

2007-08 BRAKES

Conventional Brake Components - TL

SPECIAL TOOLS

Ref. No.	Tool Number	Description	Qty
①	07AAE-SEPA101	Brake Caliper Piston Compressor	1

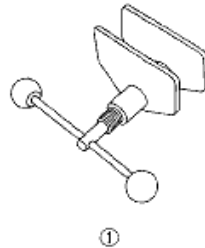


Fig. 1: Identifying Special Tool

Courtesy of AMERICAN HONDA MOTOR CO., INC.

COMPONENT LOCATION INDEX

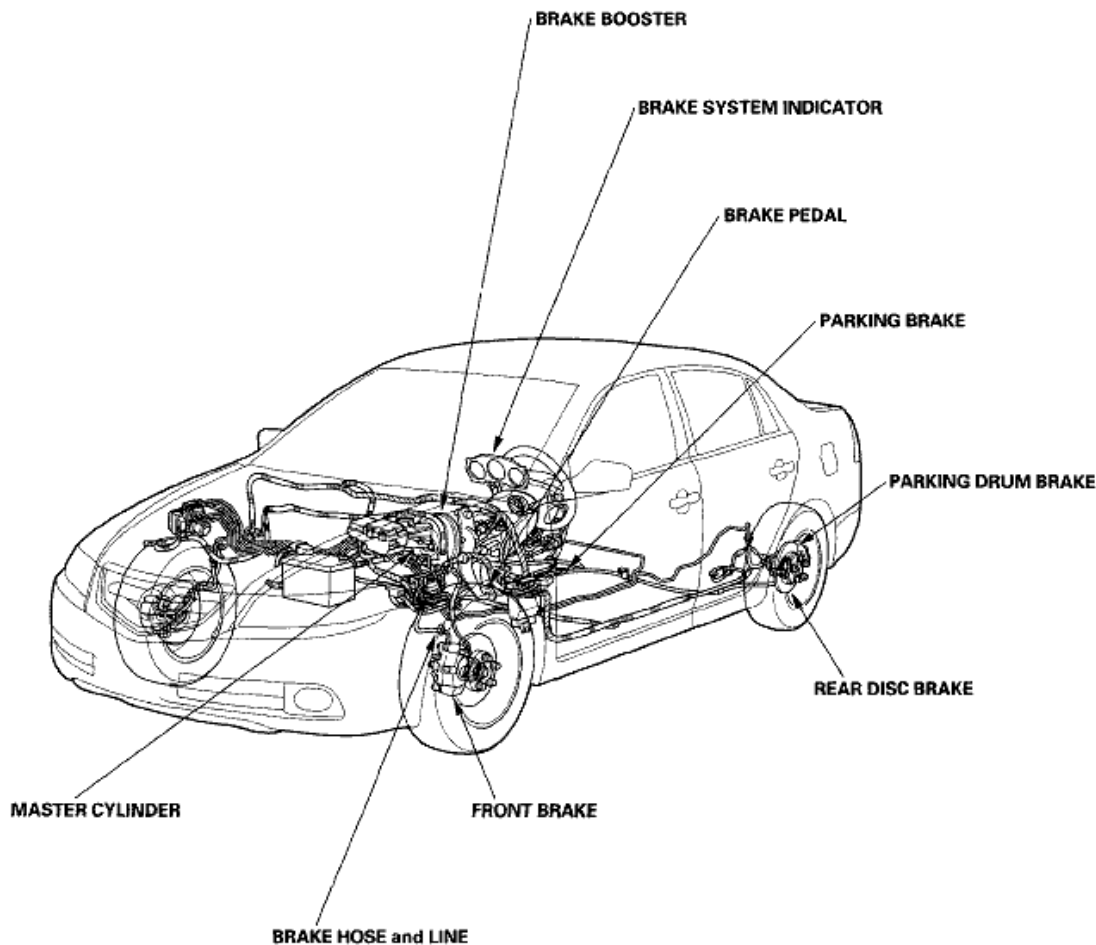


Fig. 2: Identifying Conventional Brake Components Location

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:**COMPONENTS INSPECTION CHART**

Component	Procedure	Also check for
Master Cylinder	Look for damage or signs of fluid leakage at: • Reservoir or reservoir grommets. • Line joints. • Between master cylinder and booster.	Bulging seal at reservoir cap. This is a sign of fluid contamination.
Brake Hoses	Look for damage or signs of fluid leakage at: • Line joints and banjo bolt connections. • Hoses and lines, also inspect for twisting or damage.	Bulging, twisted, or bent lines.
Caliper	Look for damage or signs of fluid leakage at: • Piston seal. • Banjo bolt connections. • Bleed screw.	Seized or sticking caliper pins.
VSA Modulator-control Unit	Look for damage or signs of fluid leakage at: • Line joints. • Modulator-control unit.	

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 M/T in the neutral position, A/T in the P or N position, press and hold the brake

pedal lightly (about the same pressure needed to keep an A/T-equipped vehicle 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. Note the measurement between the brake pedal and the reference mark on the steering wheel.
5. Apply steady pressure to the brake pedal for 3 minutes.
6. Watch the tape measure.
 - If the measurement increases 10 mm (3/8 in.) or less, the master cylinder is OK.
 - If the measurement increases 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

NOTE: For all except Type-S model make sure that the caliper pins are installed correctly. The upper caliper pin B and lower caliper pin A are different. If the pins are installed in the wrong location, it will cause vibration, uneven or rapid brake pad wear, and possibly uneven tire wear. For proper caliper pin location (see FRONT BRAKE CALIPER OVERHAUL).

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 pad wear, high pedal, or vehicle vibration.

3. Turn the engine off, press the brake pedal several times 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 (see BRAKE BOOSTER REPLACEMENT).

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 -Check the master cylinder reservoir for contamination in the brake fluid. If you find contamination, flush the entire brake system of all contaminated fluid. If the brake fluid is OK, replace the master cylinder (see **MASTER CYLINDER REPLACEMENT**).

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

Is there brake drag at any of the wheels?

YES -Check the master cylinder reservoir for contamination in the brake fluid. If you find contamination, flush the entire brake system of all contaminated fluid. If the brake fluid is OK, disassemble and repair the caliper on the wheel(s) with brake drag.

NO -Look for and replace any damaged brake lines. If all brake lines 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.

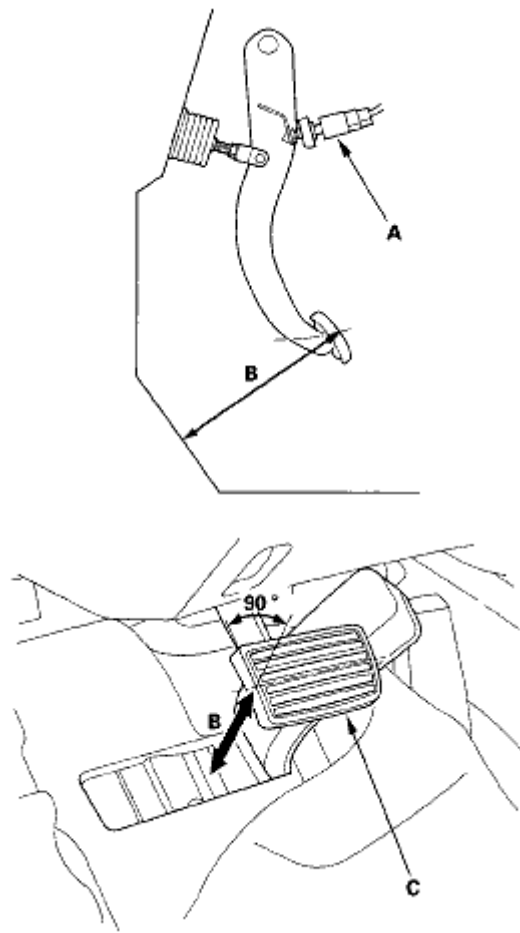


Fig. 3: Measuring Pedal Height

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Pull back the carpet and find the cutout in the insulator. Lift up the insulator cutout and measure the pedal height (B) at the middle of the left side center of the pedal pad (C) to the floor.

Standard pedal height (with carpet removed):

M/T model: 171 mm (6 3/4 in.)

A/T model: 170 mm (6 11/16 in.)

3. Loosen the pushrod locknut (A), and screw the pushrod (B) 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.

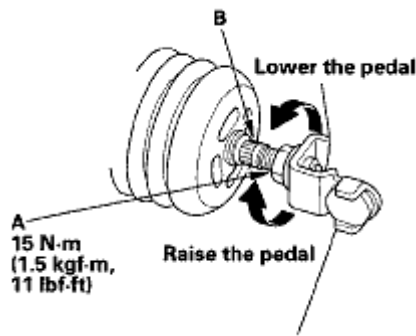


Fig. 4: Loosening Pushrod Locknut With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Brake Pedal Position Switch Clearance

4. Lift up on the brake pedal by hand. Push in the brake pedal position switch until its plunger is fully pressed (threaded end (A) touching the pad (B) on the pedal arm). 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.

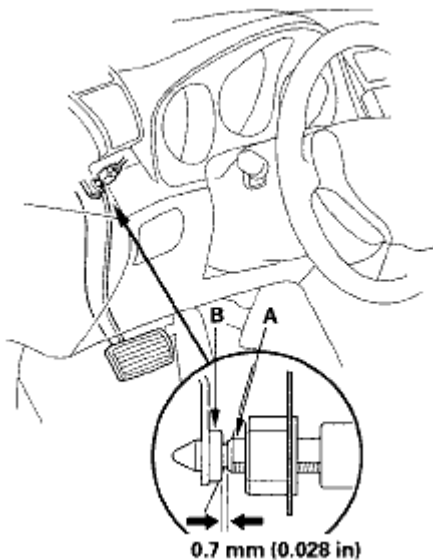


Fig. 5: Identifying Gap Between Brake Pedal Position Switch And Pad
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Check the brake pedal free play.

PEDAL FREE PLAY

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

Free play: 1–5 mm (1/16–3/16 in.)

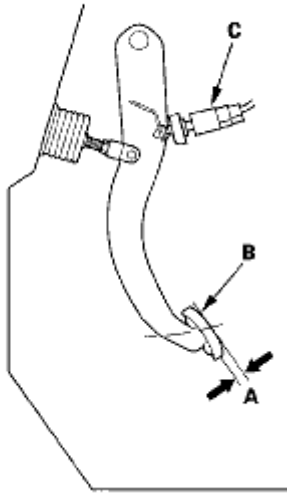


Fig. 6: Identifying Brake Pedal Free Play

Courtesy of AMERICAN HONDA MOTOR CO., INC.

PARKING BRAKE INSPECTION AND ADJUSTMENT

INSPECTION

1. Pull the parking brake lever (A) with 196 N (20 kgf, 44 lbf) of force to fully apply the parking brake. The parking brake lever should be locked within the specified number of clicks (B).

Lever locked clicks: 6 to 8

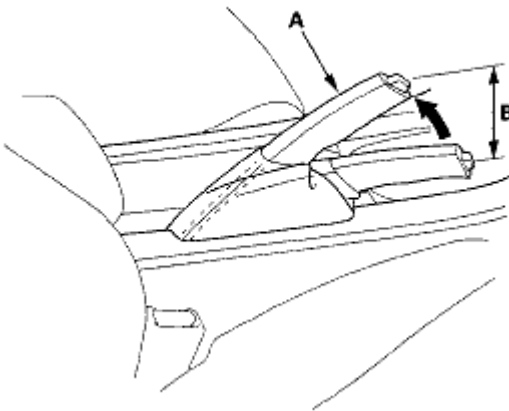


Fig. 7: Pulling Parking Brake Lever

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Adjust the parking brake if the number of lever clicks are not within the specification.

NOTE:

Minor parking brake lever adjustments (1 to 2 clicks) can be made with the adjusting nut in the equalizer. 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 lever fully.
3. Open the console box lid, and remove the console mat.
4. Remove the lid to access the adjusting nut.
5. Pull the parking brake lever 1 click.
6. Tighten the parking brake adjusting nut (A) until the parking brakes drag slightly when the rear wheels are turned.

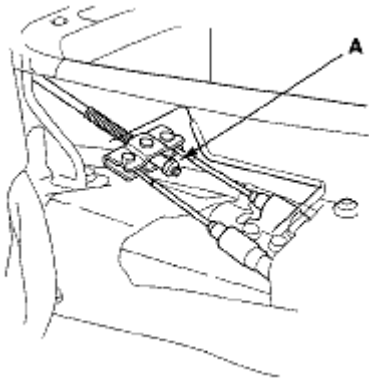


Fig. 8: Identifying Parking Brake Adjusting Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary.
8. Make sure the parking brakes are fully applied when the parking brake lever is pulled up all the way.
9. Reinstall the center console lid and console mat.

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 lever fully.
3. Open the console box lid, and remove the console box mat.
4. Remove the lid to access the adjusting nut.
5. Back off the parking brake adjusting nut (A) in the equalizer.

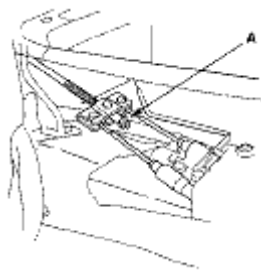


Fig. 9: Identifying Parking Brake Adjusting Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the rear wheels.
7. Remove the access plug (A).

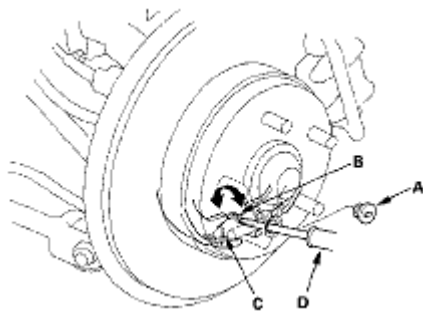


Fig. 10: Turning Ratchet Teeth On Adjuster Assembly With Flat-Tip Screwdriver
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Turn the ratchet teeth (B) on the adjuster assembly (C) with a flat-tip screwdriver (D) until the shoes lock against the parking brake drum. Then back off the adjuster 8 clicks, and install the access plug.
9. Clean the mating surfaces of the brake disc/drum and the inside of the wheel, then install the rear wheels.
10. Do the minor adjustment procedure.
11. Reinstall the center console lid and console mat.

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.
- Do not mix different brands of brake fluid; they may not be compatible.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- 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 on 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.

- **Front caliper for the Type-S model (4-piston caliper type); do this by first bleeding the outside piston of the front caliper. Then bleed the inside piston of the front caliper.**

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

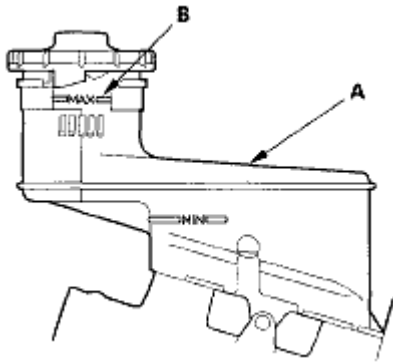


Fig. 11: Identifying Brake Fluid Level In Reservoir
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Slide a piece of clear plastic hose over the first bleed screw, and submerge the other end in a container of new brake fluid.
3. Have someone slowly pump the brake pedal several times, then apply steady pressure.
4. Loosen the left-front brake bleed screw, loosen the brake bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.

NOTE: **The bleed valve uses an 11 mm hex wrench on the Type-S model (4-piston caliper type).**

5. Repeat the procedure for each caliper until no air bubbles are in the fluid. Bleed the calipers in the sequence shown.

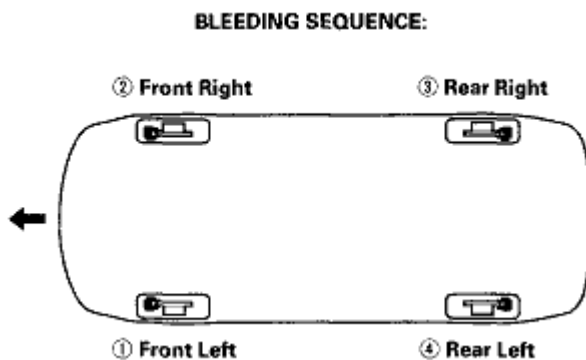


Fig. 12: Identifying Bleeding Sequence
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Front - Except Type-S model

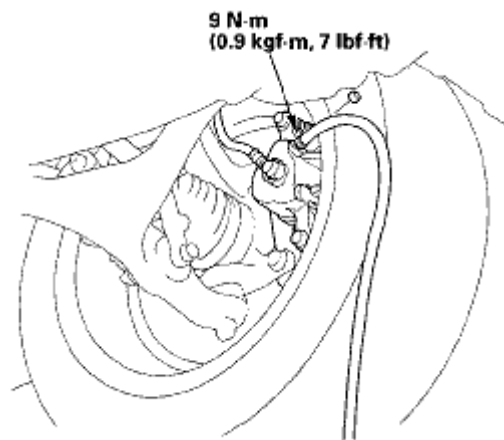


Fig. 13: Identifying Brake Bleed Screw (Front - Except Type-S Model) With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Front - Type-S model (4-piston caliper type)

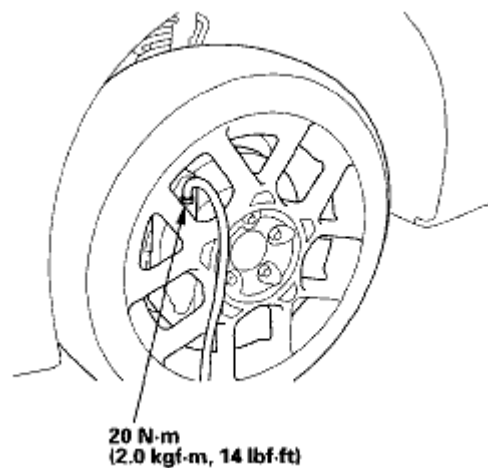


Fig. 14: Identifying Brake Bleed Screw (Front - Type-S Model (4-Piston Caliper Type)) With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

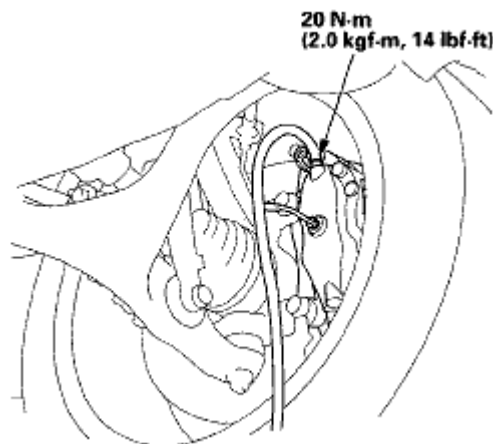


Fig. 15: Identifying Brake Bleed Screw (Front - Type-S Model (4-Piston Caliper Type)) With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Rear

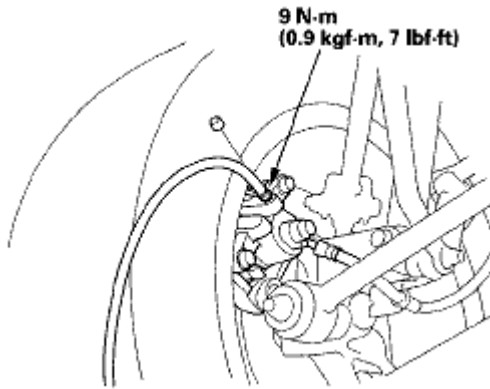


Fig. 16: Identifying Brake Bleed Screw (Rear - Type-S Model (4-Piston Caliper Type)) With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

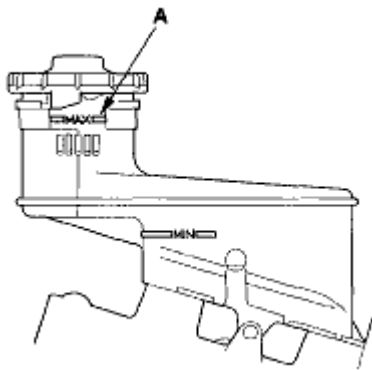


Fig. 17: Identifying Fluid Level

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Test-drive the vehicle, and make at least two slow ABS-activating stops.
8. Check for pedal feel.
 - If the pedal feel is hard, you are done.
 - If the pedal feel is soft, repeat the brake system bleeding procedure.

BRAKE SYSTEM INDICATOR CIRCUIT DIAGRAM

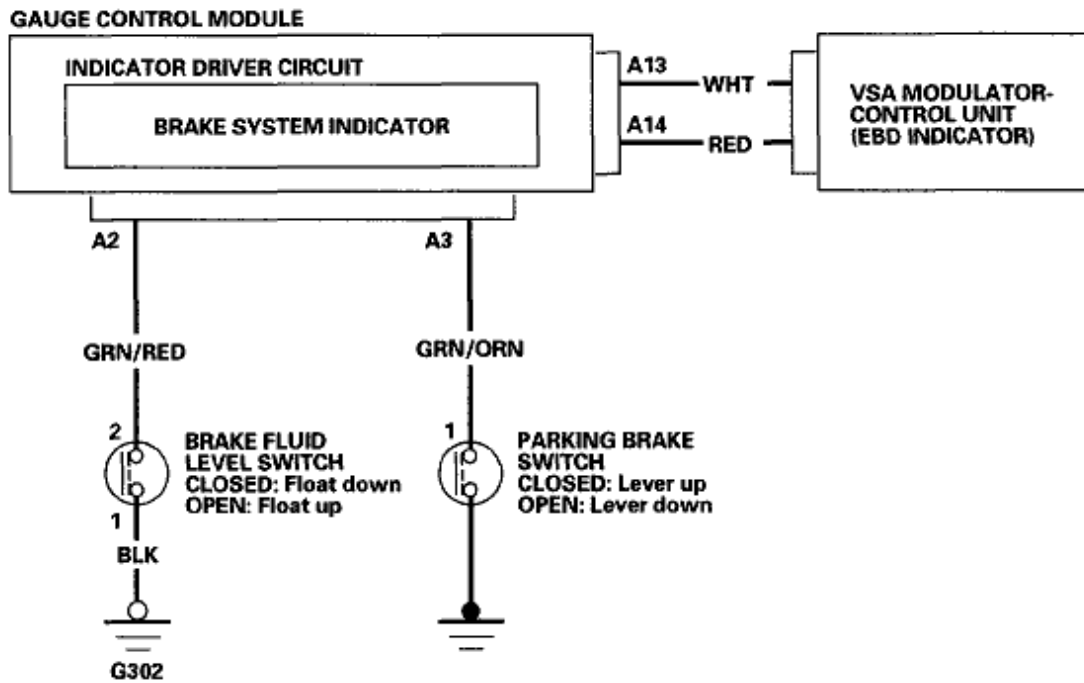


Fig. 18: Brake System Indicator Circuit Diagram
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

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 GENERAL TROUBLESHOOTING INFORMATION).

1. Remove the center console rear section (see CENTER CONSOLE REAR SECTION REMOVAL/INSTALLATION).
2. Disconnect the parking brake switch connector (A) from the parking brake switch (B).

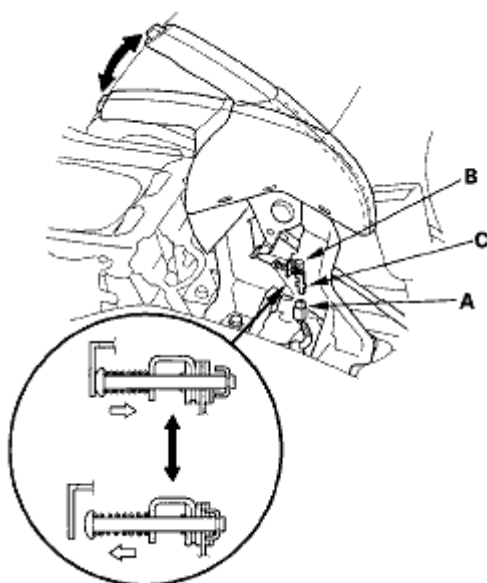


Fig. 19: Disconnecting Parking Brake Switch Connector From Parking Brake Switch
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Check for continuity between the switch terminal (C) and body ground.
 - With the parking brake lever pulled, there should be continuity.
 - With the parking brake lever released, there should be no continuity.

NOTE: If the parking brake switch and the fluid level switch are OK, but the brake system indicator does not function, do the gauge control module test (see SELF-DIAGNOSTIC FUNCTION).

4. Connect the parking brake switch connector to the parking brake switch.
5. Install the center console rear section (see CENTER CONSOLE REAR SECTION REMOVAL/INSTALLATION).

BRAKE FLUID LEVEL SWITCH TEST

Check for continuity between the terminals (1) and (2) with the float in the down position and in the up position.

NOTE:

- 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.
- If both the ABS/VSA indicator and the brake system indicator come on at the same time, check the VSA system first (see GENERAL TROUBLESHOOTING INFORMATION).
- If the parking brake switch and fluid level switch are OK, but the brake system indicator does not function, do the gauge control module test (see SELF-DIAGNOSTIC FUNCTION).

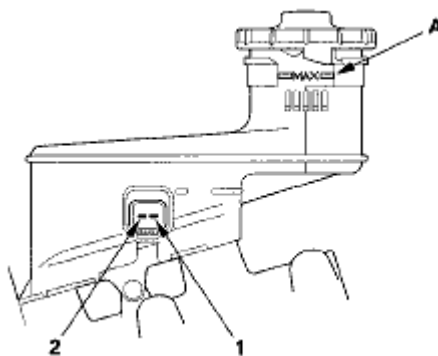


Fig. 20: Identifying Brake Fluid Level Switch Terminals
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

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 on the Type-S model (4-piston caliper type), the brake disc and pads may wear faster than on the other models. Be sure to inspect the front brake disc 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. Take care not to scratch the calipers (Type-S model, 4-piston caliper type).
3. Except Type-S model: Remove the brake pads.
4. Check the thickness (A) of the brake pads. Do not include the thickness of the brake pad backing plate.

Brake pad thickness:

Standard:

Except Type-S model:

10.3-11.0 mm (0.41-0.43 in.)

Type-S model (4-piston caliper type):

8.8-10.0 mm (0.35-0.39 in.)

Service limit: 1.6 mm (0.06 in.)

Except Type-S model

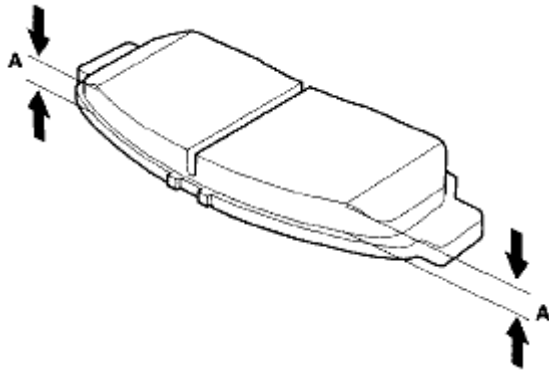


Fig. 21: Locating Thickness Of Brake Pads - Except Type-S Model
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Type-S model (4-piston caliper type)

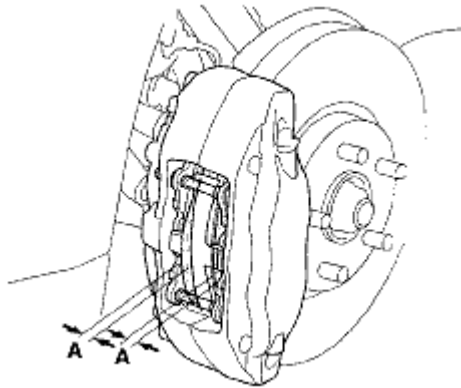


Fig. 22: Locating Thickness Of Brake Pads - Type-S Model (4-Piston Caliper Type)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If the brake pad thickness is less than the service limit, replace the brake pads as a set.
6. Except Type-S model: Install the brake pads.

REPLACEMENT - EXCEPT TYPE-S MODEL

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. Remove the brake hose bracket mounting bolts (A).

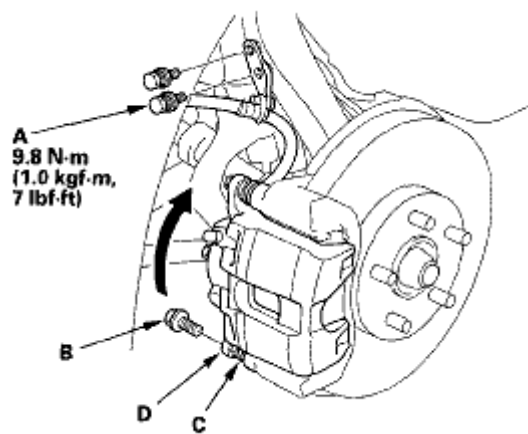


Fig. 23: Identifying Brake Hose Bracket Mounting Bolts, Caliper And Caliper Pin With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the flange bolt (B) while holding the caliper pin (C) with a wrench being careful not to damage the pin boot, and pivot the caliper (D) up out of the way. Check the hose and pin boots for damage and deterioration.
6. Remove the brake pads (A) and the pad shims (B).

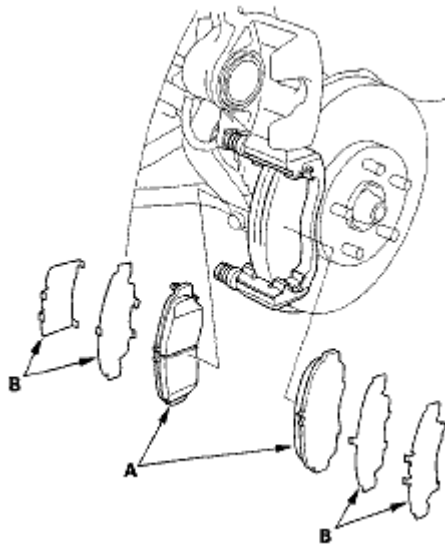


Fig. 24: Identifying Brake Pads And Pad Shims

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the pad retainers (A).

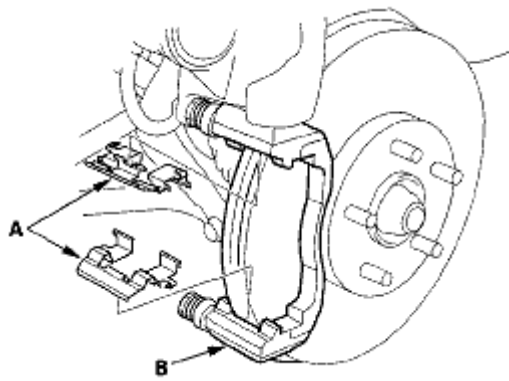


Fig. 25: Identifying Pad Retainers And Caliper Bracket
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
9. Inspect the brake disc, and check for damage and cracks (see **FRONT BRAKE DISC INSPECTION**).
10. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the brake disc and brake pads.
11. Mount the brake caliper piston compressor (A) on the caliper body (B).

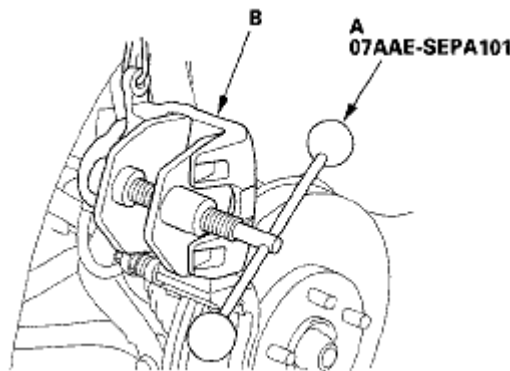


Fig. 26: Identifying Brake Caliper Piston Compressor
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Press in the piston with the brake caliper piston compressor so the caliper will fit over the brake pads. Make sure the piston boot is in position to prevent damaging it when pivoting the caliper down.

NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder reservoir. If brake fluid gets on any painted surface, wash it off immediately with water.

13. Remove the brake caliper piston compressor.
14. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the 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 brake pads reduce stopping ability. Keep grease and assembly paste off the brake discs and brake pads.

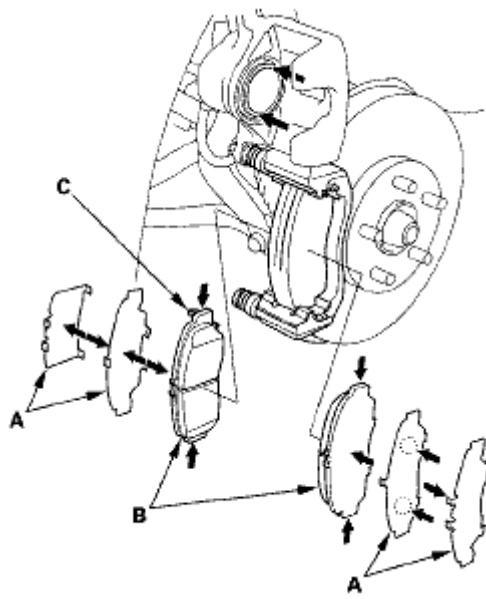


Fig. 27: Locating Paste Applying Area Of Shims
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper 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.
16. Pivot the caliper (A) down into position. Install the flange bolt (B), and tighten it to the specified torque while holding the caliper pin (C) with a wrench being careful not to damage the pin boot.

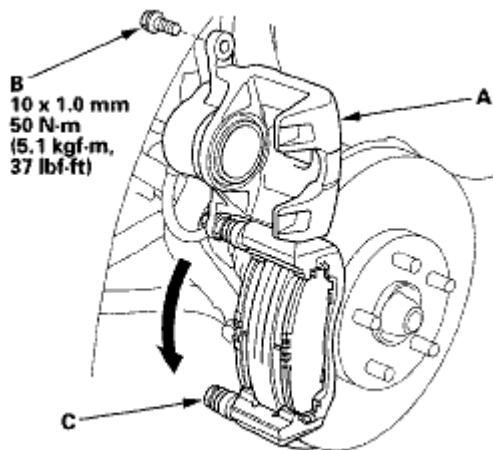


Fig. 28: Pushing Caliper Down Into Position With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Install the brake hose bracket mounting bolts, and tighten them to the specified torque.
18. Clean the mating surfaces of the brake disc and the inside of the wheel, then install the front wheels.
19. Press the brake pedal several times to make sure the brakes work.

NOTE: Engagement 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.

20. Add brake fluid as needed.
21. After installation, check for leaks at hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

REPLACEMENT - TYPE-S MODEL (4-PISTON CALIPER TYPE)

NOTE: Due to the high performance nature of the brake system on Type-S model, the brake disc and pads may wear faster than on except Type-S model (4-piston caliper type). Be sure to inspect the front brake disc 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. Take care not to scratch the calipers.
4. Depress pad spring (A). Remove pad pins (B) from the caliper by pushing from the outside to the inside with a commercially available 5/32" pin punch (C).

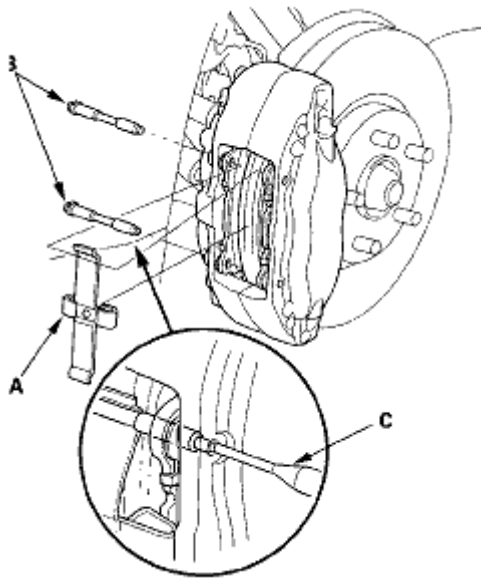


Fig. 29: Removing Pad Pins From Caliper
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

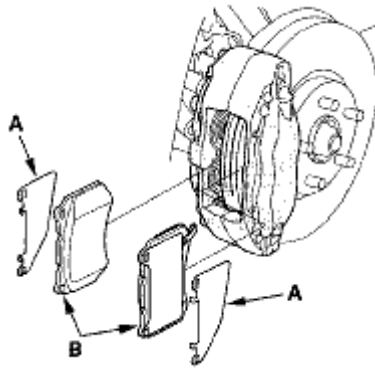


Fig. 30: Identifying Pad Shims And Brake Pads
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Clean the caliper thoroughly; remove any rust, and check for grooves and cracks.
7. Inspect the brake disc, and check for damage and cracks (see **FRONT BRAKE DISC INSPECTION**).
8. Mount the brake caliper piston compressor (A) on the caliper.

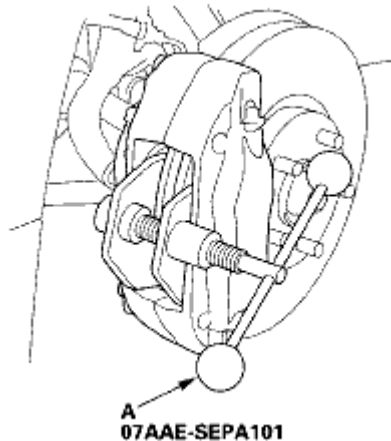


Fig. 31: Identifying Brake Caliper Piston Compressor
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Press in the outside and inside pistons with the brake caliper piston compressor so the caliper will fit over the brake pads.

NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder reservoir. If brake fluid gets on any painted surface, wash it off immediately with water.

10. Remove the brake caliper piston compressor.
11. Apply Molykote CU-7439 PLUS PASTE (P/N 08798-9027) to the pad side of the shims (A), the back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess grease off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep grease off the brake disc and pads.

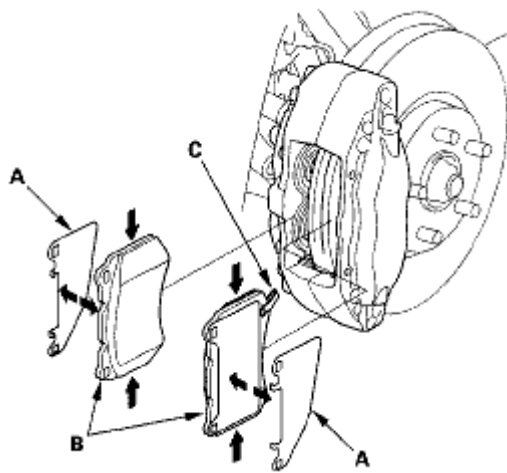


Fig. 32: Locating Paste Applying Area Of Shims
Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper outside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a momentary loss of braking efficiency.
13. Install the pad spring (A).

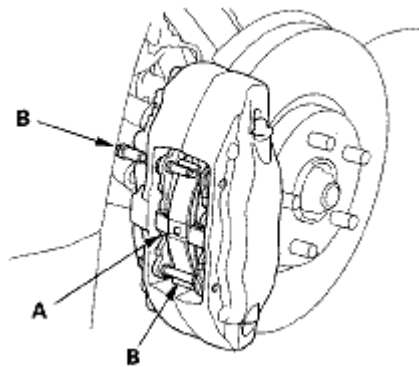


Fig. 33: Identifying Pad Spring And Pad Pins
Courtesy of AMERICAN HONDA MOTOR CO., INC.

14. Hold the pad spring, and install the pad pins (B) into the caliper from the inside to the outside of vehicle using the commercially available 5/32" pin punch.
15. Clean the mating surfaces of the brake disc and the inside of the wheel, then install the front wheels.
16. Press the brake pedal several times to make sure the brakes work.

NOTE: Engagement 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.

17. Add brake fluid as needed.
18. After installation, check for leaks at hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

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. Take care not to scratch the calipers (Type-S model, 4-piston caliper type).
3. Remove the brake pads: Except Type-S model (see **REPLACEMENT - EXCEPT TYPE-S MODEL**), Type-S model (4-piston caliper type) (see **REPLACEMENT - TYPE-S MODEL (4-PISTON CALIPER TYPE)**).
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 (B), and tighten the wheel nuts to the specified torque to hold the brake disc securely against the hub.

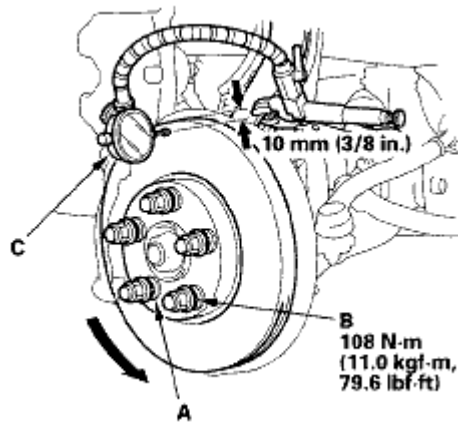


Fig. 34: Measuring Brake Disc Runout With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Set up the dial gauge (C) 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, refinish the brake disc with a commercially available on-car brake lathe.

Max refinishing limit:

Except Type-S model:

26.0 mm (1.02 in.)

Type-S model (4-piston caliper type):

23.0 mm (0.91 in.)

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.).

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. Take care not to scratch the calipers (Type-S model, 4-piston caliper type).
3. Remove the brake pads: Except Type-S model (see **REPLACEMENT - EXCEPT TYPE-S MODEL**), Type-S model (4-piston caliper type) (see **REPLACEMENT - TYPE-S MODEL (4-PISTON CALIPER TYPE)**).
4. Using a micrometer, measure brake disc thickness at eight points, about 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:

Except Type-S model:

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

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

Type-S model (4-piston caliper type):

Standard: 24.9-25.1 mm (0.98-0.99 in.)

Max. refinishing limit: 23.0 mm (0.91 in.)

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

NOTE:

This is the maximum allowable difference between the thickness measurements.

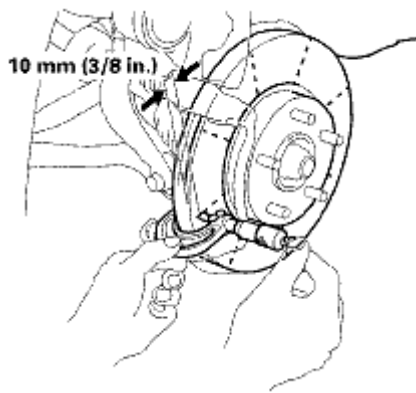


Fig. 35: Measuring Brake Disc Thickness

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

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

FRONT BRAKE DISC REPLACEMENT

NOTE: Keep any grease off the brake disc and brake pads.

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. Take care not to scratch the caliper (Type-S model, 4-piston caliper type).
3. Remove the brake hose bracket mounting bolts (A).

Except Type-S model

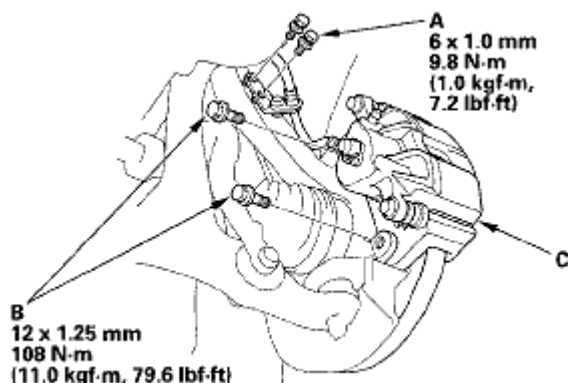


Fig. 36: Identifying Brake Hose Bracket Mounting Bolts - Except Type-S Model With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Type-S model (4-piston caliper type)

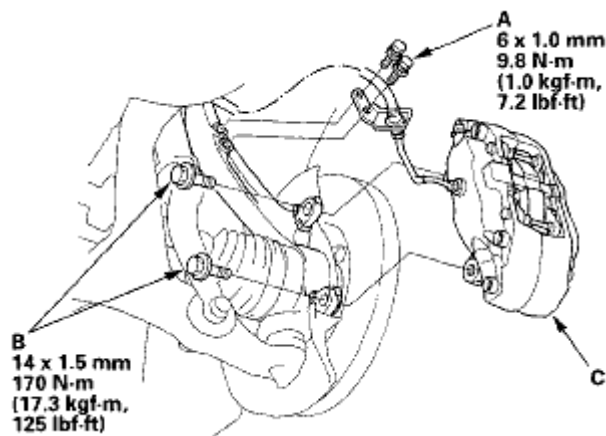


Fig. 37: Identifying Brake Hose Bracket Mounting Bolts - Type-S Model (4-Piston Caliper Type) With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the brake caliper bracket mounting bolts (B), then 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 excessively.
5. Remove the brake disc flat screws (A).

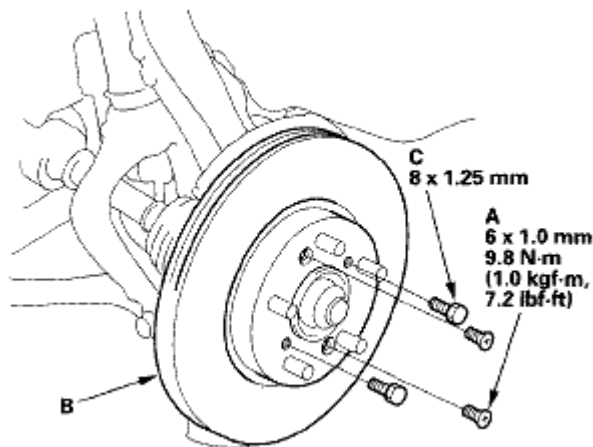


Fig. 38: Identifying Brake Disc Flat Screws And Brake Disc With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the brake disc (B) from the front hub.

NOTE: If the brake disc is stuck to the front hub, thread two 8 x 1.25 mm bolts (C) into the brake disc to push it away from the front hub. Turn each bolt 90 degrees at a time to prevent the brake disc from binding.

7. Install the brake disc in the reverse order of removal.

NOTE: Before installing the brake disc, clean the mating surfaces of the front hub and the inside of the brake disc.

8. Clean the mating surfaces of the brake disc and the inside of the wheel, then install the front 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.

EXCEPT TYPE-S MODEL

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

NOTE: Make sure that the caliper pins are installed correctly. Upper caliper pin B and lower caliper pin A are different. If these caliper pins are installed in the wrong location, it will cause vibration, uneven or rapid pad wear, and possibly uneven tire wear.

- 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. 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 pistons, piston seal grooves, and caliper bores 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.

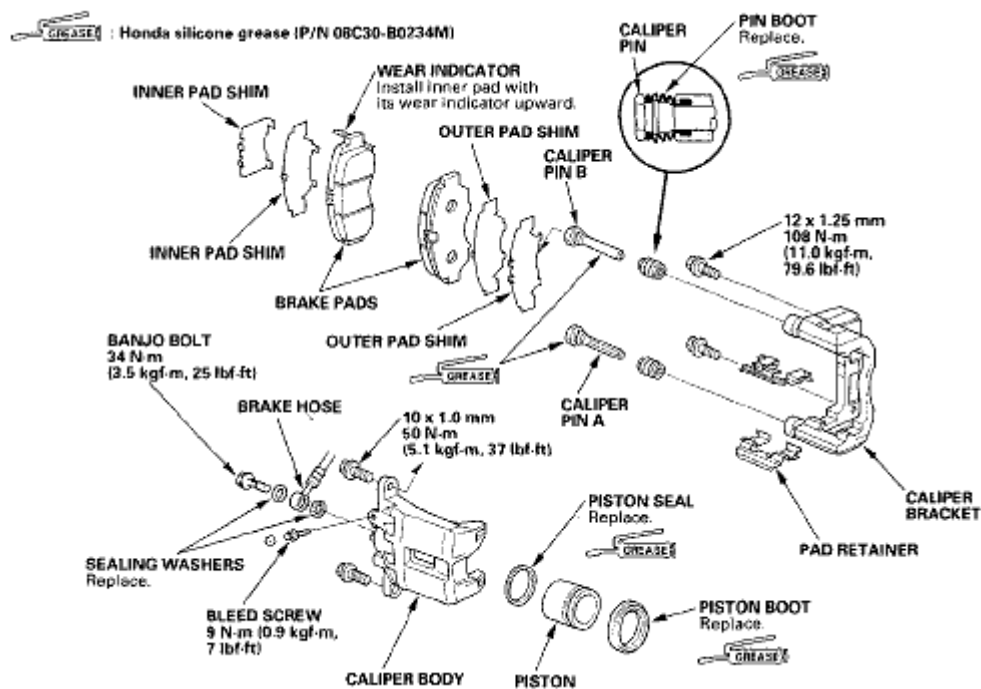


Fig. 39: Exploded View Of Front Brake Caliper - Except Type-S Model With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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.

TYPE-S MODEL (4-PISTON CALIPER TYPE)

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

NOTE: Do not disassemble these calipers, they can not be rebuilt.

- 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 DOT3 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 pistons, piston seal grooves, and caliper bores 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.

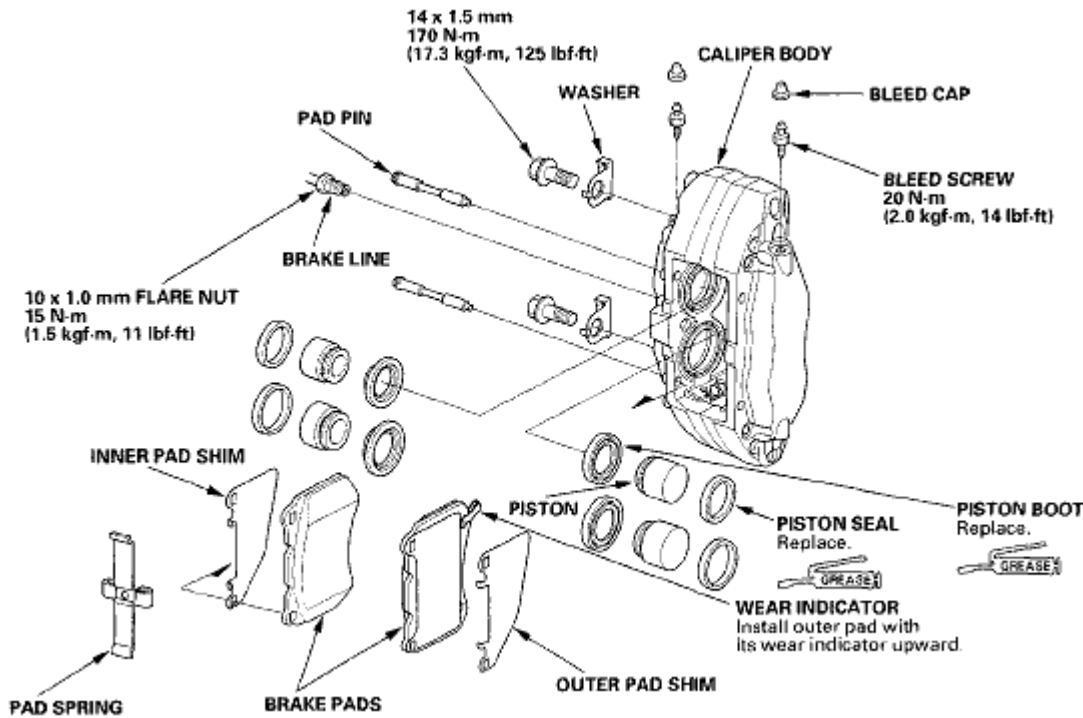


Fig. 40: Exploded View Of Front Brake Caliper - Type-S Model (4-Piston Caliper Type) With Torque Specifications

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 installation.
- 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.

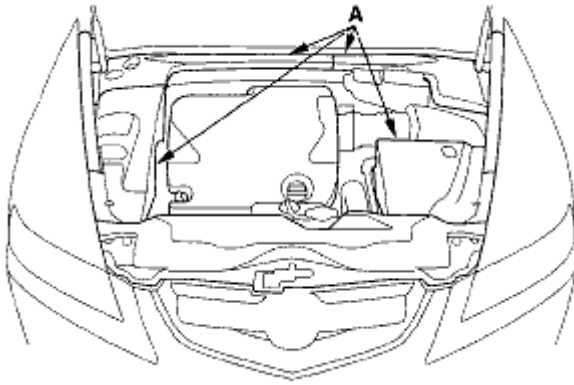


Fig. 41: Identifying Covers In Engine Compartment
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the under-hood fuse/relay box (A), and move it aside.

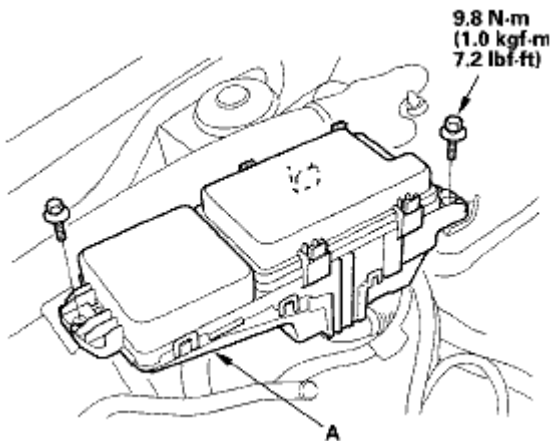


Fig. 42: Identifying Under-Hood Fuse/Relay Box With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the engine wire harness clamp (A) from the strut brace.

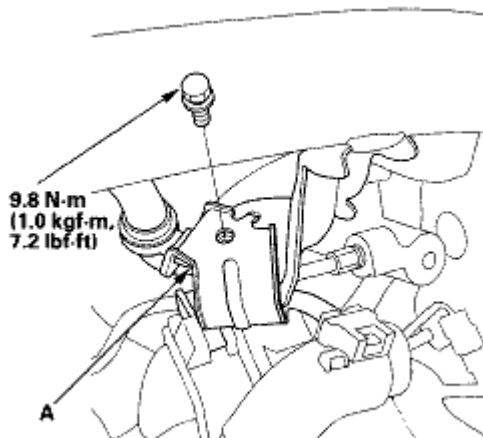


Fig. 43: Identifying Engine Wire Harness Clamp With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the accelerator pedal position (APP) sensor mounting bolt (A) from the strut brace.

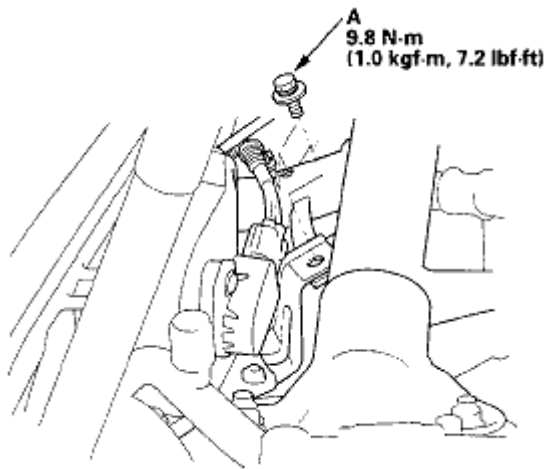


Fig. 44: Identifying Accelerator Pedal Position Sensor Mounting Bolt With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. With the vehicle on the ground, remove the strut brace (A).

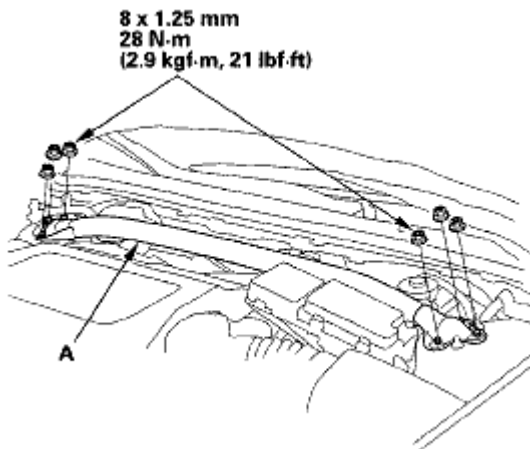


Fig. 45: Identifying Strut Brace With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the reservoir cap and the brake fluid from the master cylinder reservoir with a syringe.
8. Disconnect the brake fluid level switch connector (A).

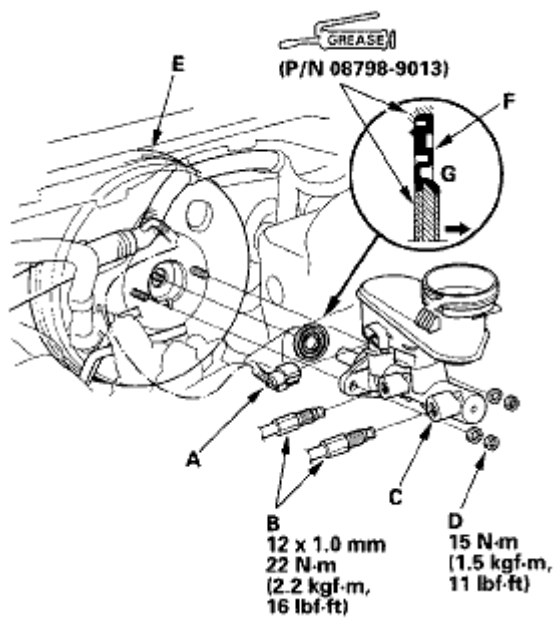


Fig. 46: Identifying Brake Fluid Level Switch Connector, Brake Lines And Master Cylinder With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Disconnect the brake lines (B) from the master cylinder (C). To prevent spills, cover the hose 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.

10. Remove the master cylinder mounting nuts (D) and washers.
11. Remove the master cylinder from the brake booster (E). Be careful not to bend or damage the brake lines when removing the master cylinder.
12. Remove the rod seal (F) from the master cylinder.
13. Install the master cylinder in the reverse order of removal, and note these items:
 - Replace all the rubber parts with new ones whenever the master cylinder is removed.
 - Use a new rod seal on reassembly.
 - Coat the inner bore lip and outer circumference of the new rod seal with the Shin-Etsu silicone grease (P/N 08798-9013).
 - Install the rod seal onto the master cylinder with its grooved side (G) toward the master cylinder.
 - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).
14. Bleed the brake system (see **BRAKE SYSTEM BLEEDING**).
15. Spin the wheels to check for brake drag.

MASTER CYLINDER INSPECTION

1. Inspect and note these items:

- 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.

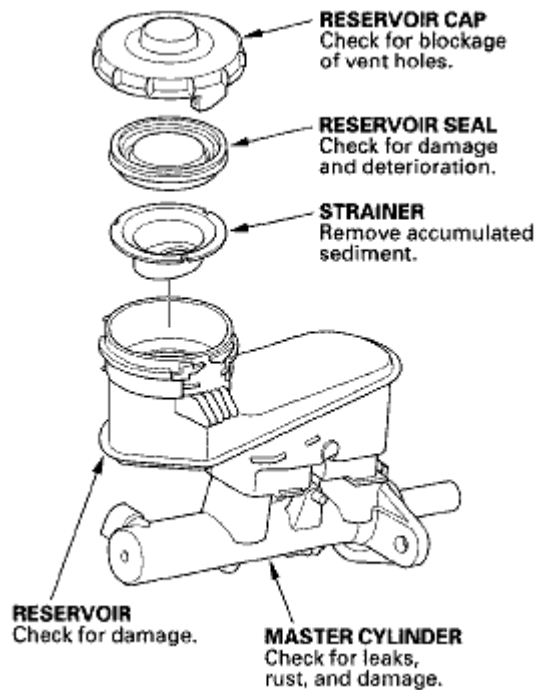


Fig. 47: Identifying Reservoir Cap, Reservoir Seal, Strainer And Master Cylinder
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

BRAKE BOOSTER TEST

FUNCTIONAL TEST

1. With the engine off, 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 internally, or the brake system is leaking. Inspect the brake hoses and lines (see **BRAKE HOSE AND LINE INSPECTION**).
2. Start the engine with the brake pedal pressed. If the brake pedal sinks slightly, the vacuum booster is operating normally. If the brake pedal height does not vary, do the brake system test (see **BRAKE SYSTEM TEST**).

LEAK TEST

1. Press the brake pedal with the engine running, then stop the engine. The brake pedal height should not vary while pressed for 30 seconds. If the pedal height rises, go to step 6. If it does not rise, go to step 2.
2. Start the engine and let it idle for 30 seconds. Turn the ignition switch off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the pedal is first pressed, it should be low. On consecutive applications, the 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 (A) at the booster. The check valve is built into the hose.

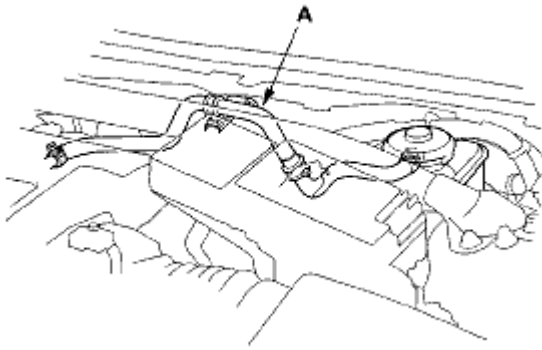


Fig. 48: Identifying Brake Booster Vacuum Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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. With the engine off, 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 ignition switch off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the pedal is first pressed, it should be low. On consecutive applications, the pedal height should gradually rise.
 - If the pedal position does not vary inspect the seal between the master cylinder and booster. If the seal is OK, replace the brake booster.
 - If the pedal position varies, replace the brake booster vacuum hose/check valve assembly.

BRAKE BOOSTER REPLACEMENT

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

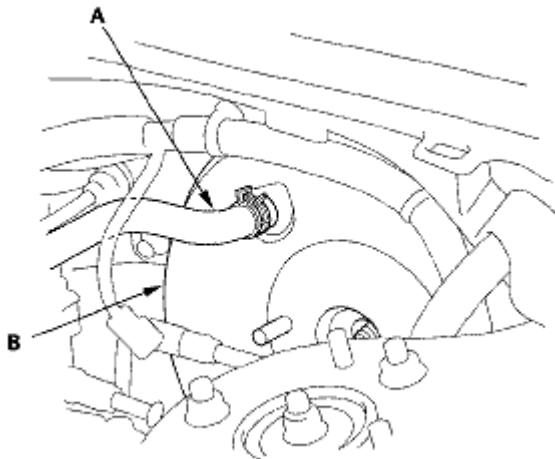


Fig. 49: Identifying Brake Booster Vacuum Hose And Brake Booster
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the bolts (A) and clamps (B).

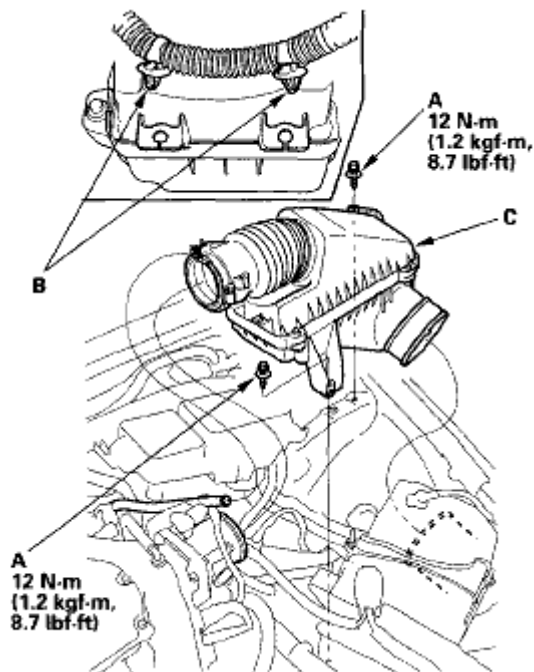


Fig. 50: Identifying Air Cleaner And Clamps With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the air cleaner (C).
5. Remove the primary and secondary brake lines (A) from the hose clamp (B).

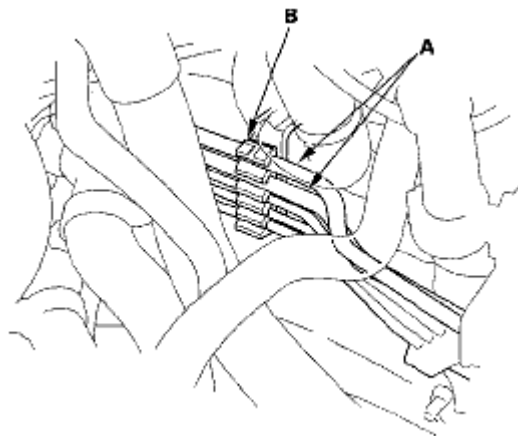


Fig. 51: Identifying Brake Lines And Hose Clamp
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the lock pin (A) and the joint pin (B), then disconnect the yoke (C) from the brake pedal.

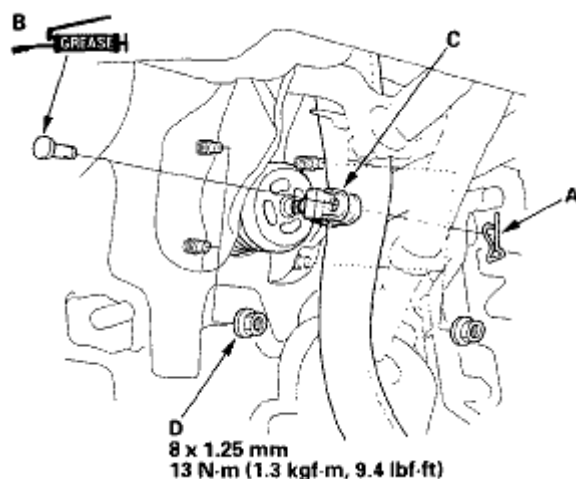


Fig. 52: Identifying Lock Pin, Joint Pin, Yoke And Brake Booster Mounting Nuts With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the brake booster mounting nuts (D).
8. Remove the brake booster (A) 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 lines.

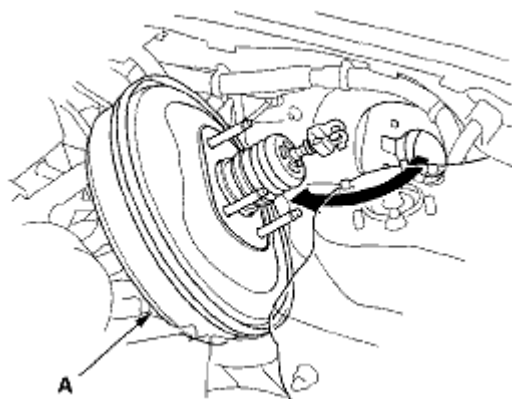


Fig. 53: Removing Brake Booster From Engine Compartment
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the brake booster in the reverse order of removal, and note these items:
 - Install the master cylinder after installing the brake booster (see **MASTER CYLINDER REPLACEMENT**).
 - Replace the master cylinder rod seal.
 - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).
 - Bleed the brake system (see **BRAKE SYSTEM BLEEDING**).

REAR 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

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 (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

Brake pad thickness:

Standard: 8.5-9.5 mm (0.33-0.37 in.)

Service limit: 1.6 mm (0.06 in.)

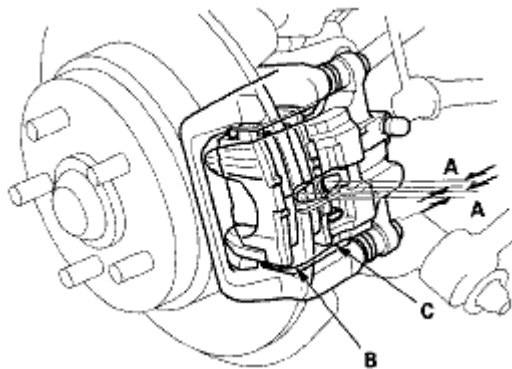


Fig. 54: Identifying Thickness Of Inner Pad And Outer Pad
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. If the brake pad thickness is less than the service limit, replace the rear brake pads as a set.
5. Clean the mating surfaces 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. 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. Release the parking brake.
5. Remove the brake hose (A) from the bracket by removing the mounting bolt.

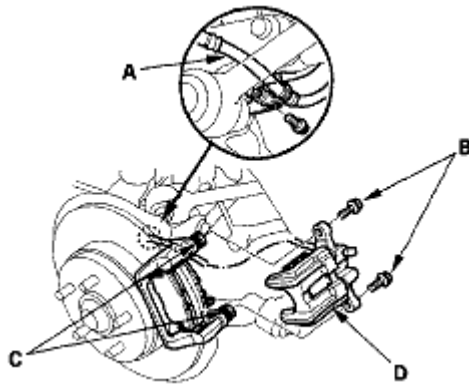


Fig. 55: Identifying Brake Hose, Flange Bolts, Caliper Pins And Caliper
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the flange bolts (B) while holding the caliper pins (C) with a wrench being careful not to damage the pin boot, and remove the caliper (D). 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.
7. Remove the pad shims (A) and brake pads (B).

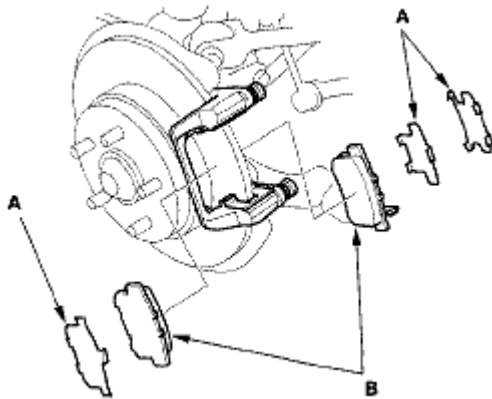


Fig. 56: Identifying Pad Shims And Brake Pads
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Remove the pad retainers (A).

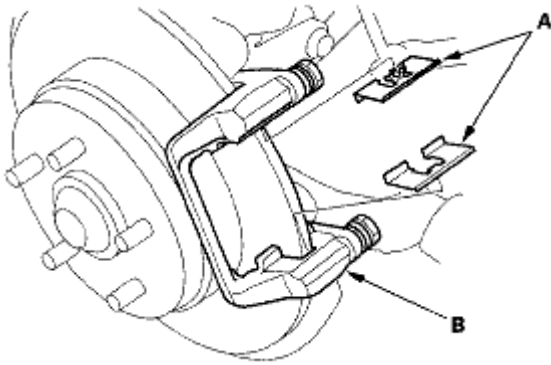


Fig. 57: Identifying Pad Retainers And Caliper Bracket
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
10. Inspect the brake disc/drum, and check for damage and cracks (see **REAR BRAKE DISC INSPECTION**).
11. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the brake disc and brake pads.
12. Mount the brake caliper piston compressor (A) on the caliper body (B).

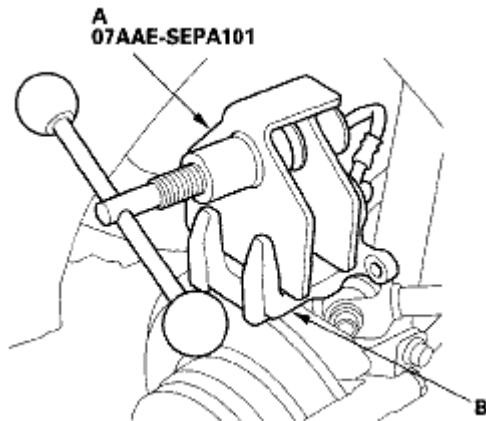


Fig. 58: Mounting Brake Caliper Piston Compressor On Caliper Body
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Press in the piston with the brake caliper piston compressor 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 pressing in the piston; brake fluid might overflow from the master cylinder's reservoir. If brake fluid gets on any painted surface, wash it off immediately with water.

14. Remove the brake caliper piston compressor.
15. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the brake pad side of the shims (A), and the 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 grease and assembly paste off the brake discs and brake pads.

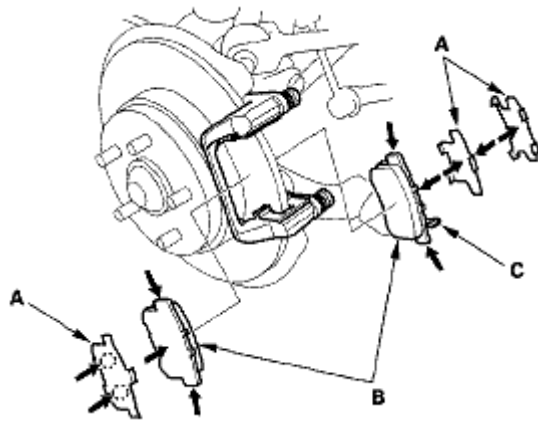


Fig. 59: Locating Paste Applying Area Of Shims
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Install the brake pads and pad shims on the caliper bracket. Install the inner brake pad with its wear indicator (C) facing downward.

If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a momentary loss of braking efficiency.

17. Push in the piston 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.
18. Install the brake caliper (A).

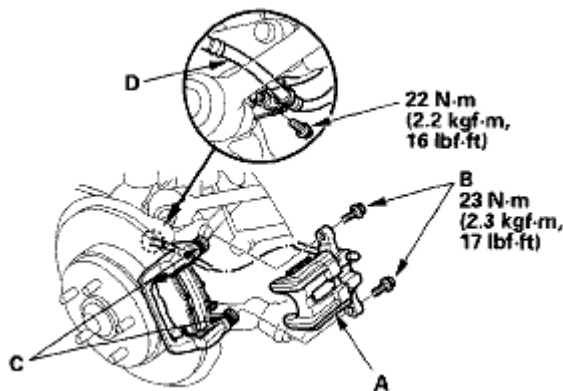


Fig. 60: Identifying Brake Caliper, Caliper Pin And Brake Hose With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Install the flange bolts (B), and tighten it to the specified torque while holding the caliper pin (C) with a wrench being careful not to damage the pin boot.
20. Install the brake hose (D) onto the bracket with the mounting bolt.
21. Clean the mating surfaces of the brake disc/drum and the inside of the wheel, then install the rear wheels.
22. Press the brake pedal several times to make sure the brakes work.

NOTE: Engagement 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.

23. Add brake fluid as needed.
24. After installation, check for leaks at hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

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.

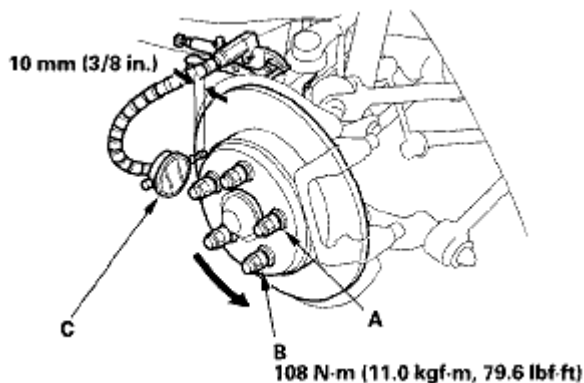


Fig. 61: Measuring Rear Brake Disc Runout With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Set up the dial gauge (C) 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 brake disc/drum is beyond the service limit, refinish the brake disc/drum with a commercially available on-car brake lathe.

Max. refinishing limit: 7.5 mm (0.30 in.)

NOTE:

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

- A new brake disc/drum 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 the brake 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/drum if the smallest measurement is less than the maximum refinishing limit.

Brake disc/drum thickness:

Standard: 8.9-9.1 mm (0.350-0.358 in.)

Max. refinishing limit: 7.5 mm (0.30 in.)

Brake disc/drum parallelism:

0.015 mm (0.0006 in.) max.

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

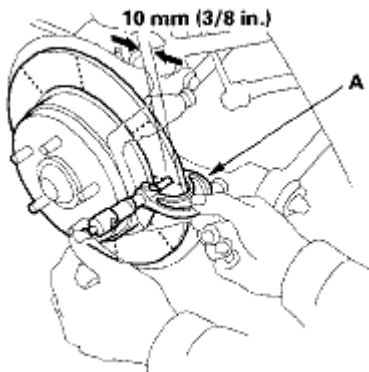


Fig. 62: Measuring Brake Disc Thickness

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

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

REAR BRAKE DISC REPLACEMENT

NOTE: Keep any grease off the brake disc/drum and brake pads.

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 hose bracket mounting bolt (A).

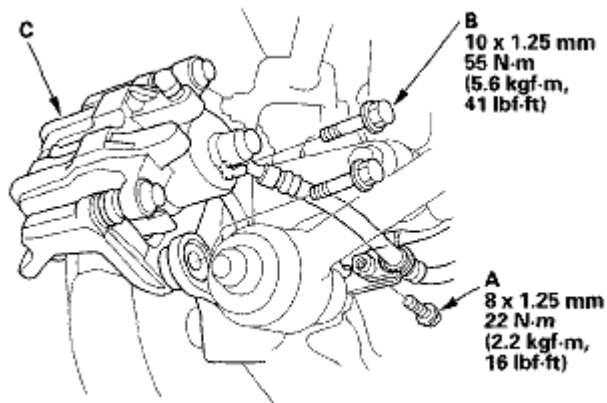


Fig. 63: Identifying Brake Hose Bracket Mounting Bolt And Brake Caliper Bracket Mounting Bolts With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the brake caliper bracket mounting bolts (B), then 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 excessively.
5. Release the parking brake.
6. Remove the brake disc/drum flat screws (A).

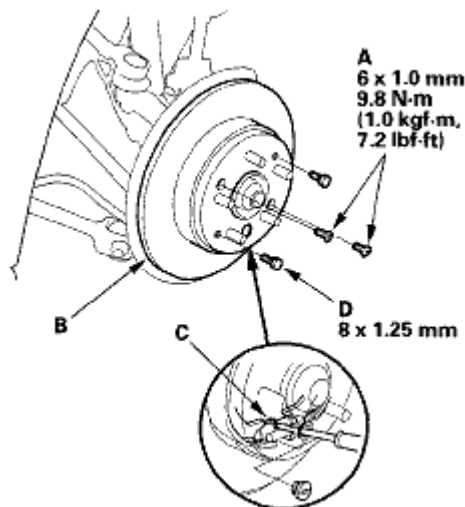


Fig. 64: Removing Parking Brake Adjuster Nut With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the brake disc/drum (B) from the rear hub bearing unit.

NOTE:

- It may be necessary to back-off the parking brake adjuster nut (C) to remove the brake disc/drum from the rear hub bearing unit (see step 6 on MINOR ADJUSTMENT).
- If the brake disc/drum has stuck to the rear hub bearing unit, thread two 8 x 1.25 mm bolts (D) into the brake disc/drum to push it away from the rear hub bearing unit. Turn each bolt 90 degrees at a time to prevent the brake disc/drum from binding.
- After installation, check the parking brake, and adjust it if necessary (see MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)).

8. Install the brake disc/drum in the reverse order of removal.

NOTE:

Before installing the brake disc/drum, clean the mating surfaces of the rear hub bearing unit and the inside of the brake disc/drum.

9. Clean the mating surfaces of the brake disc/drum and the inside of the wheel, then install the rear 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. 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 pistons, piston seal grooves, and caliper bores 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.

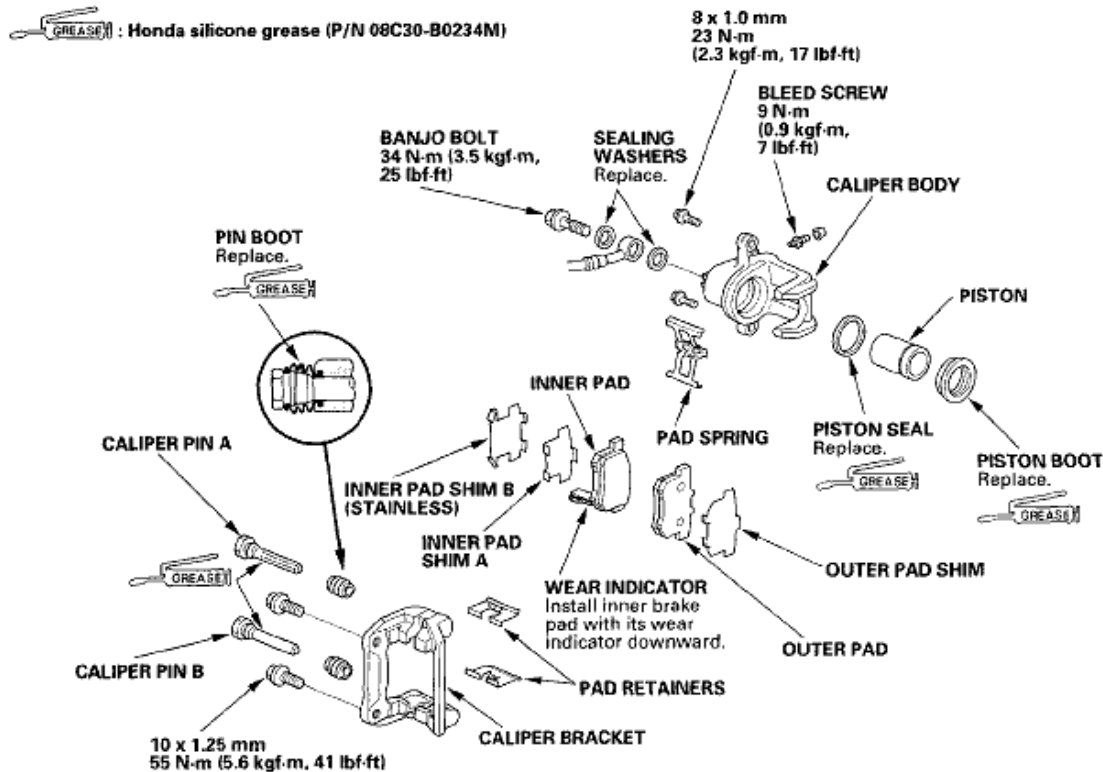


Fig. 65: Exploded View Of Rear Brake Caliper With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

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. 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**).

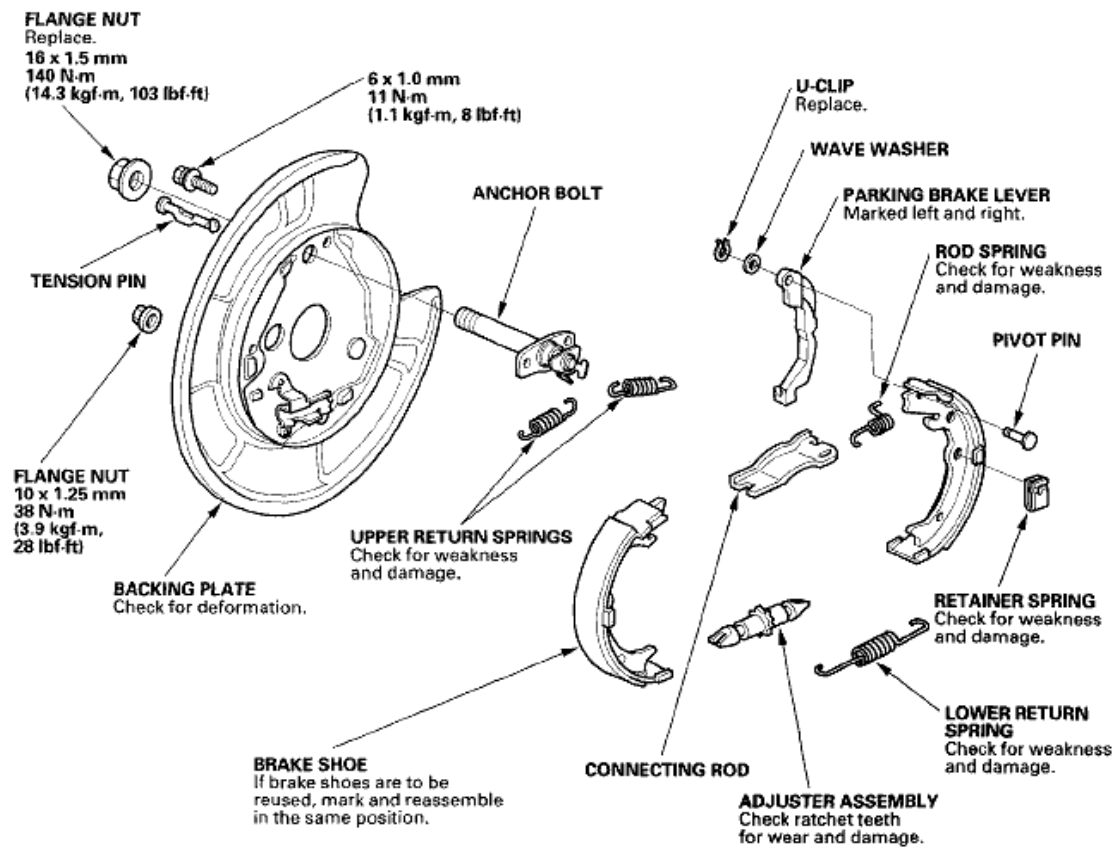


Fig. 66: Exploded View Of Parking Brake With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

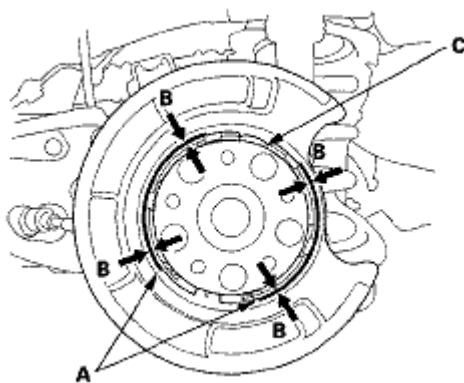


Fig. 67: Locating Parking Brake Lining Thickness
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

Parking brake lining thickness:

Standard: 2.5 mm (0.098 in.)

Service limit: 1.0 mm (0.04 in.)

6. If the parking brake lining thickness is less than the service limit, replace all of the parking brake shoes as a set.
7. Check the hub bearing unit (C) for smooth operation. If it requires servicing, replace the hub bearing unit (see **HUB REPLACEMENT**).
8. Measure the inside diameter of the parking brake drum with inside vernier calipers.

Parking brake drum inside diameter:

Standard: 169.9-170.0 mm (6.689-6.693 in.)

Service limit: 171.0 mm (6.732 in.)

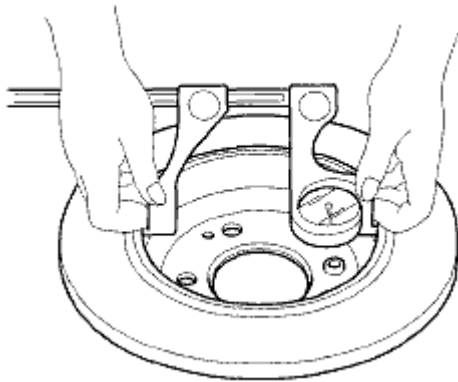


Fig. 68: Measuring Inside Diameter Of Parking Brake Drum With Inside Vernier Calipers
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. If the inside diameter of the parking brake drum is more than service limit, replace the brake disc/drum.
10. Check the parking brake disc/drum for scoring, grooves, and cracks.
11. Clean the mating surfaces 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.

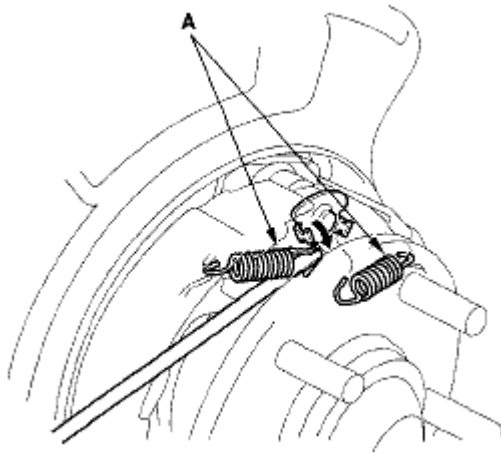
- Avoid breathing dust particles.
- Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.

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**

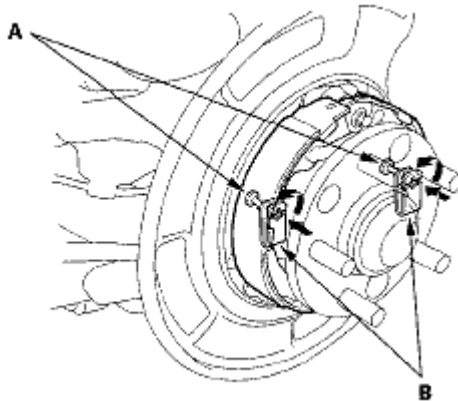
BRAKE DISC REPLACEMENT).

4. Disconnect and remove the upper return springs (A).

**Fig. 69: Removing Upper Return Springs**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the tension pins (A) by pushing the respective retainer spring (B) and turning the pin.

**Fig. 70: Pushing Respective Retainer Spring And Turning Pin**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Disconnect the rod spring (A) and remove the connecting rod (B).

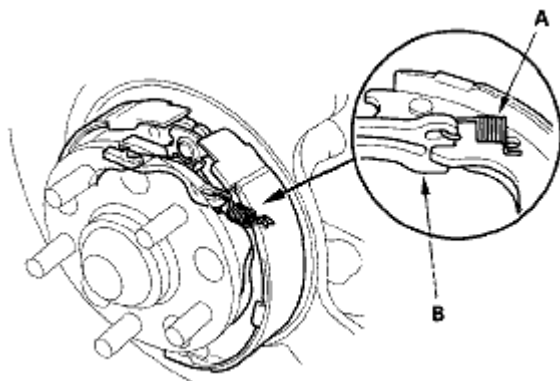


Fig. 71: Identifying Rod Spring And Connecting Rod
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Lower the parking brake shoe assembly.
8. Remove the forward brake shoe (A) and the adjuster assembly (B) by removing the lower return spring (C).

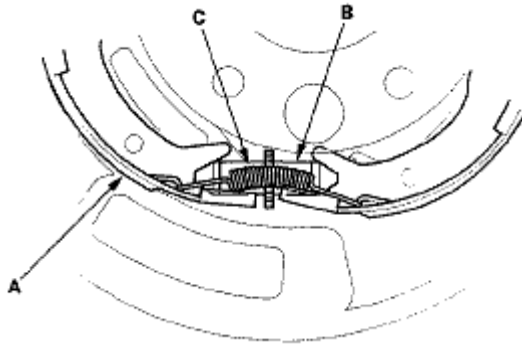


Fig. 72: Identifying Forward Brake Shoe, Adjuster Assembly And Lower Return Spring
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Remove the rearward brake shoe (A) by disconnecting the parking brake cable (B) from the parking brake lever (C).

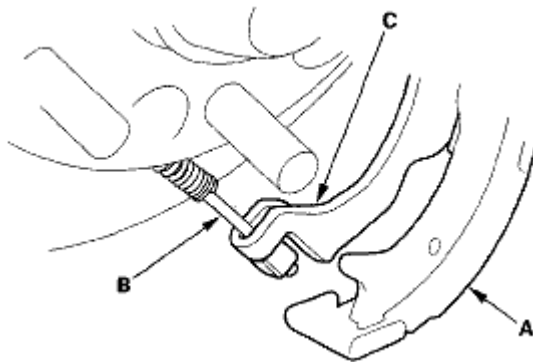


Fig. 73: Identifying Rearward Brake Shoe, Parking Brake Cable And Parking Brake Lever
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Remove the U-clip (A), wave washer (B), parking brake lever (C), and pivot pin (D) from the brake shoe (E).

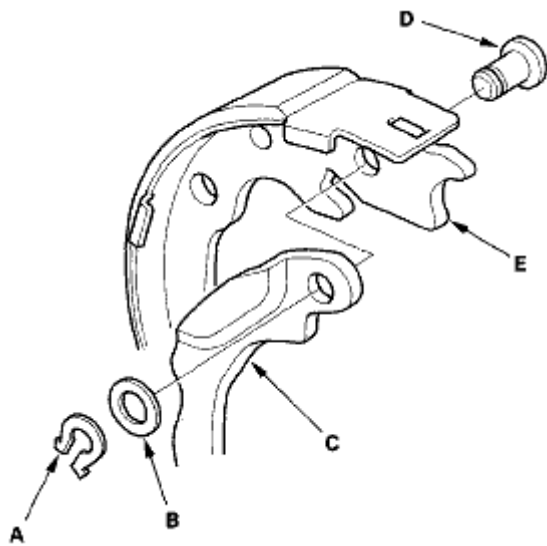


Fig. 74: Identifying U-Clip, Parking Brake Lever, Pivot Pin And Brake Shoe
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

REASSEMBLY

1. Apply Molykote 44MA grease to the sliding surface of the pivot pin (A), and insert the pin into the rearward brake shoe (B) from the outside.

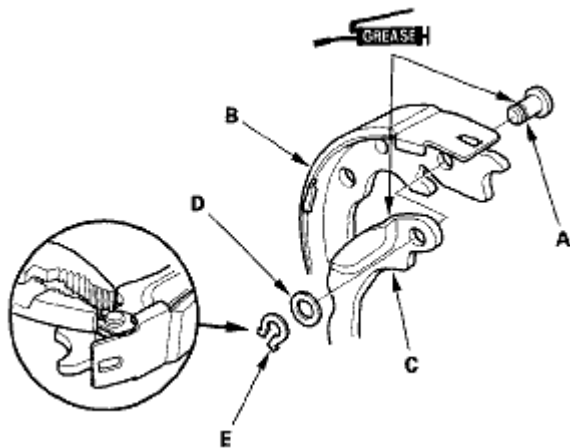


Fig. 75: Identifying Pivot Pin, Rearward Brake Shoe, Parking Brake Lever And Wave Washer
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the parking brake lever (C) and wave washer (D) on the pivot pin, and secure with a new U-clip (E).
 - Install the wave washer with its convex side facing out.
 - Pinch the U-clip securely to prevent the pivot pin from coming out of the brake shoe.
3. Connect the parking brake cable (A) to the parking brake lever (B). Apply silicone grease to the cable contact surface (C) on the backing plate.

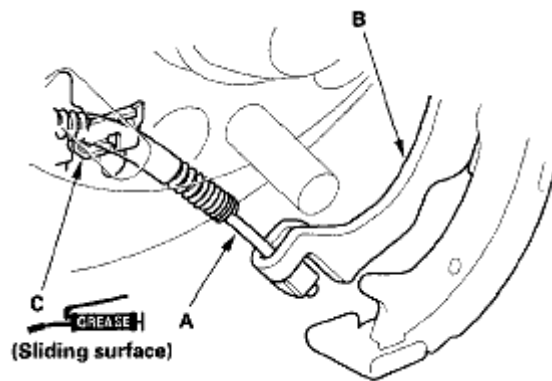
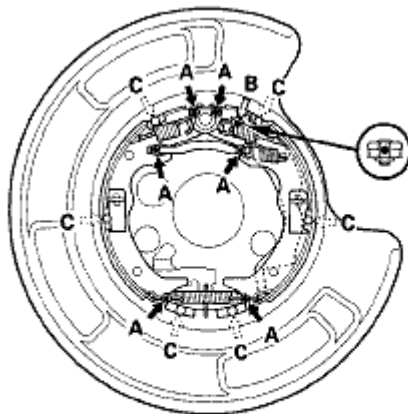


Fig. 76: Identifying Parking Brake Cable And Parking Brake Lever
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Apply a thin coat of 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.



Greasing symbols:

- ➡ • Brake shoe ends and connecting rod ends
- ⊠ • Opposite edge of the shoe
- ⇨ • Sliding surface

Fig. 77: Locating Grease Applying Area Of Shoe Ends And Connecting Rod Ends
 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 multipurpose grease. Install the clevis A and B on the adjuster nut (C) and shorten the clevis A by turning the adjuster.

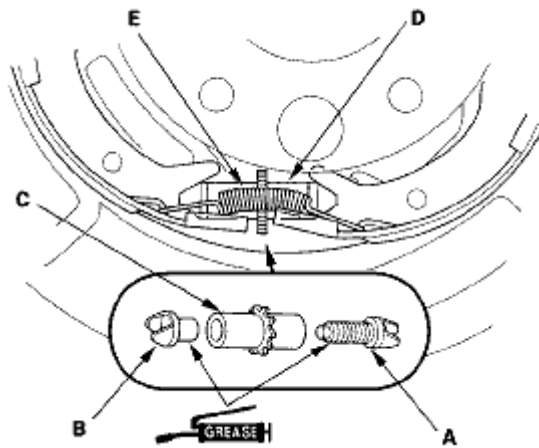


Fig. 78: Identifying Brake Shoe Adjuster Assembly, Clevis And Lower Return Spring
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Install the brake shoe adjuster assembly (D), and hook the lower return spring (E) on the parking brake shoes.
7. Hook the rod spring (A) to the connecting rod (B) first with the spring end (C) pointing downward. Then hook the rod spring to the parking brake shoe, and install the connecting rod on the parking brake shoes.

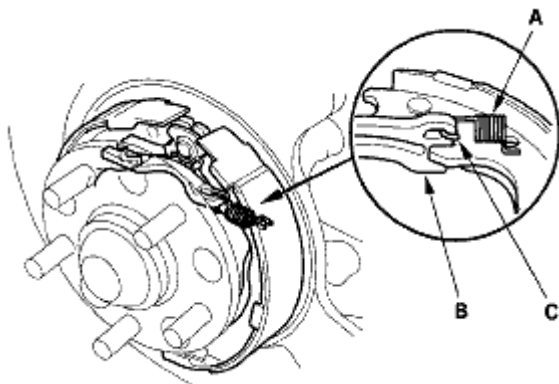


Fig. 79: Identifying Rod Spring, Connecting Rod And Spring End
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the tension pins (A) and retainer springs (B). Make sure the tension pin does not contact the parking brake lever.

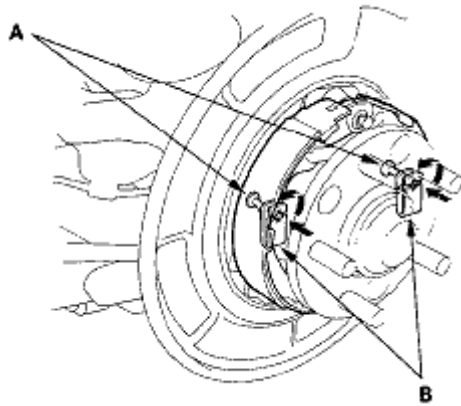


Fig. 80: Installing Tension Pins And Retainer Springs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the upper return springs (A).

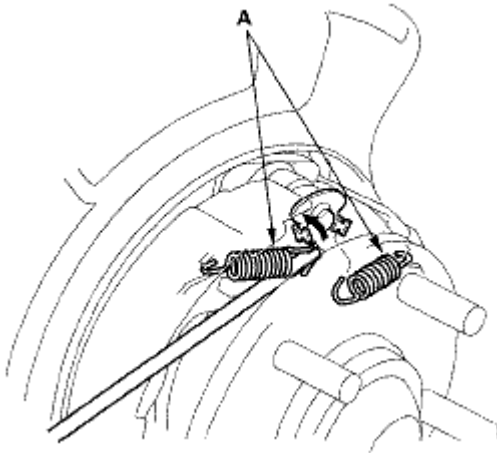


Fig. 81: Installing Upper Return Springs
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install the rear brake disc/drum and rear brake caliper (see **REAR BRAKE DISC REPLACEMENT**).
11. Do the major parking brake adjustment (see **MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)**).
12. Do the parking brake shoe lining break-in (see **PARKING BRAKE SHOE LINING 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 the rear brake disc/drum.
- Check the number of parking brake lever clicks. Adjust the parking

brake before lining surface brake-in (see PARKING BRAKE INSPECTION AND ADJUSTMENT).

1. Park the vehicle on a firm, level surface.
2. Release the parking brake.
3. Keep the parking brake lever release button pushed in with a piece of tape (A).

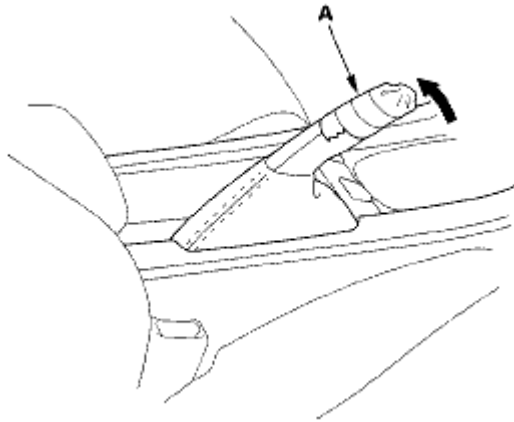


Fig. 82: Pushing Parking Brake Lever Release Button
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Drive the vehicle at 25 mph (40 km/h).
5. Pull the parking brake lever up with 98 N.m (10 kgf, 22 lbf) of force while you are driving the vehicle for 5 seconds.
6. Pull the parking brake lever up with 147 N.m (15 kgf, 33 lbf) of force while you are driving the vehicle for 10 seconds.
7. Release the parking brake lever, and stop the vehicle for 5-10 minutes to allow the rear brake disc/drum to cool.
8. Check the parking brake lever adjustment (see PARKING BRAKE INSPECTION AND ADJUSTMENT).

BRAKE PEDAL REPLACEMENT

NOTE: The illustration shows except Type-S model.

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

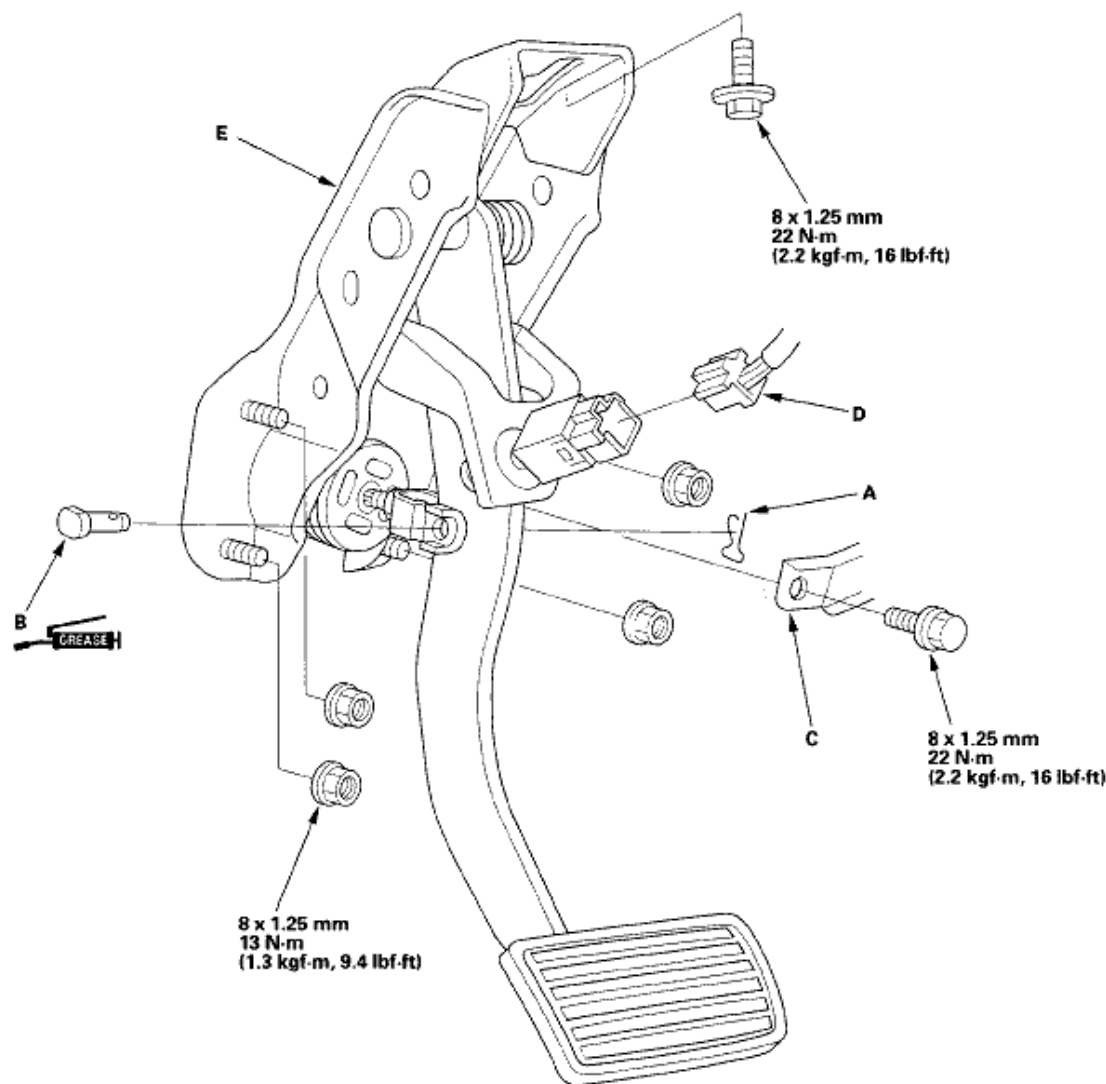


Fig. 83: Identifying Brake Pedal Position Switch Connector, Brake Pedal Bracket Support Member And Lock Pin With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the brake pedal bracket support member (C).
3. Disconnect brake pedal position switch connector (D).
4. Remove the brake pedal with bracket (E).
5. Install the brake pedal bracket 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 leaks.

TIGHTENING TORQUE SPECIFICATION

Connection Point	Component	Connected to	Specified Torque Value	Note
A	Front brake caliper (Except Type-S model)	Brake hose	34 N.m (3.5 kgf.m, 25 lbf.ft)	Banjo bolt
		Bleed screw	9 N.m (0.9 kgf.m, 7 lbf.ft)	
	Front brake caliper (Type-S model: 4-piston caliper type)	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut
		Bleed screw	20 N.m (2.0 kgf.m, 14 lbf.ft)	
B	Rear brake caliper	Brake hose	34 N.m (3.5 kgf.m, 25 lbf.ft)	Banjo bolt
		Bleed screw	9 N.m (0.9 kgf.m, 7 lbf.ft)	
C	Brake hose	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut
D	Master cylinder	Brake line (12 mm nut)	22 N.m (2.2 kgf.m, 16 lbf.ft)	Flare nut
E	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
F	4-way joint	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut

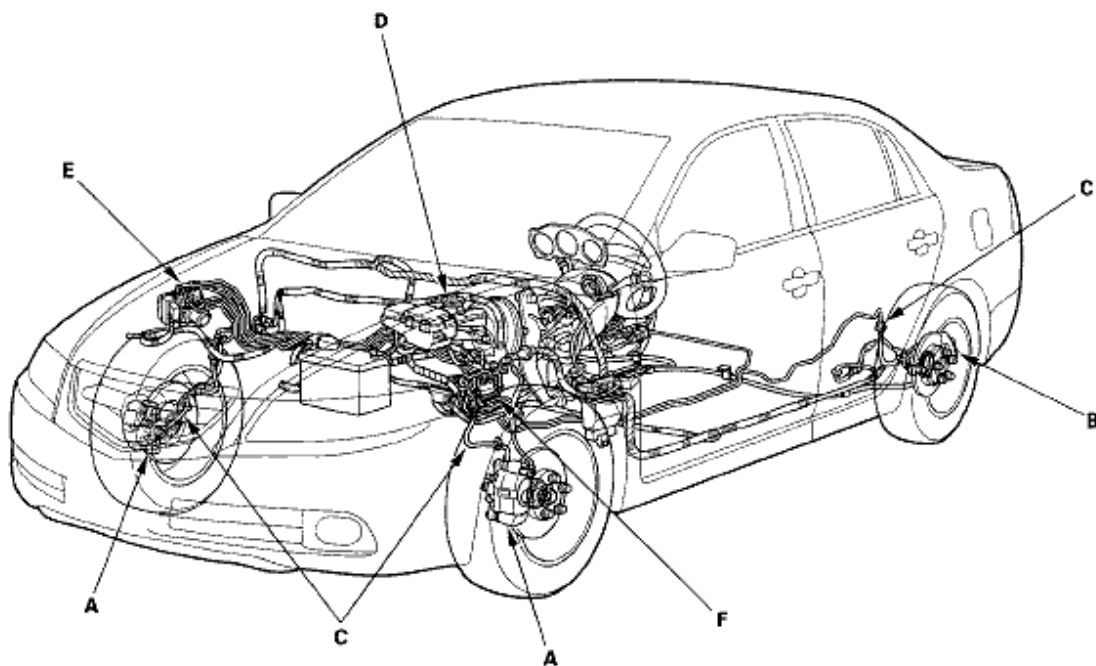


Fig. 84: Identifying Brake Hose And Lines
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

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 the flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.

FRONT - EXCEPT TYPE-S MODEL

1. Remove the front wheel.
2. Disconnect the brake hose (A) from the brake line (B) using a 10 mm flare-nut wrench (C).

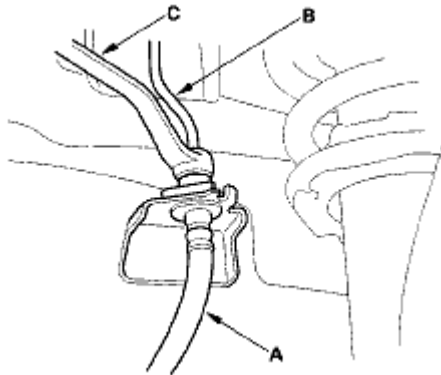


Fig. 85: Disconnecting Brake Hose From Brake Line
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove and discard the brake hose clip (A) from the brake hose (B).

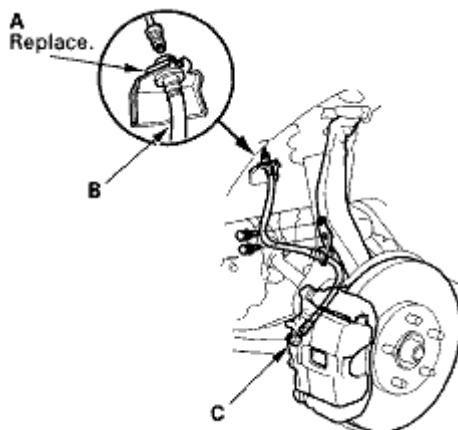


Fig. 86: Identifying Brake Hose Clip And Brake Hose
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the banjo bolt (C), and remove the brake hose from the caliper.

5. Install the brake hose (A) with the brake hose bracket mounting bolt (B).

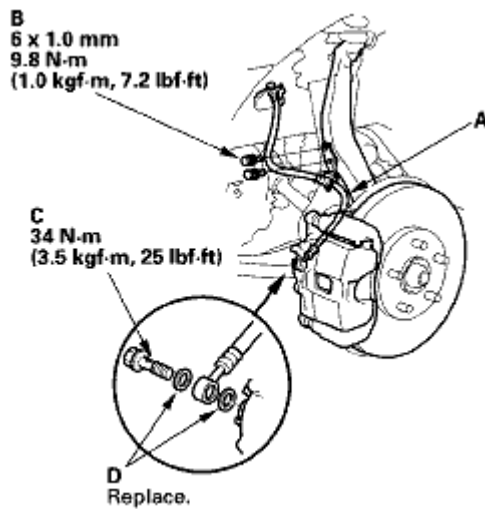


Fig. 87: Identifying Brake Hose And Brake Hose Bracket Mounting Bolt With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Connect the brake hose to the caliper with the banjo bolt (C) and new sealing washers (D).
7. Install a new brake hose clip (A) to the brake hose (B) on the bracket, then connect the brake line (C). Do not twist the brake hose.

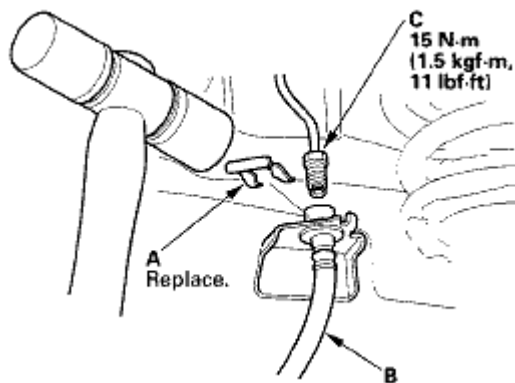


Fig. 88: Installing Brake Hose Clip To Brake Hose On Bracket With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. After installing the brake hose, bleed the brake system (see **BRAKE SYSTEM BLEEDING**).
9. 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.
10. Clean the mating surfaces of the brake disc and the inside of the wheel, then install the front wheels.

FRONT - TYPE-S MODEL (4-PISTON CALIPER TYPE)

1. Remove the front wheel.

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

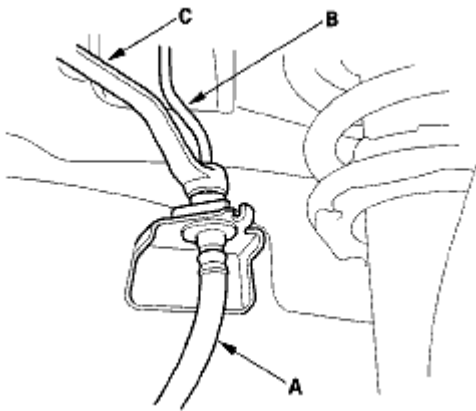


Fig. 89: Disconnecting Brake Hose From Brake Line
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove and discard the brake hose clip (A) from the brake hose (B).

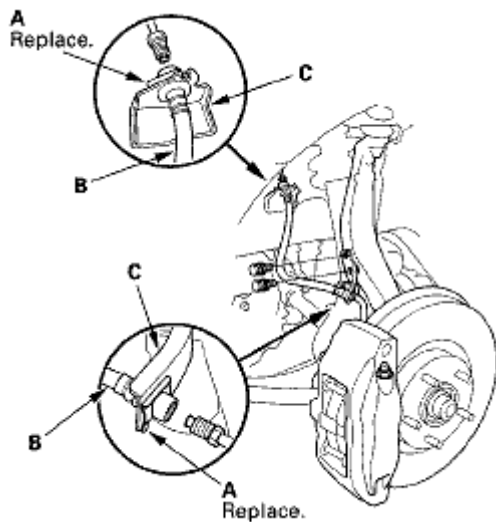


Fig. 90: Identifying Brake Hose Clip, Brake Hose Brackets And Brake Hose
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the brake hose from the brake hose brackets (C).
5. Insert the brake hose (A) through the brake hose brackets (B).

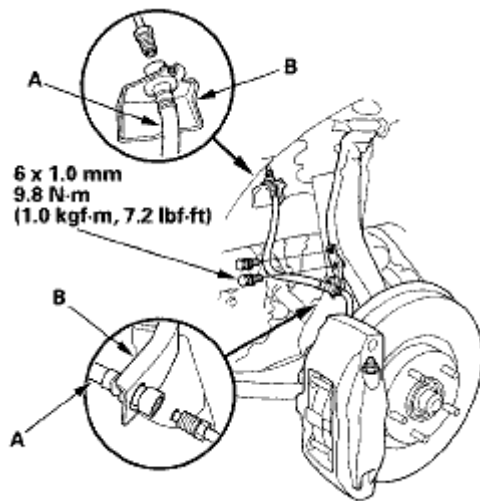


Fig. 91: Identifying Brake Hose And Brake Hose Brackets With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Connect the brake line (A) to the brake hose (B) loosely.

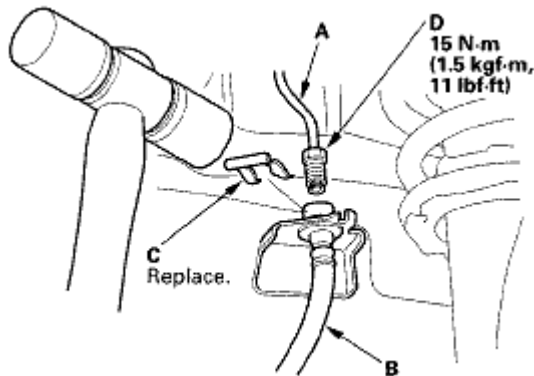


Fig. 92: Installing Brake Hose Clips On Brake Hose With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the new brake hose clips (C) on the brake hose.
8. Tighten the 10 mm flare nut (D) to the specified torque values.
9. 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.
10. Clean the mating surfaces of the brake disc and the inside of the wheel, then install the front wheels.

REAR

1. Remove the rear wheel.
2. Disconnect the brake line (A) from the brake hose (B), then remove the brake hose clip (C).

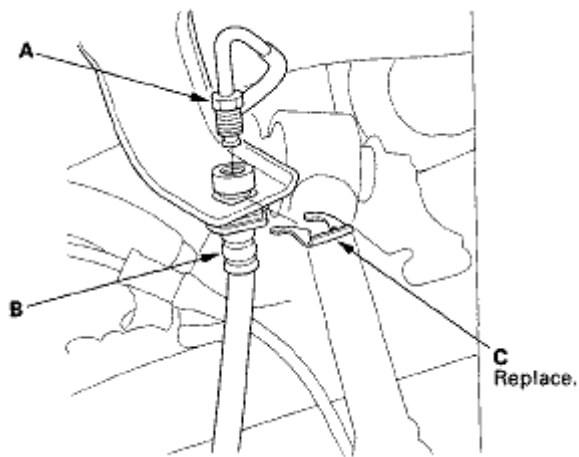


Fig. 93: Identifying Brake Line, Brake Hose And Brake Hose Clip
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the banjo bolt (A), and disconnect the brake hose (B) from the caliper.

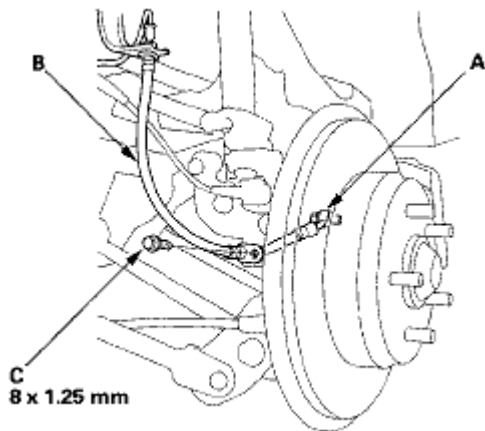


Fig. 94: Identifying Brake Hose And Brake Hose Bracket Mounting Bolt
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the brake hose bracket mounting bolt (C), then remove the brake hose.
5. Install the brake hose (A) with the brake hose bracket mounting bolt (B).

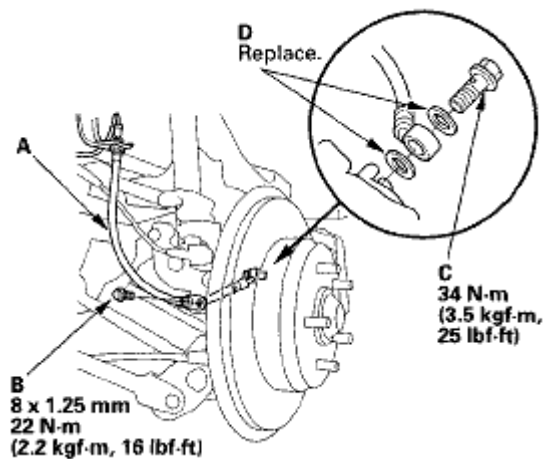


Fig. 95: Identifying Brake Hose, Banjo Bolt And Sealing Washers With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Connect the brake hose to the caliper with the banjo bolt (C) and new sealing washers (D).
7. Install a new brake hose clip (A) to the brake hose (B) on the bracket, then connect the brake line (C). Do not twist the brake hose.

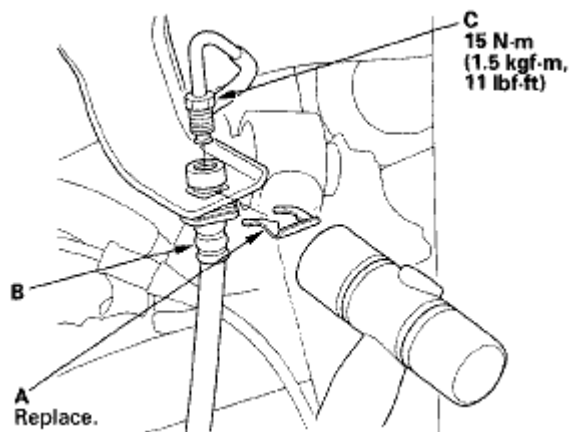


Fig. 96: Installing Brake Hose Clip To Brake Hose On Bracket With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. After installing the brake hose, bleed the brake system (see **BRAKE SYSTEM BLEEDING**).
9. 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.
10. Clean the mating surfaces of the brake disc/drum and the inside of the wheel, then install the rear wheels.

PARKING BRAKE CABLE REPLACEMENT

EXPLODED VIEW

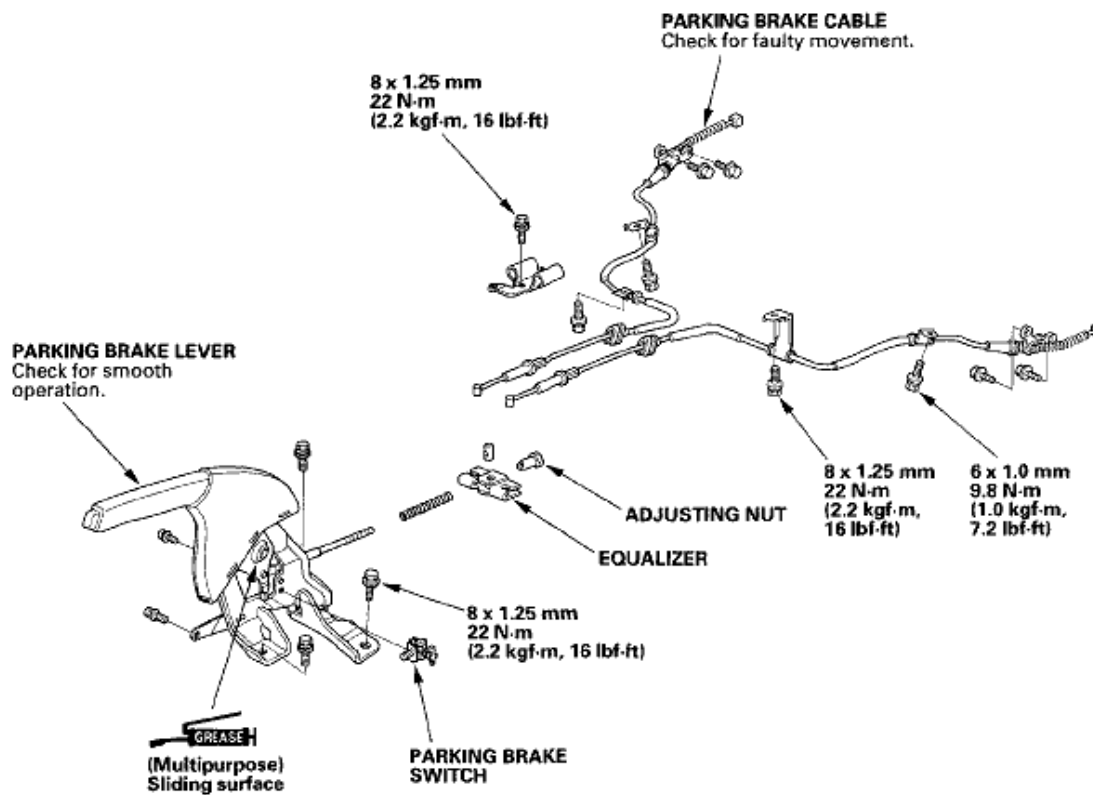


Fig. 97: Exploded View Of Parking Brake Cable With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

NOTE:

- The parking brake cables 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. Loosen the parking brake cable adjusting nut (see MAJOR ADJUSTMENT (TO BE DONE WHEN REPLACING PARKING BRAKE SHOES AND AFTER LINING SURFACE BREAK-IN)).
2. Remove the parking brake shoes, and disconnect the parking brake cable from the parking brake lever (see PARKING BRAKE SHOE REPLACEMENT).
3. Remove the parking brake cable mounting bolts from the backing plate (A).

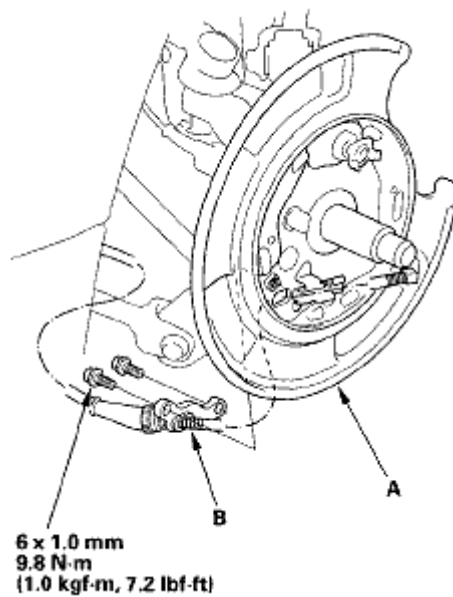


Fig. 98: Identifying Parking Brake Cable And Backing Plate With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Pull the parking brake cable (B) and remove it from the backing plate.
5. Reinstall the parking brake cable in the reverse order of removal, and note these items:
 - Be careful not to bend or distort the cable.
 - Connect the parking brake cable to the brake lever, and install the parking brake shoes and disc/drum (see **PARKING BRAKE SHOE REPLACEMENT**).
 - Clean the mating surfaces of the brake disc/drum and the inside of the wheel, then install the rear wheels.
 - Do the parking brake adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT**). Apply the parking brake firmly 10 times then adjust it again.

BRAKE PEDAL COVER REPLACEMENT

NOTE: This procedure shows a model equipped with a metal brake pedal cover.

1. Cover the carpet under the brake pedal to prevent metal shavings from getting on the carpet.
2. Center-punch each of rivets (A), and drill their heads off with a 3 mm (0.12 in.) drill bit (B).

NOTE: Do not drill the brake pedal pad (C).

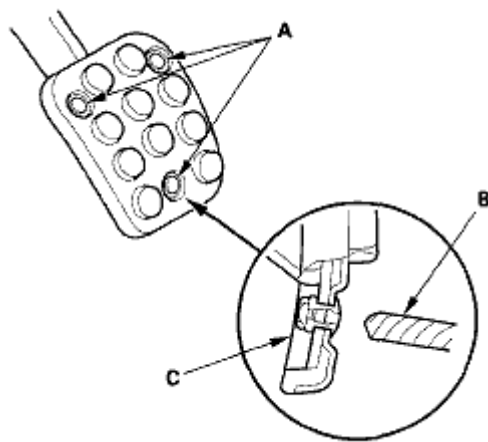


Fig. 99: Identifying Rivets And Brake Pedal Pad
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the brake pedal plate (A) and the brake pedal cover (B) from the brake pedal pad (C).

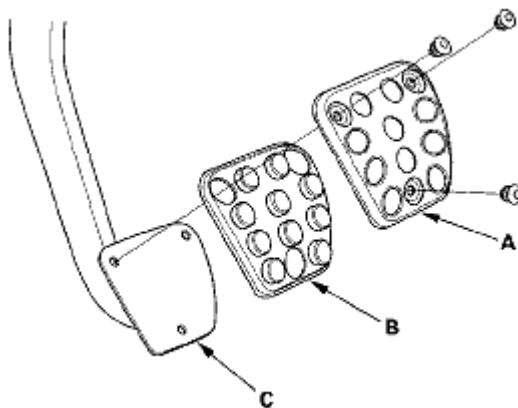


Fig. 100: Identifying Brake Pedal Plate, Brake Pedal Cover And Brake Pedal Pad
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Set the brake pedal cover to the brake pedal plate.
5. Install the brake pedal plate (A) with the rivets (B) firmly.

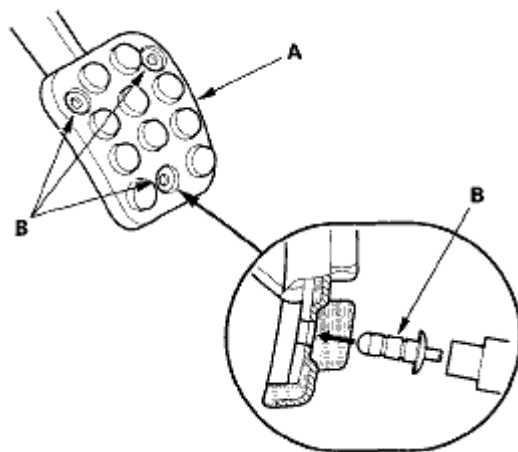


Fig. 101: Installing Brake Pedal Plate With Rivets

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Make sure the brake pedal cover plate is securely fastened on the brake pedal.
7. Check the brake pedal height (see **PEDAL HEIGHT**).