

1963-71 RENAULT DAUPHINE, CARAVELLE, R-8 & R-10

Dauphine 1094 (1963-66)
 Dauphine 1095 (1963-67)
 R-8 1130 (1963-67)
 R-8 1132 (1965-67)
 Caravelle 1131 (1963-65)
 Caravelle 1133 (1965-68)
 R-10 1190 (1967-69)
 R-10 1192 (1970-71)

DESCRIPTION

All service brakes are hydraulic sliding caliper type and operated by pressure developed in master cylinder. When system is pressurized piston is forced against pad and brings it into contact with rotor. Caliper immediately moves sideways and second pad comes into rotor contact. When pressure is released, piston by influence of "O" ring, returns to original position. To ensure the critical clearance between friction pads and rotor stay within specification, an automatic wear compensator system is incorporated in caliper. All models utilize either a single piston master cylinder (1963-68) or a dual piston, tandem type (from 1968). Each kind of cylinder can be fitted with a power assist unit. Vehicles with tandem master cylinders incorporate a brake pressure loss valve electrically connected to an indicator light on instrument panel. When light is on, there is a pressure deficiency in hydraulic system. Parking brake is lever operated and, through cables, acts on rear brake rotor to lock wheels. All models are equipped with a brake pressure limiting valve.

ADJUSTMENT

Disc Brakes – No adjustment required.

Parking Brake Cable Adjustment (Exc. 1190-1192) – Disconnect link from swivel lever. Place a .008" (.2 mm) shim between pads and rotor. Adjust length of control link with tensioner so end of link will be in line with attaching point in swivel lever. Secure in place and adjust parking brake control.

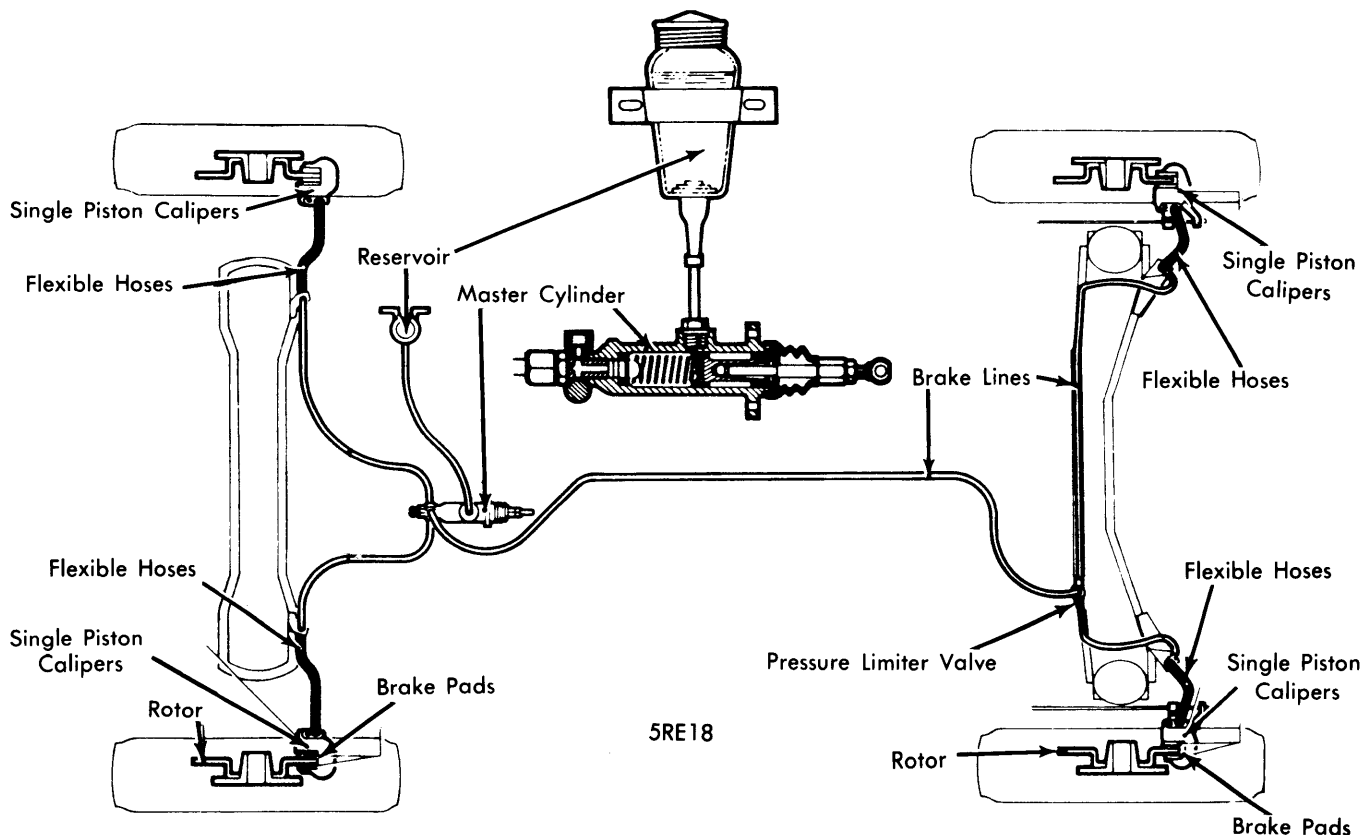
Parking Brake Control (All Models) – Raise vehicle at rear and support in place with safety stands. Loosen lock nut and tighten adjusting screw, while rotating wheel until rotor is lightly restrained. Back off adjuster approximately 1/3 turn or until wheel is just free to rotate.

NOTE – Do not adjust tensioner on control rod.

BLEEDING SYSTEM

Place vehicle on hoist and attach a bleed hose to each caliper; submerge free end of tube into a half-full container of brake fluid. With suitable bleeder (Arc. 50) attached and all bleed screws open, begin purging system. *NOTE* – Bleeder pressure must not exceed 35-45 psi. Slowly pump brake pedal until all air bubbles cease and close off bleed screws. Exhaust remaining air from bleeder and disconnect from master cylinder.

NOTE – If bleeding brakes has no effect on pedal travel, check master cylinder push rod clearance.



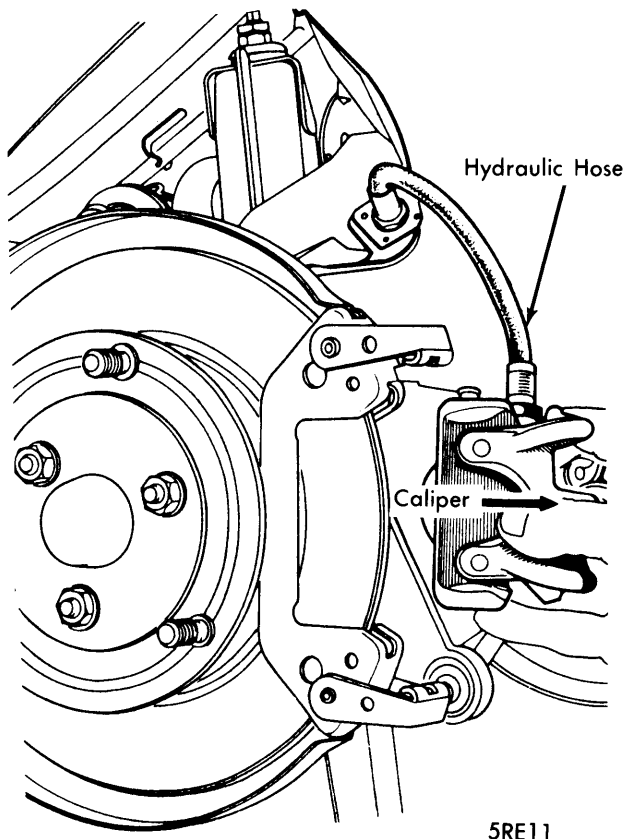
HYDRAULIC SYSTEM (TYPICAL)

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REMOVAL & INSTALLATION

BRAKE CALIPER & FRICTION PADS

Removal (Front) — Raise vehicle and suitably support on safety stands. Plug reservoir and disconnect hose at caliper end. Withdraw two cotter keys holding caliper bracket. Swing back both caliper retaining clamps. Take out rubber damper bumpers. Pull caliper rearward off rotor. Friction pads can now be removed.



CALIPER & PAD REMOVAL

Inspecting — After withdrawing friction pads measure thickness. Pads must be replaced when over all thickness reaches .215" (5.5 mm), measured from thinnest point. When pads are replaced, same make and kind must be used on all wheels. After fitting new pads, ensure clearance between outer edge of pad and caliper bracket is .006-.012" (.15-.30 mm). Before installing, remove (if necessary) lip on outer edge of pad.

Installation — To install friction pads and brake caliper, reverse removal procedures, noting the following: Caliper must be centered over rotor and end play between brake pad and caliper bracket must not be excessive.

Removal (Rear) — Procedures for removing and installing rear brake calipers and friction pads are same as for front except as noted below:

1) Disconnect parking brake linkage before removing and ensure it is reconnected on installation.

2) If a shuddering or growling is discovered and traced to rear brakes, install guide plates to eliminate noise.

3) If continued rattling is isolated at rear calipers, install anti-rattle rubbers (damper).

4) A grumbling sound coming from caliper assembly can be caused by improper chamfering of friction pad lip.

MASTER CYLINDER

NOTE — It is advisable to remove entire pedal assembly when master cylinder is removed.

Removal — Disconnect battery. Plug brake reservoir. Remove spare tire and front support. Disconnect pedal return springs from accelerator, brake, and clutch pedals. Remove pin from control shaft clevis. Remove accelerator, brake, and clutch control shaft. Mark and disconnect stop light switch electrical leads, also disconnect brake fluid input line and place out of way. Remove stop light switch, pedal shaft retaining clip, set bolt and pedal shaft. Remove pedal cover plate and free pedals in an upward direction. Remove master cylinder together with bracket and hose.

Installation — To install master cylinder, reverse removal procedures and check pedal adjustment free play.

BRAKE ROTOR (DISC)

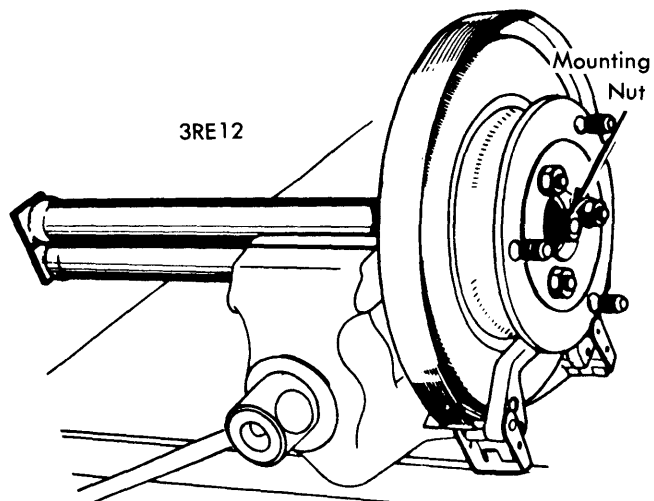
Removal (Front) — Remove caliper without disconnecting hydraulic hose. Withdraw cotter pin, mounting nut, washer, and outer bearing. Pull hub and rotor assembly from vehicle. **NOTE** — Hub and rotor assembly must be removed when taking off caliper bracket. Remove four nuts which secure caliper bracket hub assembly to stub axle; remove assembly. Note positions of shims between caliper bracket and support. After marking relationship, remove bolts holding hub-to-rotor and separate using a bronze mallet. Damaged rotors must be replaced, they can not be resurfaced.

Installation — Reassemble hub and rotor with reference marks aligned. Place hub assembly on sheet metal deflector and fit assembly to stub axle. Fit outer bearing, washer, and nut; tighten nut. See *Wheel Bearing Adjustment* in *WHEEL ALIGNMENT* Section. After tightening four bolts mounting deflector, ensure caliper bracket is centered over rotor.

Removal (Rear) — Disconnect parking brake cable and remove caliper without disconnecting hydraulic hose. Remove nut securing tie rod to deflector, four nuts holding deflector panel to axle tube, and three nuts mounting axle shaft-to-axle shaft tube. Free assembly marking positions of shims. Remove assembly (rotor, hub, deflector and axle). Support assembly in a vise and remove axle. Using suitable extractor (Rou. 09 A)

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push out axle bearing flange. Separate rotor and hub assembly from deflector. Mark hub and rotor relationship and separate using a bronze mallet, if necessary.

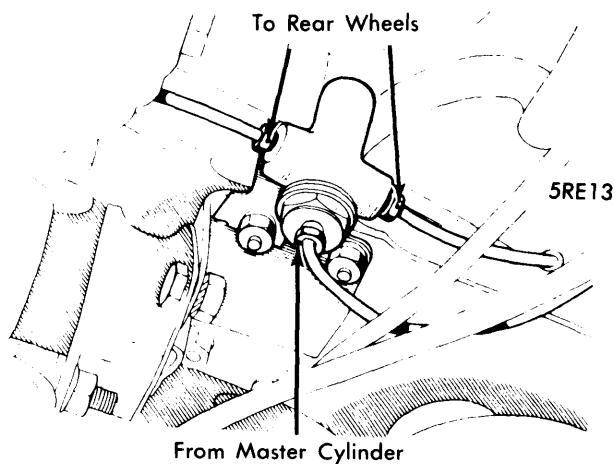


REMOVING AXLE FROM HUB ASSEMBLY

Installation — Reassemble rotor and hub assembly noting the reference markings. Place hub assembly on deflector and secure four bolts. Lightly coat splines of axle with suitable grease. Fit axle shaft with bearing to hub using suitable press. Install axle and fit new nut to end tightening it and inserting a cotter pin. To complete installation reverse removal procedures, ensuring caliper is correctly centered.

BRAKE PRESSURE LIMITING VALVE (SINGLE ACTING)

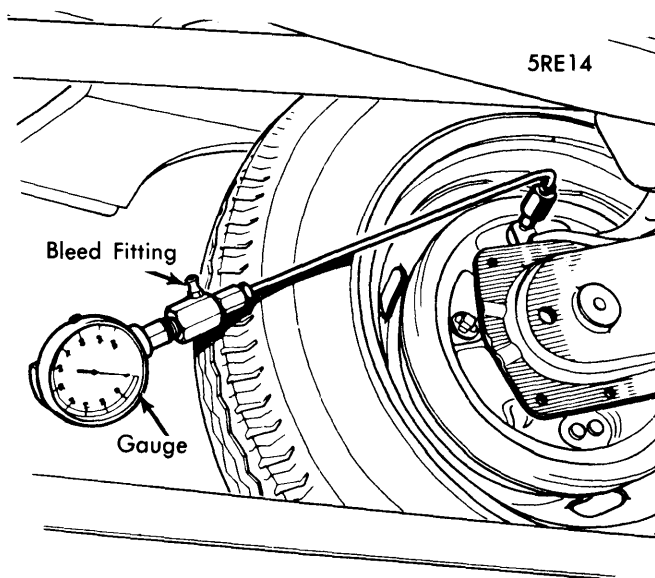
Removal — Disconnect brake lines which feed brake pressure limiting valve and those that leave limiter to feed rear wheels. Remove nut securing limiter valve to rear crossmember and remove limiter. Limiting valve cannot be disassembled if found defective it must be replaced. The correct setting for limiter is stamped on one of the six flats of the input union hexagon.



SINGLE ACTING BRAKE PRESSURE LIMITER

Installation — To install brake pressure limiter valve, reverse removal procedure and tighten all nuts.

Inspecting — Using suitable pressure gauge, as shown in illustration, check limiter valve. Attach gauge to caliper being checked. Bleed all four wheel cylinder pistons. The wheel with gauge attached may be bled through bleeder provided in gauge. Gently press pedal downward and record pressure. If pressure is not approximately 1066 psi valve is defective and should be replaced.



CHECKING BRAKE PRESSURE LIMITER

BRAKE PRESSURE LIMITING VALVE (DOUBLE ACTING)

The removal and installation procedures closely align with those of the single acting model. The most important thing to remember about the double acting kind is: The pressure increase at the rear wheels is one-half that at the front wheels after approximately 355 psi.

TANDEM MASTER CYLINDER

Removal — Plug brake fluid reservoir and remove cover for controls. Disconnect stop light switch wires and hydraulic lines on master cylinder. Remove mounting bolts and lift off cylinder.

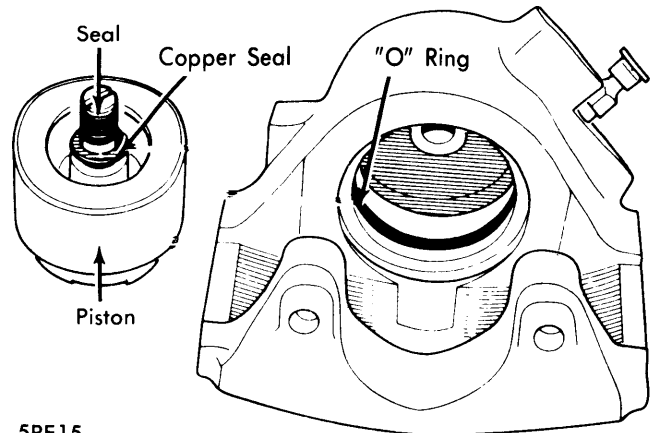
Installation — To install master cylinder, reverse removal procedure and bleed hydraulic system.

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OVERHAUL

BRAKE CALIPER

Disassembly (All) - Plug inlet port and carefully clean outside of caliper with suitable cleaner. Remove cap using suitable tool with rounded edges. Unscrew nut while holding end of shaft with a screwdriver. Remove piston by tapping end of shaft with a 7 mm drift and mallet. **NOTE** - *Disassembly of automatic wear compensator is prohibited.* The two parts form an inseparable assembly. Using suitable tool, remove "O" ring from cylinder groove.



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INSTALLING CALIPER PISTON

MASTER CYLINDER SINGLE PISTON

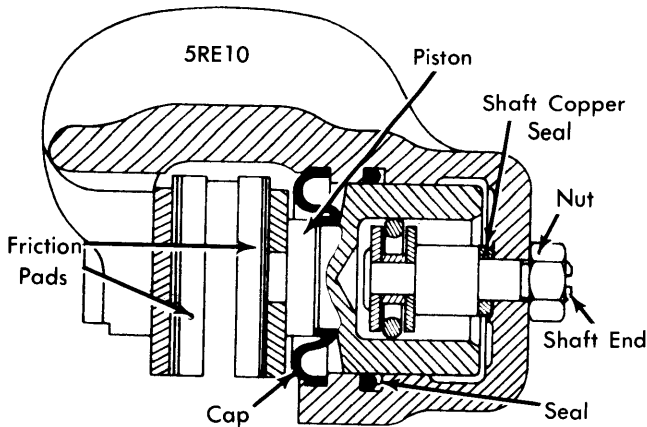
Disassembly - Remove rubber boot and disengage circlip. Withdraw entire piston, cup washer, piston return spring and valve assembly. Clean all parts and replace those showing excessive amounts of wear or damage. If valve has to be replaced, ensure new one has four orifices.

Reassembly - To reassemble master cylinder, reverse removal procedures.

MASTER CYLINDER DUAL PISTON (TANDEM)

Disassembly - Place master cylinder in vise and unscrew the inlet unions and stop light switch. Using a screwdriver, remove end plug; remove copper seal. Extract primary and secondary piston. Remove snap ring and stop washer. Inspect cylinder bore and internal components for wear or damage.

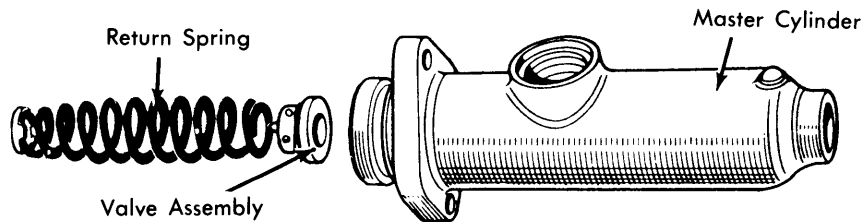
Reassembly - Smear bore and all reusable components with brake fluid. Refit in order: stop washer, snap ring, primary piston, and secondary piston. Fit new copper seal and screw in end plug. Assemble stop light switch and inlet unions. After reinstallation, bleed hydraulic system.



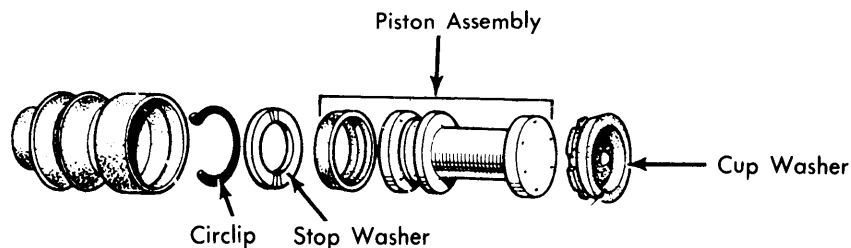
CALIPER ASSEMBLY

Inspection - Check piston and cylinder for excessive wear or damage and replace as necessary.

Reassembly - Lubricate all components with suitable brake grease. Fit new copper seal to piston shaft and new "O" ring in groove. Insert assembly into bore applying even pressure. Using a small screwdriver, guide wear compensator into hole; ensure proper alignment of piston. Refit nut to piston shaft and tighten.

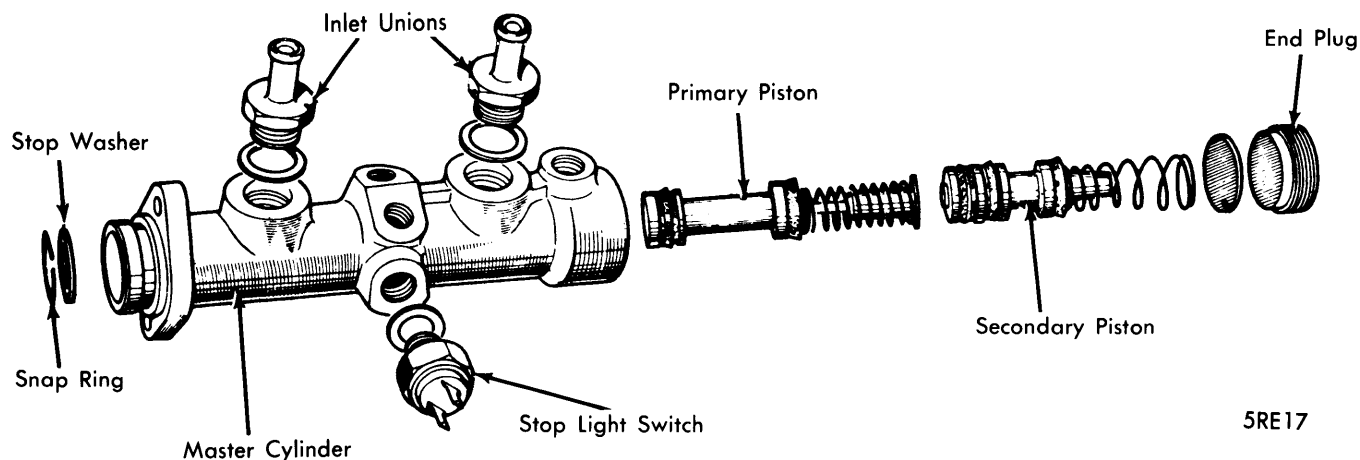


5RE16



SINGLE PISTON MASTER CYLINDER

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TANDEM MASTER CYLINDER

BRAKE SPECIFICATIONS

Application	Measurement
Rotor Diameter (All Models)	10.25" (260 mm)
Rotor Thickness (All Models)	.256-.262"
Friction Pad Thickness (All Models)	.406" (10 mm)
Master Cylinder Diameter	
1094, 1095, 1130 & 1132	.867" (22 mm)
1131, 1133, 1190 & 1192	⓪.813" (20.6 mm)
Wheel Cylinder (All Models)	
Front	1.496" (38 mm)
Rear	1.260" (32 mm)
⓪ - Left-hand drive models	.748" (19 mm)

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Caliper Inlet Hose	15
Piston Shaft Nut	10
Caliper Bracket Mounting Nuts	15-25
Hub-to-Rotor	25-40
Deflector Nuts	15-25
Axle-to-Axle Tube	35-40