

## 2007 Acura RL

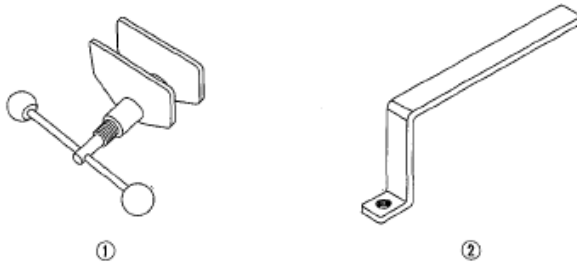
2005-08 BRAKES Conventional Brake Components - RL

### 2005-08 BRAKES

#### Conventional Brake Components - RL

### SPECIAL TOOLS

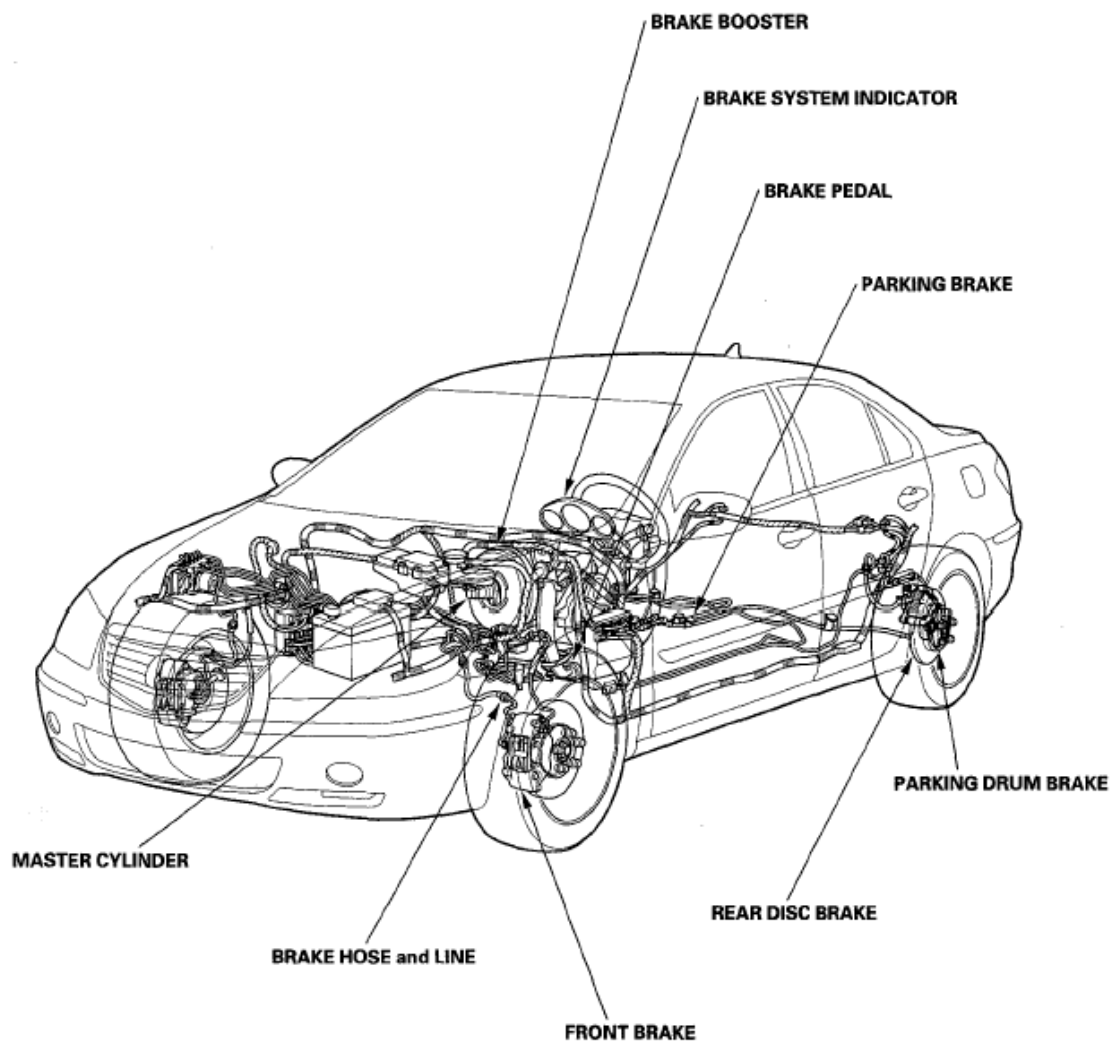
| Ref. No. | Tool Number   | Description                     | Qty |
|----------|---------------|---------------------------------|-----|
| ①        | 07AAE-SEPA101 | Brake Caliper Piston Compressor | 1   |
| ②        | 070AB-SJA0100 | Booster Piston Holder           | 1   |



**Fig. 1: Identifying Special Tools**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

### COMPONENT LOCATION INDEX



**Fig. 2: Identifying Conventional Brakes Components Location**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## BRAKE SYSTEM INSPECTION AND TEST

Inspect the brake system components listed. Repair or replace any parts that are leaking or damaged.

### Component Inspections:

#### COMPONENT INSPECTIONS CHART

| Component       | Procedure   | Also check for:   |
|-----------------|---|---|
| Master Cylinder | Look for damage or signs of fluid leakage at: <ul style="list-style-type: none"><li>• Reservoir or master cylinder body.</li><li>• Line joints.</li><li>• Between master cylinder and</li></ul> | Bulging seal at reservoir cap. This is a sign of fluid contamination. |

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|                            |  |                                  |
|----------------------------|--|----------------------------------|
|                            | booster.   |                                  |
| Brake Hoses                | Look for damage or signs of fluid leakage at: <ul style="list-style-type: none"><li>• Line joints and line joints connections.</li><li>• Hoses and lines, also inspect for twisting or damage.</li></ul> | Bulging, twisted, or bent lines. |
| Caliper                    | Look for damage or signs of fluid leakage at: <ul style="list-style-type: none"><li>• Piston seal.</li><li>• Line joints connections.</li><li>• Bleeder screw.</li></ul>                                 | Seized or sticking caliper pins. |
| VSA Modulator-Control Unit | Look for damage or signs of fluid leakage at: <ul style="list-style-type: none"><li>• Line joints.</li><li>• Modulator-control unit.</li></ul>   |                                  |

## BRAKE SYSTEM TEST

### Brake pedal sinks/fades when braking

1. Set the parking brake, and start the engine, then turn off the A/C switch. Allow the engine to warm up to normal operating temperature (radiator fan comes on twice).
2. Attach a 50 mm (2 in.) piece of masking tape along the bottom of the steering wheel, and draw a horizontal reference mark across it.
3. With the transmission in the P or N position, press and hold the brake pedal lightly (about the same pressure needed to keep an A/T-equipped car from creeping), then release the parking brake.
4. While still holding the brake pedal, hook the end of the tape measure behind the brake pedal, then pull the tape up to the steering wheel, noting where the tape measure lines up with the reference mark you made on the masking tape.
5. Apply steady pressure to the brake pedal for 3 minutes.
6. Watch the tape measure.
  - If it moves less than 10 mm (3/8 in.), the master cylinder is OK.
  - If it moves more than 10 mm (3/8 in.), replace the master cylinder.

## SYMPTOM TROUBLESHOOTING

### RAPID BRAKE PAD WEAR, VEHICLE VIBRATION (AFTER A LONG DRIVE), OR HIGH, HARD BRAKE PEDAL

1. Drive the vehicle until the brakes drag or until the pedal is high and hard. This can take 20 or more brake pedal applications during an extended test-drive.
2. With the engine running, raise the vehicle on a lift, and spin all four wheels by hand.

*Is there brake drag at any of the wheels?*

**YES** -Go to step 3.

**NO** -Look for other causes of the pad wear, high pedal, or vehicle vibration.

3. Turn the engine off, pump the brake pedal to deplete the vacuum in the brake booster, and then spin the wheels again to check for brake drag.

*Is there brake drag at any of the wheels?*

**YES** -Go to step 4.

**NO** -Replace the brake booster.

4. Without removing the brake lines, unbolt and separate the master cylinder from the booster, then spin the wheels to check for brake drag.

*Is there brake drag at any of the wheels?*

**YES** -Go to step 5.

**NO** -Check the brake pedal position switch adjustment and pedal free play (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

5. Loosen the hydraulic lines at the master cylinder, then spin the wheels to check for brake drag.

*Is there brake drag at any of the wheels?*

**YES** -Go to step 6.

**NO** -Replace the master cylinder (see **MASTER CYLINDER REPLACEMENT** ).

6. Loosen the breeder screws at each caliper, then spin the wheels to check for brake drag.

*Is there brake drag at any of the wheels?*

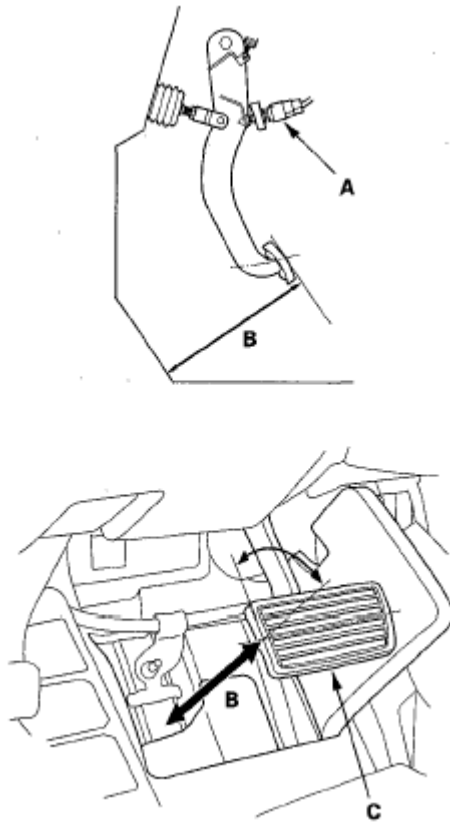
**YES** -Disassemble and repair the caliper on the wheel(s) with brake drag.

**NO** -Look for a bulging master cylinder cap seal, discolored or contaminated brake fluid in the master cylinder, or damaged brake lines. If any of these items are damaged, replace them. If all of these items are OK, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

## **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**

### **PEDAL HEIGHT**

1. Turn the brake pedal position switch (A) counterclockwise, and pull it back until it is no longer touching the brake pedal.



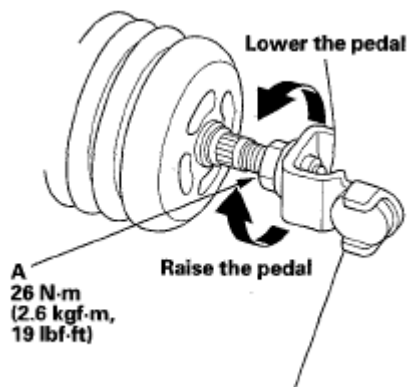
**Fig. 3: Identifying Brake Pedal Position Switch**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Lift up the carpet. At the insulator cutout, measure the pedal height (B) from the left side middle of the pedal pad (C).

**Standard pedal height (with carpet removed): 178 mm (7 in.)**

3. Loosen the pushrod locknut (A), and screw the pushrod in or out with pliers until the standard pedal height from the floor is reached. After adjustment, tighten the locknut firmly. Do not adjust the pedal height with the pushrod pressed.

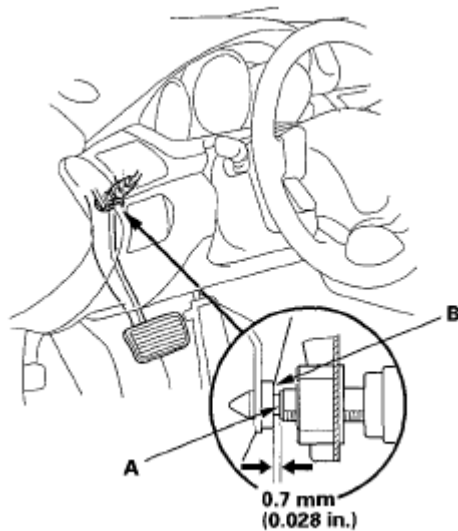


**Fig. 4: Adjusting Pushrod Length With Torque Specifications**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

### Brake Pedal Position Switch Clearance

4. Lift up on the brake pedal by hand. Push in the brake pedal position switch until its plunger (A) is fully pressed (threaded end (A) touching the pad (B) on the pedal arm). Then, turn the switch 45 °clockwise to lock it. The gap between the brake pedal position switch and the pad is automatically adjusted to 0.7 mm (0.028 in.) by locking the switch. Make sure the brake lights go off when the pedal is released.



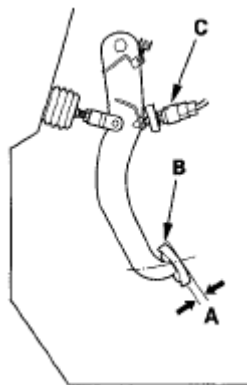
**Fig. 5: Identifying Brake Pedal Position Switch Clearance**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Check the brake pedal free play.

### PEDAL FREE PLAY

1. With the engine off, inspect the play (A) on the brake pedal pad (B) by pushing the brake pedal by hand.

**Free play: 0.5-2.0 mm (0.02-0.08 in.)**



**Fig. 6: Checking Pedal Free Play**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

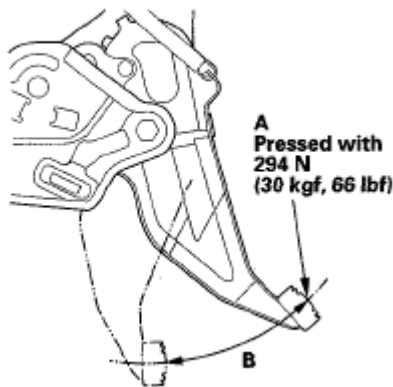
2. If the brake pedal free play is out of specification, adjust the brake pedal position switch (C). If the brake pedal free play is insufficient, it may result in brake drag.

## PARKING BRAKE INSPECTION AND ADJUSTMENT

### INSPECTION

1. Press the parking brake pedal (A) with 294 N (30 kgf, 66 lbf) of force to fully apply the parking brake. The parking brake pedal should be locked within the specified number of clicks (B).

**Pedal locked clicks: 5 to 6**



**Fig. 7: Pressing Parking Brake Pedal With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

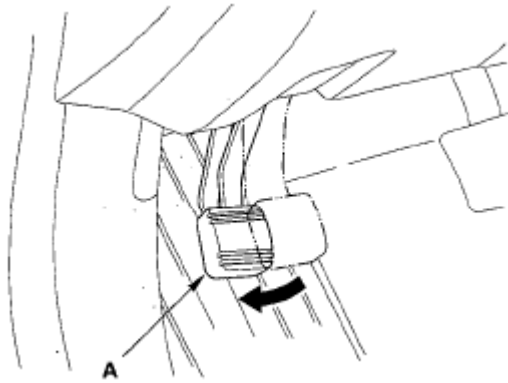
2. Adjust the parking brake if the pedal clicks are not within the specification.

**NOTE:** Minor parking brake pedal adjustments (1 to 2 clicks) can be made with the adjusting nut. If a larger adjustment is required, follow the major adjustment procedure using the adjuster at the parking brake drum.

After installing new parking brake shoes and/or new brake disc/drum, make sure you drive the vehicle for "break-in" (see **PARKING BRAKE SHOE LINING BREAK-IN** ).

### MINOR ADJUSTMENT

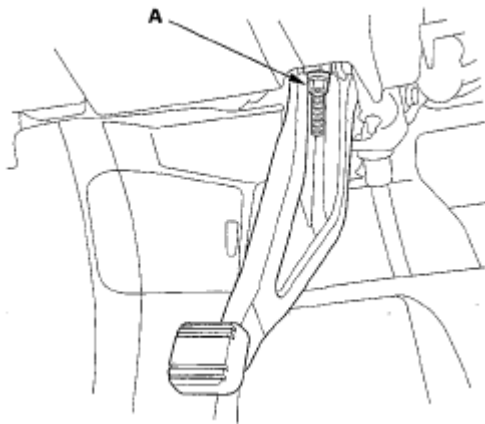
1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Release the parking brake pedal fully.
3. Press the parking brake pedal (A) 1 click.



**Fig. 8: Pressing Parking Brake Pedal**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Tighten the adjusting nut (A) until the parking brakes drag slightly when the rear wheels are rotated.



**Fig. 9: Identifying Adjusting Nut In Parking Brake Pedal**

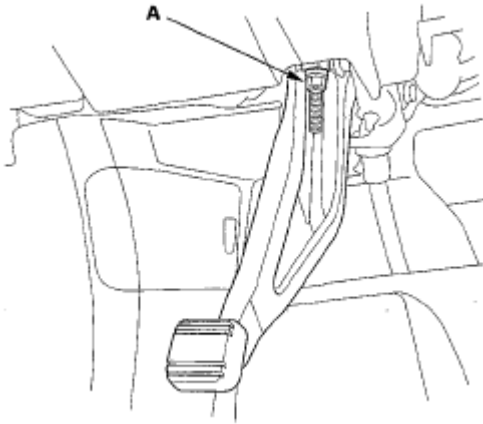
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Release the parking brake pedal fully, and check that the parking brakes do not drag when the rear wheels are rotated. Readjust if necessary.
6. Make sure the parking brakes are fully applied when the parking brake pedal is pressed all the way.

**MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)**

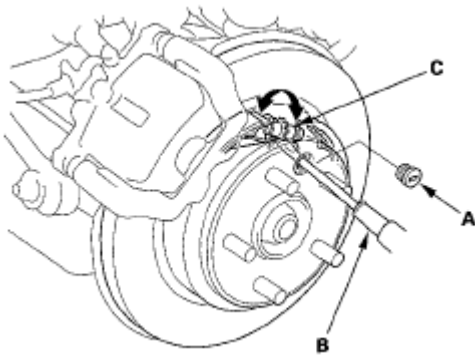
1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Release the parking brake pedal fully.
3. Back off the adjusting nut (A) in the parking brake pedal.





**Fig. 10: Identifying Adjusting Nut In Parking Brake Pedal**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the rear wheels.
5. Remove the access plug (A).



**Fig. 11: Identifying Adjusting Parking Brake Shoes**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Use a flat tip screwdriver (B) to rotate the adjuster assembly (C) until the shoes lock against the parking brake drum. Then back off the adjuster 12 clicks, and install the access plug.
7. Clean the mating surface of the brake disc/drum and the inside of the wheel, then install the rear wheels.
8. Do the minor adjustment procedure.

## **BRAKE SYSTEM BLEEDING**

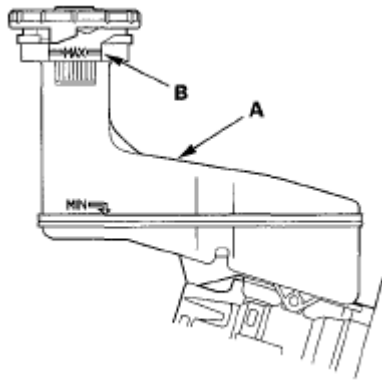
### **NOTE:**

- Do not reuse the drained fluid. Use only clean Acura DOT 3 Brake Fluid from an unopened container. Using a non-Acura brake fluid can cause corrosion and shorten the life of the system.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid; they may not be compatible.
- Do not spill brake fluid on the vehicle, it may damage the paint; if brake

fluid does contact the paint, wash it off immediately with water.

- The reservoir connected to the master cylinder must be at the MAX (upper) level mark at the start of the bleeding procedure and checked after bleeding each brake caliper. Add fluid as required.

1. Make sure the brake fluid level in the reservoir (A) is at the MAX (upper) level line (B).



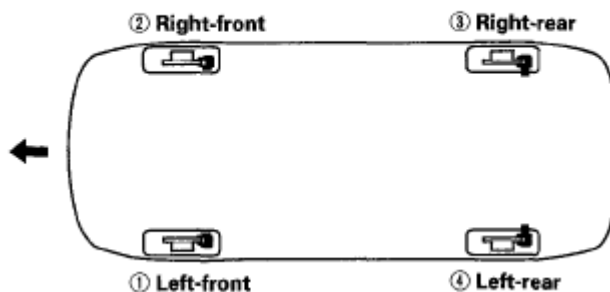
**Fig. 12: Identifying Brake Fluid Reservoir**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Attach a length of clear drain tube to the bleed screw.
3. Have someone slowly pump the brake pedal several times, then apply steady pressure.
4. Starting at the left-front, loosen the brake bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.
5. Repeat the procedure for each wheel in the sequence shown until air bubbles no longer appear in the fluid.

**NOTE:** The front and rear bleed screw caps (A) are different. Make sure to install them in the proper position.

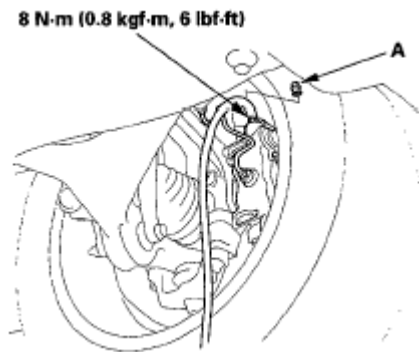
**BLEEDING SEQUENCE:**



**Fig. 13: Identifying Bleeding Sequence**

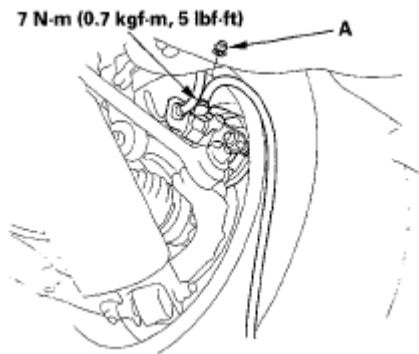
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**Front**



**Fig. 14: Identifying Bleed Screw Caps Identifying Adjusting Nut In Parking Brake - Front**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

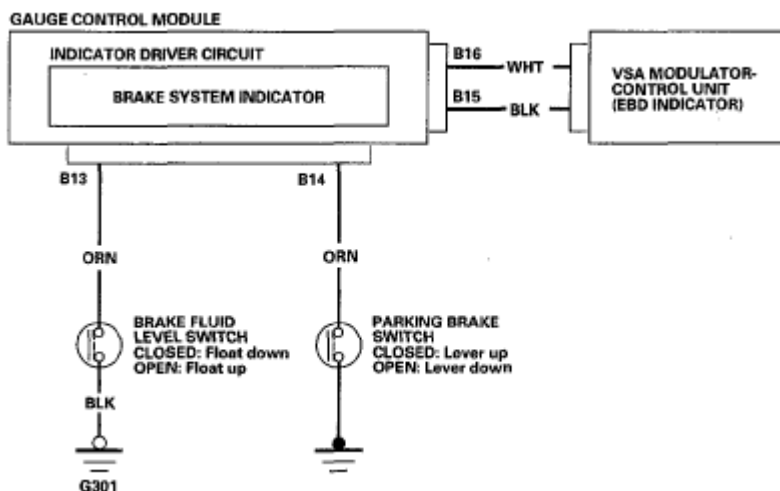
### Rear



**Fig. 15: Identifying Bleed Screw Caps Identifying Adjusting Nut In Parking Brake - Rear**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Refill the master cylinder reservoir to the MAX (upper) level line.

## BRAKE SYSTEM INDICATOR CIRCUIT DIAGRAM

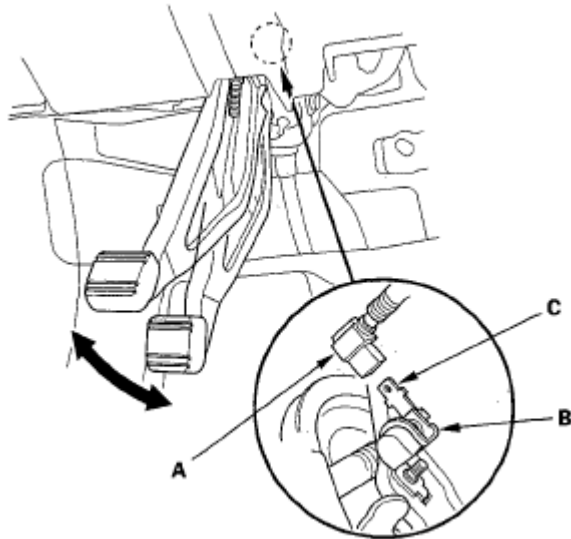


**Fig. 16: Brake System Indicator Circuit Diagram**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## PARKING BRAKE SWITCH TEST

**NOTE:** If both the ABS/VSA indicator and the brake system indicator come on at the same time, check the VSA system first (see ABS/VSA INDICATOR ).

1. Disconnect the connector (A) from the parking brake switch (B).



**Fig. 17: Identifying Parking Brake Switch Connector**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Check for continuity between the positive terminal (C) and body ground.
  - With the parking brake pedal pushed, there should be continuity.
  - With the parking brake pedal released, there should be no continuity.

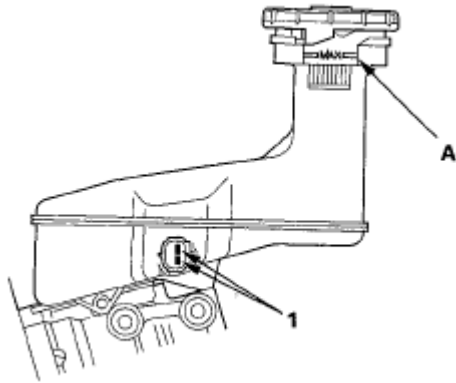
**NOTE:**

- If both the ABS/VSA indicator and the brake system indicator come on at the same time, check the VSA first.
- If the parking brake switch/fluid level switch is OK, but the brake system indicator does not function, check the VSA (Do the input test for the daytime running lights control unit first).

## BRAKE FLUID LEVEL SWITCH TEST

Check for continuity between the terminals (1) with the float in the down position and in the up position.

- Remove the brake fluid completely from the reservoir. With the float down, there should be continuity.
- Fill the reservoir with brake fluid to the MAX (upper) level (A). With the float up, there should be no continuity.



**Fig. 18: Identifying Brake Fluid Level MAX Mark (A)**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## FRONT BRAKE PAD INSPECTION AND REPLACEMENT

### Special Tools Required

Brake caliper piston compressor 07AAE-SEPA101

**CAUTION:** Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.

### INSPECTION

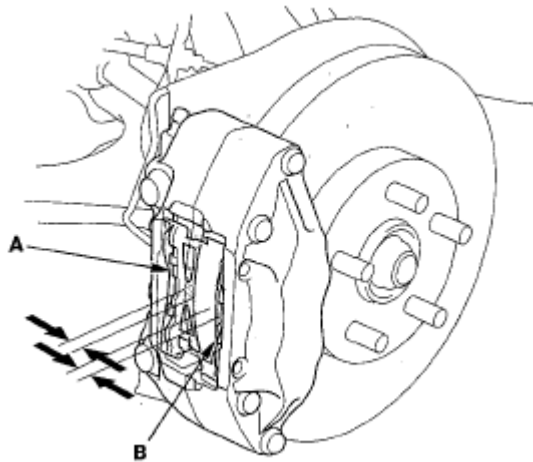
**NOTE:** Due to the high performance nature of the brake system, the rotors and pads may wear faster. Be sure to inspect the front rotor thickness anytime the front pads are replaced.

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Check the thickness of the inner brake pad (A) and outer pad (B). Do not include the thickness of the brake pad backing plate.

### Brake pad thickness:

**Standard:** 10.5-11.5 mm (0.4-0.45 in.)

**Service limit:** 1.6 mm (0.06 in.)



**Fig. 19: Checking Thickness Of Brake Pads**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. If the brake pad thickness is less than the service limit, replace all the front brake pads as a set.
5. Clean the mating surface of the brake disc and the inside of the wheel, then install the front wheels.

## REPLACEMENT

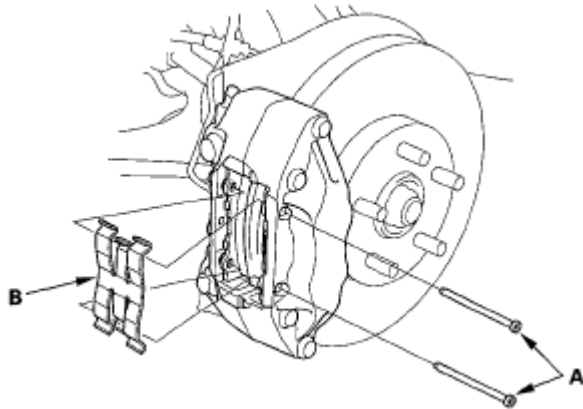
**NOTE:** Due to the high performance nature of the brake system, the rotors and pads may wear faster. Be sure to inspect the front rotor thickness anytime the front pads are replaced.

1. Remove some brake fluid from the master cylinder.
2. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
3. Remove the front wheels.
4. Turn and twist out the clip (A) from the caliper hole (B), and pull the clip out from the pad pins (C).



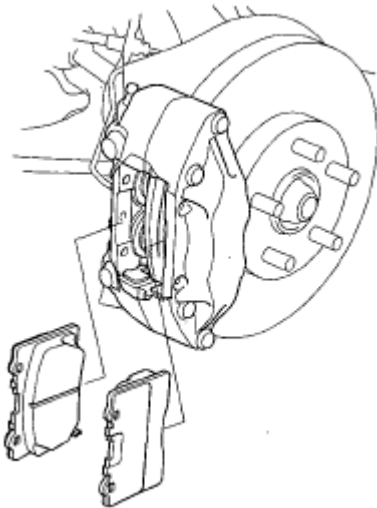
**Fig. 20: Identifying Calliper Hole And Clip**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the pad pins (A) and the pad spring (B).



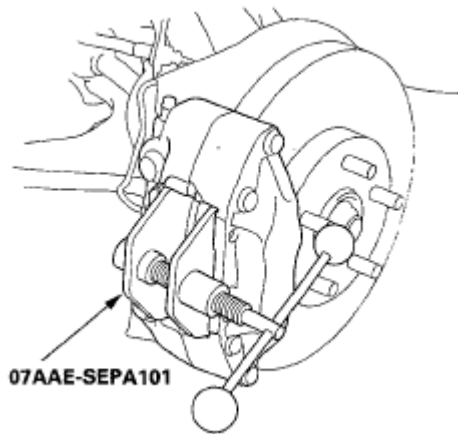
**Fig. 21: Identifying Pad Pins And Pad Spring**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the pads.



**Fig. 22: Identifying Brake Pads**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Clean the caliper thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Mount the brake caliper piston compressor on the caliper.

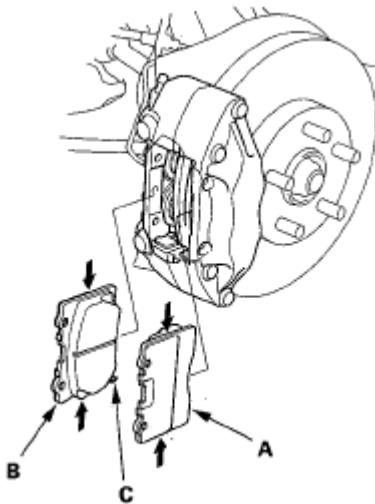


**Fig. 23: Mounting Brake Caliper Piston Compressor On Caliper**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Press in the piston with the brake caliper piston compressor so that the caliper will fit over the pads. Make sure the piston boot is in position to prevent damaging it.

**NOTE:** Be careful when pressing in the pistons because brake fluid might overflow from the master cylinder's reservoir.

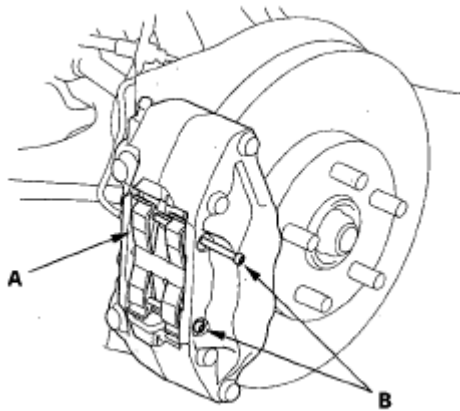
11. Remove the brake caliper piston compressor.
12. Apply M-77 assembly paste (P/N 08798-9010) to both sides of the pad shim (A), the back of the brake pads (B), and the other areas indicated by the arrows. Wipe excess assembly paste off the pads. Contaminated brake discs or pads reduce stopping ability. Keep paste off the brake discs and pads.



**Fig. 24: Identifying Pad Shim And Brake Pads**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

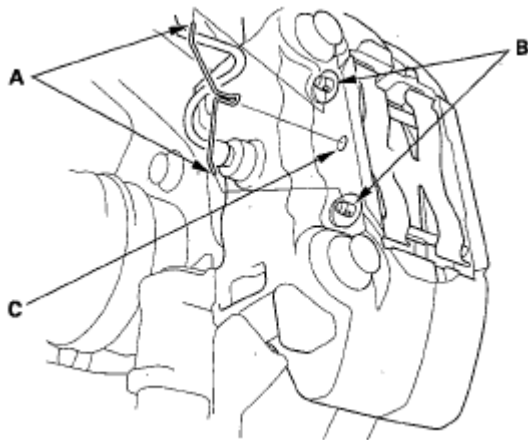
13. Install the brake pads correctly. Install the brake pad with the wear indicator (C) on the inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a momentary loss of braking efficiency.
14. Install the pad spring (A). Hold the pad spring and install the pad pins (B) into the caliper from the outside to the inside of vehicle.





**Fig. 25: Identifying Pad Spring And Pad Pins**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. First insert the clip ends (A) to the pad pins (B), and then twist the clip into the caliper hole (C) to stabilize.



**Fig. 26: Identifying Clip Ends And Pad Pins**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Clean the mating surface of the brake disc and the inside of the wheel, then install the front wheels.
17. Press the brake pedal several times to make sure the brakes work.

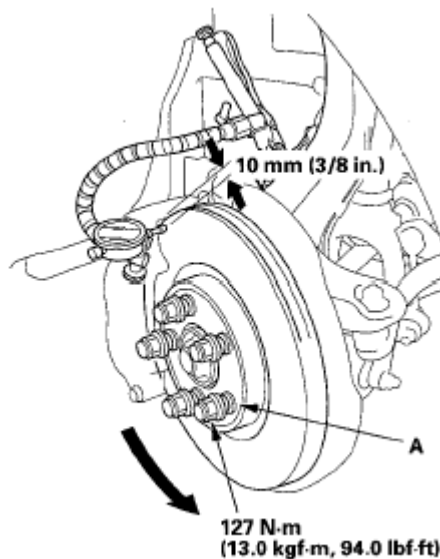
**NOTE:** Engagement of the brakes may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

18. Add brake fluid as needed.
19. After installation, check for leaks at the brake hose and line joints or connections, and retighten if necessary.
20. Reinstall the front wheels, then test-drive the vehicle.
21. Check for leaks.

## FRONT BRAKE DISC INSPECTION

## RUNOUT

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Remove the brake pads (see **REPLACEMENT** ).
4. Inspect the brake disc surface for damage and cracks. Clean the brake disc thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts, and tighten the nuts to the specified torque to hold the brake disc securely against the hub.



**Fig. 27: Setting Up Dial Gauge Against Brake Disc With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Set up the dial gauge against the brake disc as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc.

### Brake disc runout:

**Service limit: 0.04 mm (0.0016 in.)**

7. If the brake disc is beyond the service limit for runout, refinish the brake disc with a commercially available on-car brake lathe.

## THICKNESS AND PARALLELISM

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Remove the brake pads (see **REPLACEMENT** ).
4. Using a micrometer, measure brake disc thickness at eight points, approximately 45 "apart and 10 mm (3/8 in.) in from the outer edge of the brake disc. Replace the brake disc if the smallest measurement

is less than the max. refinishing limit.

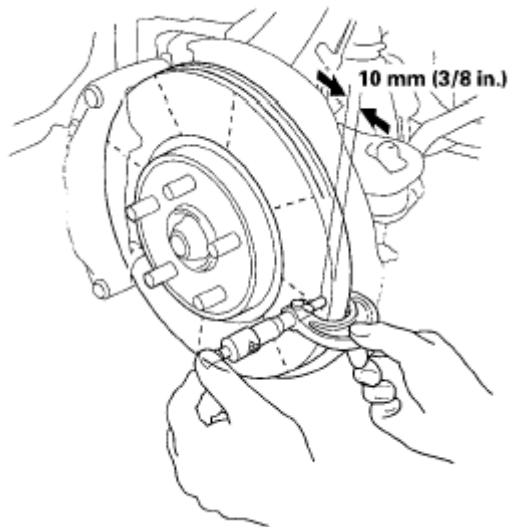
**Brake disc thickness:**

**Standard: 27.9-28.1 mm (1.10-1.11 in.)**

**Max. refinishing limit: 26.0 mm (1.02 in.)**

**Brake disc parallelism: 0.015 mm (0.0006 in.) max.**

**NOTE:** This is the maximum allowable difference between the thickness measurements.



**Fig. 28: Measuring Brake Disc Thickness**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

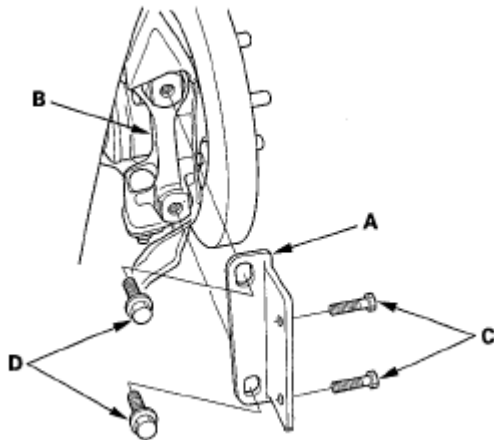
5. If the smallest measurement is less than the max. refinishing limit, replace the brake disc (see **FRONT BRAKE DISC REPLACEMENT** ).
6. If the brake disc is beyond the service limit for parallelism, refinish the brake disc with a commercially available on-car brake lathe.

## REFINISHING

**NOTE:** Refinish the brake disc with a commercially available on-car brake lathe.

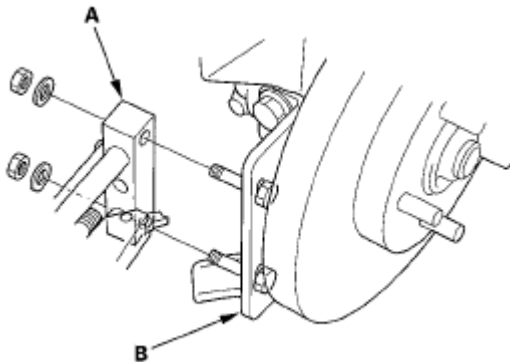
1. Remove the brake caliper assembly (see **FRONT BRAKE DISC REPLACEMENT** ).
2. Install the brake lathe brackets (A) to the knuckle (B).

**NOTE:** Place two bolts (C) in the brackets before tightening the bolts (D).



**Fig. 29: Identifying Brake Lathe Brackets And Bolts**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the on-car brake lathe adapters (A) to the brake lathe bracket (B), then refinish the brake disc.



**Fig. 30: Identifying Brake Lathe Adapters And Brake Lathe Bracket**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Measure the brake disc runout, thickness, and parallelism.

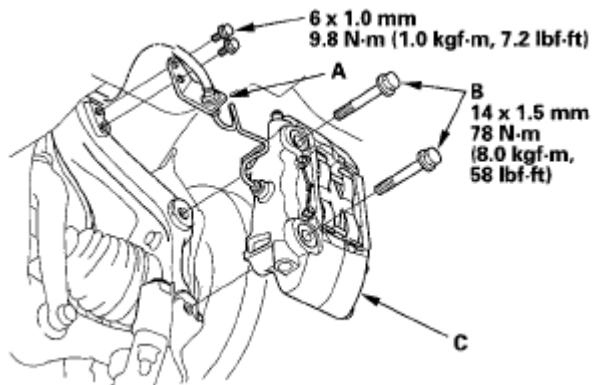
**NOTE:**

- If the brake disc is beyond the service limit for refinishing, replace it (see FRONT BRAKE DISC REPLACEMENT ).
- A new brake disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.).

Max. refinishing limit: 26.0 mm (1.02 in.)

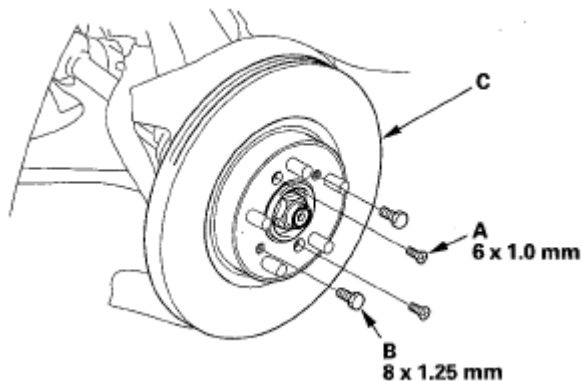
## FRONT BRAKE DISC REPLACEMENT

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see LIFT AND SUPPORT POINTS ).
2. Remove the front wheels.
3. Remove the brake hose mounting bracket (A).



**Fig. 31: Identifying Mounting Caliper Assembly With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the brake caliper bracket mounting bolts (B), and remove the caliper assembly (C) from the knuckle. To prevent damage to the caliper assembly or brake hose, use a short piece of wire to hang the caliper assembly from the undercarriage. Do not twist the brake hose with force.
5. Remove the 6 mm brake disc retaining screws (A).



**Fig. 32: Identifying Brake Disc And Brake Disc Retaining Screws**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Thread two 8 x 1.25 mm bolts (B) into the disc to push it away from the hub. Turn each bolt 90 degrees to prevent the brake disc from binding.
7. Remove the brake disc (C) from the hub.
8. Install the brake disc in the reverse order of removal, and note these items:
  - Before installing the brake disc, clean the mating surface of the front hub and the inside of the brake disc.
  - Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.

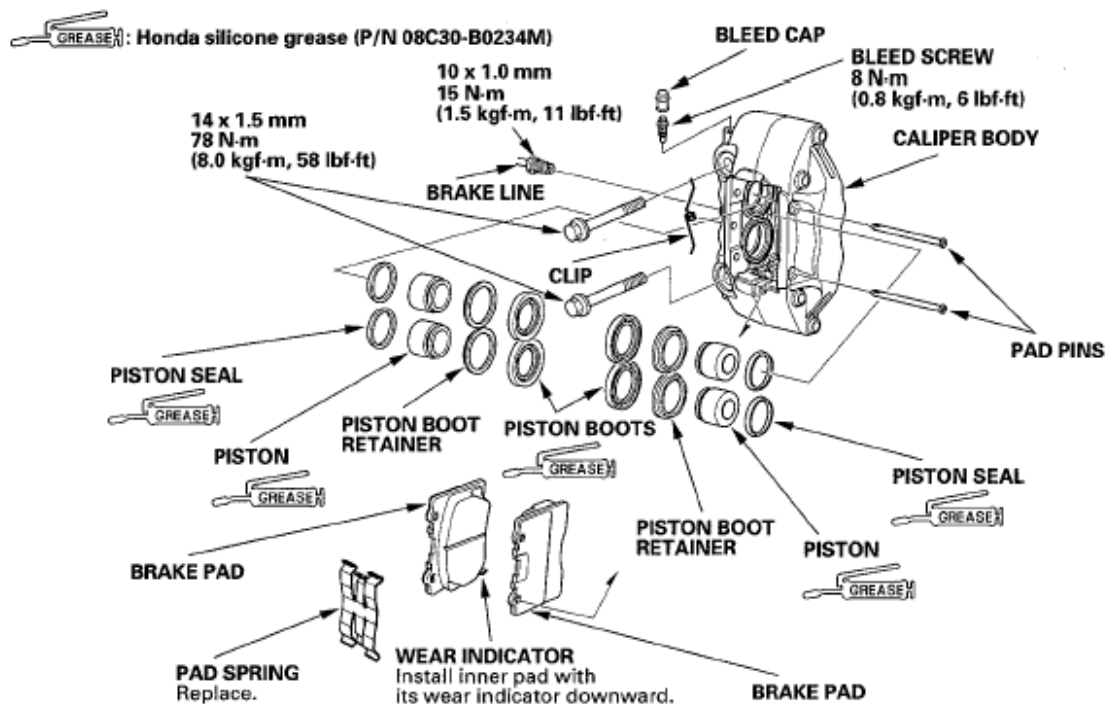
## FRONT BRAKE CALIPER OVERHAUL

**CAUTION:** Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Acura DOT 3 Brake Fluid from an unopened container. Using a non-Acura brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.



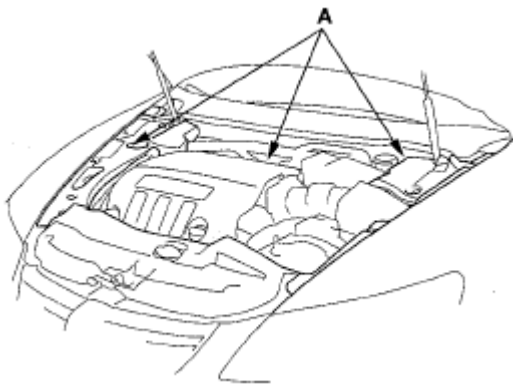
**Fig. 33: Identifying Caliper Components Grease Applying Area With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

## MASTER CYLINDER REPLACEMENT

### NOTE:

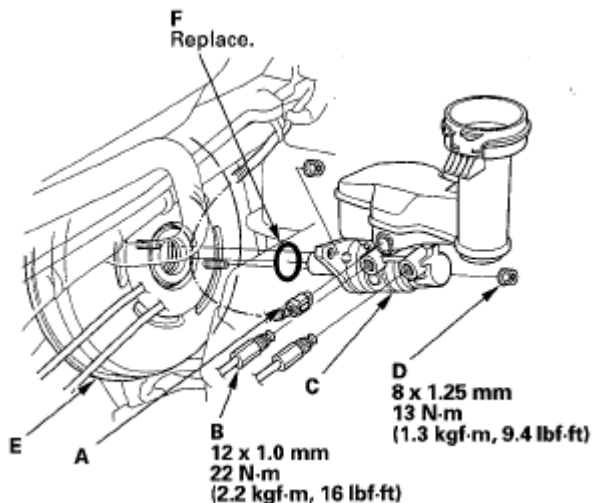
- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- Be careful not to damage or deform the brake lines during removal and inspection.
- To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent.

1. Lower the vehicle to the ground.
2. Remove the covers (A) in the engine compartment.



**Fig. 34: Identifying Engine Compartment Covers**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the under-hood fuse/relay box, and move it aside (see **REMOVAL AND INSTALLATION** ).
4. Remove the strut brace (see **FRAME BRACE REPLACEMENT** ).
5. Remove the reservoir cap and brake fluid from the master cylinder reservoir with a syringe.
6. Disconnect the brake fluid level switch connector (A).



**Fig. 35: Identifying Brake Fluid Level Switch Connector And Brake Lines With Torque Specifications****Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the brake lines (B) from the master cylinder (C). To prevent spills, cover the line joints with rags or shop towels.

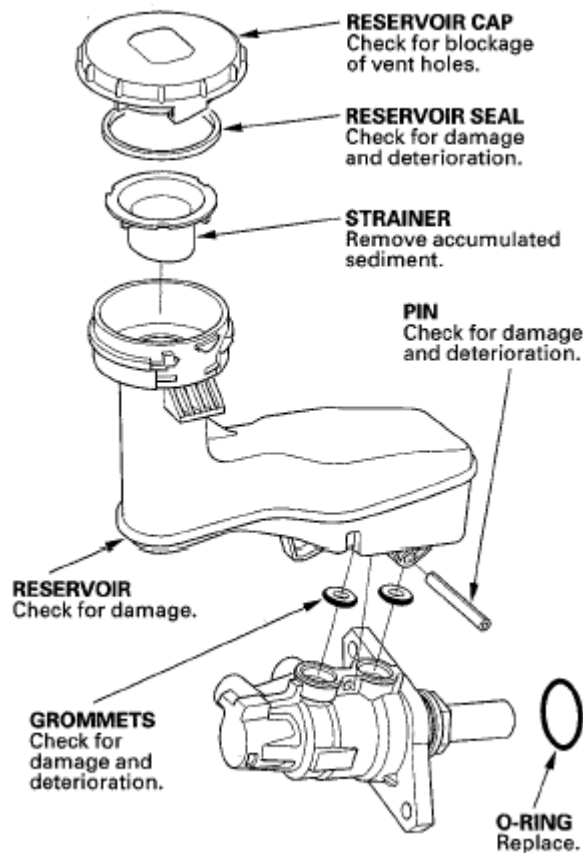
**NOTE:**        **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.**

8. Remove the master cylinder mounting nuts (D) and washers.
9. Remove the master cylinder from the brake booster (E). Be careful not to bend or damage the brake lines when removing the master cylinder.
10. Remove the O-ring (F) from the master cylinder.
11. Install the master cylinder in the reverse order of removal, and note these items:
  - Before installing master cylinder, check the brake booster pushrod clearance (see **BRAKE BOOSTER PUSHROD CLEARANCE ADJUSTMENT** ).
  - Replace the O-ring whenever the master cylinder is removed.
  - Coat the O-ring with clean brake fluid.
  - Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
  - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary.
12. Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
13. Spin the wheels to check for brake drag.

**MASTER CYLINDER INSPECTION**

- NOTE:**
- Before reassembling, check that all parts are free of dirt and other foreign particles.
  - Do not try to disassemble the master cylinder assembly. Replace the master cylinder assembly with a new part if necessary.
  - Do not allow dirt or foreign matter to contaminate the brake fluid.





**Fig. 36: Identifying Master Cylinder Components**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

## BRAKE BOOSTER TEST

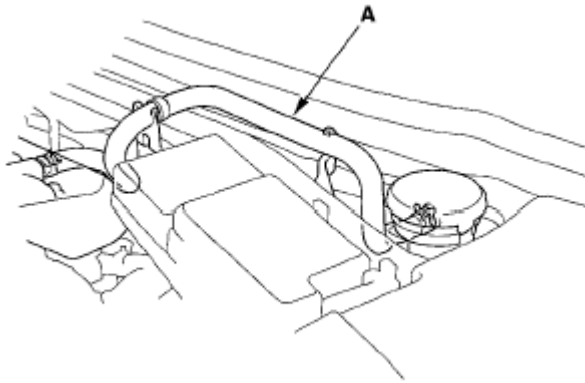
### FUNCTIONAL TEST

1. With the engine stopped, press the brake pedal several times to deplete the vacuum reservoir, then press the brake pedal hard, and hold it for 15 seconds. If the brake pedal sinks, either the master cylinder is bypassing brake fluid internally, or the brake system (master cylinder, lines, modulator, or caliper) is leaking.
2. Start the engine with the brake pedal pressed. If the pedal sinks slightly, the vacuum booster is operating normally. If the brake pedal height does not vary, the booster or check valve is faulty.
3. With the engine running, press the brake pedal lightly and shift the transmission to the D position. Apply just enough pressure to hold back automatic transmission creep. If the brake pedal sinks more than 10 mm (3/8 in.) in 3 minutes, the master cylinder is faulty. A slight change in brake pedal height when the A/C compressor cycles on and off is normal. (The A/C compressor load changes the vacuum available to the booster.)

### LEAK TEST

1. Press the brake pedal with the engine running, then turn OFF the engine. The brake pedal height should not vary while pressed for 30 seconds. If the pedal height rises, go to step 6. If the pedal does not rise, or varies go to step 2.

2. Start the engine, and let it idle for 30 seconds. Turn the engine off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the brake pedal is first pressed, it should be low. On consecutive applications, the brake pedal height should gradually rise. Does the pedal rise on each consecutive application? If it rises the booster is OK. If it does not, go to step 3.
3. Disconnect the brake booster vacuum hose (check valve built-in) (A) at the booster side.



**Fig. 37: Identifying Brake Booster Vacuum Hose**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Start the engine, and let it idle. There should be vacuum available. If no vacuum is available, the check valve is not working properly. Replace the brake booster vacuum hose and check valve, and retest. If vacuum is found, go to step 5.
5. Reconnect the vacuum hose to the brake booster.
6. Start the engine, and then pinch the brake booster vacuum hose between the check valve and the booster.
7. Turn the engine off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the brake pedal is first pressed, it should be low. On consecutive applications, the brake pedal height should gradually rise.
  - If the pedal position does not rise, inspect the seal between the master cylinder and booster. If the seal is OK, replace the brake booster.
  - If the brake pedal position varies, replace the brake booster vacuum hose/check valve assembly.

## **BRAKE BOOSTER PUSHROD CLEARANCE ADJUSTMENT**

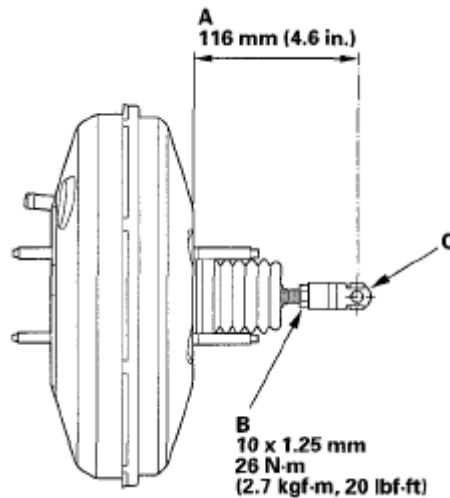
### **Special Tools Required**

Booster piston holder 070AB-SJA0100

#### **NOTE:**

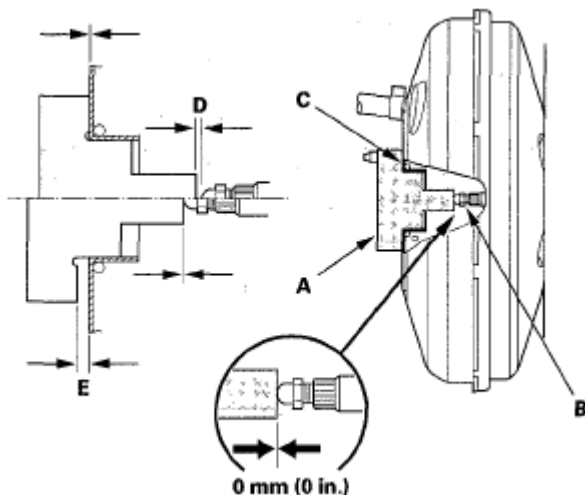
- Brake booster pushrod-to-piston clearance must be checked and readjusted before installing the master cylinder.
- The master cylinder assembly comes with the specific plate that adjusts the clearance between the brake booster and the specific master cylinder piston.
- Every time you change the master cylinder; use only the enclosed plate to check the brake booster pushrod clearance.

- Do not use anything other than the enclosed plate to check the clearance. Make sure to discard the plate supplied with master cylinder after its use.
- Brake booster has to be on the vehicle before the adjustment.
- If the brake booster pushrod and yoke were removed as an assembly, measure the pushrod reference valve (A), and adjust the yoke as needed before installing the brake booster. In some situations, install the yoke after installing the brake booster, then adjust the brake pedal height.



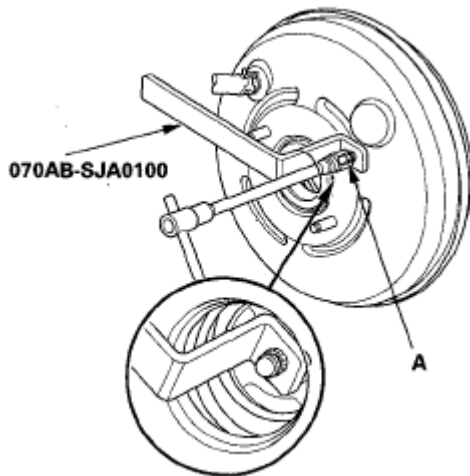
**Fig. 38: Adjusting Brake Pedal Height With Torque Specifications**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

1. Measure the clearance between the plate (A), supplied with master cylinder, and the brake booster pushrod (B). Make sure that the enclosed plate touches contacting, surface (C) between the master cylinder and brake booster. If there is a gap between the tip of the plate and the pushrod (D) or a gap between the contacting surface and the plate (E), go to step 2.



**Fig. 39: Measuring Clearance Between Plate And Brake Booster Pushrod**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Use the special tool to hold the nut, and turn the 6 mm pushrod (A) clockwise or counterclockwise to adjust the pushrod inward or outward.



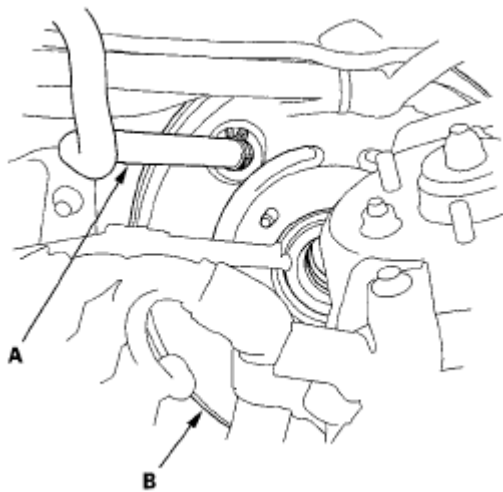
**Fig. 40: Turning Pushrod**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the master cylinder (see **MASTER CYLINDER REPLACEMENT** ).

## BRAKE BOOSTER REPLACEMENT

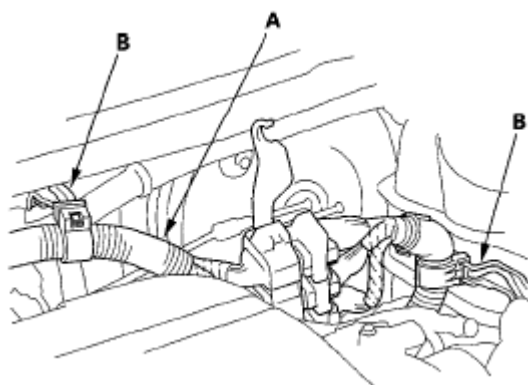
1. Remove the master cylinder (see **MASTER CYLINDER REPLACEMENT** ).
2. Disconnect the vacuum hose (A) from the brake booster (B).



**Fig. 41: Identifying Vacuum Hose And Brake Booster**

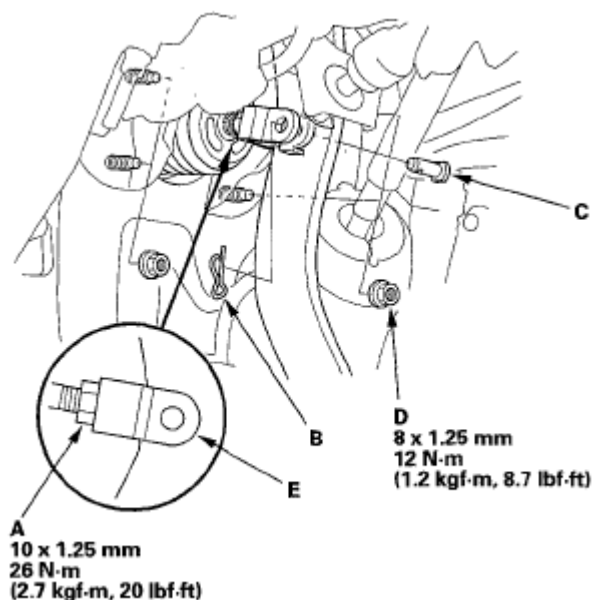
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the engine wire harness (A) from the harness brackets (B), and move the engine wire harness aside.



**Fig. 42: Identifying Engine Wire Harness And Harness Brackets**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Loosen the yoke nut (A), then remove the lock pin (B) and the joint pin (C).



**Fig. 43: Identifying Yoke Nut, Booster Mounting Nuts With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the brake booster mounting nuts (D) and the yoke (E).
6. Twist the brake booster (A) forward while pulling out.



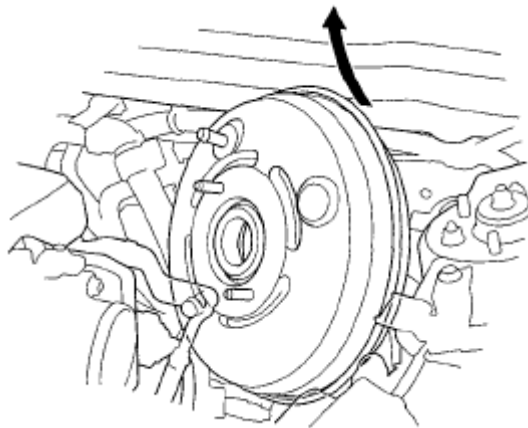
**Fig. 44: Twisting Brake Booster**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the brake booster upward from the engine compartment.

**NOTE:**

- Be careful not to damage the booster surfaces and threads of the booster stud bolts.
- Be careful not to bend or damage the brake line.



**Fig. 45: Removing Brake Booster Upward From Engine Compartment**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the brake booster in the reverse order of removal, and note these items:
  - Use a new lock pin whenever installing.
  - After installing the brake booster and master cylinder, fill the reservoir with new brake fluid from an unopened container, bleed the brake system (see **BRAKE SYSTEM BLEEDING** ), and adjust the brake pedal height and free play (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

## REAR BRAKE PAD INSPECTION AND REPLACEMENT

**CAUTION:** Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.

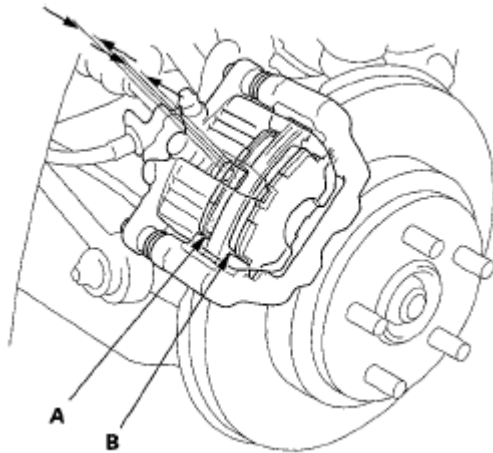
## INSPECTION

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Check the thickness of the inner brake pad (A) and outer pad (B). Do not include the thickness of the backing plate.

**Brake pad thickness:**

**Standard: 9.5-10.5 mm (0.37-0.41 in.)**

**Service limit: 1.6 mm (0.06 in.)**



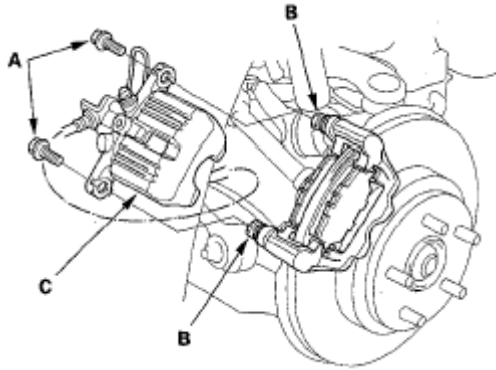
**Fig. 46: Identifying Inner Brake Pad And Outer Pad**  
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the brake pad thickness is less than the service limit, replace all the rear brake pads as a set.
5. Clean the mating surface of the brake disc/drum and the inside of the wheel, then install the rear wheels.

## REPLACEMENT

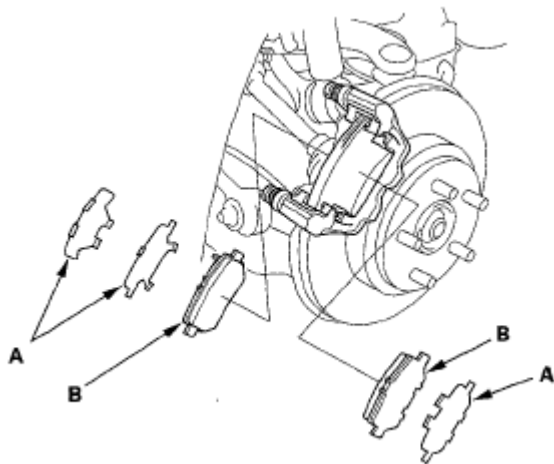
1. Remove some brake fluid from the master cylinder.
2. Release the parking brake.
3. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
4. Remove the rear wheels

5. Remove the caliper bracket mounting bolts (A) while holding the caliper pins (B) with a wrench being careful not to damage the pin boot, and remove the caliper (C). Check the hose and pin boots for damage and deterioration. Thoroughly clean the outside of the caliper to prevent dust and dirt from entering inside. Support the caliper with a piece of wire so it does not hang from the brake hose.



**Fig. 47: Identifying Caliper Bracket Mounting Bolts, Caliper Pins And Caliper**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

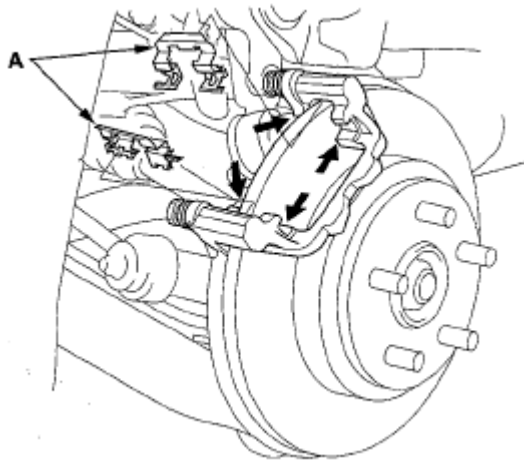
6. Remove the pad shims (A) and brake pads (B).



**Fig. 48: Identifying Pad Shims And Brake Pads**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the pad retainers (A).

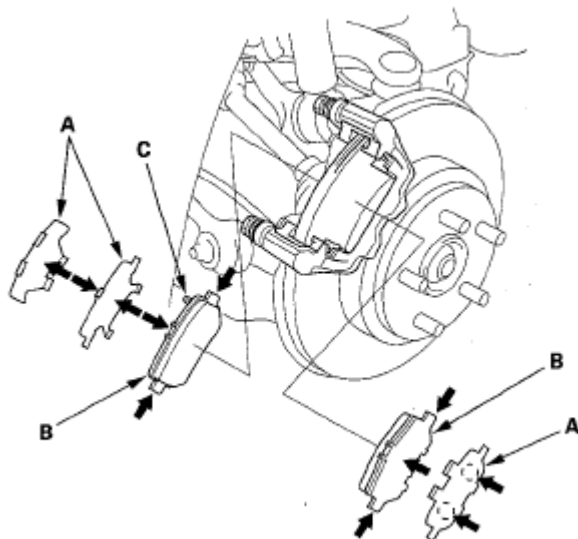




**Fig. 49: Identifying Pad Retainers**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Clean the caliper thoroughly; remove any rust and check for grooves and cracks.
9. Check the brake disc/drum for damage and cracks.
10. Apply M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces against the caliper bracket indicated by arrows.
11. Install the pad retainers. Wipe excess assembly paste off the retainers. Contaminated brake discs and pads reduce stopping ability. Keep assembly paste off the discs and pads.
12. Install the pad retainers.
13. Apply M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), and back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or pads reduce stopping ability. Keep assembly paste off the discs and pads.



**Fig. 50: Identifying Pad Shims And Brake Pads Position**

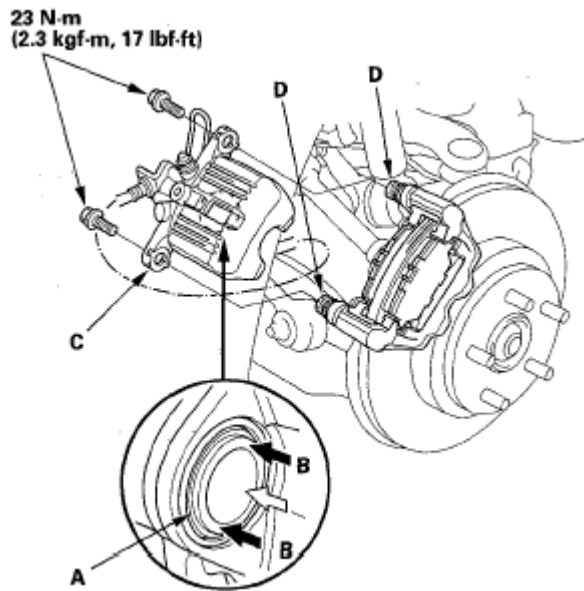
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Install the brake pads and pad shims on the caliper bracket. Install the inner brake pad with its wear

indicator (C) facing on top. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a momentary loss of braking efficiency.

15. Push in the piston (A) so the caliper will fit over the brake pads. Make sure the piston boot is in position to prevent damaging it when installing the caliper.

**NOTE:** Be careful when pushing in the caliper, brake fluid might overflow from the master cylinder's reservoir.



**Fig. 51: Installing Caliper Over Brake Pads With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Apply M-77 assembly paste (P/N 08798-9010) to the piston edges (B) on their mating surfaces against the inner pad shim.
17. Install the brake caliper (C).
18. Install the caliper bolts, and torque them to the specified torque while holding the caliper pins (D) with a wrench being careful not to damage the pin boot.
19. Clean the mating surface of the brake disc/drum and the inside of the wheel, then install the rear wheels.
20. Press the brake pedal several times to make sure the brakes work, then road-test the vehicle.

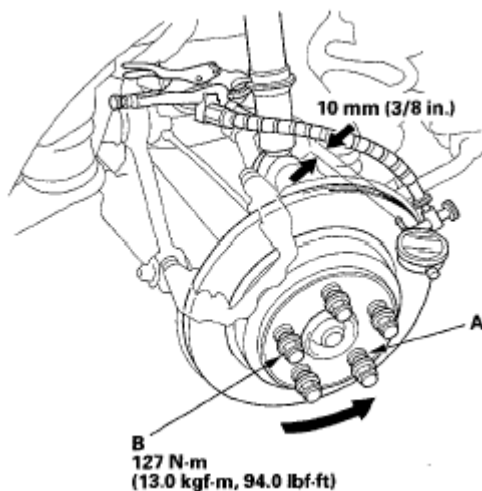
**NOTE:** Engagement of the brake may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

21. Add brake fluid as needed.
22. After installation, check for leaks at the hose and line joints and connections, and retighten if necessary.

## REAR BRAKE DISC INSPECTION

### RUNOUT

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Remove the brake pads (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT** ).
4. Inspect the brake disc/drum surface for damage and cracks. Clean the brake disc/drum thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts (B), and tighten the wheel nuts to the specified torque to hold the brake disc/drum securely against the hub.



**Fig. 52: Setting Dial Gauge Up Against Brake Disc/Drum With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Set the dial gauge up against the brake disc/drum as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc/drum.

**Brake disc/drum runout:**

**Service limit: 0.04 mm (0.0016 in.)**

7. If the disc is beyond the service limit, refinish the brake disc/drum with a commercially available on-car brake lathe.

**Max. refinishing limit: 14.0 mm (0.55 in.)**

**NOTE:**

- If the brake disc/drum is beyond the service limit for refinishing, replace it (see **REAR BRAKE DISC REPLACEMENT** ).
- A new disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.).

**THICKNESS AND PARALLELISM**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).

2. Remove the rear wheels.
3. Remove the brake pads (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT** ).
4. Using a micrometer (A), measure disc/drum thickness at eight points, about 45 "apart and 10 mm (3/8 in.) in from the outer edge of the brake disc/drum. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

**Brake disc/drum thickness:**

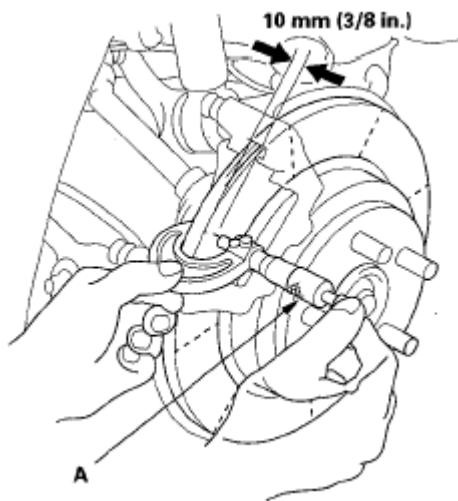
**Standard: 15.9-16.1 mm (0.625-0.634 in.)**

**Max. refinishing limit: 14.0 mm (0.55 in.)**

**Brake disc/drum parallelism: 0.015 mm (0.0006 in.) max.**

**NOTE:** This is the maximum allowable difference between the thickness measurements.

5. If the disc is beyond the service limit for parallelism, refinish the brake disc/drum with a commercially available on-car brake lathe.



**Fig. 53: Measuring Disc/Drum Thickness**

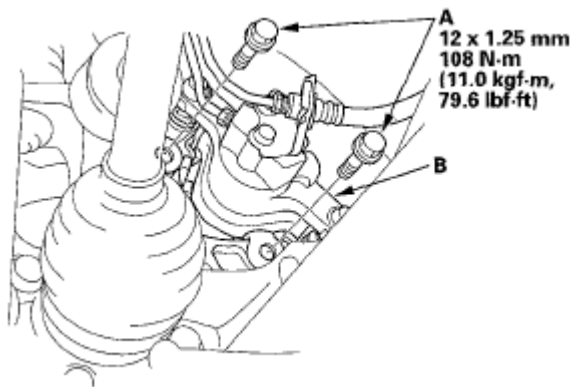
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**NOTE:** If the brake disc/drum is beyond the service limit for refinishing, replace it (see **REAR BRAKE DISC REPLACEMENT** ).

## REAR BRAKE DISC REPLACEMENT

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheel.
3. Remove the brake caliper bracket mounting bolts (A), and remove the caliper assembly (B) from the knuckle. To prevent damage to the caliper assembly or brake hose, use a short piece of wire to hang

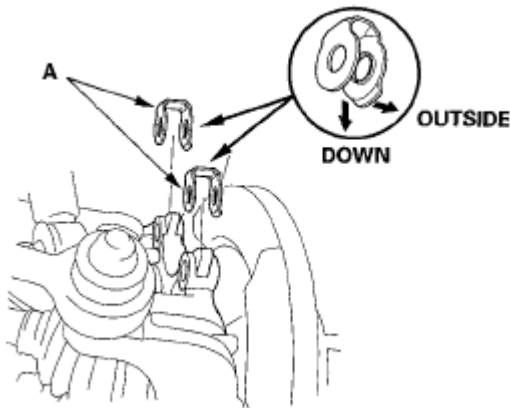
the caliper assembly from the undercarriage. Do not twist the brake hose with force.



**Fig. 54: Identifying Brake Caliper Bracket Mounting Bolts And Caliper Assembly With Torque Specifications**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

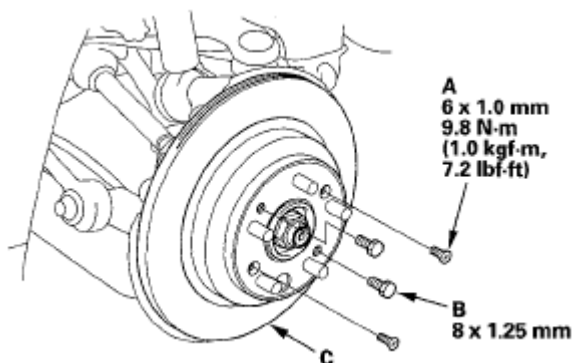
4. Remove the two washers (A).



**Fig. 55: Identifying Washers**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the 6 mm brake disc retaining screws (A).



**Fig. 56: Identifying Brake Disc/Drum And Brake Disc Retaining Screws With Torque Specifications**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Thread two 8 x 1.25 mm bolts (B) into the disc to push it away from the hub. Turn each bolt 90 degrees at a time to prevent the brake disc from binding.
7. Remove the brake disc/drum (C).
8. Install the brake disc/drum in the reverse order of removal, and note these items:
  - Before installing the wheel, clean the mating surface of the brake disc/drum and the inside of the wheel.
  - Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.

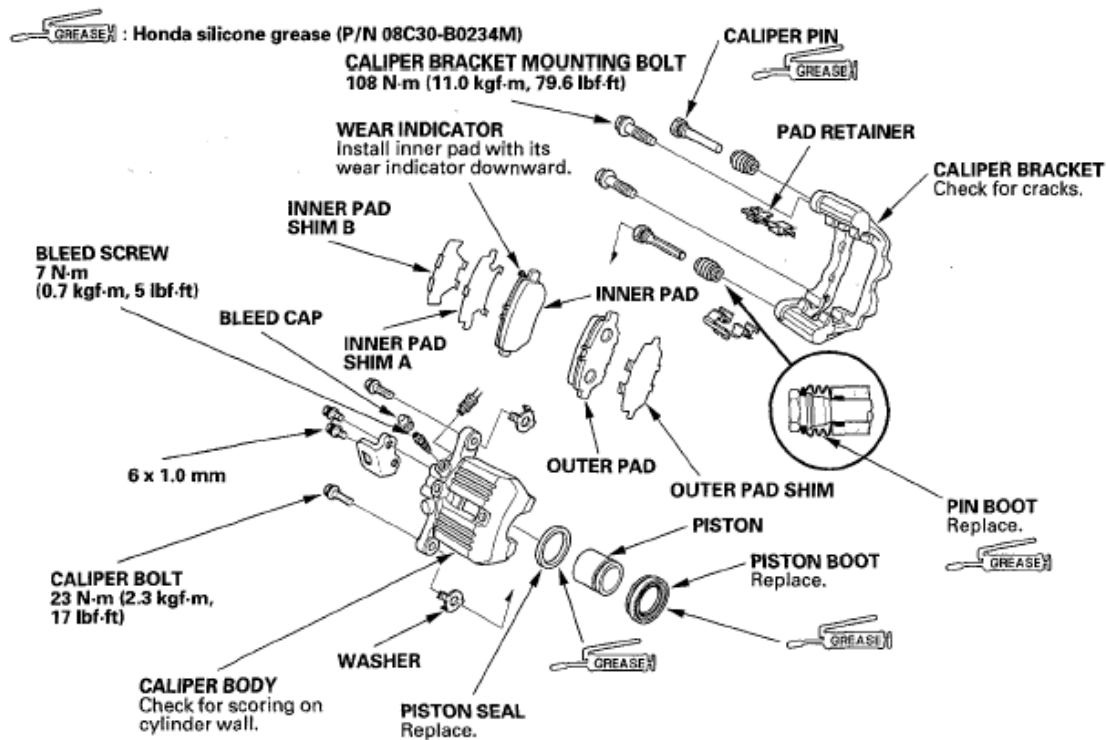
**REAR BRAKE CALIPER OVERHAUL**

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Acura DOT 3 Brake Fluid from an unopened container. Non-Acura brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.



**Fig. 57: Exploded View Of Rear Brake Caliper Components With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

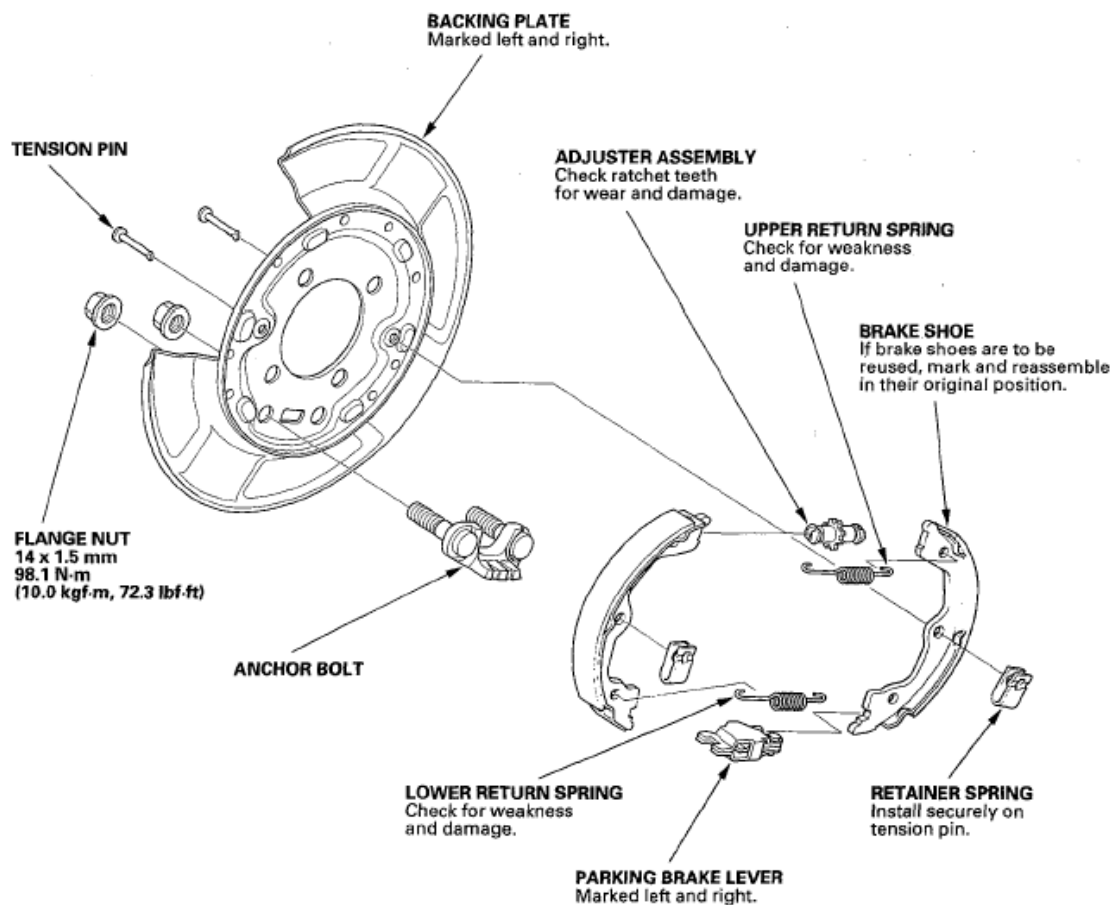
## PARKING BRAKE INSPECTION

**CAUTION:** Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.

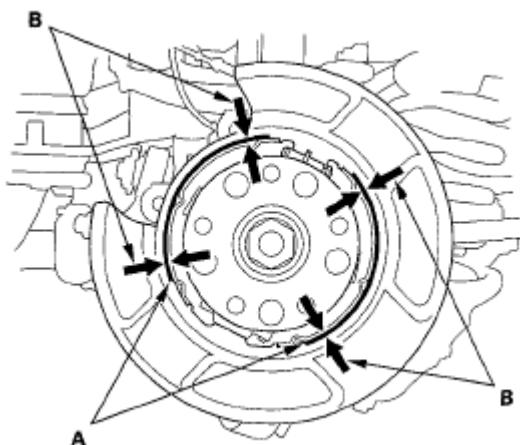
1. Release the parking brake.
2. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
3. Remove the rear wheels.
4. Remove the rear brake caliper and brake disc/drum (see **REAR BRAKE DISC REPLACEMENT** ).





**Fig. 58: Exploded View Of Parking Brake Components With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Check the parking brake linings (A) for cracking, glazing, wear, and contamination.



**Fig. 59: Identifying Parking Brake Linings**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Measure the parking brake lining thickness (B). Measurement does not include brake shoe thickness.

**Parking brake lining thickness:**



**Standard: 3.4 mm (0.133 in.)**

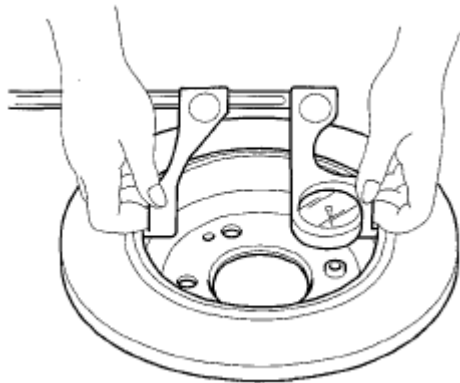
**Service limit: 1.0 mm (0.04 in.)**

7. If the parking brake lining thickness is less than the service limit, replace all the parking brake shoes as a set.
8. Check the bearings in the hub unit for smooth operation.
9. Measure the inside diameter of the parking brake drum with inside vernier calipers.

**Parking brake drum inside diameter:**

**Standard: 189.9-190.1 mm (7.476-7.484 in.)**

**Service limit: 191.0 mm (7.520 in.)**



**Fig. 60: Measuring Inside Diameter Of Parking Brake Drum**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. If the inside diameter of the parking brake drum is beyond the service limit, replace the brake disc/drum.
11. Check the parking brake drum for scoring, grooves, and cracks.
12. Clean the mating surface of the brake disc/drum and the inside of the wheel, then install the rear wheels.

## **PARKING BRAKE SHOE REPLACEMENT**

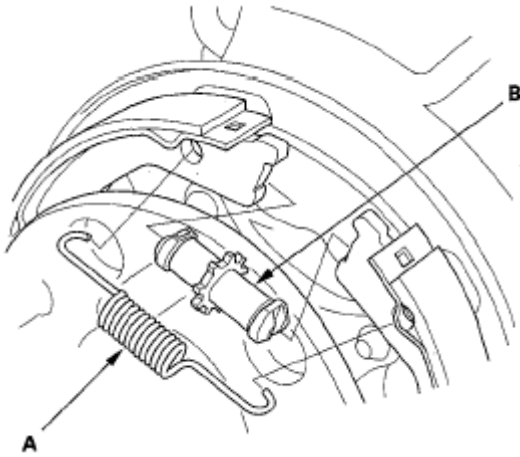
**CAUTION:** Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.

## **DISASSEMBLY**

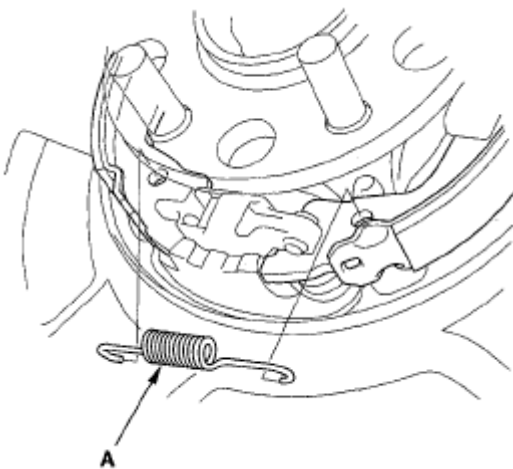
1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).

2. Remove the rear wheels.
3. Release the parking brake and remove the rear brake caliper and brake disc/drum (see **REAR BRAKE DISC REPLACEMENT** ).
4. Disconnect and remove the upper brake spring (A).



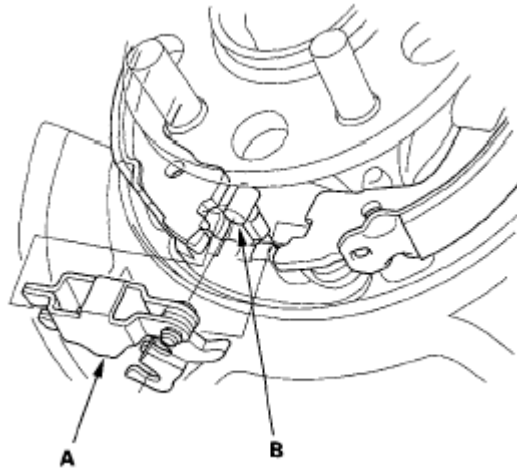
**Fig. 61: Identifying Upper Brake Spring And Adjuster Assembly**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the adjuster assembly (B).
6. Disconnect and remove the lower brake spring (A).



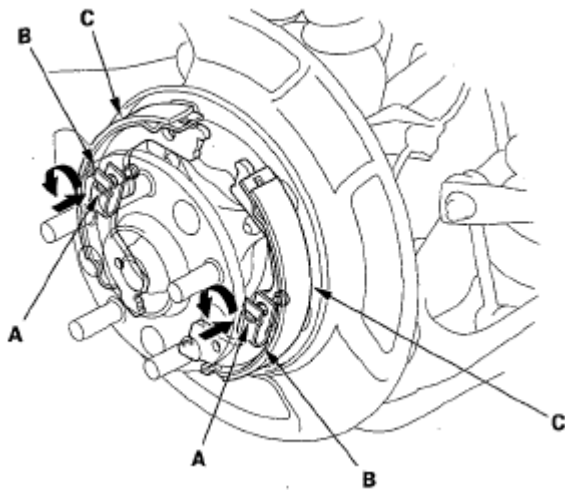
**Fig. 62: Identifying Lower Brake Spring**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the parking brake lever assembly (A), and disconnect it from the parking brake cable end (B).



**Fig. 63: Identifying Parking Brake Lever Assembly And Parking Brake Cable**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Remove the tension pins (A) by pushing the retainer springs (B) and turning the pins.

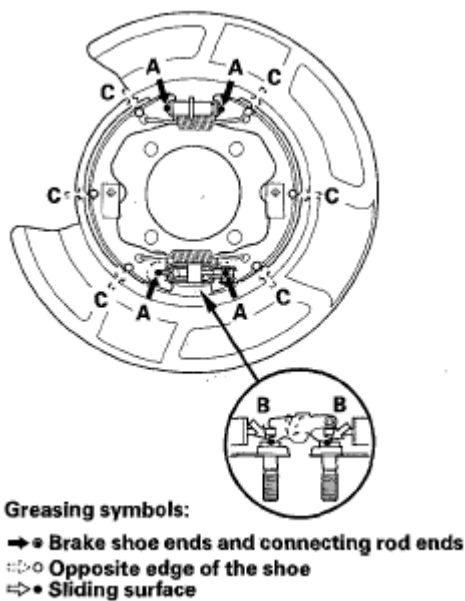


**Fig. 64: Removing Tension Pins**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Remove the parking brake shoes (C).

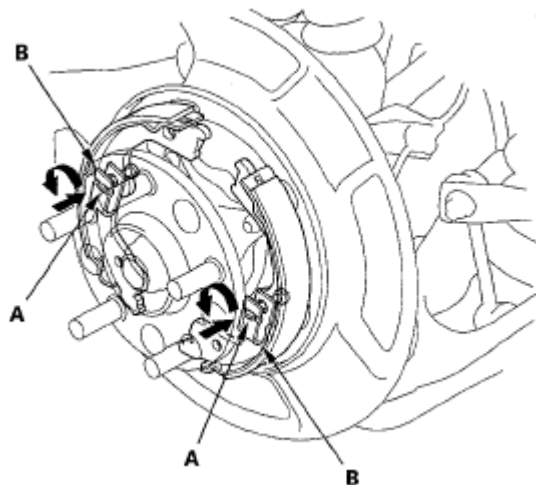
## REASSEMBLY

1. Apply Molykote 44MA grease to the shoe ends and connecting rod ends (A), sliding surfaces (B), and opposite edges of the parking brake shoe (C) as shown. Wipe off any excess. Keep grease off the brake linings.



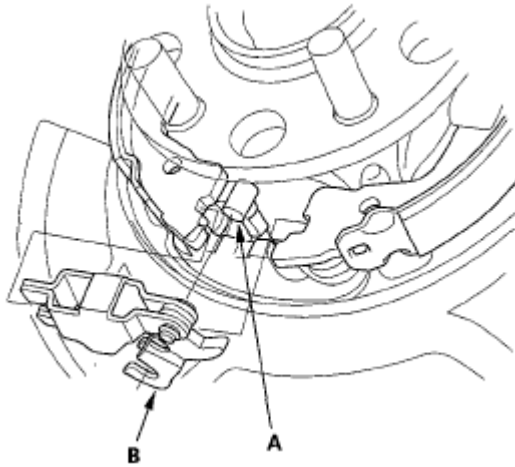
**Fig. 65: Applying Grease To Shoe Ends And Connecting Rod Ends**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Reinstall the tension pins (A) and retainer springs (B).



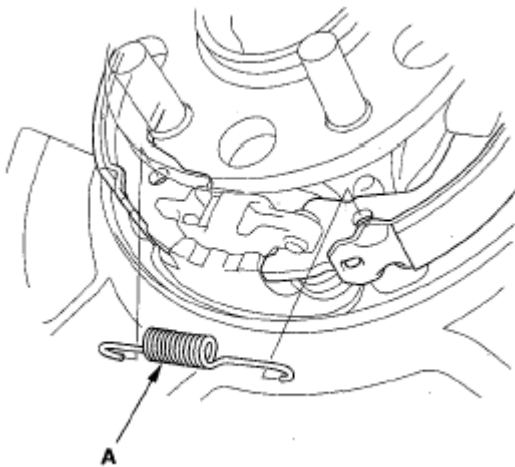
**Fig. 66: Installing Tension Pins**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Connect the parking brake cable end (A) to the parking brake lever assembly (B).



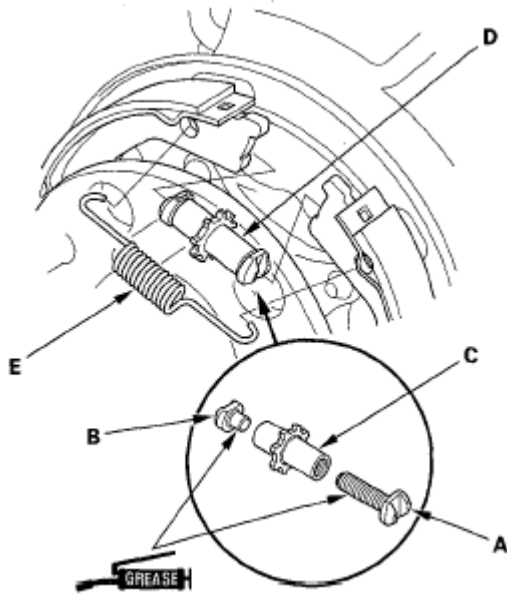
**Fig. 67: Identifying Parking Brake Cable And Parking Brake Lever Assembly**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Reinstall the lower brake spring (A).



**Fig. 68: Identifying Lower Brake Spring**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Clean the threaded portions of the clevis A, and coat the threads of the clevis with grease. Clean the sliding surface of the clevis B, and coat the sliding surface of the clevis B with grease. Install the clevis A and B on the adjuster (C) and shorten the clevis A by turning the adjuster.



**Fig. 69: Applying Grease To Clevis**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Position the brake shoe adjuster assembly (D) on the parking brake shoes.
7. Reinstall the upper brake spring (E).
8. Install the rear brake disc/drum and rear brake caliper.
9. Do the major parking brake adjustment (see **MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)** ).

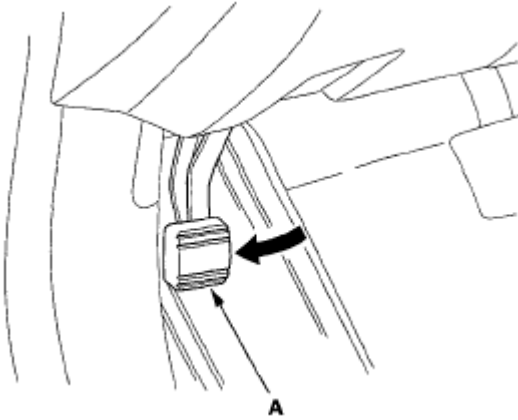
## PARKING BRAKE SHOE LINING BREAK-IN

**WARNING:** Do this operation in a safe area.

### NOTE:

- Do the brake lining surface break-in when replacing shoes with new brake linings and/or new rear brake disc/drum.
- Check the number of parking brake lever clicks. Adjust the parking brake before lining surface break-in (see **MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)** ).

1. Park the vehicle on a firm, level surface.
2. Do the major parking brake adjustment (see **MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)** ).
3. Press the parking brake pedal (A) with 180 N.m (18.4 kgf.m, 133 lbf.ft).



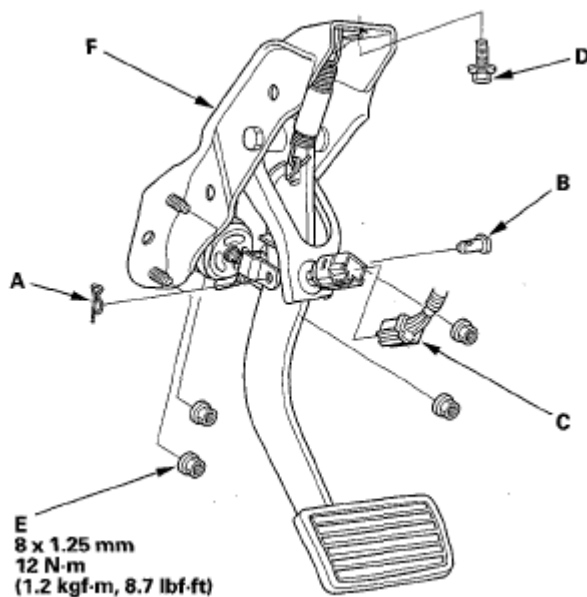
**Fig. 70: Pressing Parking Brake Pedal**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Drive the vehicle for 1/4 mile (400 m) at 31 mph (50 km/h).
5. Stop the vehicle, and release the parking brake for 5-10 minutes to allow the brake disc/drum to cool down.
6. Repeat steps 4 through 6.
7. Check the parking brake pedal adjustment (see **PEDAL FREE PLAY** ).

## BRAKE PEDAL REPLACEMENT

1. Remove the lock pin (A) and pin (B).

**NOTE:** Use a new lock pin whenever installing.



**Fig. 71: Identifying Brake Pedal Assembly With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Disconnect the brake pedal position switch connector (C).

3. Remove the brake pedal bracket mounting bolt (D) and nuts (E).
4. Remove the brake pedal with bracket (F).
5. Install in the reverse order of removal.
6. Do the brake pedal and brake pedal position switch adjustment (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

## BRAKE HOSE AND LINE INSPECTION

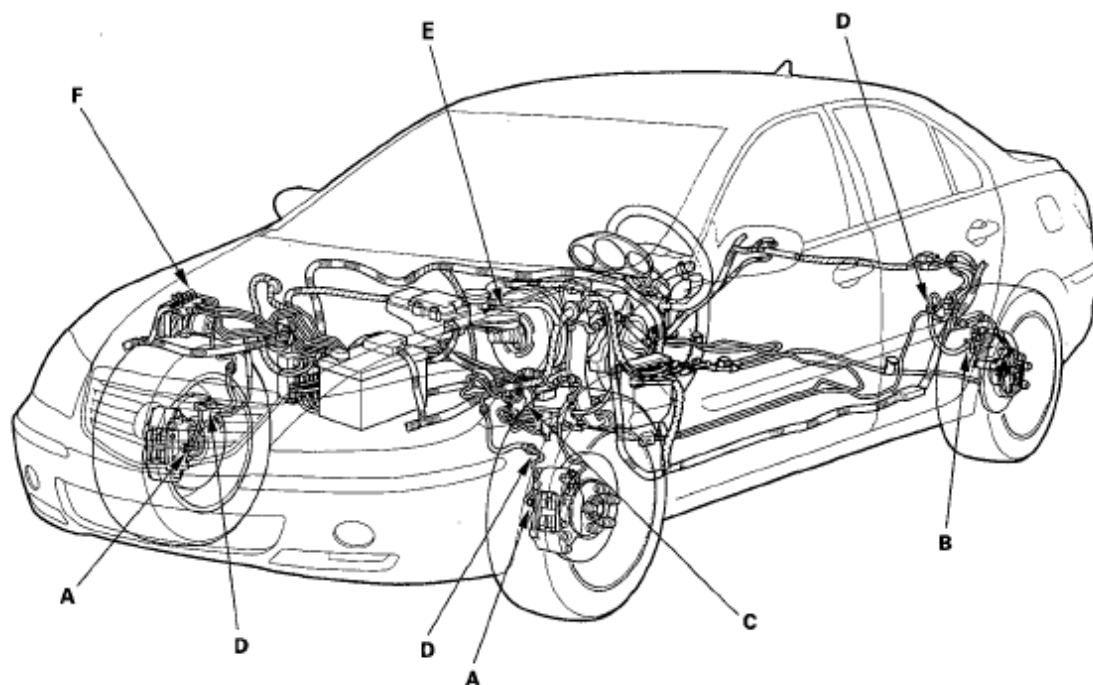
1. Inspect the brake hoses for damage, deterioration, leaks, interference, and twisting.
2. Check the brake lines for damage, rusting, and leaks. Also check for bent brake lines.
3. Check for leaks at hose and line joints and connections, and retighten if necessary.
4. Check the master cylinder and VSA modulator-control unit for damage and leakage.

**NOTE:** Replace the brake hose clip whenever the brake hose is serviced.

### TORQUE SPECIFICATION

| Connection Point | Component                              | Connected to           | Specified Torque Value        | Note      |
|------------------|--|------------------------|-------------------------------|-----------|
| A                | Front brake caliper                    | Brake line             | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
|                  |  | Bleed screw            | 8 N.m (0.8 kgf.m, 6 lbf.ft)   |           |
| B                | Rear brake caliper                     | Brake line             | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
|                  |  | Bleed screw            | 7 N.m (0.7 kgf.m, 5 lbf.ft)   |           |
| C                | 4-way joint (without ACC)              | Brake line             | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
|                  | Brake fluid pressure sensor (with ACC) |                        |                               |           |
| D                | Brake hose                             | Brake line             | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
| E                | Master cylinder                        | Brake line             | 22 N.m (2.2 kgf.m, 16 lbf.ft) | Flare nut |
| F                | VSA modulator-control unit             | Brake line (12 mm nut) | 22 N.m (2.2 kgf.m, 16 lbf.ft) | Flare nut |
|                  |  | Brake line (10 mm nut) | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |





**Fig. 72: Identifying Brake Hose And Line**

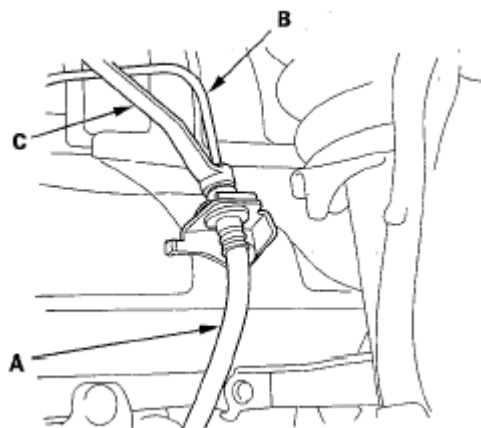
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## BRAKE HOSE REPLACEMENT

### NOTE:

- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent the brake fluid from leaking out, plug or cover the hose ends and joints with a shop towel or equivalent.

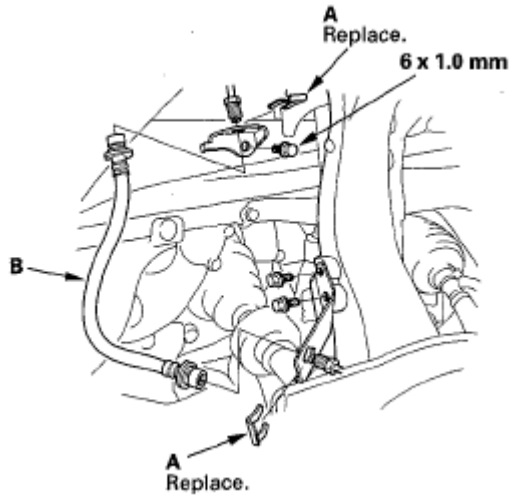
1. Replace the brake hose (A) if the hose is twisted, cracked, or leaking.



**Fig. 73: Disconnecting Brake Hose From Brake Line**

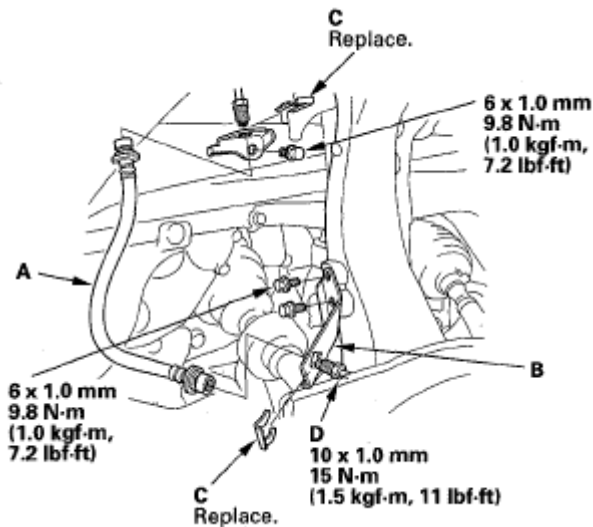
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Disconnect the brake hose from the brake line (B) using a 10 mm flare-nut wrench (C).
3. Remove and discard the brake hose clips (A) from the brake hose (B).



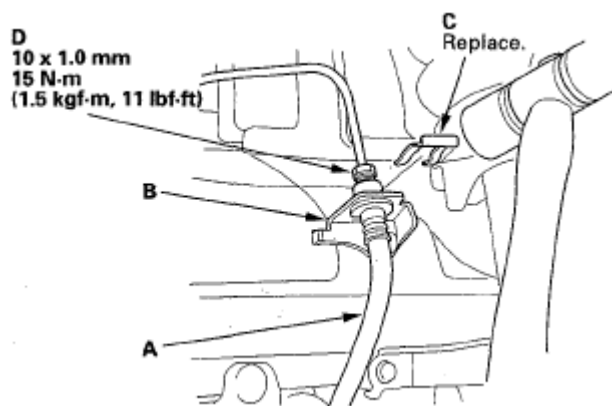
**Fig. 74: Identifying Brake Hose Clips And Brake Hose**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the brake hose from the knuckle.
5. Install the brake hose (A) on the damper, then install the brake hose bracket (B) with a new brake hose clips (C).



**Fig. 75: Identifying Brake Hose And Brake Hose Bracket With Brake Hose Clips With Torque Specifications**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Connect the brake line (D) to the brake hose.
7. Install the brake hose (A) on the upper brake hose bracket (B) with a new brake hose clip (C).



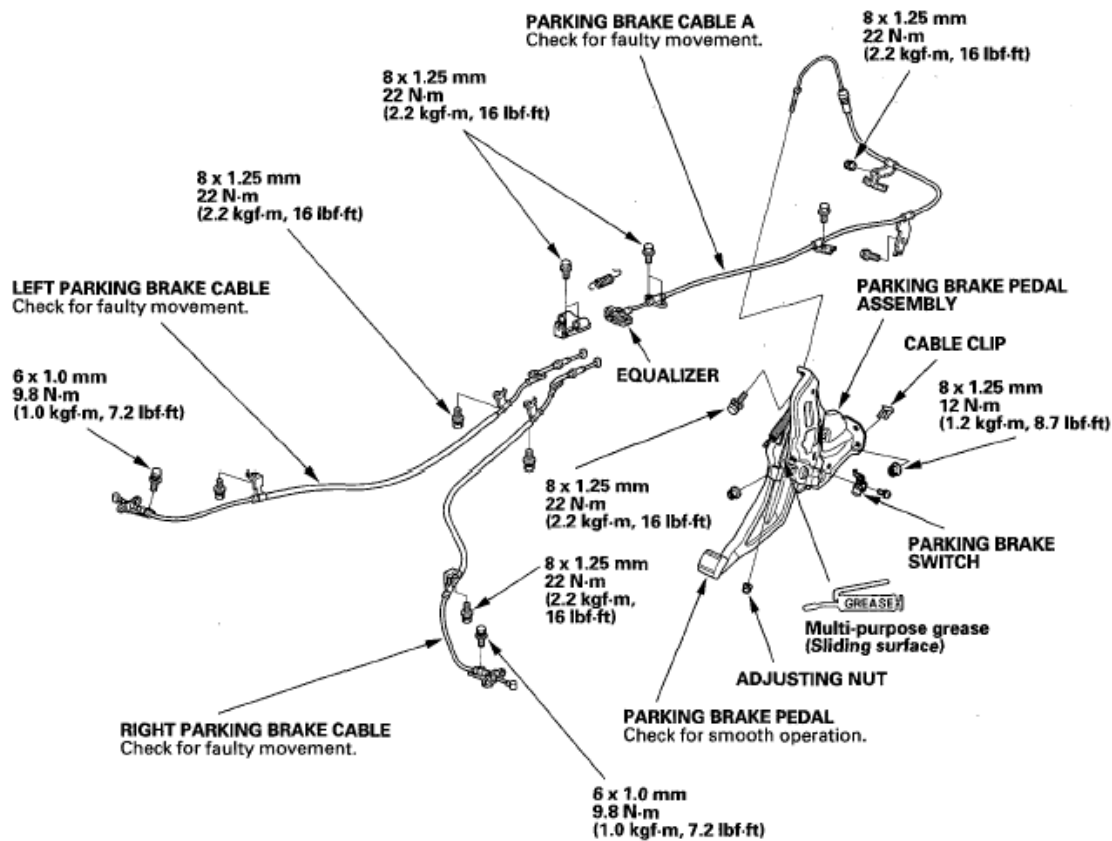
**Fig. 76: Identifying Brake Hose, Upper Brake Hose Bracket With Brake Hose Clip With Torque Specifications**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Connect the brake line (D) to the brake hose.
9. After installing the brake hose, bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
10. Do the following checks:
  - Check the brake hose and line joint for leaks, and tighten if necessary.
  - Check the brake hoses for interference and twisting.

## **PARKING BRAKE CABLE REPLACEMENT**

### **EXPLODED VIEW**

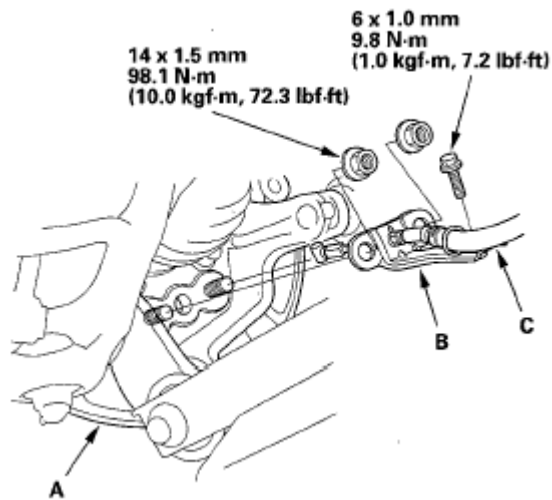


**Fig. 77: Exploded View Of Parking Brake Cable With Torque Specifications**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

## REPLACEMENT

**NOTE:** The parking brake cable must not be bent or distorted. This will lead to stiff operation and premature cable failure. Refer to the EXPLODED VIEW as needed during this procedure.

1. Remove the parking brake shoes, and disconnect the parking brake cable from the parking brake lever assembly (see PARKING BRAKE SHOE REPLACEMENT ).
2. Remove the parking brake cable mounting bolts from the backing plate (A), and remove the parking brake cable bracket (B).



**Fig. 78: Identifying Backing Plate And Parking Brake Cable Bracket With Torque Specifications**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the parking brake cable (C) from the parking brake cable bracket.
4. Install the parking brake cable in the reverse order of removal, and adjust the parking brake (see **PEDAL FREE PLAY** ). Apply the parking brake firmly 10 times, then adjust it again.