HONDA

Accord
Civic
Civic CVCC
Prelude

DESCRIPTION

Brake systems are hydraulically operated using a tandem master cylinder and vacuum brake booster. Civic and Civic CVCC sedans are equipped with dual piston, fixed caliper, sliding yoke front disc brakes. All other models are equipped with single piston, floating caliper, front disc brakes. All models use dual combination valves (two separate valves on some models) to diagonally distribute brake fluid to primary brake system (left front/right rear) and secondary brake system (right front/left rear). Combination valves also reduce fluid pressure to rear brakes under heavy braking conditions. All models are equipped with a brake warning light to indicate loss of brake fluid, uneven fluid pressure between brake systems and parking brake engagement. Parking brakes are cable actuated and operate on rear brake assemblies.

ADJUSTMENT

PEDAL HEIGHT & FREE PLAY

1) Pedal height is measured from center of pedal pad to floorboard and should be 7.24" (184 mm) on Accord and Prelude; 5.3" (135 mm) on all other models. To adjust clearance, position brake light switch out of way, loosen booster push rod nut at pedal clevis pin and rotate push rod. Tighten lock nut.

2) Free play is the distance brake pedal travels from brake light switch (pedal stop) before push rod contacts vacuum booster. Adjust free play (measured at pedal pad) to .04-.20" (1-5 mm) on all models by adjusting brake light switch. Rotate switch until plunger is fully depressed, back off ½ turn and tighten lock nut securely.

FRONT DISC BRAKE PADS

Front disc brakes are self-adjusting, therefore, no adjustment in service is required.

REAR BRAKE SHOES

Prelude – Rear brakes are self-adjusting by brake pedal action. No adjustment in service is required.

All Other Models – Release parking brake and make 2-3 brake applications. Turn brake adjuster on backing plate clockwise until wheel locks. Back off adjuster 2 clicks, rotate wheel; if brakes drag, back off 1 additional click.

PARKING BRAKE

With rear brakes adjusted, raise and support rear of vehicle on safety stands. Loosen equalizer nut (located between rear lower control arms) and pull brake lever up 1 notch. Tighten adjusting nut until rear wheels drag slightly. Release brake lever; rear wheels should rotate freely. Rear wheels should lock when lever is pulled 1-3 notches on Civic CVCC sedan; 3-5 notches on CVCC wagon and 3-7 notches on all other models.

COMBINATION VALVE

Function Test – Road test vehicle and apply brakes under normal conditions. If either rear wheel locks, combination valve(s) is defective. Replace valve(s) as an assembly; DO NOT disassemble.

HYDRAULIC SYSTEM BLEEDING

1) Attach a bleed tube to cylinder bleed screw and immerse opposite end of tube in a container partially filled with brake fluid. Pump pedal several times. With steady pressure applied to pedal, open bleed screw, exhaust air and close bleed screw with pedal still depressed. Let pedal return unassisted.

2) Check master cylinder level often; replace fluid as required. Repeat process until no air bubbles are seen in discharged fluid. Repeat procedure on remaining brake lines. Bleeding sequence is left rear, right front, left front, right rear on Civic; left front, right rear, right front, left rear on all other models.

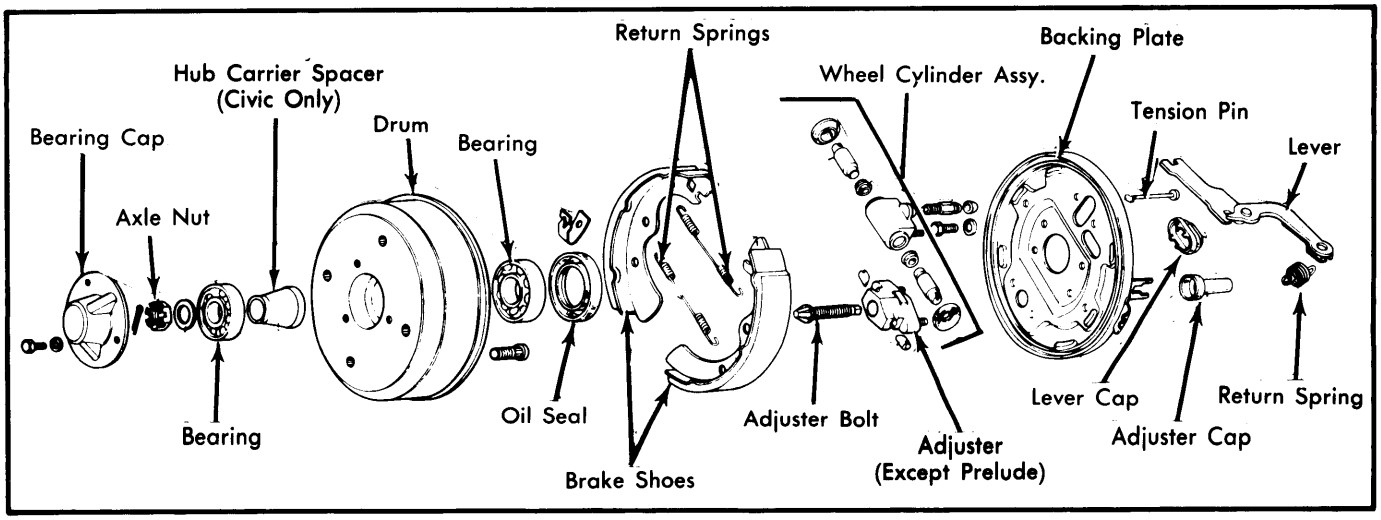

Fig. 1 Exploded View of Honda Rear Drum Brake Assembly (Civic Shown; Others Similar)

HONDA (Cont.)

REMOVAL & INSTALLATION

FRONT DISC BRAKE PADS

Removal (Civic & CVCC Sedan) – Raise and support front of vehicle; remove front wheels. Remove pin retaining clip, retaining pins and springs. Note that springs are not interchangeable, reference mark for reassembly. Remove disc pads and shims from one side. DO NOT remove pads from both sides at one time.

Installation – Clean exposed portions of caliper pistons and cavity. Manually seat caliper pistons in cylinders. Check disc pad thickness. If less than .240" (6.1 mm), replace with new pads. If thickness variation between pad sets exceeds .079" (2 mm), replace pads. Install pads, shims (index arrow up), pad springs, retaining pins and secure with pin clips.

Removal (CVCC Station Wagon) – Raise and support vehicle, remove wheels. Remove pad shield and retainer clips. Drive out retaining pins. Remove pads.

NOTE – *Inner retaining clip must hook over inner pad protrusion; outer retaining clip must hook through hole in outer pad.*

Installation – To install, reverse removal procedure and note: Make sure all rust has been removed from brake pad retaining pins. Inspect brake pad thickness. If pads are worn so that thickness is less than .300" (6.5 mm) or if thickness variation between disc pad sets exceeds .079" (2 mm), replace pads.

Removal (Accord) – Raise and support vehicle; remove wheel. Using suitable pliers, remove spring clips. Remove side plates and position caliper assembly out of way; DO NOT let caliper hang by hydraulic line. Remove anti-rattle clips. Remove pads and shims.

NOTE – *Shims must be installed with red side toward pad.*

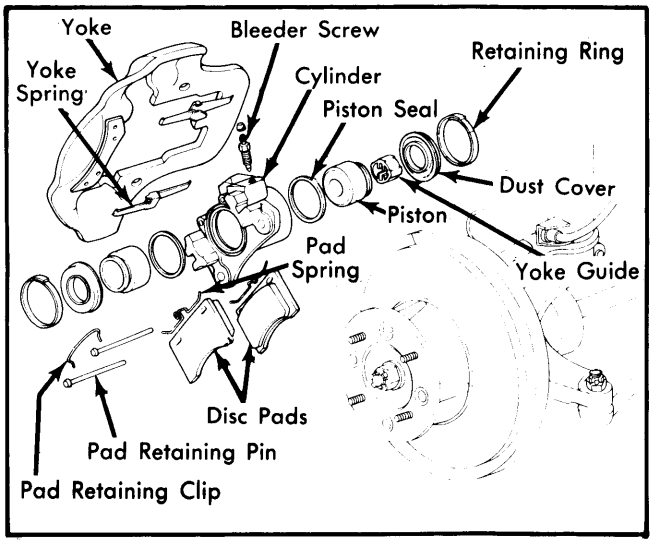

Fig. 2 Disc Brake Assembly for Civic and CVCC Sedan

Installation – To install, reverse removal procedure and note: Clean exposed areas of caliper. Check disc pad thickness. If pad thickness is less than .236" (6 mm) or if thickness variation between disc pad sets exceeds .079" (2 mm), pads must be replaced.

Removal (Prelude) – Raise and support vehicle on safety stands; remove wheel. Remove lower caliper pin and pivot caliper body up out of way. Remove pads, pad shim and anti-rattle springs.

Installation – Install anti-rattle springs and pads. Install shim against outer pad. Loosen bleed screw, seat piston in caliper bore and tighten bleed screw. Rotate caliper body down and tighten pin. Check disc pad thickness. If thickness is less than .06" (1.6 mm) or if thickness variation between pad sets exceeds .079" (2 mm), pads must be replaced.

FRONT DISC BRAKE CALIPER

Removal – Raise and support vehicle on safety stands; remove wheels. Remove pads (CVCC). Disconnect hydraulic line at caliper and plug openings. Remove spring pins and side plates (Accord). Remove caliper mounting bolts and remove caliper assembly.

Installation – To install, reverse removal procedure and bleed hydraulic system.

DISC BRAKE ROTOR

Removal (Prelude) – With caliper assembly removed, remove rotor retaining screw. Install two M8 x 1.25 x 12 mm bolts. Alternately turn bolts 2 turns (to prevent disc warpage) until disc can be removed from hub.

Installation – To install, reverse removal procedure, tighten screw securely and bleed hydraulic system.

Removal (All Other Models) – With caliper assembly removed, remove dust cap (if equipped), cotter pin and spindle nut. Using a slide hammer with hub puller attachment, remove hub and rotor assembly. Remove hub-to-rotor bolts and separate.

NOTE – *Since removing hub and rotor assembly involves use of a slide hammer and subjects wheel bearings to severe loads, it is suggested that both inner and outer wheel bearings be replaced each time hub and rotor assembly is removed.*

Installation – To install, reverse removal procedure, tighten hub-to-rotor bolts evenly and adjust wheel bearings. See *Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.* Bleed hydraulic system if necessary.

REAR BRAKE DRUM

Removal – Raise and support rear of vehicle and remove rear wheels. Remove bearing retaining cap and rear axle nut, then remove brake drum.

NOTE – *If drum is difficult to remove, use slide hammer with hub puller attachment.*

Installation – To install, reverse removal procedure and tighten axle nut.

HONDA (Cont.)

REAR BRAKE SHOES

NOTE – *All models have same basic brake system design; however, there may be some minor differences.*

Removal – With brake drum removed, remove retaining clips and pins and return springs (note original position of return springs). Disconnect brake shoes from parking brake lever assembly and remove brake shoes.

NOTE – *Upper and lower return springs are not interchangeable.*

Installation – Apply light coat of grease to adjuster assembly, sliding surfaces of brake shoes and metal contact areas of backing plate. To install, reverse removal procedure, observing the precautions listed below for each model. Adjust and bleed brakes.

- CVCC Station Wagon – Two upper return springs are used to support shoes.
- Prelude – Upper spring is identified by single coil. Before installing brake drum, release brake adjuster ratchet with screwdriver. Mark engaged teeth. Install drum and spindle nut. Depress brake pedal, remove drum and ensure ratchet has moved and brakes have self-adjusted.
- All Other Models – Upper spring has small loops and is installed between shoes with coils outward. Lower spring has large loops and is installed with coils inward.

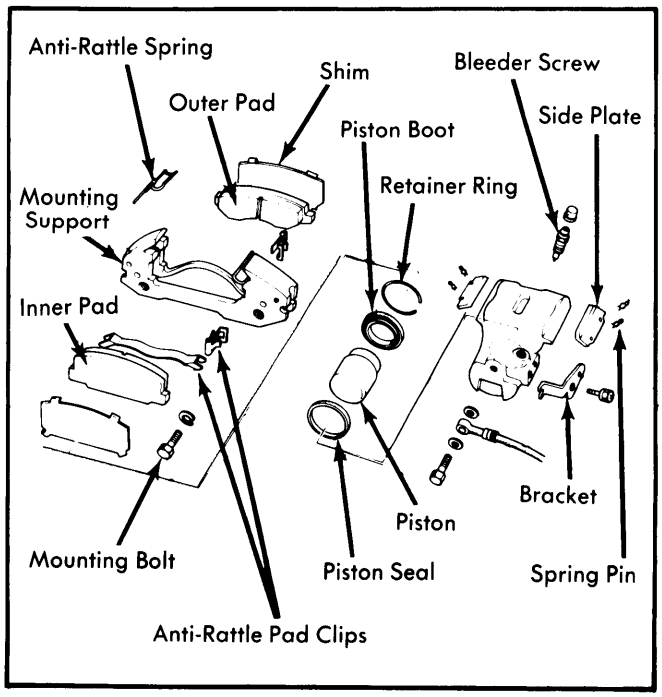

Fig. 3 Exploded View of Accord Caliper Assembly

REAR BRAKE WHEEL CYLINDER

Removal – With rear brake drum and brake shoes removed, disconnect hydraulic line from wheel cylinder at rear of backing plate. Remove retaining nuts and wheel cylinder assembly.

Installation – Reverse removal procedure, tighten retaining nuts, and bleed hydraulic system.

MASTER CYLINDER

Removal – Disconnect hydraulic lines at master cylinder, remove retaining nuts, and remove master cylinder from power brake unit.

Installation – Reverse removal procedure and bleed hydraulic system.

POWER BRAKE UNIT

Removal – Disconnect vacuum hose at power brake unit, and hydraulic lines at master cylinder. Remove clevis pin retaining power brake unit push rod to brake pedal, and bolts attaching power unit to firewall, then remove power brake unit and master cylinder as an assembly.

Installation – Reverse removal procedure, tighten all nuts and bolts, and bleed hydraulic system.

Check Valve Replacement – Check valve is located in vacuum line between brake unit and intake manifold. Before removal, test check valve. Disconnect valve from vacuum hose by removing clamps. Blow air through manifold side of valve; valve should not open. Repeat procedure on booster side of valve; valve should open. Replace defective valve and secure clamps.

OVERHAUL

DISC BRAKE CALIPER

Disassembly (Civic & CVCC Sedan) – Place yoke on work bench and press caliper down to compress piston; remove yoke. Remove yoke return springs. Force both pistons out of cylinder bore in same direction with light air pressure. Remove seals from cylinder bore; DO NOT scratch bore.

NOTE – *Calipers are marked left "L" and right "R".*

Cleaning & Inspection – Clean all parts in brake fluid and check for wear or damage. Check pistons and caliper bore for scoring or scratches; replace if defective. Check caliper bore-to-piston clearance. If clearance exceeds .005" (.13 mm), replace defective part. Replace piston seals during overhaul.

Reassembly – 1) Install piston seals into grooves in cylinder. Lubricate pistons with brake fluid and install into cylinder. Install yoke guide into inboard piston. Hold yoke with retaining pin bracket facing up, and install yoke springs so long thin portion of spring is on upper side.

2) Hold yoke with retaining pin bracket facing up and to left. Place cylinder so that inlet port is facing up and to right. Slide yoke over cylinder. When yoke springs contact cylinder sliding surface, push down firmly and slide yoke to left until securely engaged with cylinder. Install disc pads, springs, pins and retainer.

HONDA (Cont.)

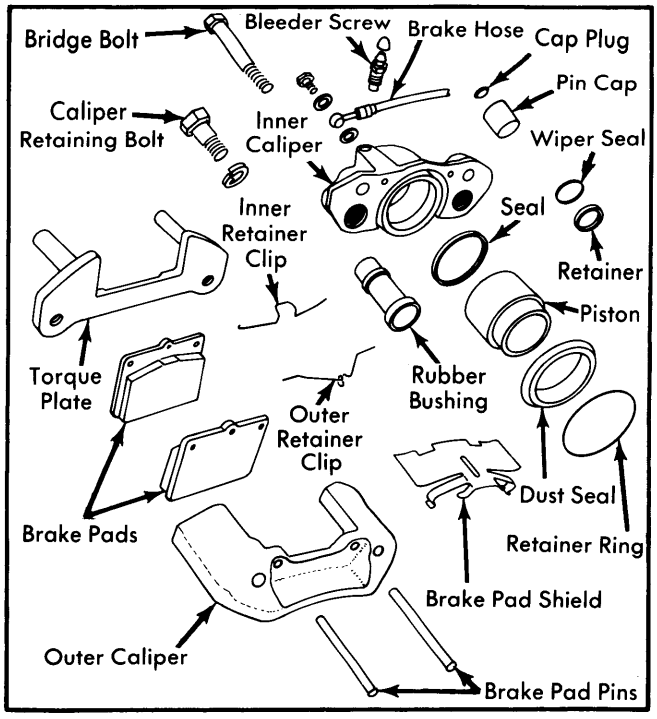

Fig. 4 Exploded View of CVCC Station Wagon Caliper Assembly

Disassembly (CVCC Station Wagon) – Remove caliper bridge bolts and carefully separate inner caliper with piston from torque plate and outer caliper. Remove rubber bushing insert from inner caliper housing. Take out retainer ring and wiper seal. Remove snap ring and dust seal, then force piston from cylinder. Remove "O" ring without damaging cylinder bore.

Cleaning & Inspection – Clean all parts in brake fluid and check for excessive wear or damage. Replace caliper if bore is excessively scratched or scored. Replace pistons if scored. Check outer caliper for cracks or metal fatigue; replace if defective. Replace all rubber parts during overhaul.

Reassembly – Reverse disassembly procedure and note: Lightly grease shafts of torque plate. Lightly lubricate all internal components with brake fluid before reassembly. Make sure "O" ring seal is not twisted in cylinder groove.

Disassembly (Accord & Prelude) – Remove snap ring (Accord) and remove piston boot. Force piston out of caliper bore by applying light air pressure to brake fluid inlet port. Remove piston seal without damaging cylinder bore.

Cleaning & Inspection – Clean all parts in brake fluid and check for wear or damage. Check cylinder bore and pistons; replace if scratched or scored. Replace all rubber components during overhaul.

Reassembly – Apply brake fluid to caliper bore, piston surface and piston seal. Reverse disassembly procedure and make sure seals and boots are properly installed.

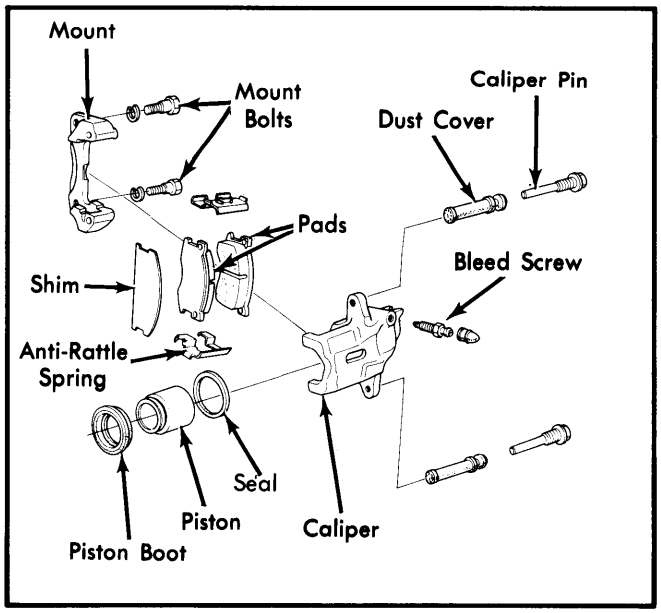

Fig. 5 Exploded View of Prelude Caliper Assembly

REAR WHEEL CYLINDER

Disassembly – Remove dust seals and pistons. Remove cylinder cups from pistons. If necessary, remove bleeder screw.

Cleaning & Inspection – Clean all parts in brake fluid and check for wear or damage, replace parts. Check cylinder bore-to-piston clearance; if clearance exceeds .005" (.13 mm), replace defective part.

Reassembly – Coat cylinder bore, pistons and cups with brake fluid. Reverse disassembly procedure and install parts in cylinder bore. Install dust covers securely in cylinder body grooves.

NOTE – *Lips of piston cups must face center of cylinder.*

MASTER CYLINDER

NOTE – *External features may vary among models. Overhaul procedures are the same for all models.*

Disassembly – 1) Remove reservoir cap assembly and drain brake fluid. Loosen retaining clamp and remove reservoir. Remove snap ring and stop bolt. Cover open end of master cylinder with a clean rag.

2) Place finger over stop bolt hole and secondary outlet port. Remove pistons by applying low pressure air to primary port. Disassemble piston assemblies, remove unions, washers, check valves and springs.

Cleaning & Inspection – Clean all parts in brake fluid and check for wear or damage. Check master cylinder bore-to-piston clearance. If clearance exceeds .005" (.13 mm), replace defective part. Replace piston cups and check valves during overhaul.

HONDA (Cont.)

Reassembly – Coat all parts with brake fluid and reverse disassembly procedure. Rotate pistons while pushing into cylinder bore. Use suitable cup guide tool to compress secondary piston when installing snap ring.

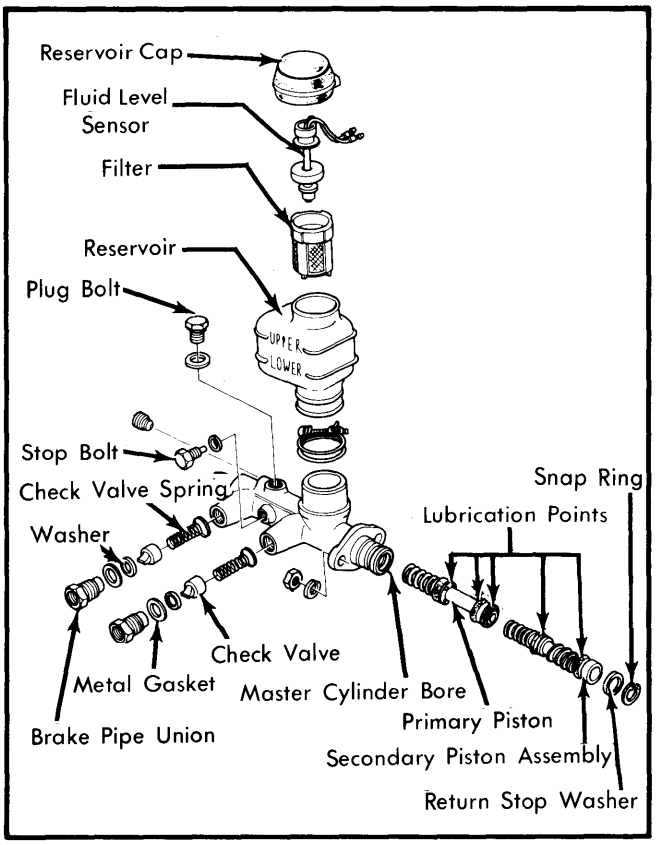

Fig. 6 Exploded View of Master Cylinder

POWER BRAKE UNIT

NOTE – *Power brake units vary among models; overhaul procedures are the same for all models.*

Disassembly – 1) Separate master cylinder from booster assembly, but leave retaining plate attached to booster shell. Remove spring clip and booster shell retaining tab, then separate push rod from master cylinder.

2) Place booster assembly in vise. Index-mark shell halves and separate halves with suitable tool. Turn tool clockwise, noting that shell is spring-loaded. Take booster from vise and remove master retaining plate, check valve, seal retainer and seal.

3) Remove booster push rod and boot. Separate housing from diaphragm and piston. Take off seal retainer, seal (note position), and bushing. Disengage snap ring, spring, and seat, then pull out diaphragm.

4) Remove retaining cover, push rod actuator, retaining plate, center seat, and spring washer (note position). Push piston from diaphragm plate. Extract "O" ring from inside piston. Remove filter retaining clip, then take off filter, push plate, spring, and poppet valve.

Cleaning & Inspection – Clean all parts in alcohol and dry with compressed air. Check all parts for wear or damage. Check booster piston for cracks or deformation. Replace diaphragm, all rubber parts and reaction ring during overhaul.

Reassembly – 1) Apply silicone grease to rod seal lip and piston. Reverse disassembly and note the following: Ensure rod seal is fully seated and "O" ring is not twisted. Install reaction plate with curved sides up. Ensure diaphragm is properly seated.

2) Before installing master cylinder, check master cylinder-to-push rod clearance. Place rod bolt adjustment gauge *(Fig. 7)* on master cylinder open end with knurled knob up.

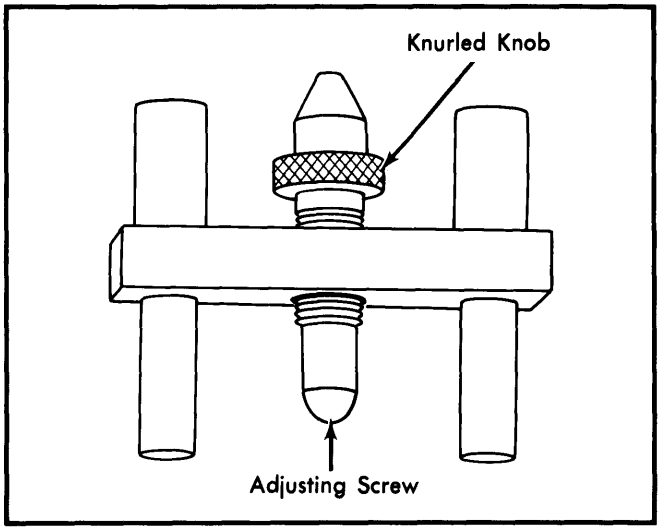

Fig. 7 Push Rod Adjustment Gauge

3) Turn screw until it just contacts piston. Remove gauge from master cylinder and place on vacuum booster with knurled knob down. Without moving adjusting screw position, measure clearance between adjusting screw end and booster push rod. Clearance must be 0-.016" (0-0.4 mm) on Prelude and .004-.024" (0.1-0.6 mm) on all other models. Adjust push rod length to proper specification.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Master Cylinder	
Stop Bolt	6-8 (.83-1.1)
Retaining Nuts	11-15 (1.5-2.0)
Hydraulic Lines	13-15 (1.8-2.0)
Hydraulic Line-to-Caliper Bolt	25 (3.5)
Hub-to-Rotor Bolts	36-43 (5.0-6.0)
Wheel Cylinder Bolts	13-15 (1.8-2.0)
Caliper Mounting Bolts	
Civic & CVCC Sedan	29 (4.0)
CVCC Sta. Wagon	63 (8.5)
Accord & Prelude	56 (7.7)

HONDA (Cont.)

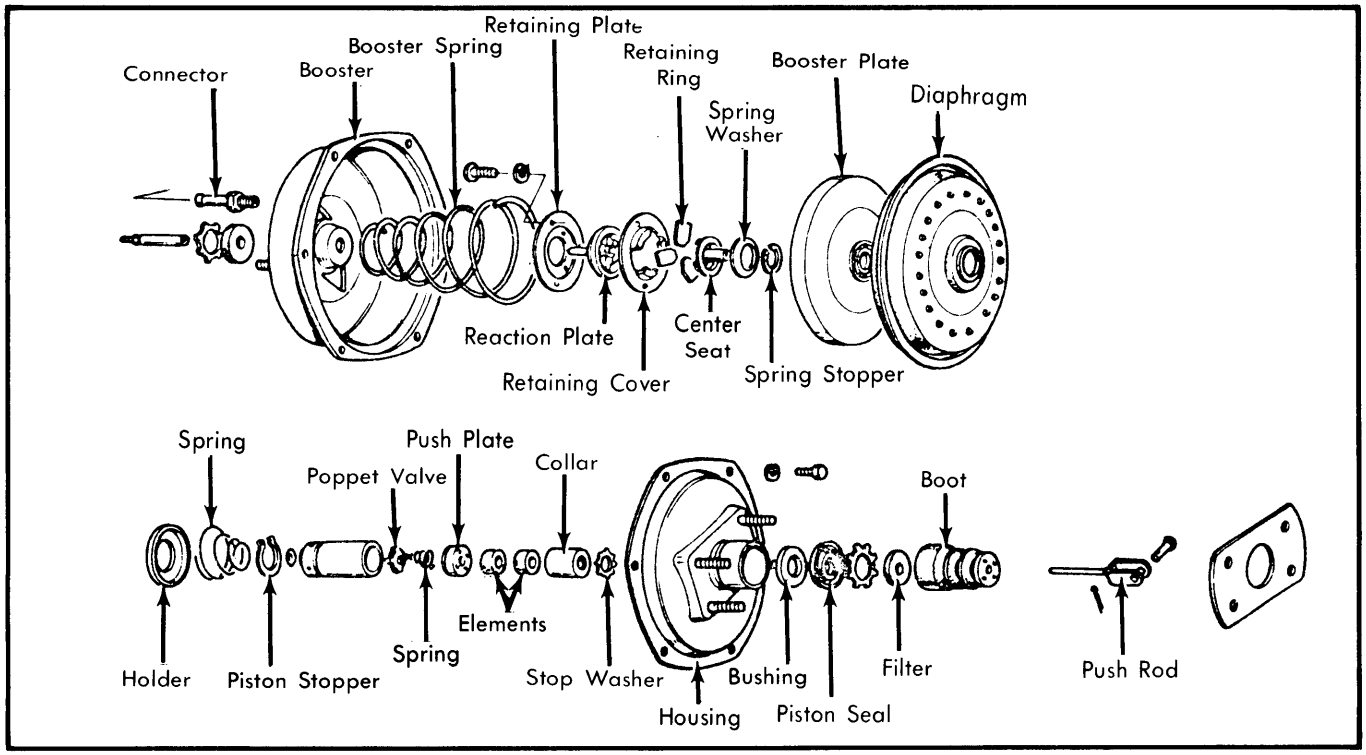

Fig. 8 Exploded View of Power Brake Unit (Civic Shown; Others Similar)

DISC BRAKE ROTOR SPECIFICATIONS

Application	Disc Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
Civic	.....	.006 (.15)	.003 (.07)	.378 (9.6)	.354 (9.0)	.343 (8.7)
CVCC Sedan	.....	.006 (.15)	.003① (.07)	.378 (9.6)	.354 (9.0)	.343 (8.7)
Sta. Wgn.	.....	.006 (.15)	.003① (.07)	.473 (12.0)	.449 (11.4)	.437 (11.1)
Accord & Prelude	.....	.006 (.15)	.0006② (.015)	.473 (12.0)	.....	.413 (10.5)

① — Maximum difference between measurements: .003" (.07 mm)
② — Maximum difference between measurements: .0006" (.015 mm).

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
Civic	7.09 (180)	7.09 (180)	7.13 (181)	7.15 (181.5)
CVCC Sedan	7.09 (180)	7.09 (180)	7.13 (181)	7.15 (181.5)
CVCC St.Wgn	7.87 (200)	7.87 (200)	7.91 (201)	7.93 (201.5)
Accord & Prelude	7.09 (180)	7.09 (180)	7.13 (181)	7.15 (181.5)