RENAULT

Le Car

DESCRIPTION

Brake system is hydraulically operated using a tandem master cylinder and optional power brake unit. All models are equipped with front disc brakes and rear drum brakes. A pressure limiter valve is installed in rear brake circuit to prevent premature rear wheel lock-up. Parking brake is cable actuated on rear wheels.

ADJUSTMENT

REAR DRUM BRAKE SHOES

Two adjusting lugs are located on backing plate. Using a wrench, turn front lug counterclockwise and rear lug clockwise until shoes just contact drum. Then, back off adjustment until drum rotates freely.

BRAKE PEDAL FREE PLAY

Brake pedal free play (measured at pedal pad center) should be .203" (5 mm). To adjust free play, loosen operating rod lock nut and rotate operating rod until specified free play is obtained. Tighten lock nut.

PARKING BRAKE

Adjust service brakes, then fully release parking brake. Loosen lock nut on adjustment rod. Tighten adjustment nut until lining just meets drum. At this point, parking brake lever travel should be about 6 notches. Tighten lock nut. Check operation.

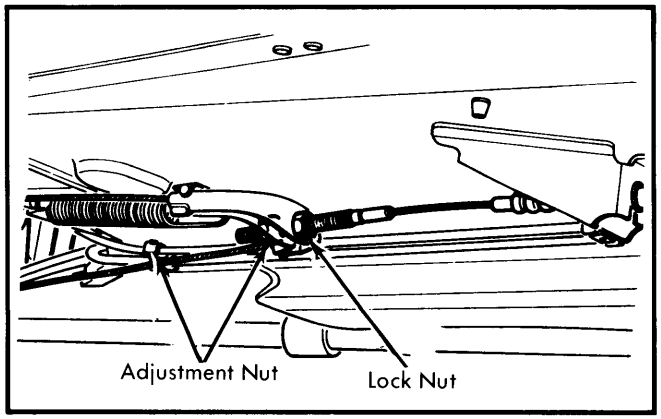

Fig. 1 Parking Brake Adjustment Points

BRAKE WARNING LIGHT

A dual warning light is mounted on instrument panel. Light should glow when parking brake lever is pulled 1 notch and go off when lever is fully released (ignition on). To check circuit warning sensor, release parking brake (ignition on) and ensure light is off. Raise master cylinder reservoir cap; light should glow. If not, check bulb or circuit connections.

REAR BRAKE PRESSURE LIMITER

NOTE – *Limiter must always be checked and adjusted with vehicle on level ground, fuel tank full, trunk empty and driver's seat occupied.*

1) To check limiter, remove 1 rear wheel cylinder bleeder screw and connect a pressure gauge (Fre. 214-02) into vacant hole. Bleed brake system. Depress brake pedal and check pressure obtained at wheel cylinder. Pressure should be 405-465 psi (28.5-32.5 kg/cm^2).

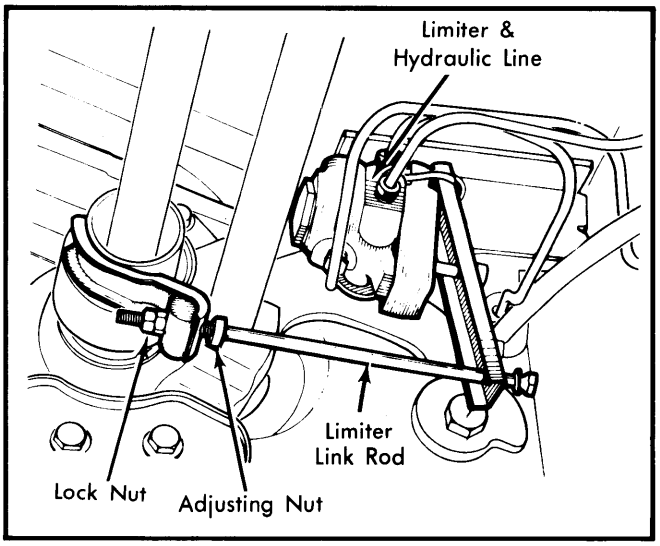

Fig. 2 Pressure Limiter Adjustment Points

2) To adjust limiter, release lock nut and tighten adjustment nut to **increase** pressure or loosen it to **reduce** pressure.

3) Apply brake pedal several times and recheck adjustment. Remove pressure gauge and bleed brake system.

REMOVAL & INSTALLATION

FRONT DISC PADS

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

FRONT DISC 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. 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.)

FRONT DISC ROTOR

Removal – Remove caliper as previously described and remove caliper mounting bracket. Attach holding tool (Rou. 604 or Rou. 436-01) to wheel studs and remove axle shaft nut. Attach slide hammer to hub and remove hub and rotor assembly. Remove hub-to-rotor bolts and remove rotor from hub.

Installation – To install, reverse removal procedure and tighten hub-to-rotor bolts evenly. Bleed hydraulic system if required.

REAR BRAKE DRUM

Removal – Remove hub grease cap, cotter pin, nut and washer. Back off brake shoe adjusters. Attach slide hammer and remove drum.

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.

REAR BRAKE SHOES

Removal & Installation – Remove wheel and brake drum from vehicle. Install wheel cylinder clamp, then remove upper brake shoe return spring. Disconnect parking brake cable from actuator lever. Remove parking brake actuator link and lower return spring. Unhook shoe hold-down springs and remove brake shoes. To install, reverse removal procedure.

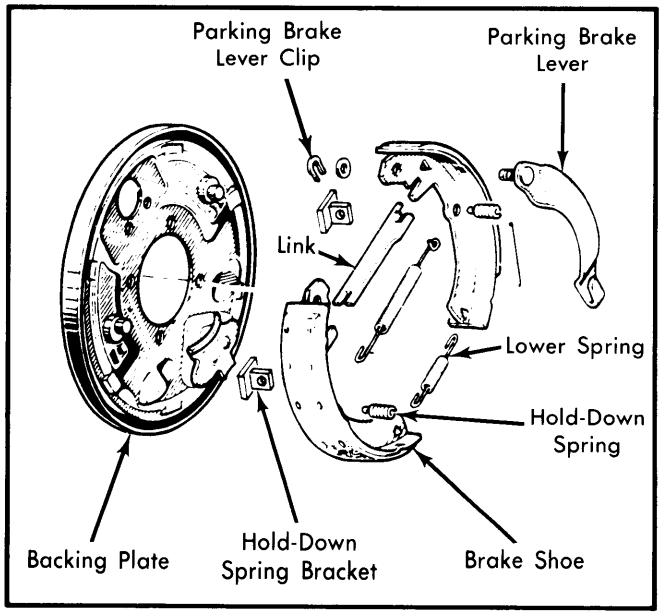

Fig. 3 Exploded View of Brake Shoe Assembly

MASTER CYLINDER

Removal – Drain fluid from master cylinder reservoir and disconnect and plug hydraulic lines. Remove pressure loss indicator bolt (if equipped). Disconnect push rod from brake pedal (without power brake unit). Remove mounting hardware and remove master cylinder.

Installation – To install, reverse removal procedure and adjust brake pedal free play. Bleed and adjust hydraulic system.

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 – To install, reverse removal procedure and adjust push rod-to-master cylinder clearance to .36" (9.13 mm) by turning push rod nut. Bleed hydraulic system.

Check Valve Replacement – Check valve is located on power brake unit. To replace, remove vacuum input line and pull and turn check valve out of power unit. Install new check valve by pushing and turning to seat valve. Reconnect vacuum line.

OVERHAUL

NOTE – *Master Cylinder, Power Brake Unit, and Brake Pressure Limiter cannot be Overhauled.*

FRONT 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.

Cleaning & Inspection – Clean all parts in denatured alcohol and inspect for piston and cylinder wear. Replace worn parts as required. Replace all rubber seals during overhaul.

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

RENAULT (Cont.)

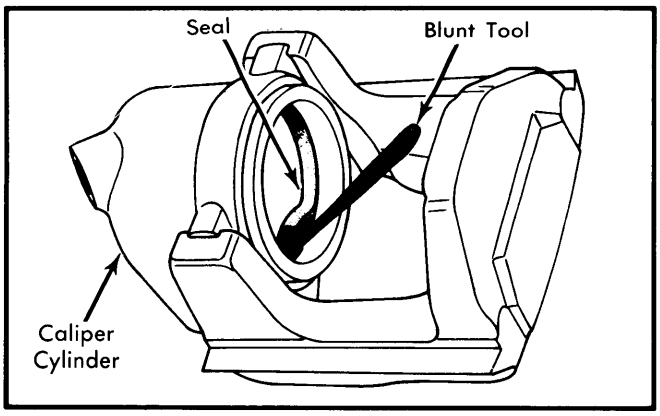

Fig. 4 Prying Out Seal from Caliper Cylinder Bore

WHEEL CYLINDER

Disassembly & Reassembly – Remove dust boots, pistons, cups and spring. Examine components for damage or excessive wear. Replace worn parts as required. Before reassembly, dip pistons and cups in clean brake fluid.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Caliper Bracket Bolts	50 (6.9)
Rotor-to-Hub	20 (2.8)
Stub Axle Nut	90 (12.5)

DRUM BRAKE SPECIFICATIONS

Application	Wheel Cyl. Bore Diameter In. (mm)	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
Le Car	.866 (22)	7.10 (180)	7.10 (180)	7.136 (181)	.....

DISC BRAKE SPECIFICATIONS

Application	Caliper Bore Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
Le Car	1.772 (45)	.004 (.10)	.....	.395 (10)	①	.355 (9)

① – Rotor cannot be machined; it must be replaced.