

## RENAULT

R-5  
R-12  
R-17

## DESCRIPTION

Brake system is hydraulically operated by a tandem master cylinder. Some vehicles may be equipped with a power brake unit. All models are fitted with front disc brakes and rear drum brakes. A pressure limiter valve is used to regulate pressure to rear wheels and prevent rear wheel lock-up. Parking brake cable is lever operated from between the front seats.

## ADJUSTMENT

## DISC BRAKES

Disc brakes are self adjusting; therefore, no adjustment in service is required.

## DRUM BRAKES

**NOTE** — R-17 Gordini models have self-adjusting rear drum brakes.

Remove plastic dust plug and insert screwdriver into opening. Turn star wheel until linings just contact drum. Back off adjuster until wheels rotate freely.

## PARKING BRAKE

**Manual Adjuster Type** — Adjust drum brake shoe clearance. Bleed disc brakes. Fully release parking brake lever. Back off lock nut on parking brake rod. Adjust other nut forward until linings just touch drum. Check that parking brake lever travel is approximately six notches, then tighten lock nut.

**Self-Adjuster Type** — Place vehicle on hydraulic hoist or leave all wheels on ground. Put parking brake lever in fully released position. Tighten adjustment nut until secondary cable is  $\frac{2}{32}$ " (20 mm) from floor section. **NOTE** — If proper adjustment is not maintained at all times, lever will become detached and wear take-up will be out of adjustment. Normal lever travel is 12-13 notches.

## REAR BRAKE PRESSURE LIMITER

**NOTE** — Limiter must always be checked and adjusted with vehicle on level ground, trunk empty and driver in driver's seat.

1) To check limiter, remove one rear wheel cylinder bleeder screw and connect a pressure gauge to wheel cylinder. Bleed hydraulic system. Depress brake pedal and check pressure obtained at rear wheel cylinder. Pressure should be as shown in table.

2) On all models except R-5, rotate one of the nuts on adjustment rod (See Fig. 1). Rotating top nut upward will reduce pressure, while rotating the lower nut upward will increase pressure.

3) To adjust limiter on R-5, release lock nut and tighten adjustment nut to increase pressure or loosen it to reduce pressure.

4) On all models, apply brake pedal several times and recheck adjustment. Remove pressure gauge and bleed hydraulic system.

## Pressure Limiter Adjustment

Application	⓪Psi
R-12	
Sedan.....	610-655
Station Wagon.....	500-585
R-17TL	
Coupe.....	770-810
Convertible.....	825-870
R-17 Gordini	
Coupe.....	700-740
Convertible.....	725-770
R-5.....	433-437

⓪ — With fuel tank full.

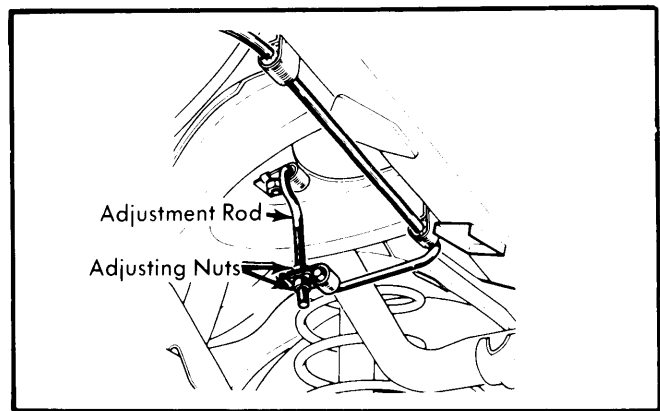


Fig. 1 Pressure Limiter Adjustment Points

## HYDRAULIC SYSTEM BLEEDING

**NOTE** — On vehicles equipped with power assisted brakes, release vacuum from servo unit prior to bleeding brakes.

Fill brake reservoir, and connect pressure bleeder.

**NOTE** — Do not exceed 30 psi with pressure bleeder. Check each bleeder screw for fluid flow. Close bleeder screw when fluid flowing from screw is free of air. Remove pressure bleeder, and check fluid level in reservoir.

## REMOVAL &amp; INSTALLATION

## DISC BRAKE PADS

**Removal & Installation** — Caliper must be removed to replace disc pads. See *Disc Brake Caliper Removal & Installation*.

## DISC BRAKE CALIPER

**Removal** — Raise and support vehicle and remove front wheels. Remove spring clips and slide keys out of caliper and mounting bracket. Disconnect brake line fitting from flexible hose and remove hose retaining clip from body.

**NOTE** — Brake lines and hoses should not be disconnected for removal of brake pads. Remove caliper from mounting bracket and disconnect flexible hose from caliper. Remove brake pads and pad spring from caliper.

**Installation** — To install, reverse removal procedure and note the following: Install longest pad spring on outside of caliper. Tighten all fittings and bleed hydraulic system.

## RENAULT (Cont.)

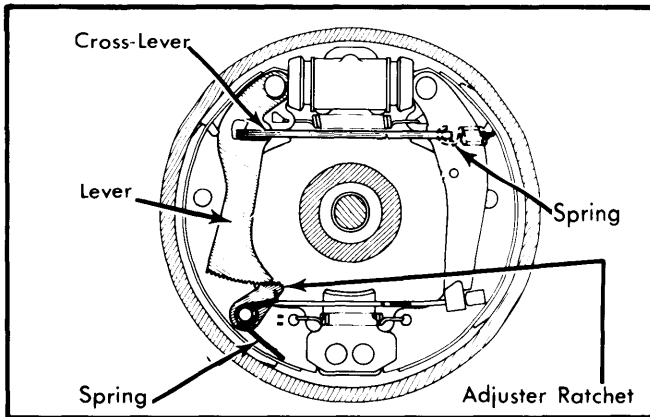


Fig. 2 Assembled View of Early Type Self-Adjusting Drum Brakes

### DISC BRAKE ROTOR

**Removal & Installation** — Remove caliper assembly and pad mounting bracket from vehicle. Take out the three screws securing brake disc. Remove stub axle nut. Fit slide hammer and remove disc/hub assembly. To install, reverse removal procedure.

### BRAKE DRUM

**Removal** — Remove plug in backing plate and insert a screwdriver through hole. Push parking brake operating lever in until peg on lever is clear of brake shoe, then push lever to rear to back off brake shoes. Remove hub grease cap and attaching hardware. Remove drum assembly using a suitable puller.

**Installation** — To install reverse removal procedure and note the following: Apply a suitable grease to wheel bearings. After installing drum assembly, adjust wheel bearings. See *Wheel Bearing Adjustment* in **WHEEL ALIGNMENT** Section. Apply brake pedal several times to adjust brake shoes.

### DRUM BRAKE SHOES

**Removal & Installation** — Remove wheel and brake drum from vehicle. Install wheel cylinder clamp, then remove upper brake shoe return spring. On rear brake assembly, disconnect parking brake cable. Unhook shoe hold down springs, and tilt long self-adjuster lever inward. Ease leading shoe away from backing plate, and pull cross lever from shoe. Turn leading shoe at right angle to backing plate and remove lower return spring. Remove both brake shoes. To install, reverse removal procedure.

### WHEEL CYLINDER

**Removal & Installation** — Remove brake drum and brake shoes from vehicle. Disconnect brake line from wheel cylinder, and remove cylinder attaching bolts. Remove cylinder from vehicle. To install, reverse removal procedure and bleed hydraulic system.

### MASTER CYLINDER

**Removal & Installation** — Siphon fluid from master cylinder, and disconnect hydraulic lines at master cylinder. Remove pressure loss indicator bolt (if equipped). Remove cylinder mounting bolts, and remove cylinder from vehicle. To install, reverse removal procedure, and adjust push rod clearance.

### POWER BRAKE UNIT

**NOTE** — Power brake unit is not serviceable, only the air filter and check valve can be serviced.

**Removal** — Disconnect battery, and remove fluid from master cylinder. Remove engine air filter (if necessary). Disconnect hydraulic lines at master cylinder, and remove pressure loss indicator valve bolt (if equipped). Disconnect vacuum hose, and remove clevis from brake pedal. Remove power brake unit attaching nuts from pedal side of firewall, and remove master cylinder and power brake unit as an assembly. Separate master cylinder from power brake unit.

**Installation** — Measure push rod-to-master cylinder clearance at master cylinder mounting flange, and adjust by turning push rod nut. To install power brake unit, reverse removal procedure, and bleed hydraulic system.

## OVERHAUL

### DISC BRAKE CALIPER

**Disassembly** — Remove caliper assembly from vehicle, and remove piston dust cover. Using compressed air, introduced at caliper fluid port, carefully remove piston from caliper assembly. Remove piston seal from cylinder. Using a wedge, spread legs of caliper piston bracket a small amount. Remove caliper stop peg from piston bracket. Slide cylinder assembly from bracket.

**Inspection** — Clean all parts in denatured alcohol, and inspect for piston and cylinder wear. Replace worn parts as necessary. Replace all rubber seals.

**Reassembly** — Lubricate cylinder bore, piston, and seals with brake fluid prior to reassembly. To reassemble, reverse disassembly procedure.

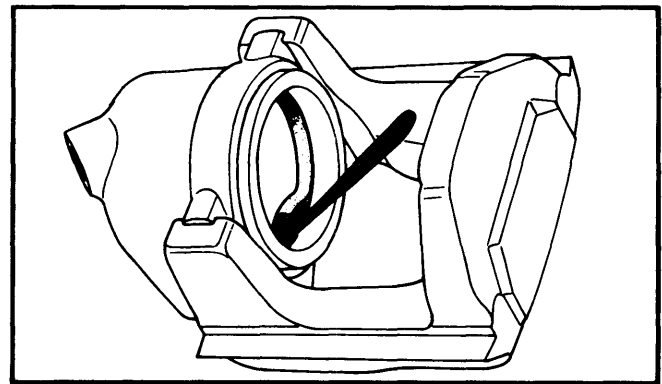


Fig. 3 Prying Seal Out of Caliper Cylinder Bore

### MASTER CYLINDER

**Disassembly** — Clamp master cylinder in a soft-jawed vise. Remove reservoirs, and rubber reservoir sleeves. Using a wooden dowel, push piston into cylinder bore, and remove piston stop screw. Remove snap ring and stop washer from end of cylinder bore, and remove piston assemblies.

**Inspection** — Clean all parts in denatured alcohol, and check pistons and cylinder bore for wear. If either are worn, replace cylinder as an assembly. Replace all rubber seals.

**Reassembly** — Lubricate all parts with brake fluid prior to reassembly. To reassemble master cylinder, reverse disassembly procedure.

# Brakes

## RENAULT (Cont.)

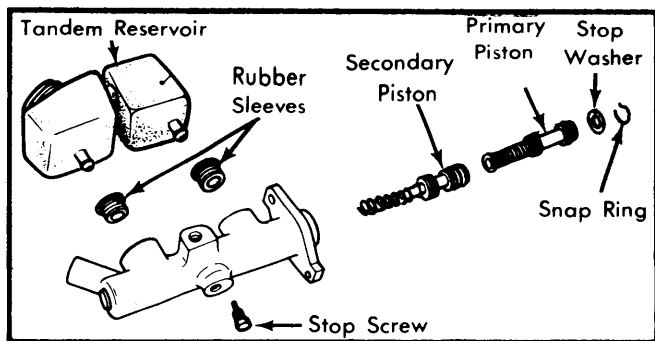


Fig. 4 Master Cylinder and Internal Components

ponents for damage or excessive wear. Before reassembly, dip pistons and cups in brake fluid.

### BRAKE PRESSURE LIMITER

**NOTE** — Limiter valves are not serviceable. If unit found to be defective, replace valve as an assembly.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Flex Hose-to-Caliper .....	15 (2)
Flex Hose-to-Brake Line .....	9 (1.2)
Union Nut-to-Brake Line .....	10 (1.4)
Bleeder Screw .....	7 (1)
Caliper Mounting Bracket .....	50 (7)
Rotor-to-Hub .....	20 (2.8)
Wheel Stud Nuts .....	50 (7)

### WHEEL CYLINDER

**Disassembly & Reassembly** — Using the following illustration, disassemble wheel cylinder and examine com-

### 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)
R-12 & R-17GTL	9.00 (228)	.004 (.1)	.....	.395 (10)	.355 (9)	.....
R-17 Gordini	9.00 (228)	.004 (.1)	.....	.788 (20)	.433 (11)	.....
R-5	9.00 (228)	.004 (.1)	.....	.395 (10)	.355 (9)	.....

### BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
R-12 Sedan	7.087 (180)	7.087 (180)	7.136 (181)	.....
Station Wagon	9.00 (228)	9.00 (228)	9.040 (229)	.....
R-17GTL & Gordini	9.00 (228)	9.00 (228)	9.040 (229)	.....
R-5	7.087 (180)	7.087 (180)	7.136 (181)	.....

### BRAKE SYSTEM SPECIFICATIONS

Application	Drum Diam. In. (mm)	Wheel Cylinder Diameter		Master Cylinder Diameter In. (mm)
		Front In. (mm)	Rear In. (mm)	
R-5	7.087 (180)	1.772 <sup>⓪</sup> (45)	.866 (22)	.812 (20.6)
R-12 Sedan	7.87 (180)	1.890 <sup>⓪</sup> (48)	.866 (22)	.748 (19)
St. Wgn.	9.00 (228.5)	1.890 <sup>⓪</sup> (48)	.866 (22)	.748 (19)
R-17GTL & Gordini	9.00 (228.5)	2.126 <sup>⓪</sup> (54)	.866 (22)	.812 (20.6)

⓪ = Caliper cylinder.