

2004 BRAKES

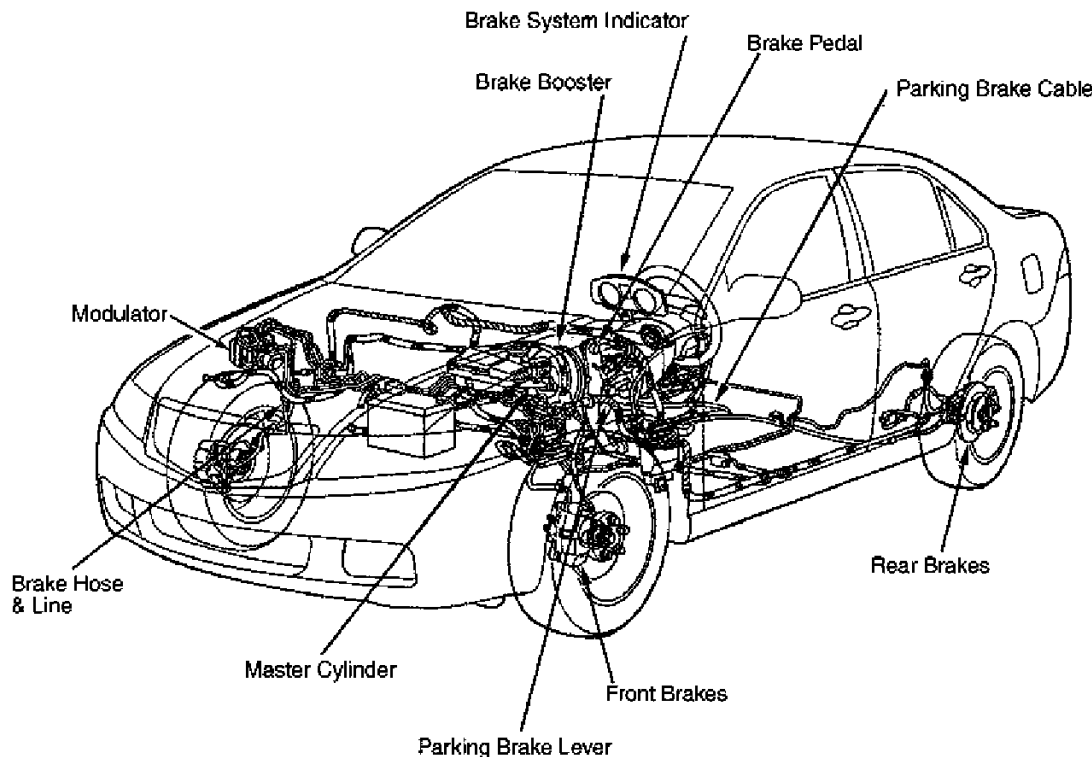
Disc - TSX

DESCRIPTION & OPERATION

WARNING: DO NOT use air pressure or a dry brush to clean brake assemblies. Avoid breathing brake dust. Use OSHA-approved vacuum cleaner for cleaning and collecting dust. Avoid contaminating brake pads and discs with brake fluid or grease.

CAUTION: Avoid spilling brake fluid on car, as it will damage paint. If brake fluid contacts paint, immediately flush with water.

The Acura TSX is equipped with front and rear disc brakes. See **Fig. 1**. A cable operates parking brake at rear wheels. A power assist helps reduce the effort needed on the brake pedal. All 4 brakes have audible brake wear indicators. When the brake pads need replacing, you will hear a distinctive metallic "screeching" sound when you apply the brakes. The hydraulic system that operates the brakes has 2 separate circuits. Each circuit works diagonally across the vehicle (the left-front brake is connected with the right-rear brake, etc.). If one circuit should develop a problem, you will still have braking at the opposite two wheels.



G00306678

Fig. 1: Locating Brake Components

Courtesy of AMERICAN HONDA MOTOR CO., INC.

BLEEDING BRAKE SYSTEM

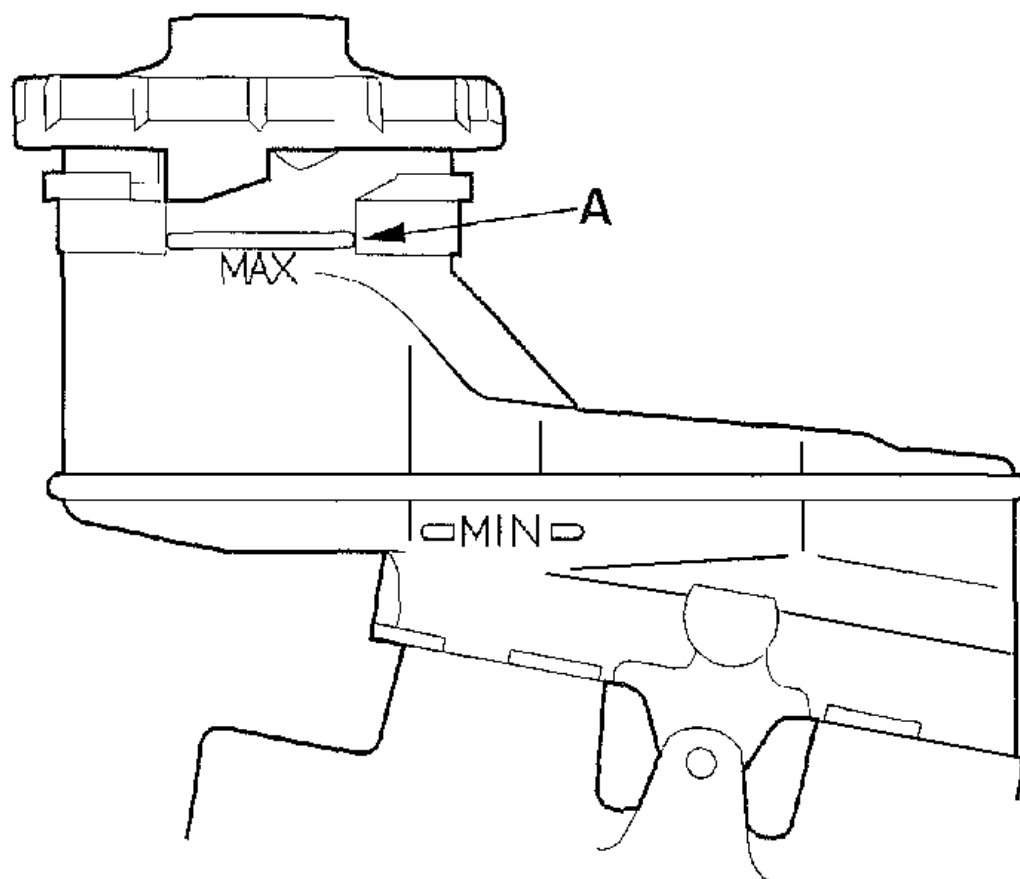
CAUTION: Avoid spilling brake fluid on car, as it will damage paint. If brake fluid contacts paint, immediately flush with water. The brake fluid in the reservoir on the master cylinder must be at the MAX line at the start of the bleeding procedure and checked after bleeding each brake caliper. Add fluid as required. Do not reuse the drained fluid. Always use Genuine Honda DOT 3 brake fluid. Non-Honda brake fluid can cause corrosion and shorten the life of the system. Ensure no dirt or other foreign matter is allowed to contaminate the brake fluid.

CAUTION: DO NOT press brake pedal all the way to the floor. Press brake pedal half-way to avoid damage to master cylinder piston seal. Damage to piston seal can cause internal and/or external leaks.

1. Ensure the brake fluid level in the reservoir is at the MAX line "A". See **Fig. 2**.
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. Have assistant slowly pump the brake pedal several times, then apply steady pressure.
3. Loosen the left front brake bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.
4. Repeat the procedure for each wheel in following sequence until air bubbles no longer appear in the fluid. See **Fig. 3**. See **BRAKELINE BLEEDING SEQUENCE**.
5. Refill the master cylinder reservoir to the MAX line. Road test vehicle and check brake performance.

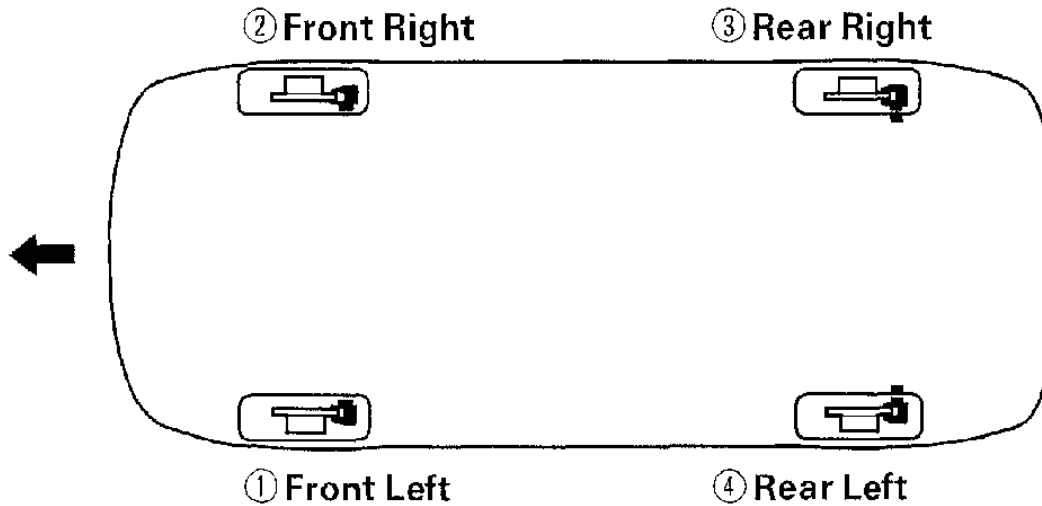
BRAKELINE BLEEDING SEQUENCE

Application	Sequence
TSX	LF, RF, RR, LR



G00172003

Fig. 2: Identifying Reservoir MAX Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00172004

Fig. 3: Brake Bleeding Sequence

Courtesy of AMERICAN HONDA MOTOR CO., INC.

ADJUSTMENTS

BRAKE BOOSTER PUSHROD CLEARANCE

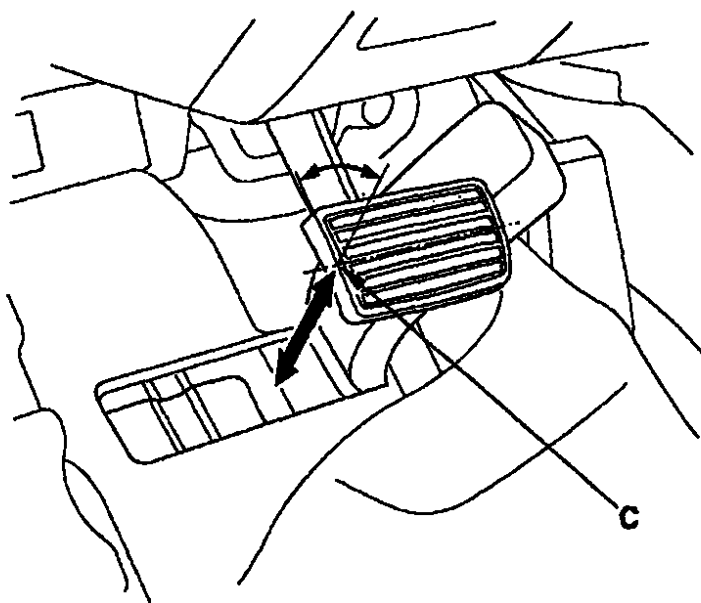
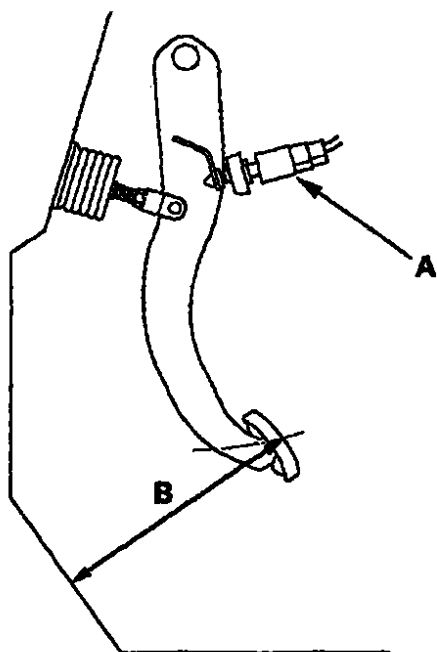
NOTE: Brake booster pushrod clearance adjustment procedure is not available from manufacturer.

BRAKE PEDAL HEIGHT & FREE PLAY

NOTE: Brake pedal position switch may also be referred to as brakelight or stoplight switch.

Pedal Height

1. Turn the brake pedal position switch "A" counterclockwise, and pull it back until it is no longer touching the brake pedal. See **Fig. 4**.
2. Lift up the carpet. At the insulator cutout, measure the pedal height "B" from the middle of the left side of the pedal pad "C". Pedal height should be 5.8" (148 mm) on A/T models or 5.7" (144 mm) on M/T models.
3. On all models, loosen the push rod lock nut "A", and screw the pushrod in or out with pliers until the standard pedal height from the floor is reached. See **Fig. 5**. After adjustment, tighten lock nut to specification. See **TORQUE SPECIFICATIONS**. Do not adjust the pedal height with the pushrod pressed.



G00306679

Fig. 4: Measuring Brake Pedal Height
Courtesy of AMERICAN HONDA MOTOR CO., INC.

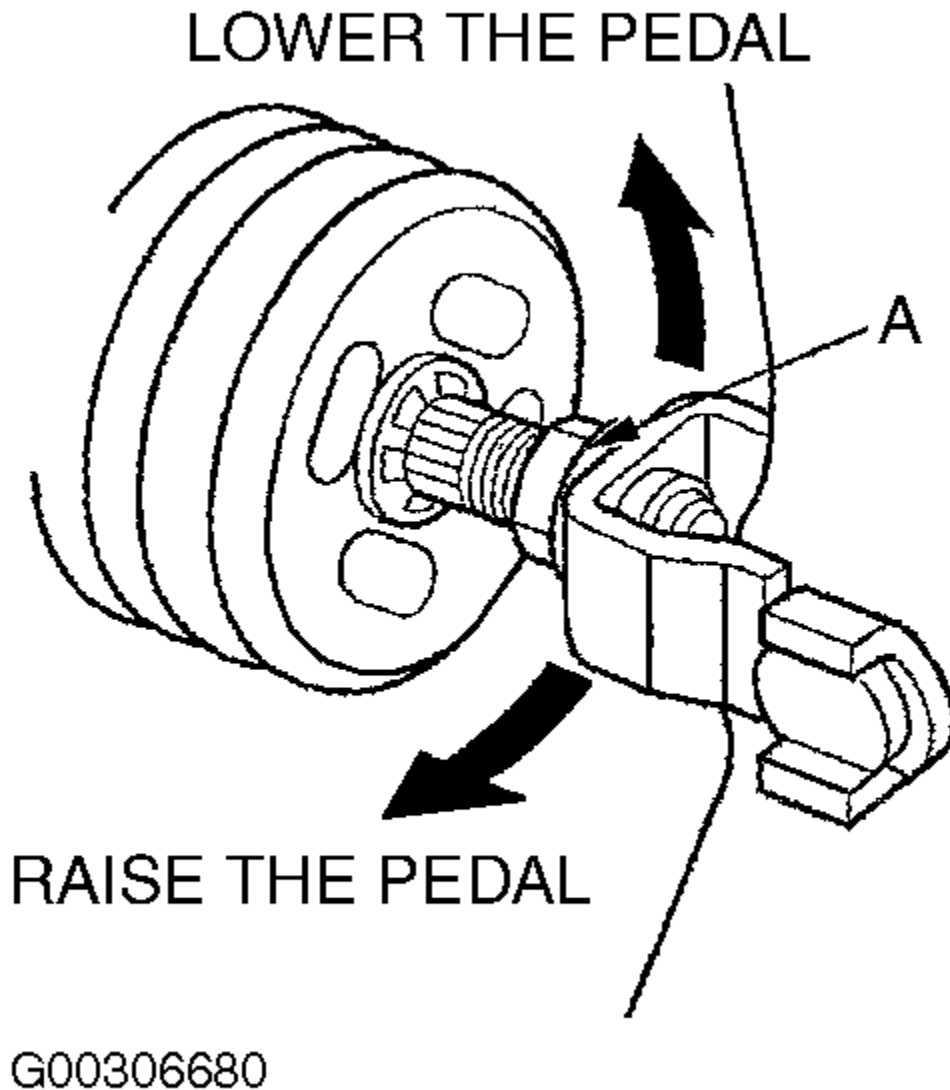
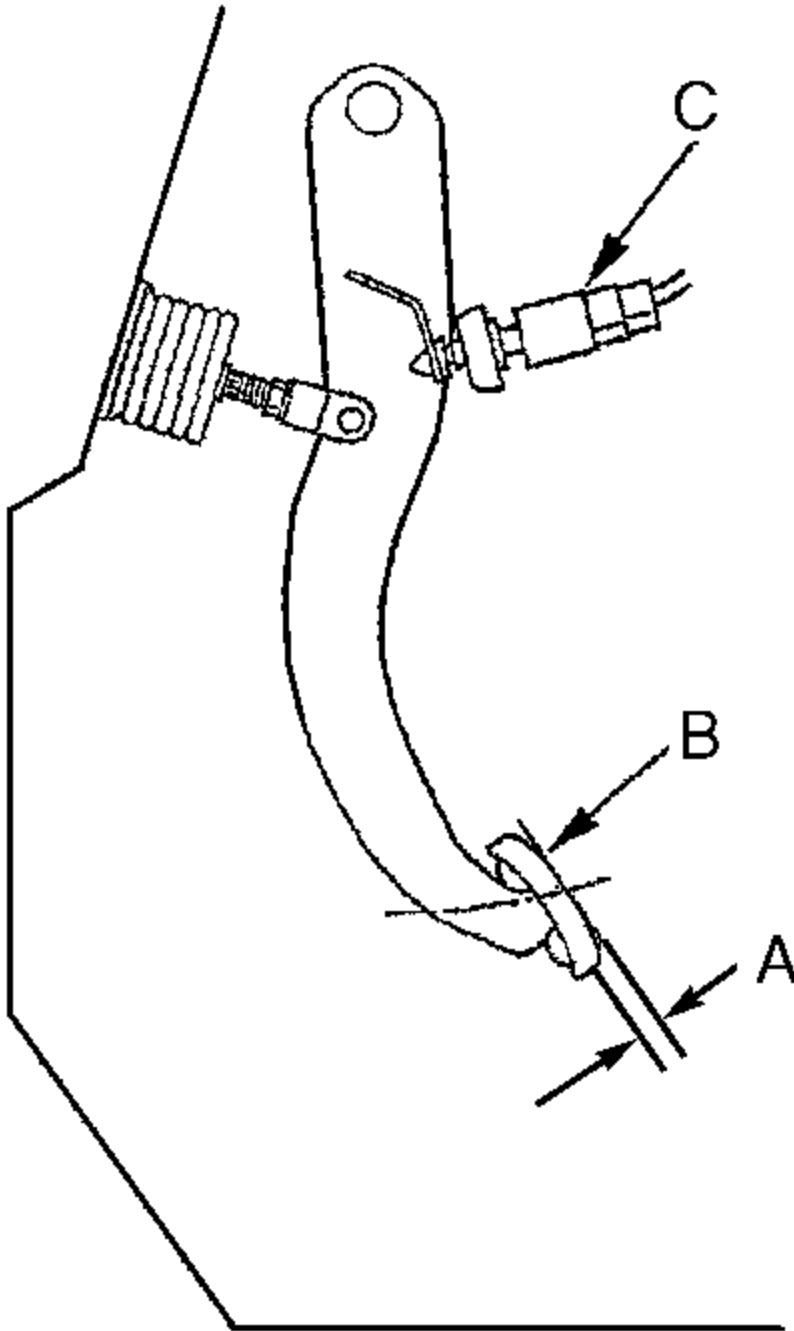


Fig. 5: Adjusting Brake Pedal Lock Nut
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Pedal Free Play

1. With the engine off, inspect the play "A" on the pedal pad "B" by pushing the pedal by hand. See **Fig. 6** . Play "A" should be .04-.20" (1.0-5.0 mm).
2. If the play is out of specification, adjust the brake pedal position switch "C". If the pedal free play is insufficient, it may result in brake drag.

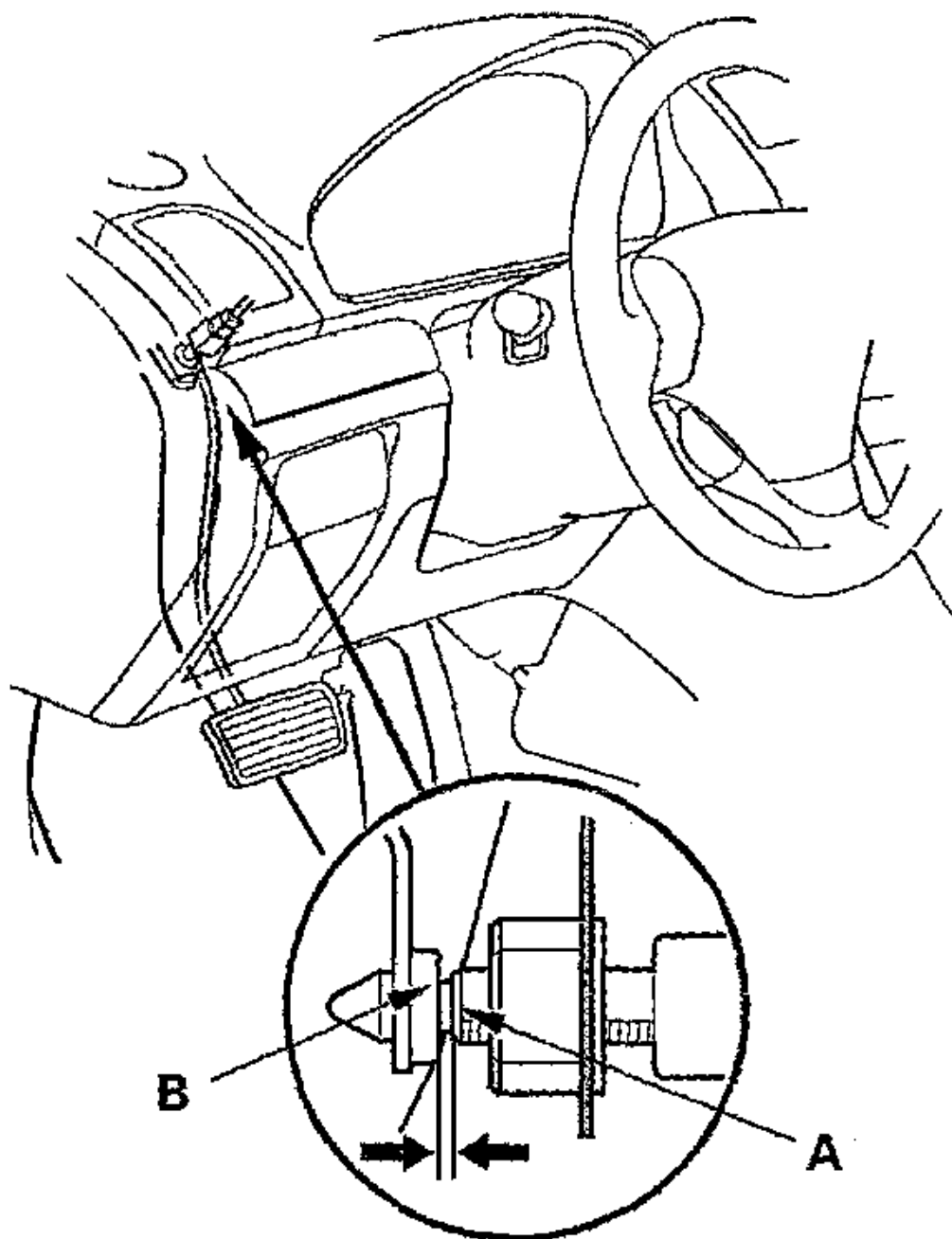
3. Push in the brake pedal position switch until its plunger is fully pressed (threaded end "A" touching the pad "B" on the pedal arm). See **Fig. 7** . Turn the switch 45° clockwise to lock it. The gap between the brake pedal position switch and the pad is automatically adjusted to .016-.118" (.4 to 3.0 mm) by locking the switch. Ensure the brake lights go off when the pedal is released.



G00306681

cardiagn.com

Fig. 6: Measuring Brake Pedal Free Play
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306682

Fig. 7: Adjusting Brake Pedal

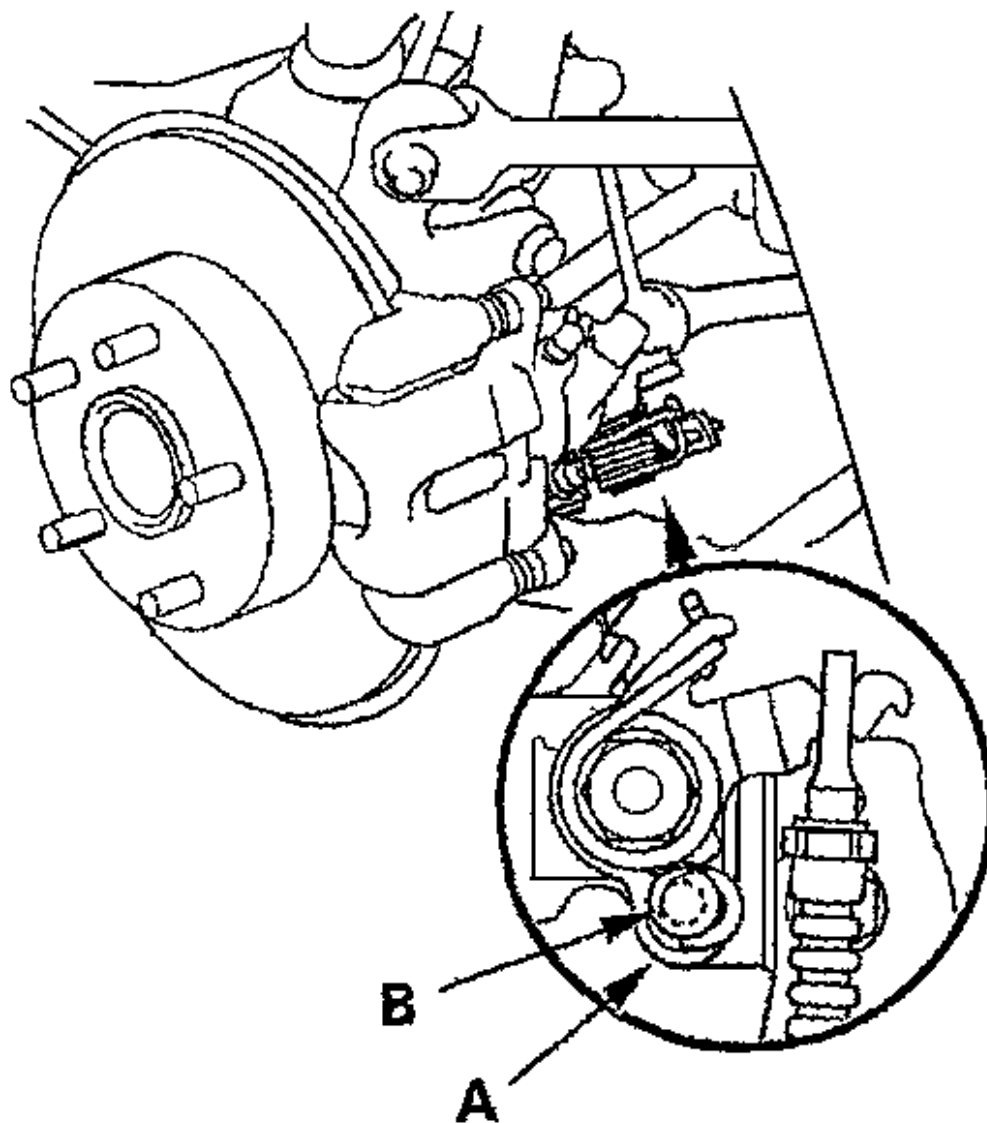
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PARKING BRAKE

1. Pull the parking brake lever with 44 lbs. (20 kg) of force to fully apply the parking brake. The parking brake lever should be locked within 6-9 clicks. Adjust the parking brake if the lever clicks are not within specification.
2. Release the parking brake lever fully. Loosen the parking brake adjusting nut, start the engine, and press the brake pedal several times to set the self adjusting brake before adjusting the parking brake.

NOTE: **The parking brake arm will only contact the brake caliper pin when the parking brake adjusting nut is loosened.**

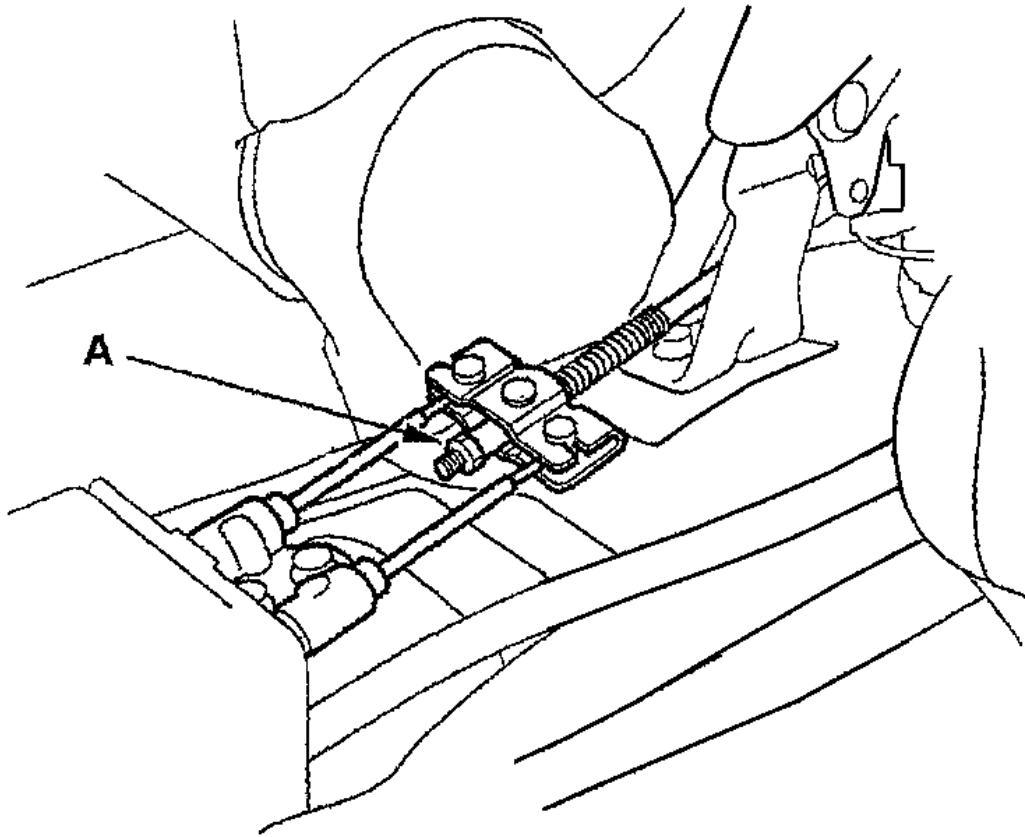
3. Block the front wheels, then raise the rear of the vehicle, and ensure it is securely supported. Ensure the parking brake arm "A" on the rear brake caliper contacts the brake caliper pin "B". See **Fig. 8**.
4. Remove the center console. See **CENTER CONSOLE** under REMOVAL & INSTALLATION. Pull the parking brake lever up one click. Tighten the adjusting nut "A" until the parking brakes drag slightly when the rear wheels are turned. See **Fig. 9**. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary. Ensure the parking brakes are fully applied when the parking brake lever is pulled up fully. Reinstall the console cover.



G00306683

Fig. 8: Identifying Parking Brake Arm

Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306684

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

TROUBLE SHOOTING

BRAKE SYSTEM

NOTE: For brake system trouble shooting, see [Fig. 1](#) and [Fig. 10](#) .

Component Inspections:

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 • Bleeder screw	Seized or sticking caliper pins.
VSA Modulator	Look for damage or signs of fluid leakage at: • Line joints • Modulator	

G00006685

Fig. 10: Brake System Inspection Chart

Courtesy of AMERICAN HONDA MOTOR CO., INC.

BRAKE HOSES & LINES

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

Inspect the brake hoses, for damage, deterioration, leaks, interference, and twisting. Check the brake lines for damage, rusting, and leakage. Also check for bent brake lines. Check for leaks at hose and line joints or connections, and retighten if necessary. Check the master cylinder and ABS modulator unit for damage and leakage. See **Fig. 11** .

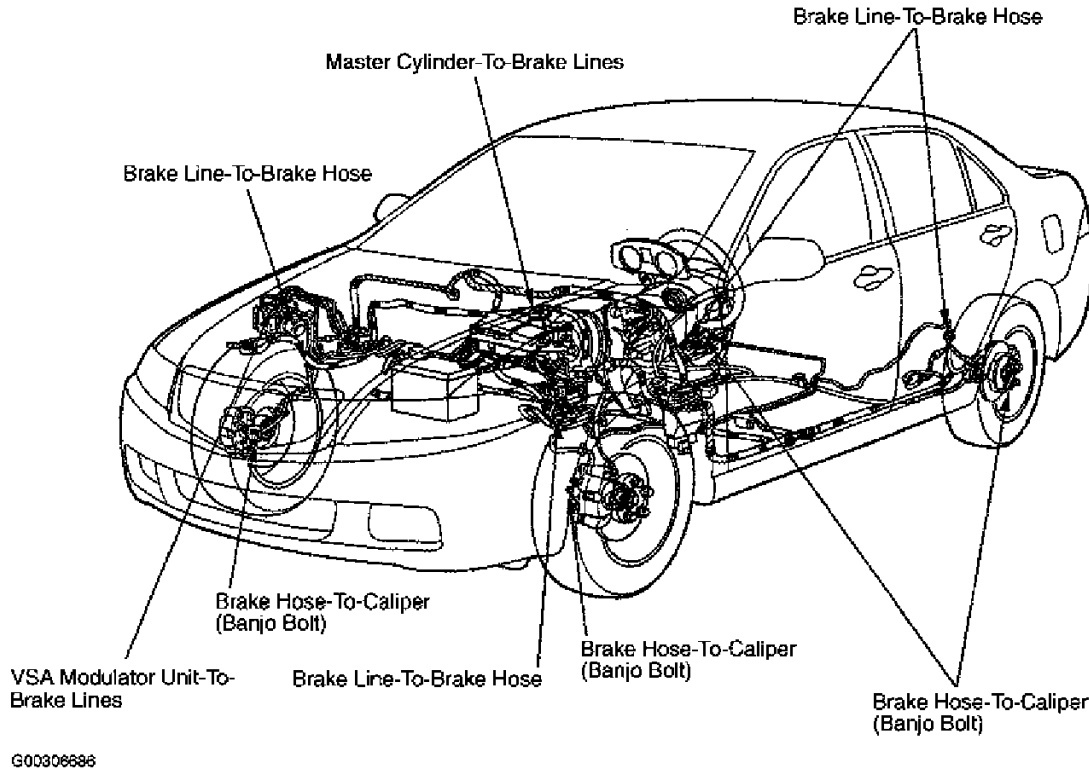


Fig. 11: Identifying Brake Hoses & Lines Inspection Points
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

COMPONENT TESTING

BRAKE BOOSTER

Functional Test

1. With the engine stopped, press the brake pedal several times to deplete the vacuum reservoir, then press the pedal hard, and hold it for 15 seconds. If the pedal sinks, either the master cylinder is bypassing internally, or the brake system (master cylinder, lines, modulator, or calipers) is leaking.
2. Start the engine with the pedal pressed. If the pedal sinks slightly, the vacuum booster is operating normally. If the pedal height does not vary, the booster or check valve is faulty.

NOTE: A/C compressor load changes the vacuum available to the booster.

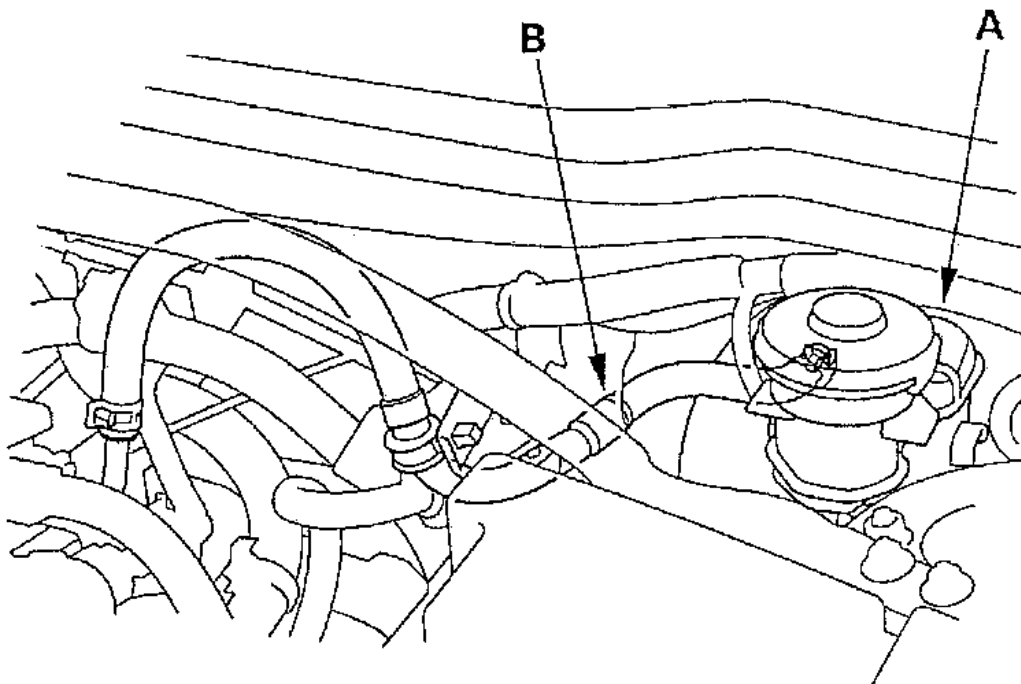
3. With the engine running, press the brake pedal lightly, and shift transmission to "D" position. Apply just enough pressure to hold back A/T creep. If the brake pedal sinks more than .4" (10 mm), in 3 minutes, the master cylinder is faulty. A slight change in pedal height when the A/C compressor cycles on and off is normal.

Leak Test

1. Press the brake pedal with the engine running, then stop the engine. If the pedal height does not vary while pressed for 30 seconds, the vacuum booster is okay. If the pedal rises, the booster is faulty.
2. Turn the engine 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, check the booster check valve. See **BOOSTER CHECK VALVE TEST**.

Booster Check Valve Test

1. Disconnect the brake booster vacuum hose at the booster "A". See **Fig. 12**. The check valve "B" is built into the hose.
2. 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.
3. Start the engine, and then pinch the brake booster vacuum hose between the check valve and the booster. 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 vary, replace the brake booster. If the pedal position varies, replace the brake booster vacuum hose/check valve assembly.

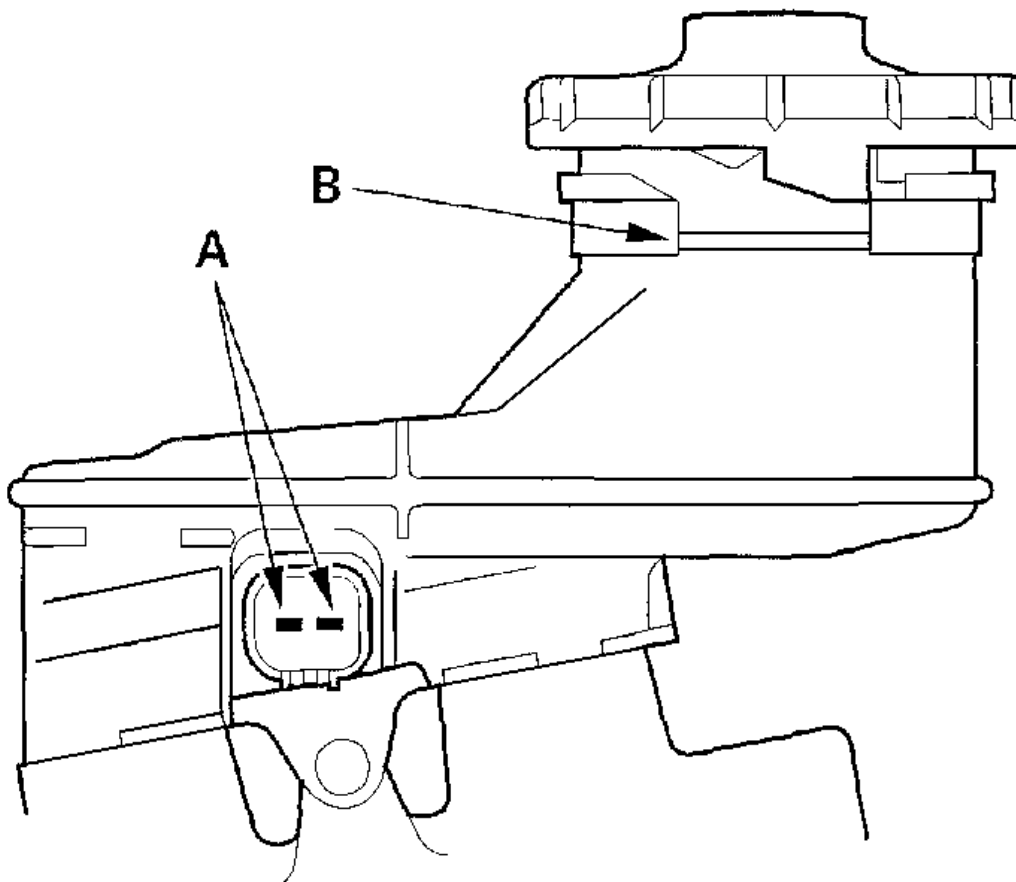


G00306687

Fig. 12: Testing Booster Check Valve
Courtesy of AMERICAN HONDA MOTOR CO., INC.

BRAKE FLUID LEVEL SWITCH

1. Check for continuity between the terminals "A" with the float in the down position and the up position. See **Fig. 13** . Remove the brake fluid completely from the reservoir. With the float down, there should be continuity. Fill the reservoir with brake fluid to MAX line "B". With the float up, there should be no continuity.



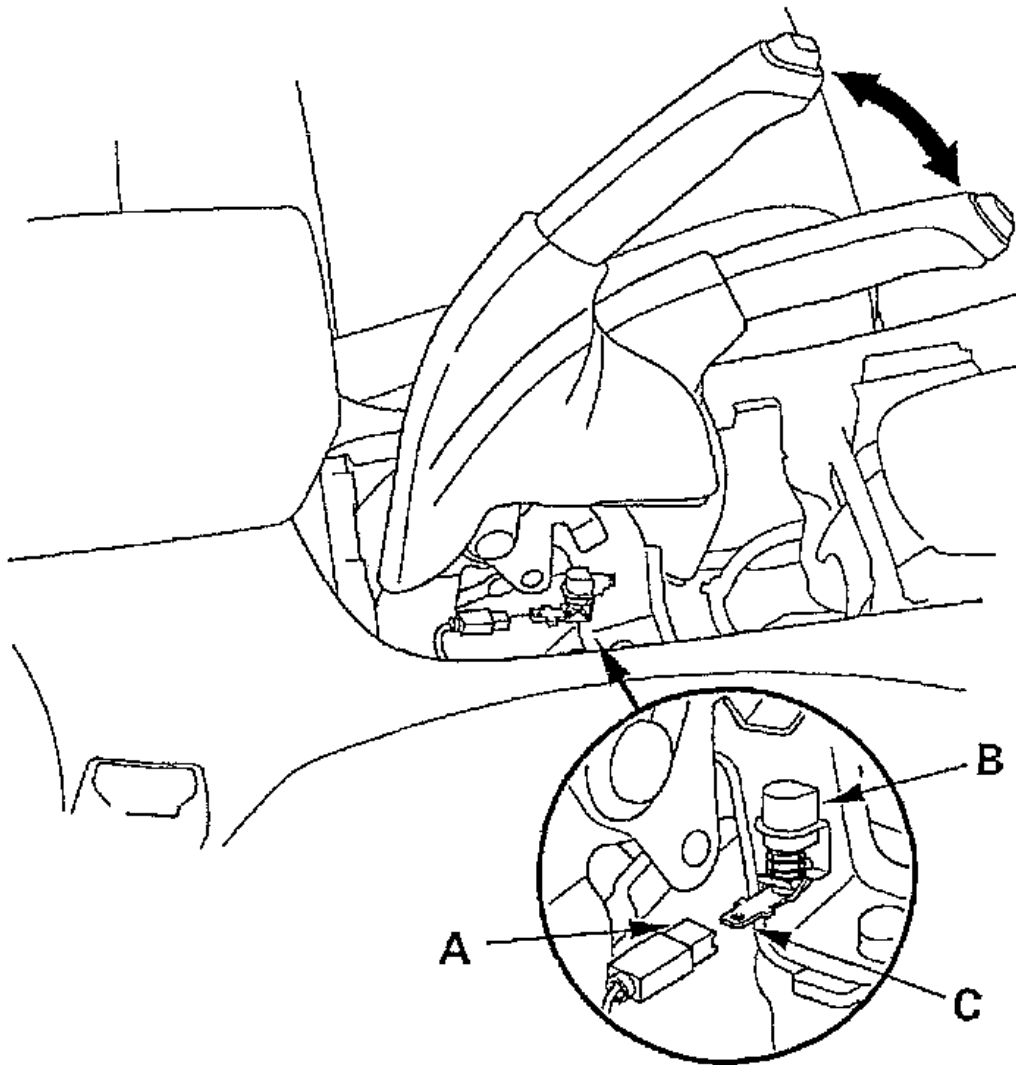
G00172007

Fig. 13: Identifying Brake Fluid Level Switch Terminals
Courtesy of AMERICAN HONDA MOTOR CO., INC.

PARKING BRAKE SWITCH

1. Remove center console. See **CENTER CONSOLE** under REMOVAL & INSTALLATION. Disconnect the connector "A" from the switch "B". See **Fig. 14** .
2. Check for continuity between the positive terminal "C" and body ground:

- With the brake lever up, there should be continuity.
- With the brake lever down, there should be no continuity.



G00306688

Fig. 14: Identifying Parking Brake Switch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

REMOVAL & INSTALLATION

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer

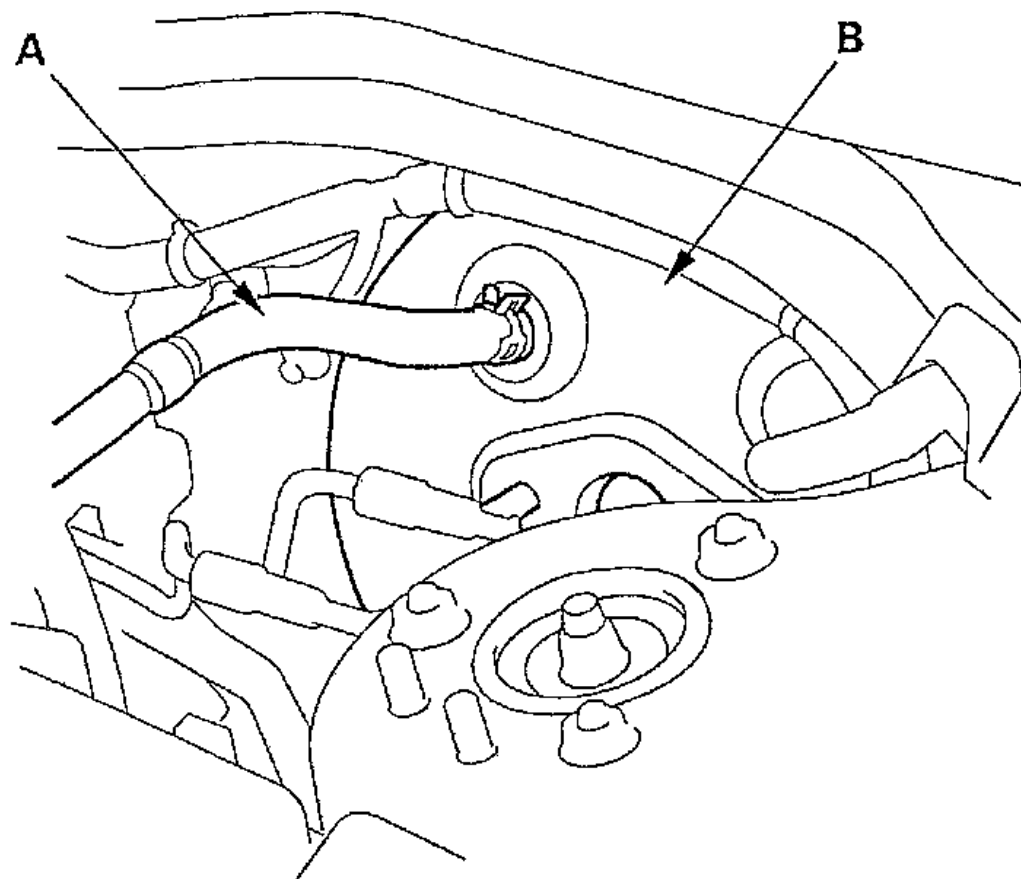
systems have completed a relearn cycle. See appropriate **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** before disconnecting battery.

NOTE: Obtain radio anti-theft code and write down radio presets before disconnecting battery. Reprogram anti-theft code and radio stations after repairs are complete.

BRAKE BOOSTER

Removal

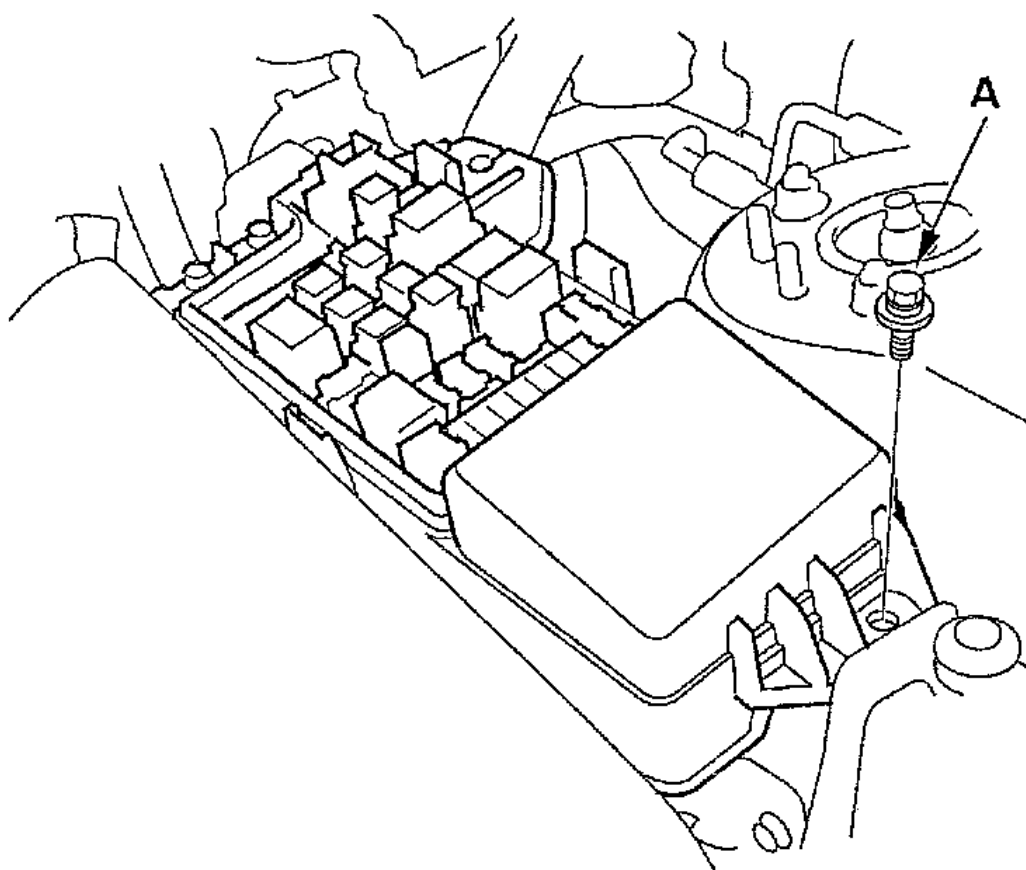
1. Disconnect negative battery cable.
2. Remove the master cylinder. See **MASTER CYLINDER** .
3. Disconnect the vacuum hose "A" from the brake booster "B". See **Fig. 15** .
4. Remove the underhood fuse/relay box mounting bolt "A", then remove the underhood fuse/relay box. See **Fig. 16** .
5. Remove air cleaner assembly "A". See **Fig. 17** .
6. Remove brake lines from hose clamp "A". See **Fig. 18** .
7. Remove lock pin "A" and joint pin "B", then disconnect the yoke from the brake pedal. See **Fig. 19** . Remove the brake booster mounting flange nuts "C".
8. Remove the brake booster "A" from the engine compartment. See **Fig. 20** .



G00306689

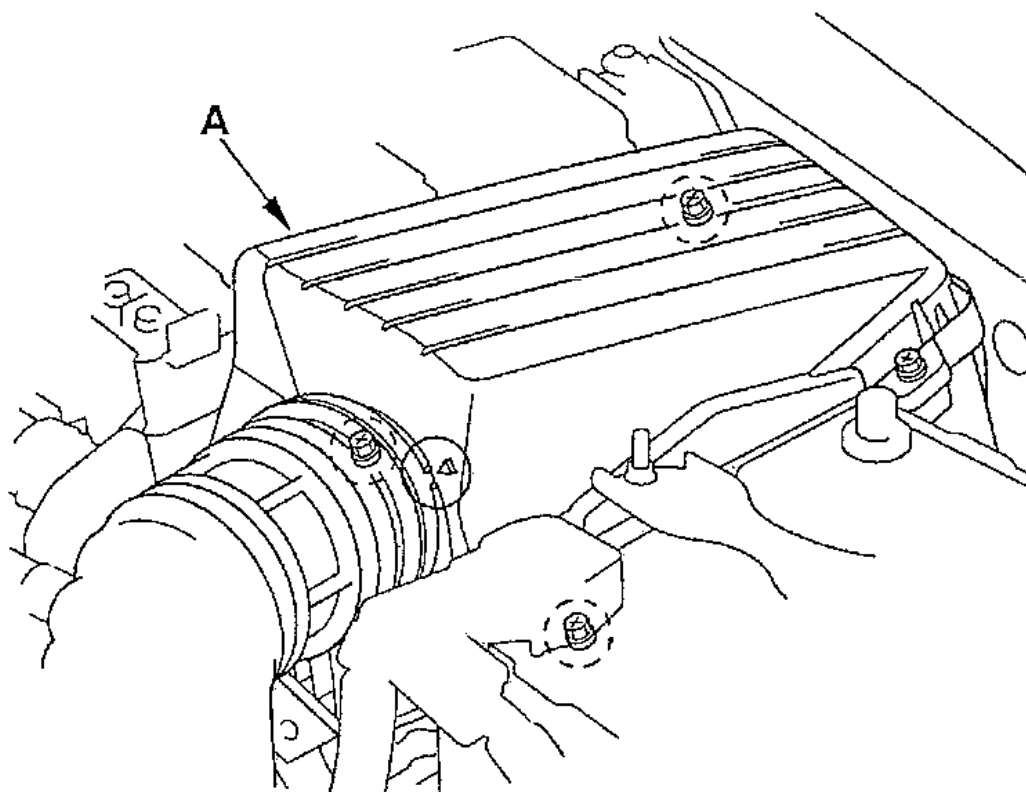
Fig. 15: Disconnecting Master Cylinder Brake Lines & Vacuum Hose
Courtesy of AMERICAN HONDA MOTOR CO., INC.

cardiagn.com



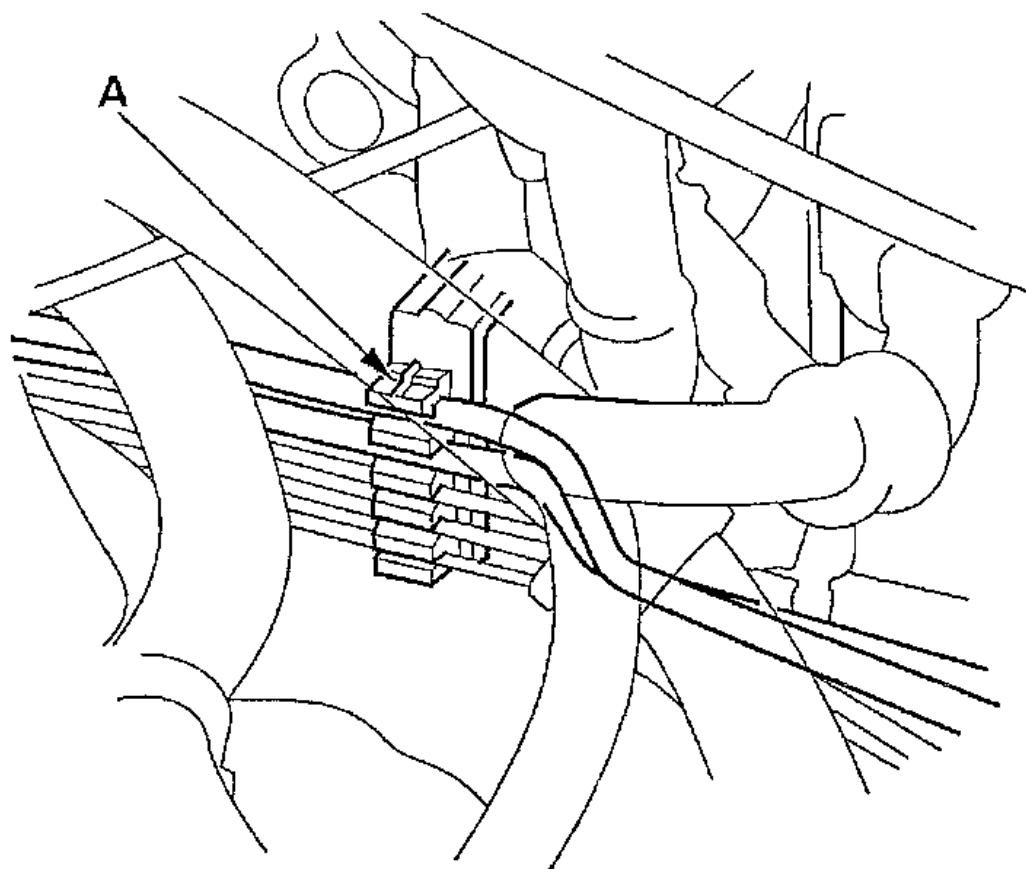
G00306690

Fig. 16: Removing Underhood Fuse/Relay Box
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306691

Fig. 17: Identifying Air Cleaner Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.

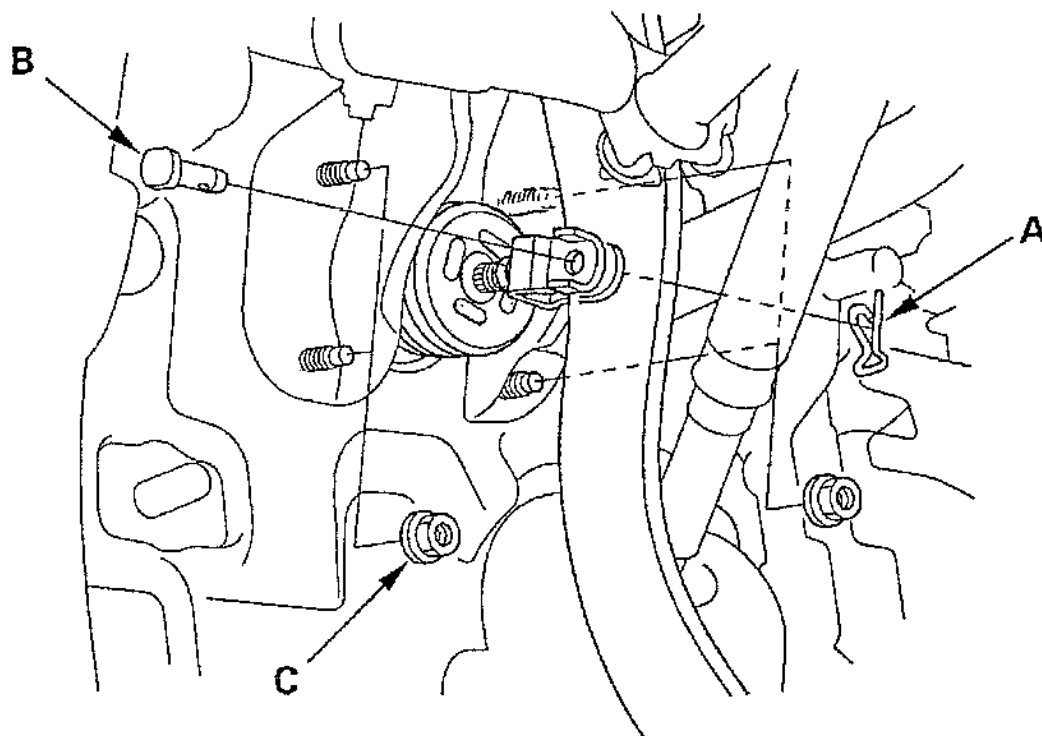


G00306692

Fig. 18: Identifying Hose Clamp

Courtesy of AMERICAN HONDA MOTOR CO., INC.

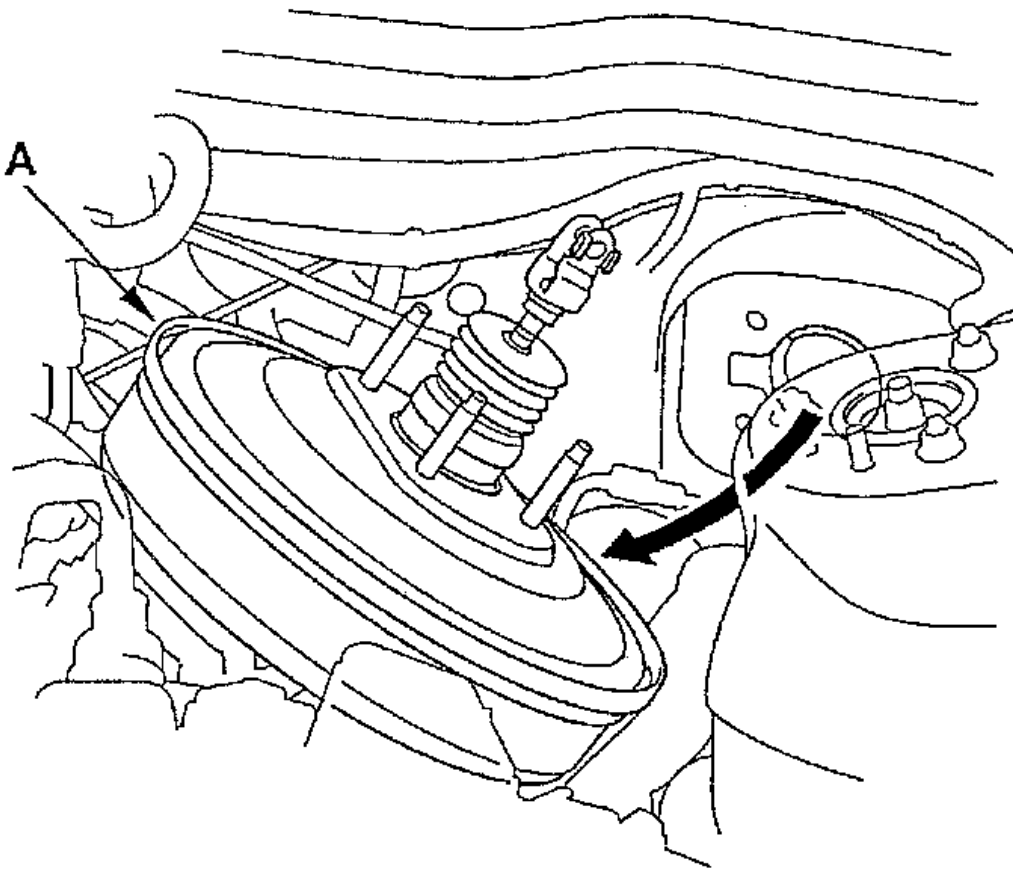
cardiagn.com



G00306693

Fig. 19: Disconnecting Yoke From Brake Pedal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

cardiagn.com



G00306694

Fig. 20: Removing Brake Booster From Engine Compartment
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Installation

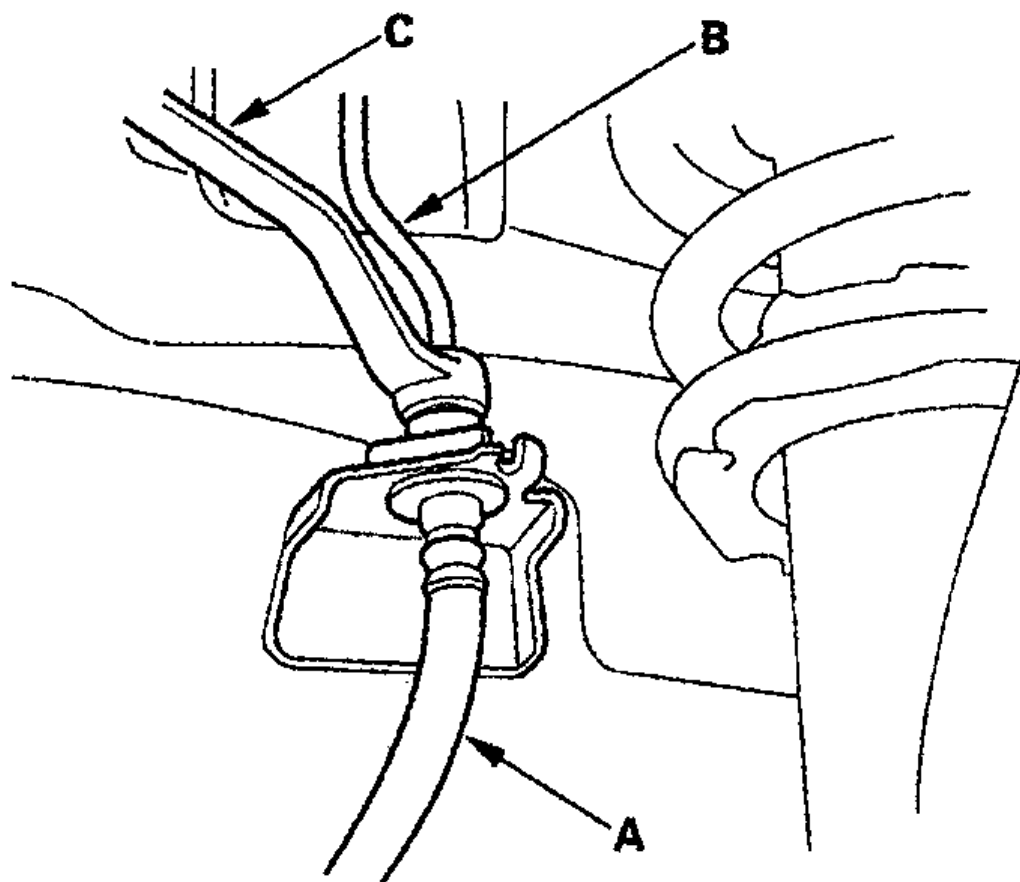
1. To install, reverse removal procedure. Use a new clip when installing. After installing the brake booster and master cylinder, fill the reservoir with new brake fluid. Bleed the brake system. See **BLEEDING BRAKE SYSTEM**.
2. Adjust the brake pedal height and free play. See **BRAKE PEDAL HEIGHT & FREE PLAY** under ADJUSTMENTS.
3. Perform ECM/PCM relearn cycle. See appropriate COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION.
4. Reset driver's power window AUTO function. Start the engine. Push down and hold driver's window switch until the window is fully open. Pull and hold the driver's window switch to close the window completely, then hold the switch for 1-3 seconds.

BRAKE HOSE

CAUTION: Avoid spilling brake fluid on car, as it will damage paint. If brake fluid contacts paint, immediately flush with water. To prevent dripping, cover disconnected line joints with rags or shop towels. Before reassembling, check that all parts are free of dust and other foreign particles. Replace parts with new ones whenever instructed to do so.

Removal

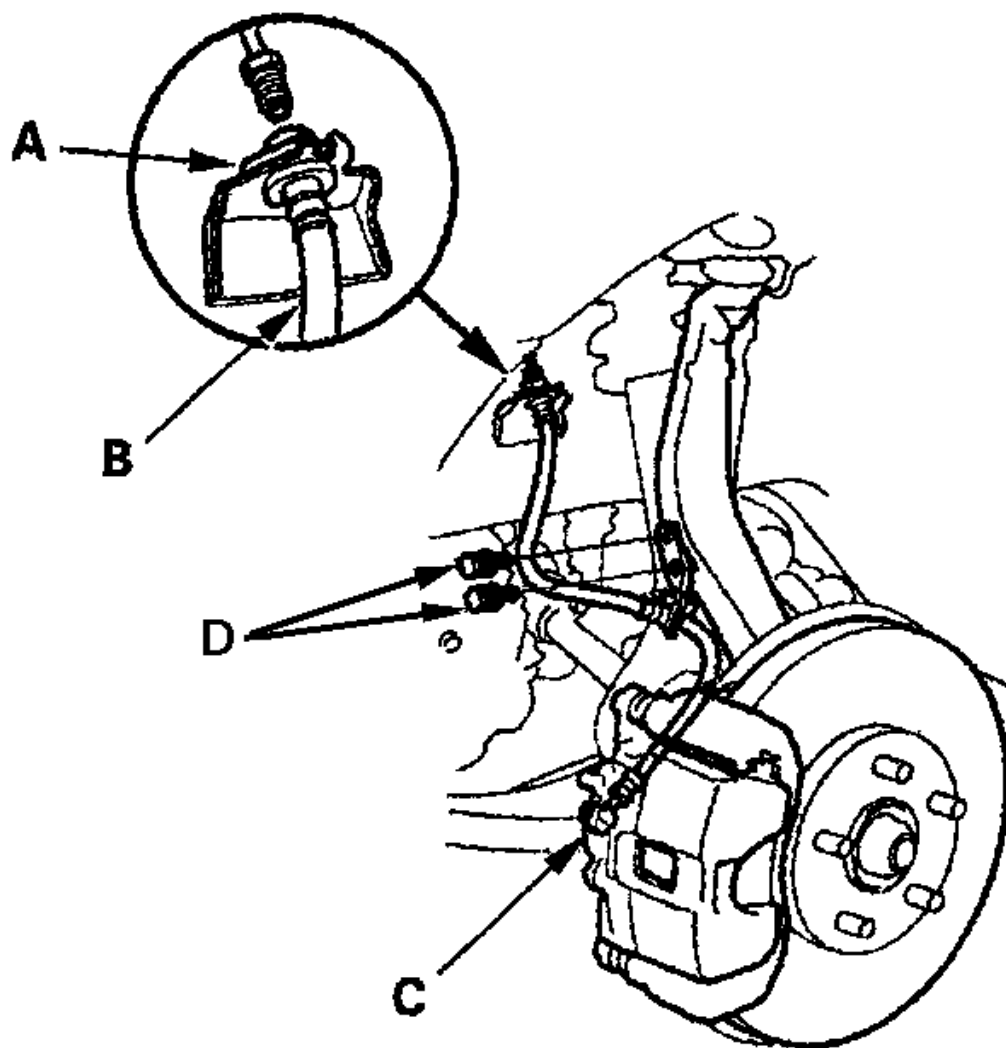
1. Replace the brake hose "A" if the hose is twisted, cracked, or leaks. See **Fig. 21** . Disconnect the brake hose from the brake line "B" using a 10 mm flare nut wrench "C".
2. Remove and discard the hose clip "A" from the brake hose "B". Remove the banjo bolt "C", and remove the brake hose from the caliper. Remove bolts "D", and remove the brake hose brackets from the damper. See **Fig. 22** .



- A - Brake Hose
- B - Brake Line
- C - Flare-Nut Wrench (10 mm)

G00301803

Fig. 21: Identifying Brake Hose & Brake Line
Courtesy of AMERICAN HONDA MOTOR CO., INC.



- A - Brake Hose Clip
- B - Brake Hose
- C - Banjo Bolt
- D - Flange Bolts

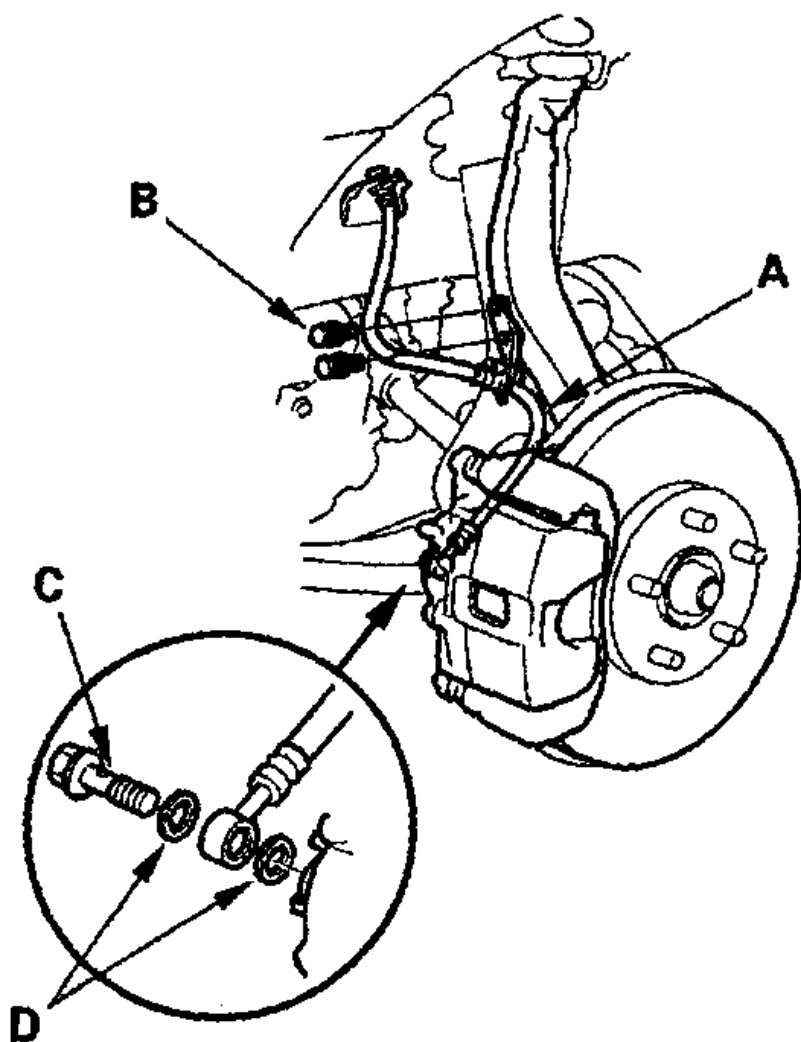
G00301804

Fig. 22: Removing Brake Hose

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Installation

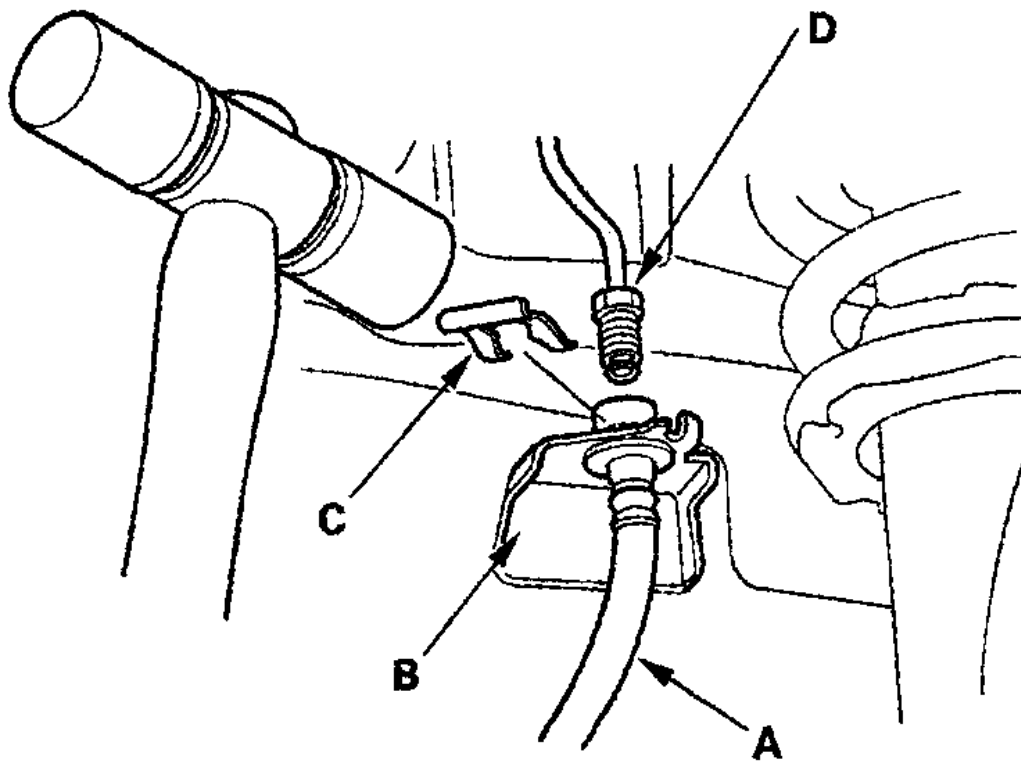
1. Install the brake hose bracket "A" on the damper with the bolts "B" first, then connect the brake hose to the caliper with the banjo bolt "C" and new sealing washers "D". See **Fig. 23** .
2. Install the hose "A" onto the upper hose bracket "B" with a new hose clip "C, and connect brake line "D" to brake hose. See **Fig. 24** . After installing the brake hose, bleed the brake system. See **BLEEDING BRAKE SYSTEM** .
3. Check the brake hose and line joint for leaks, and tighten if necessary. Check the brake hoses for interference and twisting.



- A - Brake Hose
- B - Flange Bolts
- C - Banjo Bolt
- D - Sealing Washers

G00301805

Fig. 23: Installing Brake Hose To Caliper
Courtesy of AMERICAN HONDA MOTOR CO., INC.



- A - Brake Hose
- B - Brake Hose Bracket
- C - Brake Hose Clip
- D - Brake Line

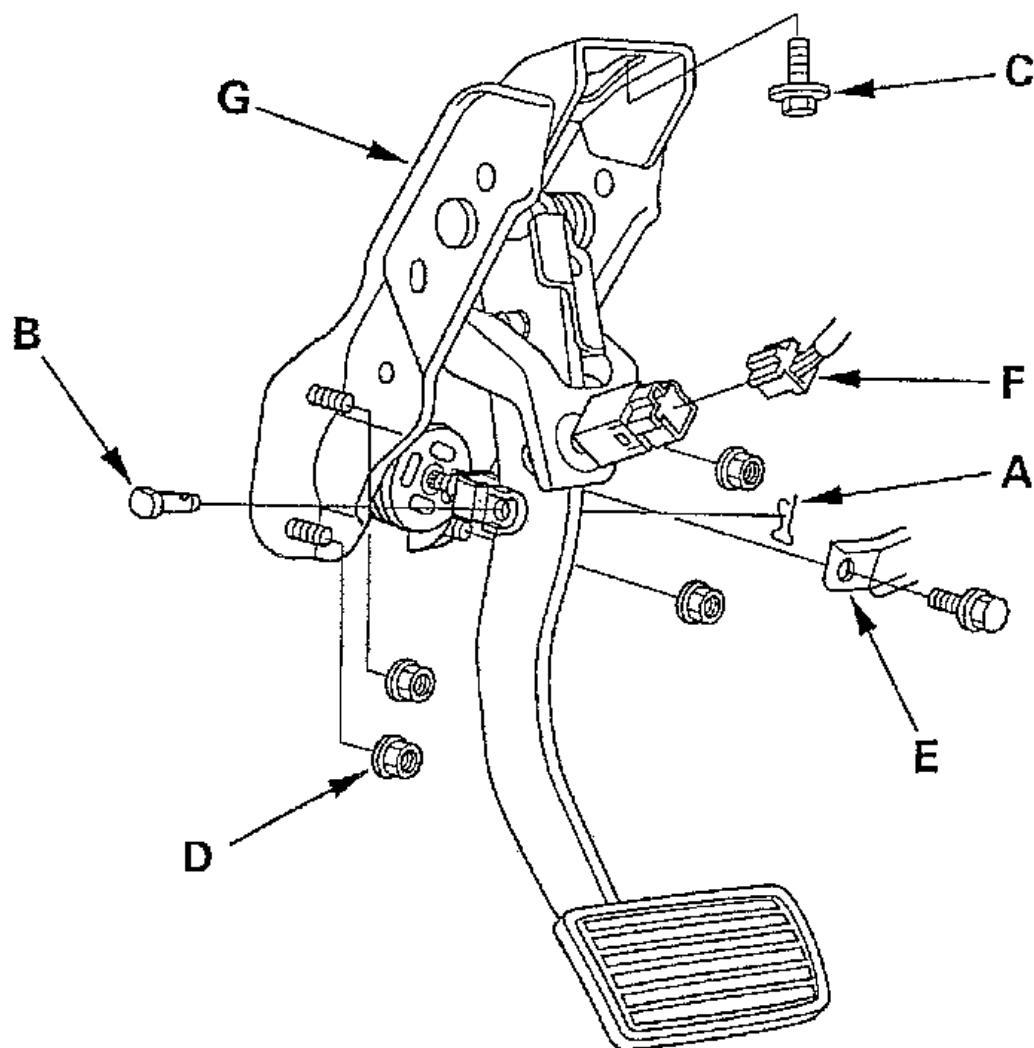
G00301806

Fig. 24: Installing Hose Clip

Courtesy of AMERICAN HONDA MOTOR CO., INC.

BRAKE PEDAL**Removal & Installation**

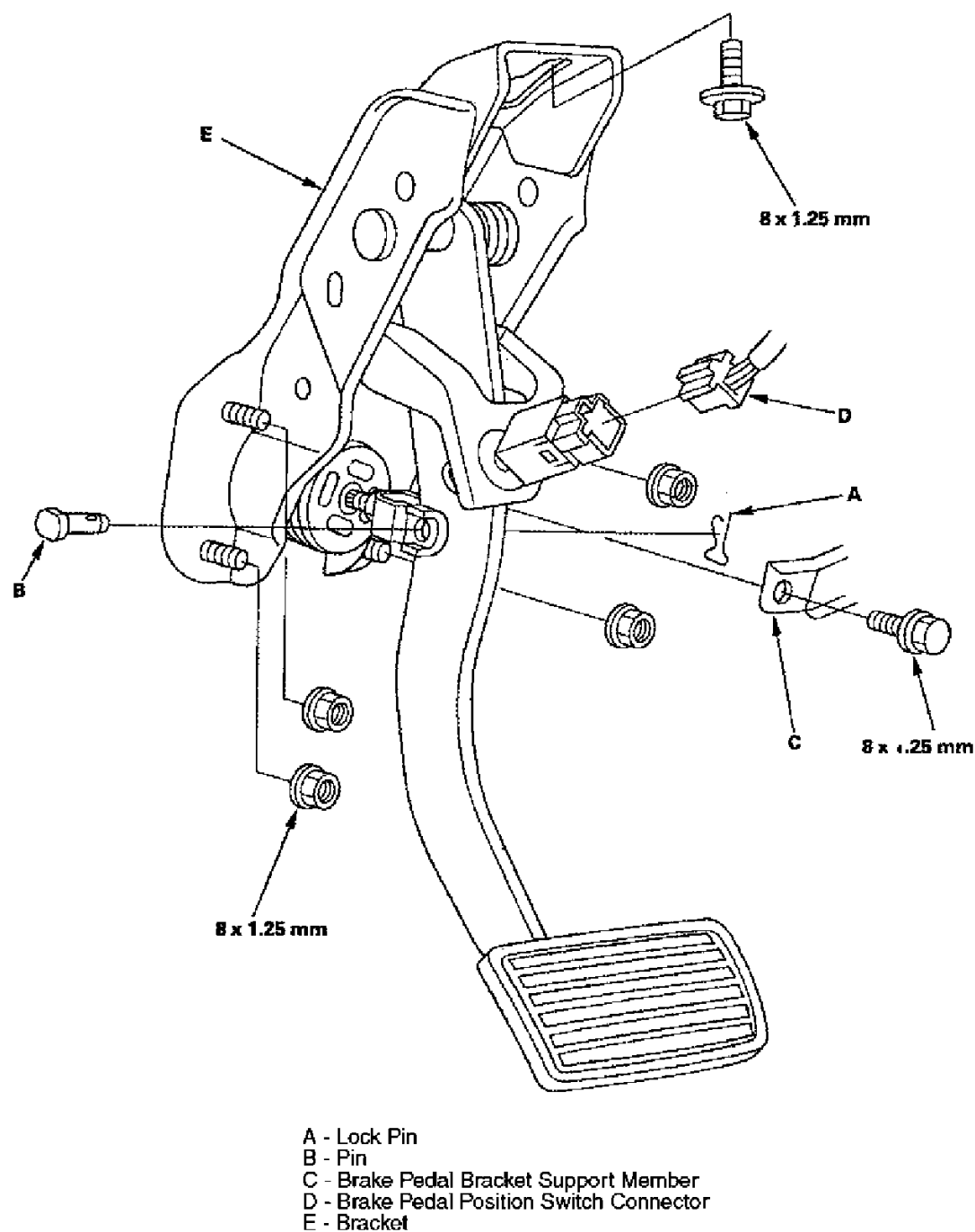
Remove lock pins "A" and "B". See **Fig. 25** . Remove the brake pedal bracket mounting bolt "C" and nuts "D". Remove the brake pedal support member "E". Disconnect the brake pedal position switch connector "F". Remove the brake pedal with bracket "G". To install, reverse order removal procedure. Check brake pedal height and free play. See **BRAKE PEDAL HEIGHT & FREE PLAY** .



G00306695

Fig. 25: Removing & Installing Brake Pedal
Courtesy of AMERICAN HONDA MOTOR CO., INC.

cardiagn.com



G00301824

Fig. 26: Removing & Installing Brake Pedal
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

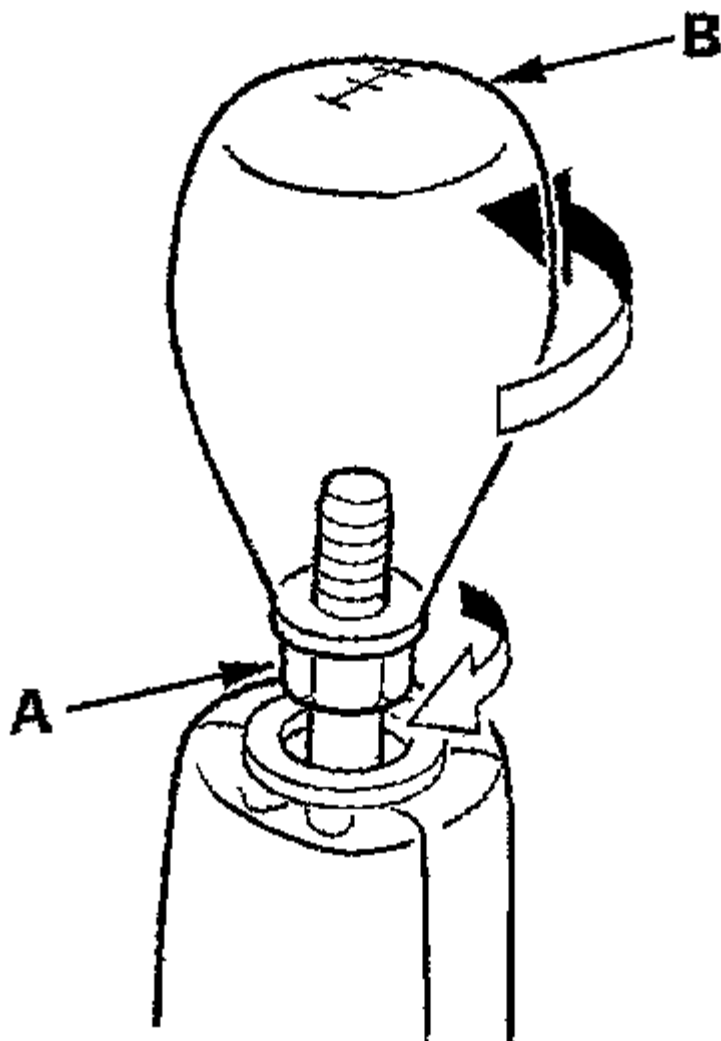
CENTER CONSOLE

Removal & Installation

1. On models with M/T, loosen lock nut "A" to remove the shift knob "B". See **Fig. 27** .

NOTE: **When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage. Take care not to scratch the front seat, dashboard and related parts.**

2. On all models, starting toward the front of the vehicle, detach the clips by pulling the center console panel "A" up. See **Fig. 28** . Disconnect seat heater switch connectors "B" (if equipped).
3. Remove the center upper pocket "A". See **Fig. 29** . Open the lid, then pull at the lower edge of the case portion of pocket back by hand to detach the clips. Do not pull the lid portion while removing the center upper pocket. When it is loose, close the lid and remove it. Disconnect the pocket light bulb socket "B" and detach the harness clips "C".
4. Remove the screws, disconnect the front accessory power socket connector "A", and detach the harness clip "B", then remove the center lower pocket "C". See **Fig. 30** .
5. Open the console box lid "A" then remove the console mat "B" and screws "C" and "D". See **Fig. 31** .
6. Remove the center console "A". See **Fig. 32** . Disconnect the rear accessory power socket connector "B", and detach the clip "C". Pull the rear portion of the console up to release the hook "E", then remove it. To install, reverse removal procedure.

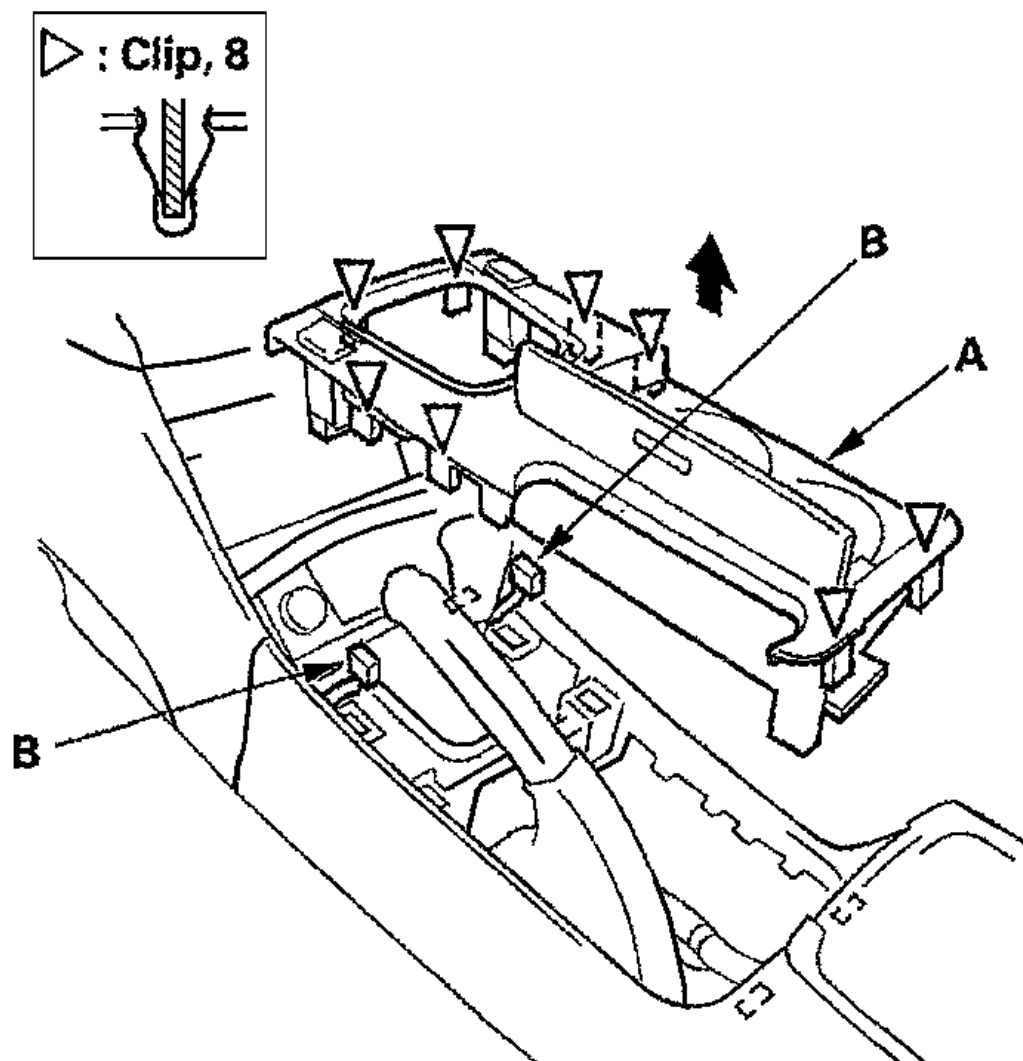


G00306696

Fig. 27: Removing Shift Knob

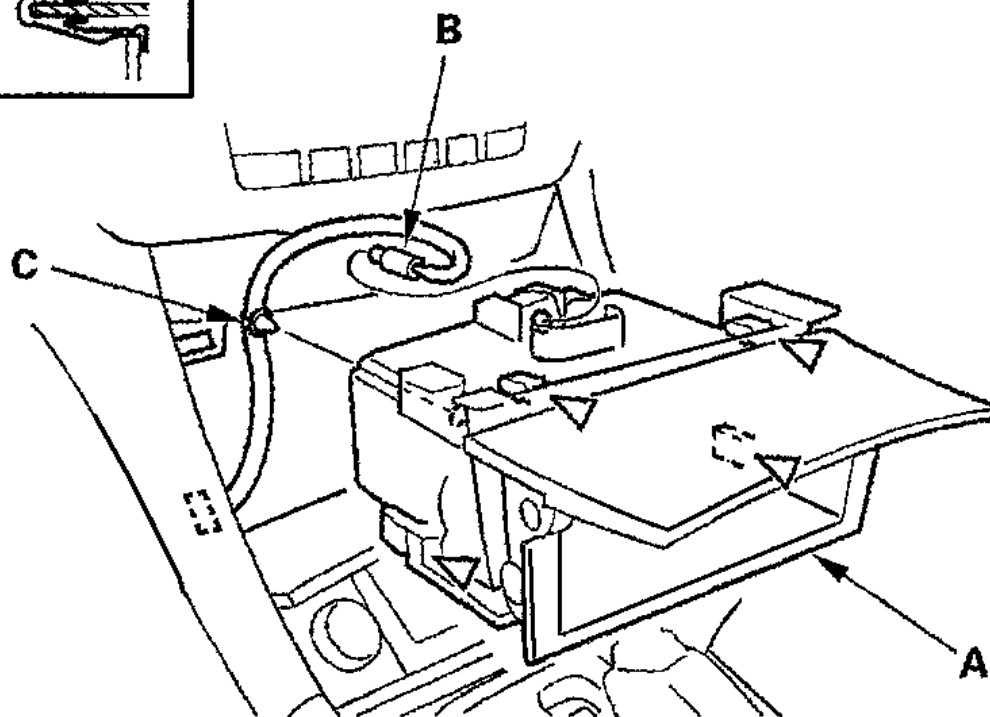
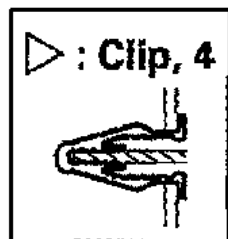
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Fastener Locations



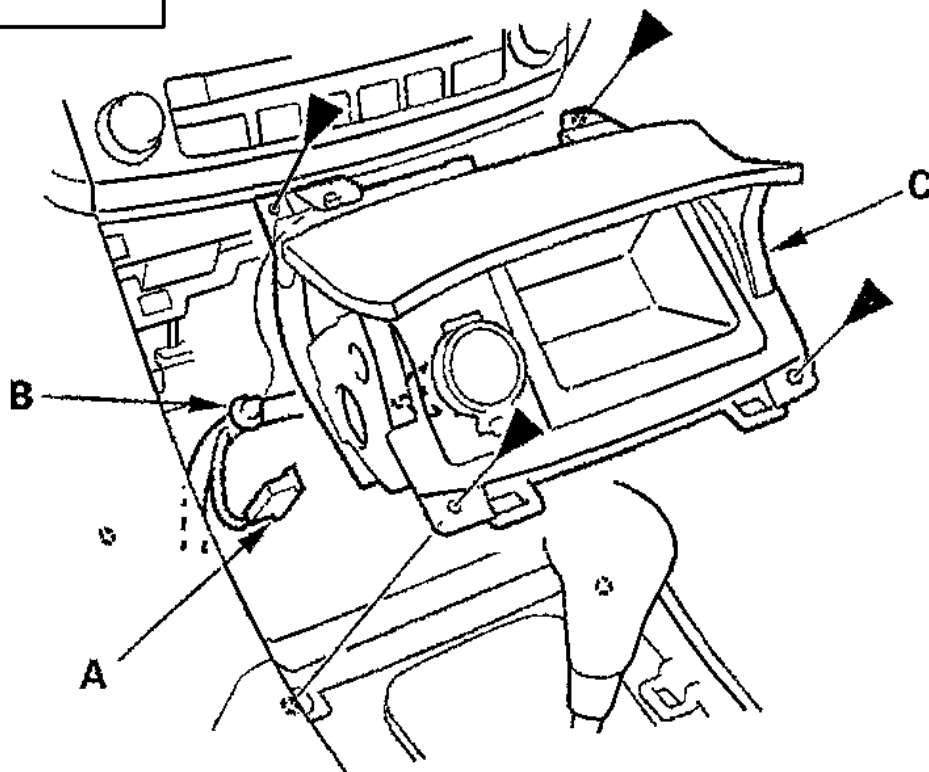
G00306697

Fig. 28: Removing Center Console Panel
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Fastener Locations

G00306698

Fig. 29: Removing Center Upper Pocket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

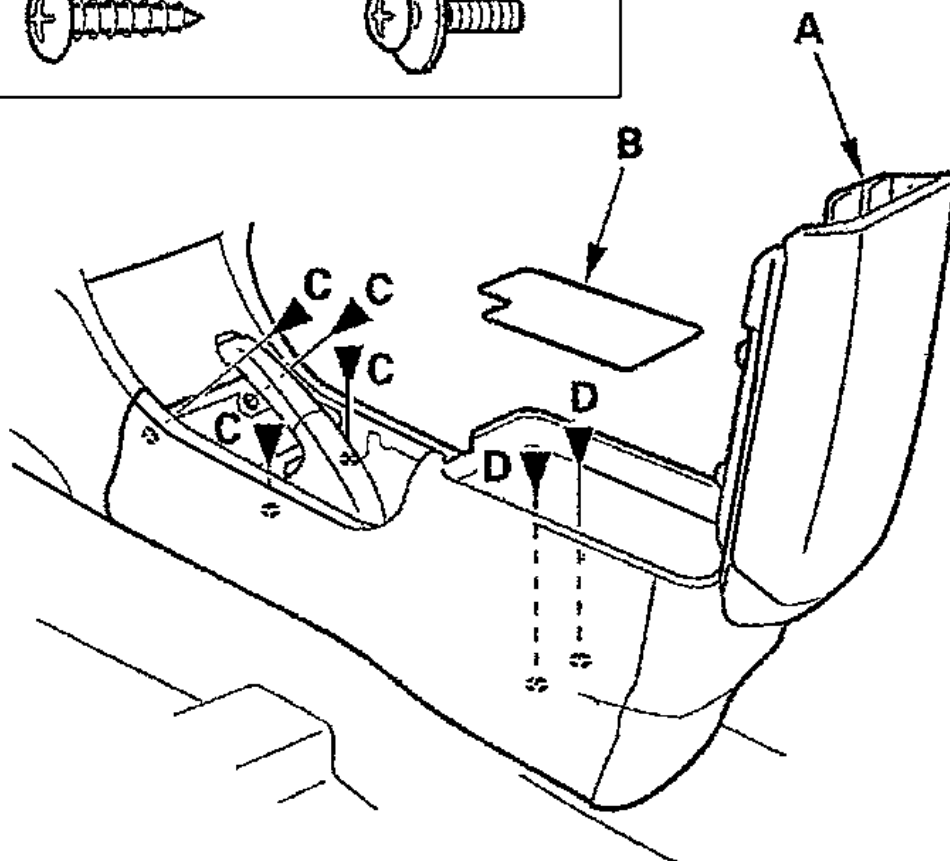
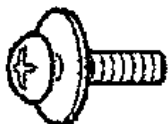
Fastener Locations**► : Screw, 4**

G00306699

Fig. 30: Removing Center Lower Pocket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

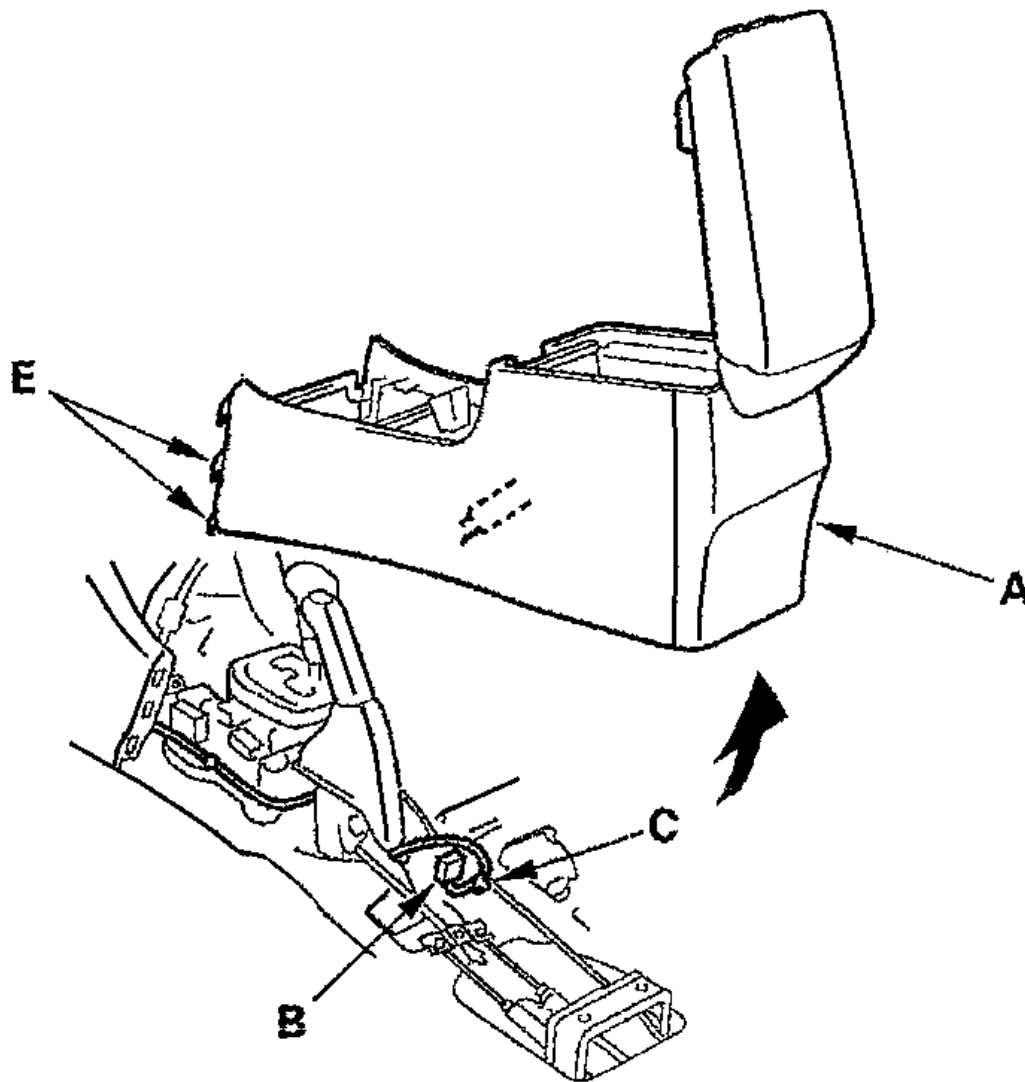
Fastener Locations

C ► : Screw, 4 **D ► : Screw, 2**



G00306700

Fig. 31: Removing Center Console Box Lid
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306701

Fig. 32: Remover Center Console

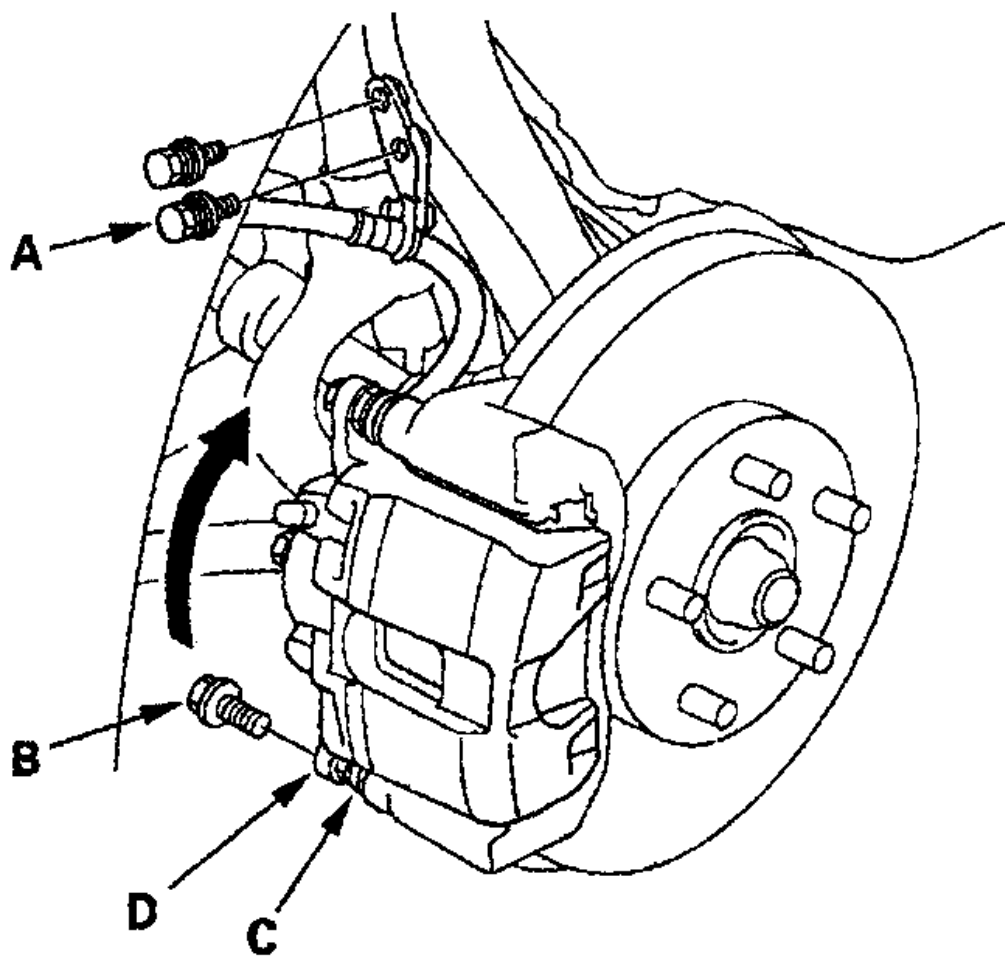
Courtesy of AMERICAN HONDA MOTOR CO., INC.

FRONT BRAKE PADS

WARNING: 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.

Removal

1. Raise and support front of vehicle. Remove front wheels.
2. Remove the brake hose mounting bolts "A". See **Fig. 33** . Remove the flange bolt "B" while holding the sub pin "C" with a wrench, being careful not to damage the pin boot, and pivot the caliper "D" up out of the way.
3. Check the hose and pin boots for damage and deterioration.
4. Remove the pad shims "A" and pads "B". See **Fig. 34** .
5. Remove the pad retainers "A". See **Fig. 35** .

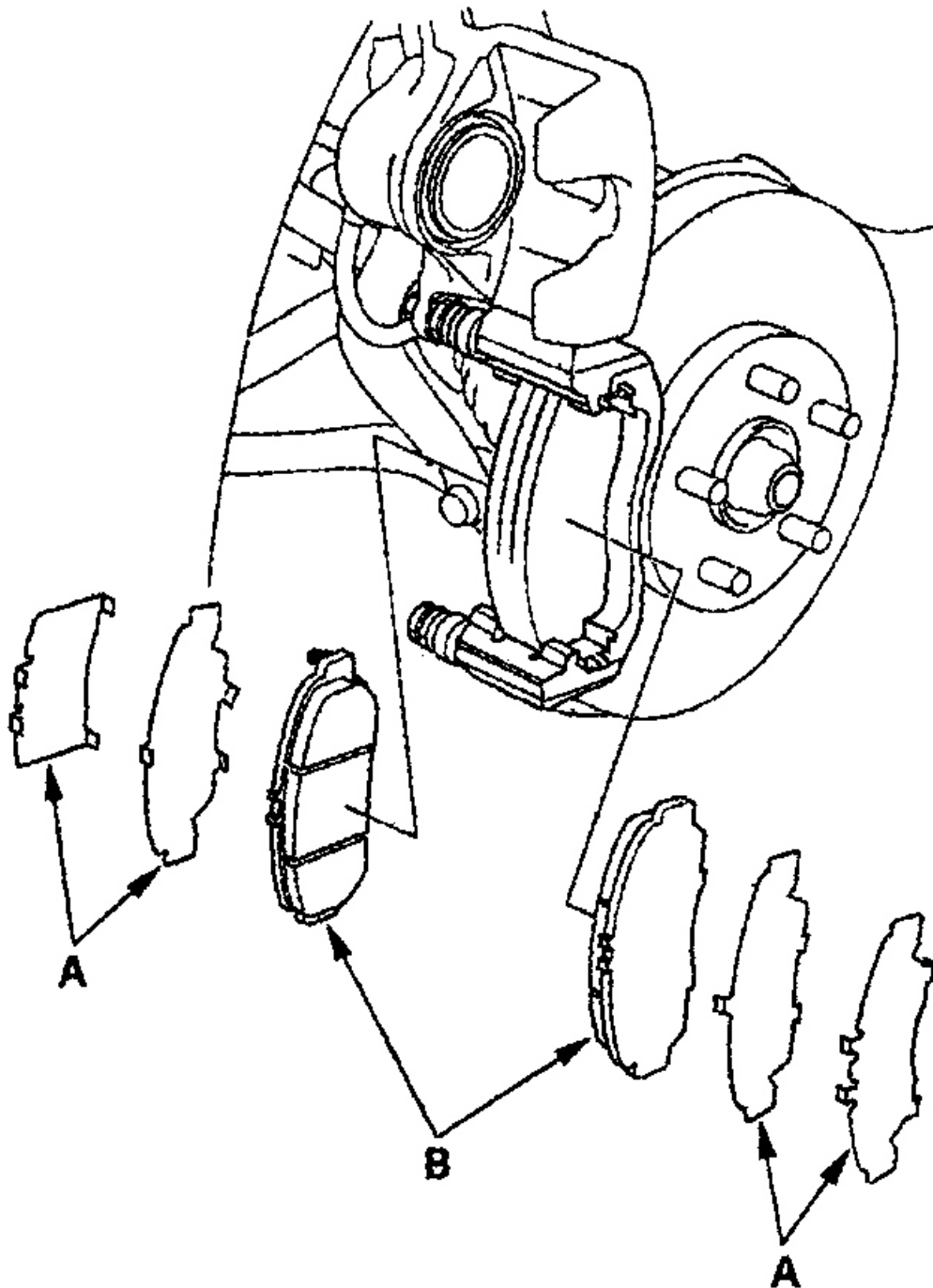


- A - Mounting Bolts
- B - Flange Bolt
- C - Pin
- D - Caliper

G00301807

Fig. 33: Pivoting Brake Caliper

Courtesy of AMERICAN HONDA MOTOR CO., INC.

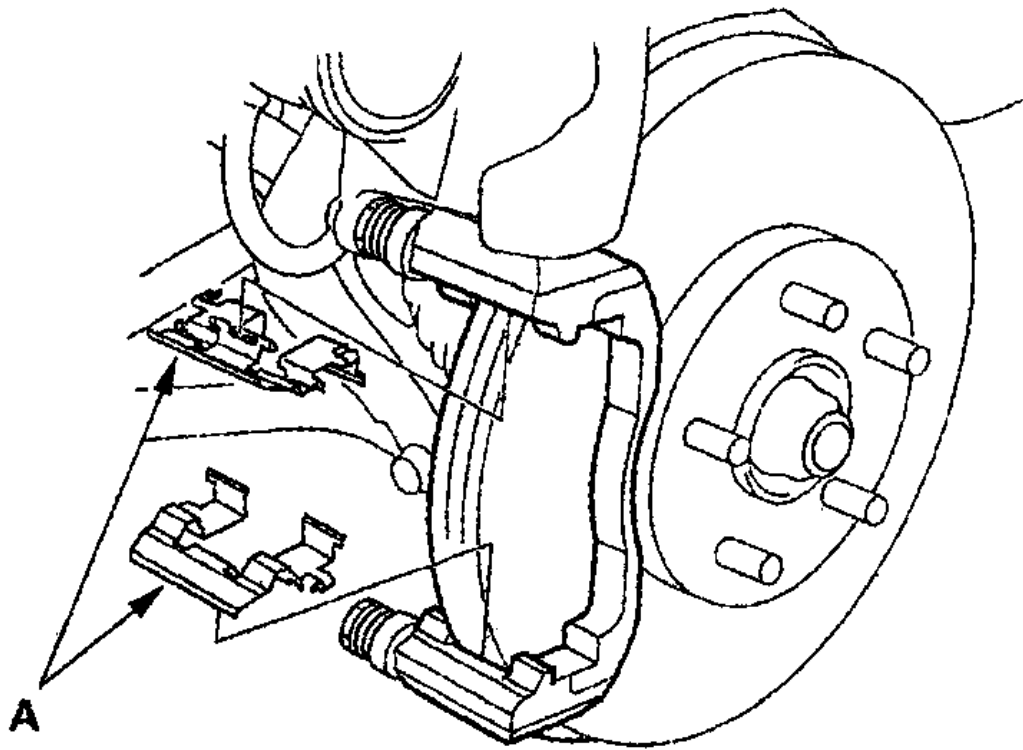


A - Shims
B - Brake Pads

G00301808

Fig. 34: Removing Pads & Pad Shims (Front)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

**A - Pad Retainers**

G00301809

Fig. 35: Identifying Pad Retainers (Front)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Brake Pad Inspection

Check the thickness of the inner and outer pads. Do not include the thickness of the backing plate. If the brake thickness is less than the service limit, replace all the pads as a set. See **DISC BRAKE SPECIFICATIONS** .

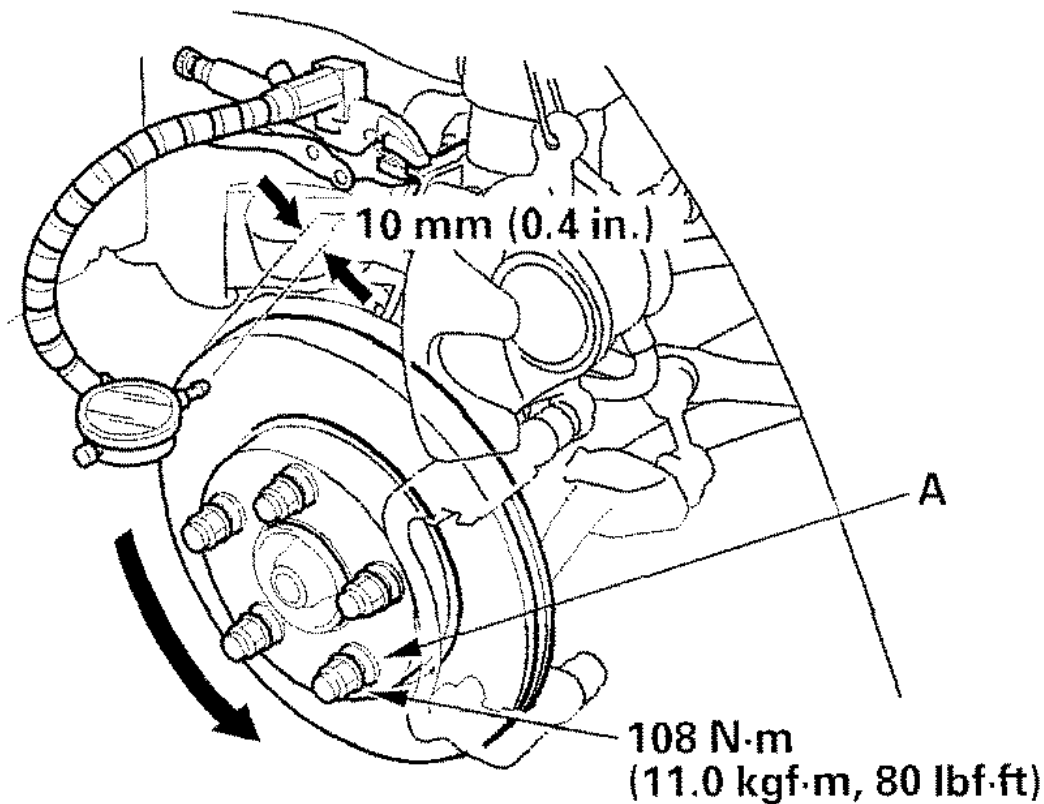
Disc Runout Inspection

1. Inspect the disc surface for damage and cracks. Clean disc thoroughly, and remove all rust. Install suitable flat washers "A" and wheel lug nuts, and tighten the nuts to the specified torque to hold the brake disc securely against the hub. See **DISC BRAKE SPECIFICATIONS** . See **Fig. 36** .

NOTE: Runout limit applies to front and rear discs.

2. Set up the dial gauge against the brake disc and measure the runout at 0.4" (10 mm) from the outer edge of the disc. See **DISC BRAKE SPECIFICATIONS** . See **Fig. 36** .
3. If the disc runout is beyond the service limit, refinish the brake disc.

NOTE: If the brake disc is beyond the service limit for refinishing, replace it. A new disc should be refinished if its runout is greater than .004" (.10 mm).



G00172012

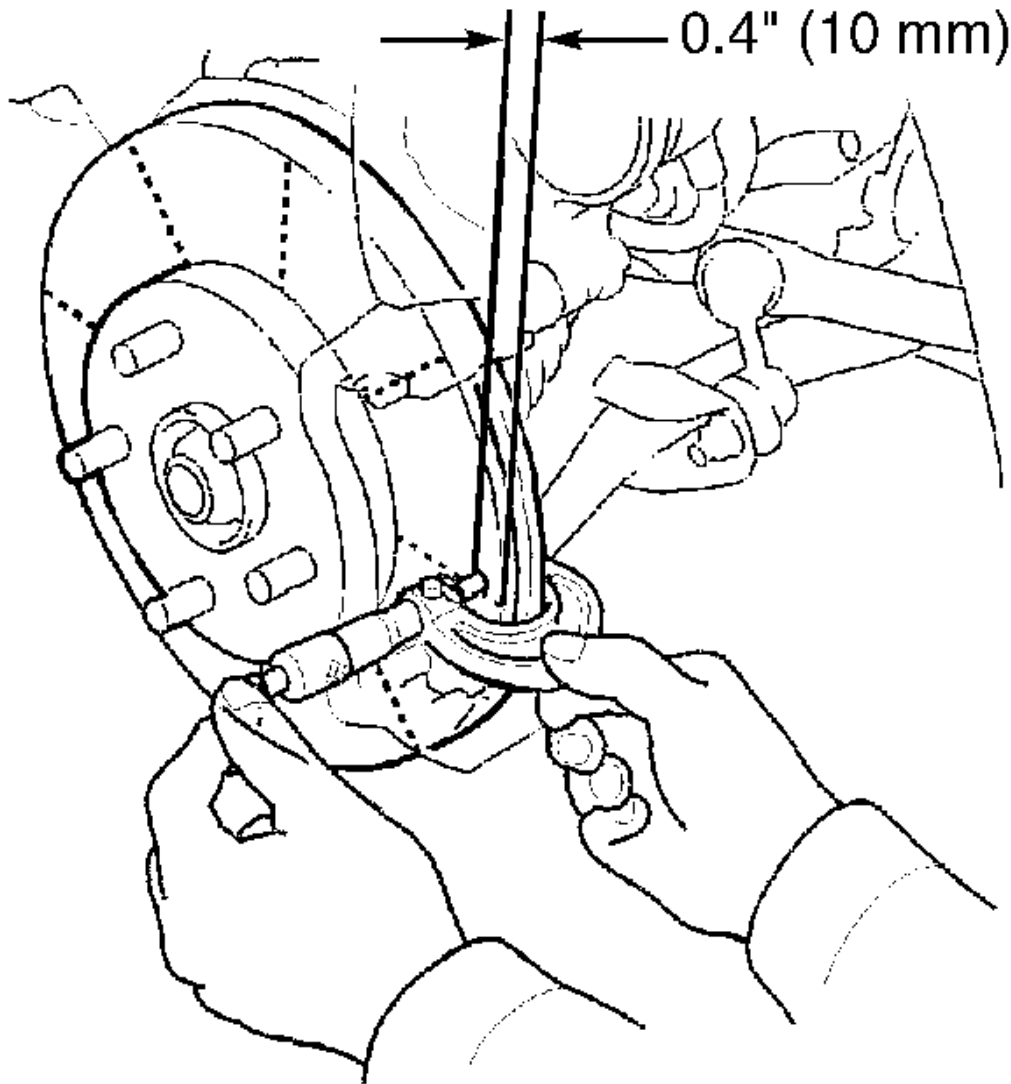
Fig. 36: Measuring Runout Of Front Brake Disc
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Disc Thickness & Parallelism Inspection

1. Using a micrometer, measure disc thickness at 8 points, approximately 45 degrees apart and .4" (10 mm) in from the outer edge of the disc. See **Fig. 37** . Replace the brake disc if the smallest measurement is less than the Minimum Thickness. See **DISC BRAKE SPECIFICATIONS** .

NOTE: Parallelism is the difference between the thickness measurements.

2. If the disc is beyond the service limit for parallelism, refinish the brake disc. If the brake disc is beyond the service limit for refinishing, replace it. See **DISC BRAKE SPECIFICATIONS** .



G00172013

Fig. 37: Measuring Front & Rear Brake Disc Thickness & Parallelism
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Installation

WARNING: Contaminated brake discs and pads reduce stopping ability.

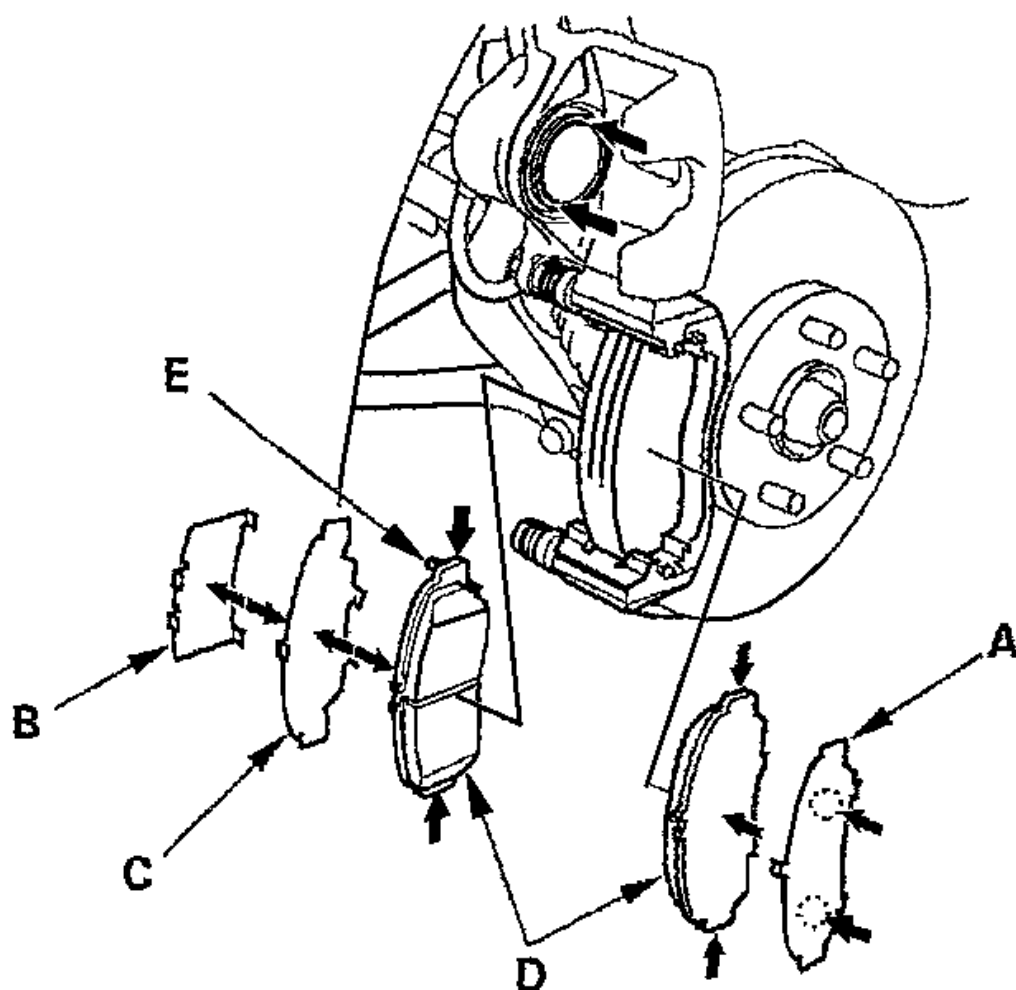
1. Clean and install the pad retainers. Apply Dow Corning Molykote M77 grease to pad side of the pad shims "A" and "B", both sides of pad shim "C", the back of pads "D", and to other areas indicated by arrows. See **Fig. 38** . Wipe excess grease off the shims and pads.

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

2. Install the brake pads and pad shims correctly. Install the pads with the wear indicators "E" on the inside.
3. Push in the piston "A" so the caliper will fit over the pads. See **Fig. 39** . Ensure the piston boot is in position to prevent damaging it when pivoting the caliper down.

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.

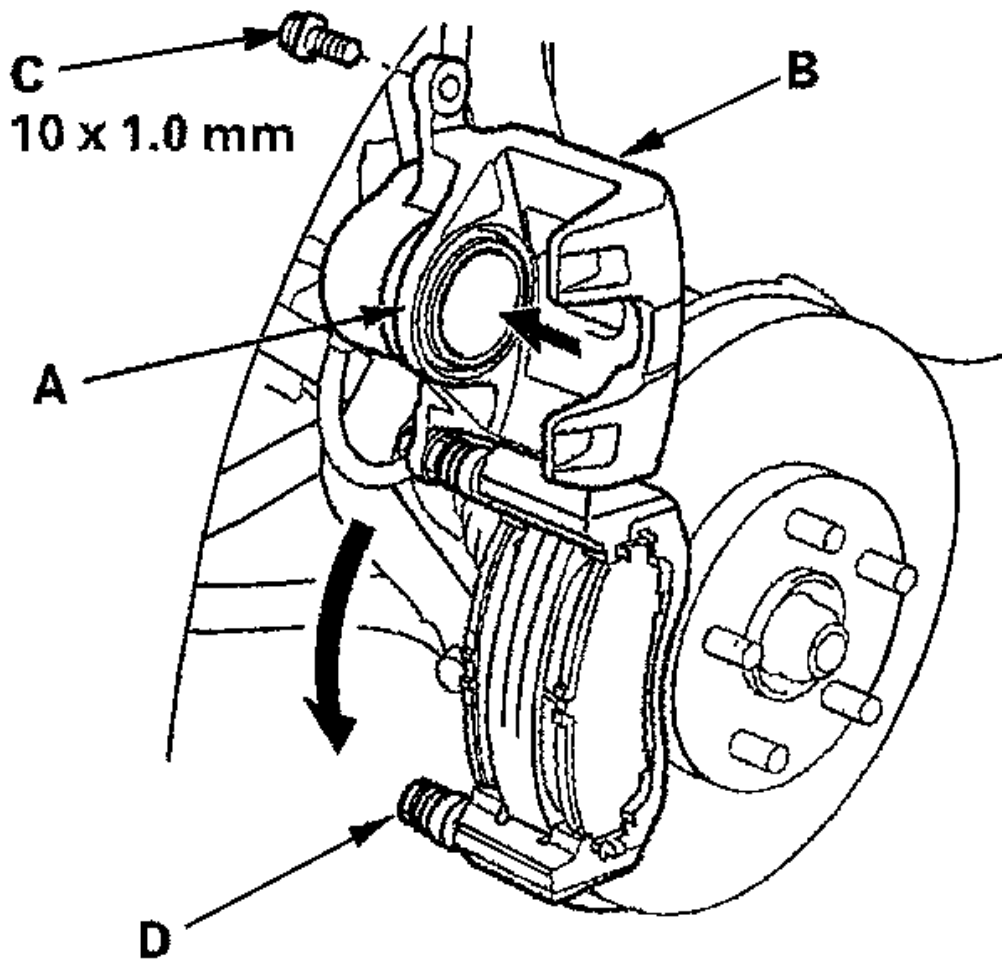
4. Pivot caliper "B" down into position. Being careful not to damage the pin boots, install the flange bolt "C" and tighten it to the specified torque while holding sub pin "D" with a wrench. See **TORQUE SPECIFICATIONS** . Press the brake pedal several times to ensure the brake works, then test-drive.
5. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary.



G00306702

Fig. 38: Installing Brake Pads

Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306703

Fig. 39: Installing Brake Caliper

Courtesy of AMERICAN HONDA MOTOR CO., INC.

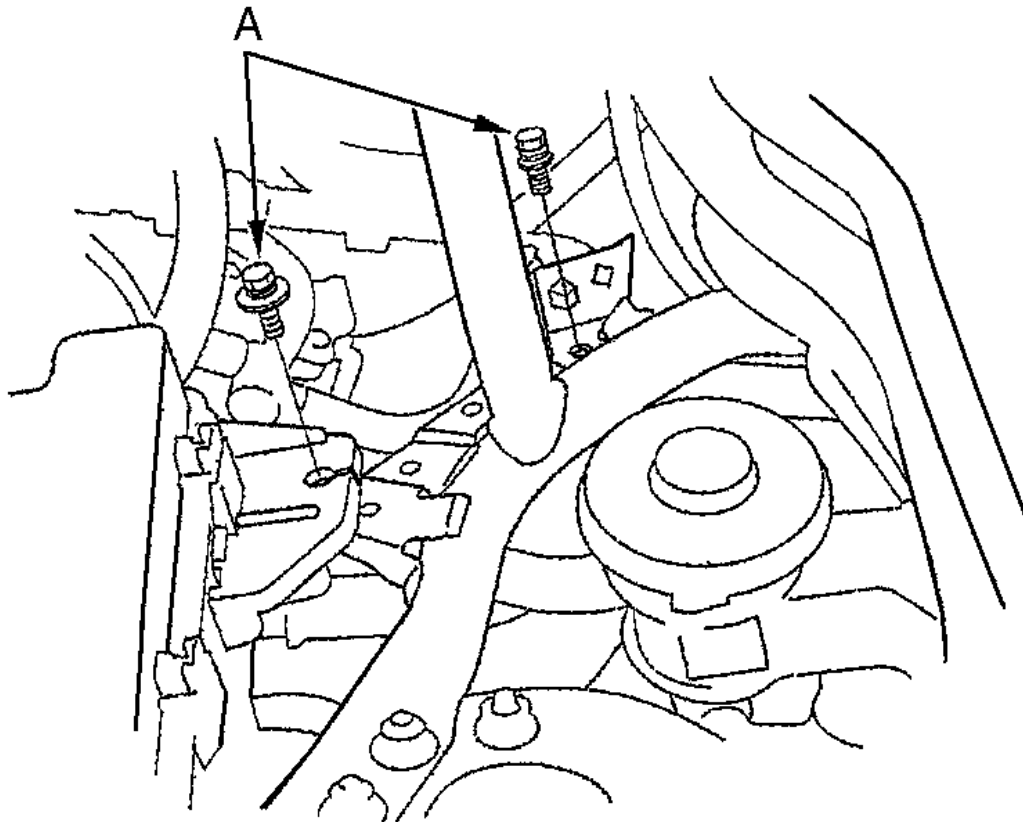
MASTER CYLINDER

CAUTION: Avoid spilling brake fluid on car, as it will damage paint. If brake fluid contacts paint, immediately flush with water.

Removal

1. Remove the cable clamps "A" from the body. See **Fig. 40**.

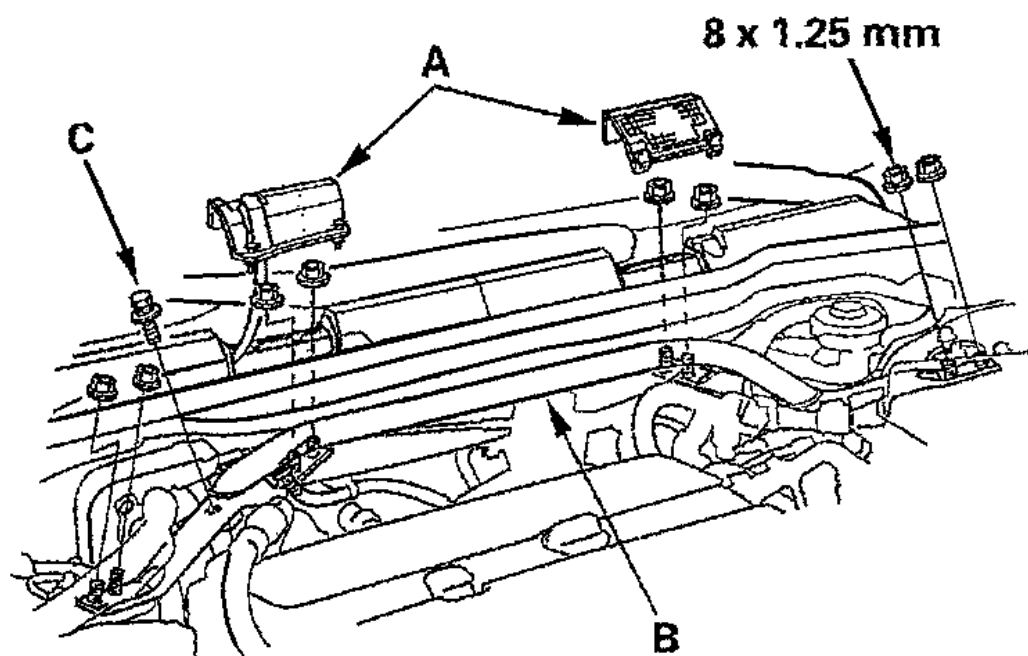
2. Remove the access panel "A", then remove the strut brace "B". See **Fig. 41** .
3. Remove the Accelerator Pedal Position (APP) sensor mounting bolt "C" from the strut brace "B".
4. Remove the reservoir cap and brake fluid from the master cylinder reservoir.
5. Remove primary and secondary brake lines from hose clamp "A". See **Fig. 42** .
6. Disconnect the brake fluid level switch connector "A". See **Fig. 43** .
7. Disconnect the brake lines "B" from the master cylinder "C". To prevent spills, cover the hose joints with rags or shop towels. Remove the master cylinder mounting nuts "D" and washers.
8. Remove the master cylinder from the brake booster "E". Be careful not to bend or damage the brake lines when removing the master cylinder. Remove the rod seal "F" from the master cylinder.



G00306704

Fig. 40: Removing Cable Clamps

Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306705

Fig. 41: Removing Access Panels

Courtesy of AMERICAN HONDA MOTOR CO., INC.

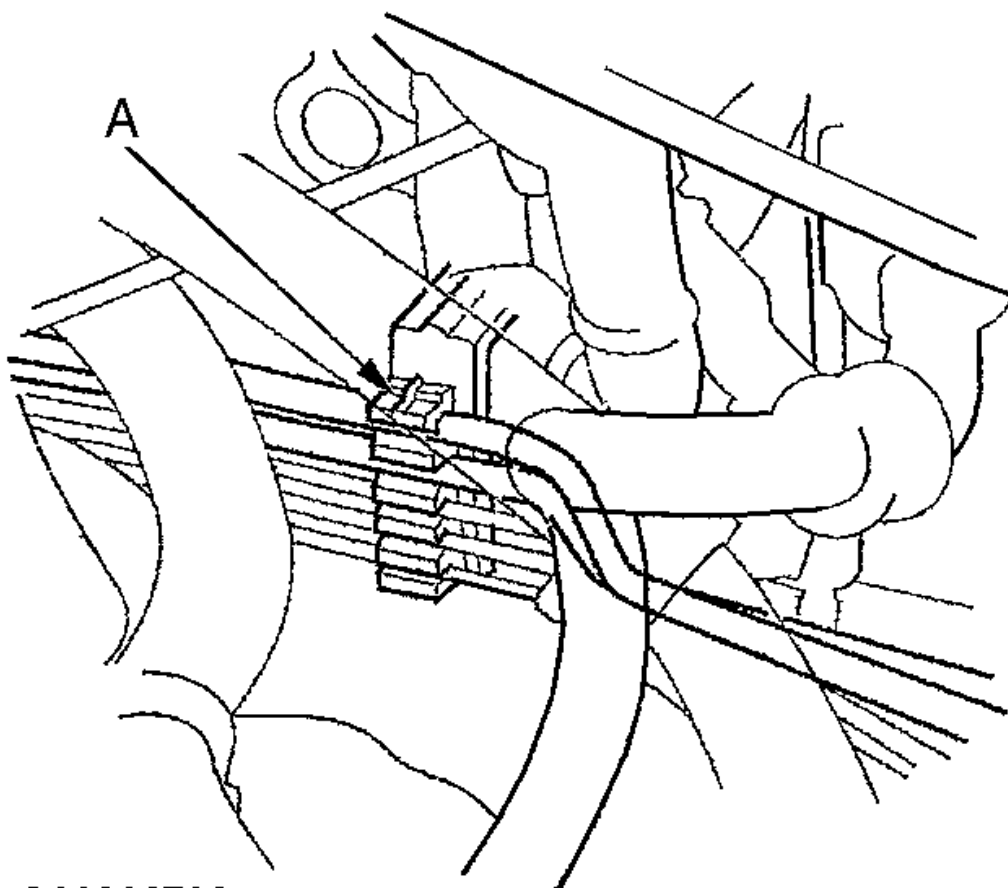
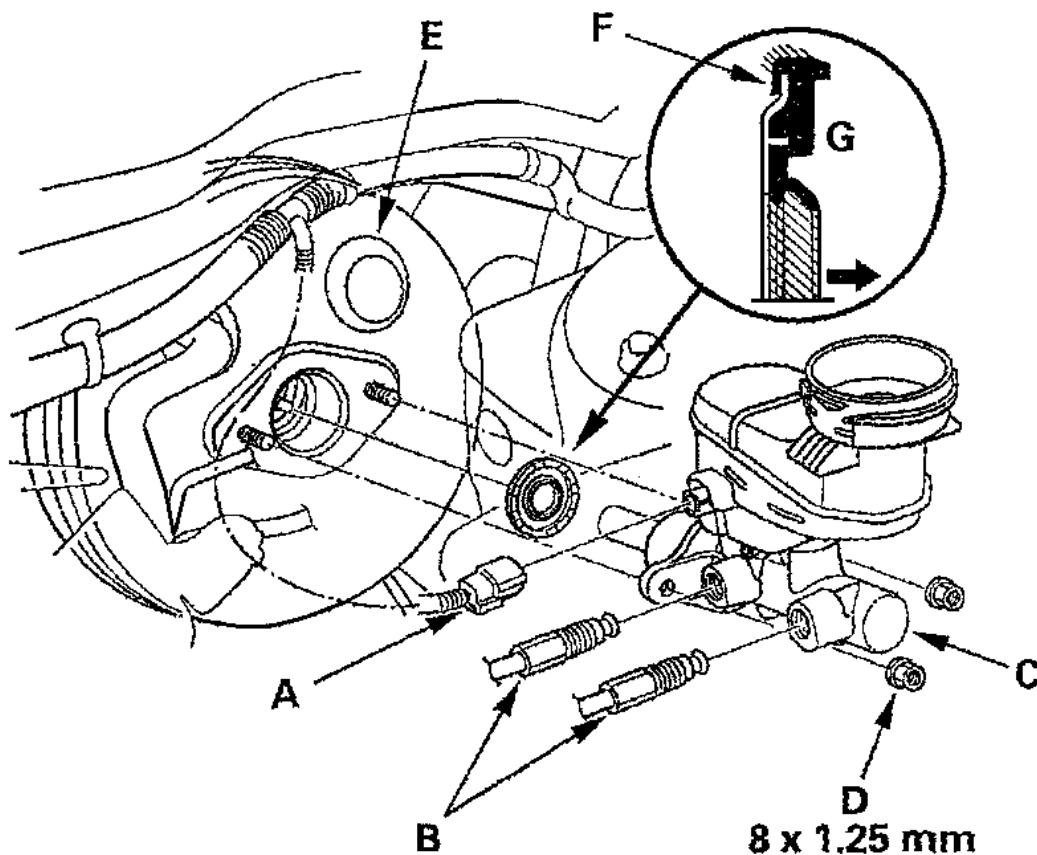


Fig. 42: Removing Primary & Secondary Brake Lines
Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00306707

Fig. 43: Removing & Installing Master Cylinder
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Inspection

Before reassembling, check that all parts are free of dust 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.

Installation

To install, reverse removal procedure. Note the following 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 recommended seal grease in the master cylinder set.
- Install the rod seal onto the master cylinder with its grooved side "G" toward the master cylinder. See **Fig.**

43 .

- Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary. See **BRAKE PEDAL HEIGHT & FREE PLAY** under ADJUSTMENTS.

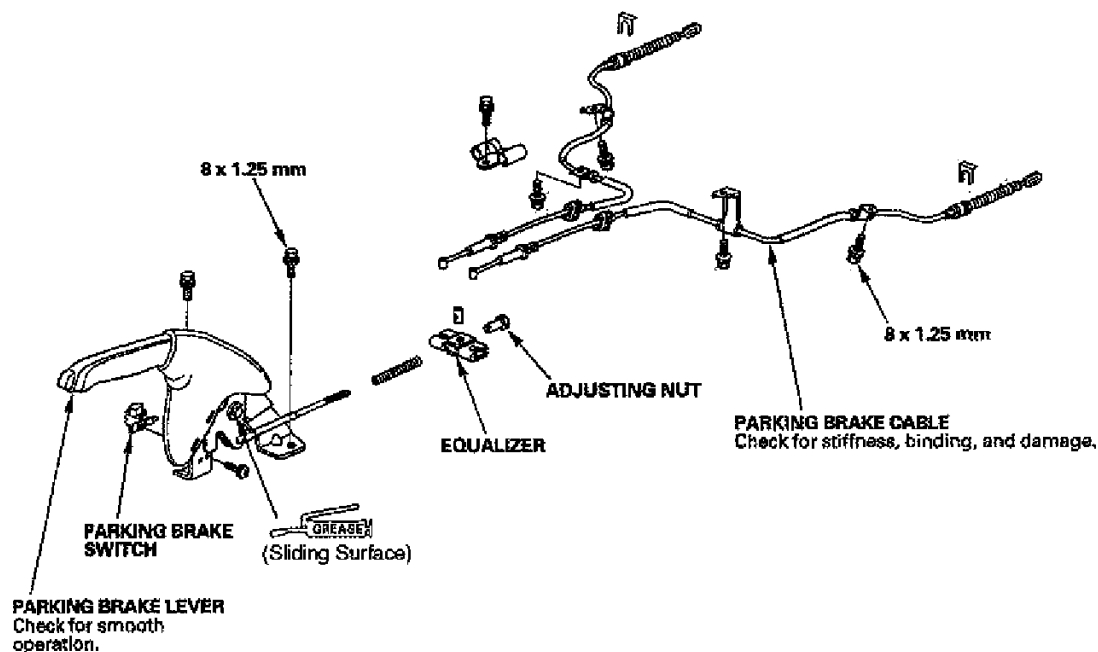
PARKING BRAKE CABLE

CAUTION: DO NOT bend or distort parking brake cables. This will lead to stiff operation and premature failure.

NOTE: Refer to Fig. 44 as needed during this procedure.

Removal & Installation

1. Release the parking brake lever fully. Remove the center console. See **CENTER CONSOLE** . Loosen the parking brake cable adjusting nut "A". See **Fig. 9** .
2. Remove the parking brake cable clip "A" from the brake cable "B". Disconnect the parking brake cable from the lever "C". See **Fig. 45** .
3. Remove the parking brake cable mounting hardware, then remove the cable.
4. To install the new cable, reverse removal procedure. Note the following items:
 - Be careful not to bend or distort the cable.
 - Ensure the parking brake cable clip is fully seated on the cable housing.
 - Adjust parking brake cable. See **PARKING BRAKE** under ADJUSTMENTS.



G00306708

Fig. 44: Exploded View Of Parking Brake Cable
Courtesy of AMERICAN HONDA MOTOR CO., INC.

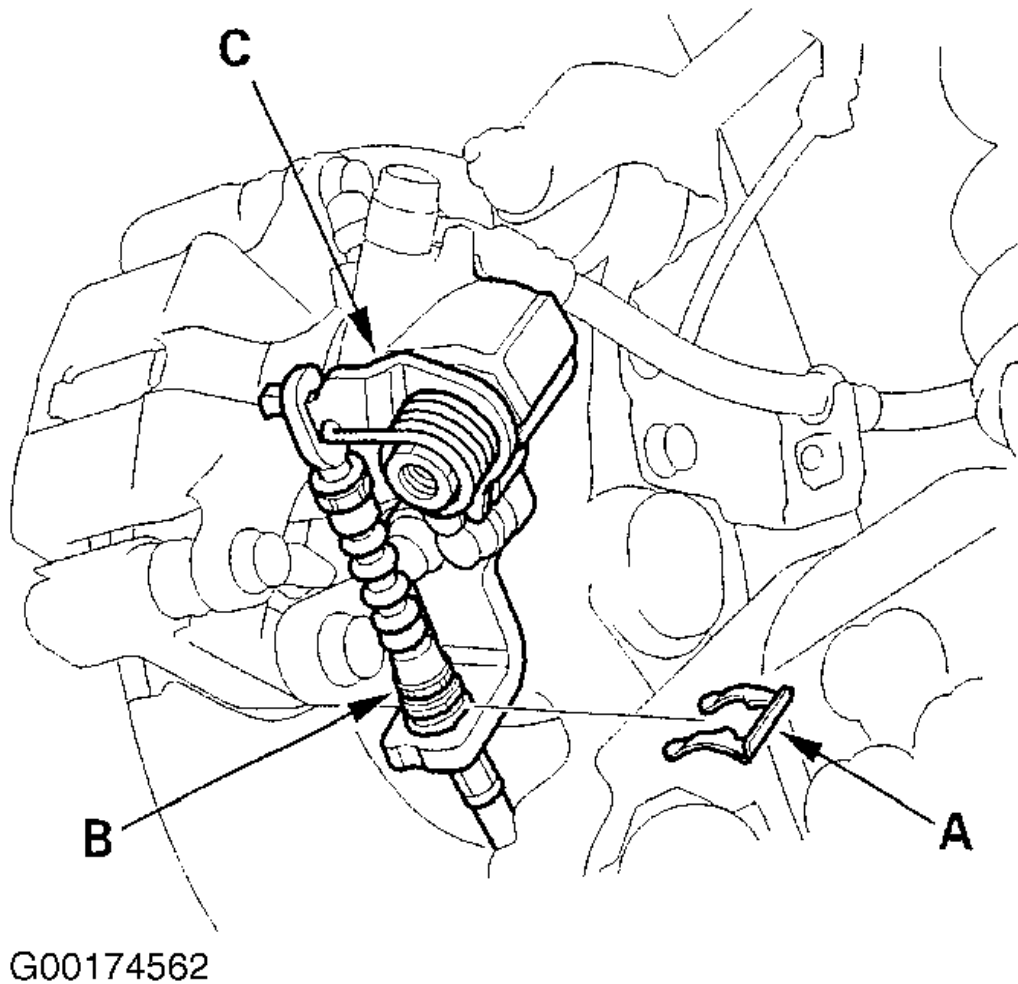


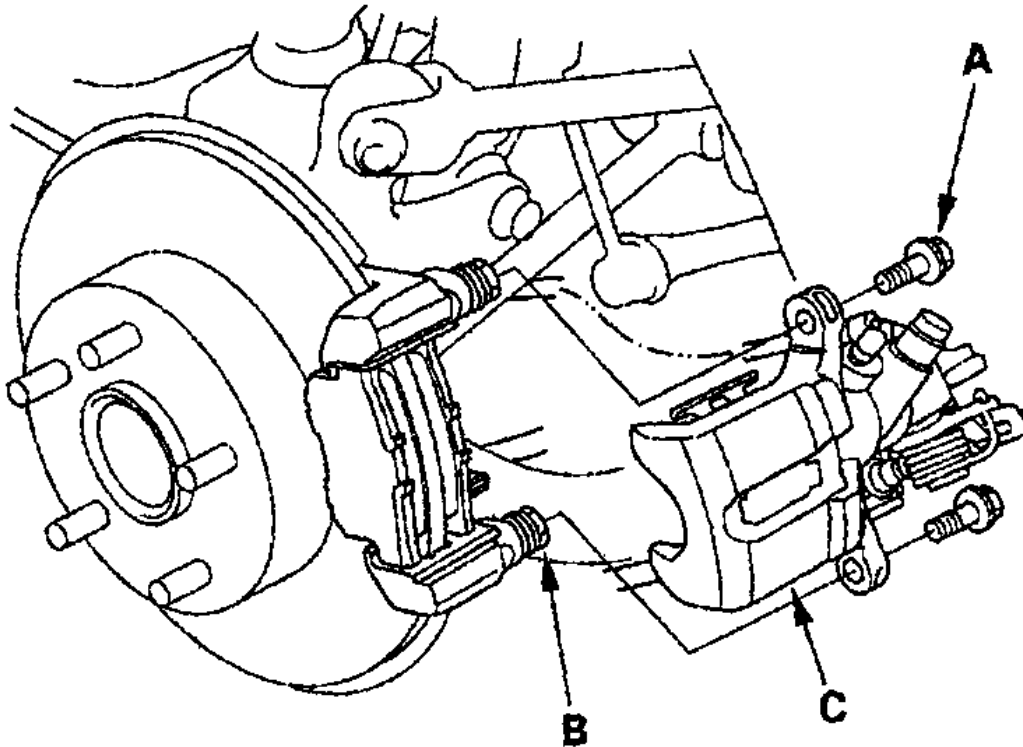
Fig. 45: Removing Parking Brake Cable
Courtesy of AMERICAN HONDA MOTOR CO., INC.

REAR BRAKE PADS

Removal

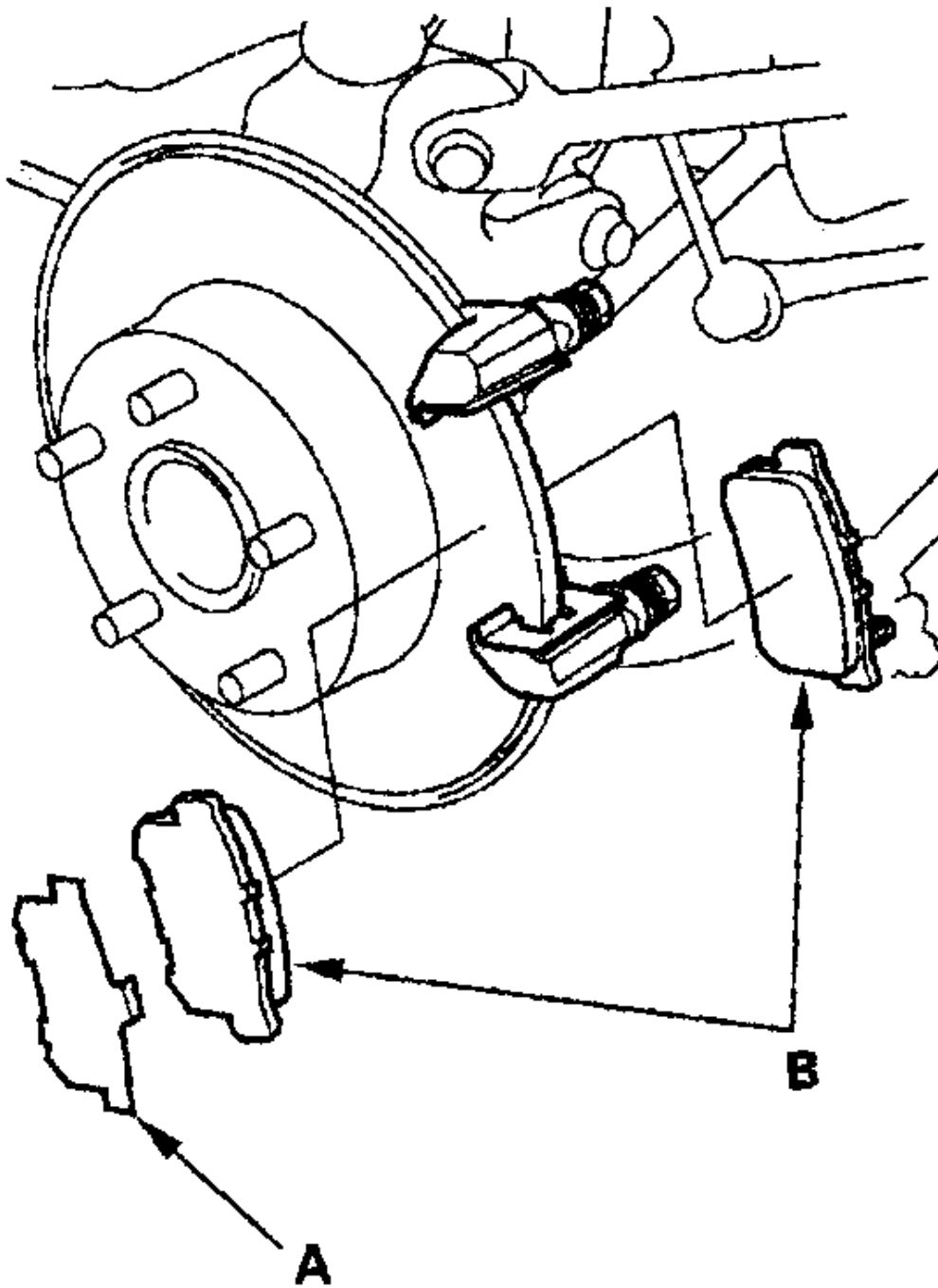
1. Raise and support rear of vehicle. Remove rear wheels. Remove flange bolts "A" while holding pin "B" with a wrench, being careful not to damage the pin boot, and remove the caliper bolts "C", and remove the caliper "D" from the caliper "C". See **Fig. 46** .
2. Remove the pad shim "A" and pads "B". See **Fig. 47** .

3. Remove the pad retainers "A". See **Fig. 48** . Clean the caliper thoroughly, remove any rust, and check for grooves and cracks. Check the brake disc for damage and cracks.



G00306709

Fig. 46: Removing Rear Brake Caliper
Courtesy of AMERICAN HONDA MOTOR CO., INC.

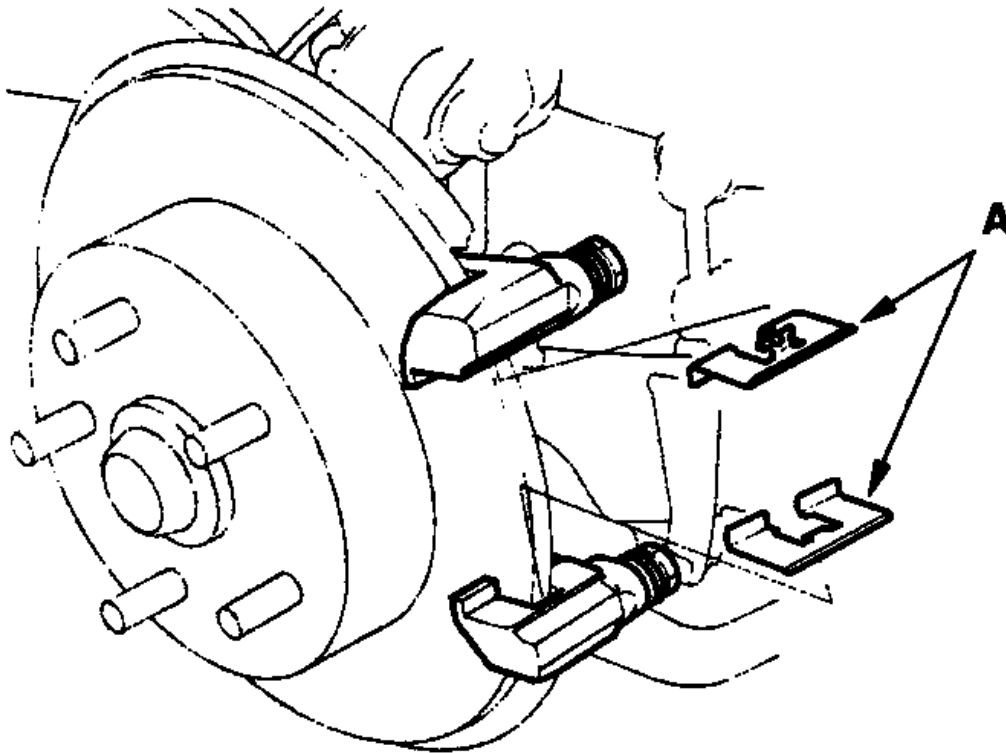


G00306710

cardiagn.com

Fig. 47: Removing Pads & Shim (Rear)

Courtesy of AMERICAN HONDA MOTOR CO., INC.



G00301783

Fig. 48: Identifying Pad Retainers (Rear)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Inspection

Check the thickness of the inner and outer pads "A". See **Fig. 49** . Do not include the thickness of the backing plate. See **DISC BRAKE SPECIFICATIONS** . If the brake pad thickness is less than the service limit, replace all the pads as a set.

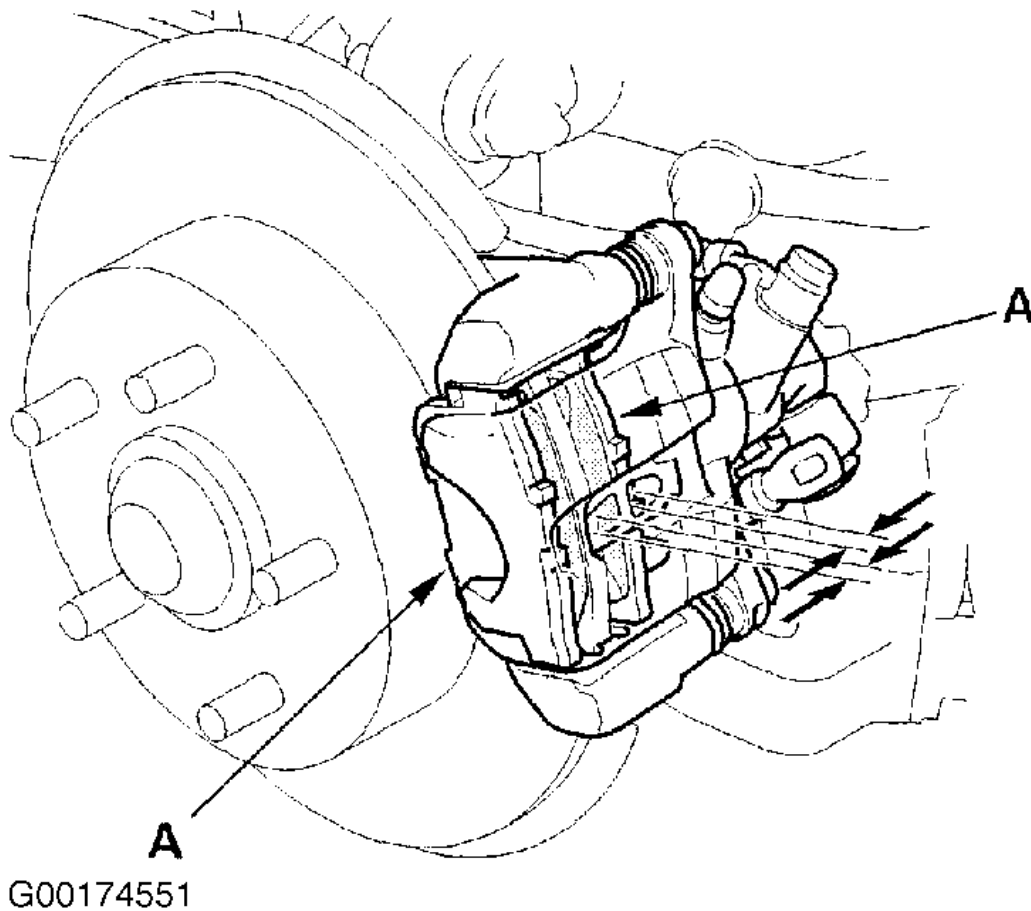
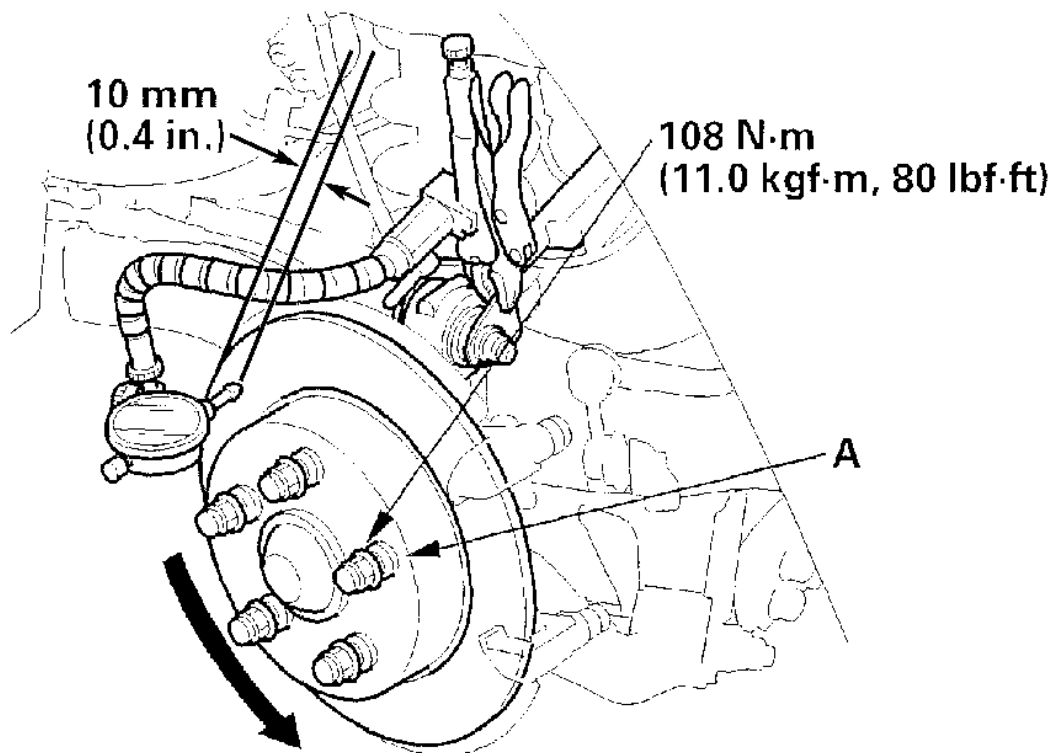


Fig. 49: Measuring Thickness Of Rear Brake Pads
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Disc Runout Inspection

1. Inspect the disc surface for damage and cracks. Clean disc thoroughly, and remove all rust. 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. See **DISC BRAKE SPECIFICATIONS** . See **Fig. 50** .
2. Set up the dial gauge against the brake disc and measure the runout at .4" (10 mm) from the outer edge of the disc. See **DISC BRAKE SPECIFICATIONS** . See **Fig. 50** .
3. If the disc runout is beyond the service limit, refinish the brake disc.

NOTE: If the brake disc is beyond the service limit for refinishing, replace it. A new disc should be refinished if its runout is greater than .004" (.10 mm).



G00174555

Fig. 50: Measuring Runout Of Rear Brake Disc
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Brake Disc Thickness & Parallelism Inspection

1. Using a micrometer, measure disc thickness at 8 points, approximately 45 degrees apart and .4" (10 mm) in from the outer edge of the disc. See **Fig. 37** . Replace the brake disc if the smallest measurement is less than the minimum thickness. See **DISC BRAKE SPECIFICATIONS** .

NOTE: Parallelism is the difference between the thickness measurements.

2. If the disc is beyond the service limit for parallelism, refinish the brake disc. If the brake disc is beyond the service limit for refinishing, replace it. See **DISC BRAKE SPECIFICATIONS** .

Installation

WARNING: Contaminated brake discs and pads reduce stopping ability.

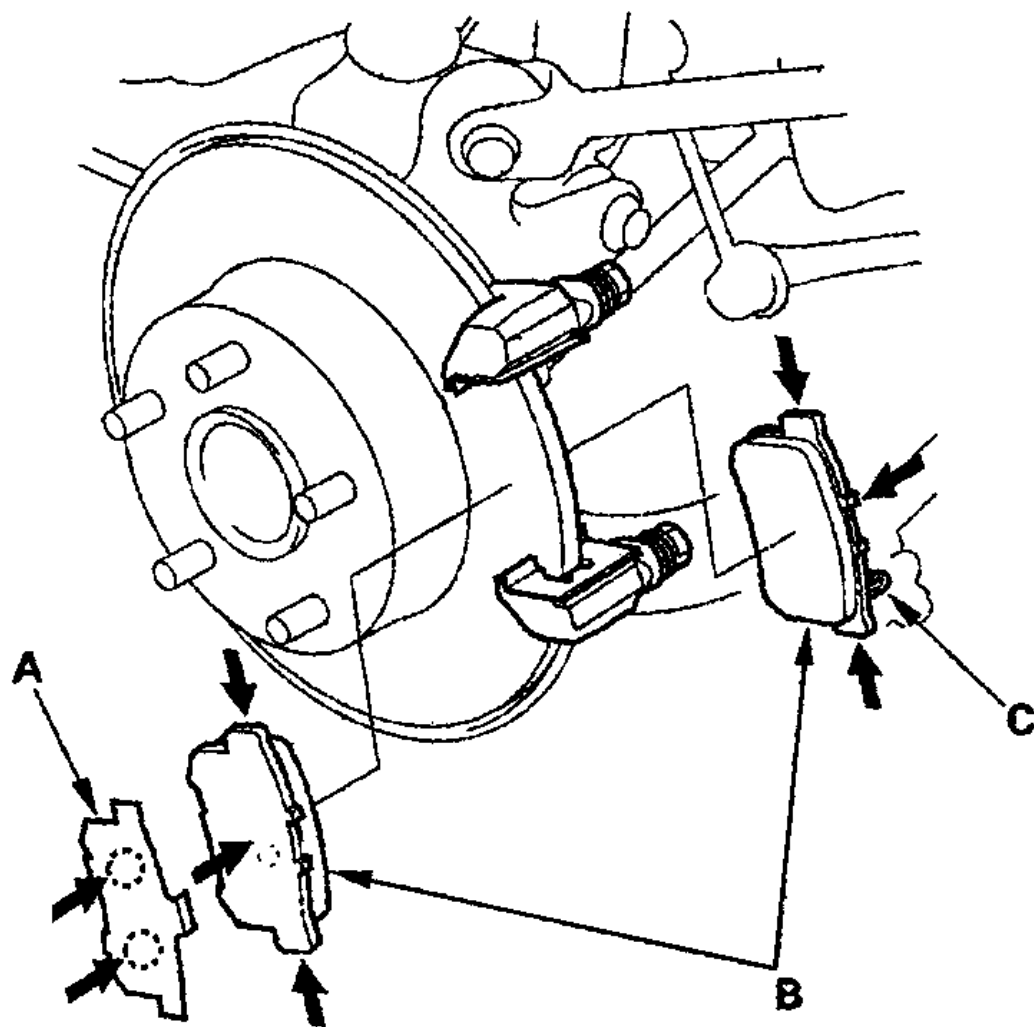
1. Clean and install the pad retainers. Apply Dow Corning Molykote M77 grease to both sides of shim "A", the back of the pads "B", and the other areas indicated by arrows. See **Fig. 51** . Wipe excess grease off the shim and pads.

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

2. Install the brake pads and pad shims correctly. Install the pads with the wear indicators "C" on the inside.
3. Rotate the caliper piston "A" clockwise into the cylinder, then align the cutout "B" in the piston with the tab "C" on the inner pad by turning the piston back. See **Fig. 52** . Lubricate the boot with rubber grease to avoid twisting the piston boot. If the piston boot is twisted, back it out so it is positioned properly.
4. Install the caliper. Install the flange bolts "D". Tighten flange bolts to specification while holding the pin, "E" with a wrench. See **TORQUE SPECIFICATIONS** . Be careful not to damage the pin boot.

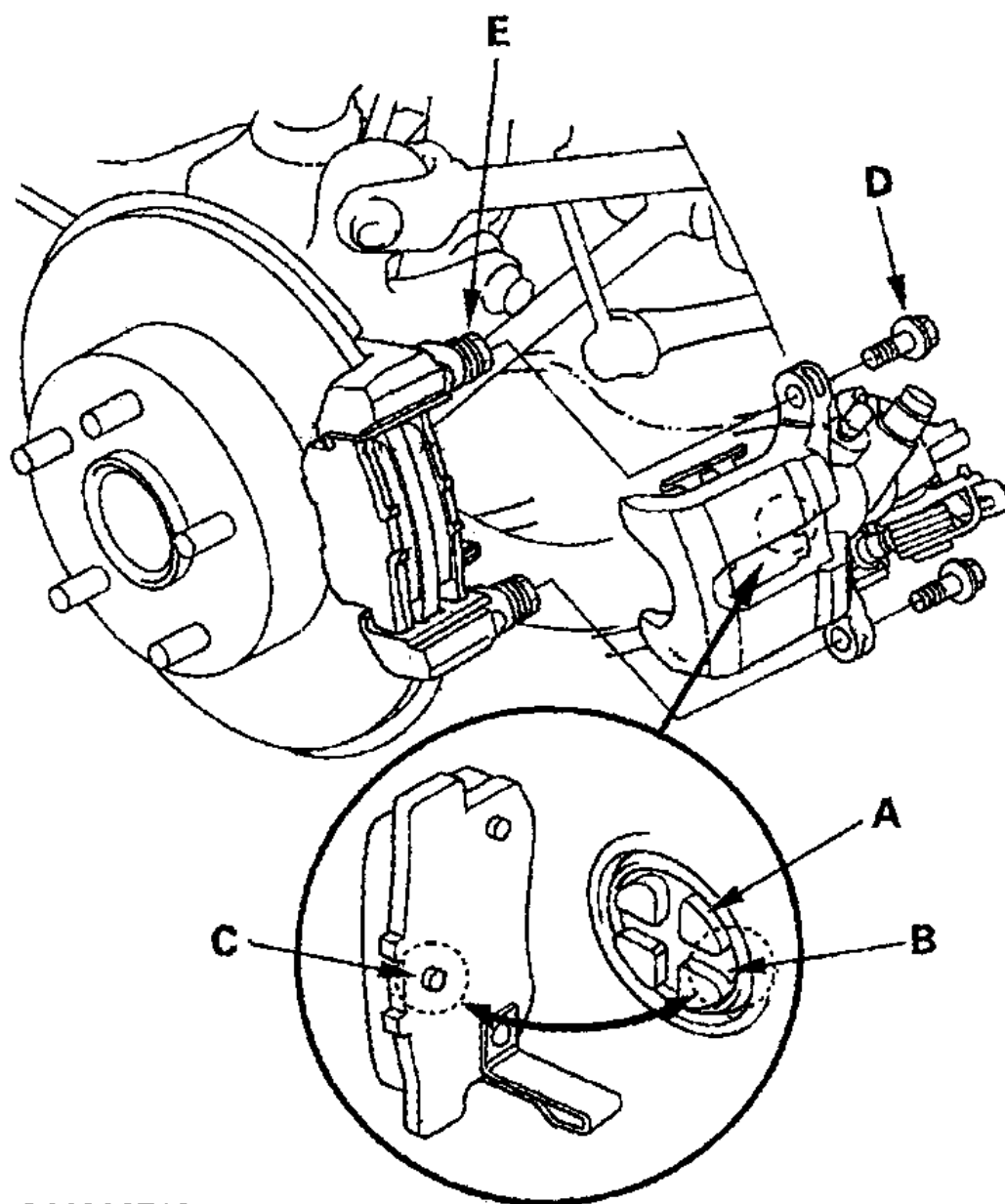
NOTE: Engagement of the brake may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

5. Press the brake pedal several times to ensure the brake works, then test drive. After installation, check for leaks at hose and line joints or connections, and retighten if necessary.



G00306711

Fig. 51: Applying Grease To Shim & Back Of Pads
Courtesy of AMERICAN HONDA MOTOR CO., INC.

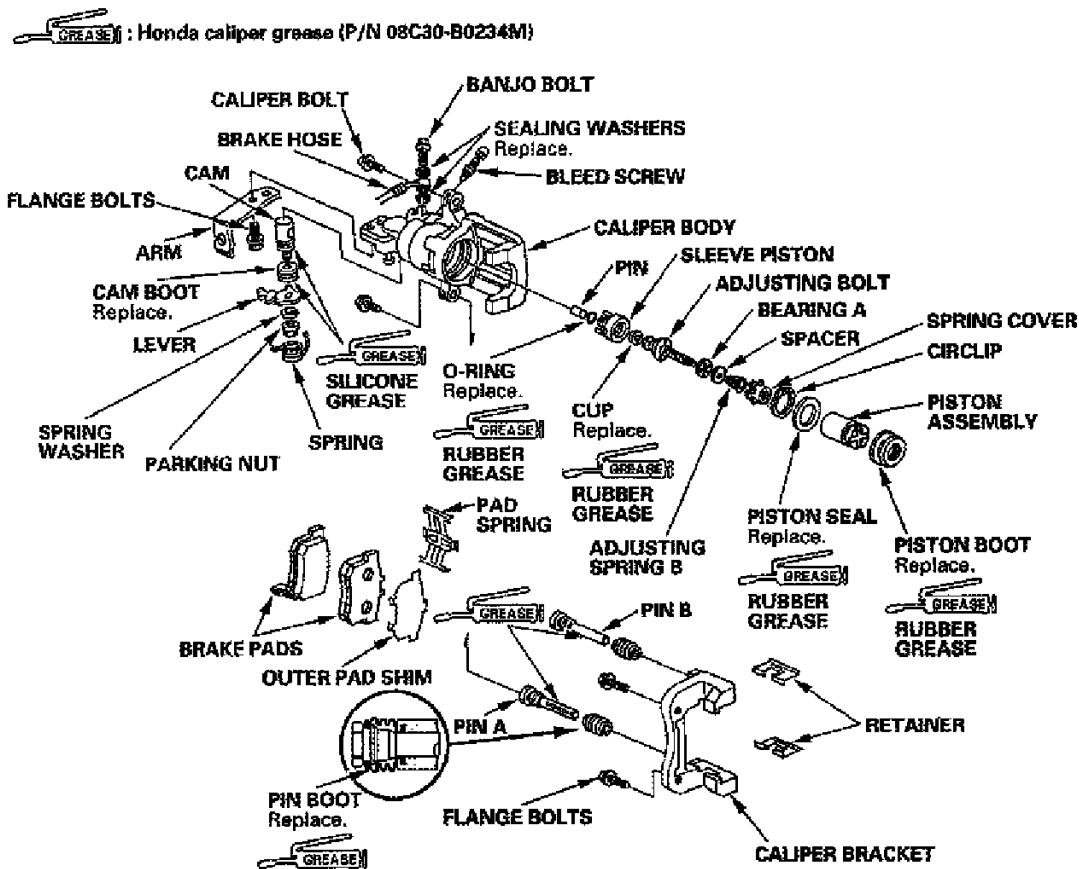


G00306712

Fig. 52: Installing Rear Brake Caliper
Courtesy of AMERICAN HONDA MOTOR CO., INC.

OVERHAUL

FRONT & REAR BRAKE CALIPER



G00806714

Fig. 54: Exploded View Of Rear Brake Caliper
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

TORQUE SPECIFICATIONS

For disc brake torque specifications, see **TORQUE SPECIFICATIONS** in ACURA - TSX article in SPECIFICATIONS.

DISC BRAKE SPECIFICATIONS

For disc brake service specifications, see **SERVICE SPECIFICATIONS** in ACURA - TSX article in SPECIFICATIONS.