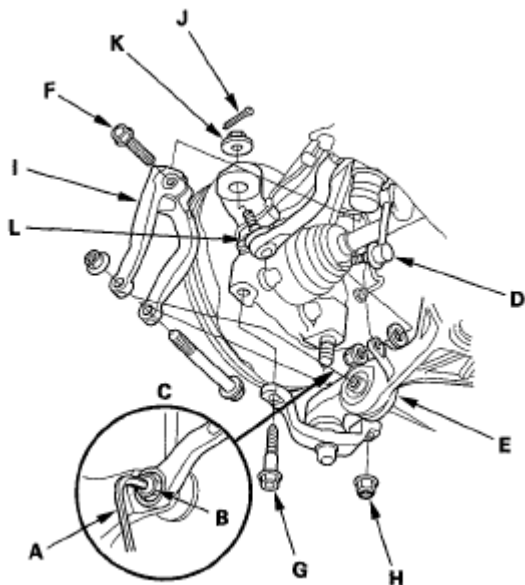


Fig. 279: Identifying Stabilizer Link, Knuckle Holder Bolts And Steering Tie-Rod End Ball Joints
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

46. Remove the damper pinch bolts (F), damper fork bolts and self-locking nuts, knuckle holder bolts (G) and nuts (H). Remove the damper forks (I).
47. Remove the cotter pins (J) and nuts (K), and separate the steering tie-rod end ball joints (L) from the knuckle (see step 13 under **STEERING GEARBOX REMOVAL**).
48. Remove the bolt securing the transfer breather tube bracket (A), and disconnect the breather tube (B)

from the breather pipe (C) on the transfer assembly. Cap the breather pipe to prevent fluid from leaking out.

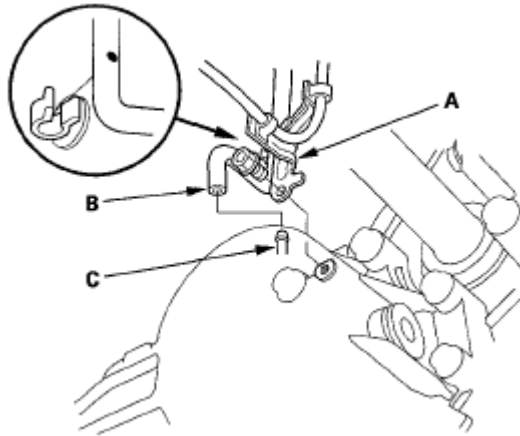


Fig. 280: Identifying Transfer Breather Tube Bracket, Breather Tube And Breather Pipe
Courtesy of AMERICAN HONDA MOTOR CO., INC.

49. Remove the transfer assembly from the transmission.

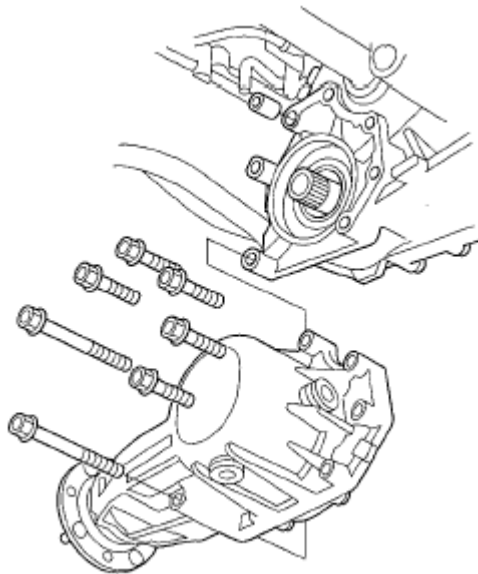


Fig. 281: Identifying Transfer Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.

50. Remove the steering gearbox heat shield.

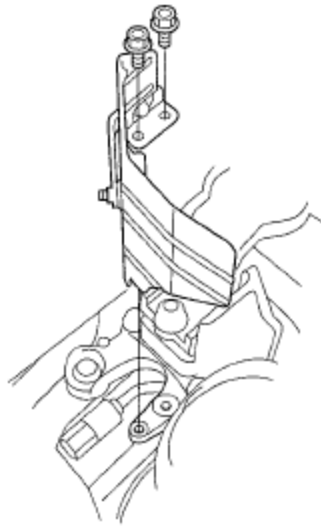


Fig. 282: Identifying Steering Gearbox Heat Shield
Courtesy of AMERICAN HONDA MOTOR CO., INC.

51. Loosen the hose clamp bolt, then disconnect the power steering fluid hose (A) from the line at the right front of the subframe.

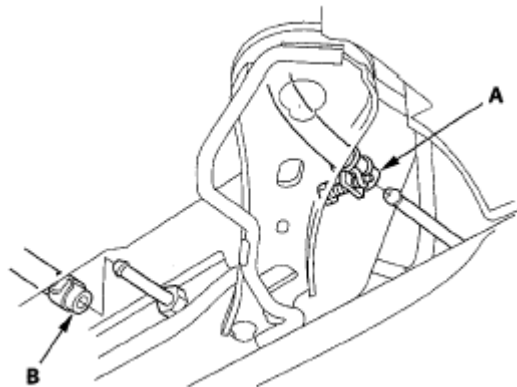


Fig. 283: Identifying Power Steering Fluid Hose And ATF Cooler Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

52. Remove the ATF cooler hose (B) from the ATF cooler. Turn the end of the cooler hose up to prevent ATF from flowing out, then plug the hose.
53. Remove the torque converter cover (A), and remove the drive plate bolts (B) (8) while rotating the crankshaft pulley.

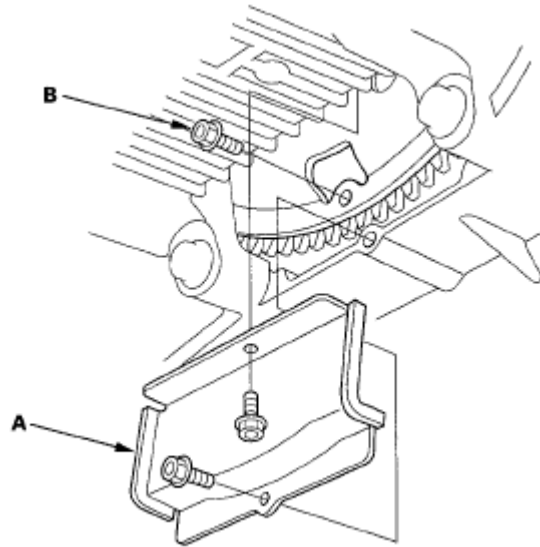


Fig. 284: Identifying Torque Converter Cover And Drive Plate Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

54. Remove the transmission lower mount bolts.

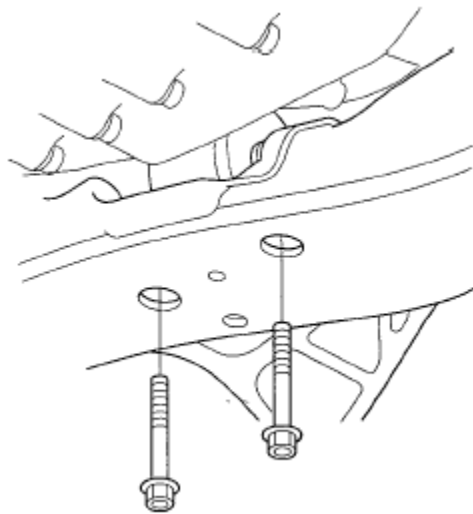


Fig. 285: Identifying Transmission Lower Mount Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

55. Disconnect the power steering angle sensor connector.

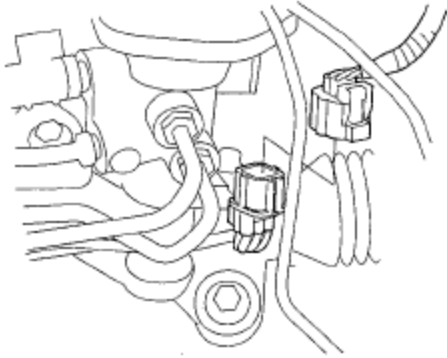


Fig. 286: Identifying Power Steering Angle Sensor Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

56. Remove the shift cable bracket on the steering gearbox stiffener.

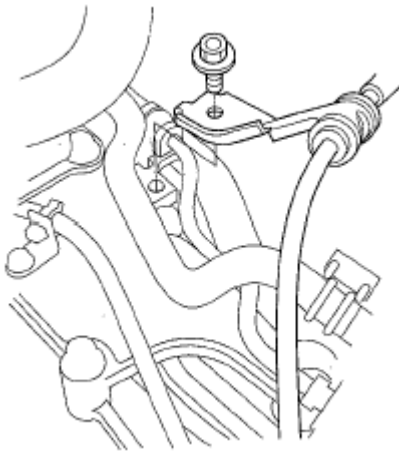


Fig. 287: Identifying Shift Cable Bracket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

57. Remove the rear mount stop (A), and remove the rear mount bolt (B).

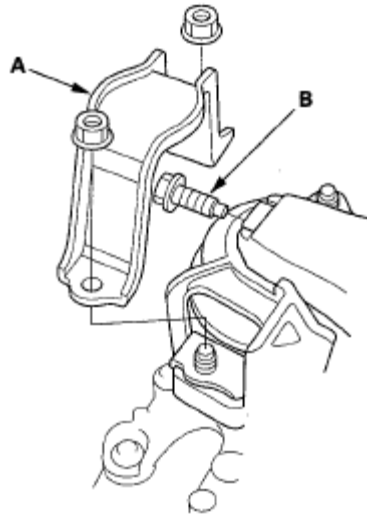


Fig. 288: Identifying Rear Mount Stop And Rear Mount Bolt
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

58. Attach the front subframe adapter (VSB02C000016) to the subframe by looping the belt over the front of the subframe, then secure the belt with its stop.

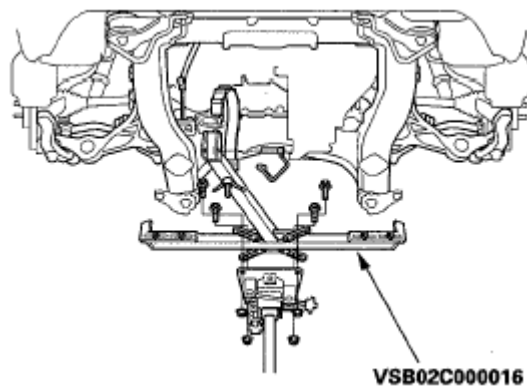


Fig. 289: Attaching Front Subframe Adapter (VSB02C000016) To Subframe
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

59. Raise the jack and line up the slots in the arms with the bolt holes on the corner of the jack base, then attach them with bolts.
60. Remove the four bolts securing the stiffeners (A) and the four bolts securing the front subframe (B), and lower the front subframe.

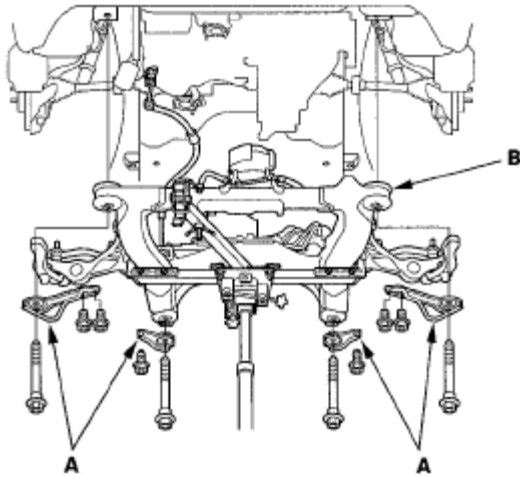


Fig. 290: Identifying Stiffeners And Front Subframe Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

61. Remove the transmission lower mount.

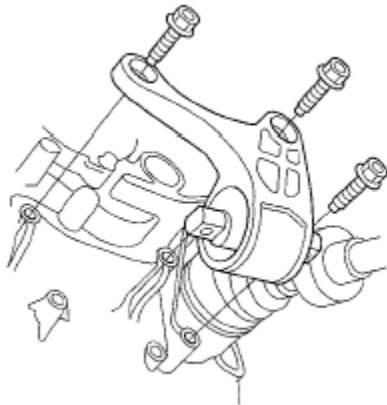


Fig. 291: Identifying Transmission Lower Mount
Courtesy of AMERICAN HONDA MOTOR CO., INC.

62. Pry out the driveshafts from the differential and intermediate shaft.

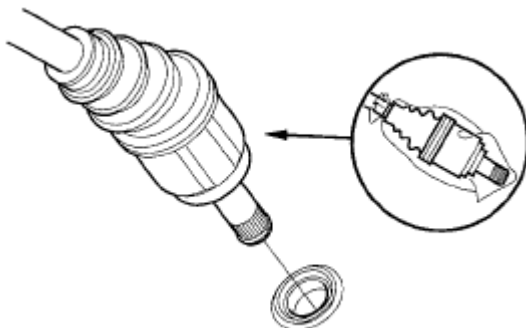


Fig. 292: Covering Driveshaft With Plastic Bags
Courtesy of AMERICAN HONDA MOTOR CO., INC.

63. Remove the exhaust manifold bracket and heat shield.

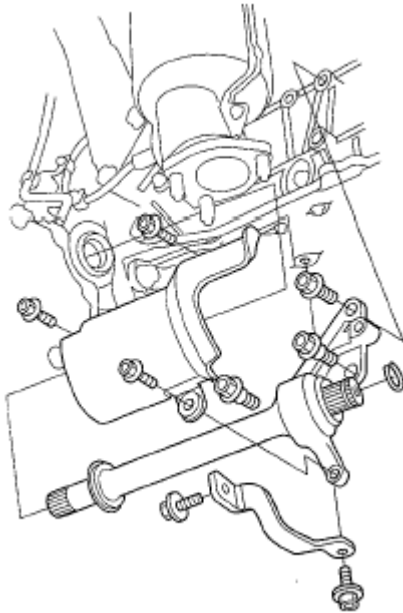


Fig. 293: Identifying Exhaust Manifold Bracket And Heat Shield
Courtesy of AMERICAN HONDA MOTOR CO., INC.

64. Remove the intermediate shaft.
65. Coat all precision finished surfaces with clean engine oil, then the plastic bags over the driveshaft ends and intermediate shaft ends.
66. Remove the transmission housing mounting bolts.

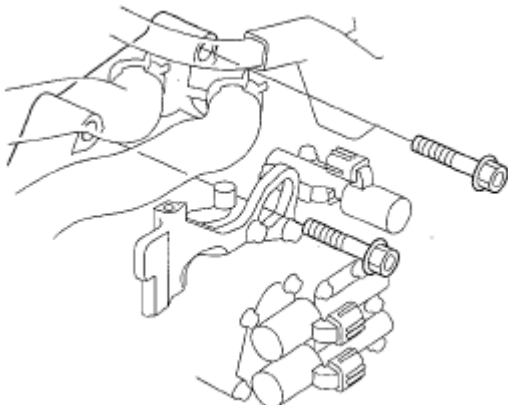


Fig. 294: Identifying Transmission Housing Mounting Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

67. Remove the front mount bracket (A).

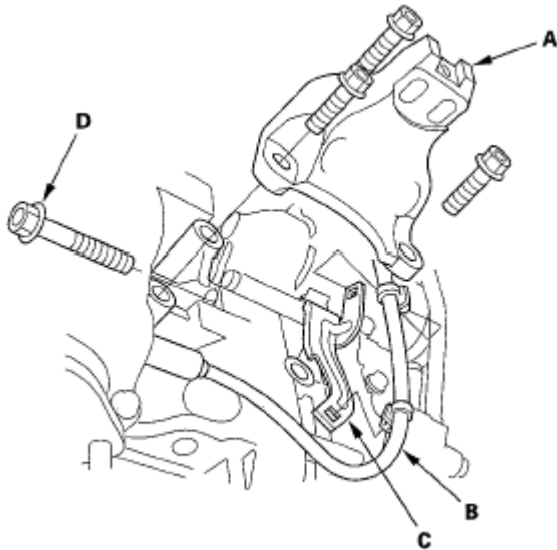


Fig. 295: Identifying Front Mount Bracket, Sensor Harness And Harness Clamp
Courtesy of AMERICAN HONDA MOTOR CO., INC.

68. Remove the sensor harness (B) from the harness clamp (C).
69. Remove the transmission housing mounting bolt (D) using a socket 22 mm in length.
70. Remove the transmission housing mounting bolts.

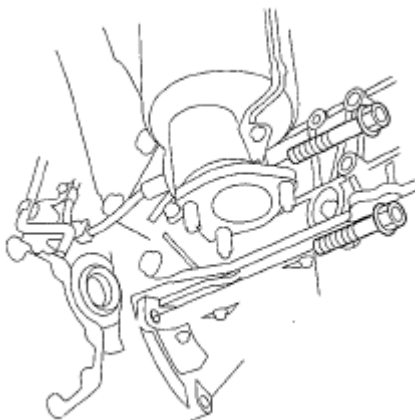


Fig. 296: Identifying Transmission Housing Mounting Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

71. Remove the transmission housing mounting bolts.

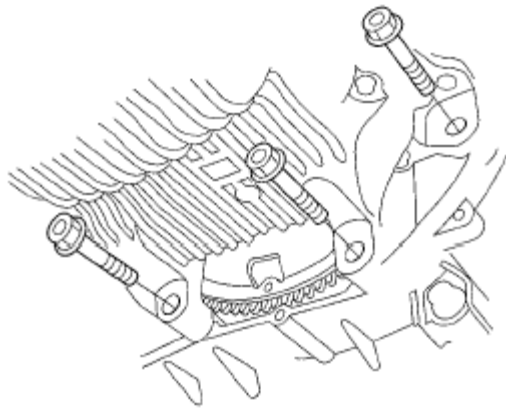


Fig. 297: Identifying Transmission Housing Mounting Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

72. Lower the transmission by loosening the wing nut of the engine support hanger, and tilt the engine just enough for the end of the transmission to clear the side frame.
73. Place a jack under the transmission.
74. Slide the transmission away from the engine to remove it from the vehicle.
75. Remove the torque converter and dowel pins.

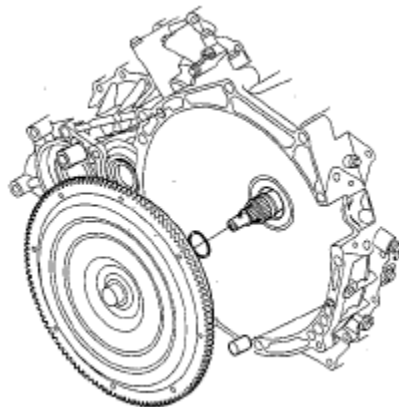


Fig. 298: Identifying Torque Converter And Dowel Pins
Courtesy of AMERICAN HONDA MOTOR CO., INC.

76. Remove the clamp bracket.

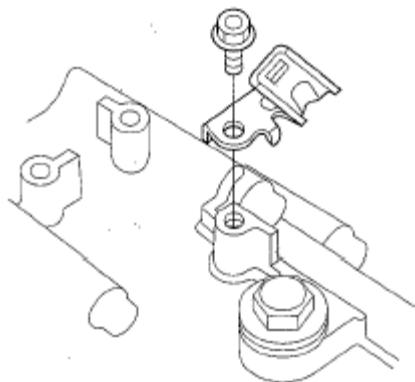


Fig. 299: Identifying Clamp Bracket

Courtesy of AMERICAN HONDA MOTOR CO., INC.

77. Inspect the drive plate, and replace it if it's damaged (see **DRIVE PLATE REMOVAL AND INSTALLATION**).

TRANSMISSION INSTALLATION

Special Tools Required

- Frame positioning guide pin 070AG-SJAA10S
- Engine support hanger, A and Reds AAR-T-12566
- Engine hanger balancer bar VSB02C000019
- Front subframe adapter VSB02C000016

These special tools are available through the Acura Tool and Equipment Program 1-888-424-6857.

NOTE: **Use fender covers to avoid damaging painted surfaces.**

1. Clean the ATF cooler (see **ATF COOLER CLEANING**).
2. Install the clamp bracket.

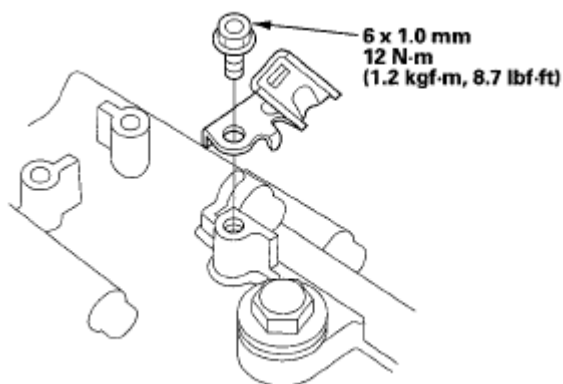


Fig. 300: Identifying Clamp Bracket With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the torque converter (A) on the mainshaft (B) with the new O-ring (C).

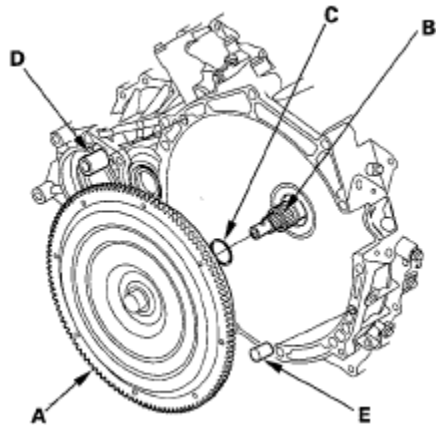


Fig. 301: Identifying Torque Converter, Mainshaft And Dowel Pin
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the 14 mm dowel pin (D) and 10 mm dowel pin (E) in the torque converter housing.
5. Install the transmission lower mount with the new bolts.

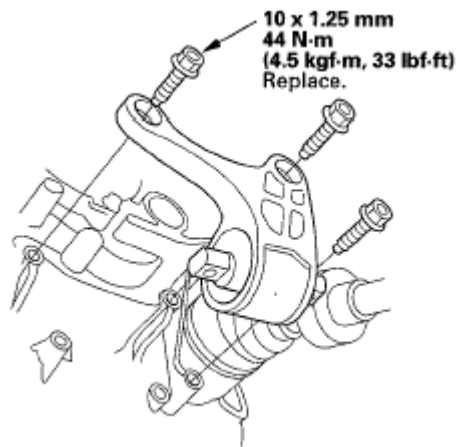


Fig. 302: Identifying Transmission Lower Mount Bolts With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Place the transmission on the jack, and raise it to engine level.
7. Attach the transmission to the engine, and install the transmission housing mounting bolts.

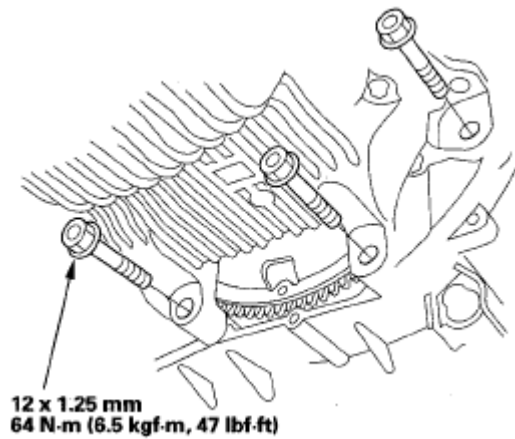


Fig. 303: Identifying Lower Transmission Housing Mounting Bolts With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the transmission housing mounting bolts.

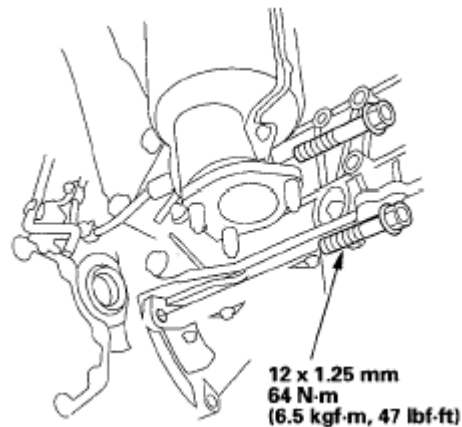


Fig. 304: Identifying Rear Transmission Housing Mounting Bolts With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the transmission housing mounting bolts.

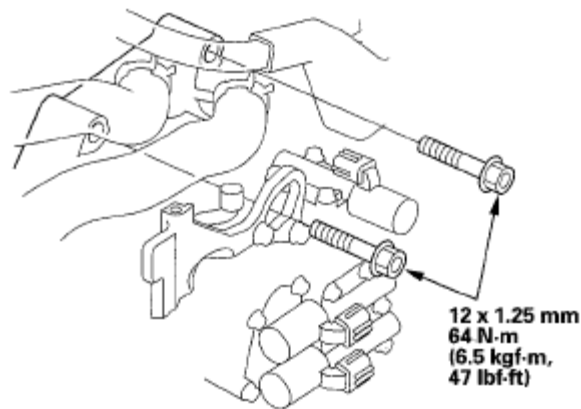


Fig. 305: Identifying Top Transmission Housing Mounting Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install the transmission housing mounting bolt (A) with a socket 22 mm in length and a torque wrench.

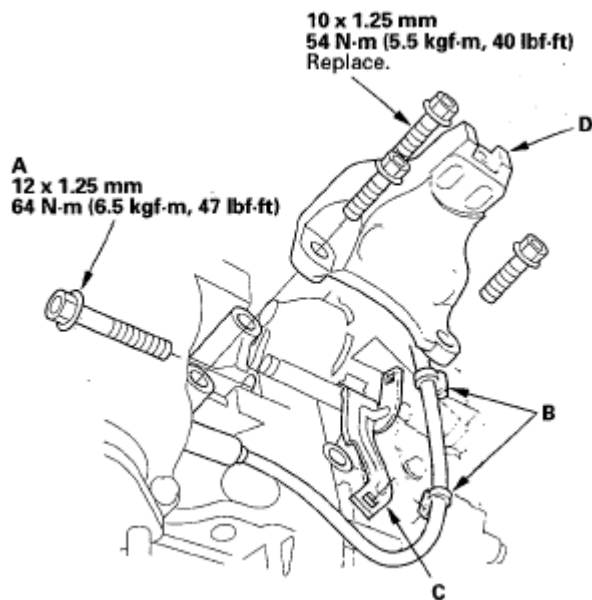


Fig. 306: Identifying Sensor Harness Clamps, Bracket, Front Transmission Mounting Bolts And Front Mount Bracket Bolts With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Install the sensor harness clamps (B) on the clamp bracket (C).
12. Install the front mount bracket (D) with the new mounting bolts.
13. Install the new set ring (A) on the intermediate shaft (B).

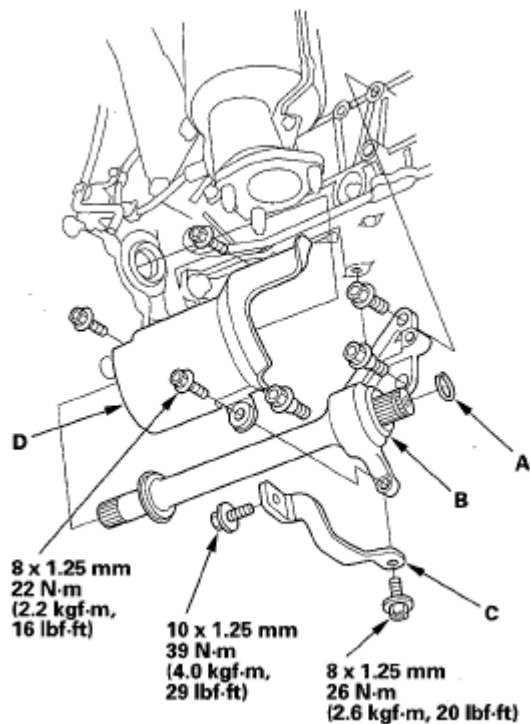


Fig. 307: Identifying Set Ring, Intermediate Shaft, Exhaust Manifold Bracket And Heat Shield With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Clean the areas where the intermediate shaft contacts the transmission (differential) with solvent, and dry with compressed air. Apply ATF to the intermediate shaft splines, then install the intermediate shaft; be sure not to allow dust or other foreign particles to enter the transmission.
15. Install the exhaust manifold bracket (C) and heat shield (D).
16. Install the new set ring (A) on the left driveshaft (B).

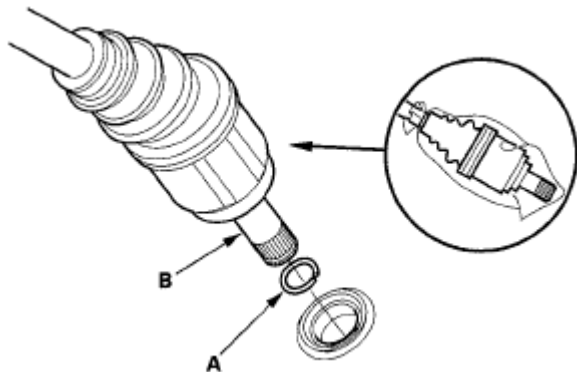


Fig. 308: Identifying Set Ring And Left Driveshaft

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Clean the areas where the left driveshaft contacts the transmission (differential) with solvent, and dry with

compressed air. Then install the left driveshaft; be sure not to allow dust or other foreign particles to enter the transmission. Turn the steering knuckle fully outward, and slide the driveshaft into the differential until you feel its set ring fully engage the side gear.

18. Apply right driveshaft inboard-joint splines with the recommended grease.
19. Slide the right driveshaft over the intermediate shaft splines until you feel the driveshaft fully engage the intermediate shaft set ring.
20. Support the front subframe (A) with the front subframe adapter (VSB02C000016) and a jack, and lift it up to body.

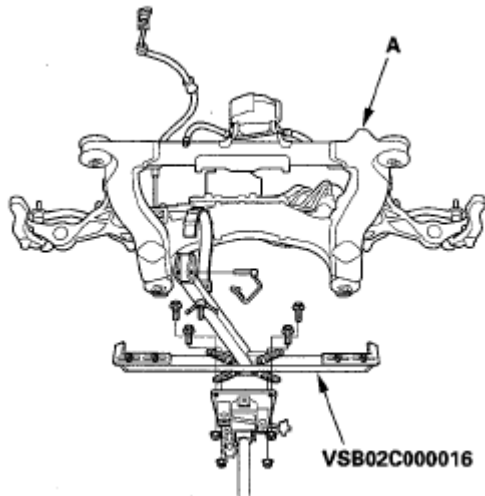


Fig. 309: Supporting Front Subframe With Front Subframe Adapter And Jack
Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Loosely install the new subframe mounting bolts (A), rear stiffener mounting bolts (B), front stiffener mounting bolts (C), and front and rear stiffeners.

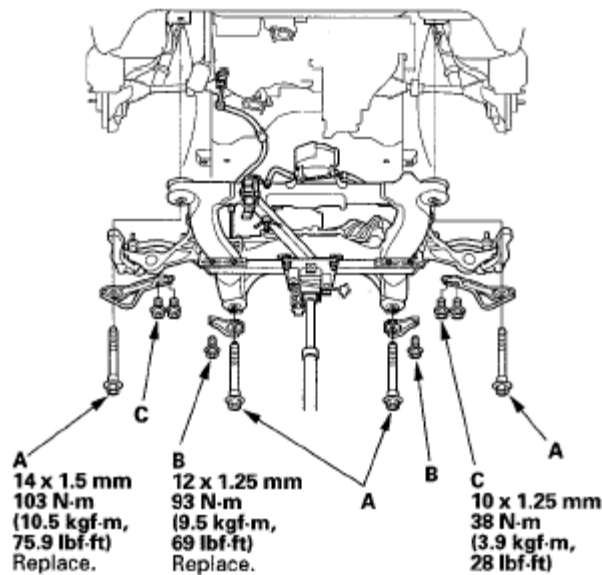


Fig. 310: Identifying Subframe Mounting Bolts, Rear Stiffener Mounting Bolts And Front Stiffener Mounting Bolts With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Partially tighten the right rear subframe mounting bolt (A); insert the special tool through the positioning slot (B) on the rear stiffener, through the positioning hole (C) on the subframe, and into the positioning hole (D) on the body, then tighten the subframe mounting bolt.

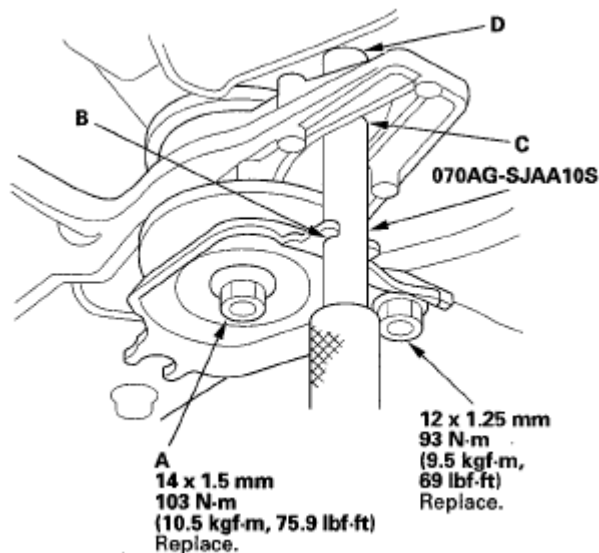


Fig. 311: Identifying Right Rear Subframe Mounting Bolt With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Partially tighten the left rear subframe mounting bolt in the same manner in step 22.
24. Partially tighten the right and left front subframe mounting bolts.

25. Loosen the right rear mounting bolt, then tighten the bolt to the specified torque.
26. Tighten the left rear mounting bolt to the specified torque.
27. Tighten the right and left front mounting bolts to the specified torque.
28. Check that the positioning holes and slot are aligned using the special tool.
29. Tighten the rear and front stiffener mounting bolts to the specified torque.
30. Remove the jack and front subframe adapter.
31. Install the new transmission lower mount bolts.

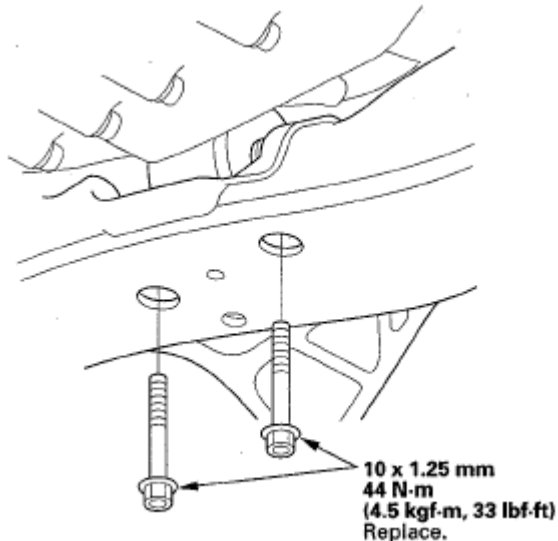


Fig. 312: Identifying Transmission Lower Mount Bolts With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

32. Attach the torque converter to the drive plate (A) with eight bolts (B). Rotate the crankshaft pulley as necessary to tighten the bolts to 1/2 of the specified torque, then to the final torque, in a crisscross pattern. After tightening the last bolt, check that the crankshaft rotates freely.

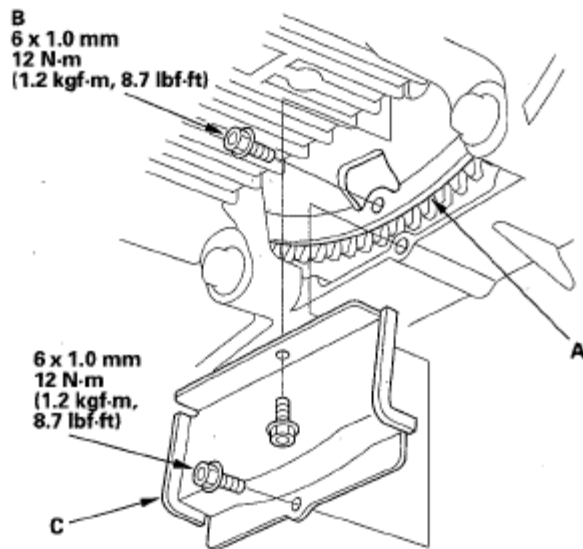


Fig. 313: Identifying Drive Plate Bolts And Torque Converter Cover With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

33. Install the torque converter cover (C).
34. Connect the power steering fluid hose (A) to the line (B) at the right front of the front subframe, and secure the hose with its hose clamp (C).

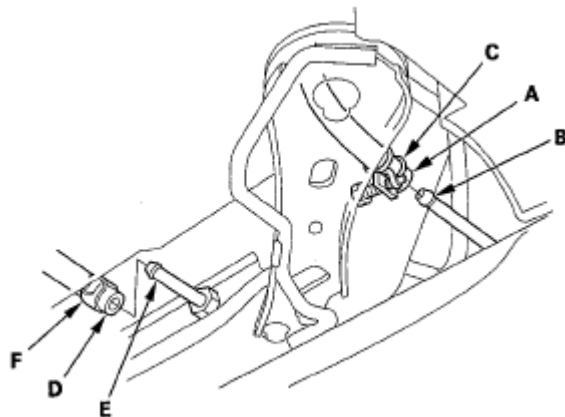


Fig. 314: Identifying Power Steering Fluid Hose, Hose Clamp, ATF Cooler Hose And ATF Cooler
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

35. Connect the ATF cooler hose (D) to the ATF cooler (E), and secure the hose with the clip (F) (see **ATF COOLER HOSE REPLACEMENT**).
36. Install the steering gearbox heat shield.

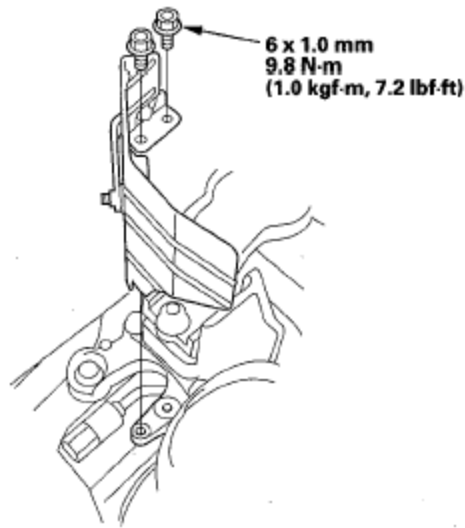


Fig. 315: Identifying Steering Gearbox Heat Shield With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

37. Install the dowel pin (A) in the transmission, and install the transfer assembly (B) on the transmission.

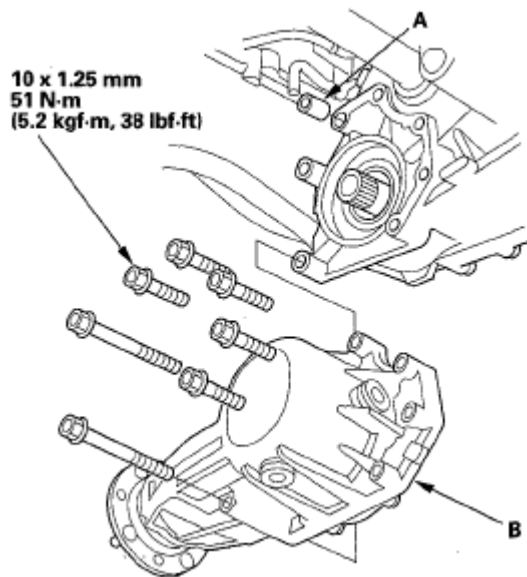


Fig. 316: Identifying Dowel Pin And Transfer Assembly With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

38. Secure the transfer breather tube bracket (A) on the transfer assembly with the bolt, and install the breather tube (B) over the breather pipe (C). If the breather tube was removed from the clamp, install the tube at the dot (D) on the clamp (E).

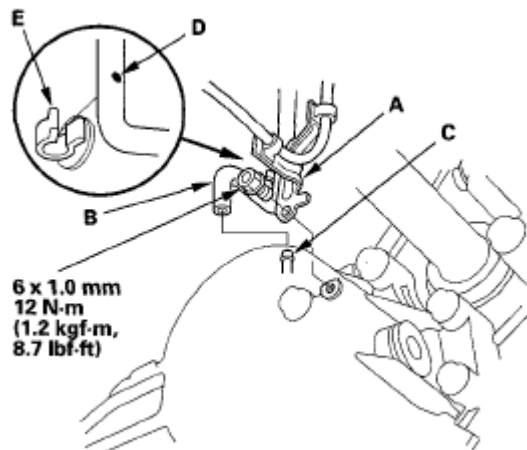


Fig. 317: Identifying Transfer Breather Tube Bracket, Breather Tube And Breather Pipe With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

39. Install the propeller shaft (see **PROPELLER SHAFT INSTALLATION**).
40. Install the propeller shaft (A) to the transfer companion flange (B) by aligning the reference mark (C).

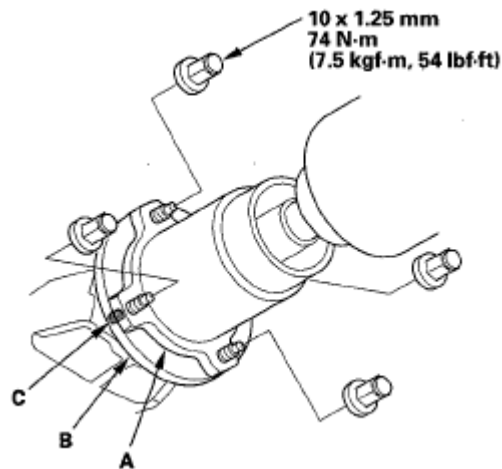


Fig. 318: Identifying Reference Mark Across Propeller Shaft And Transfer Companion Flange With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

41. Install exhaust pipe A with the new self-locking nuts and new gaskets (B) (C).

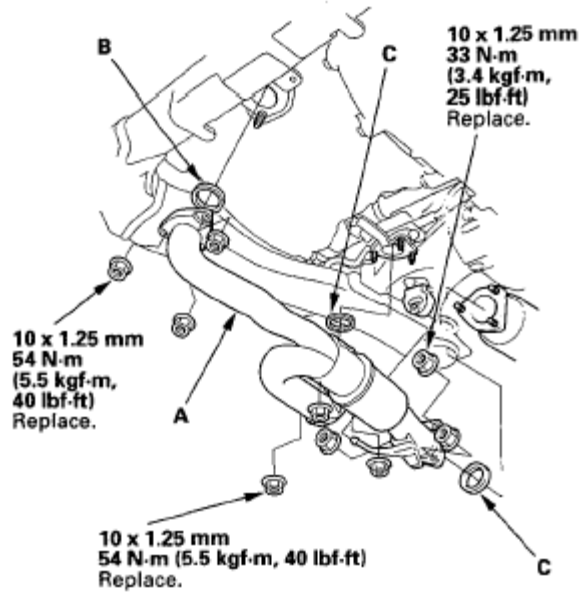


Fig. 319: Identifying Exhaust Pipe Nuts And Gaskets With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

42. Install the damper forks (A) with the damper pinch bolts, new damper fork bolts, and new self-locking nuts. Attach the knuckle holders (B) to each knuckle, and secure the knuckle holders with the bolts and new nuts.

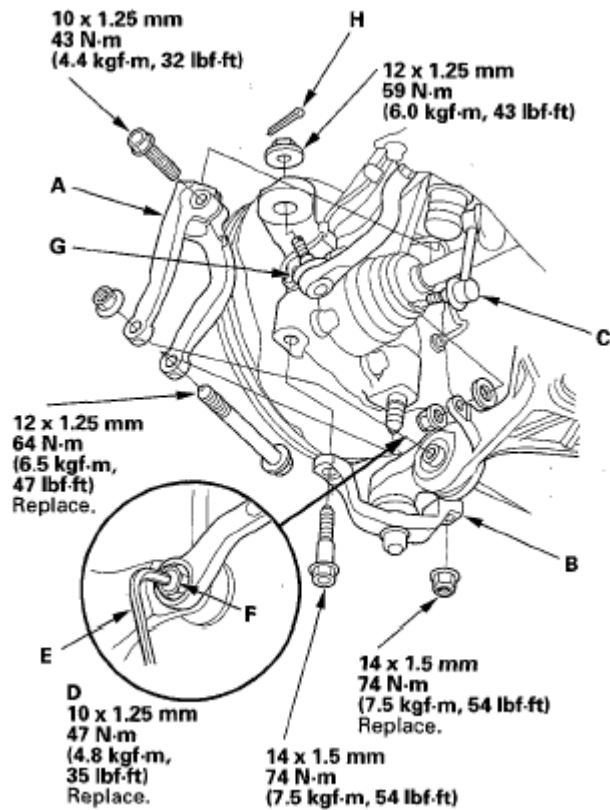


Fig. 320: Identifying Damper Forks, Knuckle Holders, Stabilizer Links And Tie-Rod End Ball Joints With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

43. Install the stabilizer links (C) to the lower arms, and install the nuts (D). Insert a 6 mm Allen wrench (E) in the ball joint pin (F), and tighten the nuts.
44. Install the tie-rod end ball joints (G) to each knuckle with the nuts and new cotter pins (H).
45. Install the new rear mount bolt, and install the rear mount stop with the new nuts.

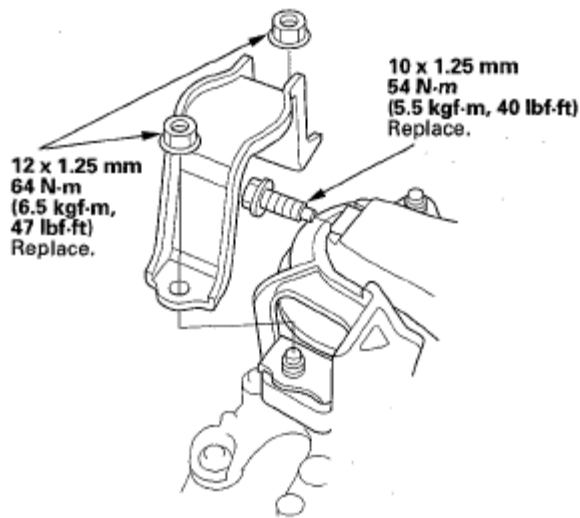


Fig. 321: Identifying Rear Mount Stop Nuts With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

46. Install the new front mount bolt, and install the front mount stop (A) and vacuum hose clamp (B).

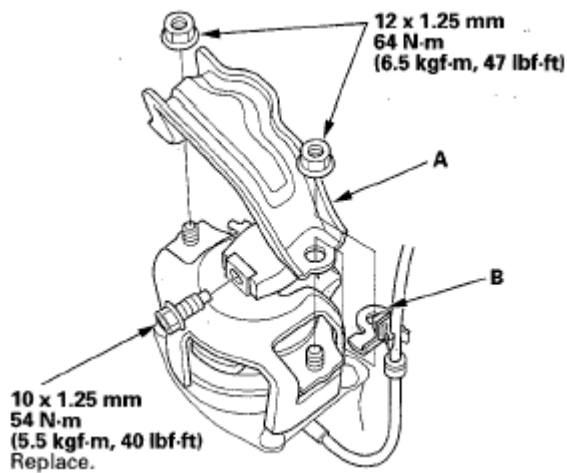


Fig. 322: Identifying Front Mount Stop And Vacuum Hose Clamp With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

47. Remove the engine support hanger and engine hanger balancer bar.
48. Install the connector bracket on the engine front cylinder head.

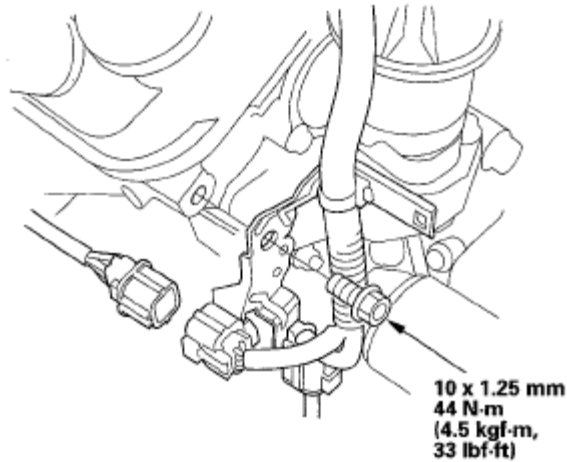


Fig. 323: Identifying Connector Bracket At Cylinder Head With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

49. Install the clamp brackets on the engine rear cylinder head, and connect the vacuum tube and solenoid connector.

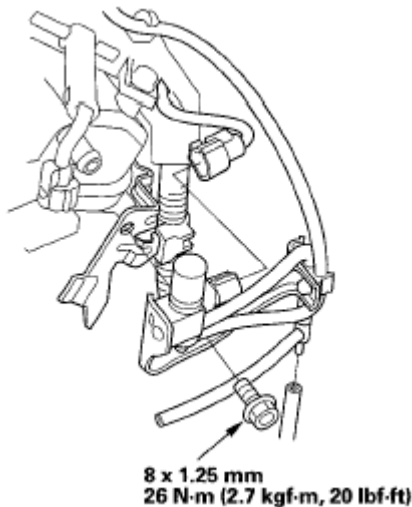


Fig. 324: Identifying Solenoid Bracket With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

50. Install the shift cable bracket on the steering gearbox stiffener.

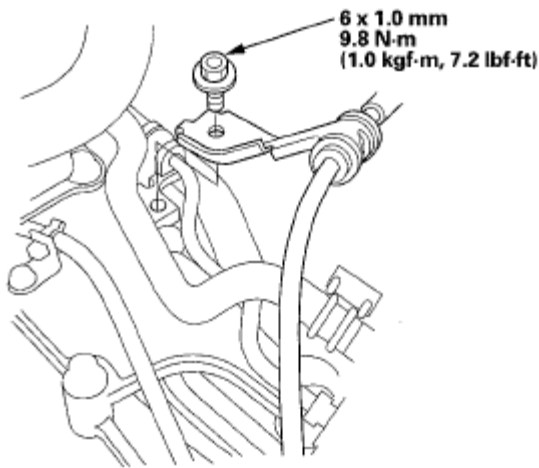


Fig. 325: Identifying Shift Cable Bracket With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

51. Connect the power steering angle sensor connector.

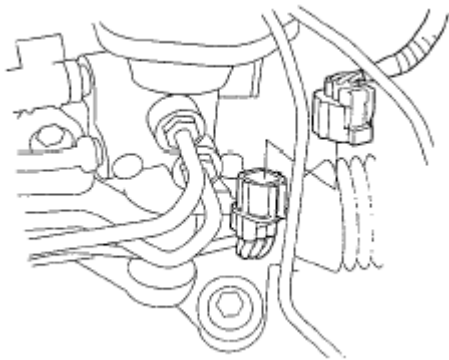


Fig. 326: Identifying Power Steering Angle Sensor Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

52. Connect the 2nd clutch transmission fluid pressure switch connector (A), and secure the vacuum line with the bolt.

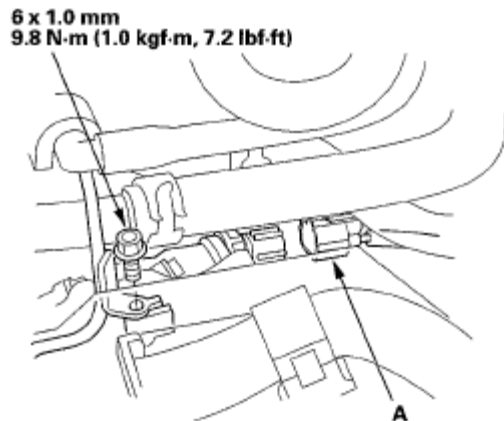


Fig. 327: Identifying 2nd Clutch Transmission Fluid Pressure Switch Connector And Vacuum Line With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

53. Connect the ATF cooler hoses (A) to the ATF cooler lines (B), and secure the hoses with the clips (C) (see **ATF COOLER HOSE REPLACEMENT**).

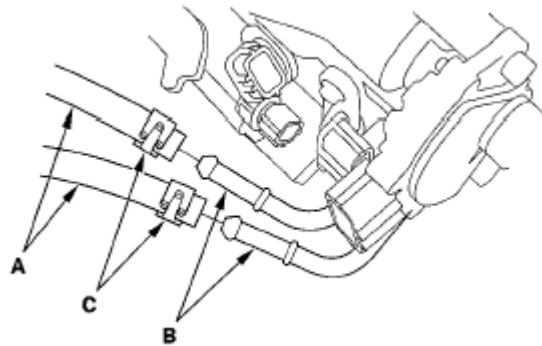


Fig. 328: Identifying ATF Cooler Hoses, ATF Cooler Lines And Clips

Courtesy of AMERICAN HONDA MOTOR CO., INC.

54. Connect the output shaft (countershaft) speed sensor connector (A), input shaft (mainshaft) speed sensor connector (B) and 3rd clutch transmission fluid pressure switch connector (C). Connect ATF temperature sensor connector (D), and install the connector on the connector bracket (E). Install the harness clamp (F) on the bracket.

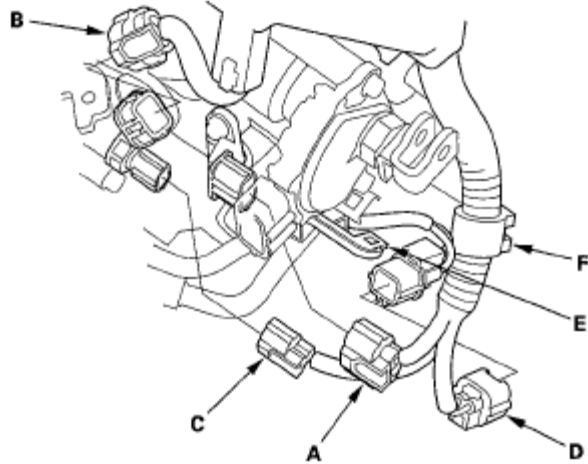


Fig. 329: Identifying Input Shaft (Mainshaft) Speed Sensor Connector And 3rd Clutch Transmission Fluid Pressure Switch Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

55. Connect the transmission range switch connector (A), and install the harness clamp (B) on the clamp bracket (C).

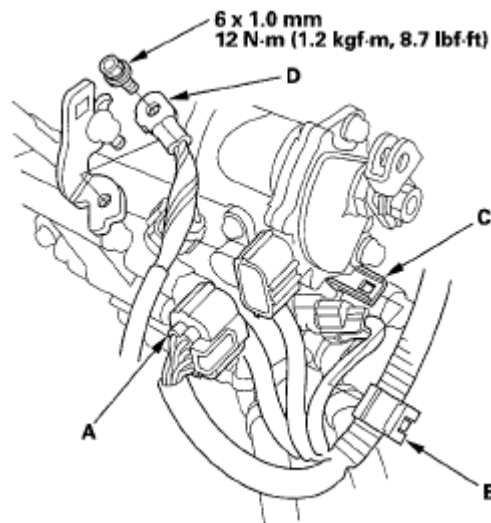


Fig. 330: Identifying Transmission Range Switch Connector, Transmission Ground Cable And Clamp Bracket With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

56. Install the transmission ground cable (D).
57. Install the harness clamp bracket (A) and connector bracket (B), and install the harness clamps (C) on the clamp brackets (A) (D).

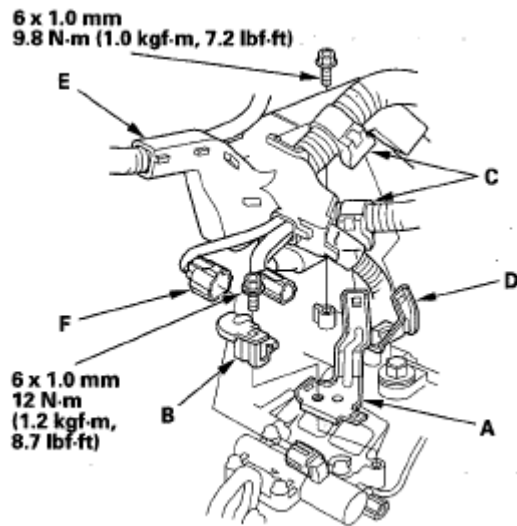


Fig. 331: Identifying Harness Clamp Bracket, Connector Bracket, Harness Clamps And Harness Cover With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

58. Secure the harness cover (E) with the bolt, and connect the A/T clutch pressure control solenoid valve C connector (F).
59. Secure the harness cover with the bolt, and connect the A/T clutch pressure control solenoid valve A connector, A/T clutch pressure control solenoid valve B connector, and 4th clutch transmission fluid pressure switch connectors (C).

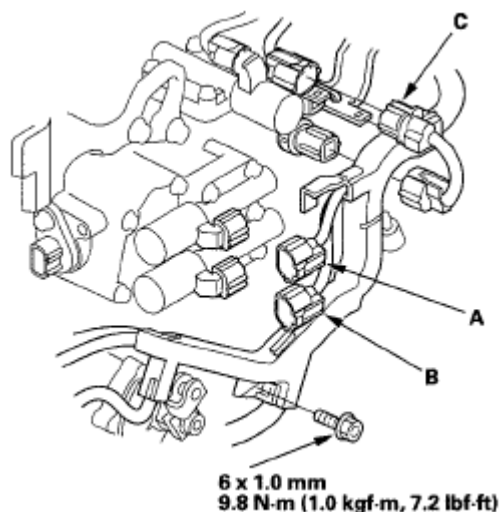


Fig. 332: Identifying Transmission Connectors And Harness Cover With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

60. Apply molybdenum grease to the hole in the bushing (A) in the shift cable end (B);

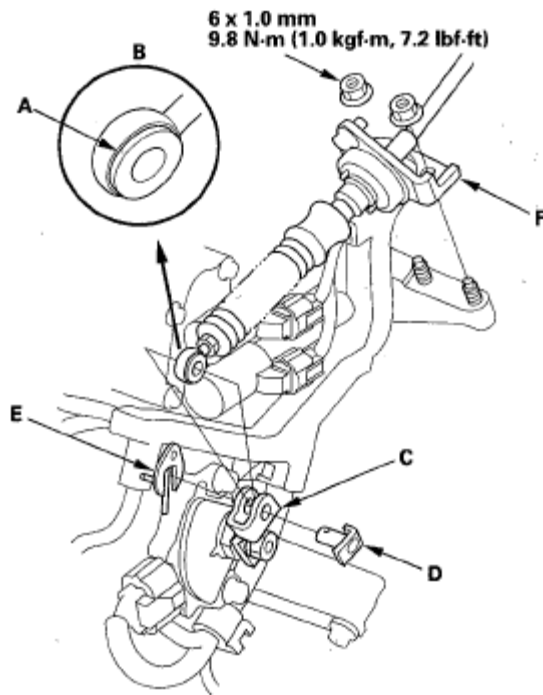


Fig. 333: Identifying Bushing, Control Lever, Spring Clip/Washer And Control Pin With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

61. Attach the shift cable end to the control lever (C), then insert the control pin (D) into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer (E).
62. Secure the shift cable bracket (F) with the nuts.
63. Install the starter (A) and the new gasket (B); install the lower bolt (C) through the sensor harness clamp bracket (D).

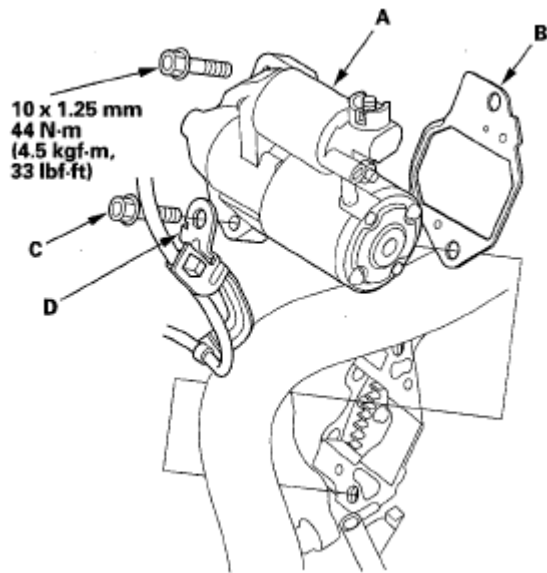


Fig. 334: Identifying Sensor Harness Clamp Bracket, Starter And Gasket With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

64. Connect the solenoid harness connector (A).

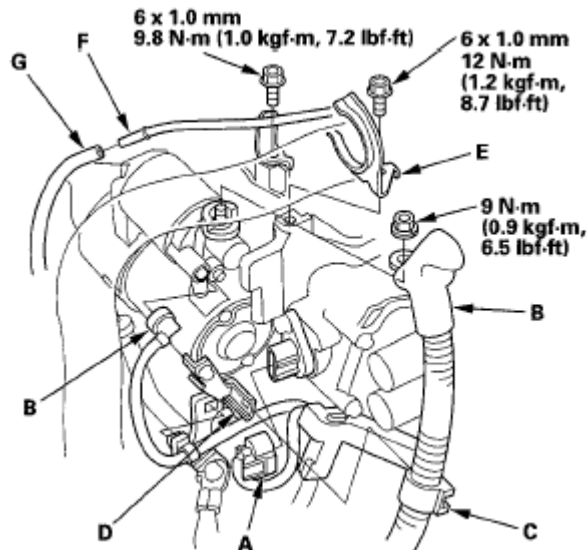


Fig. 335: Identifying Solenoid Harness Connector, Starter Cables, Harness Clamp, Vacuum Hose And Clamp Bracket With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

65. Install the starter cables (B), and install the harness clamp (C) on the clamp bracket (D).
66. Secure the radiator hose clamp (E) with the bolt.
67. Secure the vacuum line (F) with the bolt, and connect the vacuum hose (G) to the vacuum line.

68. Install the power steering pump outlet line (A) with the new O-ring (B) to the pump, and install the hose (C) in its clamp (D).

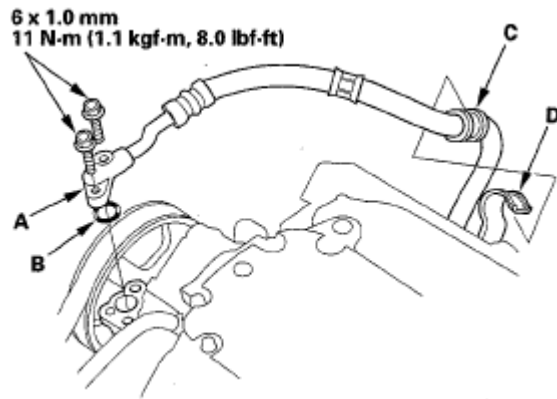


Fig. 336: Identifying Power Steering Pump Outlet Line With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

69. Connect the power steering pressure switch connector.

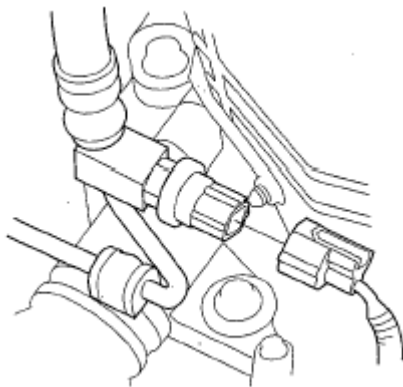


Fig. 337: Identifying Power Steering Pressure Switch Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

70. Install the strut brace.

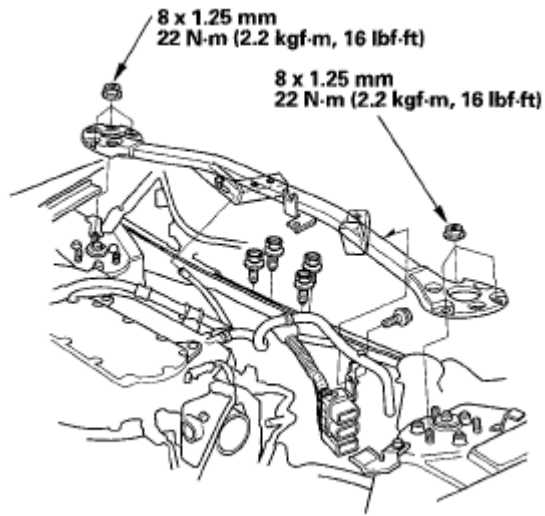


Fig. 338: Identifying Strut Brace With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

71. Connect the steering joint (see **STEERING COLUMN REMOVAL AND INSTALLATION**).
72. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
73. Center the SRS cable reel, and install the steering wheel (see **STEERING WHEEL INSTALLATION**).
74. Refill the power steering fluid reservoir with fluid to the upper level line.
75. Refill the transmission with ATF (see step 6).
76. Install the battery base.
77. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
78. Install the battery tray, battery, and battery hold-down bracket, then connect battery terminals.
79. Install the splash shield.
80. Install the covers in the following order; intake manifold cover (A), upper grille cover (B), right upper fender trim (C), cowl cover upper trim (D), left upper fender trim (E), and battery trim (F).

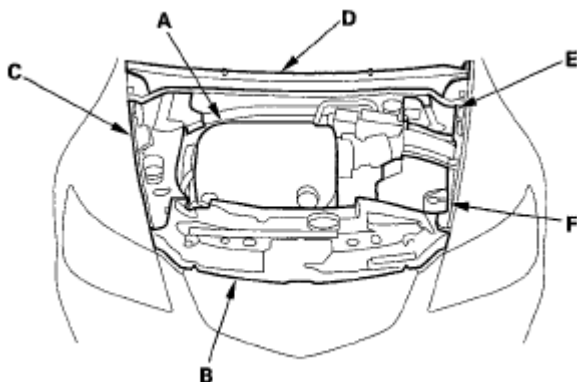


Fig. 339: Identifying Intake Manifold Cover, Cowl Cover Upper Trim, Upper Grille Cover And Battery Trim

Courtesy of AMERICAN HONDA MOTOR CO., INC.

81. Reinstall the hood support struts to the upper location on both sides of the hood.
82. Install the windshield wiper arms (see **WIPER MOTOR REPLACEMENT**) and cowl cover (see **WIPER MOTOR REPLACEMENT**).
83. Set the parking brake, run the engine at fast idle, and turn the steering wheel from lock-to-lock several times to bleed air from the system. Recheck the fluid level, and refill if necessary.
84. Set the parking brake. Start the engine, and shift the transmission through all positions three times. Check the shift lever operation, A/T gear position indicator operation, and shift cable adjustment.
85. Check and adjust the front wheel alignment (see **WHEEL ALIGNMENT**).
86. Start the engine in P or N, and warm it up to normal operating temperature (the radiator fan comes on).
87. Turn off the engine, and check the ATF level (see **ATF LEVEL CHECK**).
88. Do the road test (see **ROAD TEST**).
89. Enter the anti-theft codes for the audio system and the navigation system.
90. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).
91. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).

DRIVE PLATE REMOVAL AND INSTALLATION

1. Remove the transmission assembly (see **TRANSMISSION REMOVAL**).
2. Remove the drive plate (A) and washer (B) from the engine crankshaft.

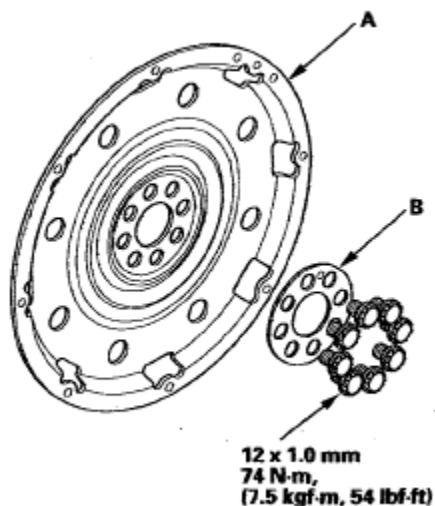


Fig. 340: Identifying Drive Plate And Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the drive plate and washer on the engine crankshaft, and tighten the eight bolts in a crisscross pattern in at least two steps.
4. Install the transmission assembly (see **TRANSMISSION INSTALLATION**).

ATF COOLER CLEANING

Special Tools Required

- ATF cooler cleaner GHTTTCF6H
- Magnetic nonbypass spin-on filter GTHGNBP2 These special tools are available through the Honda Tool and Equipment Program 1-888-424-6857.

Before installing an overhauled or remanufactured automatic transmission, you must thoroughly clean the ATF cooler to prevent system contamination. Failure to do so could cause a repeat automatic transmission failure.

The cleaning procedure involves heated ATF-Z1 delivered under high pressure (100 psi). Check the security of all hoses and connections. Always wear safety glasses or a face shield, along with gloves and protective clothing. If you get ATF in your eyes or on your skin, rinse with water immediately.

WARNING:

- **Improper use of the ATF cooler cleaner can result in burns and other serious injuries.**
- **Always wear eye protection and protective clothing, and follow all instructions in this manual.**

1. Check the fluid in the cooler cleaner tank. (The fluid level should be 4.5 inches from the top of the filler neck.) Adjust the level if needed; do not overfill. Use only Acura ATF-Z1; do not use any additives.

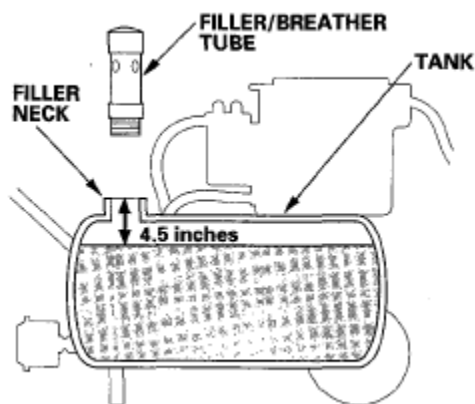


Fig. 341: Checking Fluid Level In Cooler Cleaner Tank
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Plug the cooler cleaner into a 110 V grounded electrical outlet.

NOTE:

Make sure the outlet has no other appliances (light fixtures, drop lights, extension cords) plugged into it Also, never plug the cooler cleaner into an extension cord or drop light; you could damage the unit.

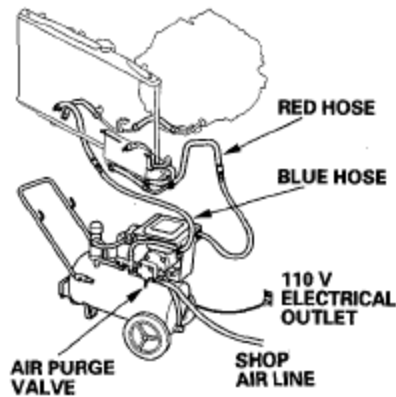


Fig. 342: Identifying Air Purge Valve, Red Hose And Blue Hose
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Flip the HEAT toggle switch to ON; the green indicator above the toggle switch comes on. Wait 1 hour for the cooler cleaner to reach its operating temperature. (The cooler cleaner is ready to use when the temperature gauge reads 140° to 150°F.)

NOTE: If the red indicator above the HEAT toggle switch comes on, the fluid level in the tank is too low for the tank heater to work (see step 1 of this procedure).

4. Select the appropriate pair of fittings, and attach them to the radiator, to the hoses, or to the banjo bolts for flow through the ATF cooler cleaner.

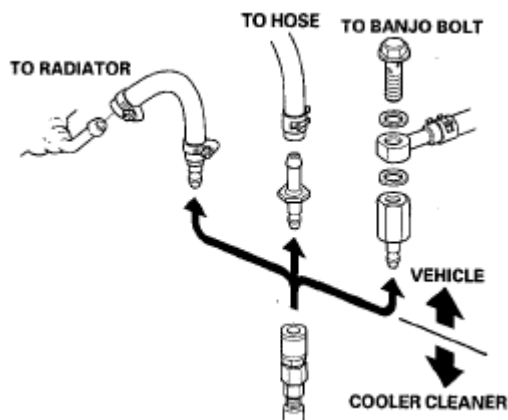


Fig. 343: Identifying Fittings And Banjo Bolt
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Connect the red hose to the cooler outlet line (the line that normally goes to the external filter on the transmission).
6. Connect the blue hose to the cooler inlet line.
7. Connect a shop air hose (regulated to 100 to 125 psi) to the air purge valve.

NOTE: The quick-connect fitting has a one-way check valve to keep ATF from entering your shop's air system. Do not remove or replace the fitting. Attach the coupler provided with the cooler cleaner to your shop air line if your coupler is not compatible.

8. Flip the MOTOR toggle switch to ON; the green indicator above the toggle switch comes on. Let the pump run for 5 minutes. While the pump is running, open and close the air purge valve periodically to cause agitation and improve the cleaning process. Always open the valve slowly. At the end of the 5-minute cleaning period, leave the air purge valve open.

NOTE: While the pump is running with the air purge valve open, it is normal to see vapor coming from the filler/breather tube vents.

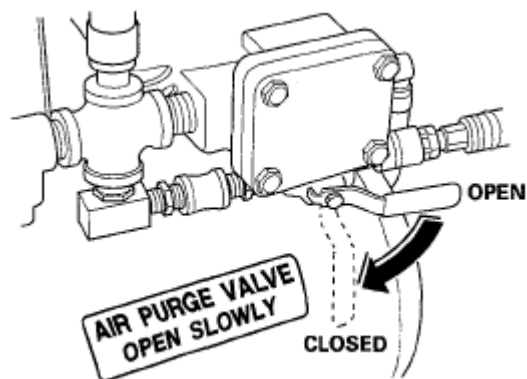


Fig. 344: Closing Air Purge Valve
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. With the air purge valve open, flip the MOTOR toggle switch to OFF; the green indicator goes off. Leave the air purge valve open for at least 15 seconds to purge the lines and hoses of residual ATF, then close the valve.
10. Disconnect the red and blue hoses from the ATF cooler. Now connect the red hose to the cooler inlet line.
11. Now connect the blue hose to the cooler outlet line.
12. Flip the MOTOR toggle switch to ON, and let the pump run for 5 minutes. While the pump is running, open and close the air purge valve periodically. Always open the valve slowly. At the end of the 5-minute cleaning period, leave the air purge valve open.

NOTE: While the pump is running with the air purge valve open, it is normal to see vapor coming from the filler/breather tube vents.

13. With the air purge valve open, flip the MOTOR toggle switch to OFF. Leave the air purge valve open for at least 15 seconds to purge the lines and hoses of residual ATF, then close the valve.
14. Disconnect the red and blue hoses from the ATF cooler lines.
15. Connect the red and blue hoses to each other.
16. Disconnect the shop air from the air purge valve. Disconnect and stow the coupler if used.

17. Disconnect and stow the fittings from the ATF cooler inlet and outlet lines.
18. Unplug the cooler cleaner from the 110 V outlet.

Tool Maintenance

Follow these instructions to keep the ATF cooler cleaner working properly:

- Replace the two magnetic nonbypass spin-on filters once a year or when you notice a restriction in the ATF flow.
- Check the level and condition of the fluid in the tank before each use.
- Replace the ATF in the tank when it looks dark or dirty.

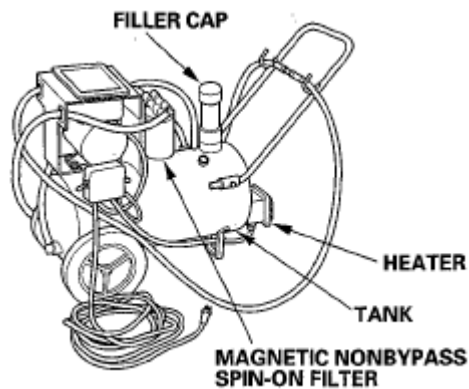


Fig. 345: Identifying Magnetic Nonbypass Spin-On Filter, Filler Cap, Heater And Tank
Courtesy of AMERICAN HONDA MOTOR CO., INC.

ATF COOLER HOSE REPLACEMENT

1. Slide the ATF cooler hoses over the ATF cooler lines until the hose ends contact the bulge (A) on the ATF cooler lines.

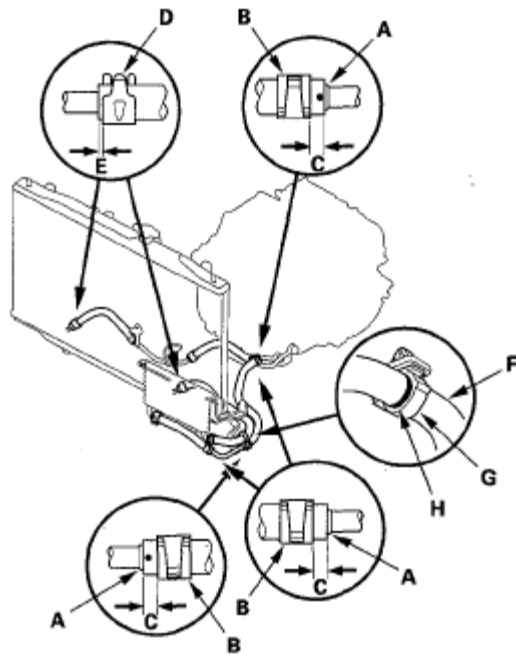


Fig. 346: Identifying Gap Between Hose Clip And Hose End
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Secure the hoses with the clips (B) at 6-8 mm (0.2-0.3 in.) (C) from the hose ends.
3. Secure the hoses at the ATF cooler with the clips (D) at 2-4 mm (0.1-0.2 in.) (E) from the hose ends.
4. Install the ATF cooler hose (F) on the clamp (G) at the mark (H).

ATF COOLER REPLACEMENT

1. Disconnect the ATF cooler hose from the ATF cooler, and remove the ATF cooler and line.
2. Install the new ATF cooler on (A) the body.

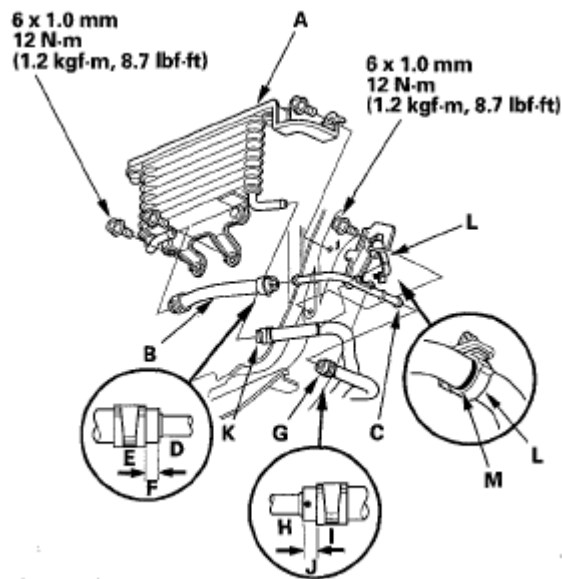


Fig. 347: Identifying ATF Cooler With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Connect the ATF cooler hose (B) to the ATF cooler line, and secure the hose with a clip. Slide the hose over the connector line (C) until the hose end contacts the bulge (D), and secure the hose with a clip (E) at 6-8 mm (0.2-0.3 in.) (F) from the hose end.
4. Install the connector line on the body.
5. Slide the hose (G) over the connector line until the hose end contacts the bulge (H), and secure the hose with a clip (I) at 6-8 mm (0.2-0.3 in.) (J) from the hose end.
6. Connect the hose (K) to the ATF cooler line, and secure the hose with a clip. Install the hose on the clamp (L) at the mark (M).

SHIFT LEVER REMOVAL

1. Remove the center console cover (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Shift the transmission into R.
3. Remove the nut securing the shift cable end.

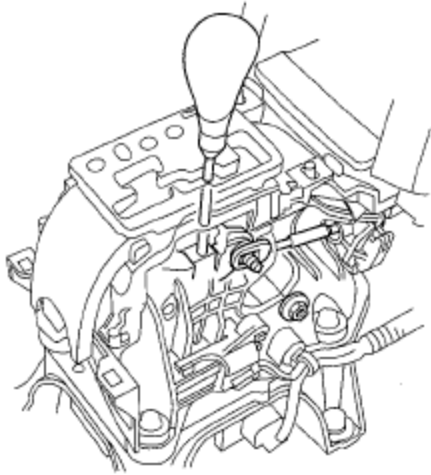


Fig. 348: Identifying Shift Cable End And Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Press the holder lock release (A), and pull out the socket holder (B) to remove the shift cable (C) from the shift lever bracket base (D). Do not remove the shift cable by pulling the shift cable guide (E) and damper (F).

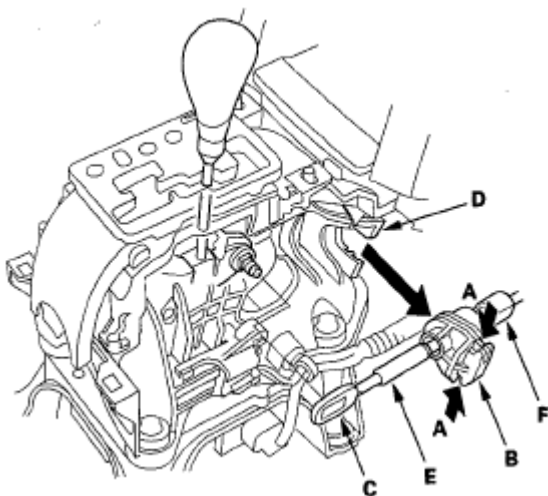


Fig. 349: Pulling Out Socket Holder
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Disconnect the shift lock solenoid connector (A), transmission gear selection switch/park pin switch connector (B), and the sensor cluster connector (C).

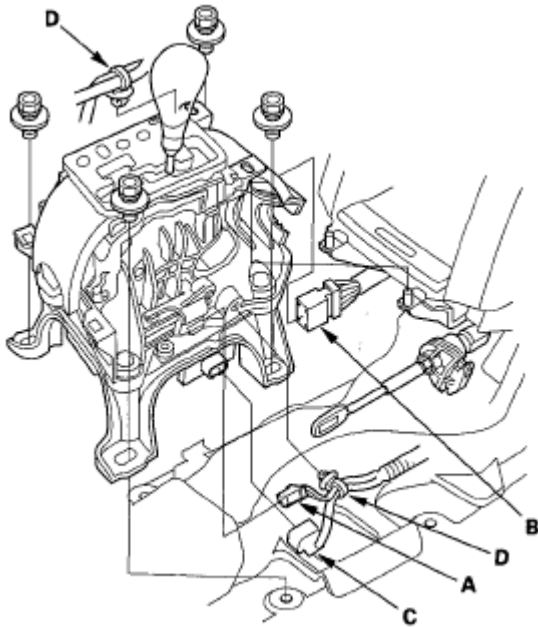


Fig. 350: Identifying Shift Lock Solenoid Connector And Transmission Gear Selection Switch/Park Pin Switch Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the harness clamps (D).
7. Remove the shift lever assembly.

SHIFT LEVER INSTALLATION

1. Install the shift lever assembly (A) by aligning the positioning holes (B) with the tips (C) on the console panel.

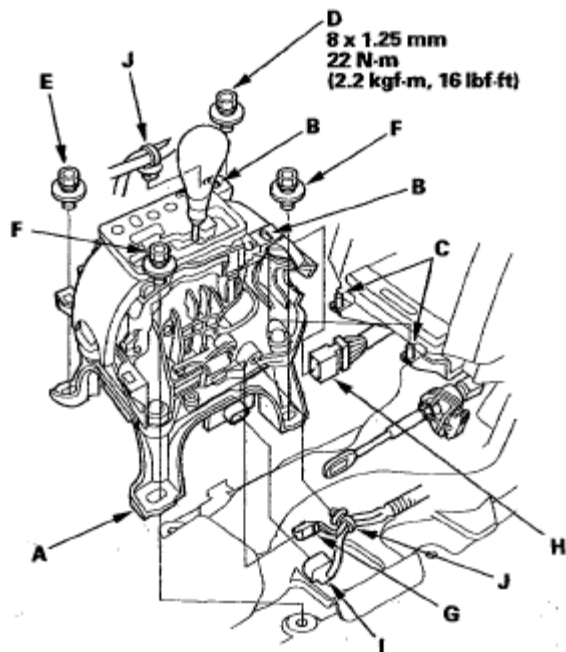


Fig. 351: Identifying Shift Lever Assembly With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Loosely install the mounting bolt (D) on the left front of the shift lever, then install and tighten the mounting bolt (E) on the left rear to 22 N.m (2.2 kgf.m, 16 lbf.ft).
3. Install and tighten the mounting bolts (F) on the right side, and tighten the bolt (D) to 22 N.m (2.2 kgf.m, 16 lbf.ft).
4. Connect the shift lock solenoid connector (G), the transmission gear selection switch/park pin switch connector (H), and the sensor cluster connector (I).
5. Install the harness clamps (J) on the shift lever bracket base.
6. Turn the ignition switch to ON (II), and check that the R indicator comes on.
7. if necessary, push the shift cable until it stops, then release it. Pull the shift cable back one step so that the shift position is in R. Do not hold the shift cable guide (A) and damper (B) to adjust the shift cable (C).

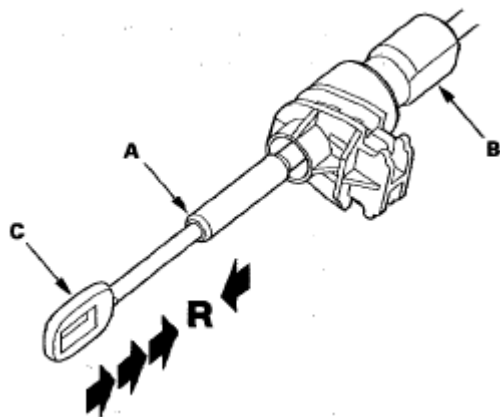


Fig. 352: Pushing Shift Cable In And Releasing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Turn the ignition switch to LOCK (0).
9. Place the shift lever in R, then insert a 6.0 mm (0.24 in.) pin (A) through the positioning hole (B) on the shift lever bracket base, through the positioning hole (C) on the shift lever, and into the positioning hole (D) on the shift lever bracket base. The shift lever is secured in R.

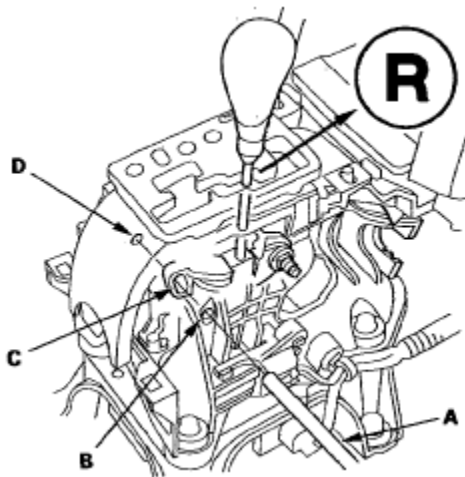


Fig. 353: Inserting Pin Through Positioning Hole On Shift Lever Bracket Base
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Align the socket holder (A) on the shift cable (B) with the slot in the bracket base (C), then slide the holder into the base. Install the shift cable end (D) over the mounting stud (E) by aligning its square hole (F) with the square fitting (G) at the bottom of the stud. Push the holder until it snaps securely in place. Do not install the shift cable by holding the shift cable guide (H) and damper (I).

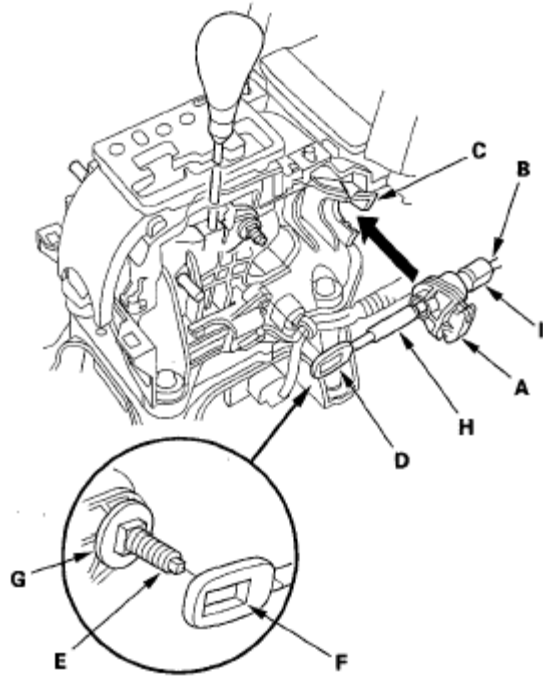
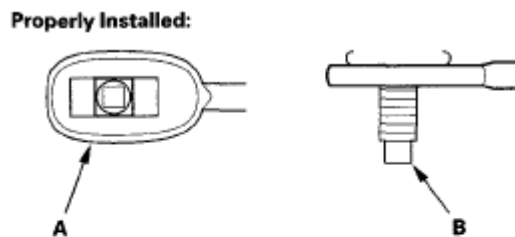


Fig. 354: Sliding Shift Cable Socket Holder Into Bracket Base
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Check that the shift cable end (A) is properly installed on the mounting stud (B).

Properly Installed:



Improperly Installed:



Cable end rides on the bottom of the mounting stud.

Fig. 355: Identifying Proper Installation Position Of Shift Cable End
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. If improperly installed, remove the shift cable from the bracket base, and reinstall the shift cable. Do not install the shift cable end on the mounting stud while the shift cable is on the bracket base.

13. Install and tighten the nut.

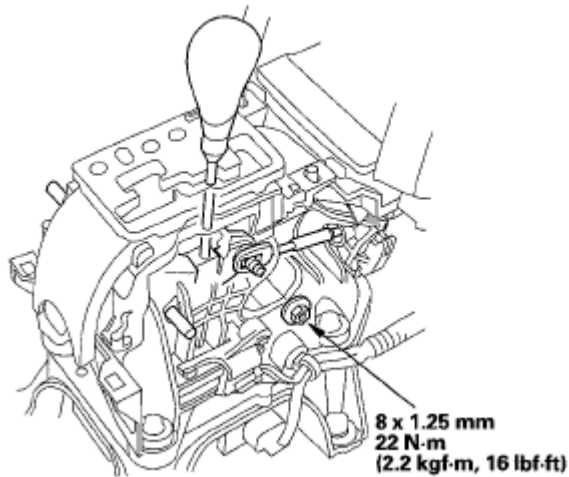


Fig. 356: Identifying Shift Cable End Nut With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Remove the 6.0 mm (0.24 in.) pin that was installed to hold the shift lever.
15. Move the shift lever to each position, and check that the A/T gear position indicator follows the transmission range switch.
16. Push the shift lock release, and check that the shift lever releases.
17. Reinstall the center console cover (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

SHIFT LEVER DISASSEMBLY/REASSEMBLY

Apply silicone grease to movable joints of the shift lock/reverse lock mechanism.

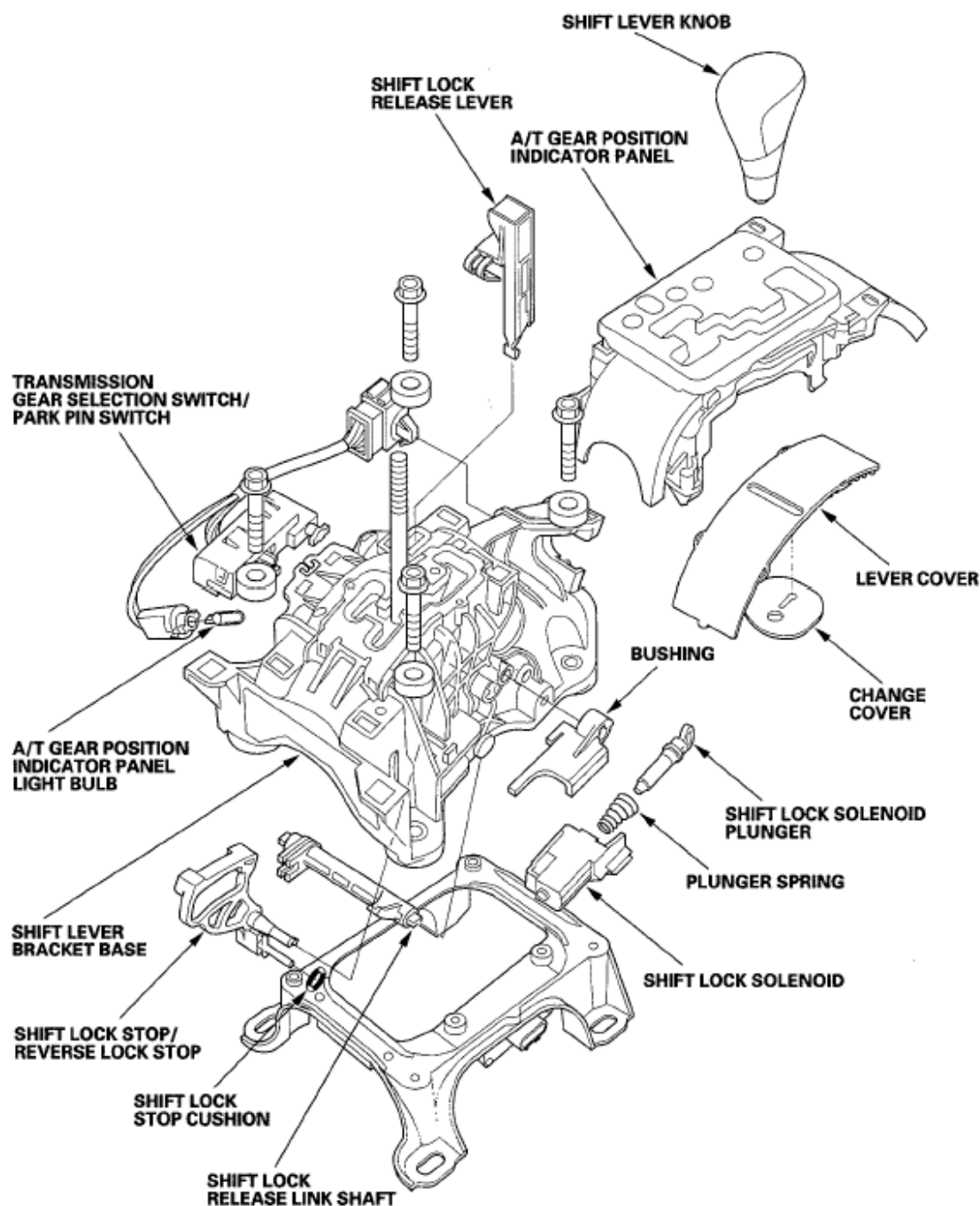


Fig. 357: Exploded View Of Shift Lever Assembly
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

SHIFT CABLE REPLACEMENT

1. Raise the vehicle on a lift, and make sure it is supported securely.
2. Remove the center console cover (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
3. Shift the transmission into R.

4. Remove the nut securing the shift cable end.

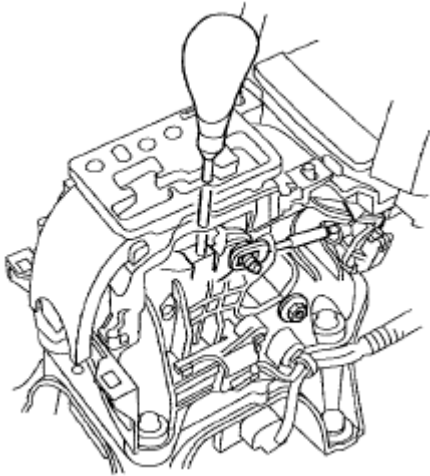


Fig. 358: Identifying Shift Cable End Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Press the holder lock release (A), and pull out the socket holder (B) to remove the shift cable (C) from the shift lever bracket base (D).

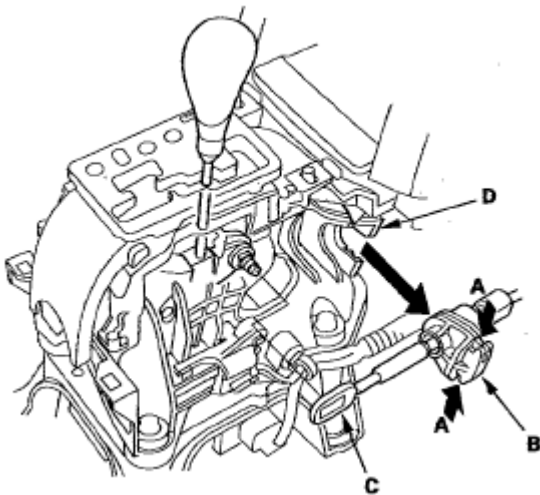


Fig. 359: Removing Shift Cable From Shift Lever Bracket Base
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Make sure you have the anti-theft codes for the audio system and the navigation system. Make sure the ignition switch is in LOCK (0).
7. Remove the battery trim and left upper fender cover.
8. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
9. Remove the battery hold-down bracket, and remove the battery and battery tray.

10. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
11. Remove the battery base.
12. Remove the nuts securing the shift cable bracket (A).

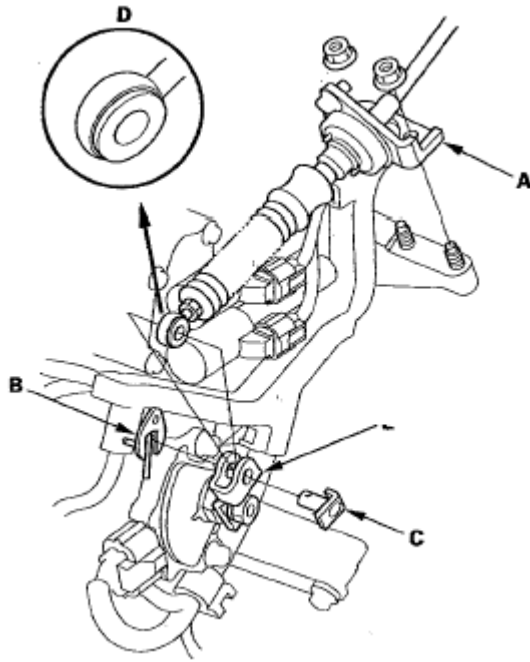


Fig. 360: Identifying Shift Cable End Transmission Side
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Remove the spring clip/washer (B) and control pin (C), then separate the shift cable end (D) from the control lever (E).
14. Remove the shift cable bracket from the steering gearbox stiffener.

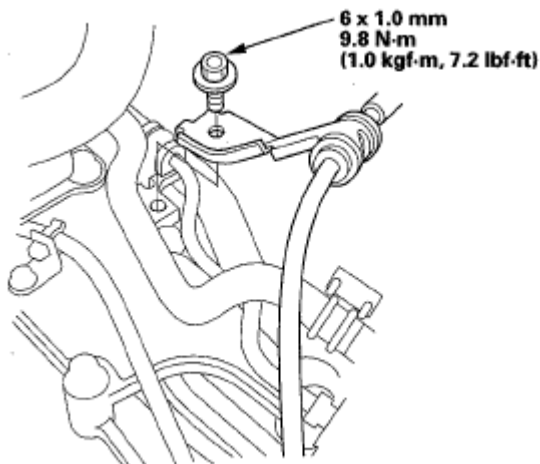


Fig. 361: Identifying Shift Cable Bracket And Bolts With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Remove the heat shield under the shift cable grommet.
16. Remove the shift cable grommet, and pull out the shift cable.

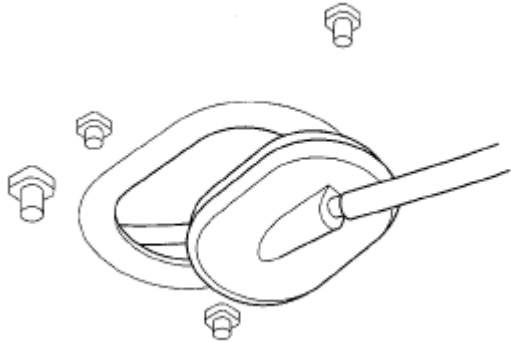


Fig. 362: Identifying Shift Cable Grommet

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Insert the new shift cable through the grommet hole, and install the grommet in its hole. Do not bend the shift cable excessively.
18. Install the heat shield.
19. Install the shift cable bracket on the steering gearbox stiffener.
20. Apply molybdenum grease to the hole in the bushing (A) in the shift cable end (B). Attach the shift cable end to the control lever (C), then insert the control pin (D) into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer (E).

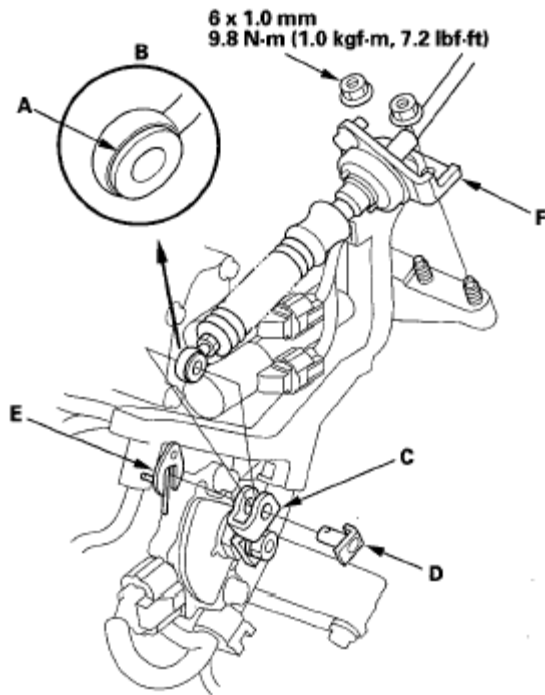


Fig. 363: Identifying Shift Cable On Transmission Side With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Secure the shift cable bracket (F) with the nuts.
22. Turn the ignition switch to ON (II), and check that the R indicator comes on.

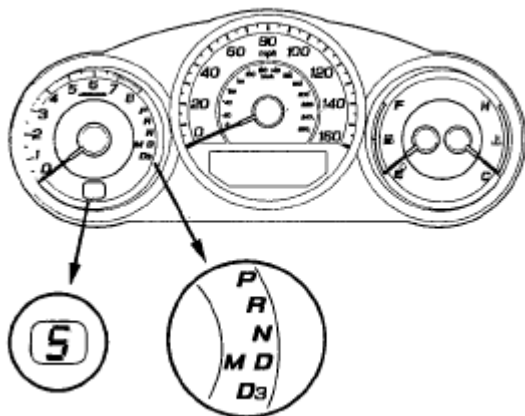


Fig. 364: Identifying Shift Indicator In Gauge Control Module
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. If necessary, push the shift cable until it stops, then release it. Pull the shift cable back one step so that the shift position is in R. Do not hold the shift cable guide (A) and damper (B) to adjust the shift cable (C).

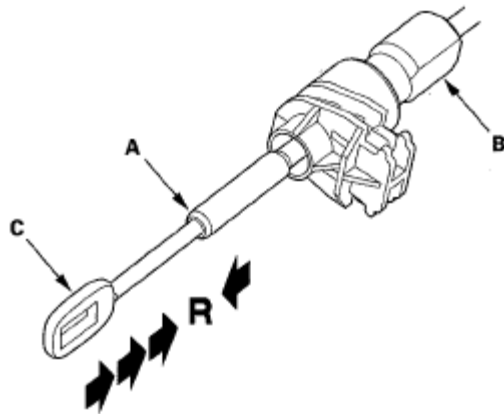


Fig. 365: Pushing Shift Cable In And Releasing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

24. Turn the ignition switch to LOCK (0).
25. Place the shift lever in R, then insert a 6.0 mm (0.24 in.) pin (A) through the positioning hole (B) on the shift lever bracket base, through the positioning hole (C) on the shift lever, and into the positioning hole (D) on the shift lever bracket base. The shift lever is secured in R.

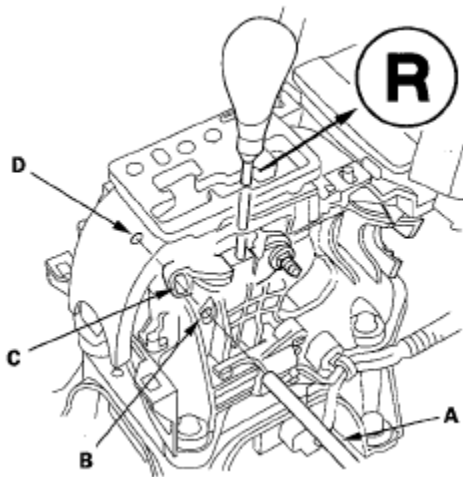


Fig. 366: Positioning Hole On Shift Lever Bracket Base
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

26. Align the socket holder (A) on the shift cable (B) with the slot in the bracket base (C), then slide the holder into the base. Install the shift cable end (D) over the mounting stud (E) by aligning its square hole (F) with the square fitting (G) at the bottom of the stud. Push the holder until it snaps securely in place. Do not install the shift cable by holding the shift cable guide (H) and the damper (I).

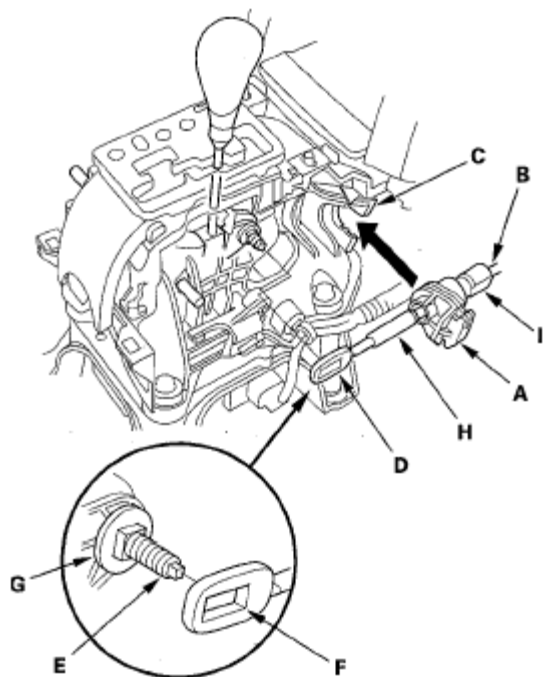


Fig. 367: Sliding Shift Cable Socket Holder Into Bracket Base
Courtesy of AMERICAN HONDA MOTOR CO., INC.

27. Check that the shift cable end (A) is properly installed on the mounting stud (B).

Properly Installed:

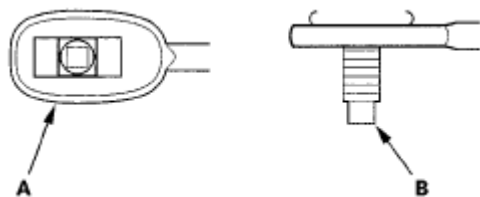
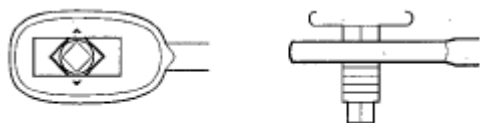


Fig. 368: Identifying Shift Cable Proper Installation Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Improperly Installed:



Cable end rides on the bottom
of the mounting stud.

Fig. 369: Identifying Shift Cable Improper Installation Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

28. If improperly installed, remove the shift cable from the bracket base, and reinstall the shift cable. Do not install the shift cable end on the mounting stud while the shift cable is on the bracket base.
29. Install and tighten the nut.

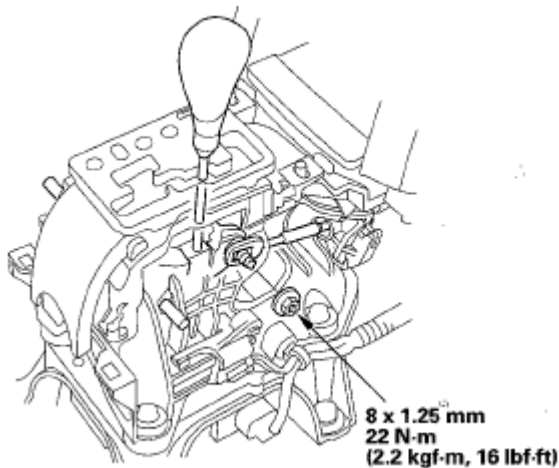


Fig. 370: Identifying Shift Cable Nut With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

30. Remove the 6.0 mm (0.24 in.) pin that was installed to hold the shift lever.
31. Install the battery base.
32. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
33. Install the battery tray, battery, and battery hold-down bracket, then connect the battery terminals.
34. Install the left upper fender cover and the battery trim.
35. Move the shift lever to each position, and check that the A/T gear position indicator follows the transmission range switch.
36. Allow all the wheels to rotate freely.
37. Start the engine, and check the shift lever operation in all gears.
38. Push the shift lock release, and check that the shift lever releases.
39. Reinstall the center console cover (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
40. Enter the anti-theft codes for the audio system and the navigation system.
41. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).
42. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).

SHIFT CABLE ADJUSTMENT

1. Remove the center console cover (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Shift the transmission into R.
3. Remove the nut securing the shift cable end.

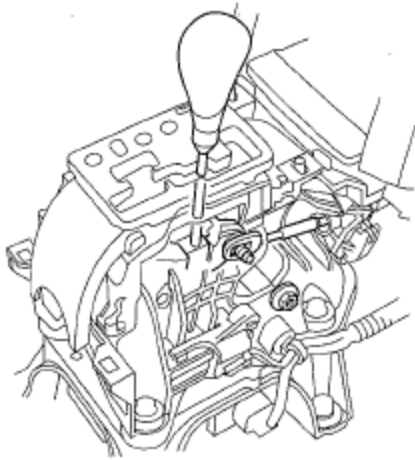


Fig. 371: Identifying Center Console Cover
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Press the holder lock release (A), and pull out the socket holder (B) to remove the shift cable (C) from the shift lever bracket base (D). Do not remove the shift cable by pulling the shift cable guide (E) and the damper (F).

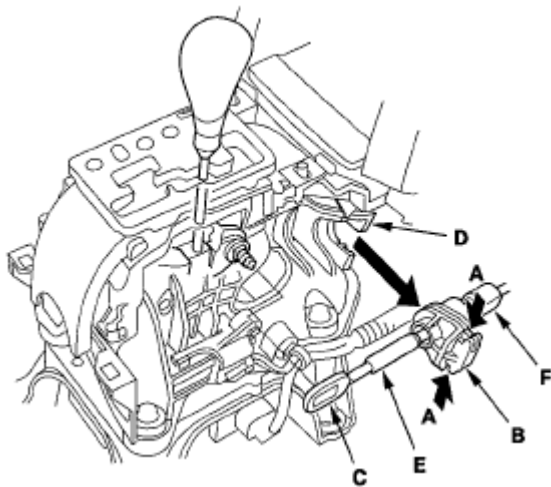


Fig. 372: Removing Shift Cable From Shift Lever Bracket Base
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Push the shift cable until it stops, then release it. Pull the shift cable back one step so that the shift position is in R. Do not hold the shift cable guide (A) and the damper (B) to adjust the shift cable (C).

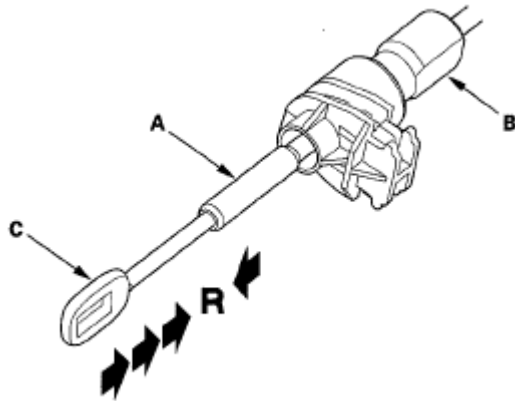


Fig. 373: Adjusting Shift Cable

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Turn the ignition switch to ON (II), and check that the R indicator comes on.
7. Turn the ignition switch to LOCK (0).
8. Place the shift lever in R, then insert a 6.0 mm (0.24 in.) pin (A) through the positioning hole (B) on the shift lever bracket base, through the positioning hole (C) on the shift lever, and into the positioning hole (D) on the shift lever bracket base. The shift lever is secured in R.

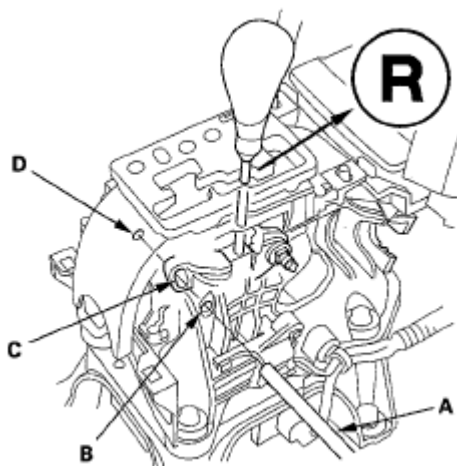


Fig. 374: Positioning Hole On Shift Lever Bracket Base

Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Align the socket holder (A) on the shift cable (B) with the slot in the bracket base (C), then slide the holder into the base. Install the shift cable end (D) over the mounting stud (E) by aligning its square hole (F) with the square fitting (G) at the bottom of the stud. Push the holder until it snaps securely in place. Do not install the shift cable by holding the shift cable guide (H) and the damper (I).

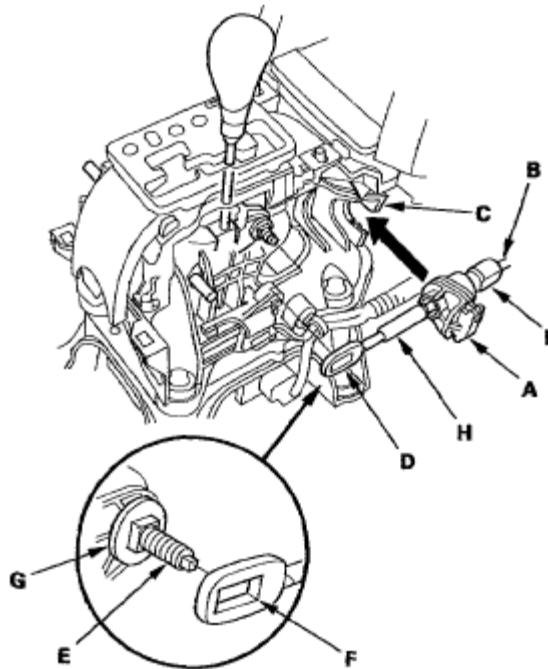


Fig. 375: Sliding Shift Cable Socket Holder Into Bracket Base
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Check that the shift cable end (A) is properly installed on the mounting stud (B).

Property Installed:

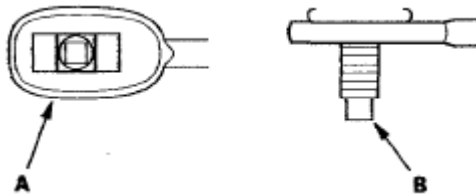


Fig. 376: Identifying Shift Cable Proper Installation Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Improperly Installed:

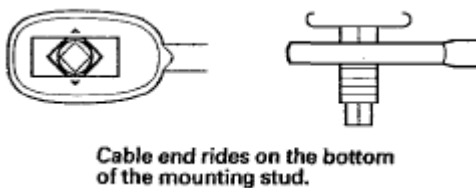


Fig. 377: Identifying Shift Cable Improper Installation Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. If improperly installed, remove the shift cable from the bracket base, and reinstall the shift cable. Do not install the shift cable end on the mounting stud while the shift cable is on the bracket base.
12. Install and tighten the nut.

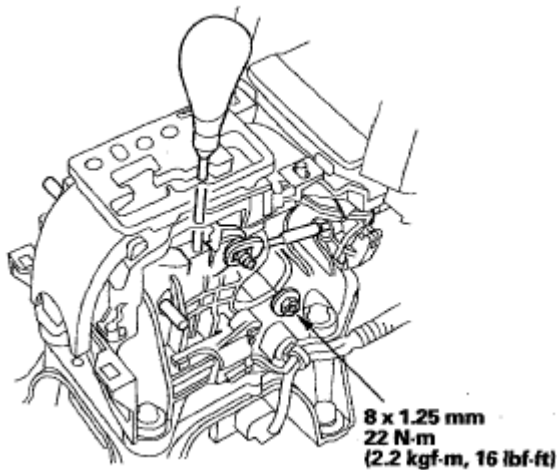


Fig. 378: Identifying Shift Cable Nut With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Remove the 6.0 mm (0.24 in.) pin that was installed to hold the shift lever.
14. Move the shift lever to each position, and check that the A/T gear position indicator follows the transmission range switch.
15. Push the shift lock release, and check that the shift lever releases.
16. Reinstall the center console cover (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

A/T GEAR POSITION INDICATOR

COMPONENT LOCATION INDEX

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

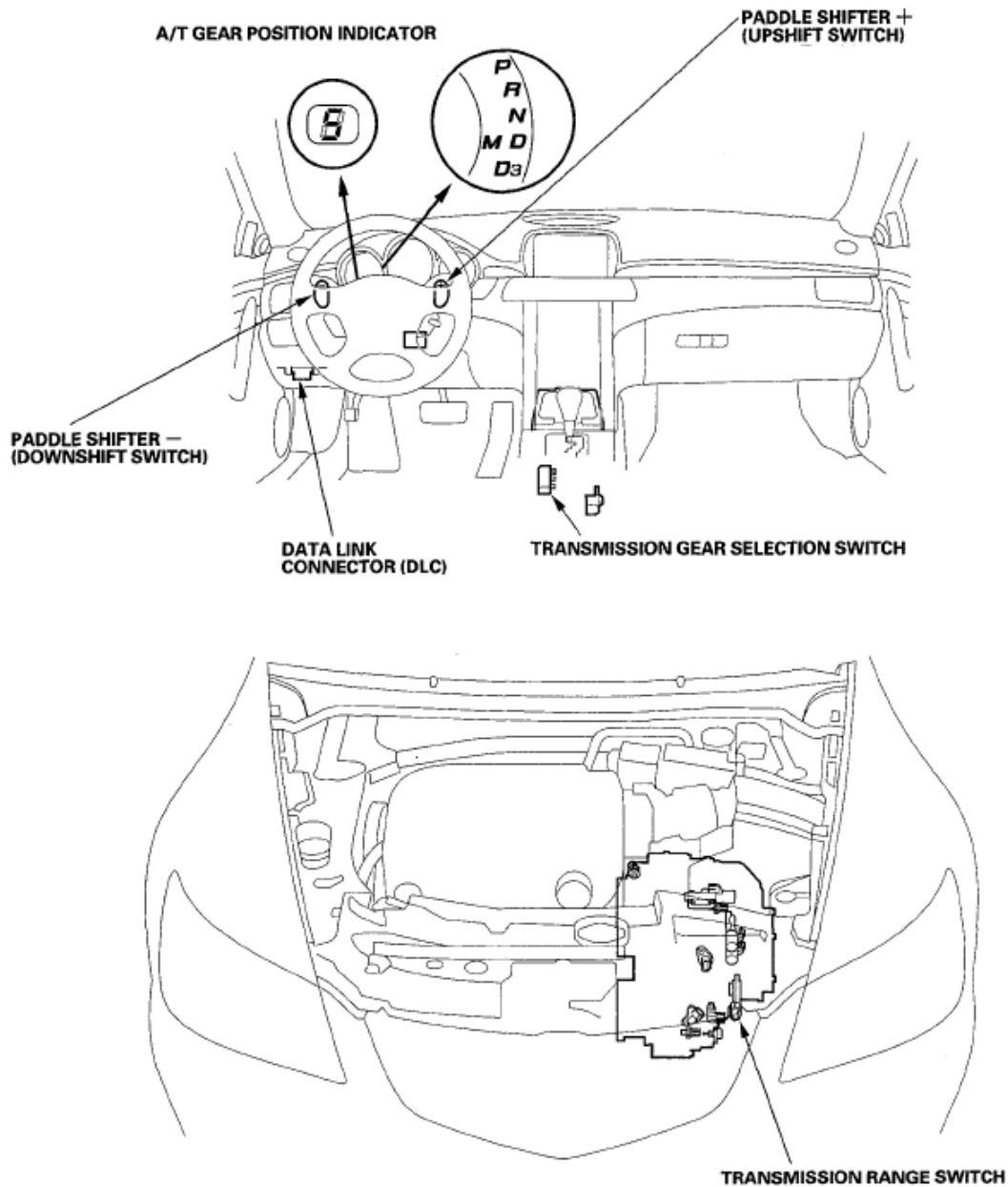


Fig. 379: Identifying A/T Gear Position Indicator Component Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CIRCUIT DIAGRAM

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

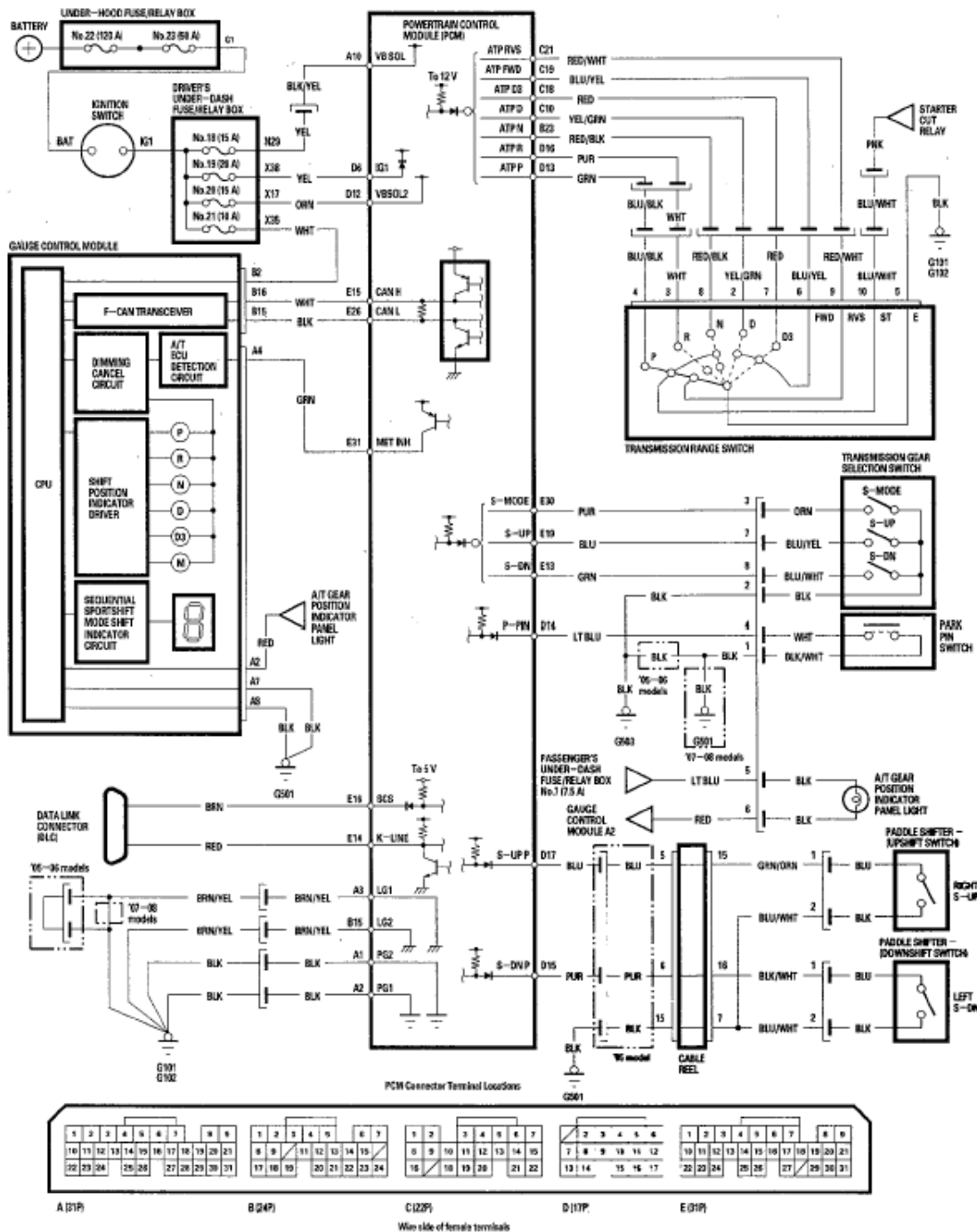


Fig. 380: A/T Gear Position Indicator - Circuit Diagram
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSMISSION RANGE SWITCH TEST

1. Make sure you have the anti-theft codes for the audio system and the navigation system. Make sure the ignition switch is in LOCK (0).

- 2. Remove the battery trim and left upper fender cover.
- 3. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
- 4. Remove the battery hold-down bracket, and remove the battery and battery tray.
- 5. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
- 6. Remove the battery base.
- 7. Disconnect the transmission range switch connector.

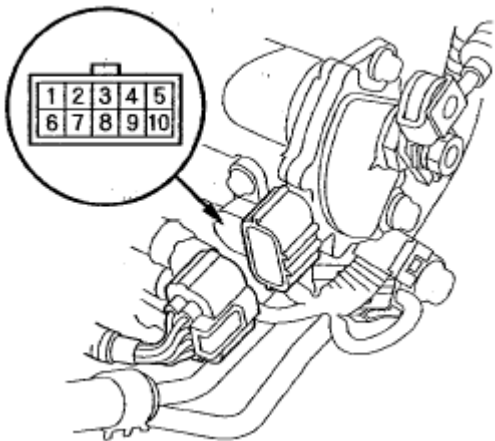


Fig. 381: Identifying Transmission Range Switch Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

- 8. Check for continuity between the terminals at the switch connector. There should be continuity between the terminals in the following chart for each switch position.

Transmission Range Switch Connector

Position/Connector Terminal/Signal Connections										
	1	2	3	4	5	6	7	8	9	10
	-	D	R	P	GND	ATP FWD	D3	N	ATP RVS	ATP NP
P				○	○				○	○
R			○		○				○	
N					○			○	○	○
D		○			○	○				
D3					○	○	○			

Fig. 382: Transmission Range Switch Connector Continuity Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.

- 9. The transmission range switch test is finished if the test results are OK.

If there is no continuity between any terminals, check that transmission range switch installation. If the switch installation is OK, replace the switch (see **TRANSMISSION RANGE SWITCH**

REPLACEMENT).

10. Reinstall all parts removed.
11. Enter the anti-theft codes for the audio system and the navigation system.

TRANSMISSION RANGE SWITCH REPLACEMENT

1. Make sure you have the anti-theft codes for the audio system and the navigation system. Make sure the ignition switch is in LOCK (0).
2. Remove the battery trim and left upper fender cover.
3. Disconnect the negative terminal from the battery, then disconnect the positive terminal.
4. Remove the battery hold-down bracket, and remove the battery and battery tray.
5. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
6. Remove the battery base.
7. Remove the nuts securing the shift cable bracket (A).

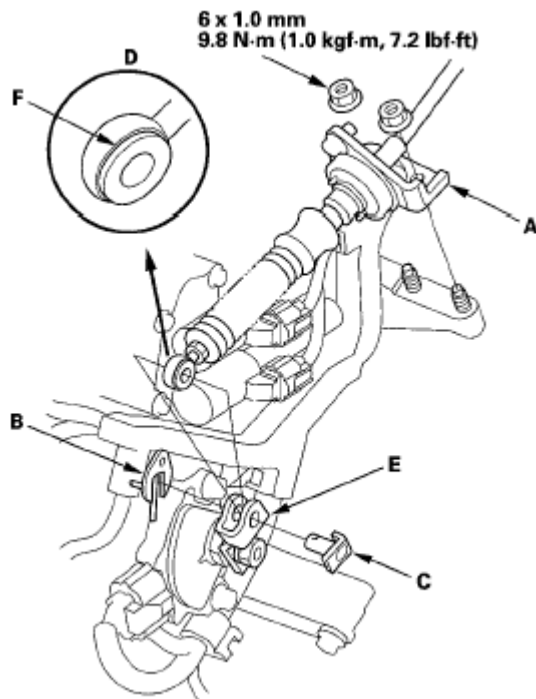


Fig. 383: Identifying Shift Cable End Transmission Side With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Remove the spring clip/washer (B) and control pin (C), then separate the shift cable end (D) from the control lever (E). Check the bushing (F) in the shift cable end for a proper fit and wear. If the bushing is loose or worn, replace the shift cable (see **SHIFT CABLE REPLACEMENT**).
9. Disconnect the transmission range switch connector.
10. Pry the lock tab of the lock washer (A) on the control lever (B), and remove the nut (C), lock washer,

spring washer (D), and control lever.

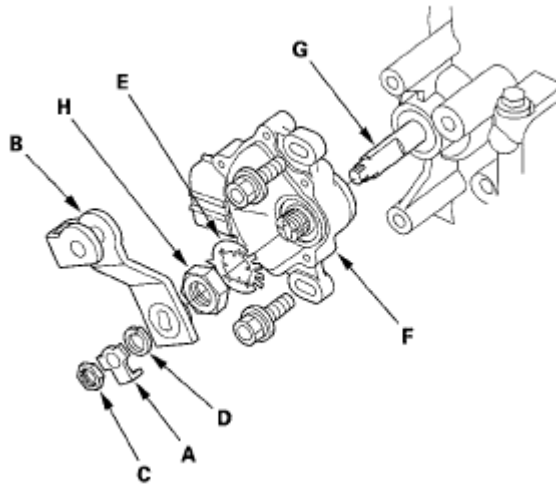


Fig. 384: Identifying Transmission Range Switch, Lever And Locknut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Pry the lock tabs of the lock washer (E) on the transmission range switch (F), hold the selector control shaft (G) with a 6.0 mm wrench, and loosen the locknut(H).
12. Remove the locknut and lock washer, then remove the transmission range switch (two bolts).
13. Set the new transmission range switch (A) to N. The transmission range switch clicks in N, and the selector control shaft hole (B) aligns with the N line (C).

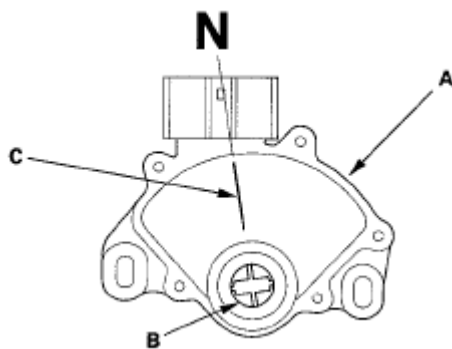


Fig. 385: Aligning Selector Control Shaft Hole With N Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. With a 6.0 mm wrench, turn the control shaft fully counterclockwise (viewed from shaft end) to P. Turn the control shaft back two click-stopped positions so that it is in N.

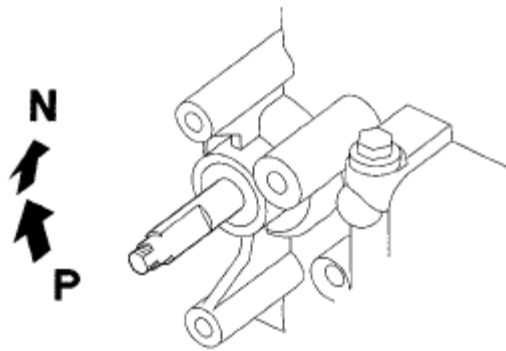


Fig. 386: Turning Control Shaft To Position In Neutral "N"
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Install the transmission range switch (A) gently over the selector control shaft (B), and install the bolts loosely.

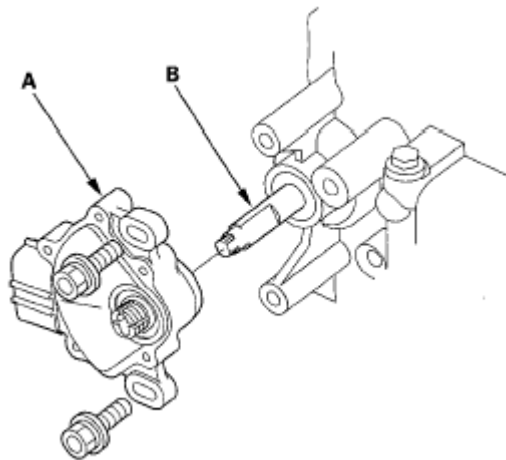


Fig. 387: Identifying Transmission Range Switch And Selector Control Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Install the new lock washer (A) over the selector control shaft (B) while aligning the projection (C) of the lock washer with the N positioning line (D) on the transmission range switch (E), and install the locknut (F).

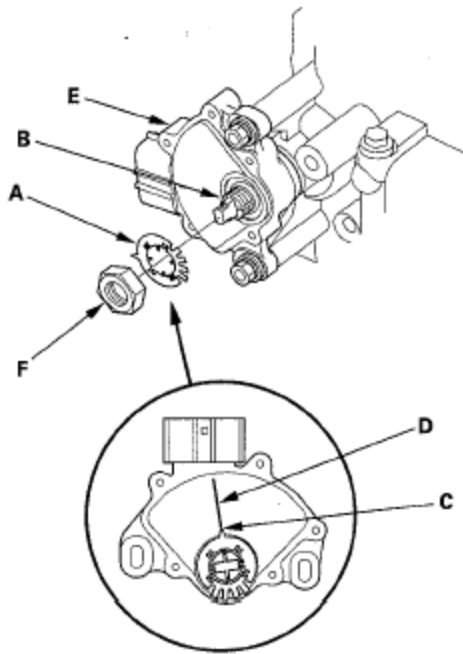


Fig. 388: Aligning Projection Of Lock Washer With N Positioning Line On Transmission Range Switch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Push the locknut against the transmission housing to seat the transmission range switch into the control shaft, and tighten the locknut (A) to 12 N.m (1.2 kgf.m, 8.7 lbf.ft) while holding the control shaft (B) with a 6.0 mm wrench (C). Bend the lock tabs (D) of the lock washer against the locknut.

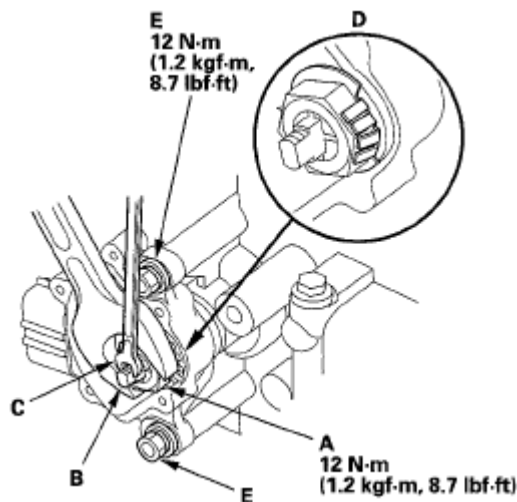


Fig. 389: Identifying Transmission Range Switch, Lever And Locknut With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Tighten the bolts (E) to 12 N.m (1.2 kgf.m, 8.7 lbf.ft) securing the transmission range switch.
19. Install the control lever (A), spring washer (B), lock washer (C), and locknut (D) on the selector control

shaft (E).

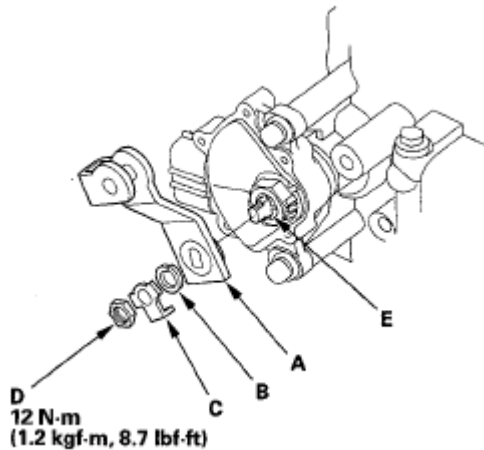


Fig. 390: Identifying Control Lever, Spring Washer, Lock Washer And Locknut With Torque Specifications

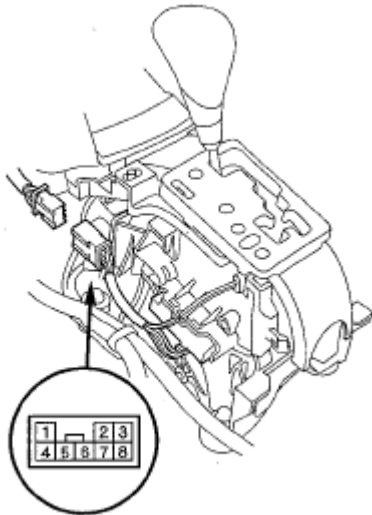
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Attach the shift cable end to the control lever, then insert the control pin into the control lever hole through the shift cable end, and secure the control pin with the spring clip/washer.
21. Secure the shift cable bracket.
22. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connector securely.
23. Install the battery base.
24. Install the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION**).
25. Install the battery tray, battery, and battery hold-down bracket, then connect the battery terminals.
26. Install the left upper fender cover and battery trim.
27. Turn the ignition switch to ON (II). Move the shift lever through all positions, and check the transmission range switch synchronization with the A/T gear position indicator.
28. Check that the engine starts in P and N, and will not start in any other shift lever position.
29. Check that the back-up lights come on when the shift lever is in R.
30. Raise the vehicle on a lift, allow all four wheels to rotate freely, then start the engine, and check the shift lever operation.
31. Enter the anti-theft codes for the audio system and the navigation system.
32. Do the steering column memorization (see **STEERING COLUMN POSITION MEMORIZATION**).
33. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).

TRANSMISSION GEAR SELECTION SWITCH TEST

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light

connector.



Terminal side of male terminals

Fig. 391: Identifying A/T Gear Position Indicator Panel Light Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Check for continuity between connector terminals No. 3 and No. 2.

There should be continuity when the shift lever is in M, and no continuity when the shift lever is in any position other than M.

4. Check for continuity between connector terminals No. 7 and No. 2.

There should be continuity when the shift lever is pushed toward the upshift position (+), and no continuity with the shift lever released to the neutral position.

5. Check for continuity between connector terminals No. 8 and No. 2.

There should be continuity when the shift lever is pulled toward the downshift position (-), and no continuity with the shift lever released to the neutral position.

6. Replace the transmission gear selection switch/park pin switch assembly if the switch test is failed.
7. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

TRANSMISSION GEAR SELECTION SWITCH REPLACEMENT

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector (A), then remove the connector from the shift lever.

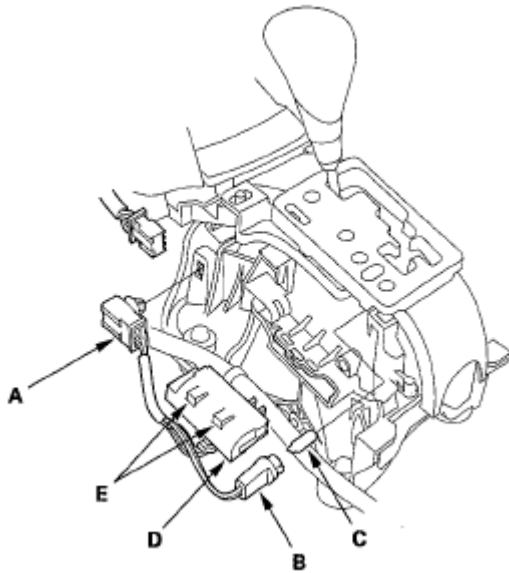


Fig. 392: Identifying A/T Gear Position Indicator Panel Light Bulb Socket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

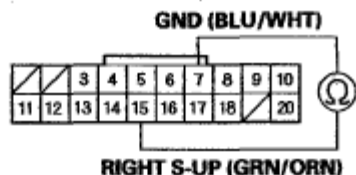
3. Remove the A/T gear position indicator panel light bulb socket (B), then remove the bulb (C) from the socket.
4. Remove the transmission gear selection switch/park pin switch (D) by releasing the lock tabs (E).
5. Install the new switch assembly in the shift lever.
6. Install the bulb in the socket, then install the socket in the A/T gear position indicator panel.
7. Install the switch connector on the shift lever, then connect the connector.
8. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

PADDLE SHIFTER + (UPSHIFT SWITCH) CIRCUIT TROUBLESHOOTING

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
2. Check for continuity between the steering wheel switch harness 20P connector terminals No. 15 and No. 7 while pressing the paddle shifter + (upshift switch) and when the shifter is released.

STEERING WHEEL SWITCH HARNESS 20P CONNECTOR



Wire side of female terminals

Fig. 393: Checking Continuity Between Steering Wheel Switch Harness 20P Connector Terminals No. 15 And No. 7

Courtesy of AMERICAN HONDA MOTOR CO., INC.

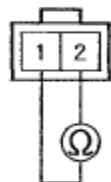
Is there continuity while pressing the paddle shifter + and no continuity when the shifter is released?

YES - Go to step 5.

NO - Go to step 3.

3. Disconnect the paddle shifter + (upshift switch) connector.
4. Check for continuity between the paddle shifter + (upshift switch) connector terminals No. 1 and No. 2 while pressing the shifter and when the shifter is released.

PADDLE SHIFTER + (UPSHIFT SWITCH) CONNECTOR



Terminal side of male terminals

Fig. 394: Checking Continuity Between Paddle Shifter + (Upshift Switch) Connector Terminals No. 1 And No. 2

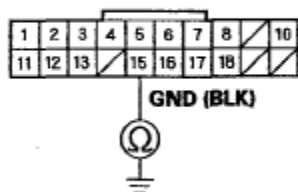
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity while pressing the paddle shifter + and no continuity when the shifter is released?

YES - Replace the steering wheel switch harness.

NO - Replace the paddle shifter + (upshift switch) (see **PADDLE SHIFTER + (UPSHIFT SWITCH) REPLACEMENT**).

5. Remove the cable reel (see **CABLE REEL REPLACEMENT**).
6. Check for continuity between the cable reel 20P connector terminal No. 15 and body ground.

CABLE REEL 20P CONNECTOR

Wire side of female terminals

Fig. 395: Checking Continuity Between Cable Reel 20P Connector Terminal No. 15 And Body Ground

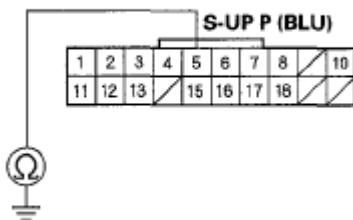
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 7.

NO - Repair open in the wire between the cable reel 20P connector terminal No. 15 and ground (G501), or repair poor ground (G501).

7. Check for continuity between the cable reel 20P connector terminal No. 5 and body ground.

CABLE REEL 20P CONNECTOR

Wire side of female terminals

Fig. 396: Checking Continuity Between Cable Reel 20P Connector Terminal No. 5 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

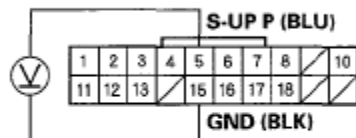
Is there continuity?

YES - Repair short to body ground in the wire between the cable reel 20P connector terminal No. 5 and PCM connector terminal D17.

NO - Go to step 8.

8. Turn the ignition switch to ON (II), and shift to M.
9. Measure the voltage between the cable reel 20P connector terminals No. 5 and No. 15.

CABLE REEL 20P CONNECTOR



Wire side of female terminals

Fig. 397: Measuring Voltage Between Cable Reel 20P Connector Terminals No. 5 And No. 15
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

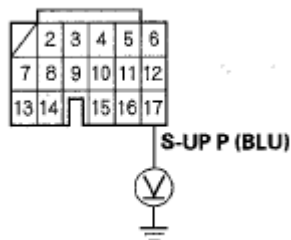
Is there battery voltage?

YES - Replace the cable reel (see CABLE REEL REPLACEMENT).

NO - Go to step 10.

10. Measure the voltage between the PCM connector terminal D17 and body ground.

PCM CONNECTOR D (17P)



Wire side of female terminals

Fig. 398: Measuring Voltage Between PCM Connector Terminal D17 And Body Ground
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Repair open in the wire between the PCM connector terminal D17 and the cable reel 20P connector.

NO - Check for loose or poor connections at the PCM connector terminal D17. If the connection is OK,

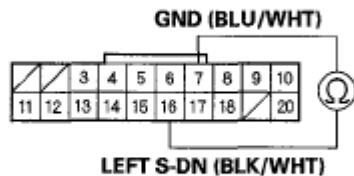
substitute a known-good PCM (see **SUBSTITUTING THE PCM**) and recheck.

PADDLE SHIFTER - (DOWNSHIFT SWITCH) CIRCUIT TROUBLESHOOTING

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
2. Check for continuity between the steering wheel switch harness 20P connector terminals No. 16 and No. 7 while pressing the paddle shifter - (downshift switch) and when the shifter is released.

STEERING WHEEL SWITCH HARNESS 20P CONNECTOR



Wire side of female terminals

Fig. 399: Checking Continuity Between Steering Wheel Switch Harness 20P Connector Terminals No. 16 And No. 7

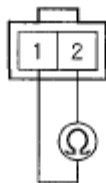
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity while pressing the paddle shifter - and no continuity when the shifter is released?

YES - Go to step 5.

NO - Go to step 3.

3. Disconnect the paddle shifter - (downshift switch) connector.
4. Check for continuity between the paddle shifter - (downshift switch) connector terminals No. 1 and No. 2 while pressing the shifter and when the shifter is released.

PADDLE SHIFTER — (DOWNSHIFT SWITCH) CONNECTOR

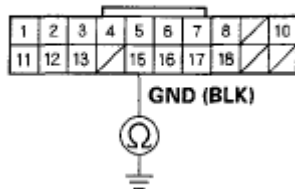
Terminal side of male terminals

Fig. 400: Checking Continuity Between Paddle Shifter - (Downshift Switch) Connector Terminals No. 1 And 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there continuity while pressing the paddle shifter - and no continuity when the shifter is released?***YES** - Replace the steering wheel switch harness.**NO** - Replace the paddle shifter - (downshift switch) (see **PADDLE SHIFTER - (DOWNSHIFT SWITCH) REPLACEMENT**).

5. Remove the cable reel (see **CABLE REEL REPLACEMENT**).
6. Check for continuity between the cable reel 20P connector terminal No. 15 and body ground.

CABLE REEL 20P CONNECTOR

Wire side of female terminals

Fig. 401: Checking Continuity Between Cable Reel 20P Connector Terminal No. 15 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there continuity?***YES** - Go to step 7.**NO** - Repair open in the wire between the cable reel 20P connector terminal No. 15 and ground (G501), or repair poor ground (G501).

7. Check for continuity between the cable reel 20P connector terminal No. 6 and body ground.

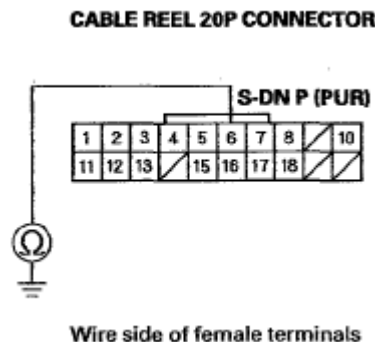


Fig. 402: Checking Continuity Between Cable Reel 20P Connector Terminal No. 6 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair short to body ground in the wire between the cable reel 20P connector terminal No. 6 and PCM connector terminal D15.

NO - Go to step 8.

8. Turn the ignition switch to ON (II), and shift to M.
9. Measure the voltage between the cable reel 20P connector terminals No. 6 and No. 15.

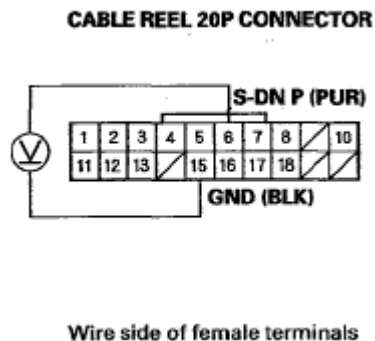


Fig. 403: Measuring Voltage Between Cable Reel 20P Connector Terminals No. 6 And No. 15

Courtesy of AMERICAN HONDA MOTOR CO., INC.

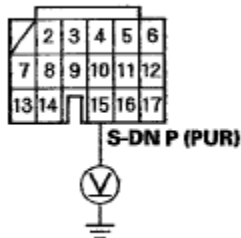
Is there battery voltage?

YES - Replace the cable reel (see **CABLE REEL REPLACEMENT**).

NO - Go to step 10.

10. Measure the voltage between the PCM connector terminal D15 and body ground.

PCM CONNECTOR D (17P)



Wire side of female terminals

Fig. 404: Measuring Voltage Between PCM Connector Terminal D15 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Repair open in the wire between the PCM connector terminal D15 and the cable reel 20P connector.

NO - Check for loose or poor connections at the PCM connector terminal D15. If the connection is OK, substitute a known-good PCM (see **SUBSTITUTING THE PCM**) and recheck.

PADDLE SHIFTER + (UPSHIFT SWITCH) TEST

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
2. Check the paddle shifter + (upshift switch) for continuity between the steering wheel switch harness 20P connector terminals No. 15 and No. 7. There should be continuity while pressing the paddle shifter +, and no continuity when the shifter is released.

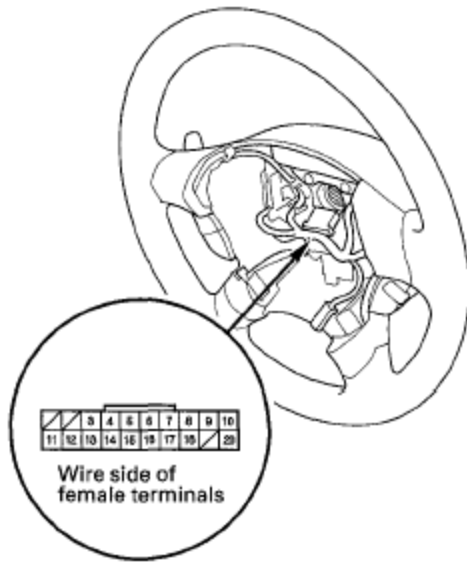


Fig. 405: Identifying Steering Wheel Switch Connector Terminal
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. The paddle shifter + test is finished if the test result is OK.

If the paddle shifter + works incorrectly at the 20P connector, test the shifter at its connector.

4. Remove the paddle shifter + connector from its holder, and disconnect the connector.

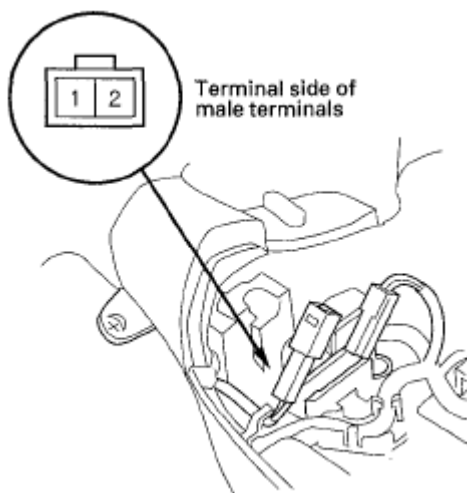


Fig. 406: Identifying Paddle Shifter Connector Terminal
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Check the paddle shifter + for continuity between the connector terminals while pressing the shifter and when the shifter is released.

There should be continuity while pressing the paddle shifter +, and no continuity when the shifter is released.

6. Replace the paddle shifter + if the paddle shifter + works incorrectly.
7. Replace the steering wheel switch harness if the switch is OK.

PADDLE SHIFTER + (UPSHIFT SWITCH) REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
2. Remove the steering wheel rear cover (A).

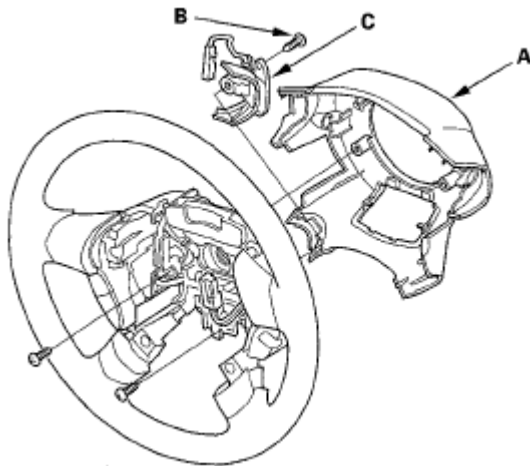


Fig. 407: Identifying Steering Wheel Rear Cover
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the paddle shifter + (upshift switch) connector from its holder, and disconnect the connector.
4. Remove the screw (B) securing the paddle shifter + (C), then remove and replace the paddle shifter +.
5. Install the new paddle shifter + with the screw, connect the connector, and install the connector in the holder.
6. Install the steering wheel rear cover.
7. Install the steering wheel (see **STEERING WHEEL INSTALLATION**).

PADDLE SHIFTER - (DOWNSHIFT SWITCH) TEST

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
2. Check the paddle shifter - (downshift switch) for continuity between the steering wheel switch harness 20P connector terminals No. 16 and No. 7. There should be continuity while pressing the paddle shifter -, and no continuity when the shifter is released.

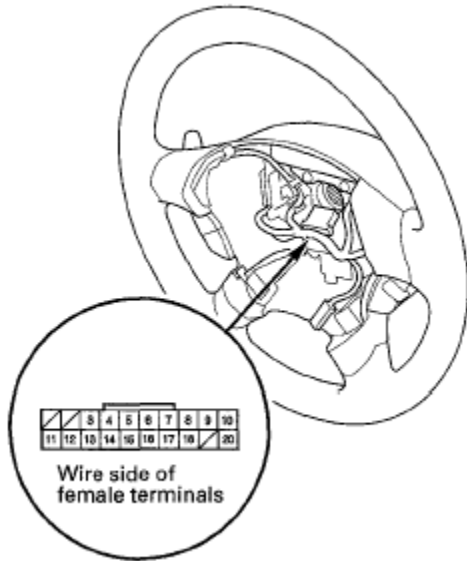


Fig. 408: Identifying Steering Wheel Switch Harness 20P Connector Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. The paddle shifter - test is finished if the test result is OK.

If the paddle shifter - works incorrectly at the 20P connector, test the shifter at its connector.

4. Remove the paddle shifter - connector from its holder, and disconnect the connector.

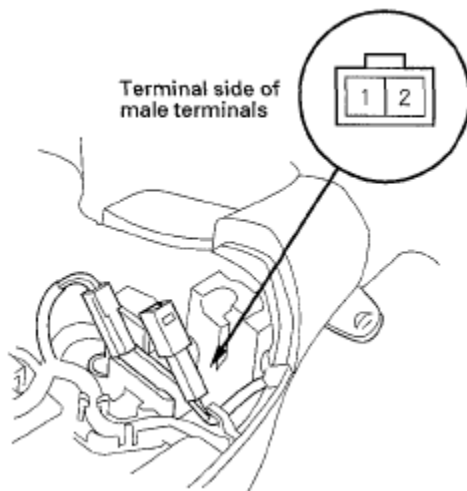


Fig. 409: Identifying Paddle Shifter Connector Terminal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Check the paddle shifter - for continuity between the connector terminals while pressing the shifter and when the shifter is released.

There should be continuity while pressing the paddle shifter -, and no continuity when the shifter is released.

6. Replace the paddle shifter - if the paddle shifter - works incorrectly.
7. Replace the steering wheel switch harness if the switch is OK.

PADDLE SHIFTER - (DOWNSHIFT SWITCH) REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL**).
2. Remove the steering wheel rear cover (A).

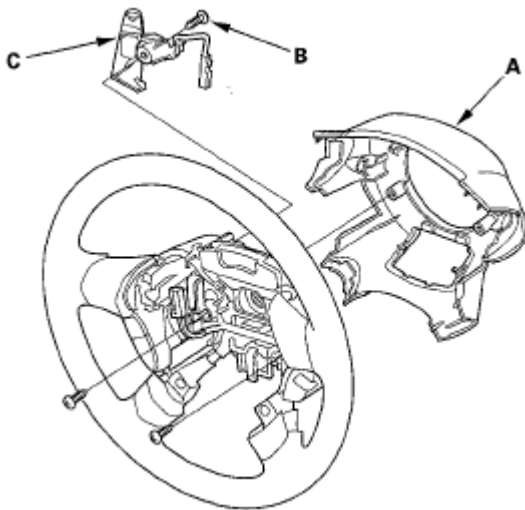


Fig. 410: Identifying Steering Wheel Rear Cover And Paddle Shifter
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the paddle shifter - (downshift switch) connector from its holder, and disconnect the connector.
4. Remove the screw (B) securing the paddle shifter - (C), then remove and replace the paddle shifter -.
5. Install the new paddle shifter - with the screw, connect the connector, and install the connector in the holder.
6. Install the steering wheel rear cover.
7. Install the steering wheel (see **STEERING WHEEL INSTALLATION**).

A/T INTERLOCK SYSTEM

COMPONENT LOCATION INDEX

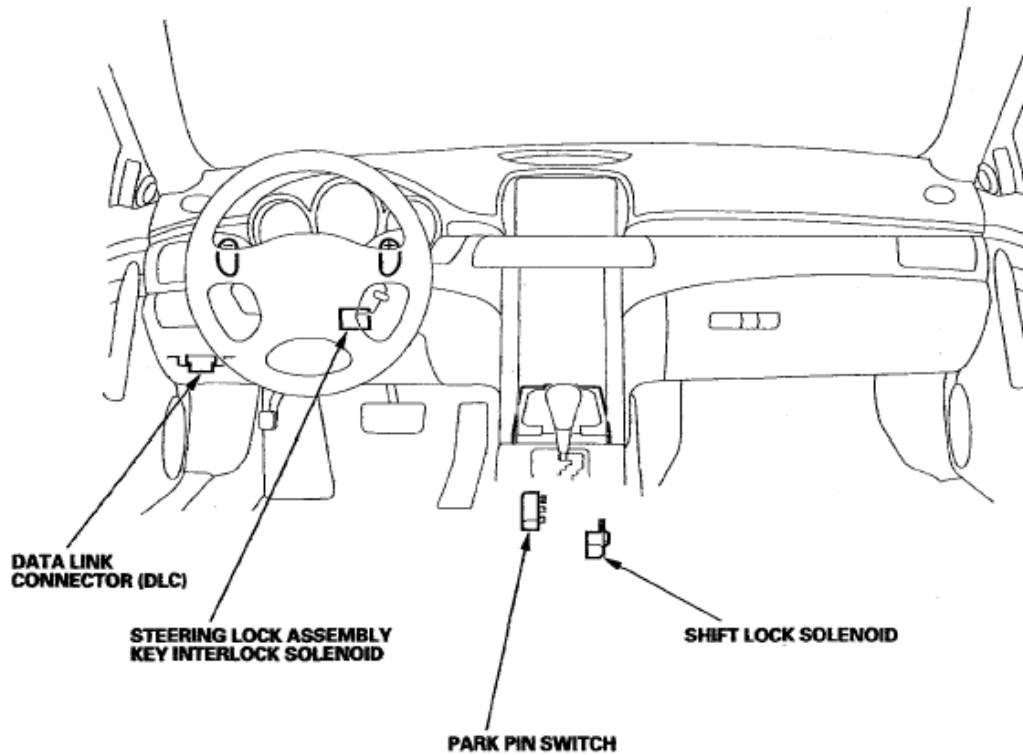


Fig. 411: Identifying A/T Interlock System Components Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CIRCUIT DIAGRAM

'05 Model

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

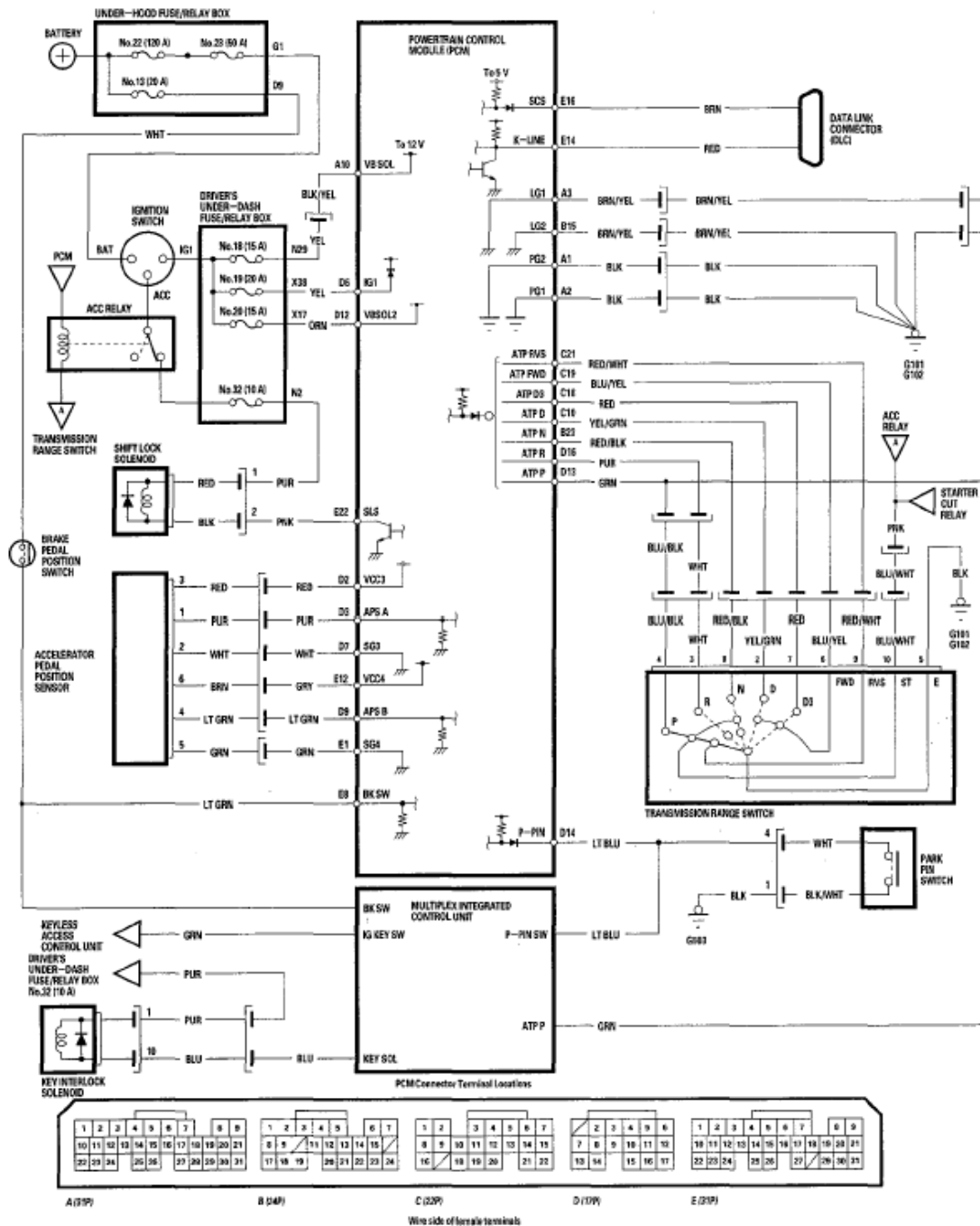


Fig. 412: A/T Interlock System (05 Model) - Circuit Diagram
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

'06-08 Models

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

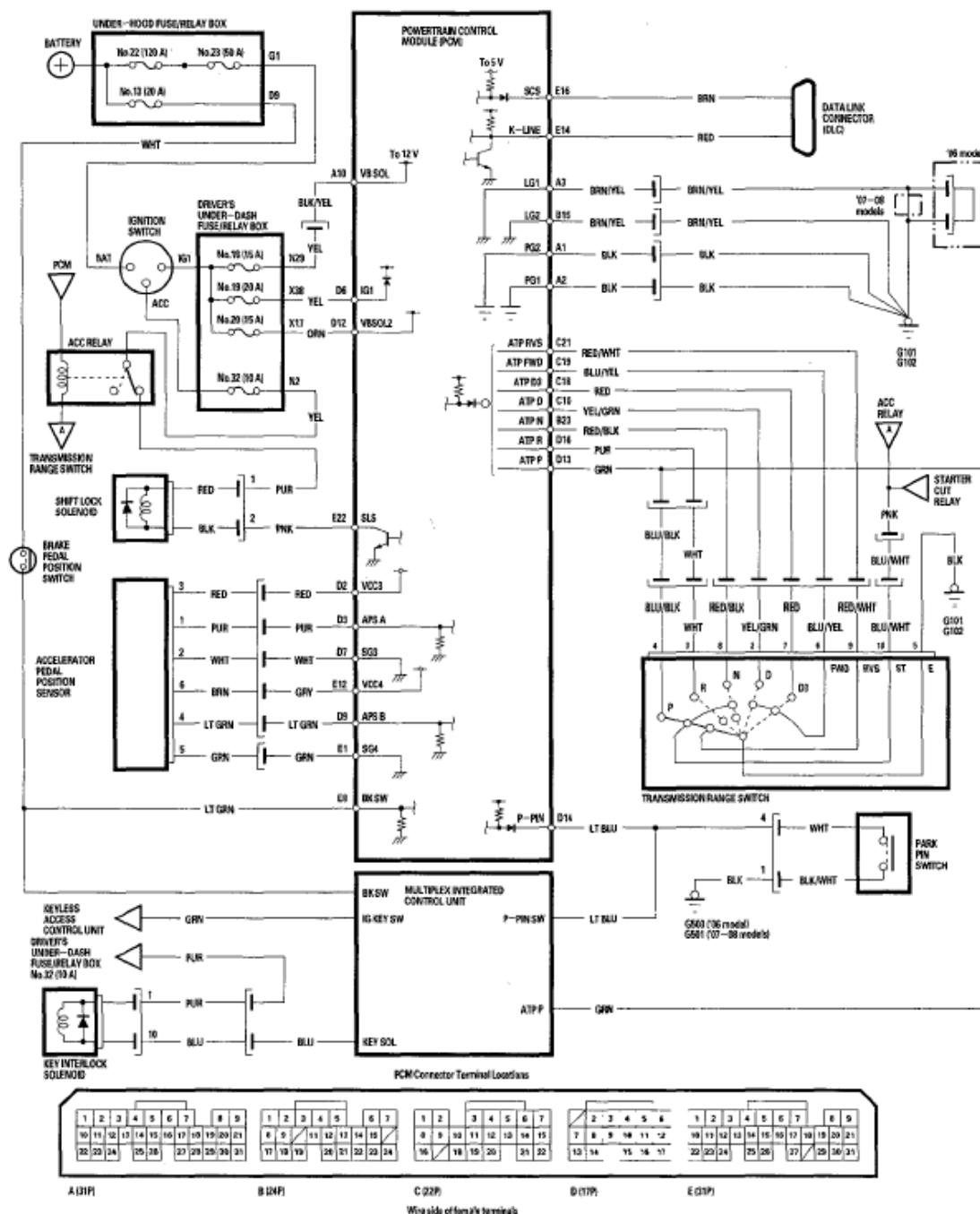


Fig. 413: A/T Interlock System (06-08 Models) - Circuit Diagram
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

SHIFT LOCK SYSTEM/REVERSE LOCK SYSTEM CIRCUIT TROUBLESHOOTING

1. Connect the HDS to the DLC.
2. Select SHIFT LOCK SOLENOID TEST in the MISCELLANEOUS TEST MENU, and check that the SHIFT LOCK SOLENOID OPERATES with the HDS.

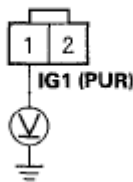
Does the shift lock solenoid work properly?

YES - Go to step 14.

NO - Go to step 3.

3. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
4. Disconnect the shift lock solenoid connector.
5. Turn the ignition switch to ON (II).
6. Measure the voltage between the shift lock solenoid connector terminal No. 1 and body ground.

SHIFT LOCK SOLENOID CONNECTOR



Wire side of female terminals

Fig. 414: Measuring Voltage Between Shift Lock Solenoid Connector Terminal No. 1 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

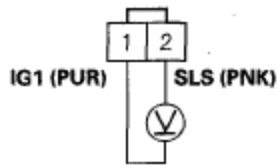
Is there battery voltage?

YES - Go to step 7.

NO - Check for a blown No. 32 (10 A) fuse in the driver's under-dash fuse/relay box. If the fuse is OK, repair open or short in the wire between the shift lock solenoid connector and the driver's under-dash fuse/relay box.

7. Shift the shift lever into P, and press the brake pedal. Do not press the accelerator.
8. Measure the voltage between the shift lock solenoid connector terminals No. 1 and No. 2 while pressing the brake pedal.

SHIFT LOCK SOLENOID CONNECTOR



Wire side of female terminals

Fig. 415: Measuring Voltage Between Shift Lock Solenoid Connector Terminals No. 1 And No. 2
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

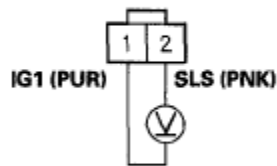
Is there battery voltage?

YES - Go to step 9.

NO - Go to step 10.

9. Release the brake pedal, and measure the voltage between the shift lock solenoid connector terminals No. 1 and No. 2. The shift lever must be in P.

SHIFT LOCK SOLENOID CONNECTOR



Wire side of female terminals

Fig. 416: Measuring Voltage Between Shift Lock Solenoid Connector Terminals No. 1 And No. 2
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Repair short to body ground in the wire between the PCM connector terminal E22 and the shift lock solenoid.

NO - Check the shift lock mechanism. If the mechanism is OK, replace the shift lock solenoid (see **SHIFT LOCK SOLENOID TEST**).

10. Turn the ignition switch to LOCK (0).
11. Jump the SCS line with the HDS.

12. Disconnect PCM connector E (31P).
13. Check for continuity between the PCM connector terminal E22 and shift lock solenoid connector terminal No. 2.

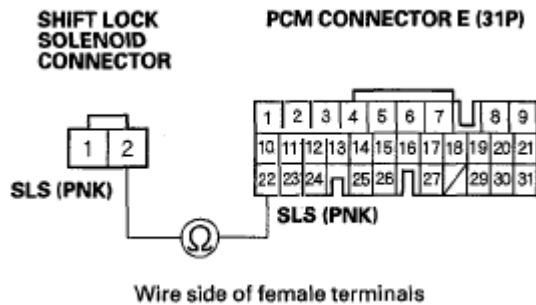


Fig. 417: Checking Continuity Between PCM Connector Terminal E22 And Shift Lock Solenoid Connector Terminal No. 2

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Substitute a known-good PCM (see **SUBSTITUTING THE PCM**) and recheck.

NO - Repair open in the wire between PCM connector terminal E22 and the shift lock solenoid.

14. Press the brake pedal.

Are the brake lights ON?

YES - Go to step 15.

NO - Repair faulty brake light circuit.

15. Turn the ignition switch to LOCK (0).
16. Jump the SCS line with the HDS.
17. Disconnect PCM connector E (31P).
18. Measure the voltage between PCM connector terminal E8 and body ground while pressing the brake pedal and when the brake pedal is released.

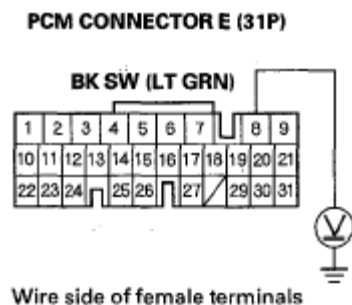


Fig. 418: Measuring Voltage Between PCM Connector Terminal E8 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage while the brake pedal is pressed, and no voltage when the pedal is released?

YES - Go to step 20.

NO - Go to step 19.

19. Check for continuity between the PCM connector terminal E8 and brake pedal position switch 4P connector terminal No. 2.

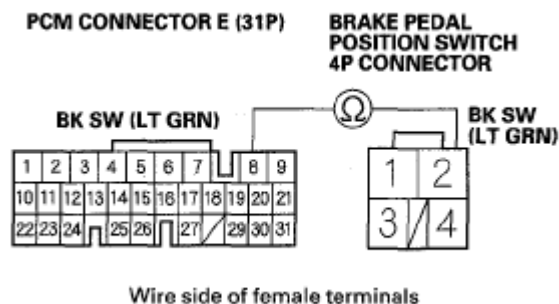


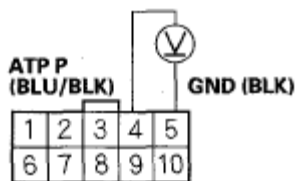
Fig. 419: Checking Continuity Between PCM Connector Terminal E8 And Brake Pedal Position Switch 4P Connector Terminal No. 2
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is the continuity?

YES - Substitute a known-good PCM (see **SUBSTITUTING THE PCM**) and recheck.

NO - Repair open in the wire between the PCM connector terminal E8 and the brake pedal position switch.

20. Connect PCM connector E (31P).
21. Disconnect the transmission range switch connector.
22. Turn the ignition switch to ON (II).
23. Measure the voltage between the transmission range switch connector terminals No. 4 and No. 5.

**TRANSMISSION RANGE
SWITCH CONNECTOR**

Wire side of female terminals

Fig. 420: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 4 And No. 5

Courtesy of AMERICAN HONDA MOTOR CO., INC.

*Is there battery voltage?***YES** - Go to step 29.**NO** - Go to step 24.

24. Turn the ignition switch to LOCK (0).
25. Disconnect PCM connector D(17P).
26. Check for continuity between the PCM connector terminal D13 and body ground.

PCM CONNECTOR D (17P)

Wire side of female terminals

Fig. 421: Checking Continuity Between PCM Connector Terminal D13 And Body Ground
Courtesy of AMERICAN HONDA MOTOR CO., INC.*Is there continuity?***YES** - Repair short to body ground in the wire between the PCM connector terminal D13 and the transmission range switch.**NO** - Go to step 27.

27. Check for continuity between the PCM connector terminal D13 and transmission range switch connector

terminal No. 4.

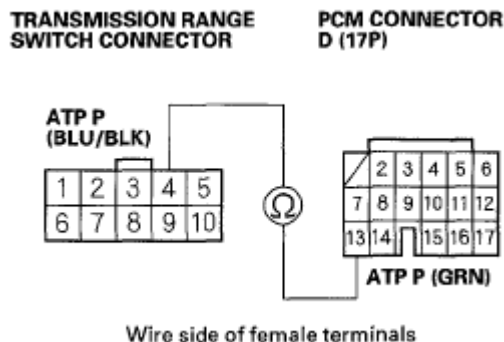


Fig. 422: Checking Continuity Between PCM Connector Terminal D13 And Transmission Range Switch Connector Terminal No. 4

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Go to step 28.

NO - Repair open in the wire between the PCM connector terminal D13 and the transmission range switch.

28. Check for continuity between the transmission range switch connector terminal No. 5 and body ground.

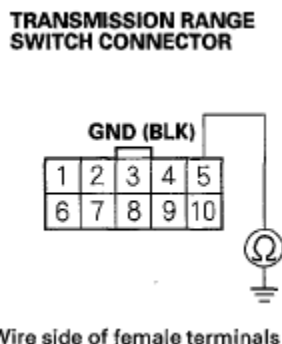


Fig. 423: Checking Continuity Between Transmission Range Switch Connector Terminal No. 5 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Substitute a known-good PCM (see **SUBSTITUTING THE PCM**) and recheck.

NO - Repair open in the wire between the transmission range switch connector terminal No. 5 and ground (G101, G102), or repair poor ground (G101, G102).

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

29. Test the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST**).

Is the switch OK?

YES - Go to step 30.

NO - Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT**).

30. Connect the HDS to the DLC.

31. Start the engine.

32. Check the engine speed and accelerator pedal position in the A/T data list with the HDS. Do not press the accelerator.

Is the engine speed at a normal idle, APSA about 1.0 V, and APSB about 0.5 V?

YES - Check the APP sensor signal (see **APP SENSOR SIGNAL INSPECTION**).

NO - Substitute a known-good PCM (see **SUBSTITUTING THE PCM**) and recheck.

KEY INTERLOCK SYSTEM CIRCUIT TROUBLESHOOTING

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

NOTE: **This vehicle is equipped with a keyless access system. In normal operation, the ignition switch on the steering column does not use a key. Refer to the KEYLESS ACCESS SYSTEM .**

1. Turn the ignition switch to ACCESSORY (I). The shift lever must be in P.

NOTE: **One of the remotes must be in the vehicle for the switch to operate.**

2. Disconnect the steering lock assembly connector.
3. Check if the ignition switch can be moved to LOCK (0).

Can the ignition switch be moved to LOCK (0)?

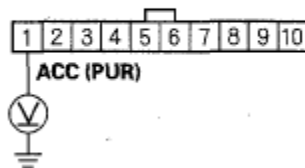
YES - Go to step 4.

NO - Replace the ignition key cylinder/steering lock assembly (see **STEERING LOCK REPLACEMENT**).

4. Turn the ignition switch to ACCESSORY (I) or ON (II), and shift to N.

5. Measure the voltage between the steering lock assembly connector terminal No. 1 and body ground.

STEERING LOCK ASSEMBLY CONNECTOR



Wire side of female terminals

Fig. 424: Measuring Voltage Between Steering Lock Assembly Connector Terminal No. 1 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

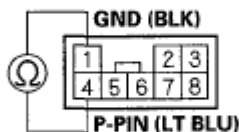
Is there battery voltage?

YES - Go to step 6.

NO - Check for a blown No. 32 (10 A) fuse in the driver's under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the driver's under-dash fuse/relay box and the steering lock assembly connector.

6. Turn the ignition switch to ACCESSORY (I), and shift to P.
7. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
8. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector (see **PARK PIN SWITCH TEST**).
9. Check for continuity between the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector terminals No. 1 and No. 4 while the shift lever is in P, and when the shift lever is out of P.

**TRANSMISSION GEAR SELECTION SWITCH/
PARK PIN SWITCH/A/T GEAR POSITION
INDICATOR PANEL LIGHT CONNECTOR**



Terminal side of male terminals

Fig. 425: Checking Continuity Between Connector Terminals No. 1 And No. 4

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity when the shift lever is in any position other than P, and no continuity when the shift lever is in P?

YES - Check for an open in the wire between the multiplex integrated control unit, PCM connector terminal D14, and the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector. If the wire is OK, substitute a known-good multiplex integrated control unit or PCM, then recheck.

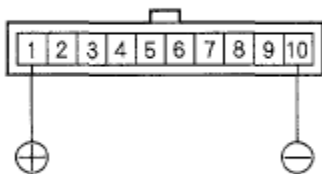
NO - Replace the park pin switch (see **PARK PIN SWITCH TEST**).

KEY INTERLOCK SOLENOID TEST

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) in the SRS before doing repairs or service.

1. Remove the driver's dashboard lower cover and the lower steering column cover.
2. Disconnect the steering lock assembly connector.
3. Remove the built-in key from the remote. Insert the key in the key cylinder, then turn the ignition key to ACCESSORY (I).
4. Connect the positive battery terminal to the steering lock assembly connector terminal No. 1, and connect the negative battery terminal to No. 10 terminal. Make sure that the ignition key cannot be turned to LOCK (0). Release the battery terminals, and make sure that the key can be turned to LOCK (0) and removed from the cylinder.

STEERING LOCK ASSEMBLY CONNECTOR



Terminal side of male terminals

Fig. 426: Identifying Steering Lock Assembly Connector Terminal No. 1 And No. 10
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If the key interlock solenoid works improperly, replace the ignition key cylinder/steering lock assembly (see **STEERING LOCK REPLACEMENT**).

SHIFT LOCK SOLENOID TEST

1. Connect the HDS to the DLC (A).

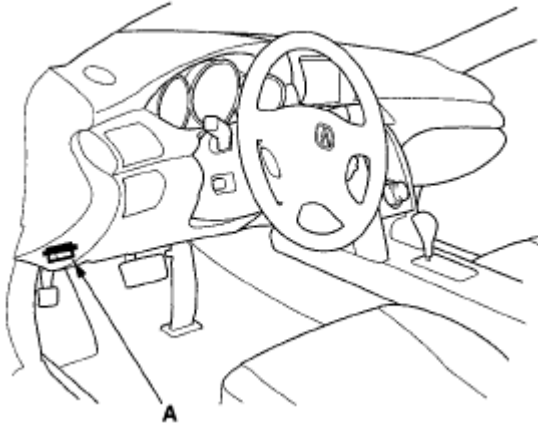


Fig. 427: Identifying Data Link Connector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Select SHIFT LOCK SOLENOID TEST in the MISCELLANEOUS TEST MENU, and check that the shift lock solenoid operates with the HDS.
3. Check that the shift lever can be moved out of P with Shift Lock Solenoid: ON. Move the shift lever back in P, and make sure it locks with Shift Lock Solenoid: OFF.
4. Check that the shift lock releases when the shift lock release is pushed, and check that it locks when the shift lock release is released.
5. If the shift lock solenoid does not work properly, do the shift lock system troubleshooting (see **SHIFT LOCK SYSTEM/REVERSE LOCK SYSTEM CIRCUIT TROUBLESHOOTING**).

SHIFT LOCK SOLENOID REPLACEMENT

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Release the tab (A) retaining the shift lock solenoid.

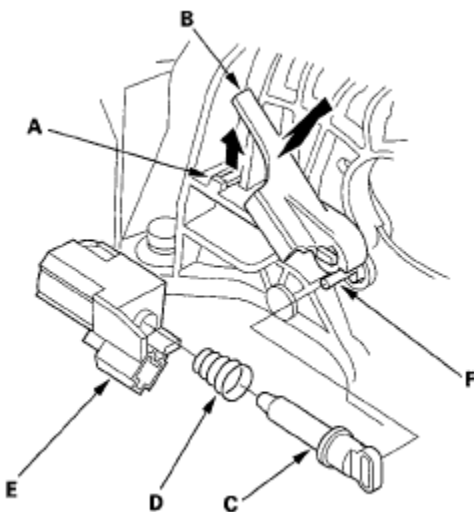


Fig. 428: Removing Tab Retaining The Shift Lock Solenoid

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Raise the shift lock solenoid bushing (B) just enough to slide the shift lock solenoid out.
4. Install the shift lock solenoid plunger (C) and plunger spring (D) in the new shift lock solenoid (E).
5. Apply silicone grease to joint of the shift lock solenoid plunger, if necessary.
6. Install the new shift lock solenoid by aligning the joint of the shift lock solenoid plunger with the tip of the shift lock stop (F).
7. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

PARK PIN SWITCH TEST

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector.

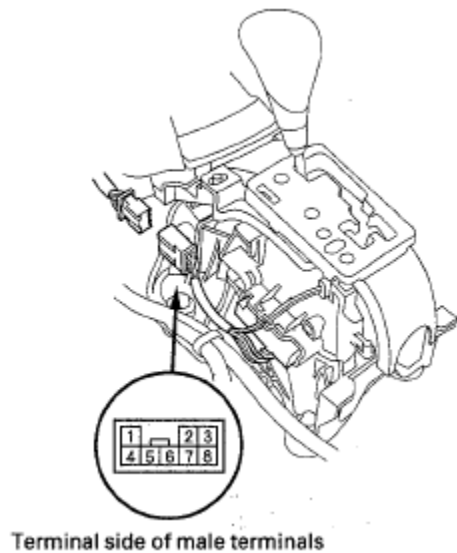


Fig. 429: Identifying A/T Gear Position Indicator Panel Light Connector
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Shift the shift lever into P, then check for continuity between the connector terminals No. 1 and No. 4. There should be no continuity.
4. Shift out of P, and check for continuity between the terminals No. 1 and No. 4. There should be continuity.
5. If the park pin switch fails the test, replace it (see **PARK PIN SWITCH TEST**).
6. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

PARK PIN SWITCH REPLACEMENT

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

2. Disconnect the transmission gear selection switch/park pin switch/A/T gear position indicator panel light connector (A), then remove the connector from the shift lever.

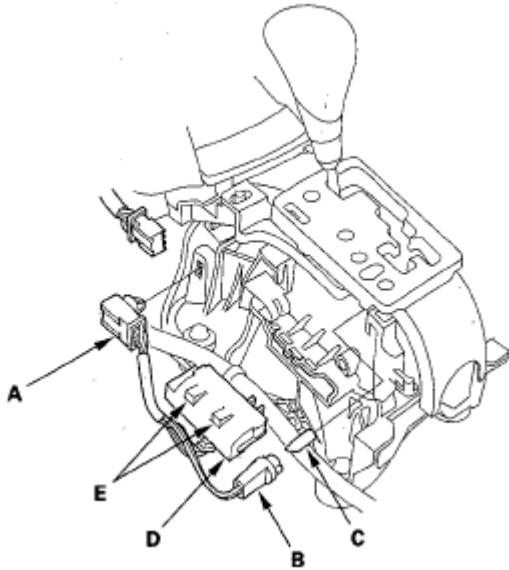


Fig. 430: Identifying A/T Gear Position Indicator Panel Light Connector And Gear Selection Switch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the A/T gear position indicator panel light bulb socket (B), then remove the bulb (C) from the socket.
4. Remove the transmission gear selection switch/park pin switch (D) by releasing the lock tabs (E).
5. Install the new switch assembly in the shift lever.
6. Install the bulb in the socket, then install the socket in the A/T gear position indicator panel.
7. Install the switch connector on the shift lever, then connect the connector.
8. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

AUTOMATIC TRANSMISSION

TRANSMISSION DISASSEMBLY

Special Tools Required

Mainshaft holder 07GAB-PF50101 or 07PAB-0010001

1. Remove the ATF dipstick (A) and the dipstick tube (B).

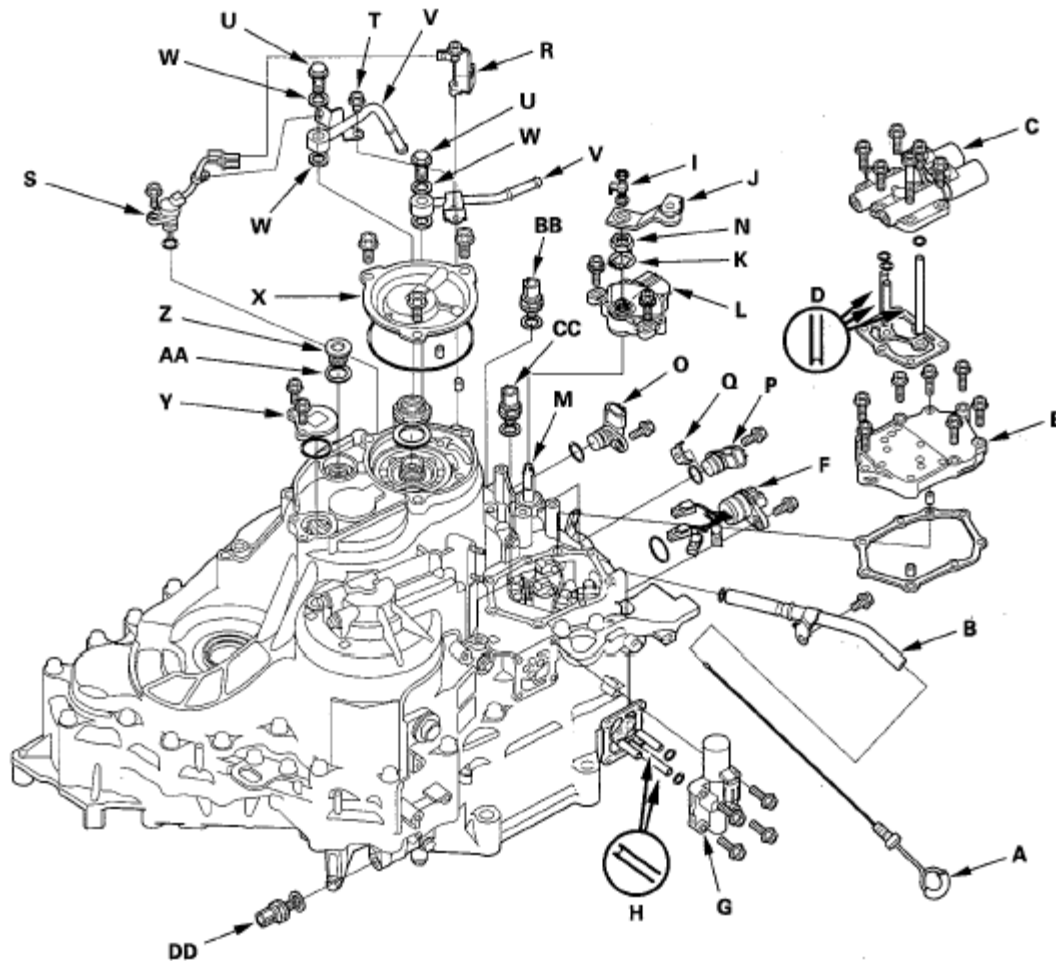


Fig. 431: Disassembling Automatic Transmission (Exploded View - Exterior)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove A/T clutch pressure control solenoid valves A and B (C) (six bolts), ATF feed pipes (D) (three), O-rings (three), and gasket.
3. Remove the solenoid valve cover (E) (seven bolts), dowel pins (two), and gasket.
4. Disconnect the solenoid valve connectors, then remove the solenoid harness connector (F).
5. Remove A/T clutch pressure control solenoid valve C (G) (four bolts), ATF feed pipes (H) (three), O-rings (two), and gasket.
6. Pry the lock tab of the lock washer (I) on the control lever (J), and remove the nut, lock washer, spring washer and control lever.
7. Pry the lock tabs of the lock washer (K) on the transmission range switch (L), hold the selector control shaft (M) with a 6.0 mm wrench, and loosen the locknut (N).
8. Remove the locknut and lock washer, then remove the transmission range switch (two bolts).
9. Remove the output shaft (countershaft) speed sensor (O), input shaft (mainshaft) speed sensor (P), and sensor washer (Q).
10. Remove the ATF temperature sensor connector from the connector bracket (R) and the harness clamp

from the clamp bracket, then remove the ATF temperature sensor (S).

11. Remove the connector bracket and 6.0 mm bolt (T), then remove the line bolts (U), ATF cooler lines (V), and sealing washers (W).
12. Remove the end cover (X) (three bolts), snap ring cap (Y) (two bolts), sealing plug (Z), and washer (AA).
13. Remove the 3rd clutch transmission fluid pressure switch (BB) and sealing washer.
14. Remove the 4th clutch transmission fluid pressure switch (CC) and sealing washer.
15. Remove the 2nd clutch transmission fluid pressure switch (DD) and sealing washer.
16. Slip the mainshaft holder onto the mainshaft.

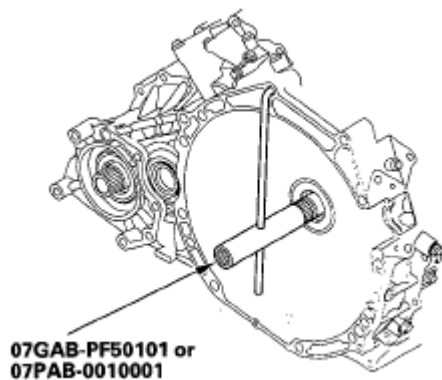


Fig. 432: Identifying Mainshaft Holder Installed On Mainshaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Cut the lock tab (A) off the mainshaft locknut (B) using a chisel (C).

NOTE: Keep all of the chiseled particles out of the transmission.

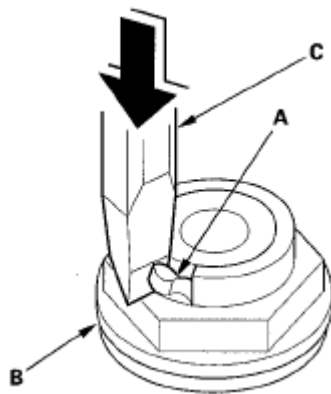


Fig. 433: Cutting Lock Tab Off Mainshaft Locknut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Remove the locknut (A) from the mainshaft (B).

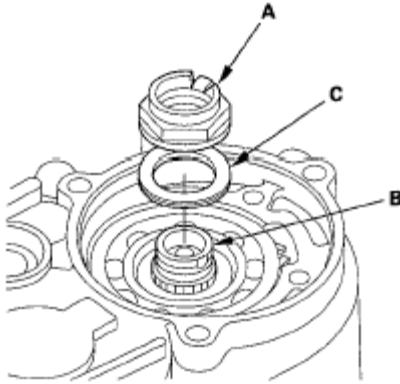


Fig. 434: Identifying Mainshaft Locknut And Lock Washer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Pry the lock washer (C), and remove it.
20. Remove the transmission housing mounting bolts (23 bolts), special bolt (A) transmission hanger (B) and bolt (C), and ground terminal bracket (D).

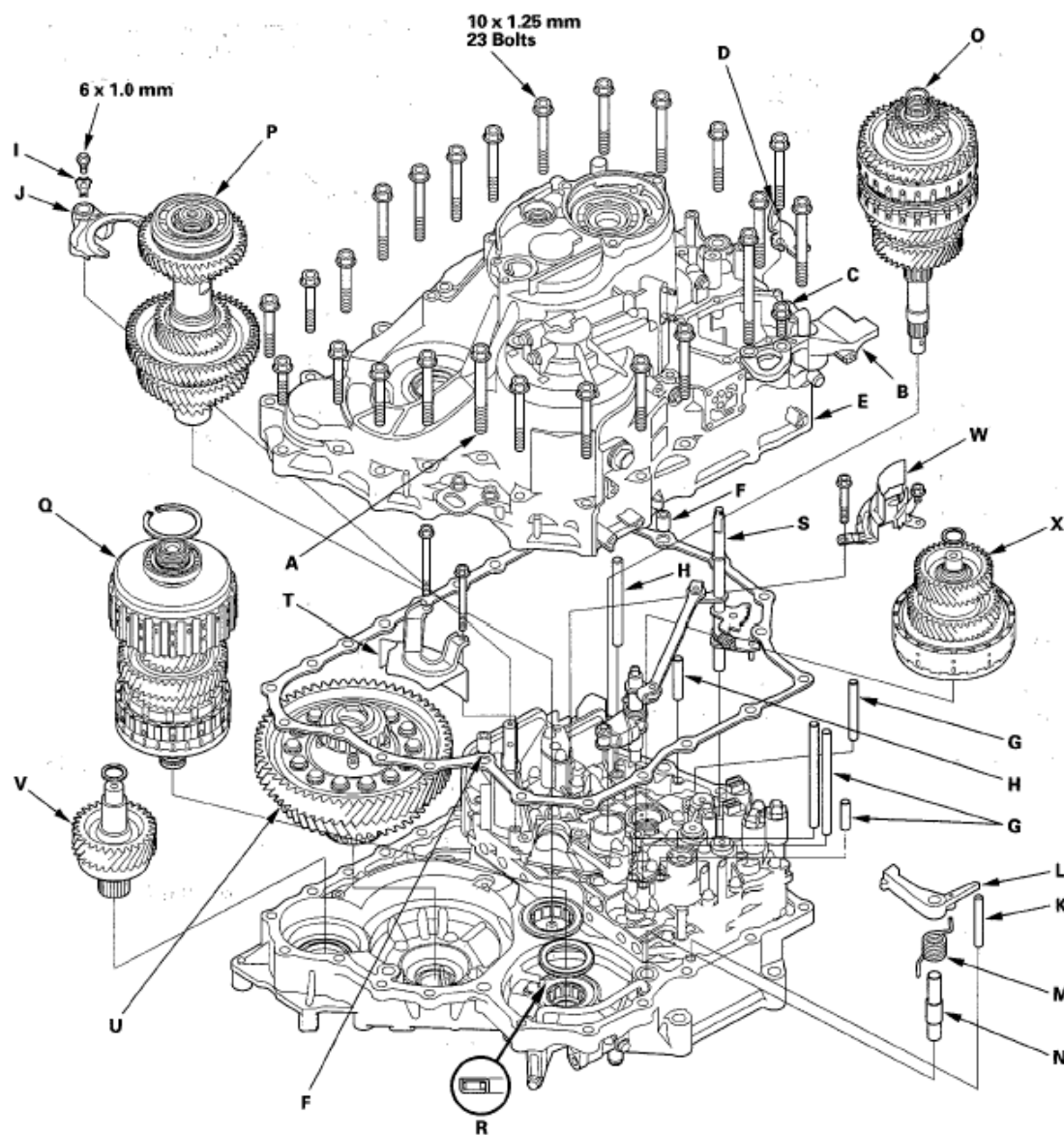


Fig. 435: Disassembling Transmission Housing And Fasteners (Exploded View - Interior)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. While expanding the snap ring of the countershaft bearing with snap ring pliers, lift the transmission housing.

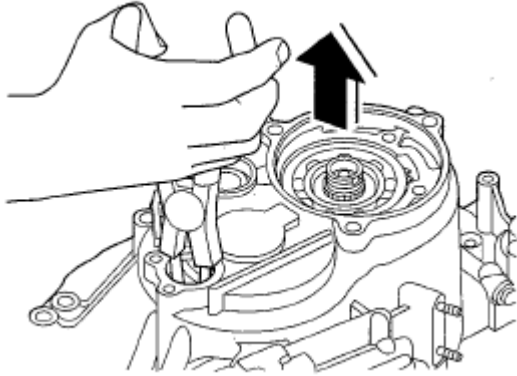


Fig. 436: Lifting Transmission Housing Upward Using Snap Ring Pliers
Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Release the pliers, and remove the transmission housing (E), two dowel pins (F), and gasket.
23. Remove the ATF feed pipes (G) (four) from the accumulator body.
24. Remove the ATF feed pipes (H) (two) from the torque converter housing.
25. Remove the mainshaft holder from the mainshaft.
26. Pry the lock tab of the lock washer (I) on the shift fork (J), then remove the bolt and lock washer.
27. Unlock the detent spring from the detent arm.

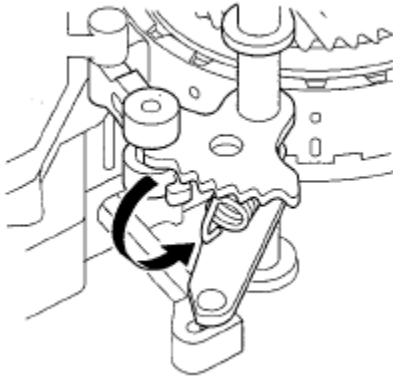


Fig. 437: Unlocking Detent Spring From Detent Arm
Courtesy of AMERICAN HONDA MOTOR CO., INC.

28. Remove the park pawl stop (K), park pawl (L), pawl spring (M), and pawl shaft (N).
29. Remove the mainshaft (O), countershaft (P), shift fork (J), and secondary shaft (Q) together, and remove the needle bearing (R) from the torque converter housing.

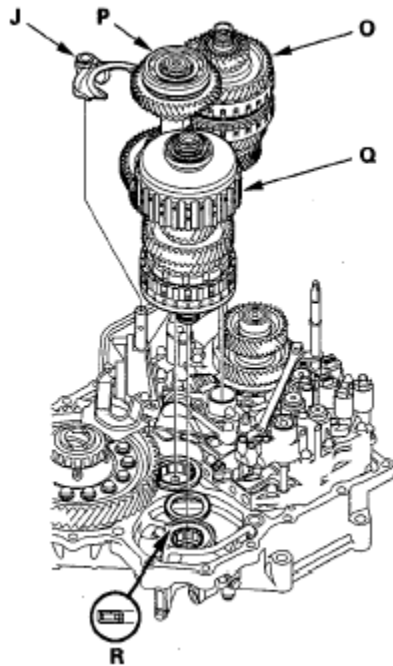


Fig. 438: Identifying Mainshaft, Countershaft, Shift Fork And Secondary Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

30. Remove the selector control shaft and park lever link(S).
31. Remove the baffle plate (T).
32. Remove the differential assembly (U).
33. Remove the transfer output shaft (V).
34. Remove the baffle plate (W).
35. Remove the intermediary shaft (X).
36. Remove the ATF strainer (A) (one bolt).

'05 Model

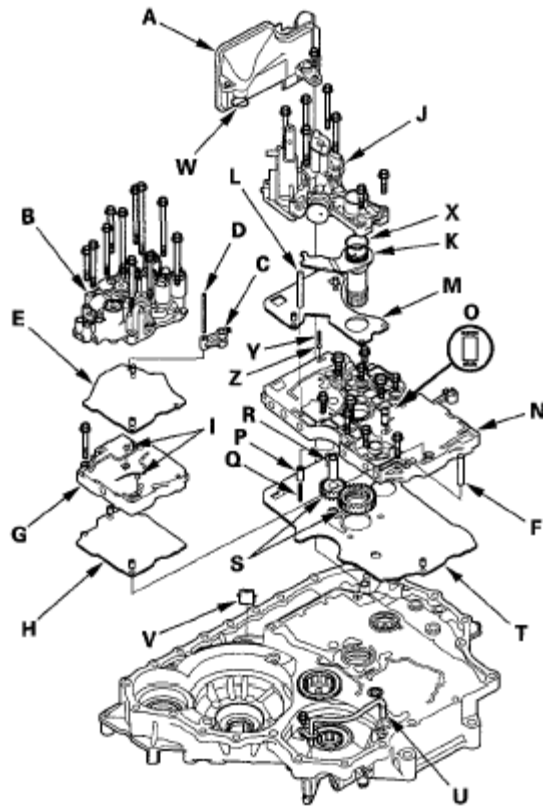


Fig. 439: Identifying ATF Strainer, Accumulator Body And Main Valve Body (05 Model)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

'06-08 Models

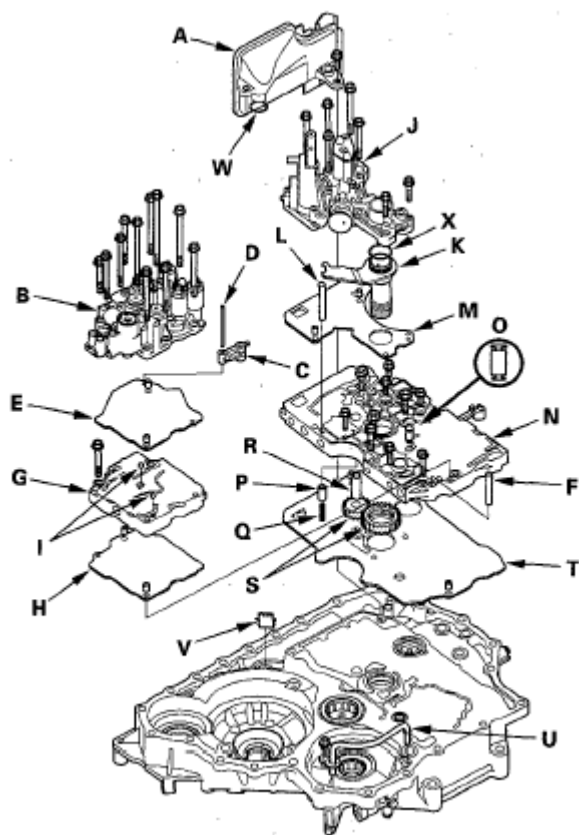


Fig. 440: Identifying ATF Strainer, Accumulator Body And Main Valve Body (06-08 Models)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

37. Remove the accumulator body (B) (11 bolts), dowel pins (two), detent arm (C), arm shaft (D), and separator plate (E).
38. Remove the ATF feed pipe (F) from the main valve body.
39. Remove the secondary valve body (G) (one bolt), dowel pins (two), and separator plate (H). Do not let the check balls (I) (two) fall out.
40. Remove the regulator valve body (J) (seven bolts), stator shaft (K), stator shaft stop (L), dowel pins (two), and separator plate (M).
41. Remove the main valve body (N) (8 mm: three bolts, 6 mm: seven bolts). Do not let the lubrication check valve (O) fall out; and for '05 model, do not let the cooler check valve (ball) (Z) and valve spring (Y) fall out.

NOTE: The cooler check valve and valve spring are located in the regulator valve body on '06-08 models.

42. Remove the torque converter check valve (P) and valve spring (Q).
43. Remove the ATF pump driven gear shaft (R), then remove the ATF pump gears (S).
44. Remove the dowel pins (two) and main separator plate (T).
45. Remove the ATF passage pipe (U).

46. Remove the ATF magnet (V), clean it, then reinstall it.
47. Remove the O-ring (W) from the ATF strainer, and replace it with a new O-ring when reassembling the transmission.
48. Remove the O-ring (X) from the stator shaft, and replace it with a new O-ring when reassembling the transmission.
49. Clean the inlet opening (A) of the ATF strainer (B) thoroughly with compressed air, then check that it is in good condition and that the inlet opening is not clogged.

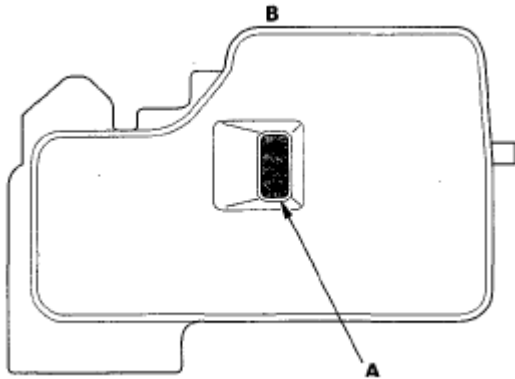


Fig. 441: Identifying Strainer Inlet Opening
Courtesy of AMERICAN HONDA MOTOR CO., INC.

50. Test the ATF strainer by pouring clean ATF through the inlet opening, and replace if it is clogged or damaged.

TRANSMISSION HOUSING

REVERSE IDLER GEAR REMOVAL/INSTALLATION

1. Remove the reverse idler gear assembly (A) from the transmission housing.

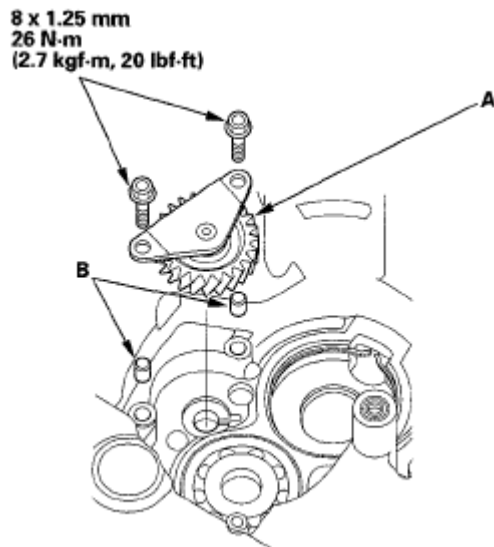


Fig. 442: Identifying Reverse Idler Gear Assembly And Dowel Pins With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the reverse idler gear assembly with the two dowel pins (B) in the transmission housing.

REVERSE IDLER GEAR DISASSEMBLY/INSPECTION/REASSEMBLY

1. Remove the snap ring (A), then remove the thrust washer (B), reverse idler gear (C), needle bearings (D), and thrust washer (E) from the reverse idler gear shaft/holder (F).

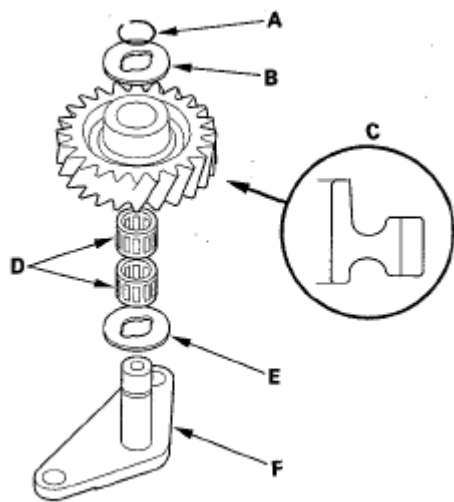


Fig. 443: Identifying Thrust Washer, Reverse Idler Gear, Needle Bearings And Thrust Washer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Inspect the reverse idler gear and gear shaft for excessive wear and damage.
3. Inspect the needle bearings for galling and rough movement.

4. Install the thrust washer and needle bearings over the gear shaft.
5. Install the reverse idler gear in the direction shown.
6. Install the thrust washer, then install the snap ring to secure the idler gear.

ATF FILTER REMOVAL/INSPECTION/INSTALLATION

1. Remove the three 6.0 mm bolts securing the ATF filter cover (A) and ATF pipe (B).

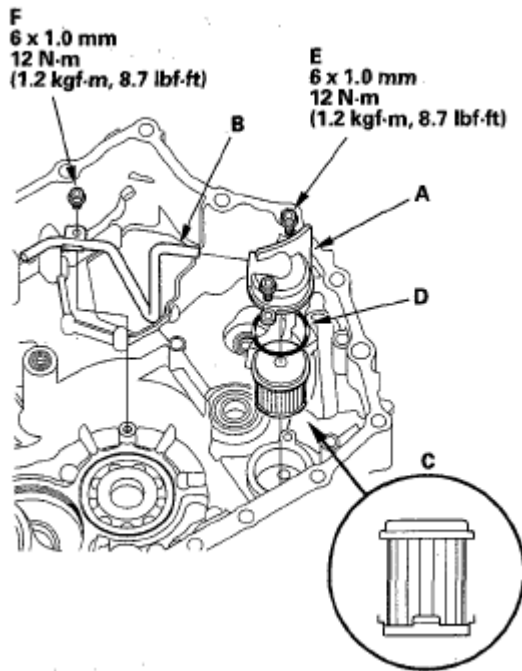


Fig. 444: Identifying ATF Filter Cover And ATF Pipe With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the ATF pipe from the ATF filter cover, and remove the ATF filter (C) from the cover.
3. Clean the ATF filter, then check that it is in good condition and not clogged. Replace the ATF filter if it is clogged or damaged.
4. Install the ATF filter with the new O-ring (D) in the filter cover, and install the ATF pipe in the cover, then install them in the transmission housing.
5. Secure the ATF filter cover with the two bolts (E), then secure the ATF pipe with the bolt (F).

SECONDARY SHAFT ATF FEED PIPE CAP REMOVAL

1. Cover the tip of the 1st-hold clutch ATF feed pipe with a shop rag.
2. Apply air pressure to the ATF feed pipe hole of the 1st-hold clutch pressure circuit, and remove the ATF feed pipe cap from the transmission housing.

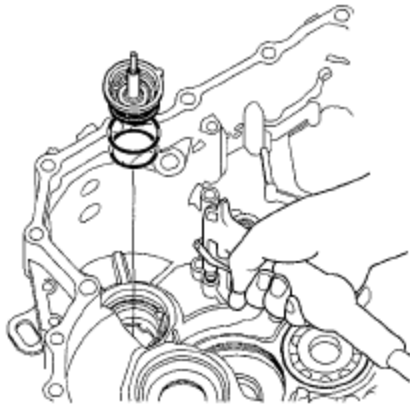


Fig. 445: Applying Air Pressure To ATF Feed Pipe Hole Of 1st-Hold Clutch Pressure Circuit
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY SHAFT ATF FEED PIPE CAP INSTALLATION

1. Install the new O-rings (A) on the ATF feed pipe cap (B).

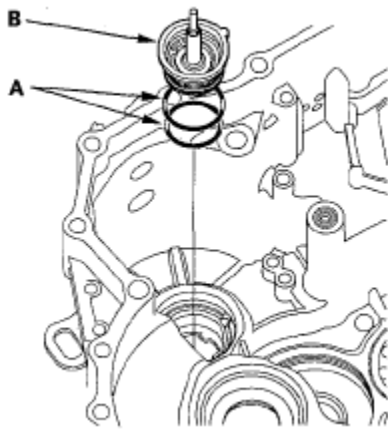


Fig. 446: Identifying O-Rings On ATF Feed Pipe Cap
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the ATF feed pipe cap in the transmission housing. Do not pinch the O-rings.

SECONDARY SHAFT ATF FEED PIPE CAP, FEED PIPE REPLACEMENT

1. Remove the ATF feed pipe cap from the transmission housing (see **SECONDARY SHAFT ATF FEED PIPE CAP REMOVAL**).
2. Remove the snap ring (A) from the feed pipe cap (B), then remove the feed pipe guide (C), O-rings (D) (E), and 1st clutch ATF feed pipe (F).

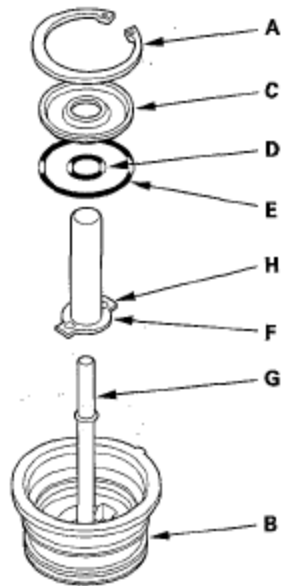


Fig. 447: Identifying Feed Pipe Guide, O-Rings And 1st Clutch ATF Feed Pipe
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Replace the 1st clutch ATF feed pipe or 1st-hold clutch ATF feed pipe/ATF feed pipe cap assembly. The 1st-hold clutch ATF feed pipe/ATF feed pipe cap is not available separately.
4. Install the new O-ring (D) over the 1st clutch ATF feed pipe, then install the feed pipe over the 1st-hold clutch ATF feed pipe (G) while aligning the feed pipe tabs (H) with the guide in the cap.
5. Install the new O-ring (E) in the cap and feed pipe guide, then secure the guide with the snap ring.

MAINSHAFT BEARING REMOVAL

Special Tools Required

- Driver 07749-0010000
 - Attachment, 78 x 80 mm 07NAD-PX40100
1. To remove the mainshaft bearing, expand the snap ring with snap ring pliers, then push the bearing out. Do not remove the snap ring unless it's necessary to clean the groove in the housing.

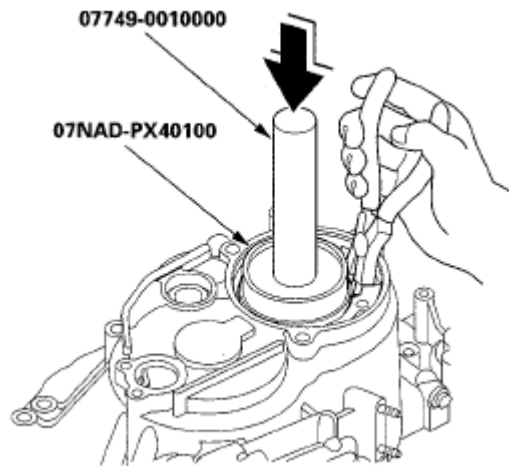


Fig. 448: Removing Mainshaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

MAINSHAFT BEARING INSTALLATION

Special Tools Required

- Driver 07749-0010000
- Attachment, 78 x 80 mm 07NAD-PX40100

1. Install the bearing in the direction shown. 07749-0010000

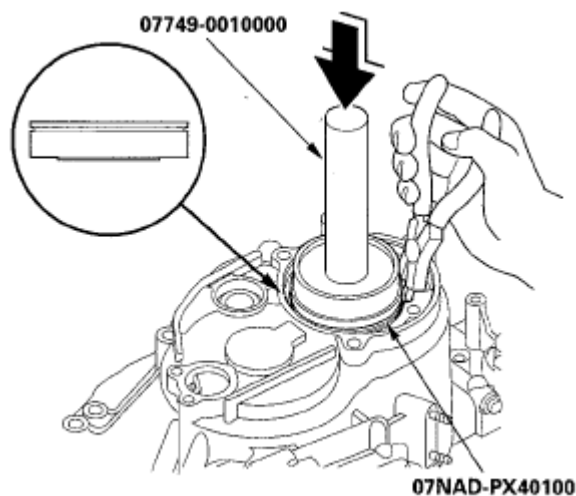


Fig. 449: Identifying Mainshaft Bearing Installation Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Expand the snap ring with the snap ring pliers, and insert the bearing part-way into the housing.
3. Release the pliers, then push the bearing down into housing until the snap ring snaps in place around it.

4. After installing the bearing, verify that the snap ring (A) is seated in the bearing and housing groove, and that the ring end gap (B) is 0-7 mm (0-0.28 in.).

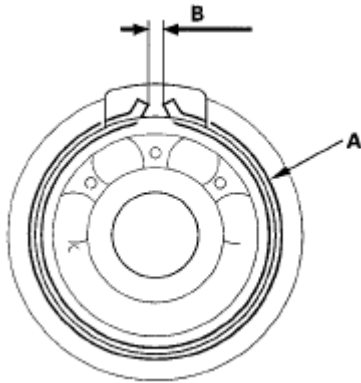


Fig. 450: Identifying Snap Ring Gap
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

INTERMEDIARY SHAFT BEARING REPLACEMENT

Special Tools Required

- Bearing remover shaft set, 20 mm 07936-3710600
 - Bearing remover shaft handle 07936-3710100
 - Sliding hammer weight 07741-0010201
 - Driver 07749-0010000
 - Attachment, 37 x 40 mm 07746-0010200
1. Remove the intermediary shaft bearing from the transmission housing using the bearing remover shaft set (20 mm), the bearing remover shaft handle, and the sliding hammer weight.

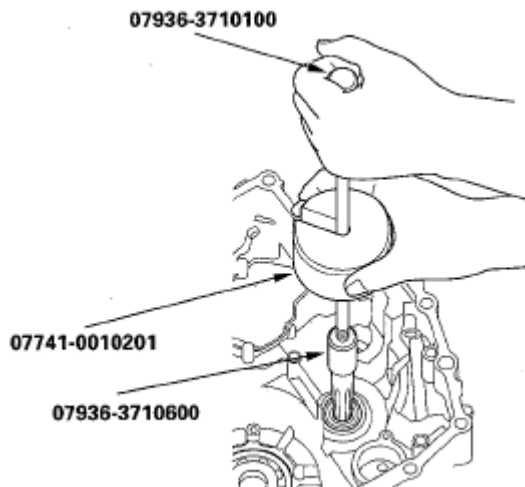


Fig. 451: Removing Intermediary Shaft Bearing From Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing until it bottoms in the transmission housing using the driver and the attachment (37 x 40 mm).

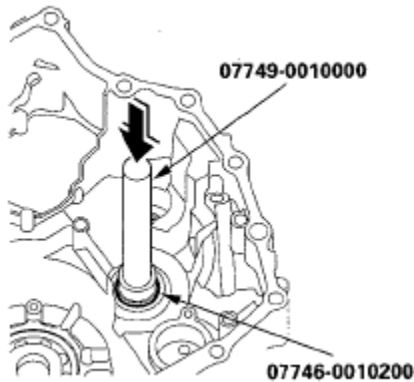


Fig. 452: Pressing Bearing Into Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PARK LEVER SHAFT BEARING REPLACEMENT

Special Tools Required

- Bearing remover shaft, 10 mm 07936-GE00100
 - Bearing remover head, 10 mm 07936-GE00200
 - Sliding hammer weight 07741-0010201
 - Driver 07749-0010000
 - Attachment, 22 x 24 mm 07746-0010800
1. Remove the park lever shaft bearing from the transmission housing using the bearing remover head (10 mm), the bearing remover shaft (10 mm), and the sliding hammer weight.

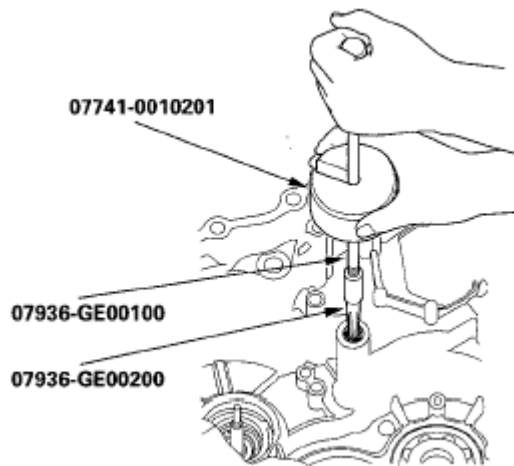


Fig. 453: Removing Park Lever Shaft Bearing From Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing until it bottoms in the transmission housing using the driver and the attachment (22 x 24 mm).

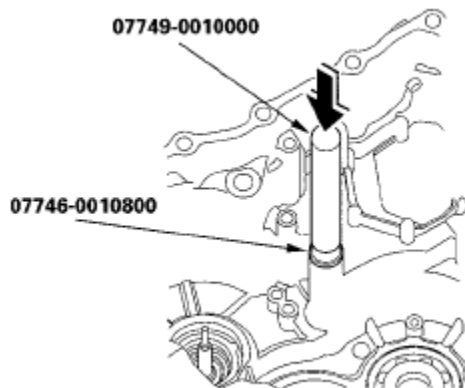


Fig. 454: Pressing Bearing Until Into Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CONTROL SHAFT BEARING REPLACEMENT

Special Tools Required

- Bearing remover shaft, 10 mm 07936-GE00100
- Bearing remover head, 10 mm 07936-GE00200
- Sliding hammer weight 07741-0010201
- Driver 07749-0010000
- Attachment, 22 x 24 mm 07746-0010800

1. Remove the control shaft bearing from the transmission housing using the bearing remover head (10

mm), the bearing remover shaft (10 mm), and the sliding hammer weight.

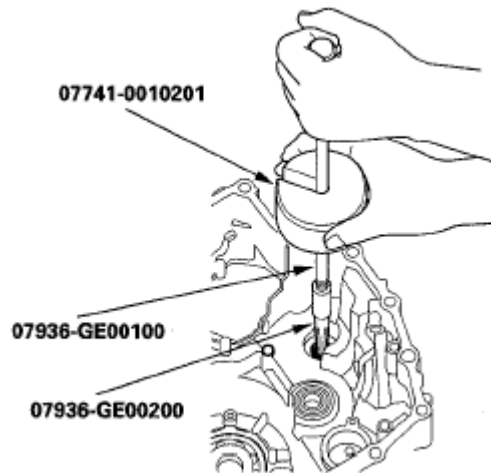


Fig. 455: Removing Control Shaft Bearing From Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing in the transmission housing using the driver and the attachment (22 x 24 mm).

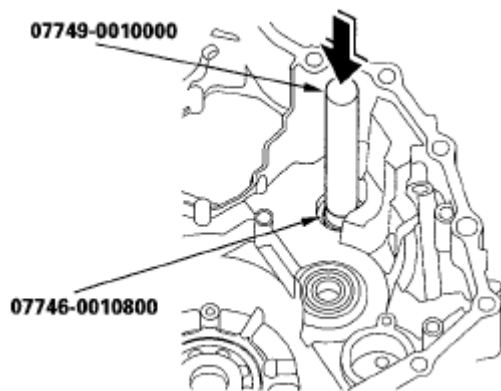


Fig. 456: Pressing Bearing Into Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CONTROL SHAFT OIL SEAL REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 22 x 24 mm 07746-0010800

1. Remove the oil seal from the transmission housing.

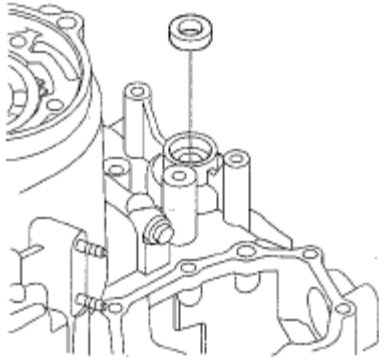


Fig. 457: Identifying Oil Seal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new oil seal in the transmission housing using the driver and the attachment (22 x 24 mm).

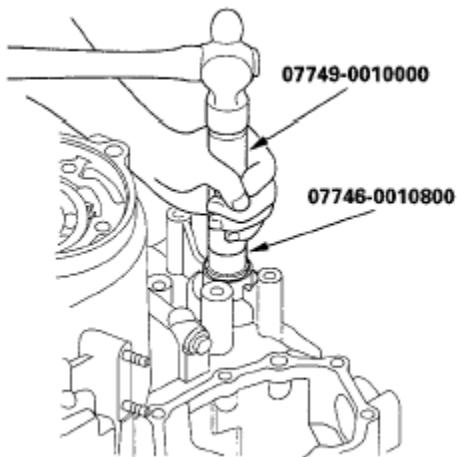


Fig. 458: Tapping Oil Seal Into Transmission Housing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

VALVE BODY

VALVE BODY REPAIR

NOTE: Valve body repair is only necessary if one or more of the valves in a valve body do not slide smoothly in their bores. Use this procedure to free the valves.

1. Soak a sheet of # 600 abrasive paper in ATF for about 30 minutes.
2. Carefully tap the valve body so the sticking valve drops out of its bore. It may be necessary to use a small screwdriver to pry the valve free. Be careful not to scratch the bore with the screwdriver.
3. Inspect the valve for any scuff marks. Use the ATF-soaked # 600 paper to polish off any burrs that are on the valve, then wash the valve in solvent and dry it with compressed air.
4. Roll up half of the ATF-soaked #600 paper and insert it in the valve bore of the sticking valve. Twist the

paper slightly, so that it unrolls and fits the bore tightly, then polish the bore by twisting the paper as you push it in and out.

NOTE: The valve body is aluminum and doesn't require much polishing to remove any burrs.

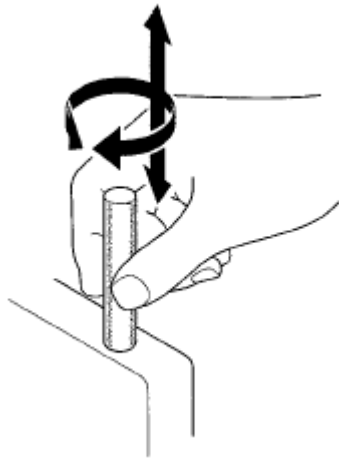


Fig. 459: Polishing Valve Body Bore Using ATF-Soaked #600 Paper
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the #600 paper. Thoroughly wash the entire valve body in solvent, then dry it with compressed air.
6. Coat the valve with ATF, then drop it into its bore. It should drop to the bottom of the bore under its own weight. If not, repeat steps 4 and 5, then retest. If the valve still sticks, replace the valve body.

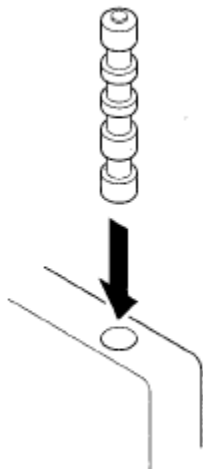


Fig. 460: Dropping Valve Into Valve Body Bore (Coat With ATF)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the valve, and thoroughly clean it and the valve body with solvent. Dry all parts with compressed

air, then reassemble using ATF as a lubricant.

VALVE BODY VALVE INSTALLATION

1. Coat all parts with ATF before assembly.
2. Install the valves and springs in the sequence shown for the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**), secondary valve body (see **SECONDARY VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**), regulator valve body (see **REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**), and accumulator body (see **ACCUMULATOR BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**). Refer to the following valve cap illustrations, and install each valve cap so the end shown facing up will be facing the outside of the valve body, then secure the valve cap with the valve cap clip.

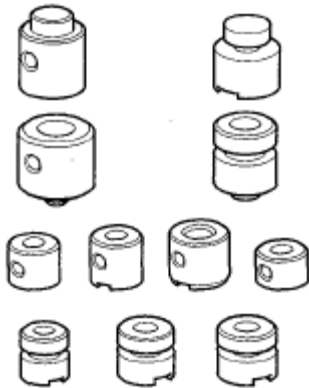


Fig. 461: Identifying Valve Cap

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the valve (A) and valve spring (B) in the valve body. Push the valve spring in with a screwdriver, then install the spring seat (C).

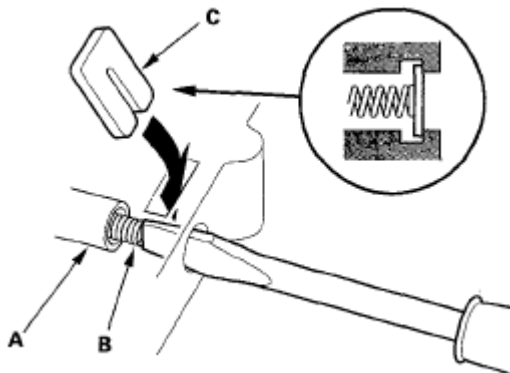


Fig. 462: Installing Valve And Valve Spring Into Valve Body With Screwdriver

Courtesy of AMERICAN HONDA MOTOR CO., INC.

MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY

'05 Model

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Do not use a magnet to remove the cooler check valve, it may magnetize the check valve (ball).
3. Inspect the main valve body for scoring and damage.
4. Check all valves for free movement. If any fail to slide freely, refer to the valve body repair (see **VALVE BODY**).
5. Coat all parts with ATF during assembly.
6. Replace the filter with a new one, and install it and the lubrication check valve in the direction shown.

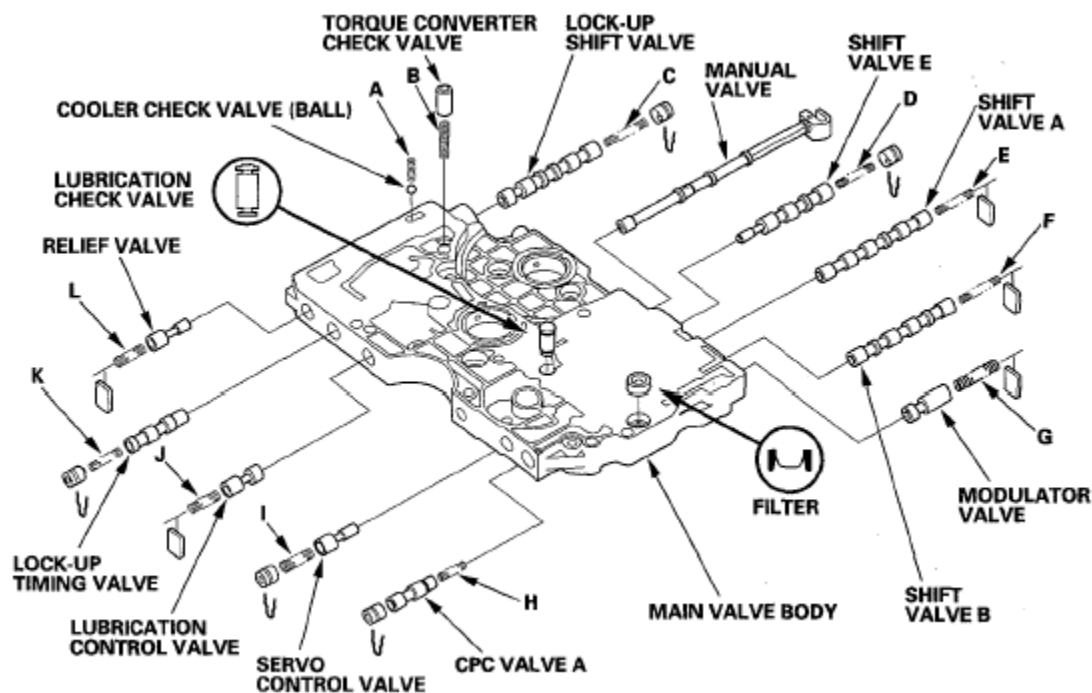


Fig. 463: Disassembling Main Valve Body (05 Model)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

VALVE SPRING SPECIFICATIONS

VALVE SPRING SPECIFICATIONS

Valve Springs		Standard (New)-Unit: mm (in.)			
		Wire Diameter	O.D.	Free Length	No. of Coils
A	Cooler check valve spring	0.6 (0.024)	5.8 (0.228)	14.5 (0.571)	6.8
B	Torque converter check valve spring	1.1 (0.043)	8.6 (0.339)	35.0 (1.378)	12.6

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C	Lock-up shift valve spring	1.0 (0.039)	6.6 (0.260)	35.5 (1.398)	18.2
D	Shift valve E spring	0.7 (0.28)	6.6 (0.260)	42.4 (1.669)	17.6
E	Shift valve A spring	0.9 (0.035)	6.6 (0.260)	50.5 (1.988)	23.3
F	Shift valve B spring	0.8 (0.031)	6.6 (0.260)	49.1 (1.933)	21.7
G	Modulator valve spring	1.6 (0.063)	10.4 (0.409)	33.5 (1.319)	9.8
H	CPC valve A spring	0.7 (0.028)	6.1 (0.240)	17.8 (0.701)	7.9
I	Servo control valve spring	0.9 (0.035)	9.6 (0.378)	30.2 (1.189)	8.4
J	Lubrication control valve spring	0.9 (0.035)	8.7 (0.343)	25.0 (0.984)	7.2
K	Lock-up timing valve spring	0.65 (0.026)	6.6 (0.260)	34.8 (1.370)	15.6
L	Relief valve spring	1.0 (0.039)	9.6 (0.378)	28.1 (1.106)	7.7

'06-08 Models

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Inspect the main valve body for scoring and damage.
3. Check all valves for free movement. If any fail to slide freely, refer to the valve body repair (see **VALVE BODY**).
4. Coat all parts with ATF during assembly.
5. Replace the filter with new one, and install it and the lubrication check valve in the direction shown.

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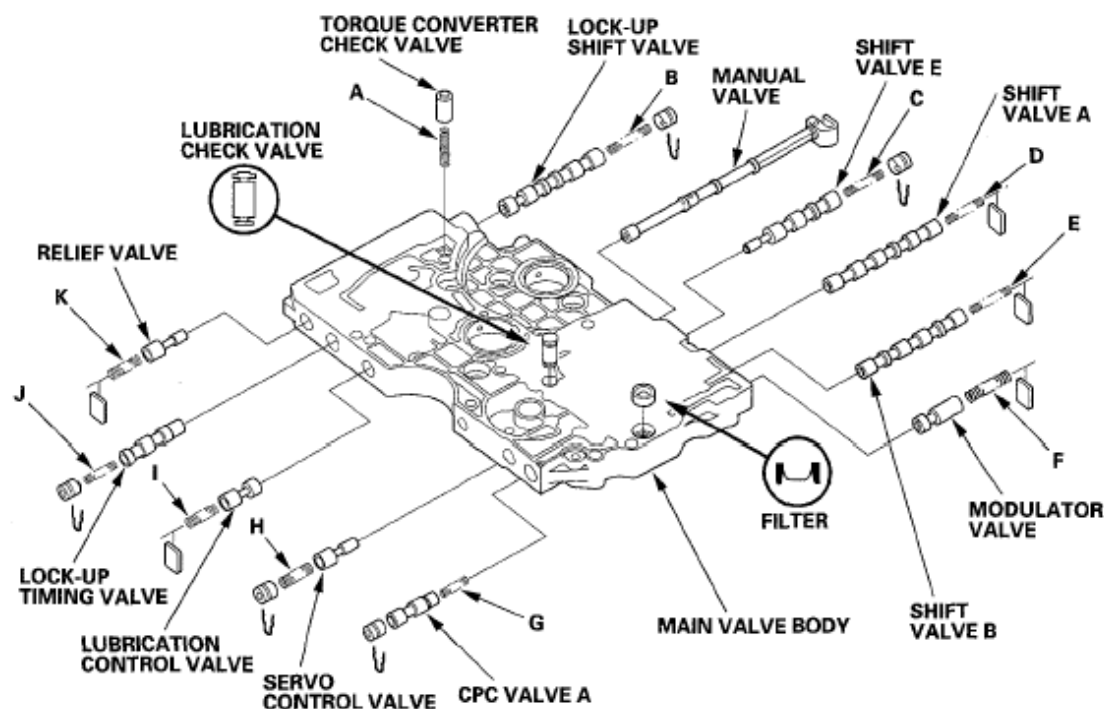


Fig. 464: Disassembling Main Valve Body (06-08 Model)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

VALVE SPRING SPECIFICATIONS

VALVE SPRING SPECIFICATIONS

Valve Springs		Standard (New)-Unit: mm (in.)			
		Wire Diameter	O.D.	Free Length	No. of Coils
A	Torque converter check valve spring	1.1 (0.043)	8.6 (0.339)	35.0(1.378)	12.6
B	Lock-up shift valve spring	1.0(0.039)	6.6 (0.260)	35.5(1.398)	18.2
C	Shift valve E spring	0.7 (0.028)	6.6 (0.260)	42.4(1.669)	17.6
D	Shift valve A spring	0.9 (0.035)	6.6 (0.260)	50.5(1.988)	23.3
E	Shift valve B spring	0.8(0.031)	6.6 (0.260)	49.1 (1.933)	21.7
F	Modulator valve spring	1.6(0.063)	10.4(0.409)	33.5(1.319)	9.8
G	CPC valve A spring	0.7 (0.028)	6.1 (0.240)	17.8(0.701)	7.9
H	Servo control valve spring	0.9 (0.035)	9.6 (0.378)	30.2(1.189)	8.4

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I	Lubrication control valve spring	0.9 (0.035)	8.7 (0.343)	25.0 (0.984)	7.2
J	Lock-up timing valve spring	0.65 (0.026)	6.6 (0.260)	34.8(1.370)	15.6
K	Relief valve spring	1.0(0.039)	9.6 (0.378)	28.1 (1.106)	7.7

ATF PUMP INSPECTION

1. Install the ATF pump drive gear (A), driven gear (B), and ATF pump driven gear shaft (C) in the main valve body (D). Lubricate all parts with ATF, and install the ATF pump driven gear with its grooved and chamfered side facing up.

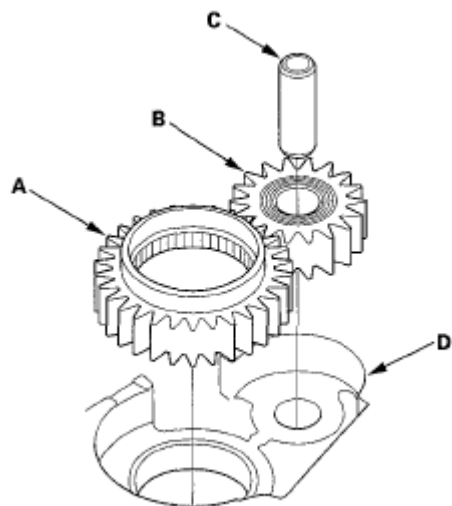


Fig. 465: Identifying ATF Pump Drive Gear, Driven Gear And ATF Pump Driven Gear Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Measure the side clearance of the ATF pump drive gear (A) and driven gear (B).

ATF Pump Gears Side (Radial) Clearance

Standard (New):

ATF Pump Drive Gear:

0.210-0.265 mm (0.0083-0.00104 in.)

ATF Pump Driven Gear:

0.070-0.125 mm (0.0028-0.0050 in.)

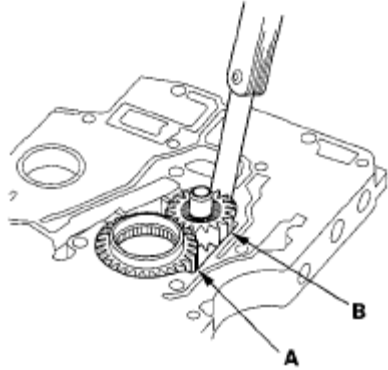


Fig. 466: Measuring Side Clearance Of ATF Pump Drive Gear And Driven Gear
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the ATF pump driven gear shaft. Measure the thrust clearance between the ATF pump driven gear (A) and the valve body (B) with a straight edge (C) and a feeler gauge (D).

ATF Pump Drive/Driven Gear Thrust (Axial)

Clearance:

Standard (New): 0.03-0.06 mm (0.001-0.002 in.)

Service Limit: 0.07 mm (0.003 in.)

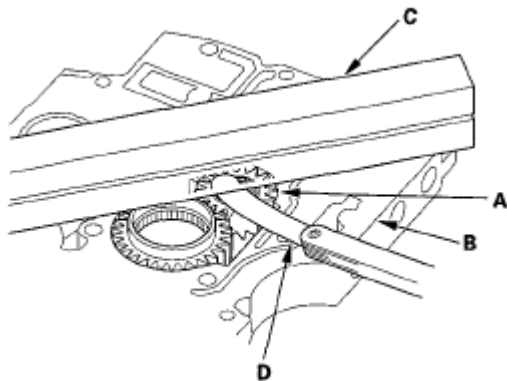


Fig. 467: Measuring Thrust Clearance Between ATF Pump Driven Gear And Valve Body
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blowout all passages.
2. Do not use a magnet to remove the check balls, it may magnetize the check balls.
3. Inspect the secondary valve body for scoring and damage.
4. Check all valves for free movement. If any fail to slide freely, refer to valve body repair (see **VALVE**

BODY).

5. Coat all parts with ATF during assembly.

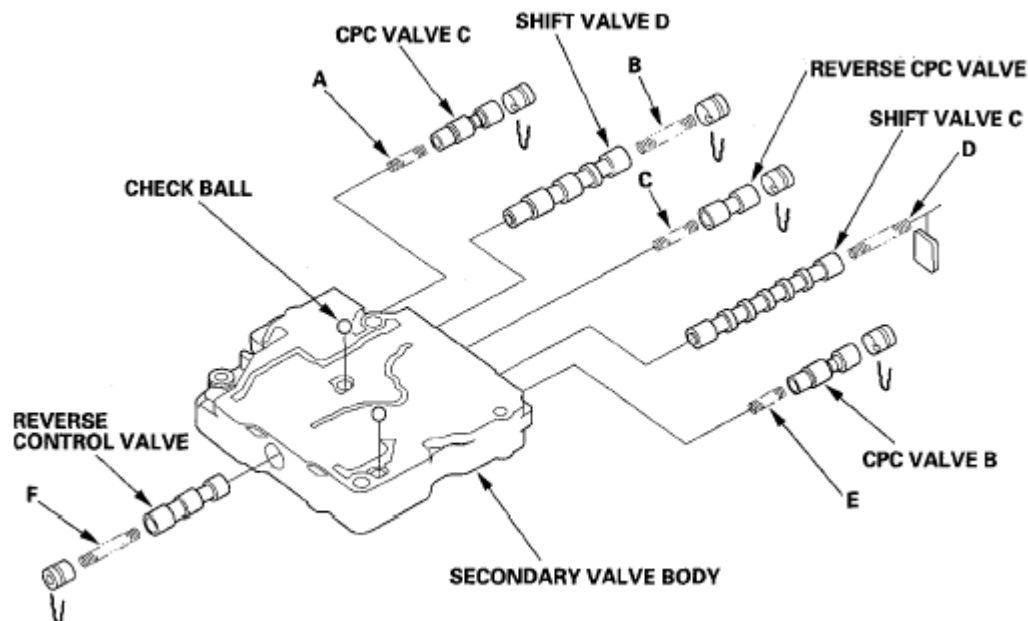


Fig. 468: Identifying Secondary Valve Body Components
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

VALVE SPRING SPECIFICATIONS**VALVE SPRING SPECIFICATIONS**

Valve Springs		Standard (New)-Unit: mm (in.)			
		Wire Diameter	O.D.	Free Length	No. of Coils
A	CPC valve C spring	0.7 (0.028)	6.1 (0.240)	17.8 (0.701)	7.9
B	Shift valve D spring	0.7 (0.028)	6.6 (0.260)	42.4 (1.669)	17.6
C	Reverse CPC valve spring	0.8 (0.031)	6.1 (0.240)	24.4 (0.961)	14.6
D	Shift valve C spring	0.8 (0.031)	6.6 (0.260)	49.1 (1.933)	21.7
E	CPC valve B spring	0.7 (0.028)	6.1 (0.240)	17.8 (0.701)	7.9
F	Reverse control valve spring	0.8 (0.031)	6.6 (0.260)	49.1 (1.933)	21.7

REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Clean all parts thoroughly insolvent, and dry them with compressed air. Blow out all passages.
2. Inspect the regulator valve body for scoring and damage.
3. Hold the regulator spring cap in place while removing the stop bolt. The regulator spring cap is spring loaded. Once the stop bolt is removed, release the spring cap slowly so it does not pop out.
4. Check all valves for free movement. If any fail to slide freely, refer to the valve body repair (see **VALVE BODY**).
5. Coat all parts with ATF during assembly.
6. Align the hole in the regulator spring cap with the stop bolt hole, then press the spring cap into the valve body, and tighten the stop bolt.
7. Install the servo valve and the 3rd accumulator piston with the new O-rings.

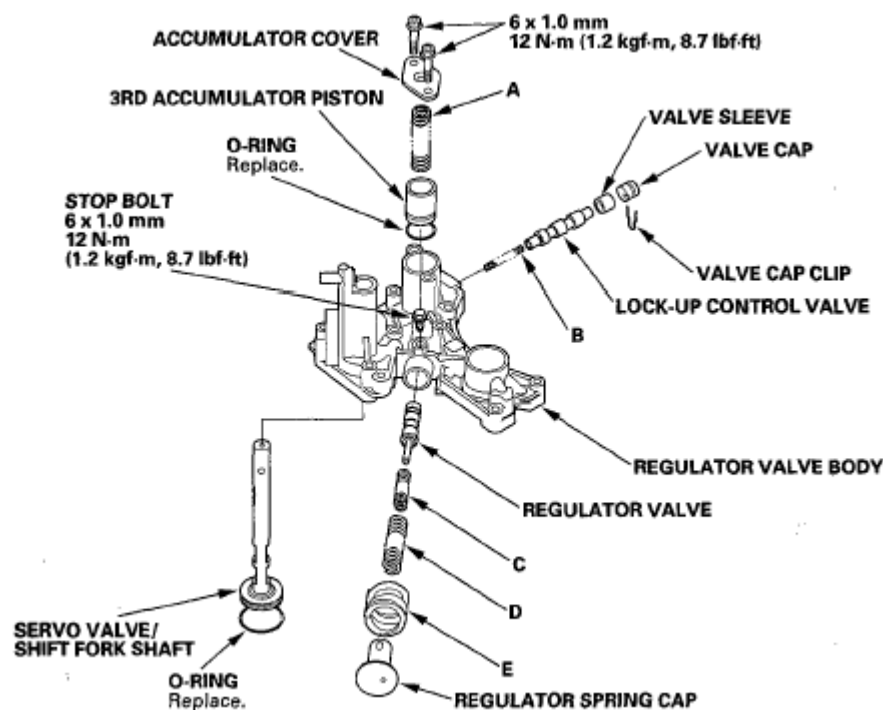


Fig. 469: Identifying Regulator Valve Body (05 Model) With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

VALVE SPRING SPECIFICATIONS

VALVE SPRING SPECIFICATIONS

Valve Springs		Standard (New)-Unit: mm (in.)			
		Wire Diameter	O.D.	Free Length	No. of Coils
A	3rd accumulator spring	3.1 (0.122)	19.6 (0.772)	41.4 (1.630)	5.5
B	Lock-up control valve spring (type A)	0.7 (0.028)	6.6 (0.260)	42.9 (1.689)	14.2

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	Lock-up control valve spring (type B)	0.8 (0.031)	6.6 (0.260)	44.3 (1.744)	25.5
C	Regulator valve spring B	1.4 (0.055)	8.8 (0.346)	44.0 (1.732)	12.0
D	Regulator valve spring A	1.85 (0.073)	14.7 (0.579)	86.9 (3.421)	16.2
E	Stator reaction spring	5.5 (0.217)	26.4 (1.039)	30.3 (1.193)	2.1

'06-08 Models

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Inspect the regulator valve body for scoring and damage.
3. Hold the regulator spring cap in place while removing the stop bolt. The regulator spring cap is spring loaded. Once the stop bolt is removed, release the spring cap slowly so it does not pop out.
4. Check all valves for free movement. If any fail to slide freely, refer to the valve body repair (see **VALVE BODY**).
5. Coat all parts with ATF during assembly.
6. Align the hole in the regulator spring cap with the stop bolt hole, then press the spring cap into the valve body, and tighten the stop bolt.
7. Install the servo valve and 3rd accumulator piston with the new O-rings.

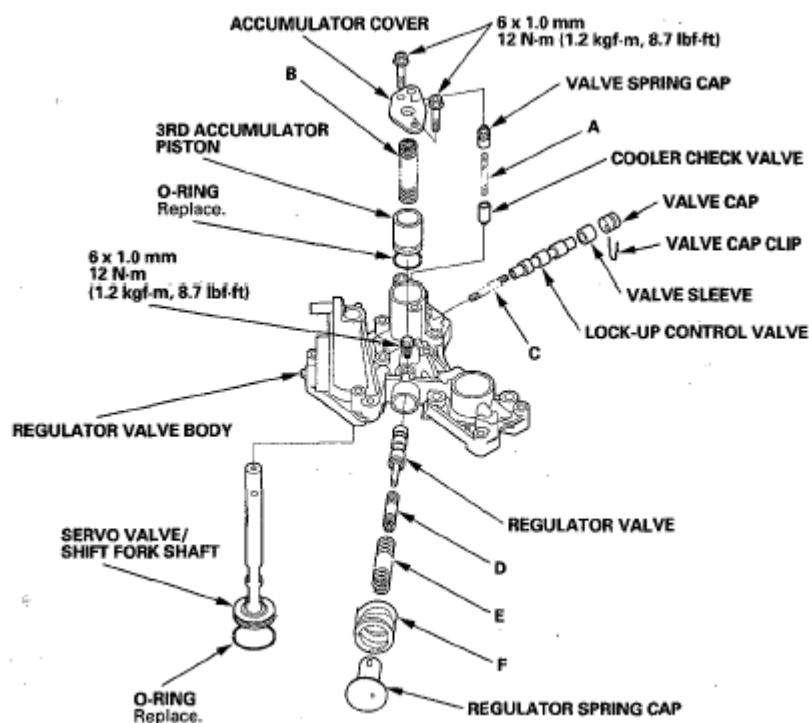


Fig. 470: Identifying Regulator Valve Body (06-08 Model) With Torque Specifications

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Courtesy of AMERICAN HONDA MOTOR CO., INC.

SPRING SPECIFICATIONS**SPRING SPECIFICATIONS**

Valve Springs		Standard (New)-Unit: mm (in.)			
		Wire Diameter	O.D.	Free Length	No. of Coils
A	Cooler check valve spring	0.9 (0.035)	6.7 (0.264)	31.5 (1.240)	14.2
B	3rd accumulator spring	3.1 (0.122)	19.6 (0.772)	41.4 (1.630)	5.5
C	Lock-up control valve spring (type A)	0.7 (0.028)	6.6 (0.260)	42.9 (1.689)	14.2
	Lock-up control valve spring (type B)	0.8 (0.031)	6.6 (0.260)	44.3 (1.744)	25.5
D	Regulator valve spring B	1.4 (0.055)	8.8 (0.346)	44.0 (1.732)	12.0
E	Regulator valve spring A	1.85 (0.073)	14.7 (0.579)	86.9 (3.421)	16.2
F	Stator reaction spring	5.5 (0.217)	26.4 (1.039)	30.3 (1.193)	2.1

NOTE: As for the lock-up control valve spring, either of type A or type B is applied.**ACCUMULATOR BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Inspect the accumulator body for scoring and damage.
3. Coat all parts with ATF during assembly.
4. Replace the O-rings with new ones.

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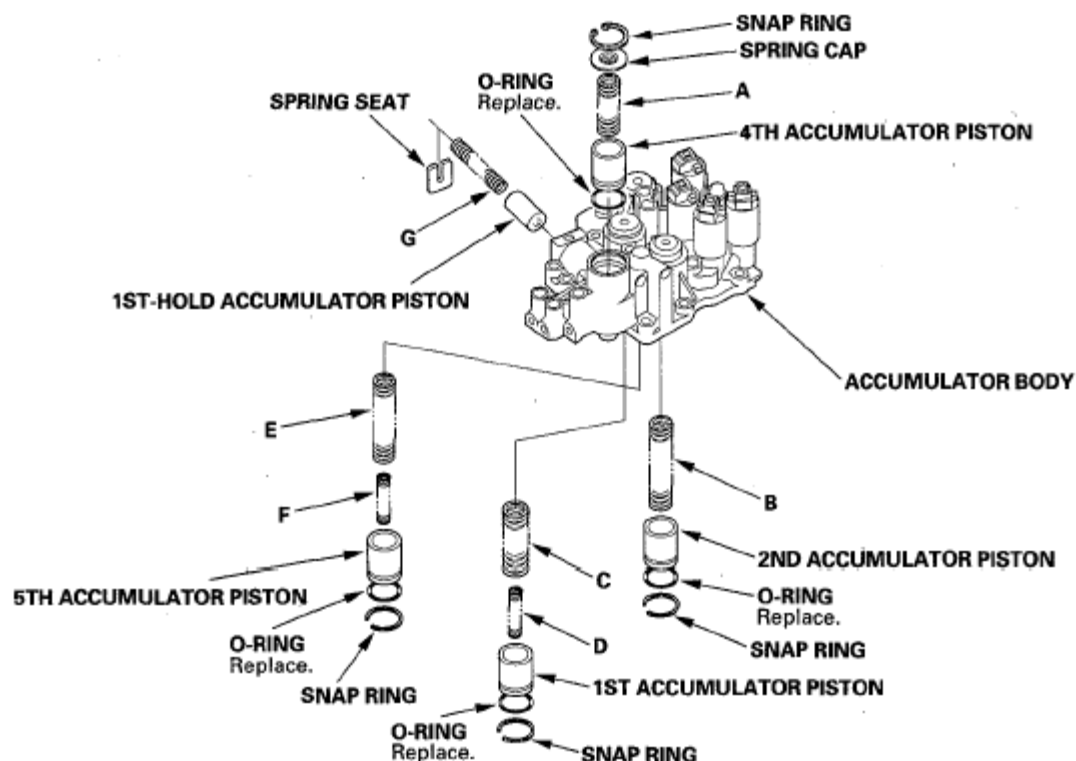


Fig. 471: Identifying Accumulator Body Components
Courtesy of AMERICAN HONDA MOTOR CO., INC.

VALVE SPRING SPECIFICATIONS

VALVE SPRING SPECIFICATIONS

Valve Springs		Standard: (New)-Unit mm (in.)			
		Wire Diameter	O.D.	Free Length	No. of Coils
A	4th accumulator spring	3.3 (0.130)	19.6 (0.772)	39.1 (1.539)	5.8
B	2nd accumulator spring	3.1 (0.122)	19.6 (0.772)	53.4 (2.102)	7.5
C	1st accumulator spring A	2.3 (0.091)	19.6 (0.772)	60.8 (2.394)	9.5
D	1st accumulator spring B	2.5 (0.098)	12.8 (0.504)	46.0 (1.811)	9.5
E	5th accumulator spring A	2.4 (0.094)	19.6 (0.772)	65.5 (2.579)	12.0
F	5th accumulator spring B	2.6 (0.102)	13.2 (0.520)	50.5 (1.988)	10.1
G	1st-hold accumulator spring	2.0 (0.079)	13.1 (0.516)	42.9 (1.689)	9.8

SHIFT SOLENOID VALVE REMOVAL AND INSTALLATION

NOTE: Do not hold the solenoid valve connector to remove and install the solenoid valve. Be sure to hold the solenoid valve body.

1. Remove the mounting bolts, then remove the solenoid valves by holding the solenoid valve body.
2. Install the new O-rings (E) on each solenoid valve.

NOTE: A new solenoid valve comes with new O-rings. If you install the new solenoid valve, use the O-rings provided with it.

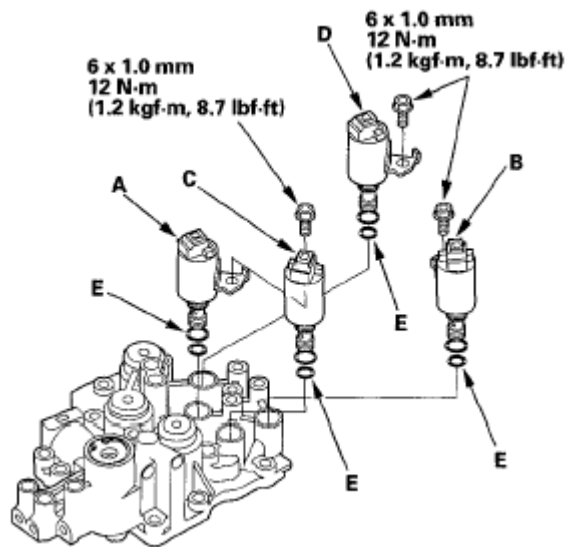


Fig. 472: Identifying Solenoid Valve With O-Rings With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install shift solenoid valve D (black connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the accumulator body.
4. Install shift solenoid valve A (black connector) by holding the shift solenoid valve body; be sure the mounting bracket contacts to the accumulator body.
5. Install shift solenoid valve C (brown connector) by holding the shift solenoid valve body; be sure the mounting bracket contacts to the bracket of shift solenoid valve A.

NOTE: Do not install shift solenoid valve C before installing shift solenoid valve A. If shift solenoid valve C is installed before installing shift solenoid valve A, it may damage to the hydraulic control system.

6. Install shift solenoid valve B (brown connector) by holding the shift solenoid valve body; be sure the mounting bracket contacts to the accumulator body.

TORQUE CONVERTER HOUSING

MAINSHAFT BEARING AND OIL SEAL REPLACEMENT**Special Tools Required**

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
 - Driver 07749-0010000
 - Attachment, 62 x 68 mm 07746-0010500
 - Attachment, 72 x 75 mm 07746-0010600
1. Remove the mainshaft bearing and oil seal using the adjustable bearing puller (25-40 mm) and a commercially available 3/8 "-16 slide hammer (A).

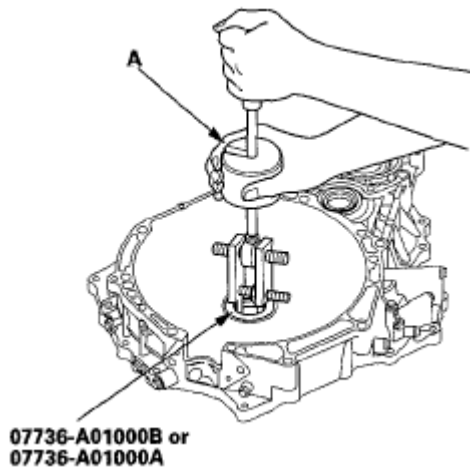


Fig. 473: Removing Mainshaft Bearing And Oil Seal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new mainshaft bearing until it bottoms in the housing using the driver (07749-0010000) and the attachment (62 x 68 mm).

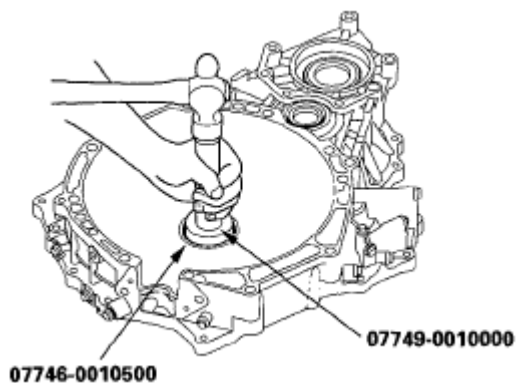


Fig. 474: Tapping Mainshaft Bearing Until Into Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the new oil seal flush to the housing using the driver and the attachment (72 x 75 mm).

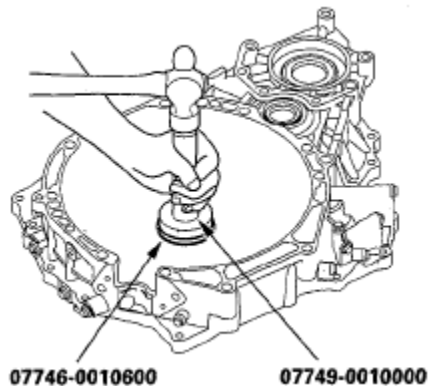


Fig. 475: Tapping Oil Seal Into Housing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

COUNTERSHAFT BEARING REPLACEMENT

Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
 - Driver 07749-0010000
 - Attachment, 78 x 80 mm 07NAD-PX40100
1. Remove the countershaft bearing from the torque converter housing using the adjustable bearing puller (25-40 mm) and a commercially available 3/8 "-16 slide hammer (A).

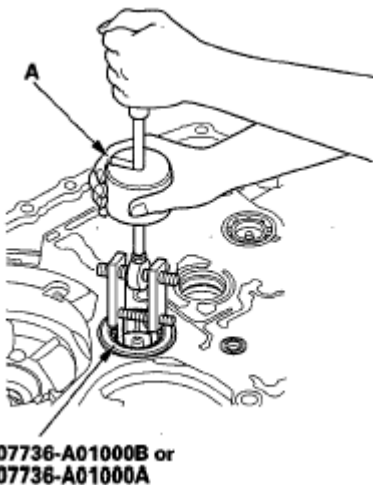


Fig. 476: Removing Countershaft Bearing From Torque Converter Housing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the ATF guide plate (A) into the housing, then install the new bearing (B) in the direction shown.

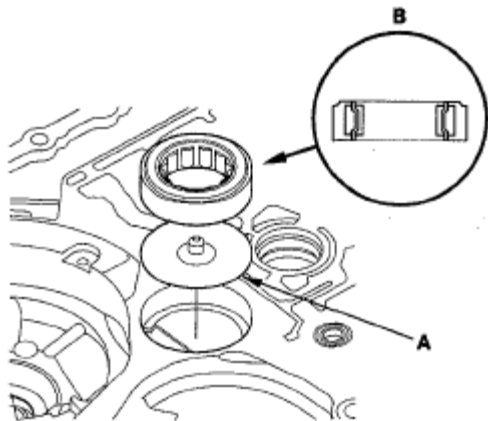


Fig. 477: Installing New Bearing Using ATF Guide Plate
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the bearing (A) in the housing using the driver and the attachment (78 x 80 mm); install the bearing outer notch-cut (B) to a depth (C) of 0-0.03 mm (0-0.001 in.) below the housing surface (D).

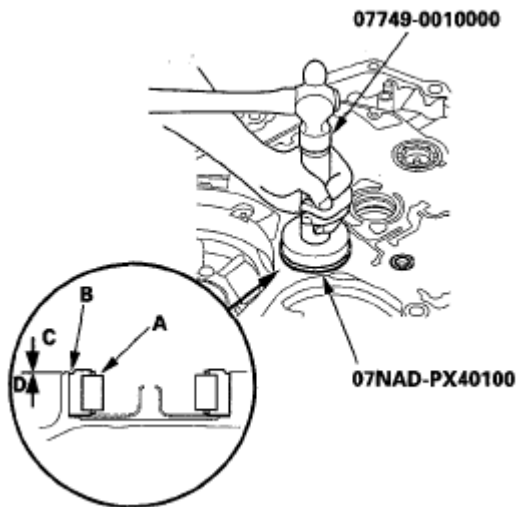


Fig. 478: Tapping Bearing Into Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY SHAFT BEARING REPLACEMENT

Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A.
- Bearing remover shaft set, 30 mm 07936-8890300
- Bearing remover shaft handle 07936-3710100
- Sliding hammer weight 07741-0010201
- Driver 07749-0010000

- Attachment, 37 x 40 mm 07746-0010200
- Attachment, 62 x 68 mm 07746-0010500

1. Remove the bolt, then remove the lock washer (A) and bearing set plate (B).

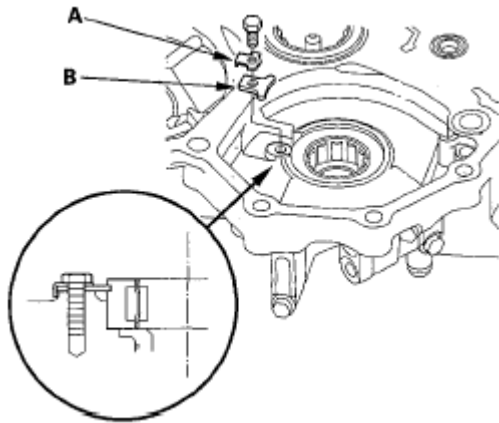


Fig. 479: Identifying Lock Washer And Bearing Set Plate
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the secondary shaft bearing from the torque converter housing using the adjustable bearing puller (25-40 mm) and a commercially available 3/8 "-16 slide hammer (A).

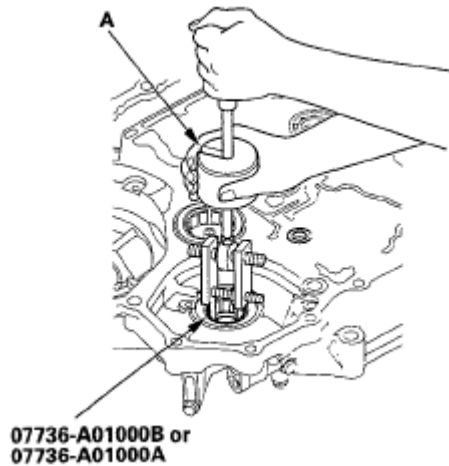


Fig. 480: Removing Secondary Shaft Bearing From Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the ATF guide collar from the torque converter housing.

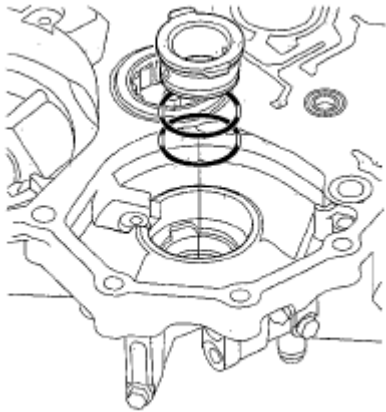


Fig. 481: Identifying ATF Guide Collar

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the 29 x 39 x 9.5 mm secondary shaft bearing from the torque converter housing using the bearing remover shaft set (30 mm), the bearing remover shaft handle, and the sliding hammer weight.

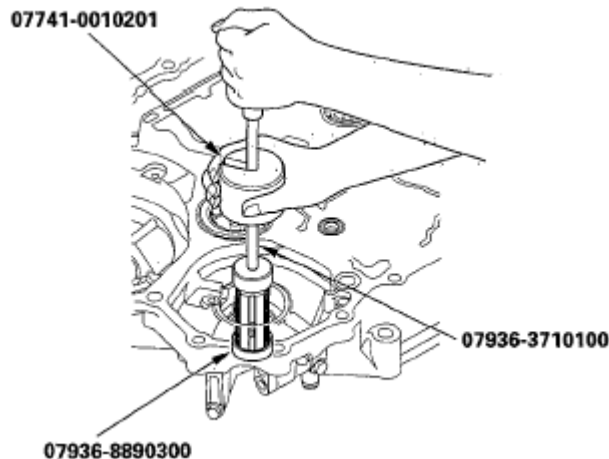


Fig. 482: Removing Secondary Shaft Bearing From Torque Converter Housing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the 29 x 39 x 9.5 mm bearing into the torque converter housing using the driver and the attachment (37 x 40 mm).

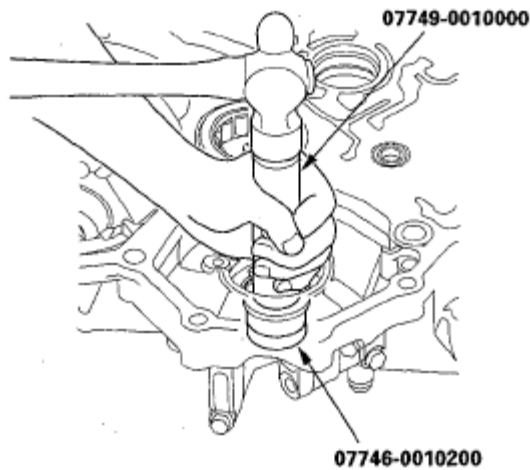


Fig. 483: Tapping Bearing Into Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Install the new O-rings (A) on the ATF guide collar (B), then install the guide collar in the torque converter housing.

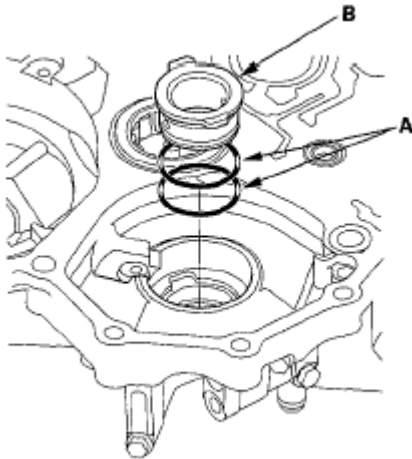


Fig. 484: Identifying ATF Guide Collar And O-Rings
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the bearing in the direction shown in the housing using the driver and the attachment (62x68 mm).

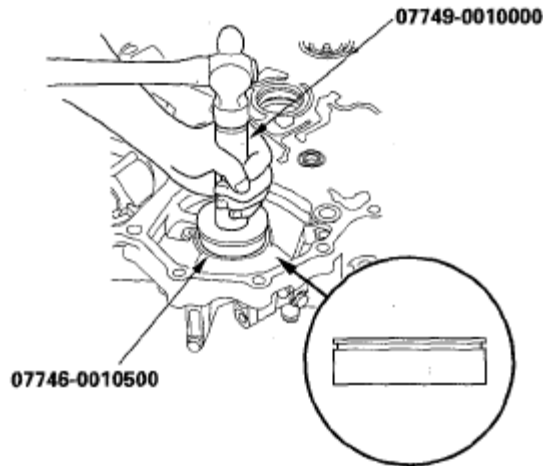


Fig. 485: Tapping Bearing Into Housing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check that the bearing groove aligns with the set plate mounting surface, then install the set plate (A) by aligning it with the bearing groove.

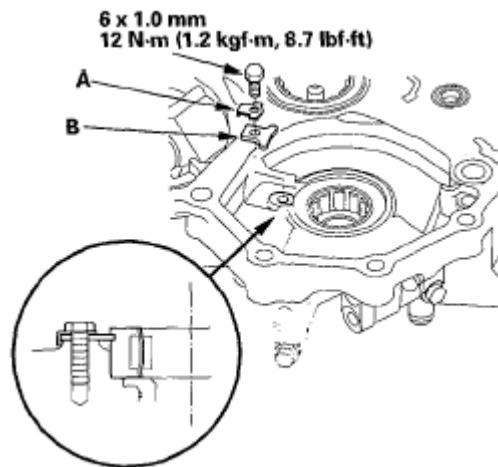


Fig. 486: Identifying Set Plate And Lock Washer With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the new lock washer (B) and bolt, then bend the lock tab of the lock washer against the bolt head.

INTERMEDIARY SHAFT BEARING REPLACEMENT

Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 52 x 55 mm 07746-0010400

1. Remove the intermediary shaft bearing from the torque converter housing using the adjustable bearing puller (25-40 mm) and a commercially available 3/8 "-16 slide hammer (A).

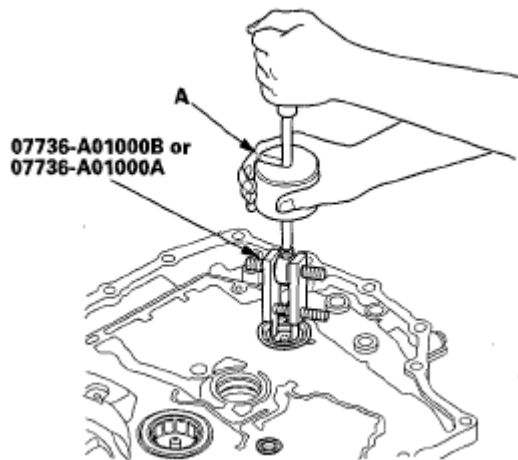


Fig. 487: Removing Intermediary Shaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the ATF guide plate (A), then install the new bearing (B) in the housing.

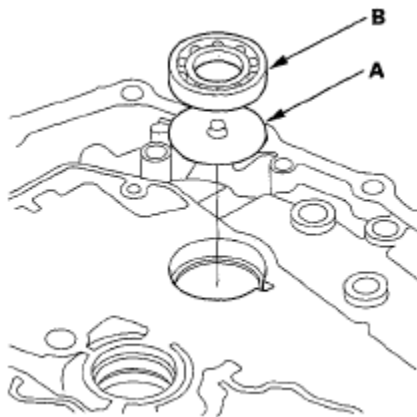


Fig. 488: Identifying ATF Guide Plate And Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Drive the bearing into the housing using the driver and the attachment (52 x 55 mm).

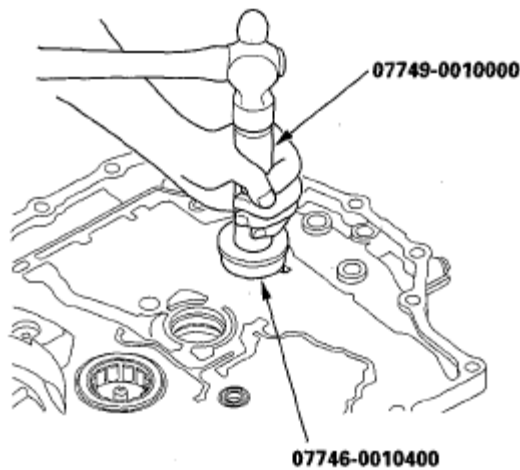


Fig. 489: Tapping Bearing Into Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PARK LEVER SHAFT BEARING REPLACEMENT

Special Tools Required

- Bearing remover shaft set, 12 mm 07936-1660101
 - Sliding hammer weight 07741-0010201
 - Driver 07749-0010000
 - Attachment, 22 x 24 mm 07746-0010800
1. Remove the park lever shaft bearing from the torque converter housing using the bearing remover shaft set (12 mm) and the sliding hammer weight.

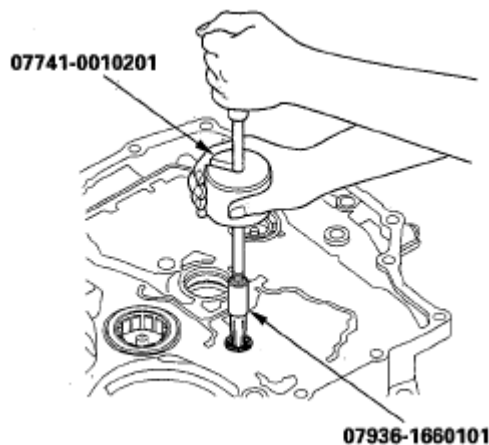


Fig. 490: Removing Park Lever Shaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing until it bottoms in the housing using the driver and the attachment (22x24 mm).

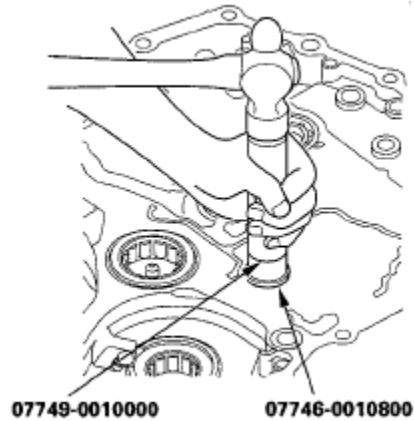


Fig. 491: Tapping Bearing Into Housing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

SHAFTS AND CLUTCHES

MAINSHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Remove the thrust needle bearing (A), mainshaft 5th gear (B), needle bearing (C), thrust needle bearing (D), mainshaft 5th gear collar (E), 4th/5th clutch (F), and O-rings (G) from the mainshaft (H).

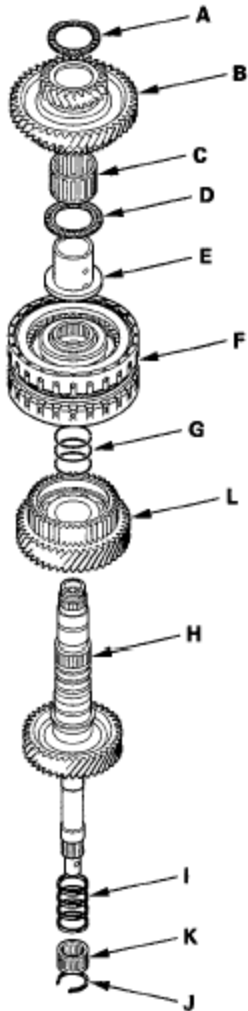


Fig. 492: Exploded View Of Mainshaft

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Inspect the condition of the sealing rings (I). If the sealing rings are worn, distorted, or damaged, remove the set ring (J) and needle bearing (K), and replace the sealing rings with new ones.
3. Inspect the thrust needle bearing and needle bearing for wear and rough movement.
4. Inspect the splines for excessive wear and damage.
5. Inspect 4th gear for wear and damage, and inspect the 4th gear bearing for wear and rough rotation.
6. Replace the mainshaft 4th gear (L) if 4th gear is worn or damaged, or the bearing is worn or damaged.
7. Check the shaft bearing surfaces for scoring and excessive wear.
8. Lubricate all parts with ATF during reassembly.
9. Wrap the shaft splines with tape to prevent O-ring damage, install the new O-rings on the mainshaft, then remove the tape.
10. Install the 4th/5th clutch.
11. Install the mainshaft 5th gear collar, thrust needle bearing, needle bearing, mainshaft 5th gear, and thrust

needle bearing.

MAINSHAFT 4TH GEAR REPLACEMENT

Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Remove the mainshaft 4th gear (A) with a press. Place a shaft protector (B) between the press and mainshaft (C) to prevent damaging the mainshaft.

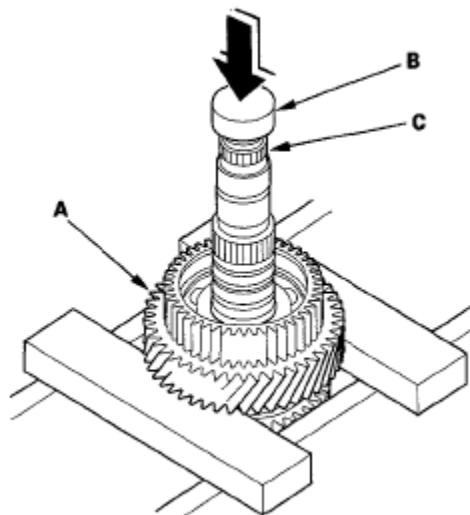


Fig. 493: Removing Mainshaft 4th Gear With A Press
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Slide the new mainshaft 4th gear (A) over the mainshaft (B), then press it into place using the driver (40 mm I.D.) and a press.

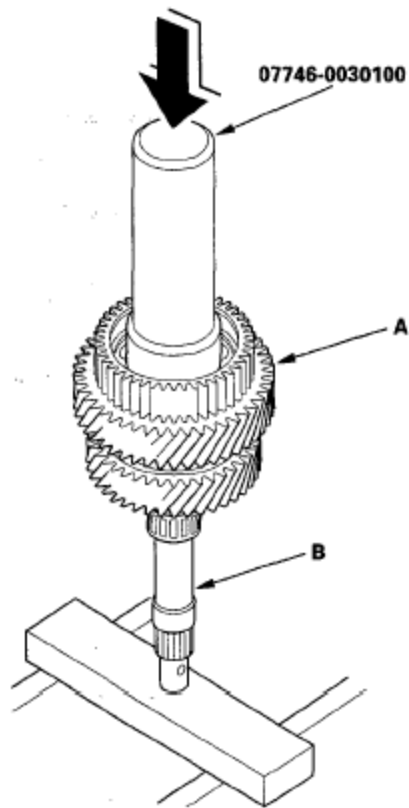


Fig. 494: Installing Mainshaft 4th Gear Onto Mainshaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

COUNTERSHAFT DISASSEMBLY

Exploded View

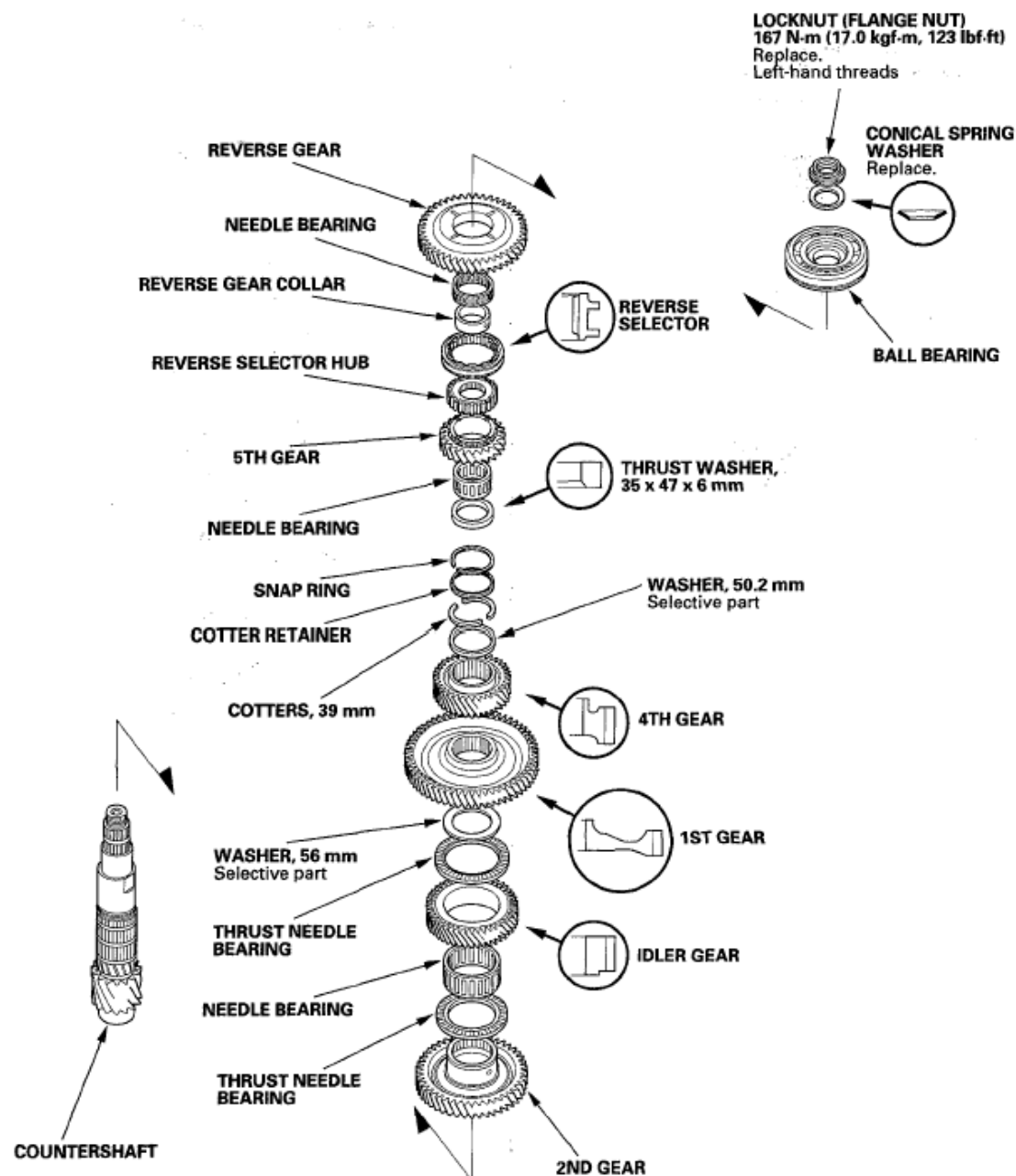


Fig. 495: Exploded View Of Countershaft With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

NOTE: Refer to the Exploded View as needed during the following procedure.

1. Cut the lock tab (A) off the countershaft locknut (B) using a chisel (C).

NOTE: Keep all of the chiseled particles out of the countershaft.

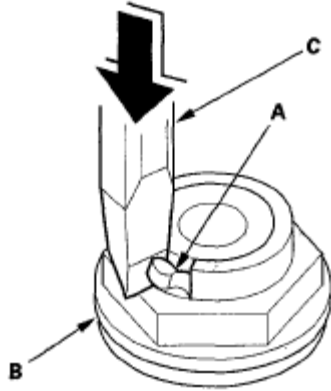


Fig. 496: Cutting Countershaft Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Hold the countershaft with a wrench and a vise securely, loosen the locknut, and remove it. The locknut has left-hand threads.

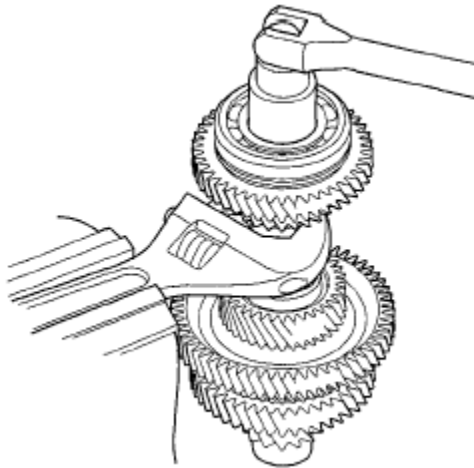


Fig. 497: Removing Countershaft Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Place the countershaft 5th gear (A) on press bases (B), and place a shaft protector (C) between the countershaft (D) and a press to prevent damaging the countershaft.

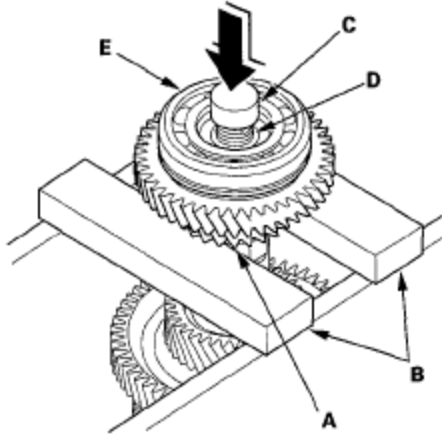


Fig. 498: Pressing Countershaft Out Of Press-Fitted Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Support the bottom of the countershaft with one hand, then press the countershaft out of the press-fitted bearing (E) and the press-fitted reverse selector hub. The countershaft will drop down after pressing it out of the press-fitted reverse selector hub. Some reverse selector hubs are not press-fitted, and the countershaft will drop down after pressing it out of the press-fitted bearing.
5. Remove the remaining parts from the countershaft.
6. Inspect the bearing for galling and rough movement.
7. Check the shaft bearing surfaces for scoring and excessive wear, and check the shaft splines for excessive wear and damage.
8. Check the idler gear axial clearance and 4th gear axial clearance (see **COUNTERSHAFT IDLER GEAR AND 4TH GEAR AXIAL CLEARANCE INSPECTION**).

COUNTERSHAFT IDLER GEAR AND 4TH GEAR AXIAL CLEARANCE INSPECTION

1. Install 2nd gear (A), the thrust needle bearing (B), needle bearing (C), idler gear (D), thrust needle bearing (E), the original thickness 56 mm washer (F), 1st gear (G), 4th gear (H), the original thickness 50.2 mm washer (I), 39 mm cotters (J), cotter retainer (K), and snap ring (L) on the countershaft (M).

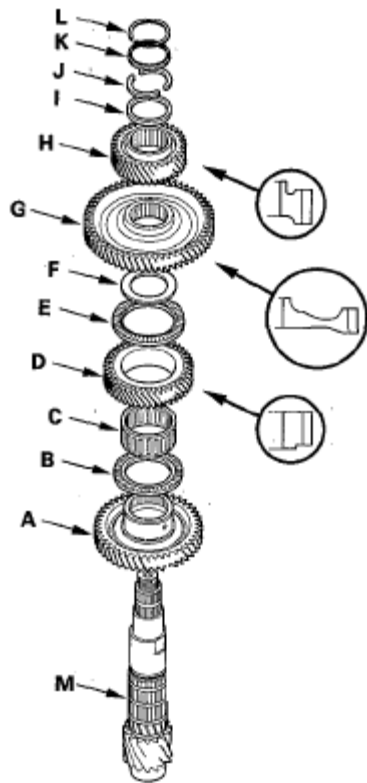


Fig. 499: Identifying Countershaft Assembly Components
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Insert a feeler gauge blade (A) as thick as possible between the 4th gear (B) and cotters (C).

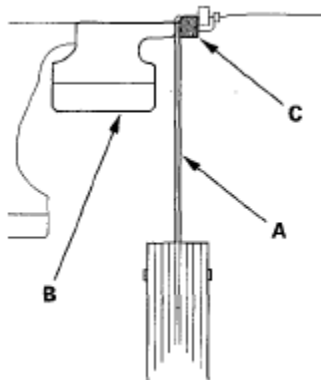


Fig. 500: Checking Clearance Between 4th Gear And Cotters
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Set the dial indicator (A) on the idler gear (B).

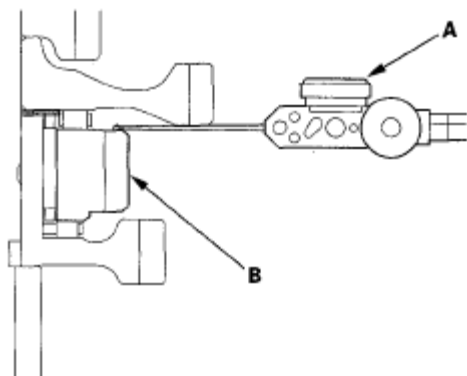


Fig. 501: Setting Dial Indicator On Idler Gear
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Measure the idler gear axial clearance in at least three places while moving the idler gear. Use the average as the actual clearance.

Standard: 0.005-0.040 mm (0.0002-0.0016 in.)

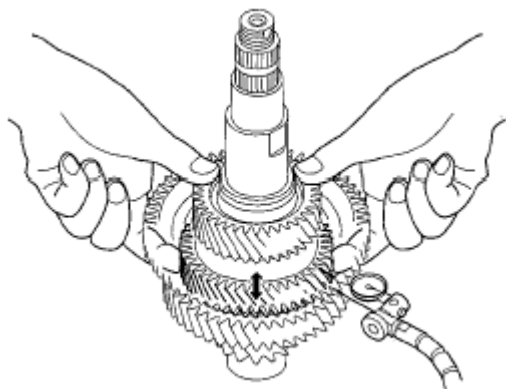


Fig. 502: Measuring Idler Gear Axial Clearance
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If the clearance is out of standard, remove the 56 mm washer and measure its thickness.
6. Select and install a new washer, then recheck the clearance.

WASHER, 56 mm

WASHER THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
A	90582-RDK-000	1.525 mm (0.0600 in.)
B	90583-RDK-000	1.505 mm (0.0593 in.)
C	90584-RDK-000	1.485 mm (0.0585 in.)
D	90585-RDK-000	1.465 mm (0.0577 in.)

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

E	90586-RDK-000	1.445 mm (0.0569 in.)
F	90587-RDK-00Q	1.425 mm (0.0561 in.)
G	90588-RDK-000	1.405 mm (0.0553 in.)

7. Measure the clearance between 4th gear (A) and the 39 mm cotters (B) with a feeler gauge (C) in at least three places. Use the average as the actual clearance.

Standard: 0.005-0.040 mm (0.0002-0.0016 in.)

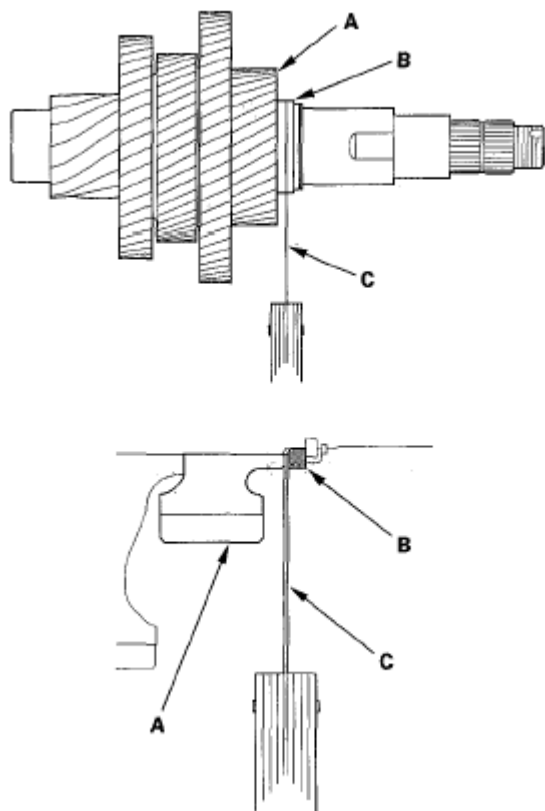


Fig. 503: Measuring Clearance Between 4th Gear And Cotters
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. If the clearance is out of standard, remove the 50.2 mm washer and measure its thickness.
9. Select and install a new washer, then recheck the clearance.

WASHER, 50.2 mm

WASHER THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
A	90521-RDK-010	3.95 mm (0.1555 in.)
B	90522-RDK-010	3.97 mm (0.1563 in.)

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

C	90523-RDK-010	3.99 mm (0.1571 in.)
D	90524-RDK-010	4.01 mm (0.1579 in.)
E	90525-RDK-010	4.03 mm (0.1587 in.)
F	90526-RDK-010	4.05 mm (0.1594 in.)
G	90527-RDK-010	4.07 mm (0.1602 in.)
H	90528-RDK-010	4.09 mm (0.1610 in.)
I	90529-RDK-010	4.11 mm (0.1618 in.)
J	90530-RDK-010	4.13 mm (0.1626 in.)
K	90531 -RDK-010	4.15 mm (0.1634 in.)
L	90532-RDK-010	4.17 mm (0.1642 in.)
M	90533-RDK-010	4.19 mm (0.1650 in.)
N	90534-RDK-010	4.21 mm (0.1657 in.)
O	90535-RDK-010	4.23 mm (0.1665 in.)
P	90536-RDK-010	4.25 mm (0.1673 in.)
Q	90537-RDK-010	4.27 mm (0.1681 in.)
R	90538-RDK-010	4.29 mm (0.1689 in.)
S	90539-RDK-010	4.31 mm (0.1697 in.)
T	90540-RDK-010	4.33 mm (0.1705 in.)
U	90541-RDK-010	4.35 mm (0.1713 in.)

COUNTERSHAFT REASSEMBLY**Special Tools Required**

Driver, 40 mm I.D. 07746-0030100

1. Install 2nd gear (A), the thrust needle bearing (B), needle bearing (C), idler gear (D), thrust needle bearing (E), 56 mm washer (F), 1st gear (G), 4th gear (H), 50.2 mm washer (I), 39 mm cotters (J), cotter retainer (K), and snap ring (L) on the countershaft (M).

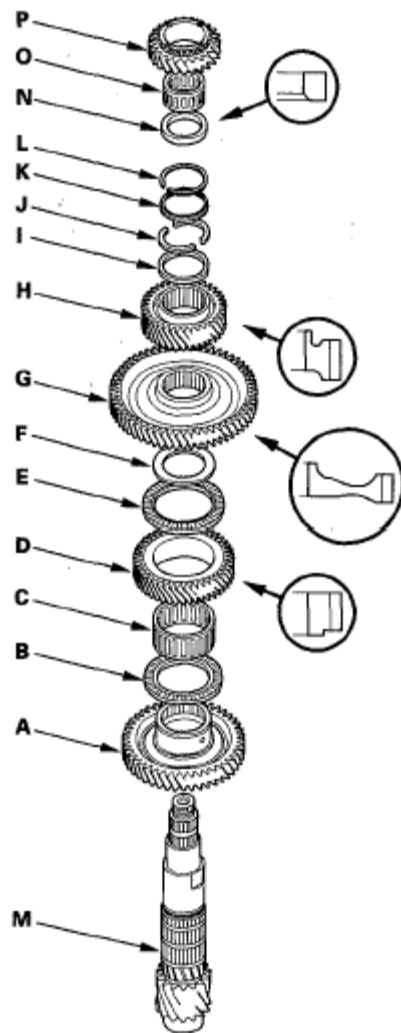


Fig. 504: Exploded View Of Countershaft

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the 35 x 47 x 6 mm thrust washer (N) in the direction shown, then install the needle bearing (O) and 5th gear (P).
3. Slide the reverse selector hub (A) over the countershaft (B), then press it into place using the driver (40 mm I.D.) and a press.

NOTE: Some reverse selector hubs are not press-fitted, and can be installed without using the driver (40 mm I.D.), and a press.

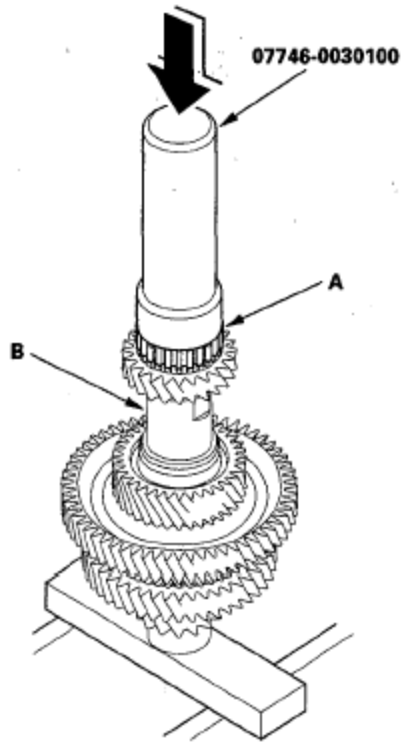


Fig. 505: Pressing Reverse Selector Hub Onto Countershaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the reverse selector, reverse gear collar, needle bearing, and reverse gear over the reverse selector hub.
5. Install the ball bearing (A) over the countershaft, then press it into place using the driver (40 mm I.D.) and a press.

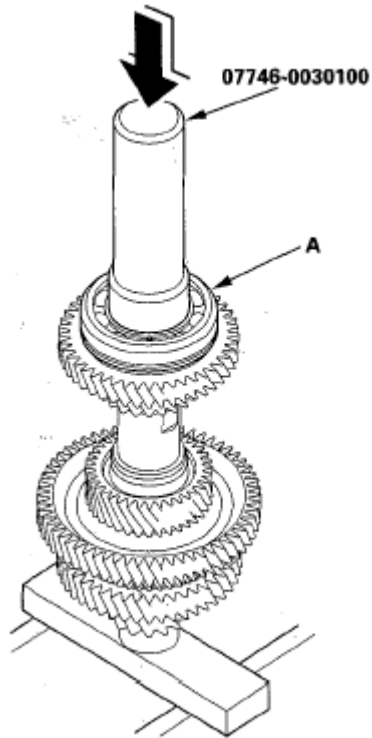


Fig. 506: Pressing Ball Bearing Over Countershaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Install a new conical spring washer (A) in the direction shown, and install a new locknut (B).

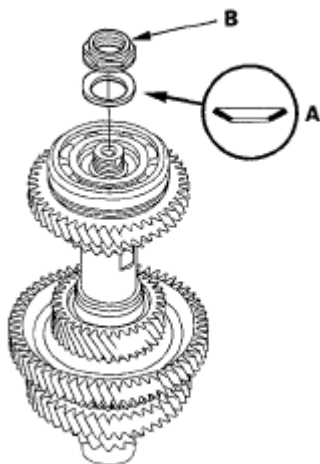


Fig. 507: Identifying Conical Spring Washer And Locknut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Hold the countershaft securely with a wrench and a vise, and tighten the locknut to 167 N.m (17.0 kgf.m, 123 lbf.ft).

NOTE:

- Use a torque wrench to tighten the locknut. Do not use an impact wrench.
- The locknut has left-hand threads.

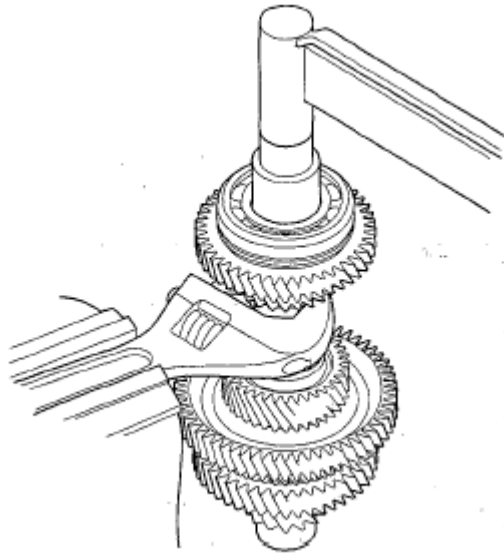


Fig. 508: Tightening Countershaft Locknut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Stake the locknut into the shaft to a depth (A) of 0.7-1.3 mm (0.03-0.05 in.) using a 3.5 mm punch (B).

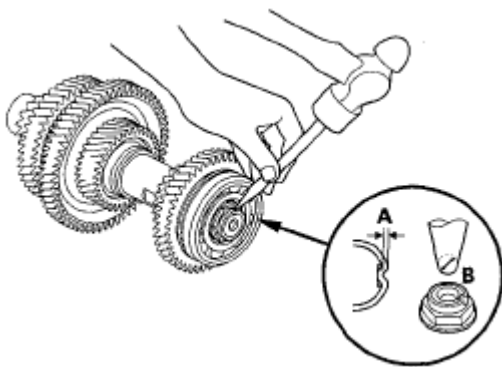


Fig. 509: Staking The Locknut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY SHAFT DISASSEMBLY

Exploded View

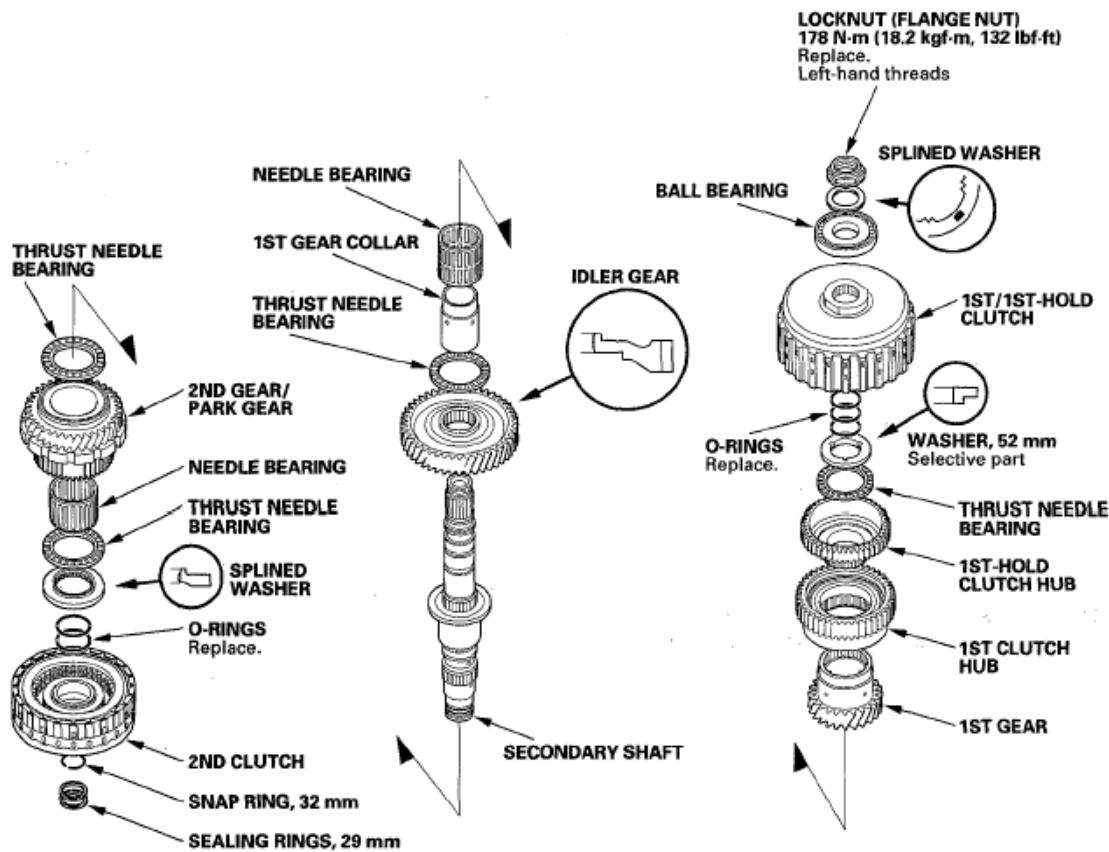


Fig. 510: Exploded View Of Secondary Shaft With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Special Tools Required

Wrench, 40 x 42 mm 07XAA-002010A

NOTE: Refer to the Exploded View as needed during the following procedure.

1. Cut the lock tab (A) off the secondary shaft locknut (B) using a chisel (C).

NOTE: Keep all of the chiseled particles out of the secondary shaft.

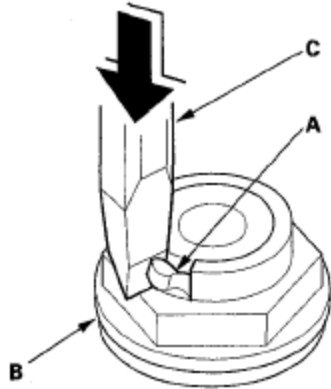


Fig. 511: Cutting Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Place a V-block (A) on a vise (B), and put the secondary shaft (C) on the V-block and vise.

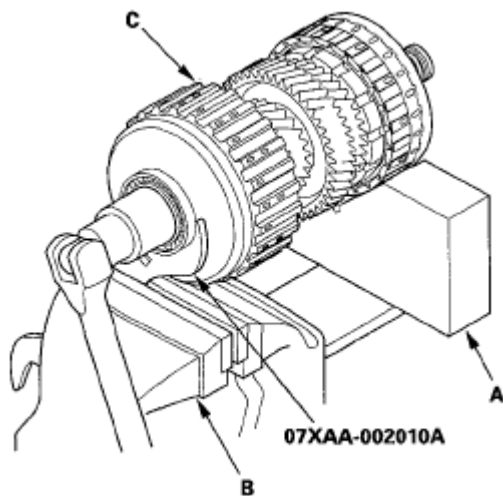


Fig. 512: Removing Locknut From Secondary Shaft

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Attach the wrench (40 x 42 mm) onto the 1st clutch guide, and secure the wrench (40 x 42 mm) with the vise to hold the secondary shaft. Loosen the locknut, and remove it. Remove any burrs from splines on the shaft and splined washer.
4. Place the idler gear (A) on press bases (B), and place a shaft protector (C) between the secondary shaft (D) and a press to prevent damaging the secondary shaft.

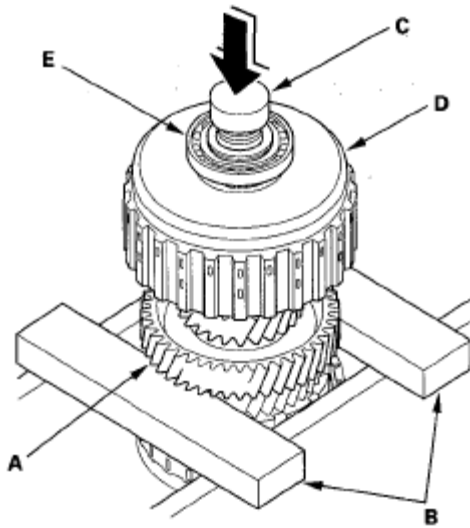


Fig. 513: Pressing Secondary Shaft Out Of Press-Fitted Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Support the secondary shaft with one hand, then press the secondary shaft out of the press-fitted bearing (E). The secondary shaft will drop down after pressing it shaft out of the press-fitted bearing.
6. Remove the 1st/1st-hold clutch, 52 mm washer, thrust needle bearing, 1st gear assembly, needle bearing, 1st gear collar, thrust needle bearing, and idler gear.
7. Remove the 32 mm snap ring, and remove the 2nd clutch, splined washer, thrust needle bearing, needle bearing, 2nd gear/park gear, and thrust needle bearing.
8. Inspect the bearings for galling and rough movement.
9. Check the shaft bearing surfaces for scoring and excessive wear, and check shaft splines for excessive wear and damage.
10. Check the 1st gear axial clearance (see **SECONDARY SHAFT 1ST GEAR AXIAL CLEARANCE INSPECTION**), 1st gear one-way clutch (see **1ST GEAR ONE-WAY CLUTCH INSPECTION**), and secondary shaft installation height (see **SECONDARY SHAFT INSTALLATION HEIGHT INSPECTION/ADJUSTMENT**).

SECONDARY SHAFT 1ST GEAR AXIAL CLEARANCE INSPECTION

Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
 - Attachment, 30 mm I.D. 07746-0030300
1. Install the idler gear (A), thrust needle bearing (B), 1st gear collar (C), needle bearing (D), 1st gear assembly (E), thrust needle bearing (F), the original thickness 52 mm washer (G), and 1st/1st-hold clutch (H) on the secondary shaft (I). Install the idler gear and 52 mm washer in the direction shown. Do not install the O-rings during inspection.

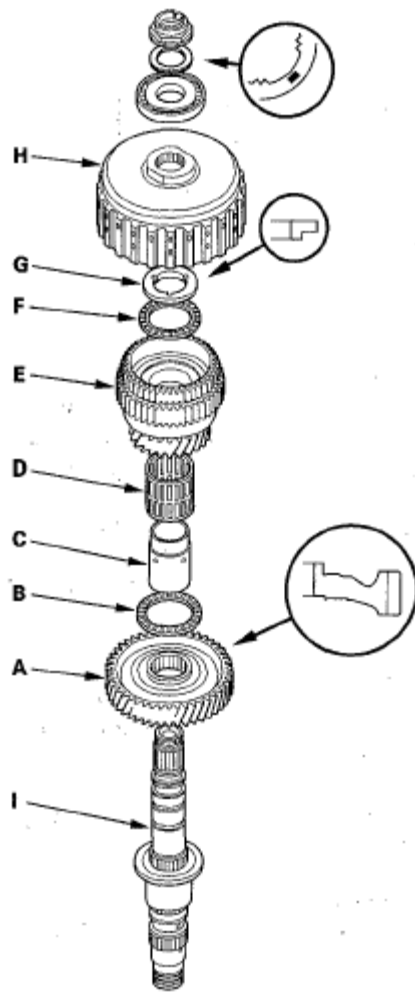


Fig. 514: Exploded View Of Secondary Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the ball bearing (A) over the 1st/1st-hold clutch guide using the driver (40 mm I.D.), the attachment (30 mm I.D.), and a press.

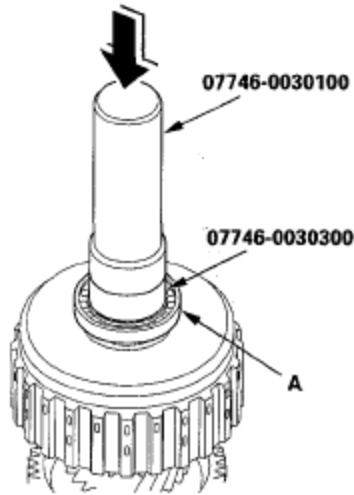


Fig. 515: Pressing Ball Bearing Onto Shaft

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the splined washer with the marked side up over the ball bearing in the same manner as installing the ball bearing using the driver (40 mm I.D.), the attachment (30 mm I.D.), and a press.
4. Install the old lock nut and tighten it to 29 N.m (3.0 kgf.m, 22 lbf.ft).
5. Set the dial indicator (A) on 1st gear (B).

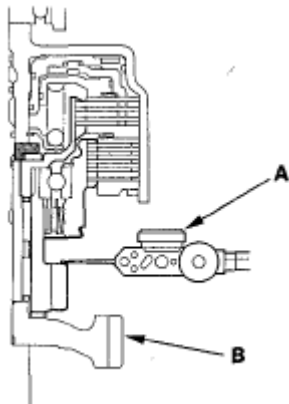


Fig. 516: Setting Dial Indicator On 1st Gear

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Measure the 1st gear axial clearance in at least three places while moving 1st gear. Use the average as the actual clearance.

Standard: 0.085-0.130 mm (0.003-0.05 in.)

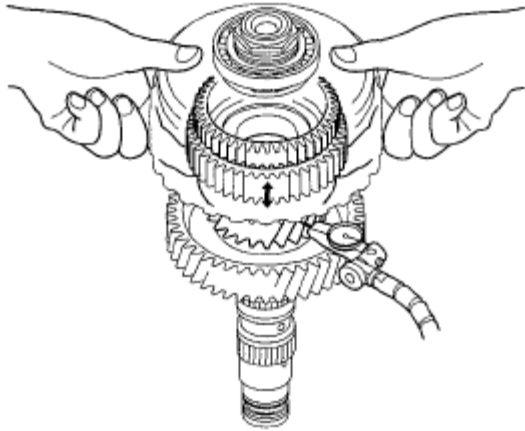


Fig. 517: Measuring 1st Gear Axial Clearance
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. If the clearance is out of standard, remove the washer and measure its height difference.

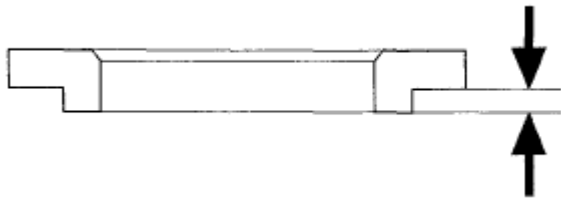


Fig. 518: Measuring Height Distance Of Washer
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Select and install a new washer, then recheck the clearance.

WASHER, 52 mm

WASHER THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
A	90502-RDK-010	2.705 mm (0.107 in.)
B	90503-RDK-010	2.680 mm (0.106 in.)
C	90504-RDK-010	2.655 mm (0.105 in.)
D	90505-RDK-010	2.630 mm (0.104 in.)
E	90506-RDK-010	2.605 mm (0.103 in.)
F	90507-RDK-010	2.580 mm (0.102 in.)
G	90508-RDK-010	2.555 mm (0.101 in.)
H	90509-RDK-010	2.530 mm (0.100 in.)
I	90510-RDK-010	2.505 mm (0.100 in.)
J	90511-RDK-010	2.480 mm (0.099 in.)
K	90512-RDK-000	2.455 mm (0.097 in.)

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L	90513-RDK-000	2.430 mm (0.096 in.)
M	90514-RDK-000	2.405 mm (0.095 in.)

1ST GEAR ONE-WAY CLUTCH INSPECTION

1. Hold the 1st-hold clutch hub (A), and turn 1st gear (B) in the direction shown to be sure it turns freely. Also make sure 1st gear locks in the opposite direction.

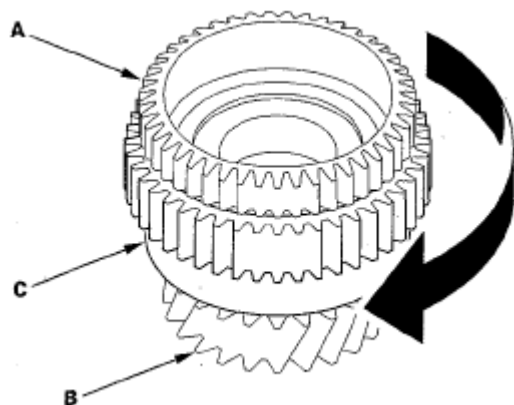


Fig. 519: Checking 1st Gear One-way Clutch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. If any problem occurs on the 1st gear one-way clutch, replace the 1st clutch hub (C). The 1st gear one-way clutch is not available separately from the 1st clutch hub.
3. Also check 1st gear and the 1st-hold clutch hub for wear and damage. If 1st gear and 1st-hold clutch hub are worn or damaged, replace the damaged part, refer to 1st Clutch Hub Replacement (see **1ST CLUTCH HUB REPLACEMENT**).

1ST CLUTCH HUB REPLACEMENT

Special Tools Required

- Driver 07749-0010000
 - Driver attachment 07947-6340500
 - Attachment, 78 x 90 mm 07GAD-SD40101
1. Remove the 1st-hold clutch hub (A) from 1st gear (B) using the driver, the driver attachment, and a press.

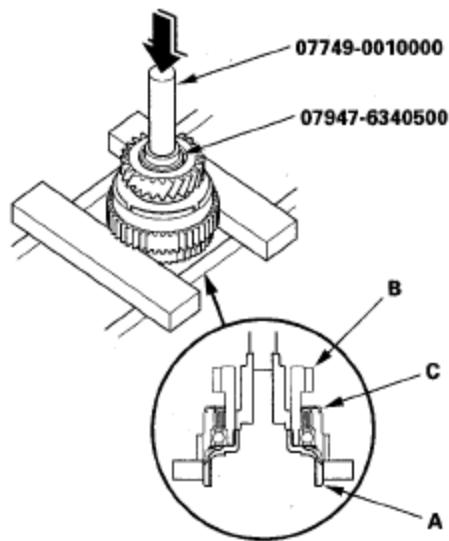


Fig. 520: Removing 1st-Hold Clutch Hub From 1st Gear
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the 1st clutch hub (C) from 1st gear.
3. Install a new 1st clutch hub (A) over 1st gear (B), and install the 1st-hold clutch hub (C) in 1st gear.

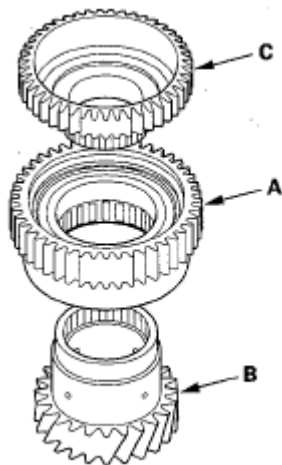


Fig. 521: Identifying 1st Clutch Hub, 1st Gear And 1st-Hold Clutch Hub
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the 1st-hold clutch hub (A) in 1st gear (B) using the driver, the attachment (78 x 90 mm), and a press.

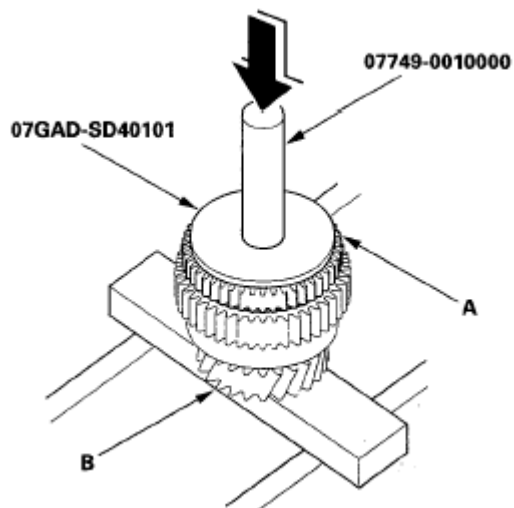


Fig. 522: Pressing 1st-Hold Clutch Hub Into 1st Gear
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY SHAFT REASSEMBLY

Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
 - Attachment, 30 mm I.D. 07746-0030300
 - Wrench, 40 x 42 mm 07XAA-002010A
1. Install the thrust needle bearing (A), needle bearing (B), 2nd gear/park gear (C), thrust needle bearing (D), and splined washer (E) in the direction shown on the secondary shaft (F).

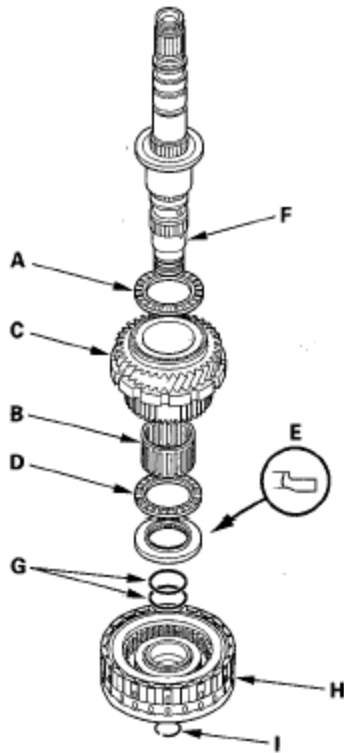


Fig. 523: Identifying Thrust Needle Bearing, Needle Bearing, 2Nd Gear/Park Gear, Thrust Needle Bearing, Splined Washer And Secondary Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Wrap the shaft splines with tape, and install the new O-rings (G) in the 2nd clutch O-ring grooves, then remove the tape.

NOTE: To prevent damage to the O-rings, be sure to install the O-rings after installing the splined washer.

3. Install the 2nd clutch (H) on the secondary shaft, and secure the 2nd clutch with the snap ring (I).
4. Install the idler gear (A) in the direction shown, thrust needle bearing (B), 1st gear collar (C), needle bearing (D), 1st gear assembly (E), thrust needle bearing (F), and 52 mm washer (G) in the direction shown on the secondary shaft (H).

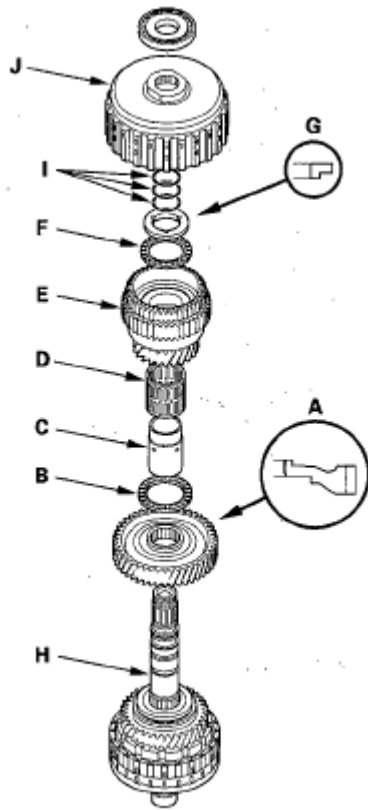


Fig. 524: Identifying Idler Gear, Thrust Needle Bearings, 1st Gear Collar, Needle Bearing, 1st Gear Assembly, 52 Mm Washer And Secondary Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Wrap the shaft splines with tape, and install the new O-rings (I) in 1st/1st-hold clutch O-ring grooves, then remove the tape.

NOTE: To prevent damage to the O-rings, be sure to install the O-rings after installing the 1st gear collar and 52 mm washer.

6. Install the 1st/1st-hold clutch (J).
7. Install the ball bearing (A) over the 1st/1st-hold clutch guide (B) using the driver (40 mm I.D.), the attachment (30 mm I.D.), and a press.

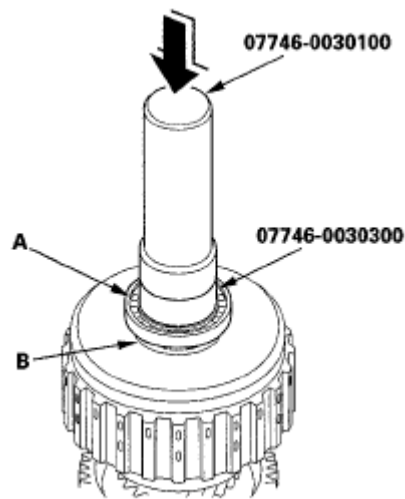


Fig. 525: Pressing Ball Bearing Onto Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install a new splined washer (A) with the marked side (B) up over the ball bearing using the driver (40 mm I.D.), the attachment (30 mm I.D.), and a press.

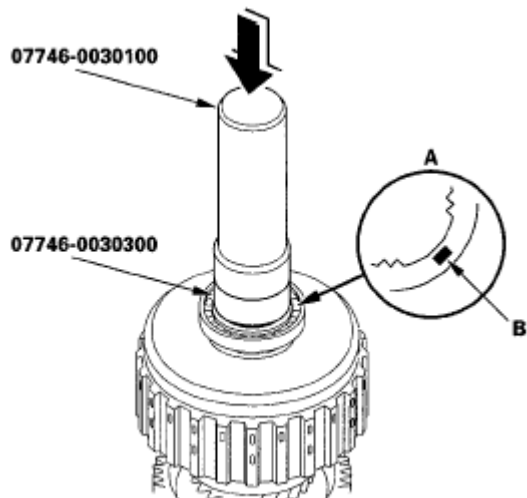


Fig. 526: Pressing Splined Washer With Marked Side
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install a new locknut.

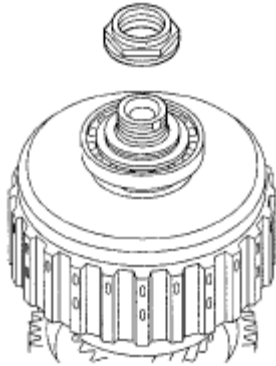


Fig. 527: Identifying Shaft Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Place a V-block (A) on a vise (B), and put the secondary shaft (C) on a V-block and a vise.

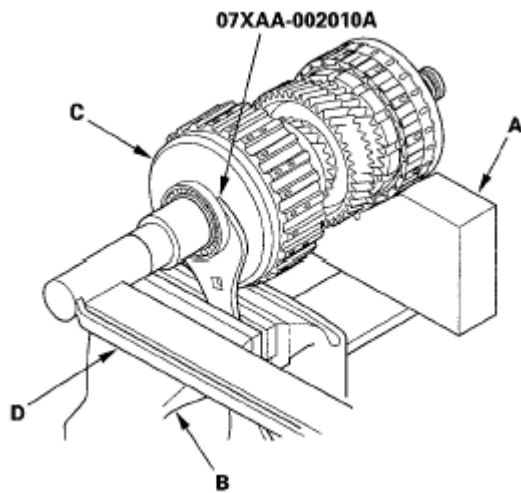


Fig. 528: Tightening Secondary Shaft Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Attach the wrench (40 x 42 mm) onto the top of the 1st clutch guide, and secure the wrench (40 x 42 mm) with the vise to hold the secondary shaft. Tighten the locknut to 178 N.m (18.2 kgf.m, 132 lbf.ft) with the torque wrench (D).

NOTE:

- Use a torque wrench to tighten the locknut. Do not use an impact wrench.
- The locknut has left-hand threads.

12. Stake the locknut to a depth (A) of 0.7-1.3 mm (0.03-0.05 in.) using a 3.5 mm punch (B).

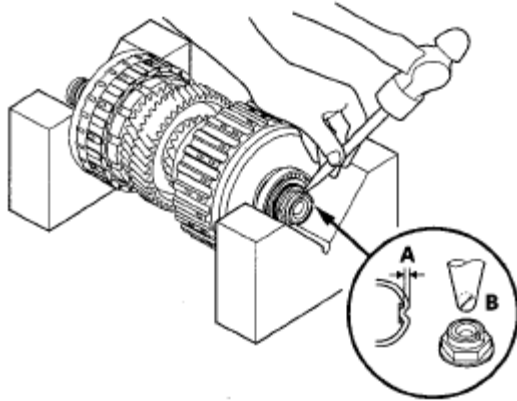


Fig. 529: Staking The Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY SHAFT INSTALLATION HEIGHT INSPECTION/ADJUSTMENT

1. Install the thrust needle bearing (A) in the torque converter housing (B) in the direction shown, and install the secondary shaft assembly (C).

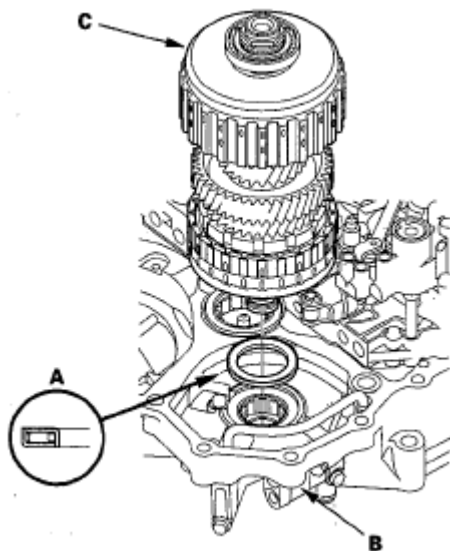


Fig. 530: Identifying Thrust Needle Bearing And Secondary Shaft Assembly

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install a new gasket (A) on the torque converter housing.

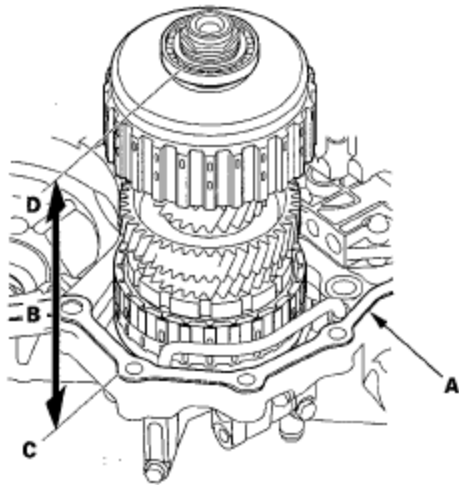


Fig. 531: Identifying Installed Height Of Secondary Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Secondary Shaft Cutaway View

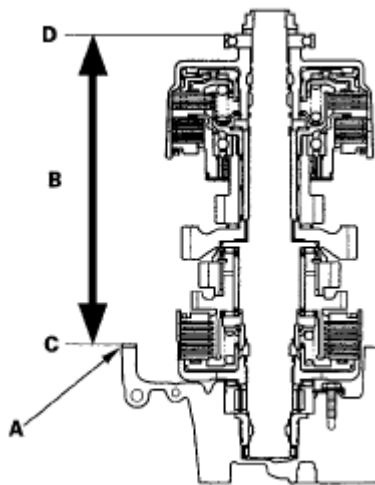


Fig. 532: Identifying Installed Height Of Secondary Shaft (Secondary Shaft Cutaway View)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Measure the installed height (B) of the secondary shaft between the surface (C) of the gasket and the top of the ball bearing outer race (D), then note the measurement.
4. Remove the 65 mm thrust shim (A) from the transmission housing, and measure its thickness.

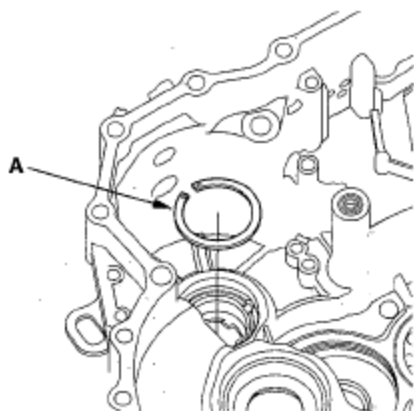


Fig. 533: Identifying 65Mm Thrust Shim

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Calculate the thickness of the 65 mm thrust shim using the formula.

Formula:

65 mm Thrust Shim Thickness

= Secondary Shaft Installation Height Standard

- Measurement

Secondary Shaft Installation Height:

Standard: 222.54-222.63 mm (8.761-8.765 in.)

6. Select the 65 mm thrust shim from the following table.

THRUST SHIM, 65 mm

WASHER THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
0A	90460-RDK-000	0.80 mm (0.031 in.)
A	90461 -RDK-010	0.84 mm (0.033 in.)
B	90462-RDK-010	0.88 mm (0.035 in.)
C	90463-RDK-010	0.92 mm (0.036 in.)
D	90464-RDK-010	0.96 mm (0.038 in.)
E	90465-RDK-010	1.00 mm (0.039 in.)
F	90466-RDK-010	1.04 mm (0.041 in.)
G	90467-RDK-010	1.08 mm (0.043 in.)
H	90468-RDK-010	1.12 mm (0.044 in.)

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I	90469-RDK-010	1.16 mm (0.046 in.)
J	90470-RDK-010	1.20 mm (0.047 in.)
K	90471-RDK-010	1.24 mm (0.049 in.)
L	90472-RDK-010	1.28 mm (0.050 in.)
M	90473-RDK-010	1.32 mm (0.052 in.)
N	90474-RDK-010	1.36 mm (0.054 in.)
O	90475-RDK-010	1.40 mm (0.055 in.)
P	90476-RDK-010	1.44 mm (0.057 in.)
Q	90477-RDK-010	1.48 mm (0.058 in.)
R	90478-RDK-010	1.52 mm (0.060 in.)
S	90479-RDK-010	1.56 mm (0.061 in.)
T	90480-RDK-010	1.60 mm (0.063 in.)
U	90481-RDK-000	1.64 mm (0.065 in.)
V	90482-RDK-000	1.68 mm (0.066 in.)
W	90483-RDK-000	1.72 mm (0.068 in.)
X	90484-RDK-000	1.76 mm (0.069 in.)
Y	90485-RDK-000	1.80 mm (0.071 in.)
Z	90486-RDK-000	1.84 mm (0.072 in.)
AA	90487-RDK-000	1.88 mm (0.074 in.)
AB	90488-RDK-000	1.92 mm (0.076 in.)
AC	90489-RDK-000	1.96 mm (0.077 in.)
AD	90490-RDK-000	2.00 mm (0.079 in.)
AE	90491-RDK-000	2.04 mm (0.080 in.)
AF	90492-RDK-000	2.08 mm (0.082 in.)
AG	90493-RDK-000	2.12 mm (0.083 in.)
AH	90494-RDK-000	2.16 mm (0.085 in.)
AI	90495-RDK-000	2.20 mm (0.087 in.)
AJ	90496-RDK-000	2.24 mm (0.088 in.)
AK	90497-RDK-000	2.28 mm (0.090 in.)
AL	90498-RDK-000	2.32 mm (0.091 in.)

7. Install the thrust shim in the transmission housing.

INTERMEDIARY SHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Remove the 26.5 mm washer, snap ring, cotter retainer, and cotters from the intermediary shaft.

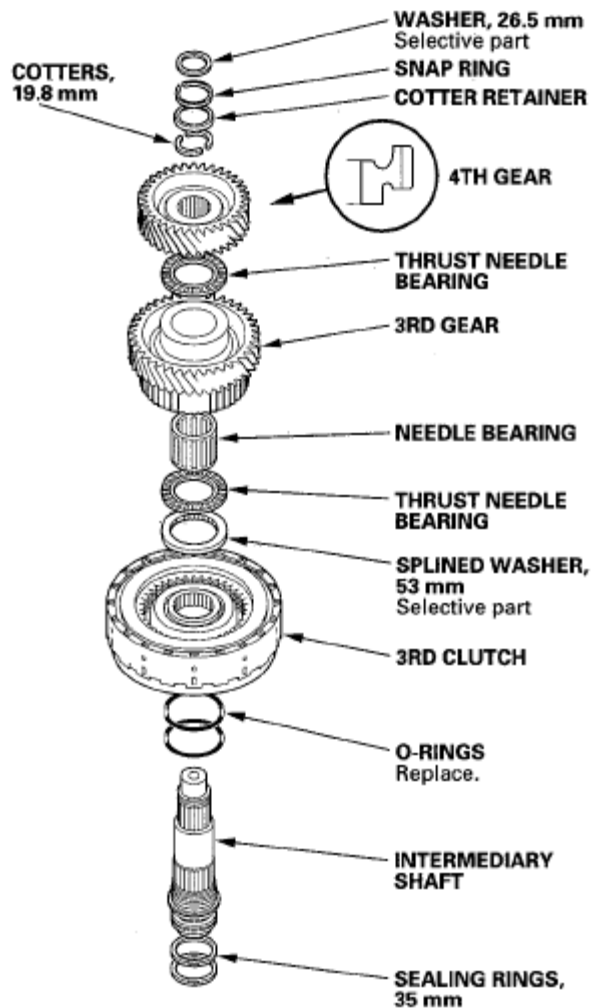


Fig. 534: Exploded View Of Intermediary Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the intermediary shaft 4th gear using a press (see **INTERMEDIARY SHAFT 4TH GEAR REMOVAL**), and disassemble the shaft and gears.
3. Inspect the bearings for galling and rough movement.
4. Check the shaft bearing surfaces for scoring and excessive wear, and check the shaft splines for excessive wear and damage.
5. Check the sealing rings for excessive wear and damage.
6. Check the 3rd gear axial clearance (see **INTERMEDIARY SHAFT 3RD GEAR AXIAL CLEARANCE INSPECTION**), and intermediary shaft installation height (see **INTERMEDIARY SHAFT INSTALLATION HEIGHT INSPECTION/ADJUSTMENT**).
7. Before installing the O-rings, wrap the shaft splines with tape to prevent damage to the O-rings.
8. Lubricate all parts with ATF, and reassemble the shaft and gears.
9. Install the press-fitted 4th gear using the driver (40 mm I.D.) and a press (see **INTERMEDIARY SHAFT 4TH GEAR REMOVAL**) in the direction shown.

INTERMEDIARY SHAFT 4TH GEAR REMOVAL

1. Place 4th gear (A) on the press bases (B), and place a shaft protector (C) between the intermediary shaft (D) and the press to prevent damaging the intermediary shaft.

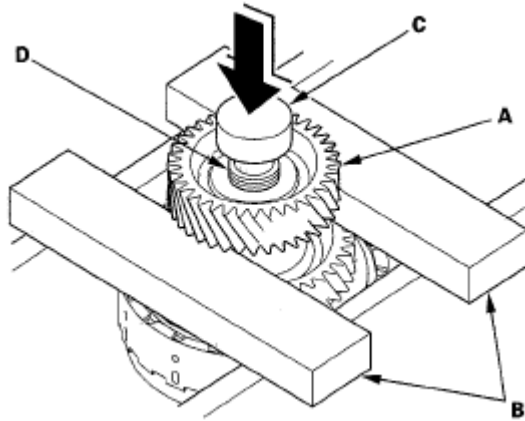


Fig. 535: Pressing Intermediary Shaft Out Of The Press-Fitted 4Th Gear
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Support the intermediary shaft with one hand, the press the intermediary shaft out of the press-fitted 4th gear. The intermediary shaft will drop down after pressing it out of the press-fitted gear.
3. Remove the remaining parts from the intermediary shaft.

INTERMEDIARY SHAFT 4TH GEAR INSTALLATION

Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Wrap the shaft splines with tape, and install the new O-rings in the 3rd clutch O-ring grooves, then remove the tape.
2. Install the 3rd clutch, 53 mm splined washer, thrust needle bearing, needle bearing, 3rd gear, thrust needle bearing on the intermediary shaft.
3. Install the 4th gear (A) using the driver (40 mm I.D.) and a press.

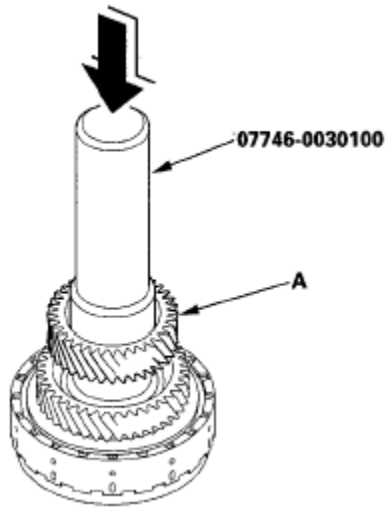


Fig. 536: Installing 4th Gear Onto Intermediary Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the 19.8 mm cotters, cotter retainer, and snap ring.
5. Install the 26.5 mm washer on the top of the intermediary shaft.

INTERMEDIARY SHAFT 3RD GEAR AXIAL CLEARANCE INSPECTION

Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Install the 3rd clutch (A), the original thickness 53 mm splined washer (B), thrust needle bearing (C), needle bearing (D), 3rd gear (E), and thrust needle bearing (F) on the intermediary shaft (G). Do not install the O-rings during inspection.

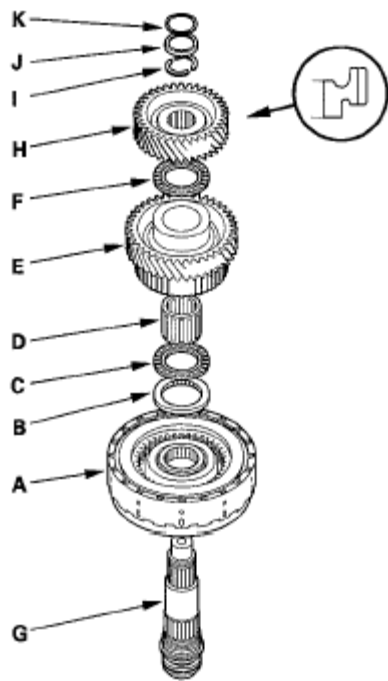


Fig. 537: Identifying 3rd Clutch, Splined Washer, Thrust Needle Bearing And Needle Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

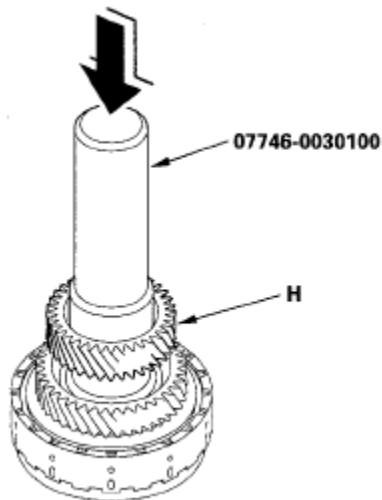


Fig. 538: Pressing 4th Gear Onto Intermediary Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install 4th gear (H) using the driver (40 mm I.D.) and the press.
3. Install the coters (I), cotter retainer (J), and snap ring (K).
4. Set the dial indicator (A) on 3rd gear (B).

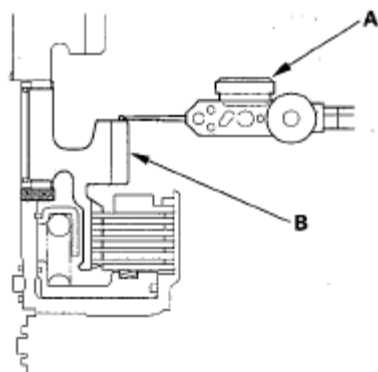


Fig. 539: Setting Dial Indicator On 3rd Gear

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Measure 3rd gear axial clearance in at least three places while moving 3rd gear. Use the average as the actual clearance.

Standard: 0.005-0.045 mm (0.0002-0.0018 in.)

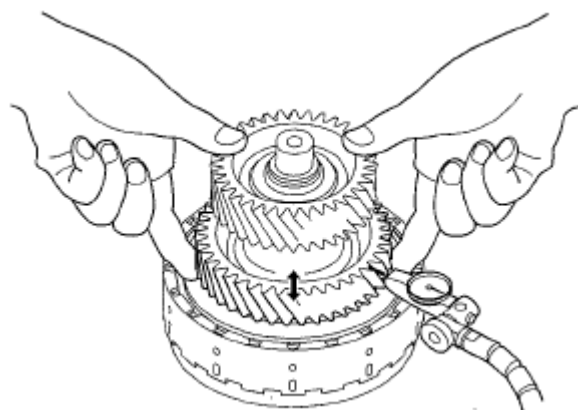


Fig. 540: Measuring 3rd Gear Axial Clearance

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. If the clearance is out of standard, remove the splined washer and measure its thickness.
7. Select and install a new splined washer, then recheck the clearance.

SPLINED WASHER, 53 mm

SPLINED WASHER THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
A	90546-RDK-000	3.995 mm (0.1573 in.)
B	90547-RDK-000	4.015 mm (0.1581 in.)
C	90548-RDK-000	4.035 mm (0.1589 in.)
D	90549-RDK-000	4.055 mm (0.1596 in.)

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E	90550-RDK-000	4.075 mm (0.1604 in.)
F	90551-RDK-000	4.095 mm (0.1612 in.)
G	90552-RDK-000	4.115 mm (0.1620 in.)
H	90553-RDK-000	4.135 mm (0.1628 in.)
I	90554-RDK-000	4.155 mm (0.1636 in.)
J	90555-RDK-000	4.175 mm (0.1644 in.)
K	90556-RDK-000	4.195 mm (0.1652 in.)
L	90557-RDK-000	4.215 mm (0.1659 in.)
M	90558-RDK-000	4.235 mm (0.1667 in.)
N	90559-RDK-000	4.255 mm (0.1675 in.)

INTERMEDIARY SHAFT INSTALLATION HEIGHT INSPECTION/ADJUSTMENT

1. Install the intermediary shaft (A) in the torque converter housing, and install the original thickness 26.5 mm washer (B) on the intermediary shaft.

Intermediary Shaft Installation Height

Standard:

133.785-133.885 mm (5.2671-5.2711 in.)

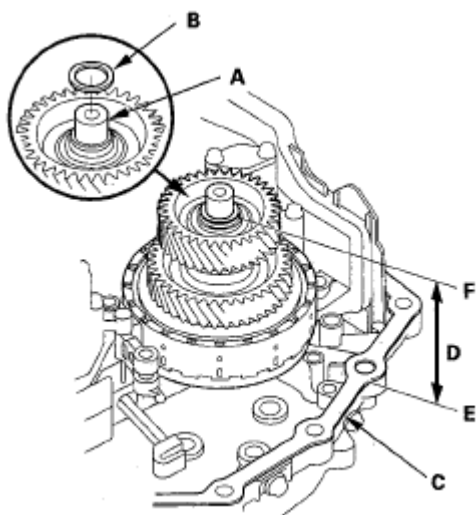


Fig. 541: Identifying Intermediary Shaft Installation Height
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Intermediary Shaft Cutaway View

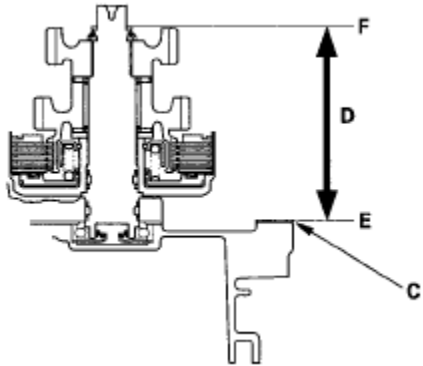


Fig. 542: Intermediary Shaft Cutaway View
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install a new gasket (C) on the torque converter housing.
3. Measure the installed height (D) of the intermediary shaft between the surface (E) of the gasket and the surface of the 26.5 mm washer (F).
4. If the measurement is out of standard, remove the 26.5 mm washer and measure its thickness.
5. Select and install a new washer, then recheck the installation height.

WASHER, 26.5 mm

WASHER THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
A	90564-RDK-000	1.05 mm (0.041 in.)
B	90565-RDK-000	1.13 mm (0.044 in.)
C	90566-RDK-000	1.21 mm (0.048 in.)
D	90567-RDK-000	1.29 mm (0.051 in.)
E	90568-RDK-000	1.37 mm (0.054 in.)
F	90569-RDK-000	1.45 mm (0.057 in.)
G	90570-RDK-000	1.53 mm (0.060 in.)
H	90571-RDK-000	1.61 mm (0.063 in.)
I	90572-RDK-000	1.69 mm (0.067 in.)
J	90573-RDK-000	1.77 mm (0.070 in.)
K	90574-RDK-000	1.85 mm (0.073 in.)
L	90575-RDK-000	1.93 mm (0.076 in.)
M	90576-RDK-000	2.01 mm (0.079 in.)
N	90577-RDK-000	2.09 mm (0.082 in.)

CLUTCH DISASSEMBLY

Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

1. Remove the snap ring (A), with a screwdriver (B).

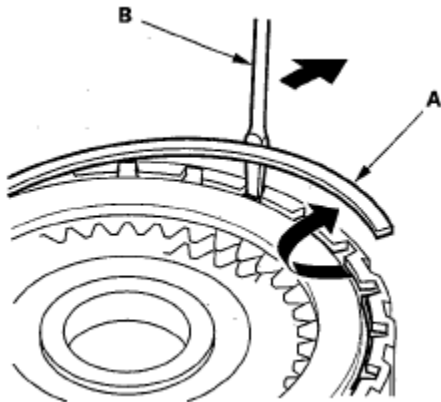


Fig. 543: Removing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the 1st clutch end-plate (A), 1st clutch discs (B) (5), 1st clutch wave-plates (C) (5), disc spring (D), 1st-hold clutch plate B (E), 1st-hold clutch discs (F) (3), 1st-hold clutch wave-plates (G) (2), and flat-plate (H) from the 1st/1st-hold clutch drum (I).

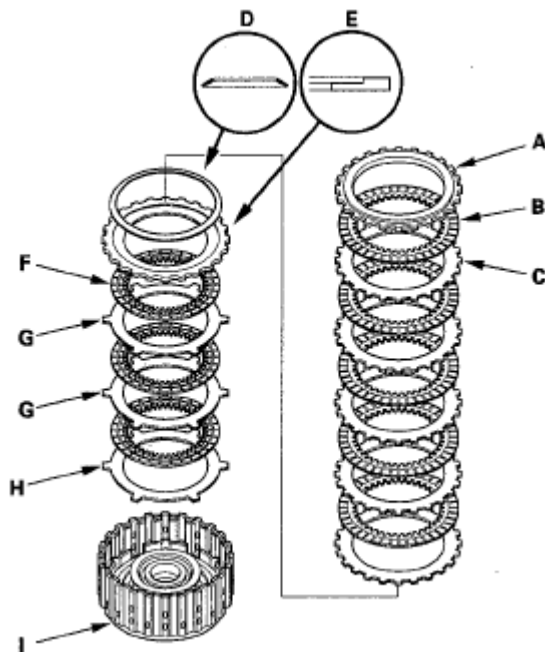


Fig. 544: Disassembling 1st/1st-Hold Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the clutch end-plate (A), clutch discs (B) (7), clutch wave-plates (C) (3), and clutch flat-plates (D) (4) from the 2nd clutch drum (E).

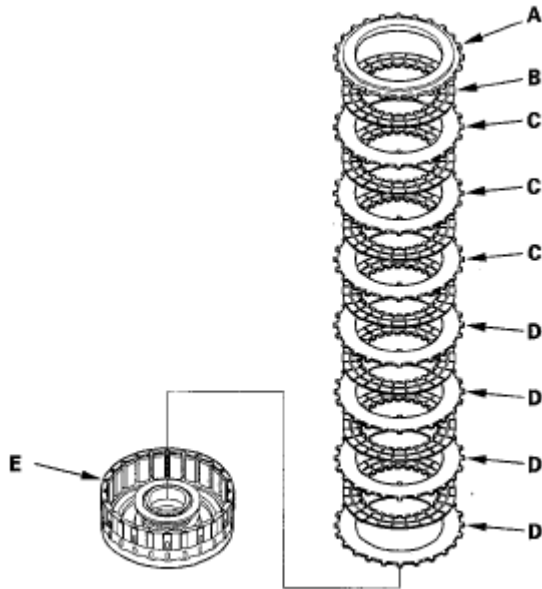


Fig. 545: Disassembling 2nd Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Make reference marks on the clutch wave-plates.
5. Remove the clutch end-plate (A), clutch discs (B) (5), clutch wave-plates (C) (2), clutch flat-plates (D) (3), and disc spring (E) from the 3rd clutch drum (F).

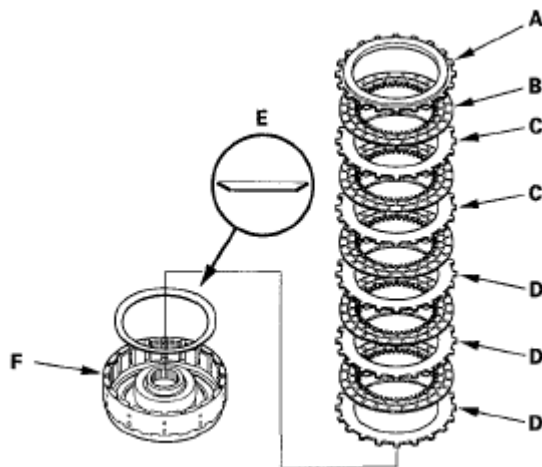


Fig. 546: Disassembling 3rd Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Make reference marks on the clutch wave-plates.
7. Remove the clutch end-plate (A), clutch discs (B) (4), clutch wave-plates (C) (2), clutch flat-plates (D)

(2), and disc spring (E) from the 4th clutch drum (F).

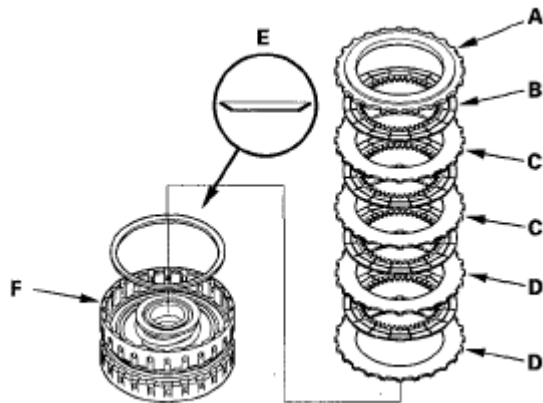


Fig. 547: Disassembling 4th Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Make reference marks on the clutch wave-plates.
9. Remove the clutch end-plate (A), clutch discs (B) (5), clutch wave-plates (C) (2), clutch flat-plates (D) (3), and disc spring (E) from the 5th clutch drum (F).

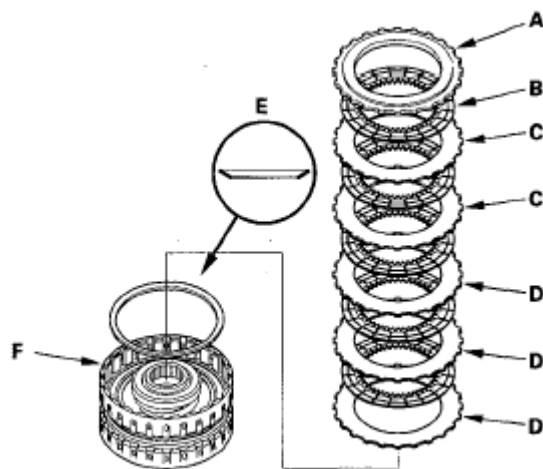


Fig. 548: Disassembling 5th Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Make reference marks on the clutch wave-plates.
11. Install the clutch spring compressor attachments and the clutch spring compressor bolt assembly.

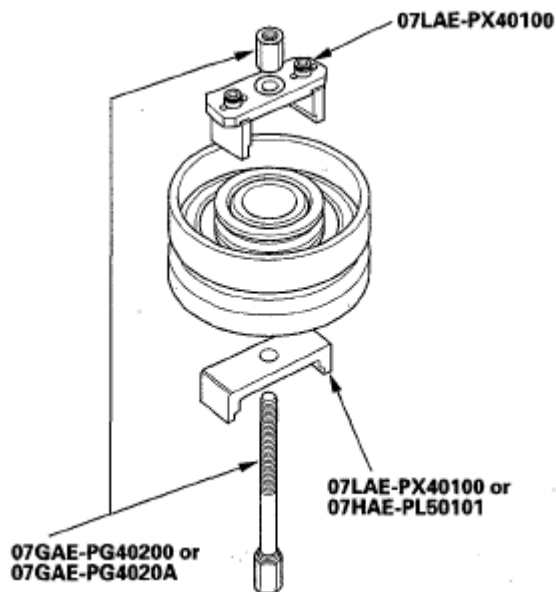


Fig. 549: Identifying Clutch Spring Compressor Assembly
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Be sure the clutch spring compressor attachment (A) is adjusted to have full contact with the spring retainer (B) on the 1st, 2nd, and 4th clutches.

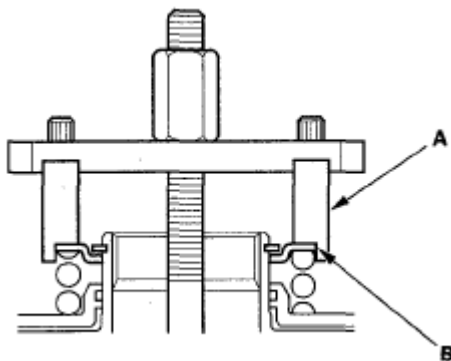


Fig. 550: Identifying Clutch Spring Compressor Of Spring Retainer
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. If either end of the clutch spring compressor attachment is set over an area of the spring retainer that is unsupported by the return spring, the retainer may be damaged.

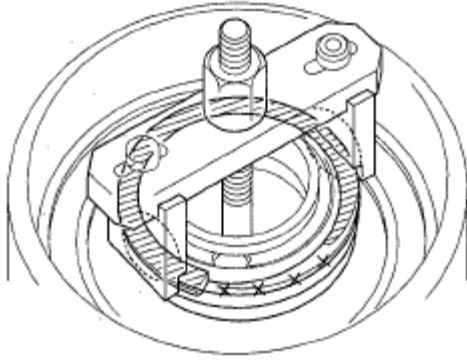


Fig. 551: Identifying Clutch Spring Compressor Attachment Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Set the clutch spring compressor attachment (A) on the spring retainer (B) of the 3rd and 5th clutches so the clutch spring compressor attachment works on the clutch return spring (C).

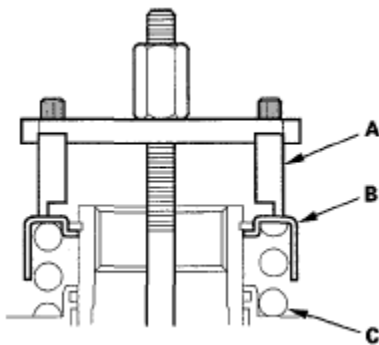


Fig. 552: Identifying Clutch Spring Compressor Attachment, Spring Retainer And Clutch Return Spring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. If either end of the clutch spring compressor attachment is not set over the clutch return spring end (A), the retainer may be damaged.

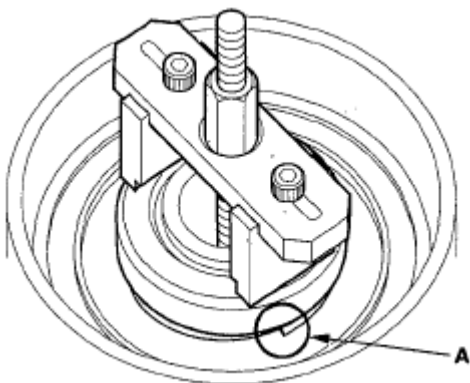


Fig. 553: Identifying Clutch Return Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Compress the return spring until the snap ring can be removed.

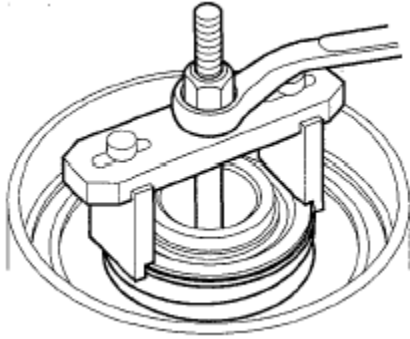


Fig. 554: Compressing Return Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Remove the snap ring with the snap ring pliers.

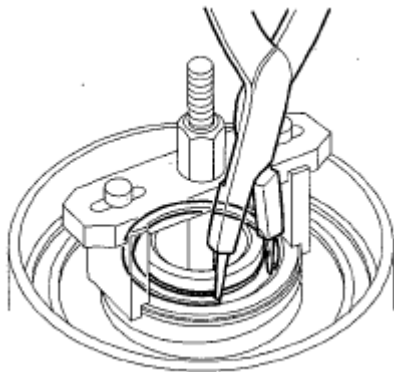


Fig. 555: Removing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Remove the clutch spring compressor attachments and the clutch spring compressor bolt assembly.
19. Remove the snap ring (A), spring retainer (B), and return spring (C).

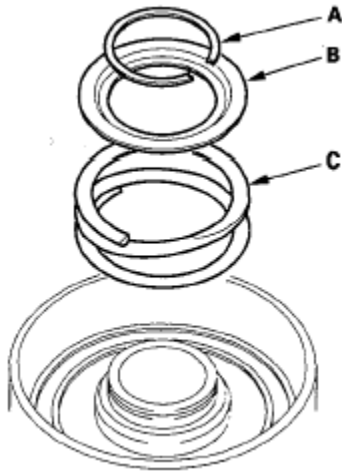


Fig. 556: Identifying Snap Ring, Spring Retainer And Return Spring
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Wrap a shop rag around the clutch drum, and apply air pressure to the fluid passage to remove the piston. Place a fingertip on the other passage while applying air pressure.

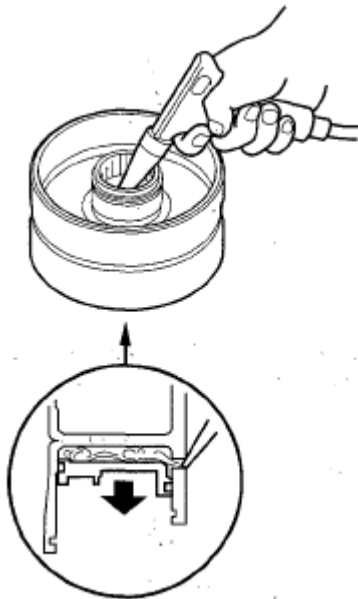


Fig. 557: Applying Air Pressure To Fluid Passage
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Remove the 1st/1st-hold clutch piston (A) from the clutch drum (B), and remove the O-rings from the 1st clutch piston.

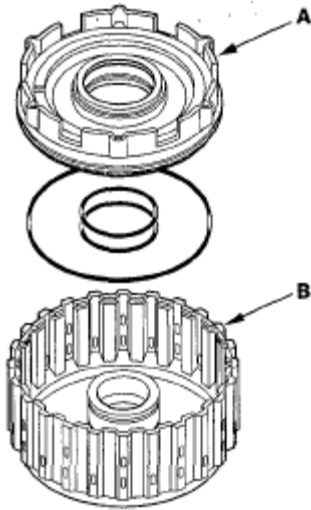


Fig. 558: Identifying 1st/1st-Hold Clutch Piston And Clutch Drum
Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Remove the 1st-hold clutch piston (A) from the 1st clutch piston (B), and remove the O-rings from the 1st-hold clutch piston.

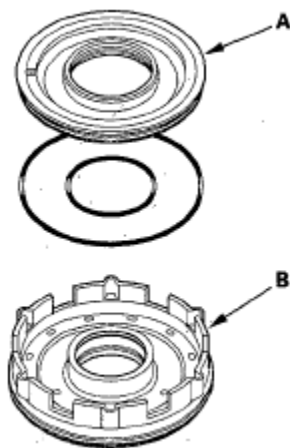


Fig. 559: Identifying 1st-Hold Clutch Piston And 1st Clutch Piston
Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Remove the clutch piston, and remove the O-rings from the 2nd, 3rd, 4th, and 5th clutch pistons.

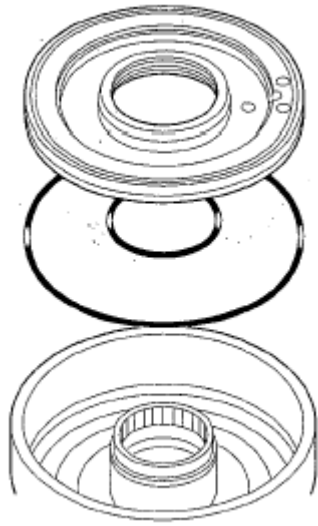


Fig. 560: Identifying O-Rings

Courtesy of AMERICAN HONDA MOTOR CO., INC.

CLUTCH INSPECTION

1. Inspect the clutch pistons and clutch piston check valves (A).

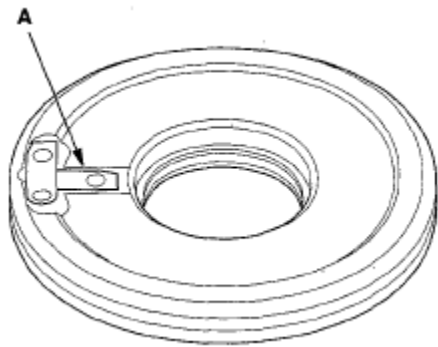


Fig. 561: Identifying Check Valves

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. If the clutch piston check valve is loose or damaged, replace the clutch piston.
3. Check the spring retainer for wear and damage.
4. If the spring retainer is worn or damaged, replace it.
5. Inspect the clutch discs, clutch plates, and clutch end-plate for wear, damage, and discoloration.

Clutch Discs

Standard Thickness: 1.94 mm (0.076 in.)

Clutch Flat-plates and Clutch Wave-plates Standard Thickness:

1st Clutch: 1.6 mm (0.063 in.)

1st-hold Clutch: 1.8 mm (0.071 in.)

2nd Clutch: 1.8 mm (0.071 in.)

3rd Clutch: 2.0 mm (0.079 in.)

4th Clutch: 1.8 mm (0.071 in.)

5th Clutch: 1.6 mm (0.063 in.)

6. If the clutch discs are worn or damaged, replace them as a set. If the clutch discs are replaced, inspect the clearance between the clutch end-plate and the top disc.
7. If any plate is worn, damaged, or discolored, replace the damaged plate with a new plate, and inspect the other wave-plates for a phase difference. If the clutch plate is replaced, inspect the clearance between the clutch end-plate and the top disc.
8. If the clutch end-plate is worn, damaged, or discolored, inspect the clearance between the clutch end-plate and the top disc, then replace the clutch end-plate.

CLUTCH WAVE-PLATE PHASE DIFFERENCE INSPECTION

1. Place the clutch wave-plate (A) on a surface plate, and set a dial indicator (B) on the wave-plate.

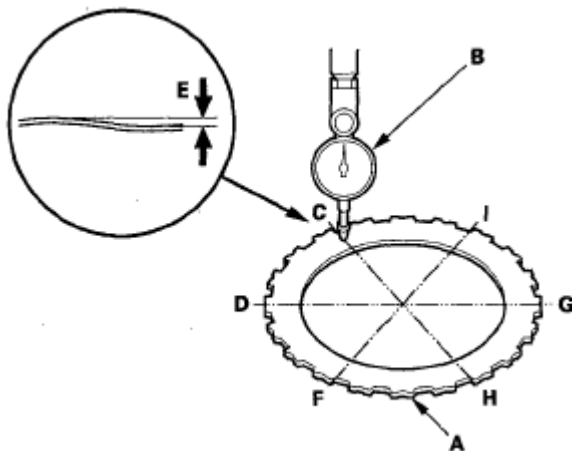


Fig. 562: Checking Clutch Wave-Plate Surface
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Find the bottom (C) of a phase difference of the wave-plate, zero the dial indicator, and make a reference mark on the bottom of the wave-plate.
3. Rotate the clutch wave-plate of the 1st, 1st-hold, 2nd, 4th, and 5th clutches about 60-degrees apart from the bottom while holding the wave-plate by its circumference, and rotate the 3rd clutch wave-plate about 72-degrees or 54-degrees apart from the bottom while holding the wave-plate by its circumference. The

dial indicator should be at the top (D) of a phase difference. Do not rotate the wave-plate while holding its surface, always rotate it by holding its circumference.

4. Read the dial indicator. The dial indicator reads the phase difference (E) of the wave-plate between the bottom and top.

Standard:

1st Clutch: 0.22-0.30 mm (0.0087-0.012 in.)

1st-hold, 2nd, 3rd, 4th, and 5th Clutches:

0.12-0.20 mm (0.0047-0.0079 in.)

5. Rotate the wave-plate of the 1st, 1st-hold, 2nd, 4th, and 5th clutches about 60-degrees, and the 3rd clutch wave-plate about 54-degrees or 72 degrees. The dial indicator should be at the bottom of a phase difference (F and G). Zero the dial indicator.
6. Measure the phase difference at the other two tops (H and I) of the wave-plate by following steps 3 thru 5.
7. If two of the three measurements are within the standard, the wave-plate is OK. If two of the three measurements are out of the standard, replace the wave-plate.

CLUTCH CLEARANCE INSPECTION

Special Tools Required

Clutch compressor attachment 07ZAE-PRP0100

1. Inspect the clutch piston, discs, plates, and end-plate for wear and damage (see **CLUTCH INSPECTION**), and inspect the clutch wave-plate phase difference (see **CLUTCH WAVE-PLATE PHASE DIFFERENCE INSPECTION**), if necessary.
2. Install the 1st-hold clutch piston in the 1st clutch piston, and install 1st/1st-hold clutch piston (A) in the 1st/1st-hold clutch drum (B). Do not install the O-rings on the clutch pistons during inspection.

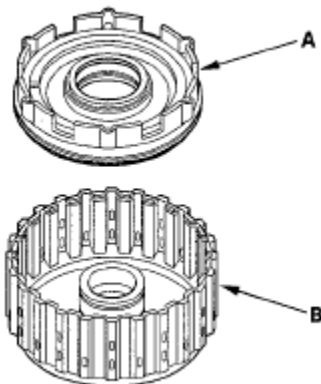


Fig. 563: Identifying 1st/1st-Hold Clutch Piston And 1st/1st-Hold Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the 1st-hold clutch flat-plate (A) (1), and alternately install the clutch discs (B) (3) and clutch wave-plates (C) (2) starting with the disc, then install 1st-hold clutch plate B (D) with the flat side down in the direction shown.

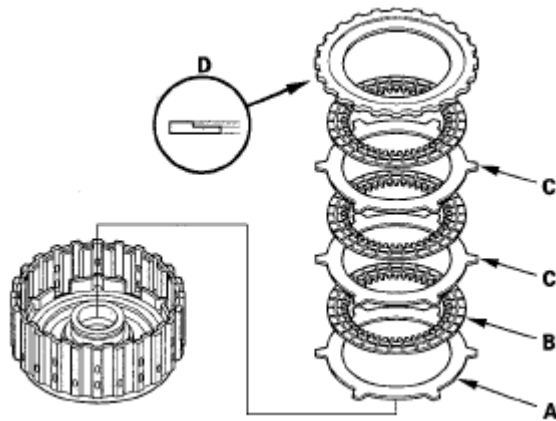


Fig. 564: Disassembling Clutch Discs

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Measure the clearance between the 1st-hold clutch plate B and the top disc with a feeler gauge (A) while pressing 1st-hold clutch plate B down. Take measurements in at least three places, and use the average as the actual clearance.

1st-hold Clutch Plate B-to-Top Disc Clearance:

Service Limit: 0.6-1.0 mm (0.024-0.039 in.)

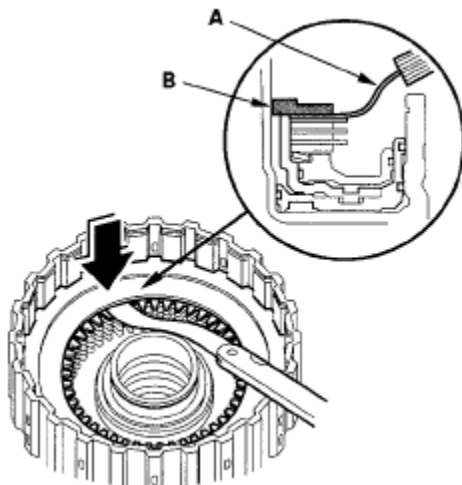


Fig. 565: Measuring Clearance Between 1st-Hold Clutch Plate And Top Disc

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If the clearance is out of standard, replace the 1st-hold clutch plates and discs as a set, and recheck.
6. Install the disc spring (A) on 1st-hold clutch plate B in the direction shown. Starting with the 1st clutch wave-plate, alternately install the wave-plates (B) (5) and discs (C) (5) in the 1st clutch drum (D), then install the clutch end-plate (E) with the flat side down.

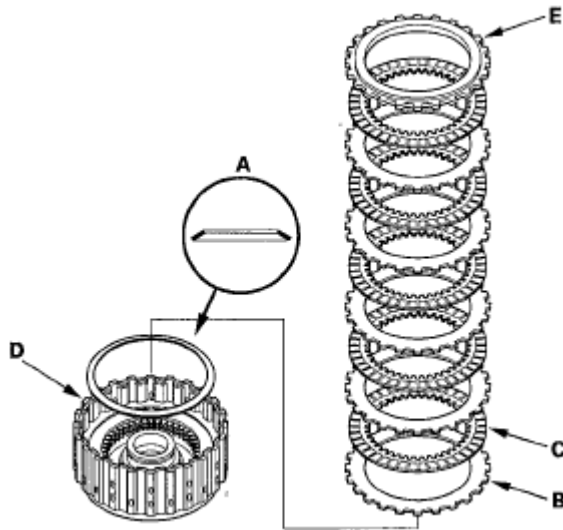


Fig. 566: Identifying 1st-Hold Clutch Drum, Wave-plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the clutch pistons in the 2nd, 3rd, 4th, and 5th clutch drums. Do not install the O-rings on the clutch pistons during inspection.

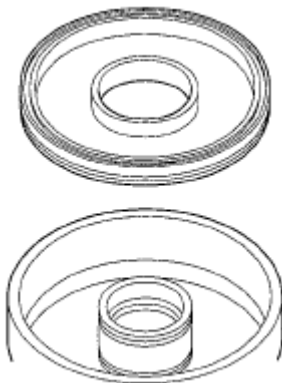


Fig. 567: Identifying Clutch Piston
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Starting with the 2nd clutch flat-plate, alternately install the flat-plates (A) (4) and discs (B) (4), and alternately install the wave-plates (C) (3) and discs (B) (3). Install the clutch end-plate (D) with the flat side down on the top disc.

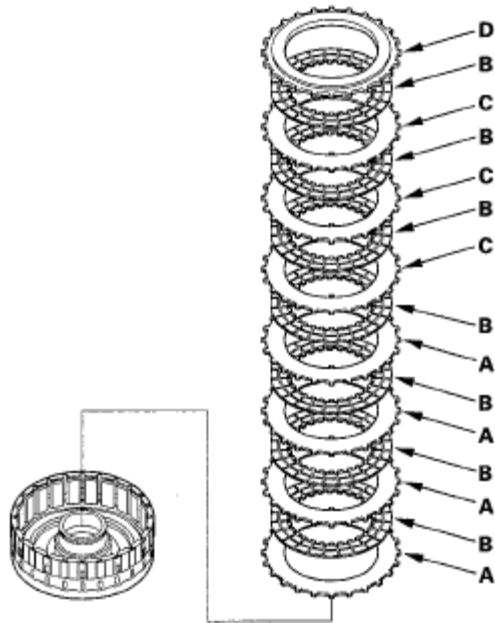


Fig. 568: Installing 2nd Clutch Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the disc spring (A) in the 3rd clutch drum (B) in the direction shown. Starting with the 3rd clutch flat-plate, alternately install the flat-plates (C) (3) and discs (D) (3), and alternately install the wave-plates (E) (2) and discs (D) (2). Install the clutch end-plate (F) with the flat side down on the top disc.

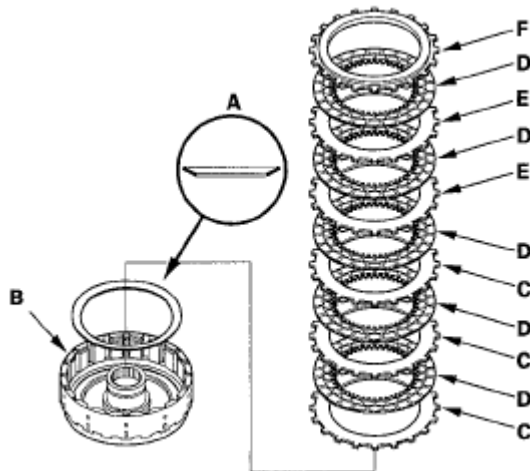


Fig. 569: Installing 3rd Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install the disc spring (A) in the 4th clutch drum (B) in the direction shown. Starting with the 4th clutch flat-plate, alternately install the flat-plates (C) (2) and discs (D) (2), and alternately install the wave-plates (E) (2) and discs (D) (2). Install the clutch end-plate (F) with the flat side down on the top disc.

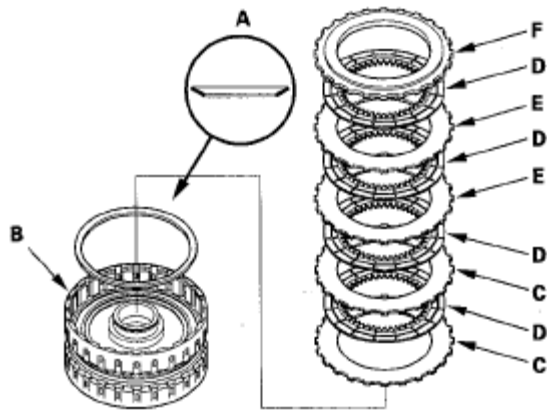


Fig. 570: Installing 4th Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Install the disc spring (A) in the 5th clutch drum (B) in the direction shown. Starting with the 5th clutch flat-plate, alternately install the flat-plates (C) (3) and discs (D) (3), and alternately install the wave-plates (E) (2) and discs (D) (2). Install the clutch end-plate (F) with the flat side down on the top disc.

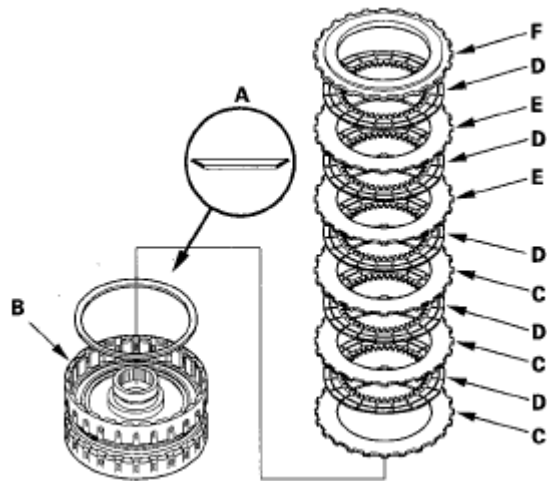


Fig. 571: Installing 5th Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Install the snap ring with a screwdriver to secure the clutch end-plate.

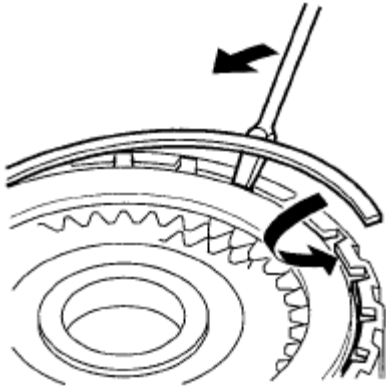


Fig. 572: Installing Clutch End-Plate Snap Ring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Set a dial indicator (A) on the clutch end-plate (B). A

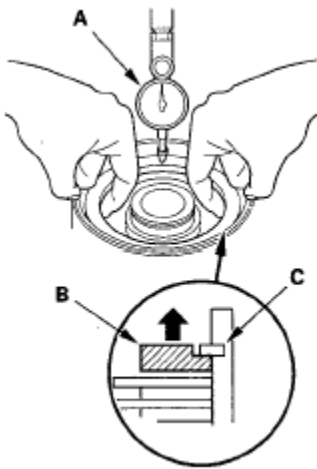


Fig. 573: Setting Dial Indicator On Clutch End-Plate
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Zero the dial indicator with the clutch end-plate lifted up to the snap ring (C).
15. Release the clutch end-plate to lower it, then put the clutch compressor attachment on the end-plate (A).

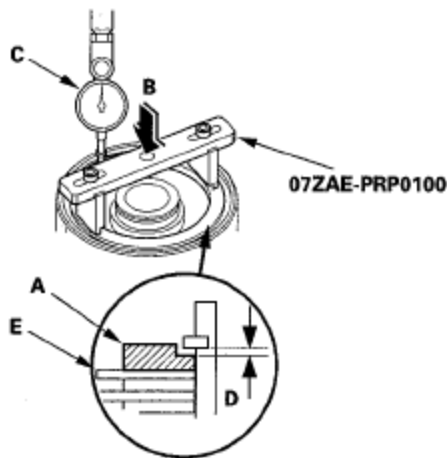


Fig. 574: Measuring Clearance Between Clutch End-Plate And Top Disc
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Press the clutch compressor attachment down with 150-160 N (15-16 kgf, 33-35 lbf) (B) using a force gauge, and read the dial indicator (C). The dial indicator reads the clearance (D) between the clutch end-plate and top disc (E). Take measurements in at least three places, and use the average as the actual clearance.

Clearance between Clutch End-plate and Top Disc Service Limit:

1st Clutch: 1.20-1.35 mm (0.047-0.053 in.)

2nd Clutch: 1.10-1.25 mm (0.043-0.049 in.)

3rd Clutch: 0.85-1.00 mm (0.033-0.039 in.)

4th Clutch: 0.75-0.90 mm (0.030-0.035 in.)

5th Clutch: 0.80-0.95 mm (0.031-0.037 in.)

17. If the clearance is out of the service limit, select a new clutch end-plate from the following table.



Fig. 575: Identifying Clutch Plate Clearance
Courtesy of AMERICAN HONDA MOTOR CO., INC.

1ST CLUTCH END-PLATES

1ST CLUTCH END-PLATES THICKNESS SPECIFICATIONS

Plate No.	Part Number	Thickness
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2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

1	22551-RDK-003	3.1 mm (0.122 in.)
2	22552-RDK-003	3.2 mm (0.126 in.)
3	22553-RDK-003	3.3 mm (0.130 in.)
4	22554-RDK-003	3.4 mm (0.134 in.)
5	22555-RDK-003	3.5 mm (0.138 in.)
6	22556-RDK-003	3.6 mm (0.142 in.)
7	22557-RDK-003	3.7 mm (0.146 in.)
8	22558-RDK-003	3.8 mm (0.150 in.)
9	22559-RDK-003	3.9 mm (0.154 in.)

2ND CLUTCH END-PLATES**2ND CLUTCH END-PLATES THICKNESS SPECIFICATIONS**

Plate No.	Part Number	Thickness
1	22561-RDK-003	2.1 mm (0.083 in.)
2	22562-RDK-003	2.2 mm (0.087 in.)
3	22563-RDK-003	2.3 mm (0.091 in.)
4	22564-RDK-003	2.4 mm (0.094 in.)
5	22565-RDK-003	2.5 mm (0.098 in.)
6	22566-RDK-003	2.6 mm (0.102 in.)
7	22567-RDK-003	2.7 mm (0.106 in.)
8	22568-RDK-003	2.8 mm (0.110 in.)
9	22569-RDK-003	2.9 mm (0.114 in.)

3RD CLUTCH END-PLATES**3RD CLUTCH END-PLATES THICKNESS SPECIFICATIONS**

Plate No.	Part Number	Thickness
1	22591-RDK-A01	2.1 mm (0.083 in.)
2	22592-RDK-A01	2.2 mm (0.087 in.)
3	22593-RDK-A01	2.3 mm (0.091 in.)
4	22594-RDK-A01	2.4 mm (0.094 in.)
5	22595-RDK-A01	2.5 mm (0.098 in.)
6	22596-RDK-A01	2.6 mm (0.102 in.)
7	22597-RDK-A01	2.7 mm (0.106 in.)
8	22598-RDK-A01	2.8 mm (0.110 in.)
9	22599-RDK-A01	2.9 mm (0.114 in.)

4TH and 5TH CLUTCH END-PLATES**4TH AND 5TH CLUTCH END-PLATES THICKNESS SPECIFICATIONS**

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2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

Plate No.	Part Number	Thickness
1	22571-RJB-003	2.1 mm (0.083 in.)
2	22572-RJB-003	2.2 mm (0.087 in.)
3	22573-RJB-003	2.3 mm (0.091 in.)
4	22574-RJB-003	2.4 mm (0.094 in.)
5	22575-RJB-003	2.5 mm (0.098 in.)
6	22576-RJB-003	2.6 mm (0.102 in.)
7	22577-RJB-003	2.7 mm (0.106 in.)
8	22578-RJB-003	2.8 mm (0.110 in.)
9	22579-RJB-003	2.9 mm (0.114 in.)

18. Install the new clutch end-plate, and recheck the clearance. If the thickest clutch end-plate is installed, but the clearance is still over the service limit, replace the clutch discs and plates.

CLUTCH REASSEMBLY

Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
 - Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A
1. Soak the clutch discs thoroughly in ATF for a minimum of 30 minutes.
 2. Install the new O-rings (A) on the 1st-hold clutch piston (B), and install the 1st-hold clutch piston in the 1st clutch piston (C).

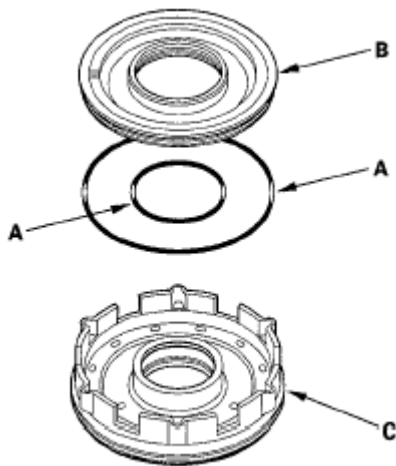


Fig. 576: Identifying O-Rings, 1st-Hold Clutch Piston And 1st Clutch Piston
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the new O-rings (A) on the 1st clutch piston (B), and install the 1st/1st-hold clutch piston in the 1st/1st-hold clutch drum (C) while applying pressure and rotating to ensure proper seating. Do not pinch the O-ring.

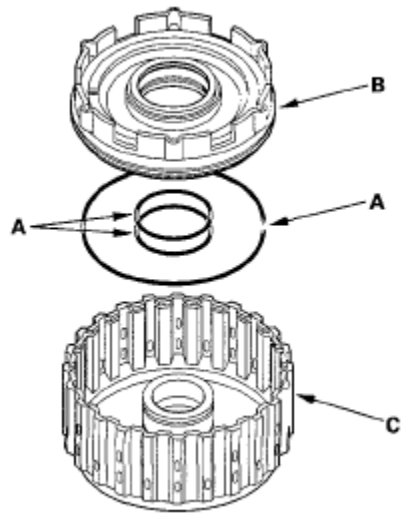


Fig. 577: Identifying 1st Clutch Piston, 1st/1st-Hold Clutch Drum And O-Rings
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the O-rings (A) on the 2nd, 3rd, 4th, and 5th clutch piston (B).

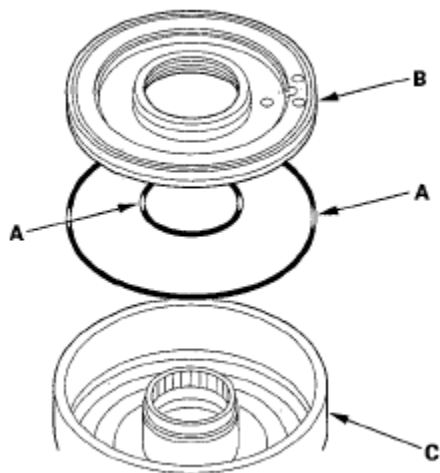


Fig. 578: Identifying O-Rings, Clutch Piston And Clutch Drums
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the clutch pistons in the clutch drums (C) while applying pressure and rotating to ensure proper seating. Do not pinch the O-ring.
6. Install the return spring (A) and spring retainer (B) of the 1st, 2nd, 3rd, and 4th clutches, and position the snap ring (C) on the spring retainer.

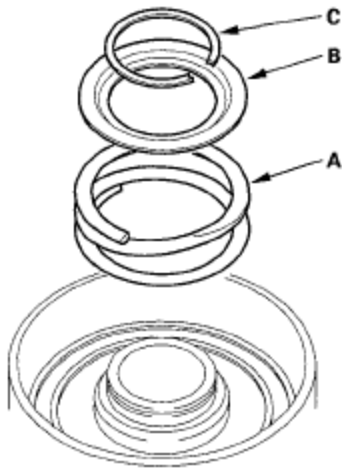


Fig. 579: Identifying Return Spring, Spring Retainer And Snap Ring
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the 5th clutch return spring (A) on the clutch piston while positioning the spring end (B) in the range (C) of the reference marks (D) on the piston.

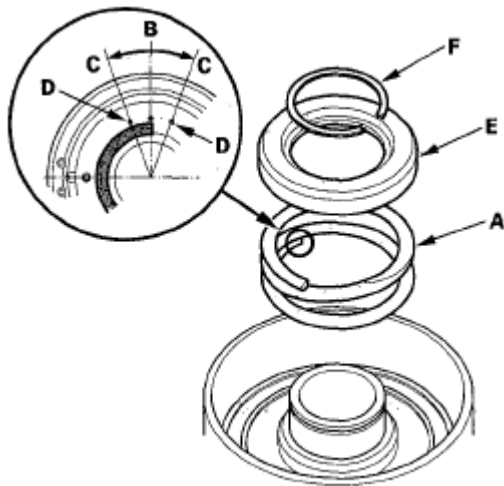


Fig. 580: Identifying 5th Clutch Return Spring Mark Reference
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the spring retainer (E) on the return spring, and position the snap ring (F) on the retainer.
9. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.

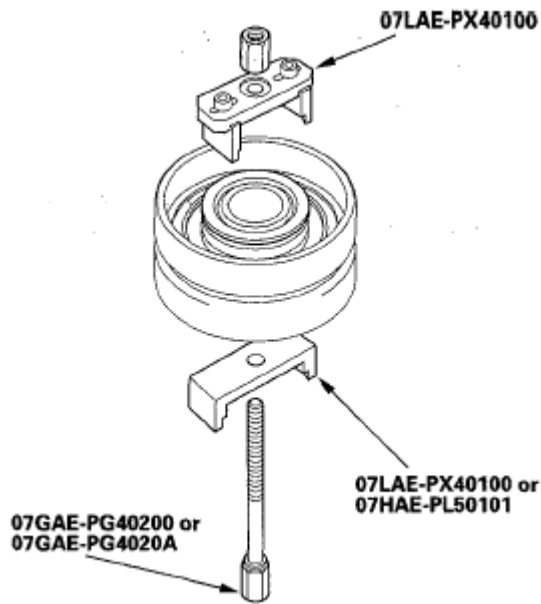


Fig. 581: Identifying Clutch Spring Compressor Attachment
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Be sure the clutch spring compressor attachment (A) is adjusted to have full contact with the spring retainer (B) on the 1st, 2nd, and 4th clutches.

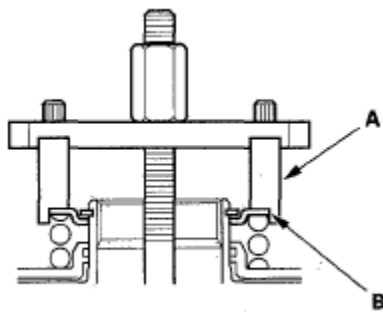


Fig. 582: Identifying Clutch Spring Compressor Attachment And Spring Retainer
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. If either end of the clutch spring compressor attachment is set over an area of the spring retainer that is unsupported by the return spring, the retainer may be damaged.

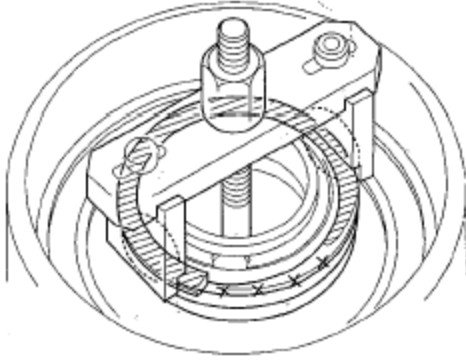


Fig. 583: Identifying Clutch Spring Compressor Attachment Position
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Set the clutch spring compressor attachment (A) on the spring retainer (B) of the 3rd and 5th clutches so the clutch spring compressor attachment works on the clutch return spring (C).

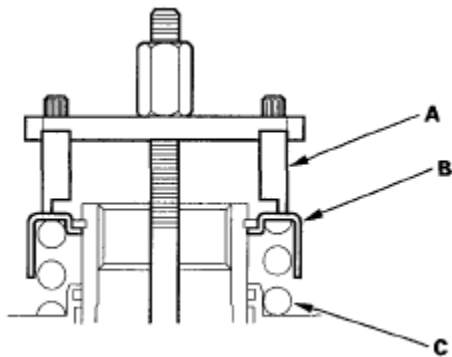


Fig. 584: Identifying Identifying Clutch Spring Compressor Attachment, Spring Retainer And Clutch Return Spring
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. If either end of the clutch spring compressor attachment is not set over the clutch return spring end (A), the retainer may be damaged.

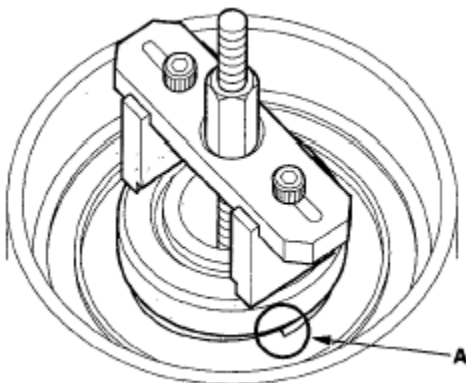


Fig. 585: Identifying Clutch Return Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Compress the return spring until the snap ring can be installed.

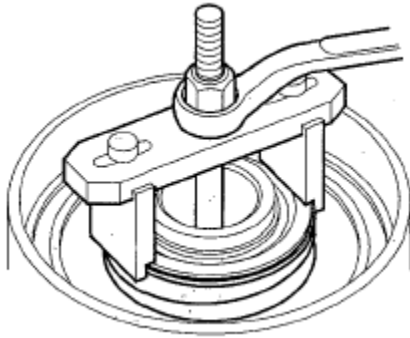


Fig. 586: Compressing Return Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Install the snap ring with the snap ring pliers.

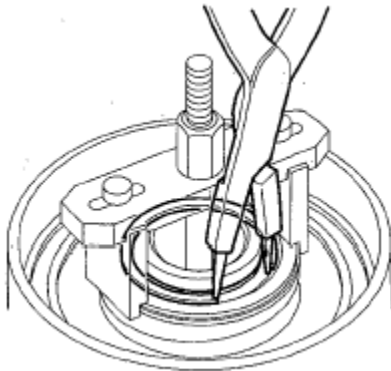


Fig. 587: Installing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Remove the clutch spring compressor attachment and the clutch spring compressor bolt assembly.
17. Starting with the 1st-hold clutch wave-plate, alternately install the wave-plates (A) (3) and discs (B) (3) in the 1st/1st-hold clutch drum (C), then install 1st-hold clutch plate B (D) with the flat side down in the direction shown.

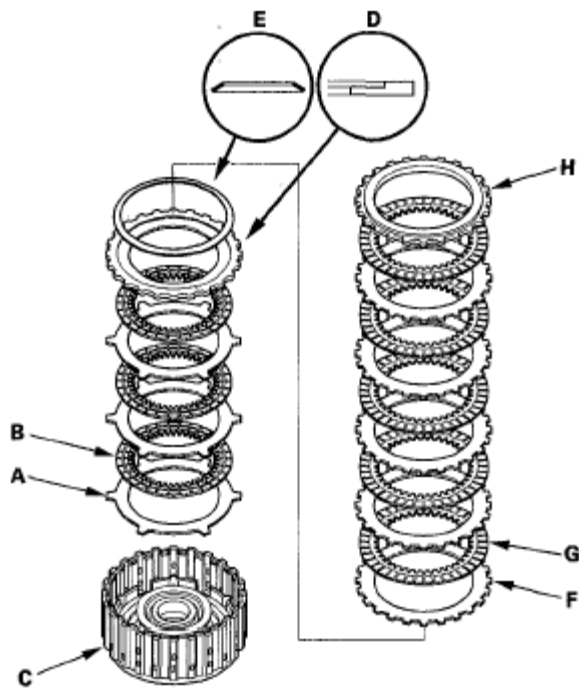


Fig. 588: Assembling 1st/1st-Hold Clutch Drum Wave-Plates And Discs
Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Install the disc spring (E) on 1st-hold clutch plate B in the direction shown. Starting with the 1st clutch wave-plate, alternately install the wave-plates (F) (5) and discs (G) (5), then install the clutch end-plate (H) with the flat side down on the top disc.
19. Starting with the 2nd clutch flat-plate, alternately install the flat-plates (A) (4) and discs (B) (4) in the 2nd clutch drum (C), and alternately install the wave-plates (D) (3) and discs (B) (3). Install the clutch end-plate (E) with the flat side down on the top disc.

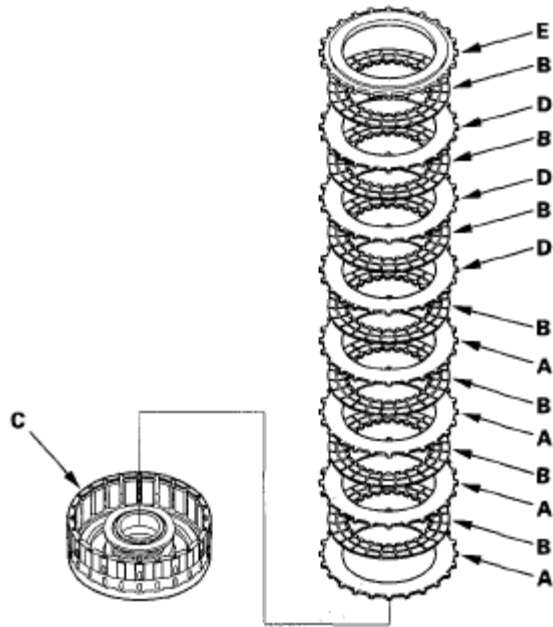


Fig. 589: Assembling 2nd Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Install the disc spring (A) in the 3rd clutch drum (B) in the direction shown. Starting with the 3rd clutch flat-plate, alternately install the flat-plates (C) (3) and discs (D) (3), and alternately install the wave-plates (E) (2) and discs (D) (2). Install the clutch end-plate (F) with the flat side down on the top disc.

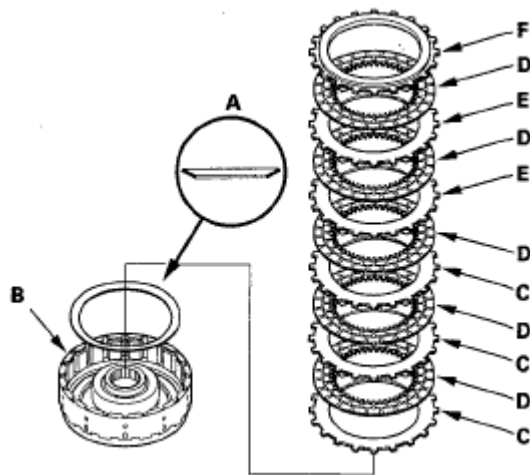


Fig. 590: Assembling 3rd Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Install the disc spring (A) in the 4th clutch drum (B) in the direction shown. Starting with the 4th clutch flat-plate, alternately install the flat-plates (C) (2) and discs (D) (2), and alternately install the wave-plates (E) (2) and discs (D) (2). Install the clutch end-plate (F) with the flat side down on the top disc.

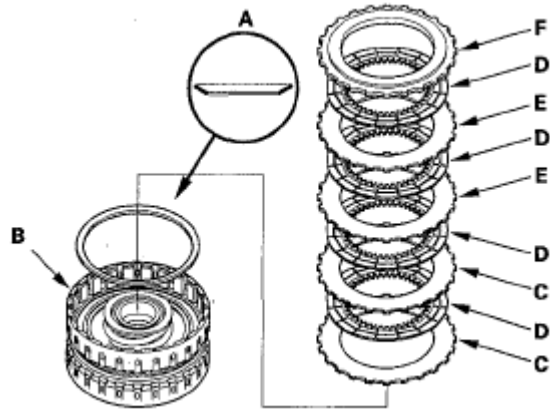


Fig. 591: Assembling 4th Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Install the disc spring (A) in the 5th clutch drum (B) in the direction shown. Starting with the 5th clutch flat-plate, alternately install the flat-plates (C) (3) and discs (D) (3), and alternately install the wave-plates (E) (2) and discs (D) (2). Install the clutch end-plate (F) with the flat side down on the top disc.

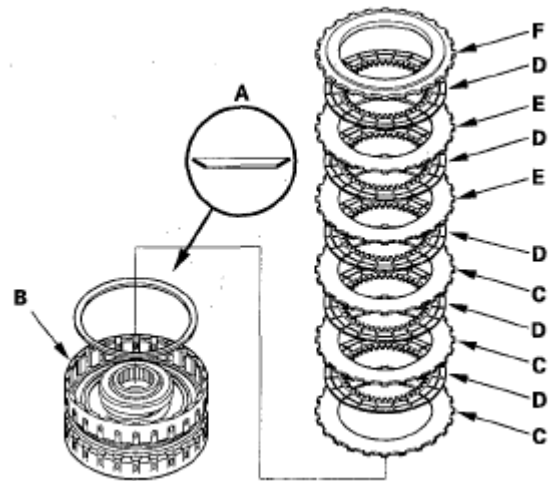


Fig. 592: Assembling 5th Clutch Drum Flat-Plates And Discs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Install the snap ring with a screwdriver to secure the clutch end-plate.

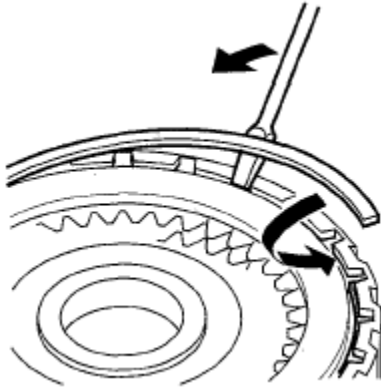


Fig. 593: Installing Clutch End-Plate Snap Ring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

AUTOMATIC TRANSMISSION

TRANSMISSION REASSEMBLY

Exploded View ('05 Model)

2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

Bolt Tightening Torque
 6 x 1.0 mm: 12 N·m (1.2 kgf·m, 8.7 lbf·ft)
 8 x 1.25 mm: 18 N·m (1.8 kgf·m, 13 lbf·ft)

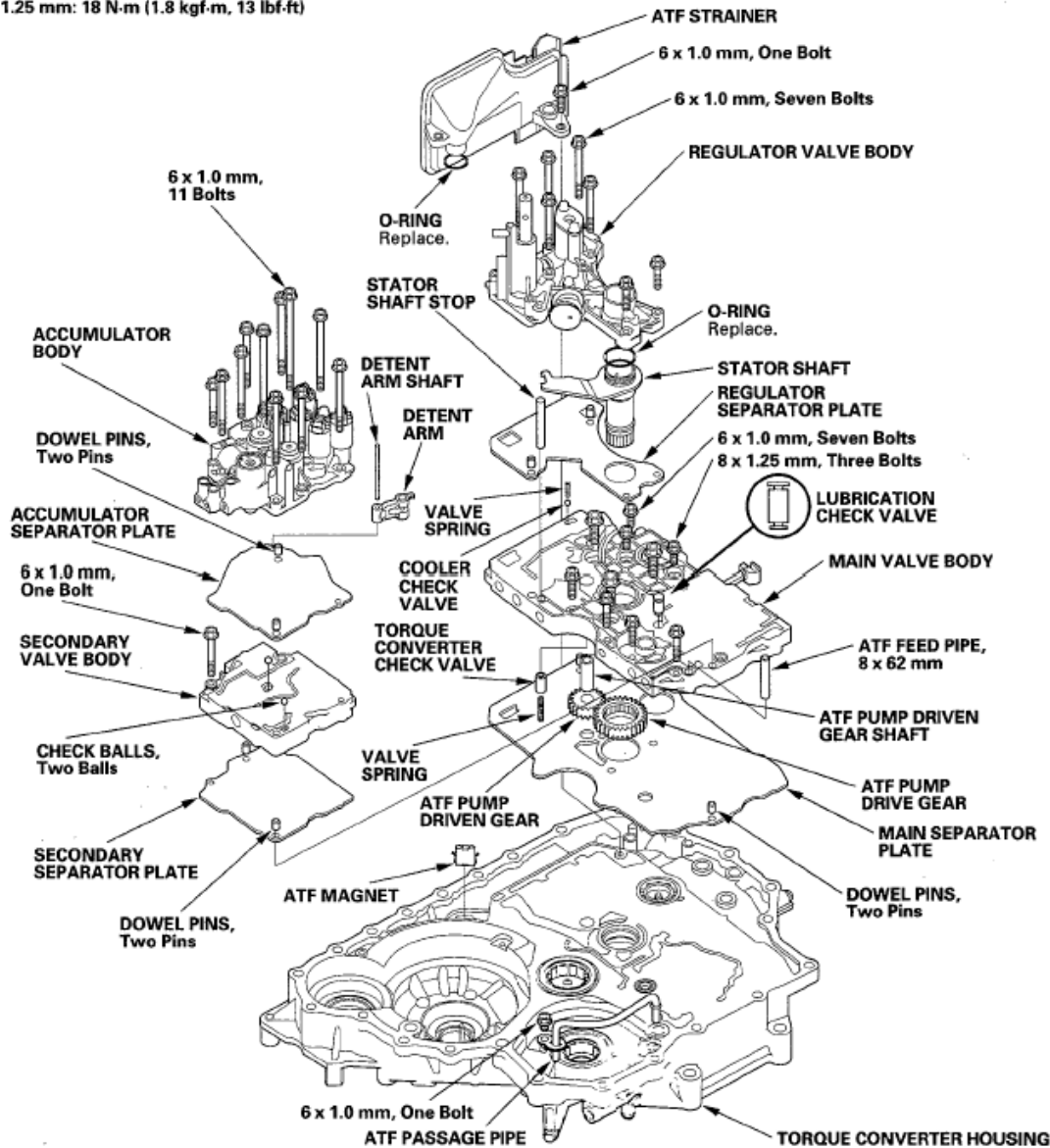


Fig. 594: Exploded View Of Automatic Transmission (05 Model) With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Exploded View ('06-08 Models)

Bolt Tightening Torque
 6 x 1.0 mm: 12 N·m (1.2 kgf-m, 8.7 lbf-ft)
 8 x 1.25 mm: 18 N·m (1.8 kgf-m, 13 lbf-ft)

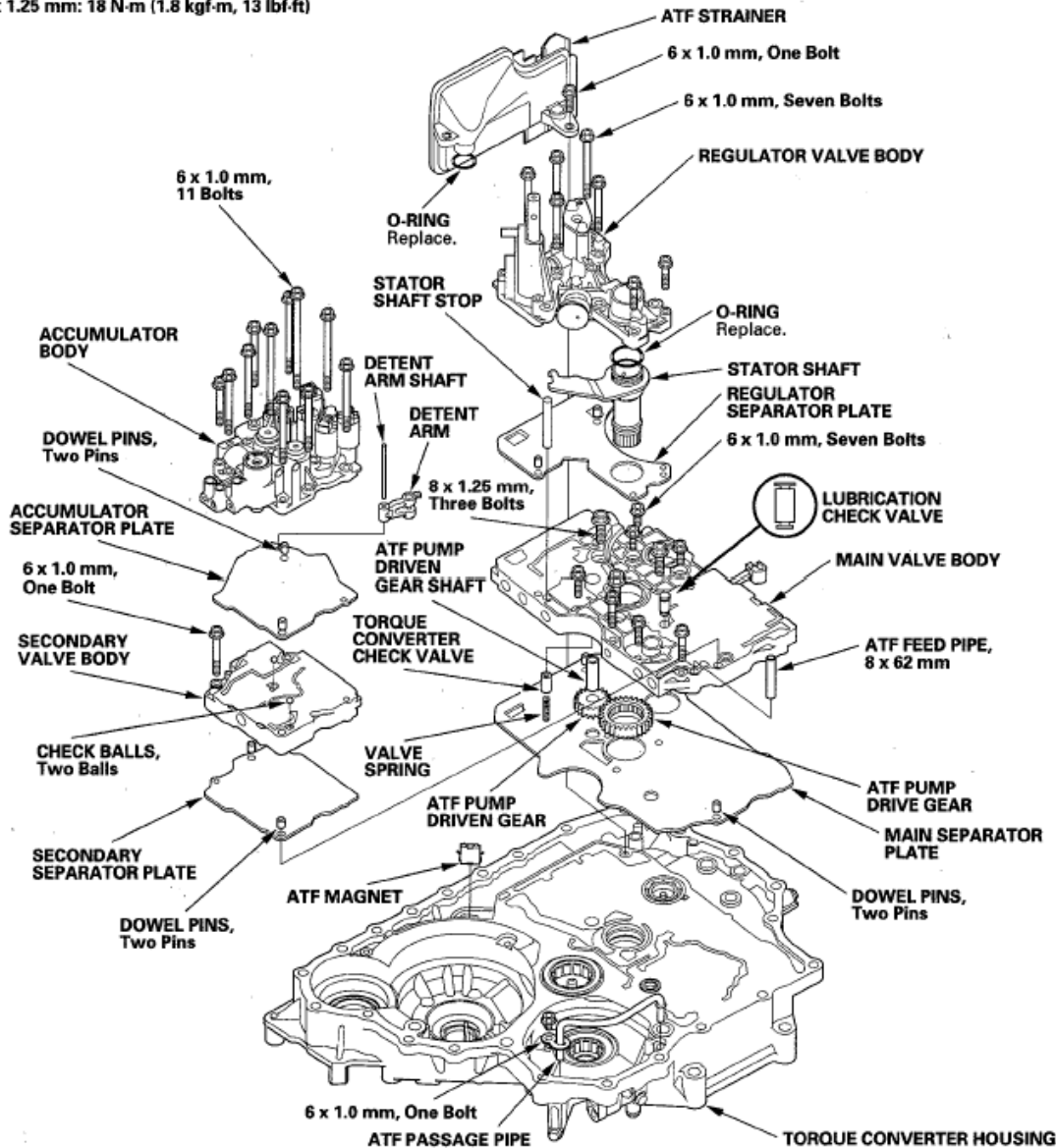


Fig. 595: Exploded View Of Automatic Transmission (06-08 Model) With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Special Tools Required

Mainshaft holder 07GAB-PF50101 or 07PAB-0010000

1. Make sure that the ATF magnet is cleaned and installed in the torque converter housing. Clean and install the ATF magnet, if necessary.
2. Install the main separator plate and the two dowel pins on the torque converter housing. Then install the ATF pump drive gear (A), driven gear (B), and ATF pump driven gear shaft (C). Install the ATF pump driven gear with its grooved and chamfered side facing down.

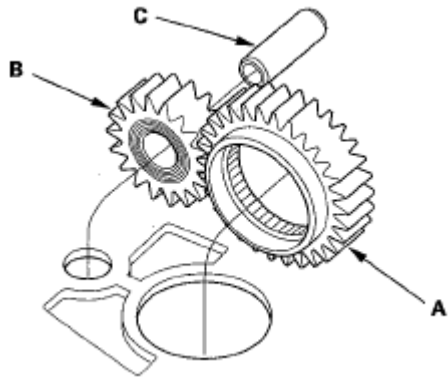


Fig. 596: Identifying ATF Pump Drive Gear, Driven Gear And ATF Pump Driven Gear Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the torque converter check valve spring and valve in the torque converter housing.
4. Install the main valve body (seven 6 mm bolt and three 8 mm bolts). Make sure the ATF pump drive gear (A) rotates smoothly in the normal operating direction, and the ATF pump driven gear shaft (C) moves smoothly in the axial and normal operating direction.

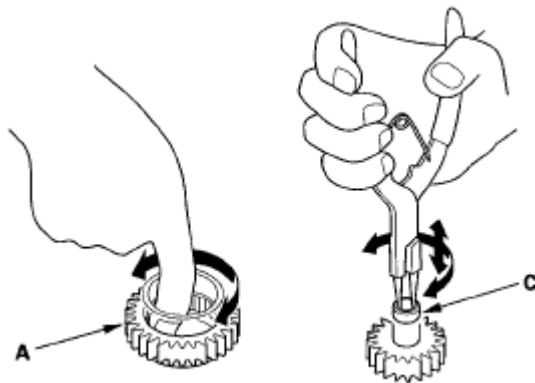


Fig. 597: Checking ATF Pump Drive And Driven Gear
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If the ATF pump drive gear and ATF pump driven gear shaft do not move smoothly, loosen the main valve body bolts. Realign the ATF pump driven gear shaft, and retighten the bolts to the specified torques, then recheck. Failure to align the ATF pump driven gear shaft correctly will result in a seized ATF pump drive gear or ATF pump driven gear shaft.
6. Install the lubrication check valve in the main valve body, in the direction shown in the exploded view; and for '05 model, install the cooler check valve (ball) and the valve spring in the main valve body.
7. Install the secondary separator plate and the two dowel pins on the main valve body, and install the secondary valve body (one bolt).
8. Install the three check balls and choke in the secondary valve body.
9. Install the accumulator separator plate and two dowel pins on the secondary valve body.
10. Position the detent arm on the accumulator separator plate, and install the detent arm shaft into the detent

arm through the separator plates to the main valve body.

11. Install the 8 x 62 mm ATF feed pipe in the main valve body, and install the accumulator body (11 bolts).
12. Install the regulator separator plate and two dowel pins on the main valve body.
13. Install the stator shaft with the new O-ring, and install the regulator valve body (eight bolts).
14. Install the stator shaft stop in the main valve body.
15. Install the ATF strainer with the new O-ring (two bolts).
16. Install the ATF passage pipe (one bolt) in the torque converter housing.
17. Install the intermediary shaft (A) into the main valve body, and install the 26.5 mm washer (B) on the top of the intermediary shaft.

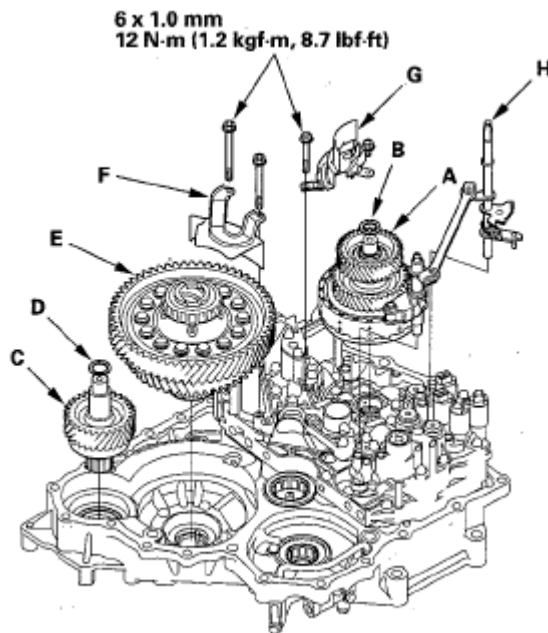


Fig. 598: Identifying Intermediary Shaft, Transfer Output Shaft And Differential Assembly With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. Install the transfer output shaft (C) in the torque converter housing, and install the thrust shim (D) on the top of the transfer output shaft.
19. Install the differential assembly (E) in the torque converter housing.
20. Install the baffle plate (F), and make sure if the differential is clear of the baffle plate.
21. Install the baffle plate (G), and make sure if the intermediary shaft is clear of the baffle plate.
22. Install the selector control shaft and the park lever link(H).
23. Assemble the mainshaft, countershaft, and secondary shaft.
24. Install the needle bearing (A) on the secondary shaft roller bearing in the torque converter housing.

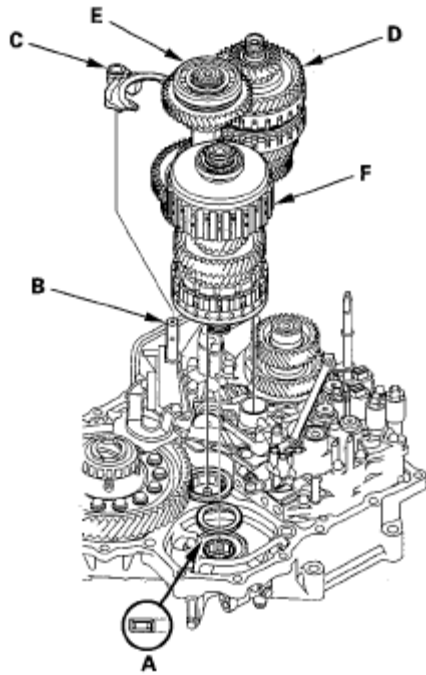


Fig. 599: Identifying Needle Bearing, Shift Fork Shaft, Secondary Shaft And Mainshaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

25. Turn the shift fork shaft (B) so the large chamfered hole is facing the fork bolt hole of the shift fork.
26. Engage the shift fork (C) with the reverse selector on the countershaft, and join the mainshaft (D), countershaft (E), and secondary shaft (F), then install them in the torque converter housing and shift fork on the shift fork shaft.
27. Secure the shift fork (A) to the shift fork shaft with the lock bolt and the new lock washer (B), then bend the lock tab of the lock washer against the bolt head.

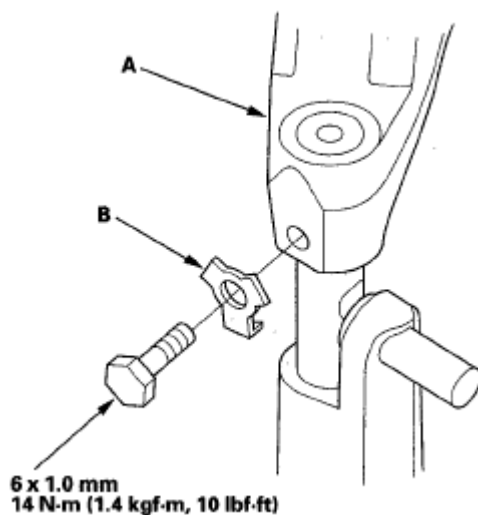


Fig. 600: Identifying Shift Fork, Shift Fork Shaft And Lock Washer With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

28. Install the park pawl shaft (A), pawl spring (B), park pawl (C), and park pawl stop (D).

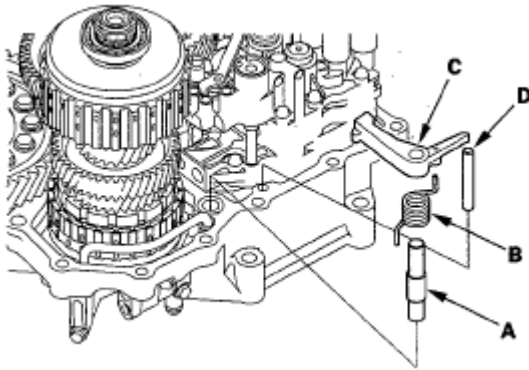


Fig. 601: Identifying Park Pawl Shaft, Pawl Spring, Park Pawl And Park Pawl Stop
Courtesy of AMERICAN HONDA MOTOR CO., INC.

29. Align the control lever pin with the manual valve guide.

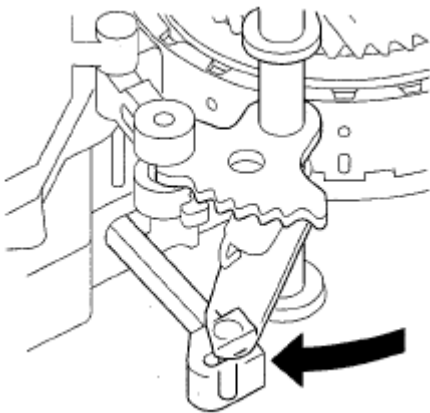


Fig. 602: Aligning Control Lever Pin With Manual Valve Guide
Courtesy of AMERICAN HONDA MOTOR CO., INC.

30. Hook the detent arm spring to the detent arm.

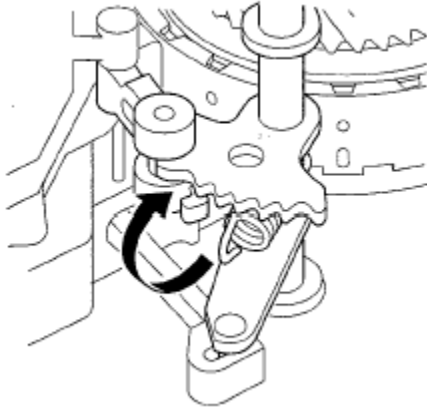


Fig. 603: Hooking Detent Arm Spring To Detent Arm
Courtesy of AMERICAN HONDA MOTOR CO., INC.

31. Install the 8 x 85 mm ATF feed pipe (A), 8 x 151.5 mm pipes (B), and 8 x 40 mm pipe (C) in the accumulator body.

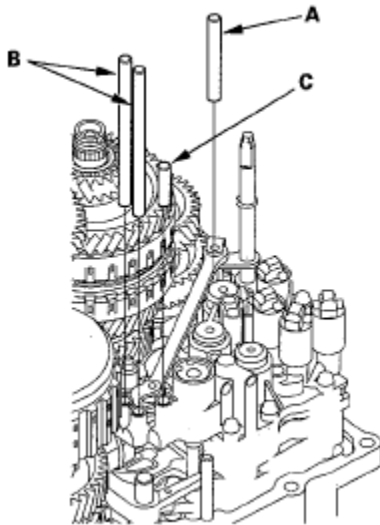


Fig. 604: Identifying ATF Feed Pipes And Accumulator Body
Courtesy of AMERICAN HONDA MOTOR CO., INC.

32. Install the 8 x 57.5 mm ATF feed pipe (A) and 10 x 123 mm pipe (B) in the torque converter housing.

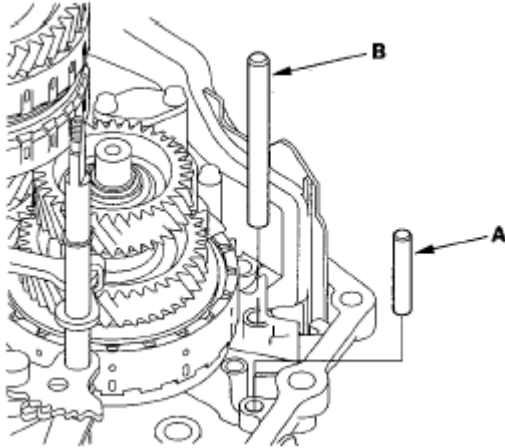


Fig. 605: Identifying ATF Feed Pipes And Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

33. Install the two dowel pins (A) and the new gasket (B) on the torque converter housing (C).

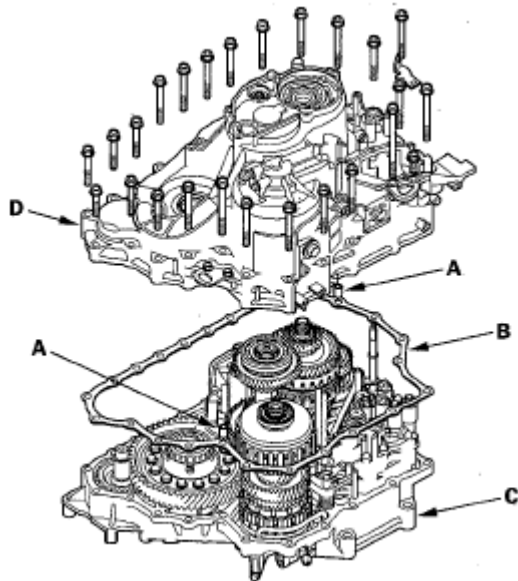


Fig. 606: Identifying Case Dowel Pins And Gasket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

34. Place the transmission housing (D) on the torque converter housing.
35. Wrap a screwdriver tip with tape to prevent damage to the reverse idler gear teeth. Engage the reverse idler gear with reverse gears by rotating the idler gear using the screwdriver.

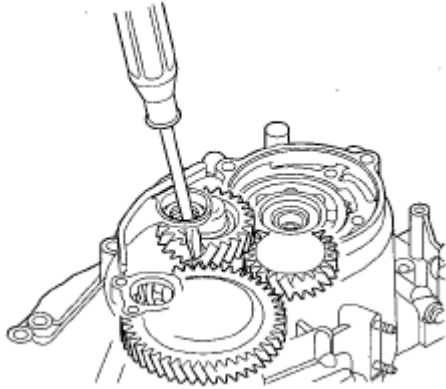


Fig. 607: Rotating Idler Gear Using Screwdriver
Courtesy of AMERICAN HONDA MOTOR CO., INC.

36. While expanding the snap ring of the countershaft bearing with snap ring pliers, install the transmission housing onto the bearing part-way. Then release the snap ring pliers, and push down on the housing until it bottoms and the snap ring snaps into place in the transmission housing snap ring groove.

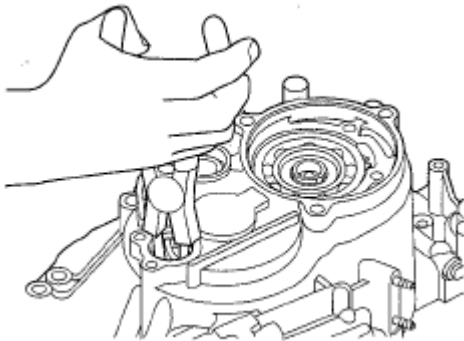


Fig. 608: Installing Transmission Housing Using Expanding Snap Ring Pliers
Courtesy of AMERICAN HONDA MOTOR CO., INC.

37. Install the transmission housing mounting bolts (21 bolts) and the bolt (A) along with the transmission hanger (B) and the transmission ground terminal bracket (C), and tighten the bolts in at least two steps in a criss-cross pattern to 44 N.m (4.5 kgf.m, 33 lbf.ft).

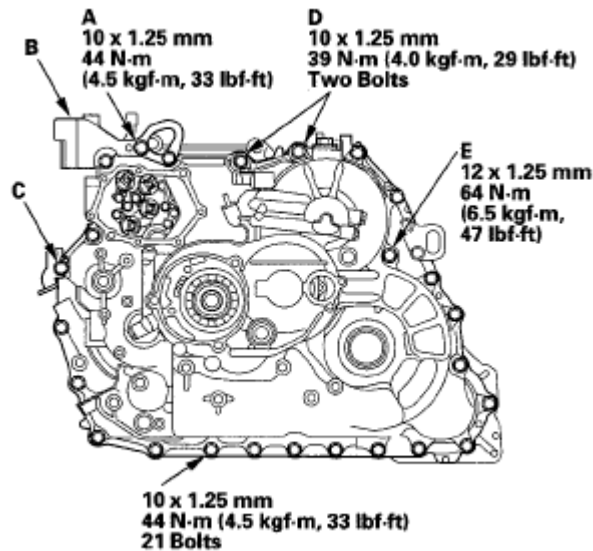


Fig. 609: Identifying Transmission Housing Mounting Bolts, Transmission Hanger And Transmission Ground Terminal Bracket With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

38. Install and tighten the two mounting bolts (D) to 39 N.m (4.0 kgf.m, 29 lbf.ft). Keep the mounting bolts free of grease or oil.
39. Install and tighten the special bolt (E) to 64 N.m (6.5 kgf.m, 47 lbf.ft).
40. Install the mainshaft holder onto the mainshaft

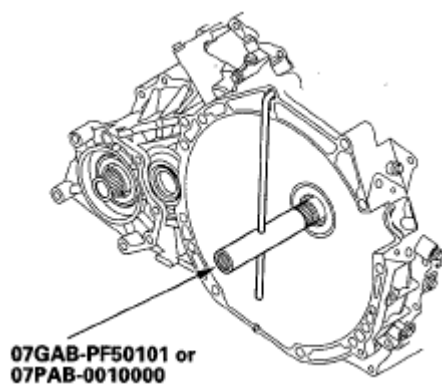


Fig. 610: Identifying Mainshaft Holder On Mainshaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

41. Install the new lock washer (A) with the marked side (B) up over the mainshaft (C), and apply ATF to the surfaces of the lock washer and old locknut (D).

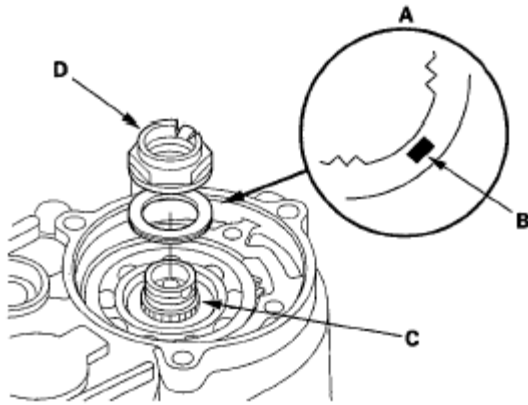


Fig. 611: Identifying Lock Washer Installation Position On Mainshaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

42. Install the old locknut, and tighten it to seat the lock washer to 178 N.m (18.2 kgf.m, 132 lbf.ft), then remove the old locknut.
43. Install the new locknut and tighten it to 176 N.m (18.2 kgf.m, 132 lbf.ft), then stake the locknut into its shaft to a depth (A) of 0.7-1.3 mm (0.03-0.05 in.) using a 3.5 mm punch (B).

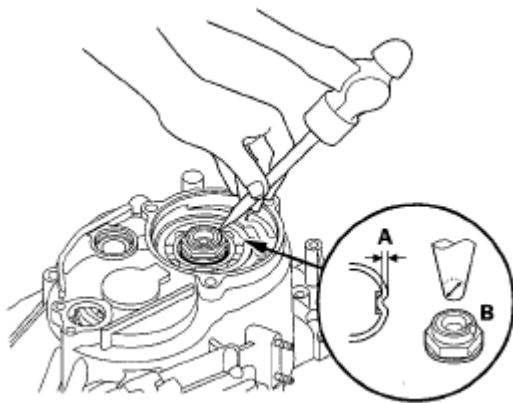


Fig. 612: Staking The Locknut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

44. Install the end cover (A), dowel pin (B), and new O-ring (C).

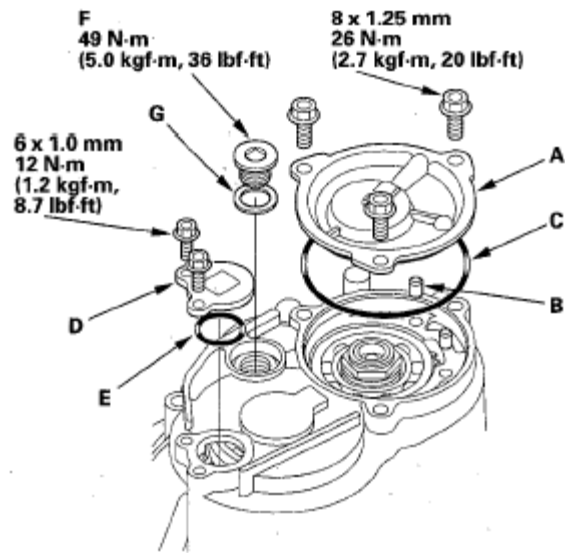


Fig. 613: Identifying O-Ring, Dowel Pin, And End Cover With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

45. Install the snap ring cap (D) with the new O-ring (E).
46. Apply thread lock sealant to the threads of the sealing plug (F), and install the sealing plug and the new sealing washer (G).
47. Install the new O-ring (E) on the solenoid harness connector (F).

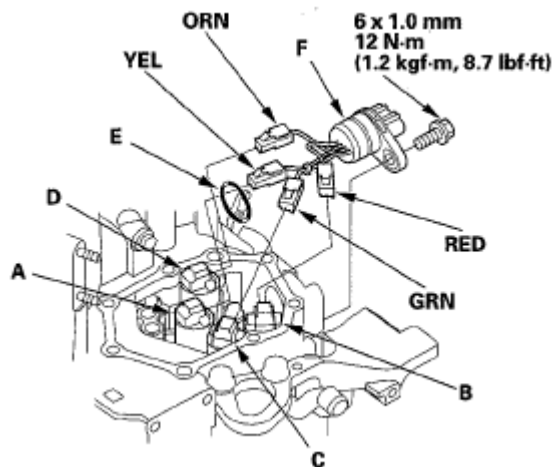


Fig. 614: Identifying O-ring and Solenoid With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

48. Route the solenoid harness through the transmission housing, and install the solenoid harness connector.
49. Connect the harness terminals to the solenoid:
 - GRN wire connector to shift solenoid valve C.
 - YEL wire connector to shift solenoid valve A.

- RED wire connector to shift solenoid valve B.
 - ORN wire connector to shift solenoid valve D.
50. Secure the solenoid harness connector with the bolt on the transmission housing.
 51. Install the solenoid valve cover (A) with the two dowel pins (B) and the new gasket (C), and secure it with the seven bolts.

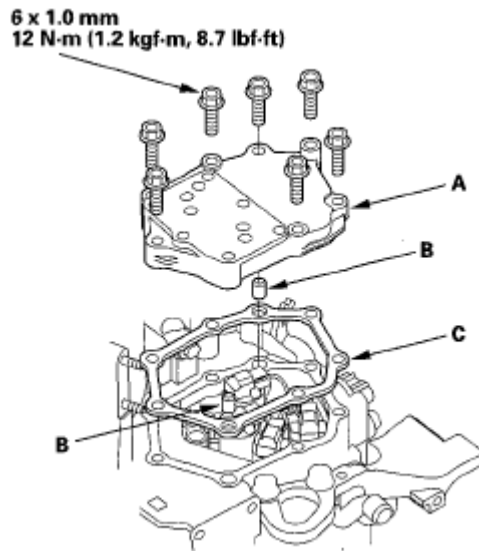


Fig. 615: Identifying Dowel Pins, Gasket And Solenoid Valve Cover With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

52. Place the new gasket (A) on the solenoid valve cover, then install the 8 x 105.8 mm ATF feed pipe (B) and 8 x 58.3 mm pipes (C) with their filter side into the transmission housing.

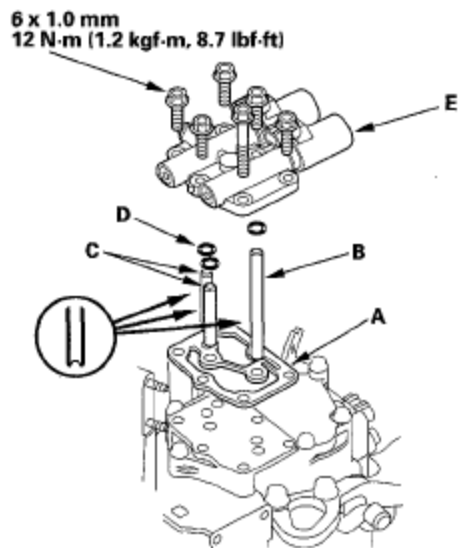


Fig. 616: Identifying Gasket And ATF Feed Pipe With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

53. Install the new O-rings (D) over the ATF feed pipes, and install A/T clutch pressure control solenoid valves A and B (E).
54. Install the 8 x 53 mm ATF joint pipe (A) with the filter side into its mounting hole (B).

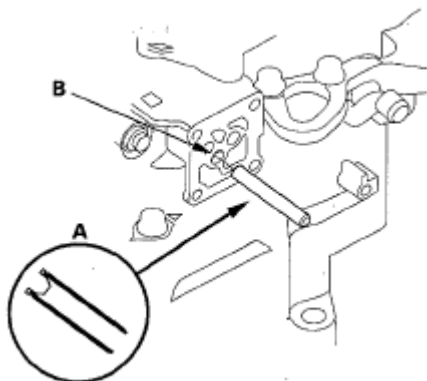


Fig. 617: Identifying ATF Feed Pipe

Courtesy of AMERICAN HONDA MOTOR CO., INC.

55. Check the height (A) of the 8 x 53 mm ATF joint pipe (B) between the top (C) of the pipe and the solenoid valve body mounting surface (D). The height is about 7 mm (0.3 in.). If the height is over 7 mm (0.3 in.), install the pipe securely until it bottoms in the accumulator body.

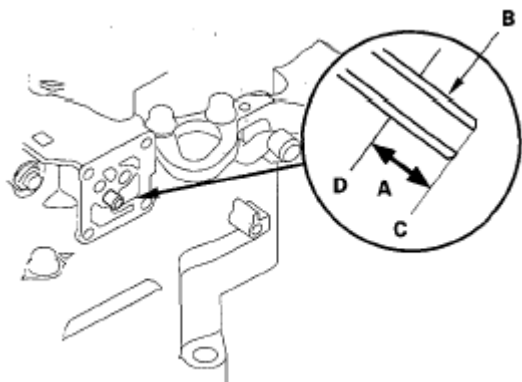


Fig. 618: Identifying ATF Joint Pipe Height

Courtesy of AMERICAN HONDA MOTOR CO., INC.

56. Install the new gasket (A) on the transmission housing. Install the 8 x 34.5 mm ATF pipe (B) with the filter end in the transmission housing, and install the 8 x 25.5 mm ATF pipe (D).

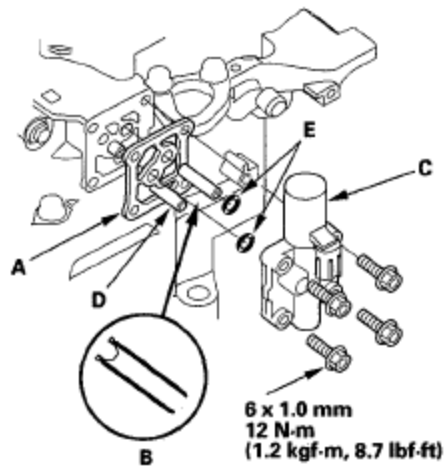


Fig. 619: Identifying ATF Pipes And A/T Clutch Pressure Control Solenoid Valve With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

57. Install new O-rings (E) over the ATF joint pipes.
58. Install A/T clutch pressure control solenoid valve C.
59. With a 6.0 mm wrench, turn the control shaft fully counterclockwise (view from shaft end) to P. Turn the control shaft back two click-stopped positions so that it is in N.

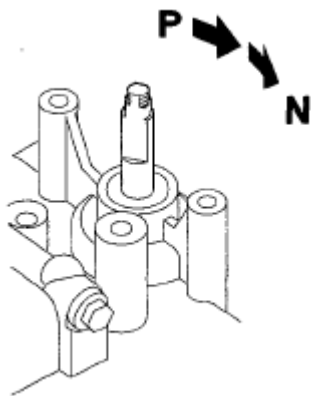


Fig. 620: Identifying Control Shaft Position

Courtesy of AMERICAN HONDA MOTOR CO., INC.

60. Set the transmission range switch (A) to N. The transmission range switch clicks in N, and the selector control shaft hole (B) aligns with the N positioning line (C).

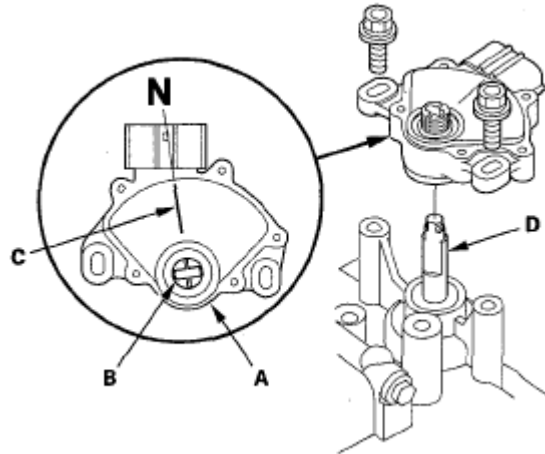


Fig. 621: Aligning Transmission Range Switch Line And Hole
Courtesy of AMERICAN HONDA MOTOR CO., INC.

61. Install the transmission range switch gently over the selector control shaft (D), and install the bolts loosely.
62. Install the new lock washer (A) over the selector control shaft (B) with aligning the projection (C) of the lock washer with the N positioning line (D) on the transmission range switch (E), and install the locknut (F).

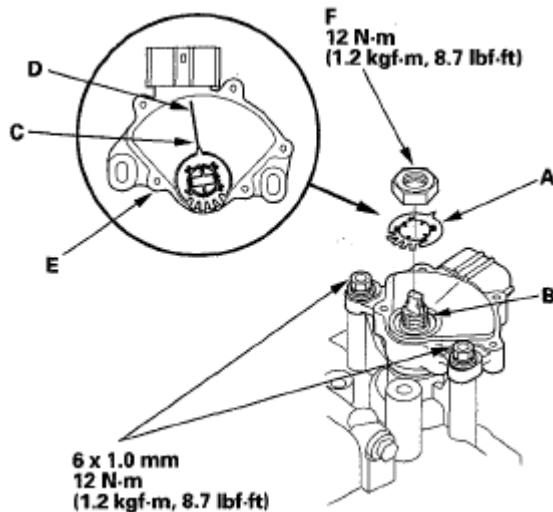


Fig. 622: Installing Transmission Range Switch And Locknut With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

63. Push the locknut against the transmission housing to seat the range switch into the selector control shaft, and tighten the locknut to 12 N.m (1.2 kgf.m, 8.7 lbf.ft) while holding the selector control shaft with a 6 mm wrench. Bend the lock tabs against the locknut.

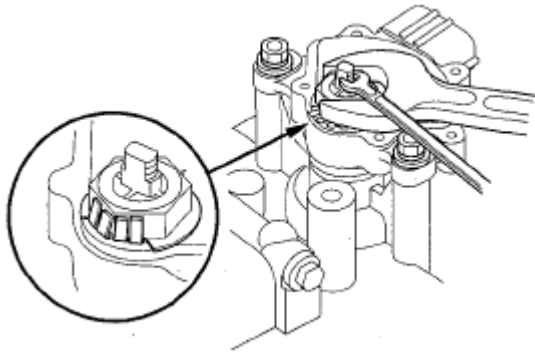


Fig. 623: Tightening Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

64. Tighten the bolts securing the transmission range switch to 12 N.m (1.2 kgf.m, 8.7 lbf.ft).
65. Install the control lever (A), spring washer (B), lock washer (C), and locknut (D) on the selector control shaft (E).

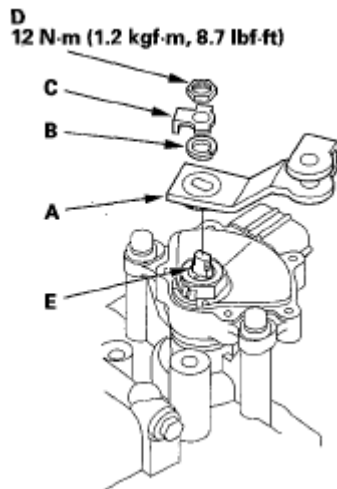


Fig. 624: Installing Transmission Range Switch Control Lever With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

66. Install the new O-ring (A) on the input shaft (mainshaft) speed sensor (B), and install the input shaft (mainshaft) speed sensor and the sensor washer (C).

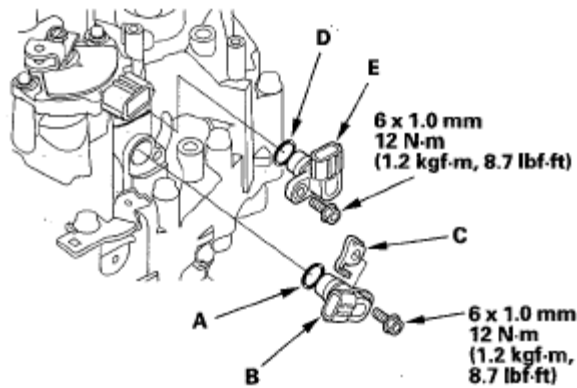


Fig. 625: Installing Input Shaft (Mainshaft) Speed Sensor With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

67. Install the new O-ring (D) on the output shaft (countershaft) speed sensor (E), and install the output shaft (countershaft) speed sensor.
68. Install the 4th clutch transmission fluid pressure switch (A) with the new sealing washer (B). Tighten the switch by gripping the metal part.

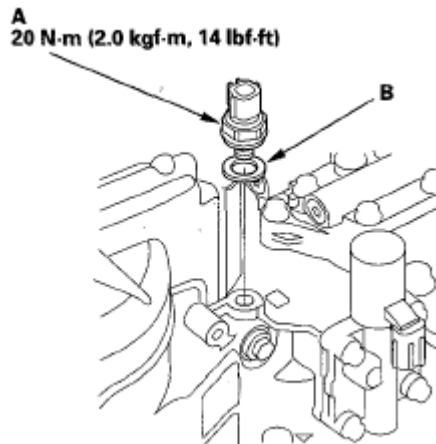


Fig. 626: Identifying 4th Clutch Transmission Fluid Pressure Switch With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

69. Install the 3rd clutch transmission fluid pressure switch (A) with the new sealing washer (B). Tighten the switch by gripping the metal part.

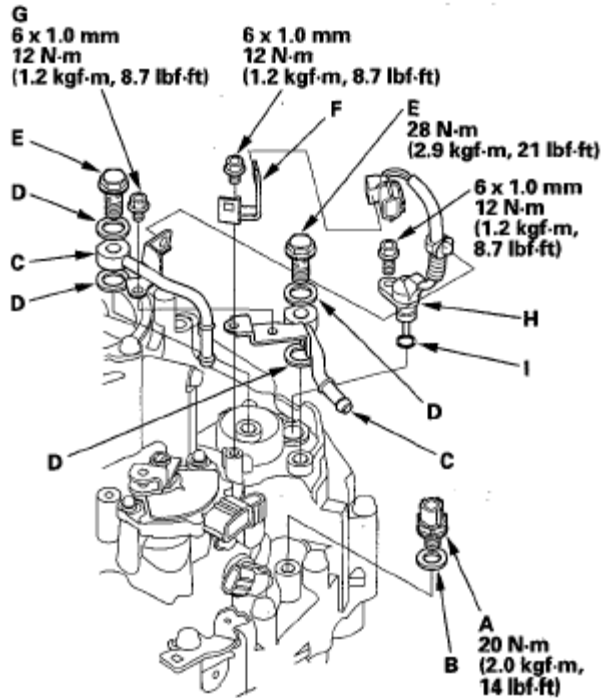


Fig. 627: Identifying Fluid Pressure Switches, ATF Lines, ATF Temperature Sensor With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

70. Install the ATF cooler lines (C) with the new sealing washers (D) and the line bolts (E).
71. Install the connector bracket (F), and secure the ATF lines with the 6.0 mm bolt (G) on the transmission housing. Tighten the bolts to 12 N.m (1.2 kgf.m, 8.7 lbf.ft).
72. Install the ATF temperature sensor (H) with the new O-ring (I). Install the connector on the connector bracket and harness clamp on the bracket.
73. Install the 2nd clutch transmission fluid pressure switch (A) with the new sealing washer (B). Tighten the switch by gripping the metal part.

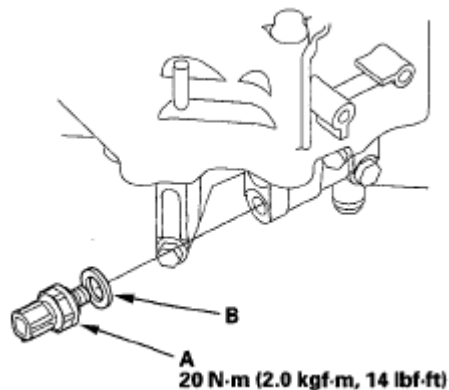


Fig. 628: Identifying 2nd Clutch Transmission Fluid Pressure Switch With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

74. Install the ATF dipstick tube (A) with the new O-ring (B).

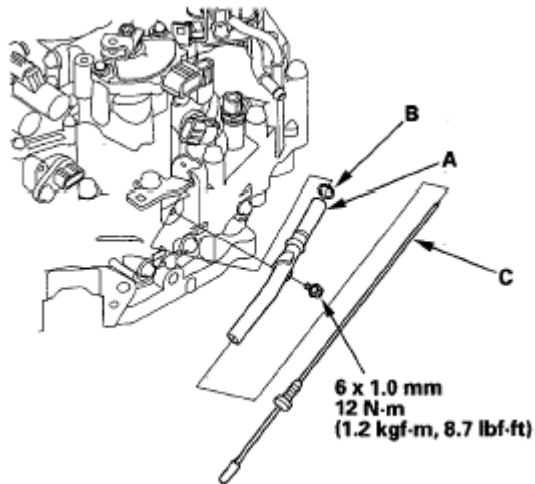


Fig. 629: Identifying ATF Dipstick Tube With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

75. Install the ATF dipstick (C) in its tube.

A/T DIFFERENTIAL

COMPONENT LOCATION INDEX

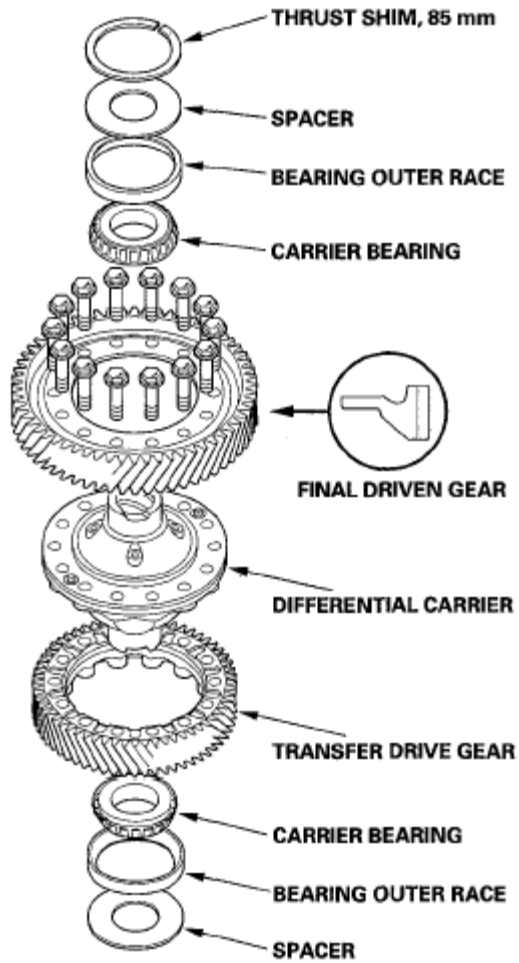


Fig. 630: Exploded View Of A/T Differential
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

BACKLASH INSPECTION

1. Install the driveshaft and intermediate shaft into the differential assembly.
2. Carefully clamp the driveshaft (A) in a vise (B).

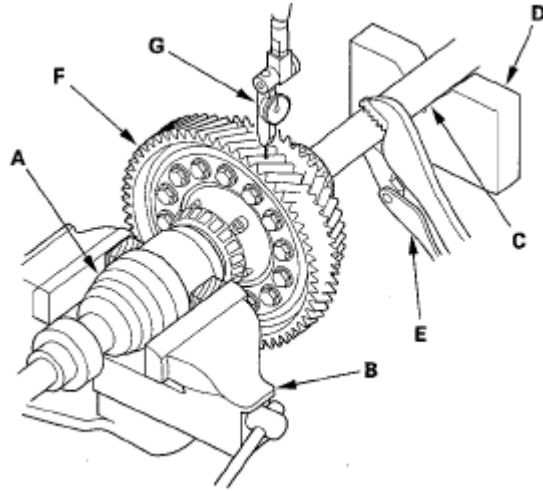


Fig. 631: Measuring Backlash Of Final Driven Gear
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Place the intermediate shaft (C) on a V-block (D), then hold the intermediate shaft with locking pliers (E).
4. Measure backlash of the final driven gear (F) with a dial indicator (G). If the backlash is not within the standard, replace the differential carrier.

Standard (New): 1.2-1.8 mm (0.047-0.071 in.)

DIFFERENTIAL CARRIER, FINAL DRIVEN GEAR, AND TRANSFER DRIVE GEAR REPLACEMENT

NOTE: **Inspect and adjust the bearing preload whenever the carrier is replaced.**

1. Remove the final driven gear (A) and transfer drive gear (B) from the differential carrier (C).

NOTE: **The final driven gear bolts have left-hand threads.**

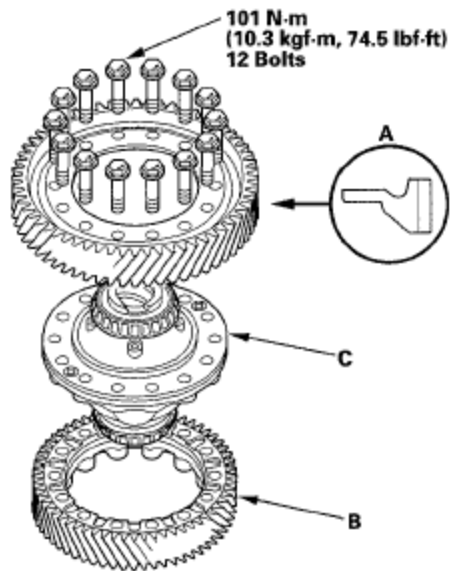


Fig. 632: Identifying Final Driven Gear, Transfer Drive Gear And Differential Carrier With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the final driven gear with the chamfered side on the inner bore facing the differential carrier.
3. Install the bolts through the differential carrier to the transfer drive gear.
4. Tighten the bolts to the specified torque in a crisscross pattern.

CARRIER BEARING REPLACEMENT

Special Tools Required

Attachment, 45 x 55 mm 07MAD-PR90100

NOTE:

- The bearing and outer race should be replaced as a set.
- Inspect and adjust the bearing preload whenever the bearing is replaced.
- Check the bearing for wear and rough rotation. If the bearing is OK, removal is not necessary.

1. Remove the carrier bearing (A) with a commercially available bearing puller (B), bearing separator (C), and stepped adapter (D).

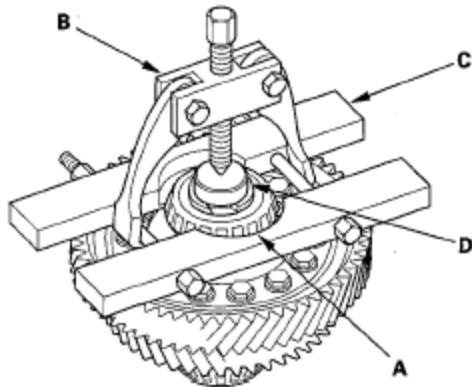


Fig. 633: Removing Carrier Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new carrier bearings using the attachment (45 x 55 mm) and a press.

NOTE:

- Press the bearing on until it bottoms.
- Use the small end of the attachment (45 x 55 mm) to install the bearings.
- Press the bearing on securely so there is no clearance between the bearing and the differential carrier.

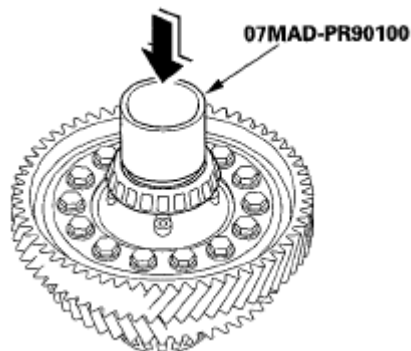


Fig. 634: Pressing Bearing On Differential Carrier
Courtesy of AMERICAN HONDA MOTOR CO., INC.

OIL SEAL REPLACEMENT

Special Tools Required

- Driver 077 49-0010000
- Oil seal driver attachment 07GAD-PG40100
- Oil seal driver attachment 07JAD-PH80101

1. Remove the oil seal from the transmission housing.

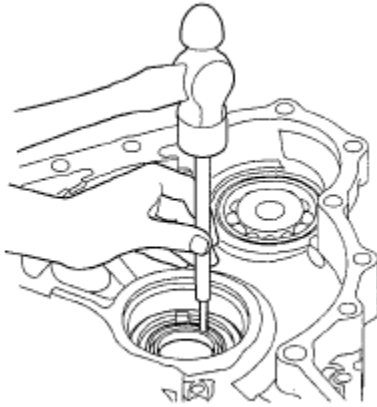


Fig. 635: Removing Oil Seal From Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the oil seal from the torque converter housing.

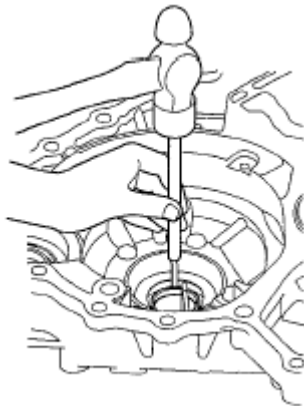


Fig. 636: Removing Oil Seal From Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the new oil seal flush into the transmission housing using the driver and the oil seal driver attachment.

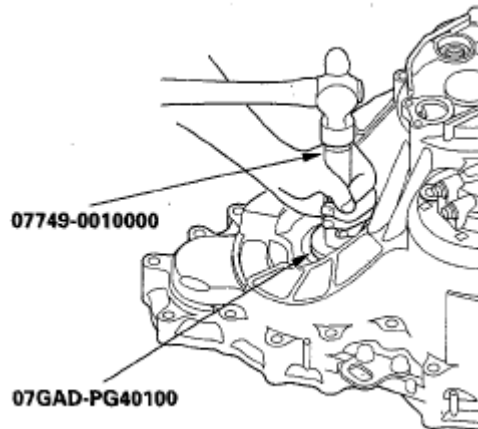


Fig. 637: Tapping Oil Seal Into Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the new oil seal into the torque converter housing using the driver and the oil seal driver attachment.

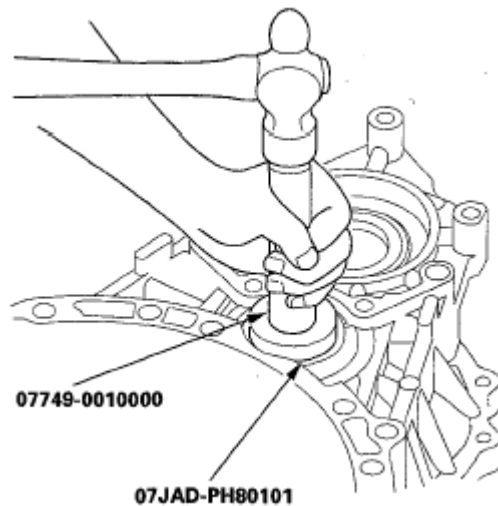


Fig. 638: Tapping Oil Seal Into Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CARRIER BEARING OUTER RACE REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 83 mm 07HAD-SG00100
- Attachment, 78 x 80 mm 07NAD-PX40100

NOTE:

- Replace the bearing with a new one whenever the outer race is replaced.

- Do not use shim(s) on the torque converter housing side.
- Adjust the preload after replacing the bearing and the outer race.
- Coat all parts with ATF during installation.

1. Remove the bearing outer race (A), spacer (B), and 85 mm thrust shim (C) from the transmission housing (D) by heating the housing to about 212°F (100°C) with a heat gun (E). Do not heat the housing more than 212°F (100°C).

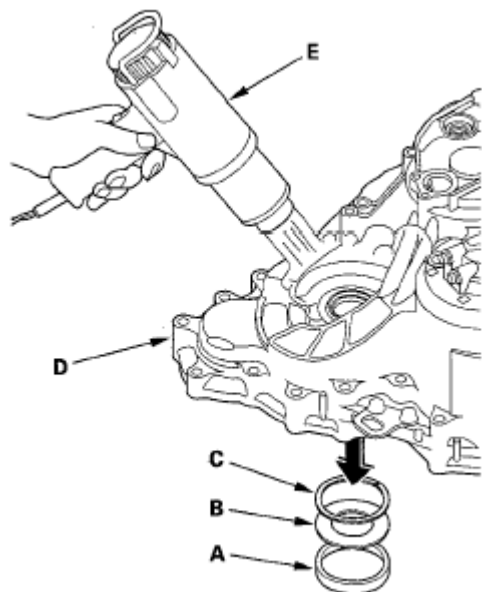


Fig. 639: Removing Bearing Outer Race With Heat Gun
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the 85 mm thrust shim (A), spacer (B), and outer race (C) in the transmission housing (D).

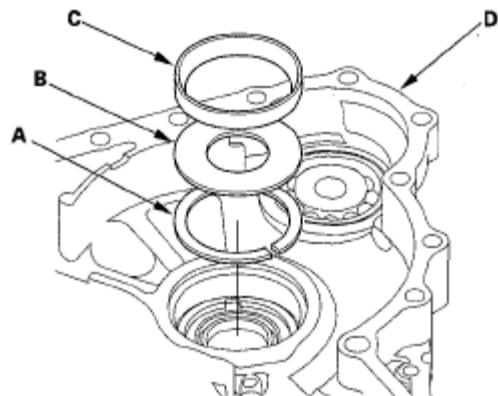


Fig. 640: Identifying Thrust Shim, Spacer And Outer Race
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Using the driver and the attachment (83 mm), drive the outer race securely in the housing so there is no clearance between the outer race, spacer, shim, and housing.

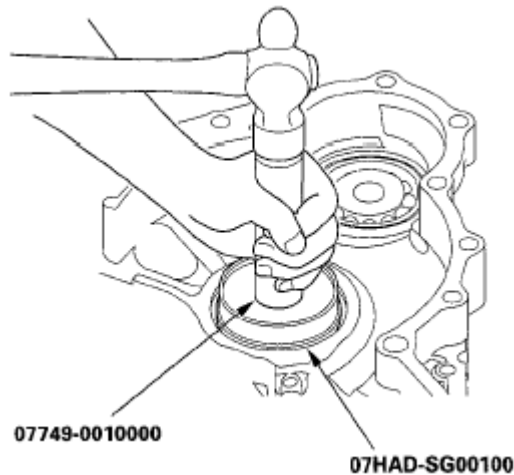


Fig. 641: Tapping Outer Race Securely Into Housing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the plate (A), and remove the bearing outer race (B) and spacer (C) from the torque converter housing (D).

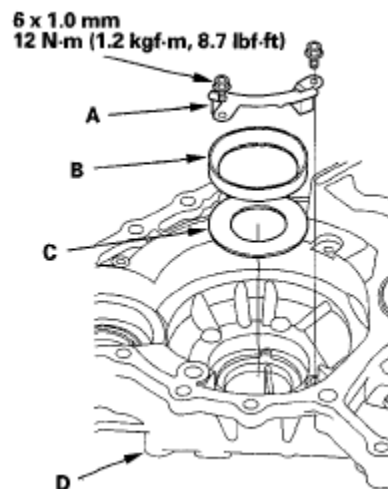


Fig. 642: Identifying Bearing Outer Race, Spacer And Plate With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the spacer and the new outer race in the torque converter housing.
6. Drive the bearing outer race securely in the housing using the driver and the attachment (78 x 80 mm).

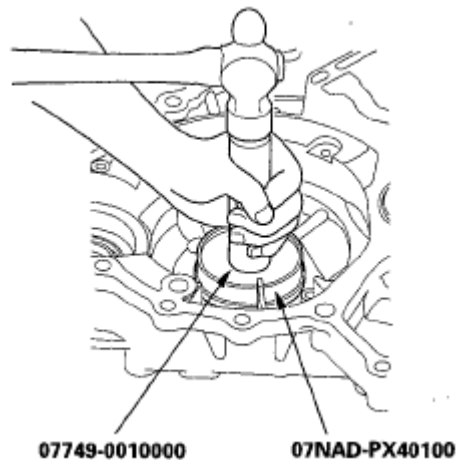


Fig. 643: Tapping Bearing Outer Race Into Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the plate over the outer race in the torque converter housing.

CARRIER BEARING PRELOAD INSPECTION

Special Tools Required

- Driver 07749-0010000
- Attachment, 83 mm 07HAD-SG00100
- Preload inspection tool 070AJ-0020101

NOTE: If the transmission housing, torque converter housing, differential carrier, tapered roller bearing, bearing outer race, or thrust shim were replaced, the bearing preload must be adjusted.

1. Remove the bearing outer race (A), spacer (B), and 85 mm thrust shim (C) from the transmission housing (D) by heating the housing to about 212°F (100°C) with a heat gun (E). Do not heat the housing more than 212°F (100°C).

NOTE: Let the transmission housing cool to room temperature before adjusting the bearing preload.

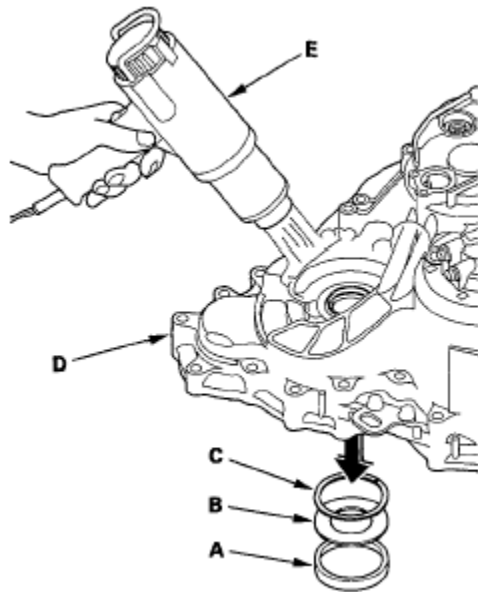


Fig. 644: Removing Bearing Outer Race With Heat Gun
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Replace the tapered roller bearing when the outer race is to be replaced.
3. Do not use a shim on the torque converter housing side.
4. Install the 85 mm thrust shim (A) in the transmission housing (B). If you replace the 85 mm thrust shim with a new one, use the same thickness shim as the old one.

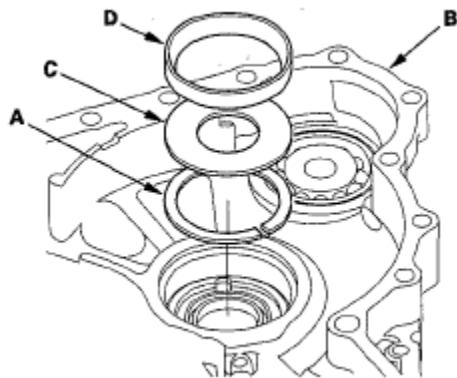


Fig. 645: Identifying Spacer, Bearing Outer Race And Thrust Shim
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the spacer (C), and the bearing outer race (D) in the transmission housing.
6. Drive the outer race securely in the housing using the driver and the attachment (83 mm) so there is no clearance between the outer race, spacer, shim, and housing.

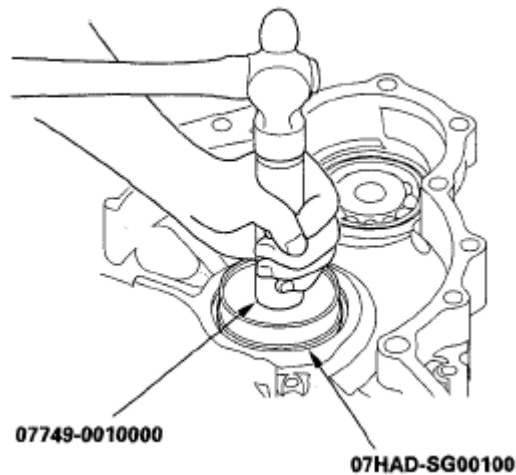


Fig. 646: Tapping Outer Race Into Housing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the differential assembly (A) in the torque converter housing (B), and install the gasket (C) and the two dowel pins (D) on the housing.

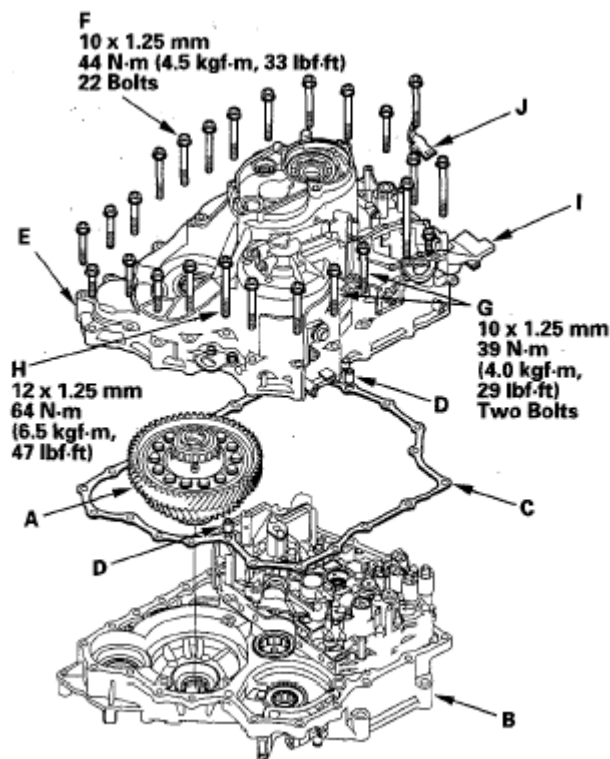


Fig. 647: Identifying Torque Converter Housing, Gasket And Transmission Housing With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the transmission housing (E), and install the mounting bolts (F) (22 bolts), (G) (two bolts), special

bolt (H) with the transmission hanger (I) and the ground terminal bracket (J), then tighten the bolts to the specified torque.

9. Rotate the differential assembly in both directions to seat the bearings.
10. Measure the starting torque of the differential assembly with the preload inspection tool, a torque wrench (A), and a socket (B). Measure the starting torque at normal room temperature in both directions.

Standard

New bearings:

3.9-5.1 N.m (40-52 kgf.cm, 35-45 lbf.in.)

Reused bearings:

3.6-4.8 N.m (37-49 kgf.cm, 32-43 lbf.in.)

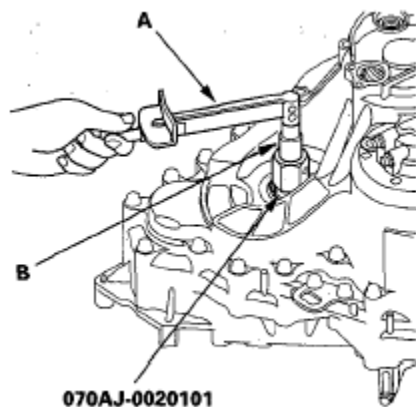


Fig. 648: Measuring Starting Torque Of Differential Assembly
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. If the starting torque is out of standard, remove the thrust shim and measure its thickness.
12. Select a new thrust shim. To increase the starting torque, increase thickness of the thrust shim. To decrease the starting torque, decrease the thickness of the thrust shim.

Changing the shim to the next size will increase or decrease the starting torque about 0.5-0.6 N.m (5-6 kgf.cm, 5-5 lbf.in.).

THRUST SHIM, 85 mm

THRUST SHIM THICKNESS SPECIFICATIONS

No.	Part Number	Thickness
A	41440-RDK-000	1.350 mm (0.0531 in.)
B	41441-RDK-000	1.375 mm (0.0541 in.)
C	41442-RDK-000	1.400 mm (0.0551 in.)

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D	41443-RDK-000	1.425 mm (0.0561 in.)
E	41444-RDK-000	1.450 mm (0.0571 in.)
F	41445-RDK-000	1.475 mm (0.0581 in.)
G	41446-RDK-000	1.500 mm (0.0591 in.)
H	41447-RDK-000	1.525 mm (0.0600 in.)
I	41448-RDK-000	1.550 mm (0.0610 in.)
J	41449-RDK-000	1.575 mm (0.0620 in.)
K	41450-RDK-000	1.600 mm (0.0630 in.)
L	41451-RDK-000	1.625 mm (0.0640 in.)
M	41452-RDK-000	1.650 mm (0.0650 in.)
N	41453-RDK-000	1.675 mm (0.0659 in.)
O	41454-RDK-000	1.700 mm (0.0669 in.)
P	41455-RDK-000	1.725 mm (0.0679 in.)
Q	41456-RDK-000	1.750 mm (0.0689 in.)
R	41457-RDK-000	1.775 mm (0.0699 in.)
S	41458-RDK-000	1.800 mm (0.0709 in.)
T	41459-RDK-000	1.825 mm (0.0719 in.)
U	41460-RDK-000	1.850 mm (0.0728 in.)
V	41461-RDK-000	1.875 mm (0.0738 in.)
W	41462-RDK-000	1.900 mm (0.0748 in.)
X	41463-RDK-000	1.925 mm (0.0758 in.)
Y	41464-RDK-000	1.950 mm (0.0768 in.)
Z	41465-RDK-000	1.975 mm (0.0778 in.)
AA	41466-RDK-000	2.000 mm (0.0787 in.)
AB	41467-RDK-000	2.025 mm (0.0797 in.)
AC	41468-RDK-000	2.050 mm (0.0807 in.)
AD	41469-RDK-000	2.075 mm (0.0817 in.)
AE	41470-RDK-000	2.100 mm (0.0827 in.)
AF	41471-RDK-000	2.125 mm (0.0837 in.)
AG	41472-RDK-000	2.150 mm (0.0846 in.)
AH	41473-RDK-000	2.175 mm (0.0856 in.)
AI	41474-RDK-000	2.200 mm (0.0866 in.)
AJ	41475-RDK-000	2.225 mm (0.0876 in.)
AK	41476-RDK-000	2.250 mm (0.0886 in.)
AL	41477-RDK-000	2.275 mm (0.0896 in.)
AM	41478-RDK-000	2.300 mm (0.0906 in.)
AN	41479-RDK-000	2.325 mm (0.0915 in.)
AO	41480-RDK-000	2.350 mm (0.0925 in.)

13. Install the new thrust shim, then recheck the starting torque.

TRANSFER OUTPUT SHAFT

COMPONENT LOCATION INDEX

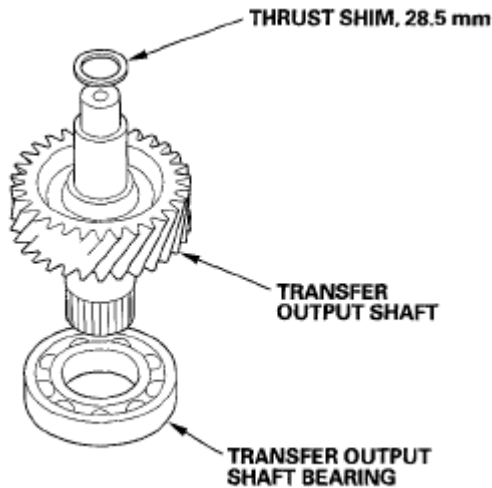


Fig. 649: Identifying Transfer Output Shaft Components
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER OUTPUT SHAFT BEARING REPLACEMENT

Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Remove the transfer output shaft bearing (A) with a commercially available puller (B), bearing separator (C), and shaft protector (D). Place a shaft protector between the transfer output shaft and a puller to prevent damaging the shaft.

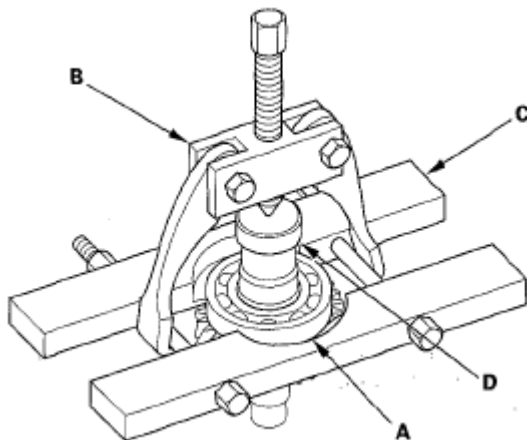


Fig. 650: Removing Transfer Output Shaft Bearing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing (A) on the transfer output shaft (B) using the driver (40 mm I.D.) and a press.

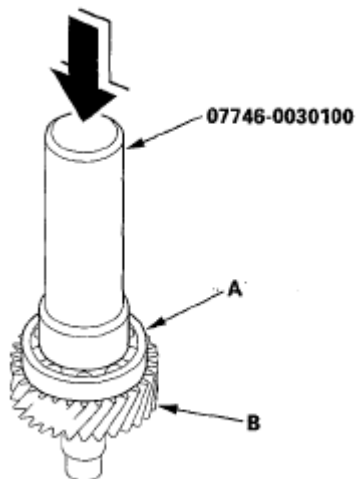


Fig. 651: Pressing Bearing Onto Transfer Output Shaft
Courtesy of AMERICAN HONDA MOTOR CO., INC.

OIL SEAL REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 65 mm 07JAD-SH30100

1. Remove the oil seal from the torque converter housing.

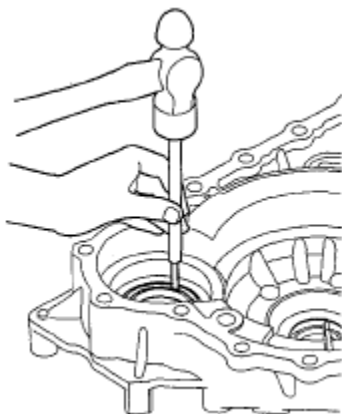


Fig. 652: Removing Oil Seal From Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new oil seal flush to the torque converter housing using the driver and the attachment (65 mm).

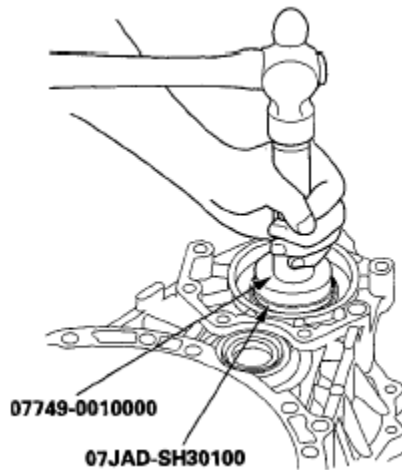


Fig. 653: Tapping Oil Seal Into Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSMISSION HOUSING BEARING REPLACEMENT

Special Tools Required

- Driver 07749-0010000
 - Attachment, 72 x 75 mm 07746-0010600
1. Remove the transfer output shaft bearing (A) from the transmission housing (B) by heating the housing to about 212°F (100°C) with a heat gun (C). Do not heat the housing more than 212°F (100°C).

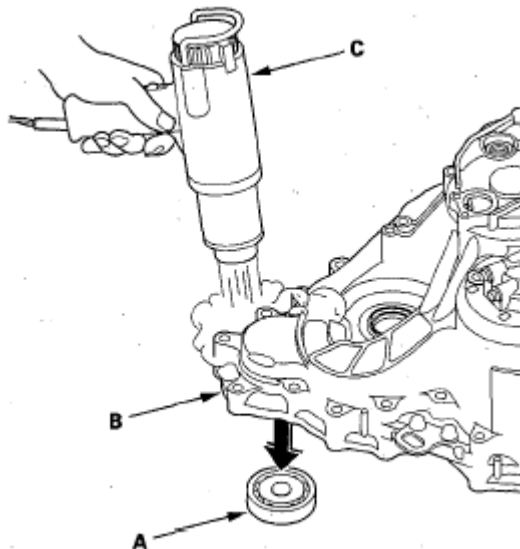


Fig. 654: Removing Transfer Output Shaft Bearing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing in the housing in the direction shown.

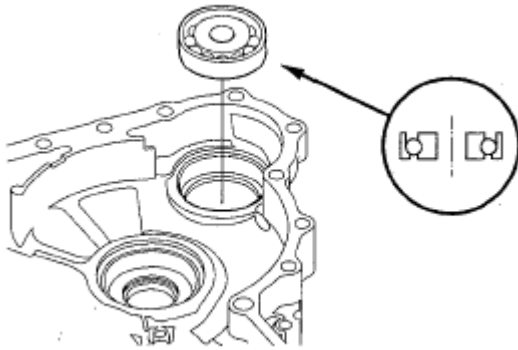


Fig. 655: Identifying Installing Direction Of Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Drive the new bearing until it bottoms in the housing using the driver and the attachment (72x75 mm).

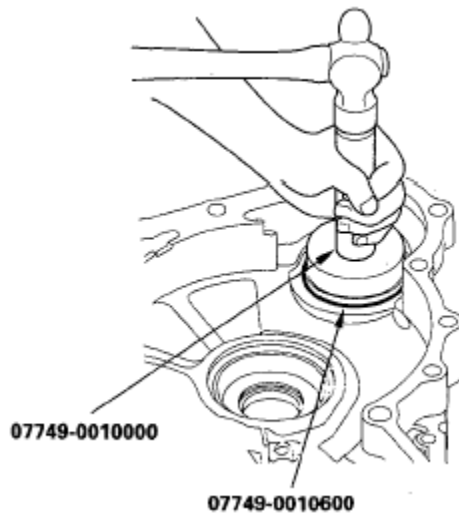


Fig. 656: Tapping Bearing Into Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER OUTPUT SHAFT INSTALLATION HEIGHT INSPECTION/ADJUSTMENT

NOTE: If the transfer output shaft, transfer output shaft bearing, transfer output shaft transmission housing bearing, transmission housing, or torque converter housing were replaced, adjust the transfer output shaft installation height with the 28.5 mm thrust shim.

1. Install the transfer output shaft (A) in the torque converter housing, and install the 28.5 mm thrust shim

(B) on the top of the shaft. If you replace the 28.5 mm thrust shim with a new one, use the same thickness shim as the old one.

Standard: 42.81-42.85 mm (1.685-1.687 in.) B-

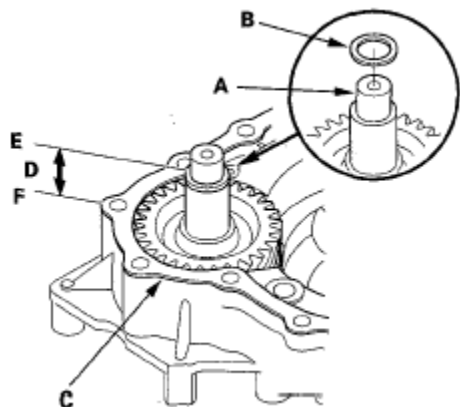


Fig. 657: Identifying Transfer Output Shaft Height
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Transfer Output Shaft Cutaway View

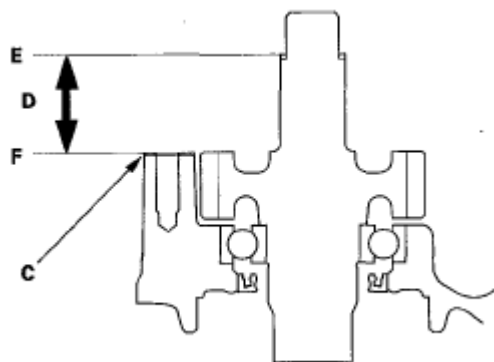


Fig. 658: Transfer Output Shaft Height Cutaway View
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new gasket (C) on the torque converter housing.
3. Measure the installed height (D) of the transfer output shaft between the surface (E) of the gasket and the top (F) of the 28.5 mm thrust shim in at least three places. Use the average as the actual height.
4. If the measurement is out of standard, remove the 28.5 mm thrust shim and measure its thickness.
5. Select and install a new thrust shim, then recheck the installation height.

THRUST SHIM, 28.5 mm

THRUST SHIM THICKNESS SPECIFICATIONS

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2007 Acura RL

2005-08 TRANSMISSION Automatic Transmission - RL

No.	Part Number	Thickness
A	29031 -RDK-000	1.82 mm (0.0717 in.)
B	29032-RDK-000	1.84 mm (0.0724 in.)
C	29033-RDK-000	1.86 mm (0.0732 in.)
D	29034-RDK-000	1.88 mm (0.0740 in.)
E	29035-RDK-000	1.90 mm (0.0748 in.)
F	29036-RDK-000	1.92 mm (0.0756 in.)
G	29037-RDK-000	1.94 mm (0.0764 in.)
H	29038-RDK-000	1.96 mm (0.0772 in.)
I	29039-RDK-000	1.98 mm (0.0780 in.)
J	29040-RDK-000	2.00 mm (0.0787 in.)
K	29041-RDK-000	2.02 mm (0.0795 in.)
L	29042-RDK-000	2.04 mm (0.0803 in.)
M	29043-RDK-000	2.06 mm (0.0811 in.)
N	29044-RDK-000	2.08 mm (0.0819 in.)
O	29045-RDK-000	2.10 mm (0.0827 in.)
P	29046-RDK-000	2.12 mm (0.0835 in.)
Q	29047-RDK-000	2.14 mm (0.0843 in.)
R	29048-RDK-000	2.16 mm (0.0850 in.)
S	29049-RDK-000	2.18 mm (0.0858 in.)
T	29050-RDK-000	2.20 mm (0.0866 in.)
U	29051-RDK-000	2.22 mm (0.0874 in.)
V	29052-RDK-000	2.24 mm (0.0882 in.)
W	29053-RDK-000	2.26 mm (0.0890 in.)
X	29054-RDK-000	2.28 mm (0.0898 in.)
Y	29055-RDK-000	2.30 mm (0.0906 in.)
Z	29056-RDK-000	2.32 mm (0.0913 in.)
AA	29057-RDK-000	2.34 mm (0.0921 in.)

TRANSFER ASSEMBLY**INSPECTION**

NOTE: To prevent damage to the transfer housing, always use soft jaws or equivalent materials between the transfer housing and a vise.

Transfer Gear Backlash Measurement

1. Set dial indicator (A) on the transfer companion flange (B); position the dial indicator tip (C) on the top of the bolt (D).

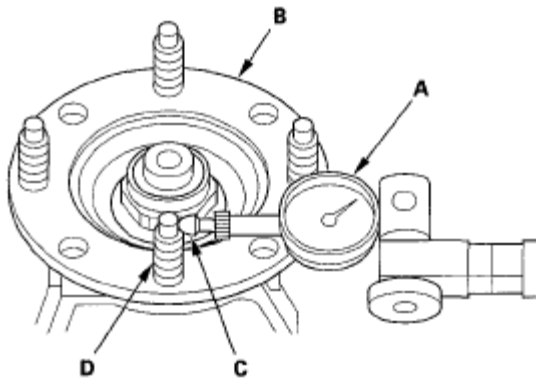


Fig. 659: Setting Dial Indicator On Transfer Companion Flange
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Measure transfer gear backlash.

Standard: 0.06-0.16 mm (0.002-0.006 in.)

Total Starting Torque Measurement

3. Secure the transfer housing (A) in a bench vise (B) with soft jaws. To prevent damaging the transfer housing, always use soft jaws or equivalent materials between the transfer housing and the vise.

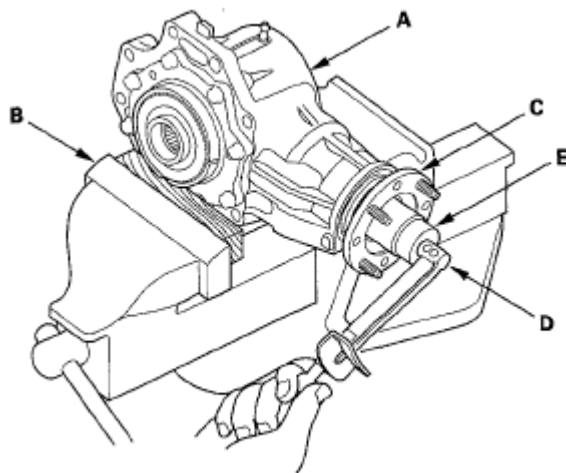


Fig. 660: Measuring Starting Torque At Companion Flange
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Rotate the transfer companion flange several times to seat the tapered roller bearings.
5. Measure the starting torque at the companion flange (C) using a torque wrench (D) and a socket (E).

Standard: 2.12-3.45 N.m

(21.6-35.2 kgf.cm, 18.7-30.6 lbf.in.)

6. If the starting torque is out of standard, disassemble the transfer assembly and repair it.

DISASSEMBLY

Exploded View

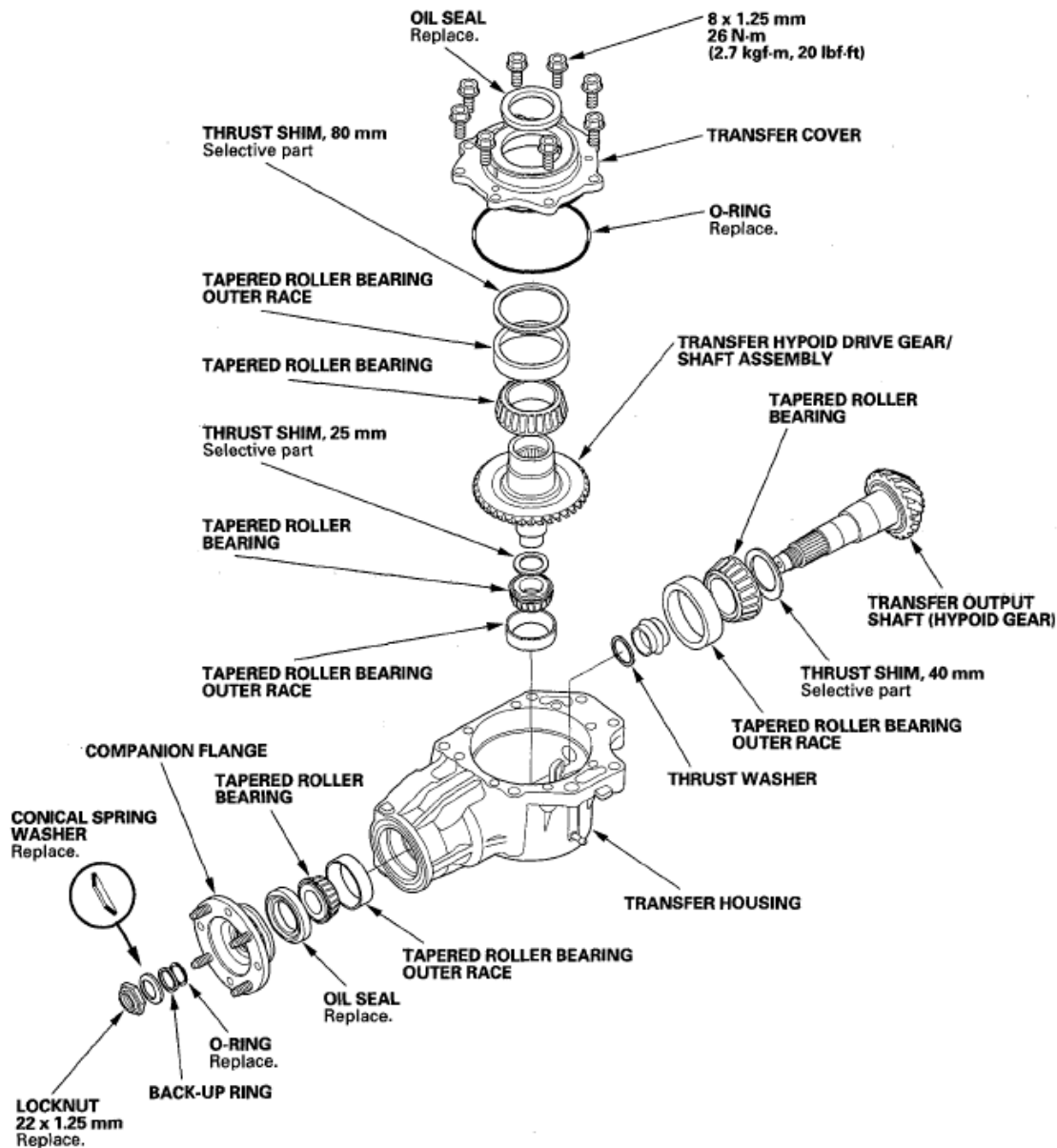


Fig. 661: Exploded View Of Transfer Assembly With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Special Tools Required

Companion flange holder 07XAB-0010101

1. Remove the transfer cover (A) from the transfer housing (B).

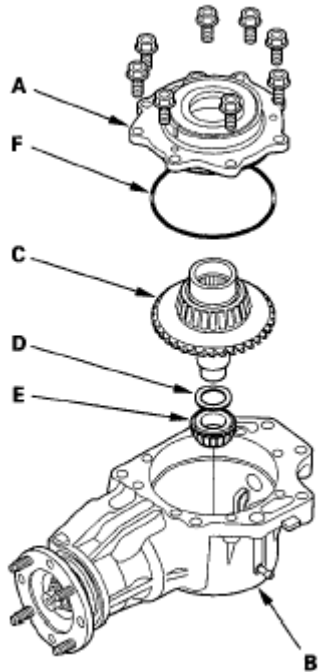


Fig. 662: Identifying Transfer Cover, Transfer Housing And Transfer Hypoid Drive Gear/Shaft Assembly

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the transfer hypoid drive gear/shaft assembly (C), 25 mm thrust shim (D), and tapered roller bearing (E).
3. Remove the O-ring (F) from the cover.
4. Drain the transfer fluid (hypoid gear oil) from the transfer housing.
5. Cut the lock tab on the locknut using a chisel.

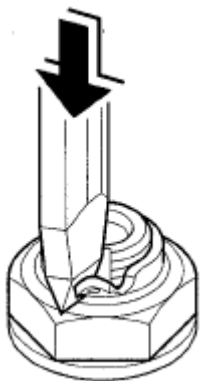


Fig. 663: Cutting Lock

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Secure the transfer housing in a bench vise with soft jaws. To prevent damage to the transfer housing, always use soft jaws or equivalent materials between the transfer housing and the vise.

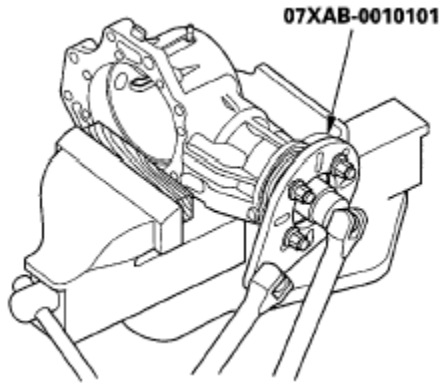


Fig. 664: Removing Transfer Housing Nut
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the companion flange holder on the companion flange, then loosen the locknut.
8. Remove the companion flange holder.
9. Remove the locknut (A), conical spring washer (B), back-up ring (C), O-ring (D), and companion flange (E) from the transfer output shaft (hypoid gear) (F).

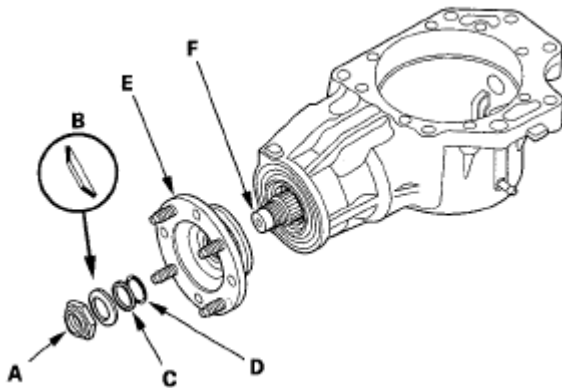


Fig. 665: Identifying Locknut, Conical Spring Washer, Back-Up Ring, O-Ring And Companion Flange
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Remove the transfer output shaft (hypoid gear) (A) from the transfer housing (B), then remove the thrust washer (C) and transfer spacer (D) from the transfer output shaft (hypoid gear).

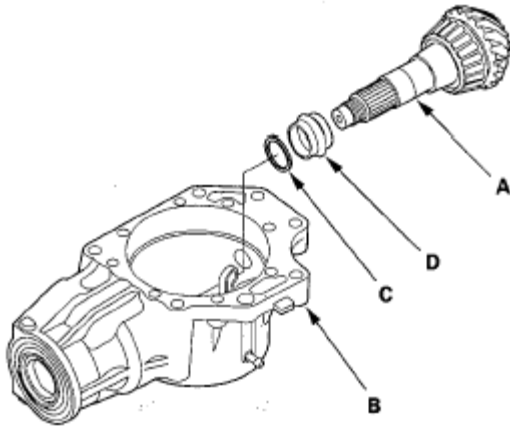


Fig. 666: Identifying Thrust Washer, Transfer Spacer And Transfer Output Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Remove the oil seal (A) and the tapered roller bearing (B) from the transfer housing.

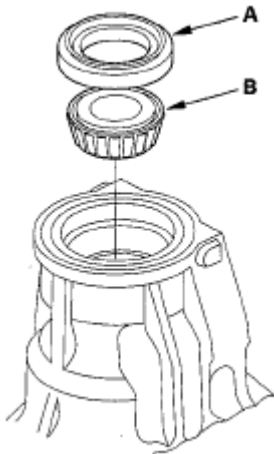


Fig. 667: Identifying Oil Seal And Tapered Roller Bearing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER HYPOID DRIVE GEAR BEARING REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 42 x 47 mm 07746-0010300
- Attachment, 40 x 50 mm 07LAD-PW50601

1. Remove the tapered roller bearing (A) from the transfer hypoid drive gear (B) using the driver, the attachment (42 x 47 mm), bearing separator (C) and a press.

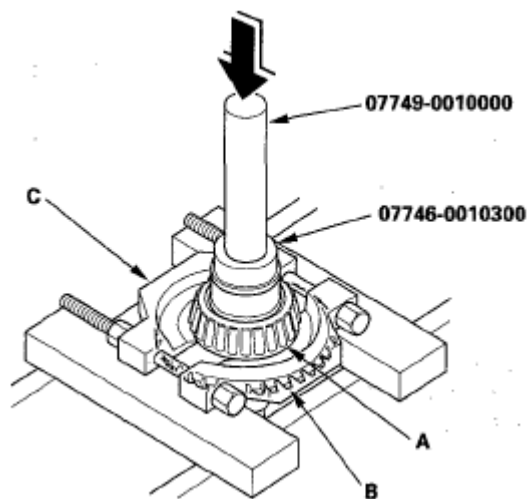


Fig. 668: Removing Tapered Roller Bearing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearing on the transfer hypoid drive gear using the driver, the attachment (40 x 50 mm), and a press.

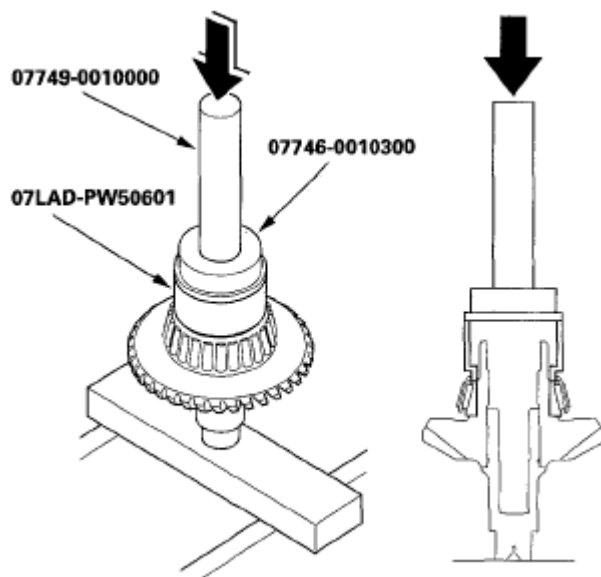


Fig. 669: Installing Bearing Onto Transfer Hypoid Drive Gear
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER OUTPUT SHAFT (HYPOID GEAR) BEARING REMOVAL/INSTALLATION

Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Remove the tapered roller bearing (A) from the transfer output shaft (hypoid gear) (B) with a bearing separator (C) and a press. Place a shaft protector (D) between the transfer output shaft and a press to prevent damaging the shaft.

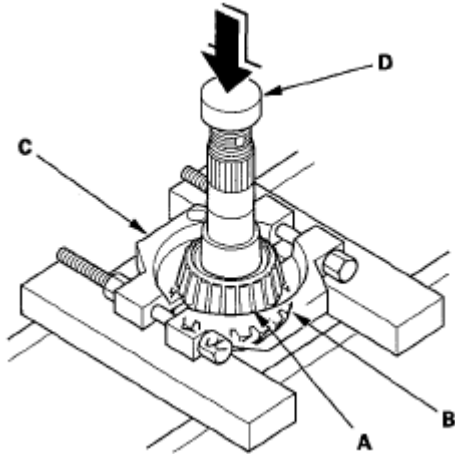


Fig. 670: Removing Tapered Roller Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the 40 mm thrust shim (A) over the transfer output shaft (hypoid gear).

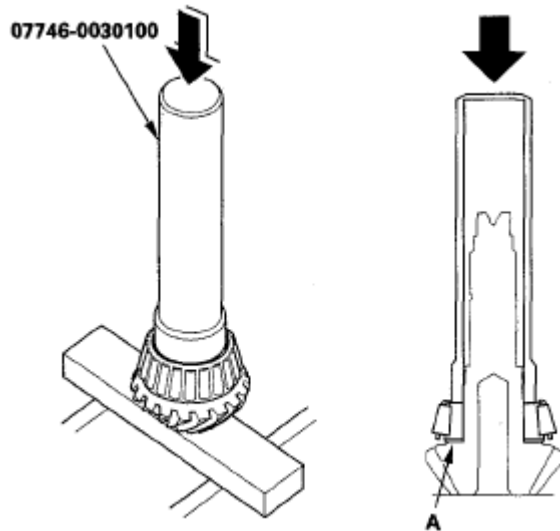


Fig. 671: Installing Tapered Roller Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the tapered roller bearing over the transfer output shaft (hypoid gear) using the driver (40 mm I.D.) and a press.

TRANSFER HOUSING TAPERED ROLLER BEARING OUTER RACE REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 52 x 55 mm 07746-0010400
- Attachment, 65 mm 07JAD-SH30100
- Tapered bearing race installer A 07MAF-SP0011A
- Installer shaft 07MAF-SP0013A

NOTE: **Replace the bearing with a new one whenever the outer race is replaced.**

1. Remove the 52 mm bearing outer race (A), 75 mm outer race (B), and 65 mm outer race (C) from the transfer housing (D).

NOTE: **Some bearing outer races (52 mm, 65 mm, and 75 mm) are press-fitted in the housing and must be removed by heating the housing.**

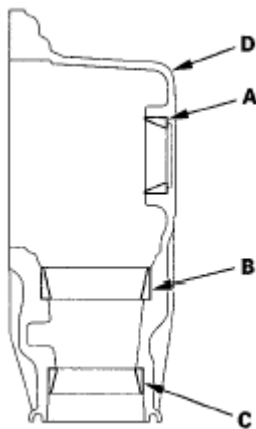


Fig. 672: Identifying Bearing Outer Races And Transfer Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the press-fitted bearing outer race (A) from the transfer housing (B) by heating the housing to about 212°F (100°C) with a heat gun (C). Do not heat the housing more than 212°F (100°C).

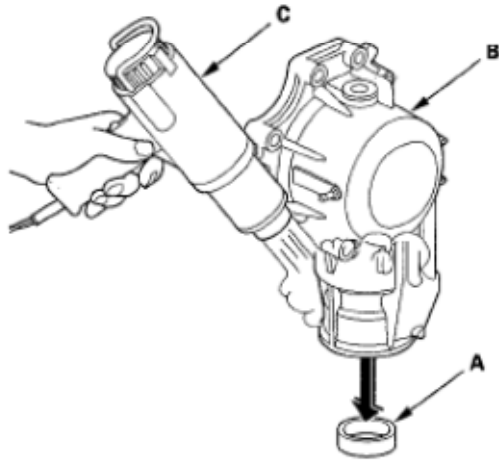


Fig. 673: Removing Bearing Outer Race With Heat Gun
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the 52 mm bearing outer race (A) until it bottoms in the transfer housing (B) using the driver and the attachment (52 x 55 mm);

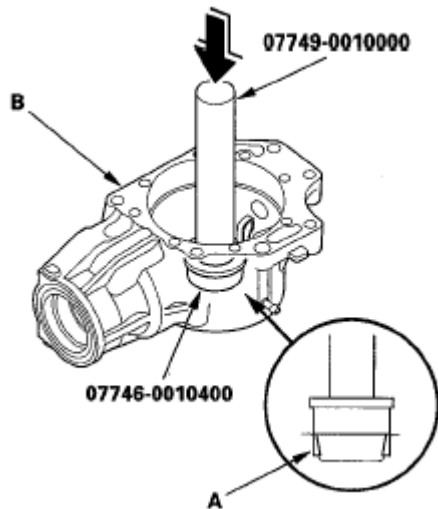


Fig. 674: Pressing Bearing Outer Race Into Transfer Housing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the 75 mm bearing outer race (A) and 65 mm bearing outer race (B) in the transfer housing (C), set the attachment (65 mm) and the tapered bearing race installer A over the races, and install the installer shaft through the attachment and installer.

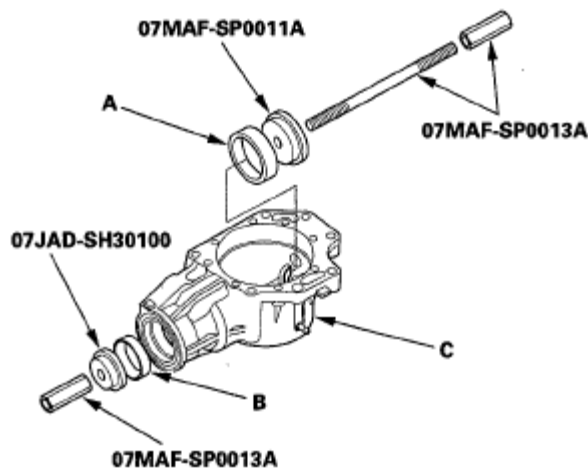


Fig. 675: Identifying Bearing Outer Races And Transfer Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Tighten the installer shaft nut (A) to install the races (B) (C) into the transfer housing (D) securely.

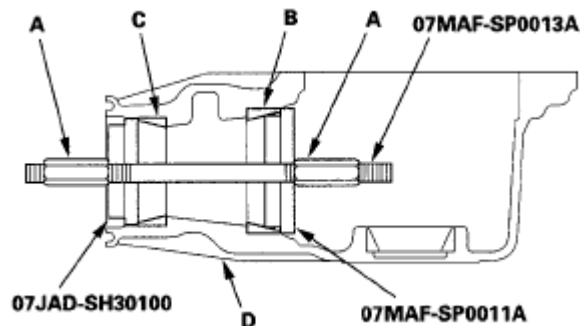


Fig. 676: Installing Races Using Race Installer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER COVER TAPERED ROLLER BEARING OUTER RACE REMOVAL/INSTALLATION

Special Tools Required

- Driver 07749-0010000
- Attachment, 78 x 80 mm 07NAD-PX40100

NOTE: Replace the bearing with a new one whenever the outer race is replaced.

1. Remove the bearing outer race (A) and 80 mm thrust shim (B) from the transfer cover (C). If the bearing outer race is press-fitted, remove the outer race by heating the cover to about 212°F (100°C) with a heat gun (D). Do not heat the cover more than 212°F (100°C).

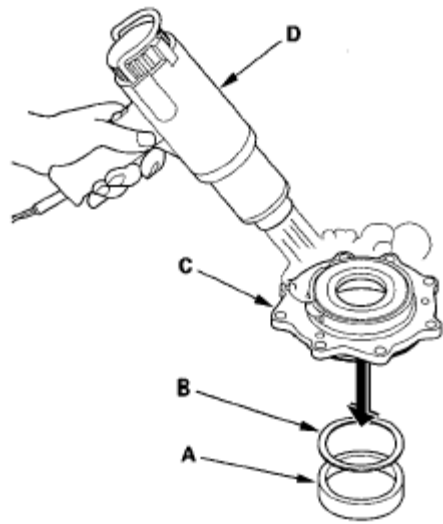


Fig. 677: Removing Bearing Outer Race With Heat Gun
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the 80 mm thrust shim (A) and bearing outer race (B) in the transfer cover (C).

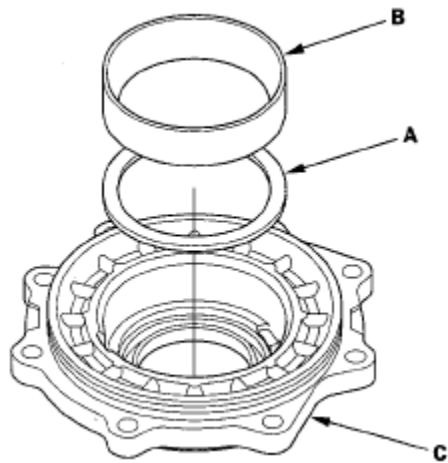


Fig. 678: Identifying Thrust Shim And Bearing Outer Race
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Drive the outer race securely in the cover using the driver and the attachment (78 x 80 mm) so there is no clearance between the outer race, thrust shim, and cover.

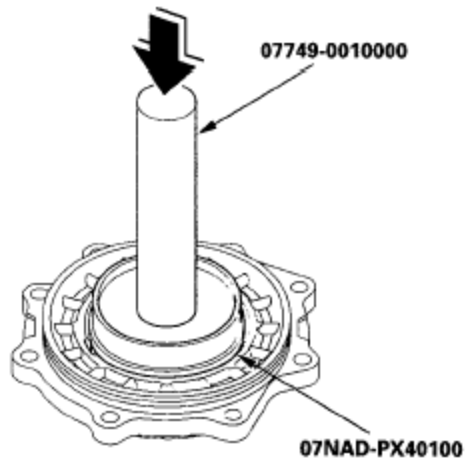


Fig. 679: Pressing Outer Race Into Cover
Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSFER COVER OIL SEAL REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 65 mm 07JAD-SH30100

1. Remove the oil seal from the transfer cover.

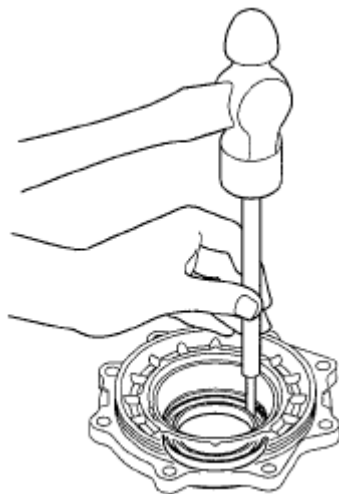


Fig. 680: Removing Oil Seal From Transfer Cover
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new oil seal (A) in the transfer cover (B) to a height (C) of 0-1 mm (0-0.04 in.) above the cover surface using the driver and the attachment (65 mm).

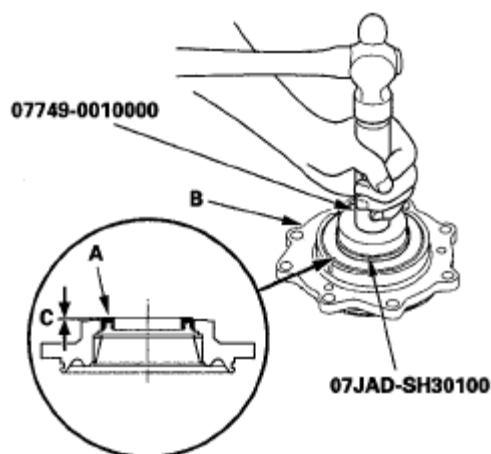


Fig. 681: Tapping Oil Seal Into Transfer Cover
Courtesy of AMERICAN HONDA MOTOR CO., INC.

REASSEMBLY

Special Tools Required

- Driver, 40 mm I. D. 07746-0030100
- Driver 07749-0010000
- Attachment, 65 mm 07JAD-SH30100
- Companion flange holder 07XAB-0010101
- Attachment, 78 x 80 mm 07NAD-PX40100

NOTE:

- While reassembling the transfer assembly:
 - Check and adjust the transfer gear tooth contact.
 - Measure and adjust the transfer gear backlash.
 - Check and adjust the tapered roller bearing starting torque.
- Coat all parts with transfer fluid (hypoid gear oil) during reassembly.
- Replace the tapered roller bearing and the bearing outer race as a set if either part is replaced.
- Replace the transfer hypoid drive gear and the transfer output shaft (hypoid gear) as a set if either part is replaced.

1. Select the 40 mm thrust shim if the transfer output shaft (hypoid gear) is replaced. Calculate the thickness of the 40 mm thrust shim using the following formula, and select the shim from the following table.

FORMULA: $A/100 - B/100 + C = X$

A: Number on the existing transfer output shaft (hypoid gear)

B: Number on the replacement transfer output shaft (hypoid gear)

C: Thickness of the existing 40 mm thrust shim

X: Thickness needed for the replacement 40 mm thrust shim

NOTE: The number on the transfer output shaft (hypoid gear) is shown in 1/100 mm.

EXAMPLE

A: Existing transfer output shaft (hypoid gear) Number = +2

B: Replacement transfer output shaft (hypoid gear) Number = -1

C: Existing 40 mm thrust shim thickness = 1.05 mm

X: Replacement 40 mm thrust shim thickness

$$X = A/100 - B/100 + C$$

$$= 2/100 - (-1)/100 + 1.05$$

$$= 0.02 + 0.01 + 1.05 = 1.08 \text{ (mm)}$$

Select No. M 40 mm thrust shim of 1.08 mm (0.043 in.)

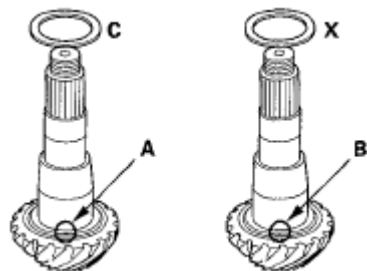


Fig. 682: Identifying Transfer Output Shaft Number
Courtesy of AMERICAN HONDA MOTOR CO., INC.

THRUST SHIM, 40 mm

THRUST SHIM THICKNESS SPECIFICATIONS

Shim No.	Part Number	Thickness
A	29361-RDK-000	0.72 mm (0.028 in.)
B	29362-RDK-000	0.75 mm (0.030 in.)
C	29363-RDK-000	0.78 mm (0.031 in.)

D	29364-RDK-000	0.81 mm (0.032 in.)
E	29365-RDK-000	0.84 mm (0.033 in.)
F	29366-RDK-000	0.87 mm (0.034 in.)
G	29367-RDK-000	0.90 mm (0.035 in.)
H	29368-RDK-000	0.93 mm (0.037 in.)
I	29369-RDK-000	0.96 mm (0.038 in.)
J	29370-RDK-000	0.99 mm (0.039 in.)
K	29371-RDK-000	1.02 mm (0.040 in.)
L	29372-RDK-000	1.05 mm (0.041 in.)
M	29373-RDK-000	1.08 mm (0.043 in.)
N	29374-RDK-000	1.11 mm (0.044 in.)
O	29375-RDK-000	1.14 mm (0.045 in.)

2. Select the 40 mm thrust shim if the tapered roller bearing on the transfer output shaft (hypoid gear) is replaced. Measure the thickness of the replacement bearing and the existing bearing, and calculate the difference of the bearing thickness. Adjust the thickness of the existing 40 mm thrust shim by the amount of difference in bearing thickness, and select the replacement 40 mm thrust shim.
3. Install the 40 mm thrust shim (A) on the transfer output shaft (hypoid gear) (B), then install the tapered roller bearing (C) using the driver (40 mm I.D.) and a press.

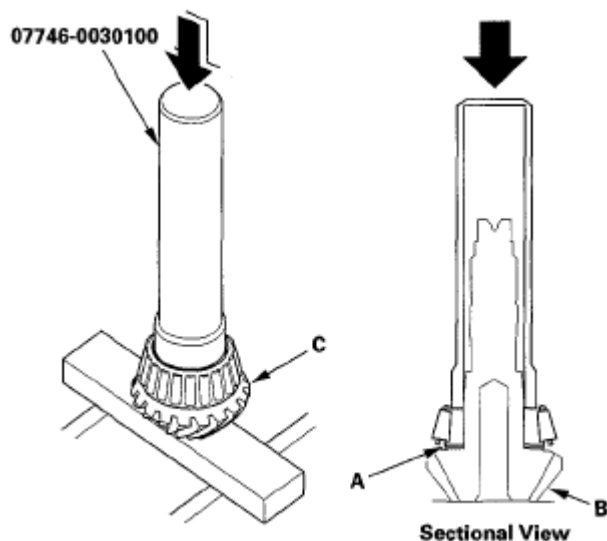


Fig. 683: Pressing Tapered Roller Bearing Onto Shaft
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Place the tapered roller bearing (A) on the bearing outer race of the companion flange side of the transfer housing, and install the new oil seal (B).

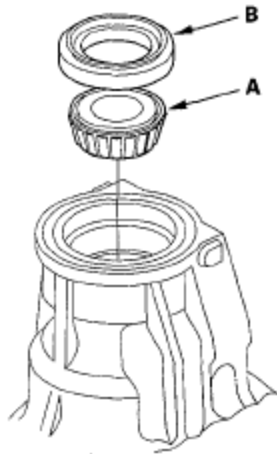


Fig. 684: Identifying Tapered Roller Bearing And Oil Seal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Drive the oil seal securely in the transfer housing using the driver and the attachment (65 mm).

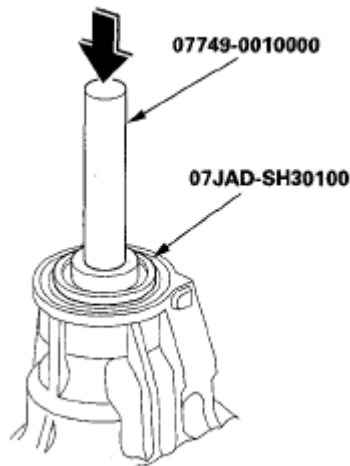


Fig. 685: Pressing Oil Seal Into Transfer Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Install the transfer output shaft (hypoid gear) (A) in the transfer housing (B). Do not install the transfer spacer and thrust washer on the transfer output shaft (hypoid gear).

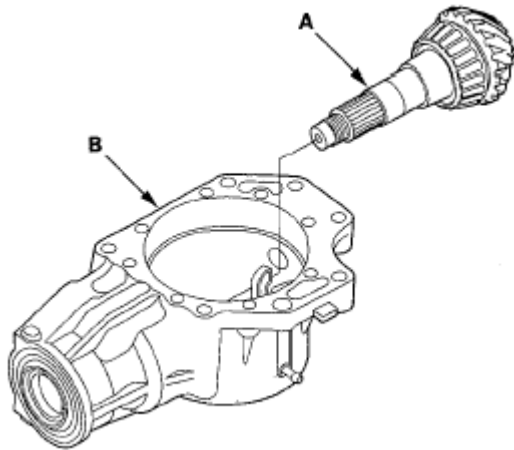


Fig. 686: Identifying Transfer Output Shaft (Hypoid Gear) And Transfer Housing
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the companion flange (A), conical spring washer (B) (in the direction shown), and locknut (C) on the transfer output shaft (hypoid gear) (D). Do not install the O-ring and back-up ring.

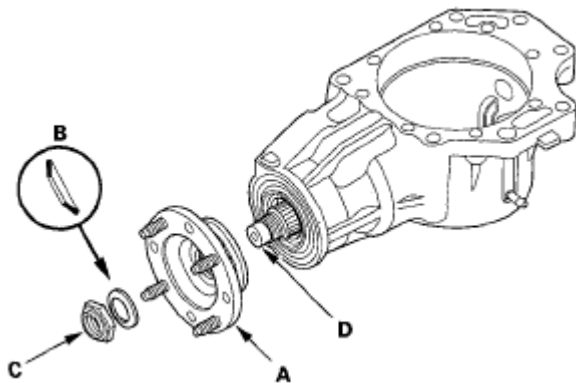


Fig. 687: Identifying Companion Flange And Conical Spring Washer
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Secure the transfer housing (A) in a bench vise (B) with soft jaws. To prevent damage to the transfer housing, always use soft jaws or equivalent materials between the transfer housing and the vise.

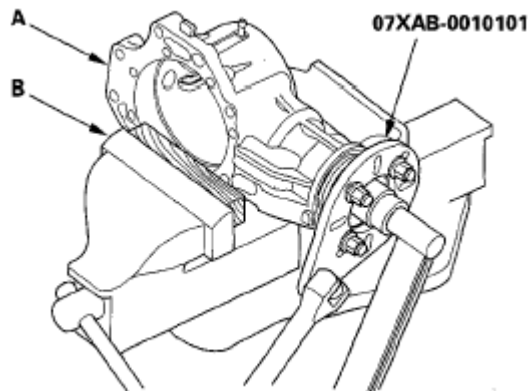


Fig. 688: Identifying Transfer Housing In Bench Vise With Companion Flange Holder
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the companion flange holder on the companion flange.
10. Tighten the locknut while measuring the starting torque of the transfer output shaft (hypoid gear) so the starting torque is within 1.15-1.71 N.m (11.7-17.4 kgf.cm, 10.2-15.1 lbf.in.). Do not stake the locknut in this step.
11. Remove the companion flange holder.
12. Apply Prussian Blue to both sides of the transfer hypoid drive gear teeth lightly and evenly.
13. Install the tapered roller bearing (A), 25 mm thrust shim (B), and transfer drive gear-shaft assembly (C) in the transfer housing (D).

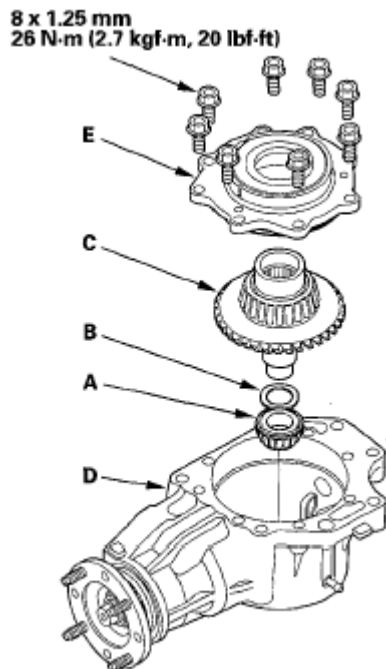


Fig. 689: Identifying Tapered Roller Bearing, Thrust Shim And Transfer Drive Gear-Shaft Assembly With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Install the transfer cover (E), and secure it with the bolts. Do not install the O-ring on the transfer cover.
15. Rotate the companion flange in both directions until the transfer gears rotate one full turn in both directions.
16. Set a dial indicator (A) on the transfer companion flange (B); position the dial indicator tip (C) on the top of the bolt (D).

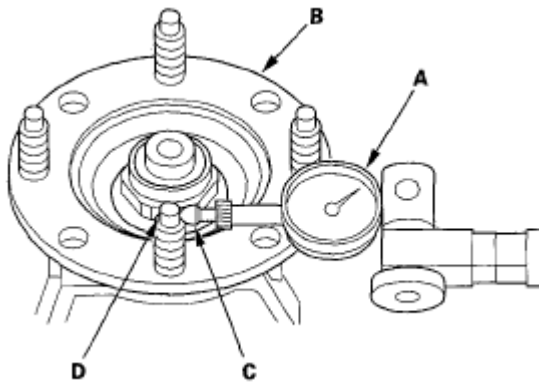


Fig. 690: Setting Dial Indicator On Transfer Companion Flange
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Measure transfer gear backlash.

Standard: 0.06-0.16 mm (0.002-0.006 in.)

18. Remove the transfer cover and the transfer hypoid drive gear/shaft assembly, and check the transfer hypoid drive gear tooth contact pattern.

CORRECT TOOTH CONTACT PATTERN



Fig. 691: Correct Tooth Contact Pattern
Courtesy of AMERICAN HONDA MOTOR CO., INC.

INCORRECT TOOTH CONTACT PATTERN

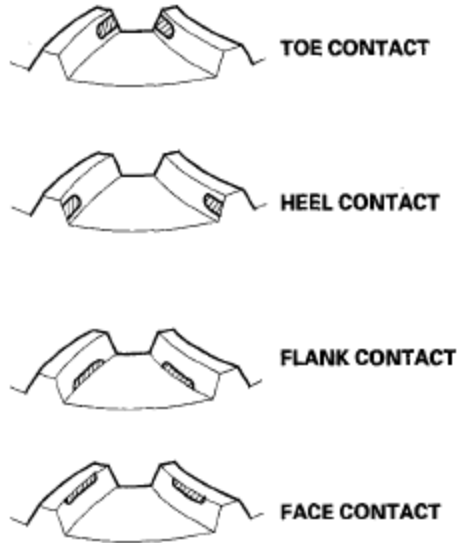


Fig. 692: Incorrect Tooth Contact Pattern
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. If the backlash measurement is out of the standard, adjust the backlash with the 40 mm thrust shim and recheck. Do not use more than two 40 mm thrust shims to adjust the backlash.
20. If the transfer gear tooth contact is incorrect, adjust the tooth contact with the 25 mm, 40 mm, or 80 mm thrust shim. Do not use more than two shims of each thrust shim to adjust the tooth contact.

- Toe Contact

Use a thinner 40 mm thrust shim to move the transfer output shaft (hypoid gear) away from the transfer hypoid drive gear. Because this movement causes the transfer gear backlash to change, move the transfer hypoid drive gear toward the transfer output shaft (hypoid gear) to adjust the transfer gear backlash as follows:

- Reduce the thickness of the 25 mm thrust shim.
- Increase the thickness of the 80 mm thrust shim by amount the 25 mm thrust shim was reduced.

- Heel Contact

Use a thicker 40 mm thrust shim to move the transfer output shaft (hypoid gear) toward the transfer hypoid drive gear. Because this movement causes the transfer backlash to change, move the transfer hypoid drive gear away from the transfer output shaft (hypoid gear) to adjust the transfer gear backlash as follows:

- Increase the thickness of the 25 mm thrust shim.
- Reduce the thickness of the 80 mm thrust shim by the amount the 25 mm thrust shim was reduced.

- Flank Contact

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Use a thicker 25 mm thrust shim to move the transfer hypoid drive gear away from the transfer output shaft (hypoid gear).

Flank contact must be adjusted within the limits of the transfer gear backlash. If the backlash exceeds the limits, adjust as described under Heel Contact.

- Face Contact

Use a thinner 25 mm thrust shim to move the transfer hypoid drive gear toward the transfer output shaft (hypoid gear).

Face contact must be adjusted within the limits of the transfer gear backlash. If the backlash exceeds the limits, adjust as described under Toe Contact.

THRUST SHIM, 25 mm

THRUST SHIM THICKNESS SPECIFICATIONS

Shim No.	Part Number	Thickness
1.70	29411-P1C-000	1.70 mm (0.067 in.)
1.73	29412-P1C-000	1.73 mm (0.068 in.)
1.76	29413-P1C-000	1.76 mm (0.069 in.)
1.79	29414-P1C-000	1.79 mm (0.070 in.)
1.82	29415-P1C-000	1.82 mm (0.072 in.)
1.85	29416-P1C-000	1.85 mm (0.073 in.)
1.88	29417-P1C-000	1.88 mm (0.074 in.)
1.91	29418-P1C-000	1.91 mm (0.075 in.)
1.94	29419-P1C-000	1.94 mm (0.076 in.)
1.97	29420-P1C-000	1.97 mm (0.078 in.)
2.00	29421-P1C-000	2.00 mm (0.079 in.)
2.03	29422-P1C-000	2.03 mm (0.080 in.)
2.06	29423-P1C-000	2.06 mm (0.081 in.)
2.09	29424-P1C-000	2.09 mm (0.082 in.)
2.12	29425-P1C-000	2.12 mm (0.083 in.)
2.15	29426-P1C-000	2.15 mm (0.085 in.)
2.18	29427-P1C-000	2.18 mm (0.086 in.)
2.21	29428-P1C-000	2.21 mm (0.087 in.)
2.24	29429-P1C-000	2.24 mm (0.088 in.)

21. Remove the transfer cover (A), transfer hypoid drive gear/shaft assembly (B), 25 mm thrust shim (C), and tapered roller bearing (D) from the transfer housing (E) after adjusting the transfer gear backlash or transfer gear tooth contact.

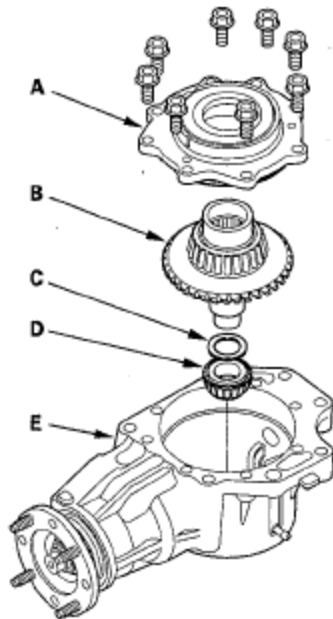


Fig. 693: Identifying Tapered Roller Bearing And Transfer Cover With Thrust Shim
Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. Secure the transfer housing (A) in a bench vise (B) with soft jaws. To prevent damage to the transfer housing, always use soft jaws or equivalent materials between the transfer housing and the vise.

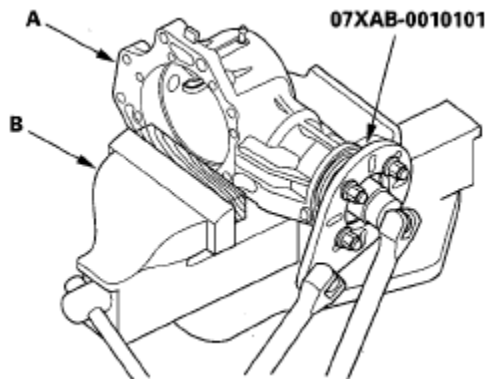


Fig. 694: Identifying Transfer Housing In Bench Vise With Companion Flange Holder
Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Install the companion flange holder on the companion flange, then loosen the locknut.
24. Remove the companion flange holder.
25. Remove the locknut (A), conical spring washer (B), and companion flange (C) from the transfer output shaft (hypoid gear) (D).

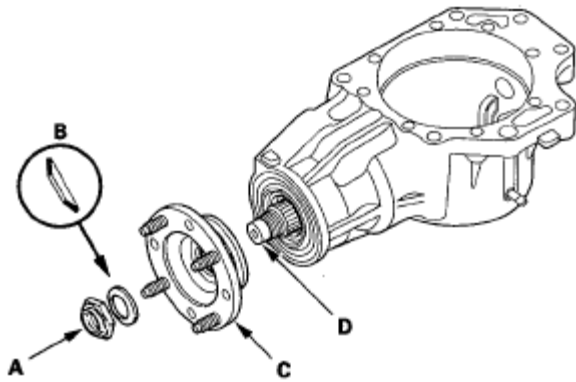


Fig. 695: Identifying Conical Spring Washer And Locknut
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

26. Remove the transfer output shaft (hypoid gear) from the transfer housing.
27. Install the thrust washer (A) and the new transfer spacer (B) on the transfer output shaft (hypoid gear) (C), and install them in the transfer housing (D).

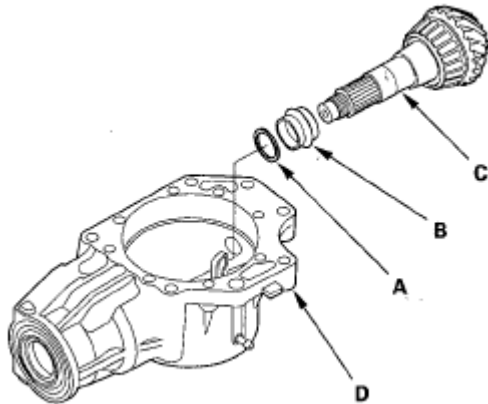


Fig. 696: Identifying Thrust Washer, Transfer Spacer And Transfer Output Shaft (Hypoid Gear)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

28. Coat the threads Of the locknut and transfer output shaft (hypoid gear) with transfer fluid (hypoid gear oil).
29. Install the companion flange (A). Coat a new O-ring (B) with transfer fluid (hypoid gear oil), then install the O-ring, back-up ring (C), new conical spring washer (D), and new locknut (E) on the transfer output shaft (hypoid gear) (F). Install the conical spring washer in the direction shown.

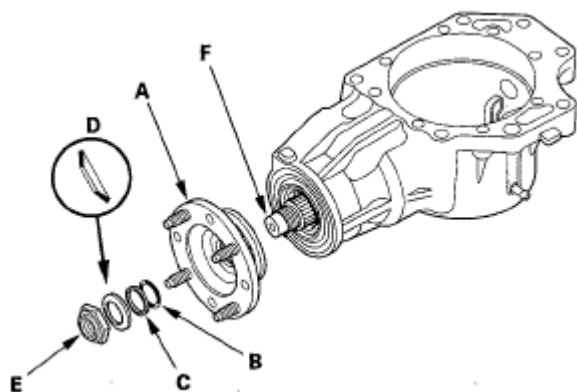


Fig. 697: Identifying Companion Flange And Transfer Output Shaft (Hypoid Gear)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

30. Secure the transfer housing (A) in a bench vise (B) with soft jaws. To prevent damage to the transfer housing, always use soft jaws or equivalent materials between the transfer housing and the vise.

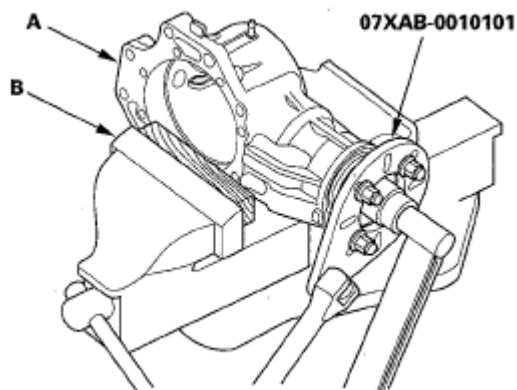


Fig. 698: Identifying Transfer Housing In Bench Vise With Companion Flange Holder
Courtesy of AMERICAN HONDA MOTOR CO., INC.

31. Install the companion flange holder on the companion flange.
32. Tighten the locknut while measuring the starting torque of the transfer output shaft (hypoid gear) so the starting torque is within 1.15-1.71 N.m (11.7-17.4 kgf.cm, 10.2-15.1 lbf.in.).

Tightening Torque:

108-294 N.m

(11.0-30.0 kgf.m, 79.6-217 lbf.ft)

Starting Torque:

1.15-1.71 N.m

(11.7-17.4 kgf.cm, 10.2-15.1 lbf.in.)

NOTE:

- Rotate the companion flange several times to seat the tapered roller bearings, then measure the starting torque.
- If the starting torque exceeds 1.71 N.m (17.4 kgf.cm, 15.1 lbf.in.), replace the transfer spacer and reassemble the parts. Do not adjust the torque with the locknut loose.
- If the tightening torque exceeds 294 N.m (30.0 kgf.m, 217 lbf.ft), replace the transfer spacer and reassemble the parts.

33. Remove the companion flange holder.
34. Stake the locknut to a depth (A) of 0.7-1.2 mm (0.03-0.05 in.) using a 3.5 mm punch (B).

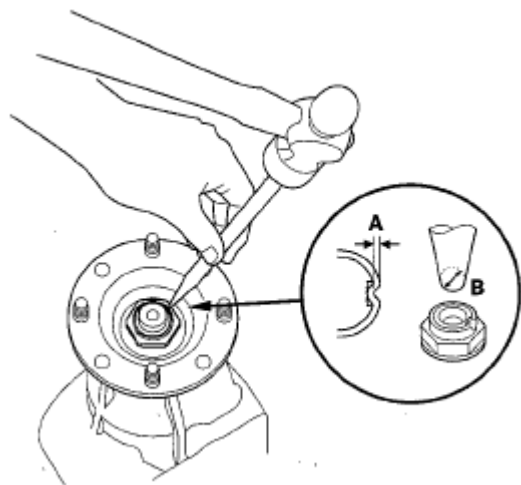


Fig. 699: Staking The Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

35. Install the tapered roller bearing (A), 25 mm thrust shim (B), and transfer hypoid drive gear/shaft assembly (C) in the transfer housing (D).

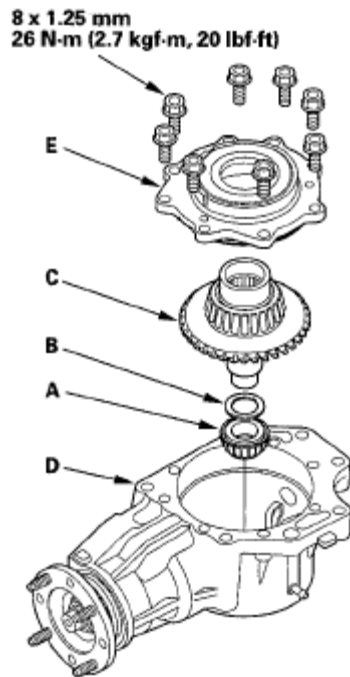


Fig. 700: Identifying Tapered Roller Bearing, Thrust Shim And Transfer Hypoid Drive Gear/Shaft Assembly With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

36. Temporally install the transfer cover (E) without the O-ring. Install and tighten the bolts.
37. Secure the transfer housing (A) in a bench vise (B) with soft jaws. To prevent damage to the transfer housing, always use soft jaws or equivalent materials between the transfer housing and the vise.

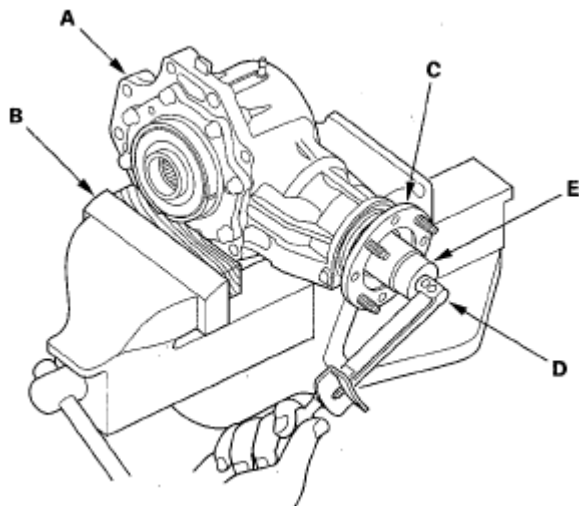


Fig. 701: Measuring Starting Torque At Companion Flange
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

38. Rotate transfer companion flange (C) several times to seat the tapered roller bearings.

39. Measure the starting torque at the companion flange using a torque wrench (D) and a socket (E).

Total Starting Torque:

2.12-3.45 N.m

(21.6-35.2 kgf cm, 18.7-30.6 lbf.in.)

40. Remove the transfer cover from the transfer housing.
41. If the starting torque is within the standard, go to step 47.
42. If the starting torque is out of standard, remove the bearing outer race (A) and the 80 mm thrust shim (B) from the transfer cover (C). If the bearing outer race is press-fitted, remove the bearing outer race by heating the cover to about 212°F (100°C) with a heat gun (D). Do not heat the cover more than 212°F (100°C).

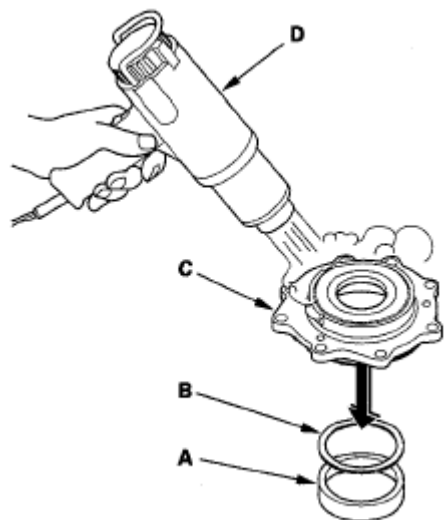


Fig. 702: Removing Bearing Outer Race With Heat Gun

Courtesy of AMERICAN HONDA MOTOR CO., INC.

43. Measure thickness of the removed 80 mm thrust shim, and select the new 80 mm shim.

THRUST SHIM, 80 mm

THRUST SHIM THICKNESS SPECIFICATIONS

Shim No.	Part Number	Thickness
A	41401-RDK-000	1.52 mm (0.060 in.)
B	41402-RDK-000	1.55 mm (0.061 in.)
C	41403-RDK-000	1.58 mm (0.062 in.)
D	41404-RDK-000	1.61 mm (0.063 in.)
E	41405-RDK-000	1.64 mm (0.065 in.)

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F	41406-RDK-000	1.67 mm (0.066 in.)
G	41407-RDK-000	1.70 mm (0.067 in.)
H	41408-RDK-000	1.73 mm (0.068 in.)
I	41409-RDK-000	1.76 mm (0.069 in.)
J	41410-RDK-000	1.79 mm (0.070 in.)
K	41411-RDK-000	1.82 mm (0.072 in.)
L	41412-RDK-000	1.85 mm (0.073 in.)
M	41413-RDK-000	1.88 mm (0.074 in.)
N	41414-RDK-000	1.91 mm (0.075 in.)
O	41415-RDK-000	1.94 mm (0.076 in.)
P	41416-RDK-000	1.97 mm (0.078 in.)
Q	41417-RDK-000	2.00 mm (0.079 in.)
R	41418-RDK-000	2.03 mm (0.080 in.)
S	41419-RDK-000	2.06 mm (0.081 in.)
T	41420-RDK-000	2.09 mm (0.082 in.)
U	41421-RDK-000	2.12 mm (0.083 in.)
V	41422-RDK-000	2.15 mm (0.085 in.)
W	41423-RDK-000	2.18 mm (0.086 in.)
X	41424-RDK-000	2.21 mm (0.087 in.)
Y	41425-RDK-000	2.24 mm (0.088 in.)
Z	41426-RDK-000	2.27 mm (0.089 in.)
AA	41427-RDK-000	2.30 mm (0.091 in.)
AB	41428-RDK-000	2.33 mm (0.092 in.)
AC	41429-RDK-000	2.36 mm (0.093 in.)
AD	41430-RDK-000	2.39 mm (0.094 in.)
AE	41431-RDK-000	2.42 mm (0.095 in.)
AF	41432-RDK-000	2.45 mm (0.096 in.)
AG	41433-RDK-000	2.48 mm (0.098 in.)
AH	41434-RDK-000	2.51 mm (0.099 in.)
AI	41435-RDK-000	2.54 mm (0.100 in.)
AJ	41436-RDK-000	2.57 mm (0.101 in.)
AK	41437-RDK-000	2.60 mm (0.102 in.)
AL	41438-RDK-000	2.63 mm (0.104 in.)
AM	41439-RDK-000	2.66 mm (0.105 in.)

44. Install the 80 mm thrust shim (A) and the bearing outer race (B) in the transfer cover (C). If you heated the cover, let it cool to room temperature before installing the thrust shim.

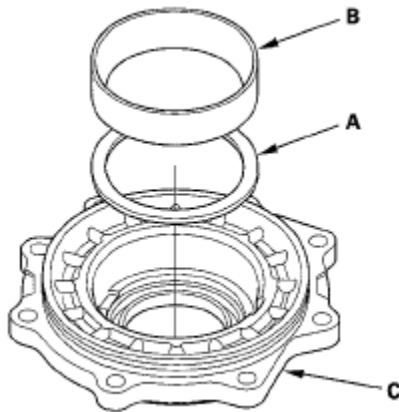


Fig. 703: Identifying Bearing Outer Race, Transfer Cover And Thrust Shim
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

45. Drive the outer race securely in the cover using the driver and the attachment (78 x 80 mm) so there is no clearance between the outer race, thrust shim, and cover.

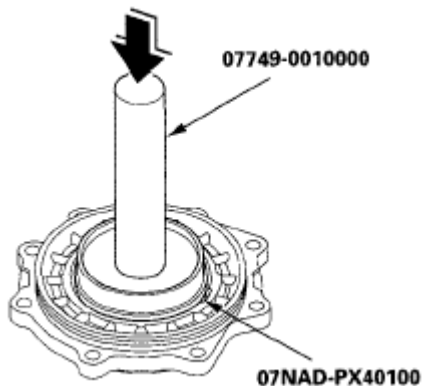


Fig. 704: Pressing Outer Race
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

46. After replacing the 80 mm thrust shim, recheck and make sure that the total starting torque is within the specification.
47. Install the new O-ring (A) on the transfer cover (B), then install the cover on the transfer housing (C).

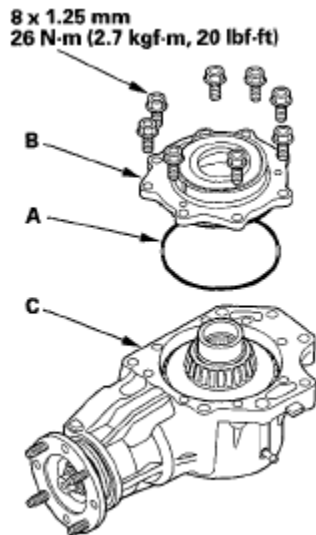


Fig. 705: Identifying O-Ring And Transfer Cover With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

48. Remove the filler plug (A), then refill the transfer assembly with transfer fluid (hypoid gear oil). Use an SAE 90 or SAE 80W-90 viscosity hypoid gear oil, API classified GL4 or GL5 only.

Viscosity:

SAE 90: Above 0°F (-181°C)

SAE 80W-90: Below 0° (-18°C)

Hypoid Gear Oil Capacity: 0.45 L (0.48 US qt)

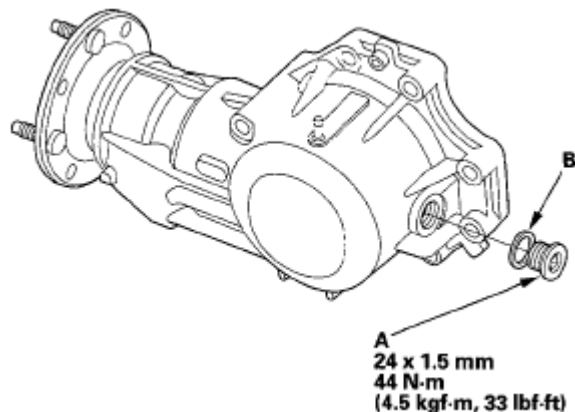


Fig. 706: Identifying Filler Plug And Sealing Washer With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

49. Install the filler plug with a new sealing washer (B).