DATSUN 710

710

DESCRIPTION

Brake system is hydraulically operated, using a tandem master cylinder and a Master-Vac power brake unit. Front brakes are N32 single cylinder disc brakes, and rear brakes are leading-trailing shoe/drum type. A combination valve is used in brake system to prevent premature locking of rear brakes. Parking brake is cable and lever actuated, operating sliding wheel cylinders of rear brakes.

ADJUSTMENT

BRAKE PEDAL HEIGHT & FREE PLAY

Adjust brake light switch bolt until end face is flush with front face of bracket, then tighten lock nut. Adjust pedal stopper until pedal height, measured from pedal pad to floor, is 7.284" (185 mm). Adjust master cylinder push rod length until free play, measured at pedal, is .039-.197" (1-5 mm).

FRONT DISC BRAKE PADS

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

REAR BRAKE SHOES

With parking brake fully released, depress brake pedal several times so that shoes are settled to normal positions. Turn adjusting cam on backing plate until shoes lock against drum. Loosen adjusting cam until drum is just free to rotate.

PARKING BRAKE

With rear brake shoes adjusted, adjust all slack from rear parking brake cable at adjuster. NOTE – *Make sure cables do not pull on wheel cylinders.* Adjust front parking brake cables so that rear wheels are locked when lever is pulled to the sixth or seventh ratchet stop. With cables adjusted, release parking brake and ensure rear wheels rotate freely.

BRAKE WARNING LIGHT

Brake Warning Light – Light indicates parking brake is engaged. To adjust warning light, bend switch plate down until light operates when ratchet handle is pulled up one notch and so light goes out when handle is returned to normal position.

COMBINATION VALVE

Function Test – Accelerate to about 30 mph on a dry concrete surface and harshly apply brakes. If rear wheels lock at same time as fronts do, or if front wheels lock before rears, combination valve is operating properly. If rear wheels lock first, combination valve is malfunctioning; replace valve.

Warning Light Operation & Reset – Instrument panel light will come on when a pressure difference of between 71-224 psi is evident between front and rear hydraulic systems. Combination valve shuttle moves to side of low pressure and grounds electrical circuit causing warning light to come on. When hydraulic problem has been corrected and brakes have been bled, system should have 427 psi. Shuttle will then return to centered position and light will go out.

HYDRAULIC SYSTEM BLEEDING

Attach a bleed tube to bleeder screw and immerse opposite end of tube in container partially filled with brake fluid. Depress pedal, open bleeder allowing air to escape, close bleeder screw, and allow pedal to return slowly. Continue operation until air bubbles are no longer seen in discharged fluid. Repeat procedure on remaining brake lines until all air is bled from system. Bleeding sequence is: Master cylinder first, rear brakes, and front brakes.

REMOVAL & INSTALLATION

FRONT DISC BRAKE PADS

Removal – Raise and support front of vehicle. Remove retaining spring clip. Remove disc pad pins retaining anti-squeal springs. Pull pads from caliper cavity. If pad thickness is less than .079" (2 mm), replace pads.

NOTE – *Pads must always be replaced in sets.*

Installation – Clean cavity and area surrounding caliper. Loosen bleeder screw and seat outer piston in cylinder until dust seal groove of piston aligns with end surface of retaining ring on dust seal. NOTE – *Make sure piston groove does not go inside piston seal.* Tighten bleeder screw and fit new inner pad. Force inner piston into cylinder and install new outer pad. Install anti-squeal spring and insert pad pins, then put spring clip into position.

FRONT DISC BRAKE CALIPER

Removal – Raise and support vehicle and remove tire and wheel assembly. Disconnect hydraulic line from caliper and plug openings. Remove bolts securing caliper to steering knuckle and remove caliper.

Installation – Reverse removal procedure, tighten mounting bolts securely, and bleed hydraulic system.

FRONT DISC BRAKE ROTOR

Removal – With caliper assembly removed, remove hub dust cap, adjusting cap, adjustment nut and washer. Slide hub and rotor assembly from spindle taking care not to lose outer wheel bearing. Remove bolts attaching rotor to hub, then separate.

Installation – Reverse removal procedure, tighten rotor mounting bolts securly, and adjust wheel bearings. See *Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.* Using a dial indicator, measure rotor runout. If runout exceeds .005" (.12 mm), resurface or replace rotor.

REAR BRAKE SHOES

Removal – Raise and support vehicle, remove tire and wheel assembly, and remove brake drum. Disconnect anti-rattle springs (if equipped) and shoe return springs, then remove brake shoes from backing plate. If necessary, remove bolts securing adjuster to backing plate and remove adjuster assembly.

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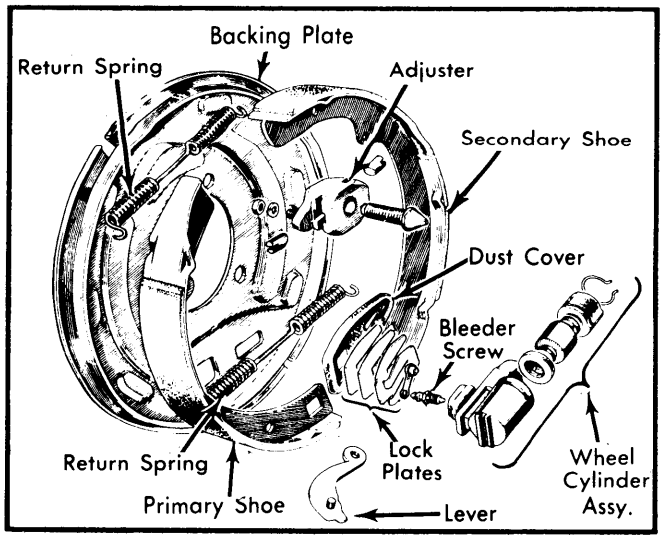

Fig. 1 Rear Brake Assembly

Installation – Reverse removal procedure and note the following: Apply grease to sliding areas of backing plate and adjuster, taking care not to contaminate linings. When installed, adjust brake shoes, parking brake, and bleed hydraulic system.

REAR BRAKE WHEEL CYLINDER

Removal – With rear drum and brake shoes removed, disconnect and plug hydraulic line at wheel cylinder. Pull out clevis pin and separate rod from cylinder operating lever. Remove dust cover, adjusting shims and lock plates, then remove wheel cylinder.

Installation – Reverse removal procedure and note the following: After wheel cylinder is installed, measure wheel cylinder sliding resistance using a spring pull gauge; resistance should be 4.4-15.4 lbs. (2.0-7.0 kg.). Install brake shoe assemblies and bleed hydraulic system.

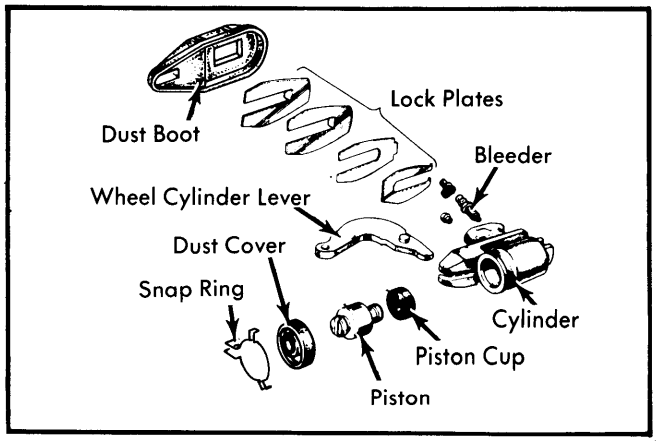

Fig. 2 Rear Wheel Cylinder Components

MASTER CYLINDER

Removal – Disonnect and plug front and rear hydraulic lines from master cylinder and drain brake fluid from cylinder. Remove master cylinder attaching nuts and lift off master cylinder.

Installation – Reverse removal procedure and bleed hydraulic system.

POWER BRAKE UNIT

Removal – With master cylinder removed, disconnect vacuum line from power unit. From inside vehicle, disconnect pedal return spring, push rod from brake pedal, and power unit mounting nuts. Remove power unit from engine compartment.

Installation – Reverse removal procedure, adjust pedal height and free play, and bleed hydraulic system.

Check Valve Replacement – Check valve is located near identification plate on firewall. To remove, disconnect clip, remove hose clamps, separate hoses from valve, and remove valve. To install, reverse removal procedure.

OVERHAUL

FRONT DISC BRAKE CALIPER

Disassembly – Drain any remaining fluid from cylinder. Remove holding pin mounting nut, See *Fig. 3*. Separate yoke and cylinder body. Remove yoke holder from piston. Take off retaining ring and dust seals from both inner and outer pistons. Force pistons from cylinder using compressed air. Carefully pry out piston seals.

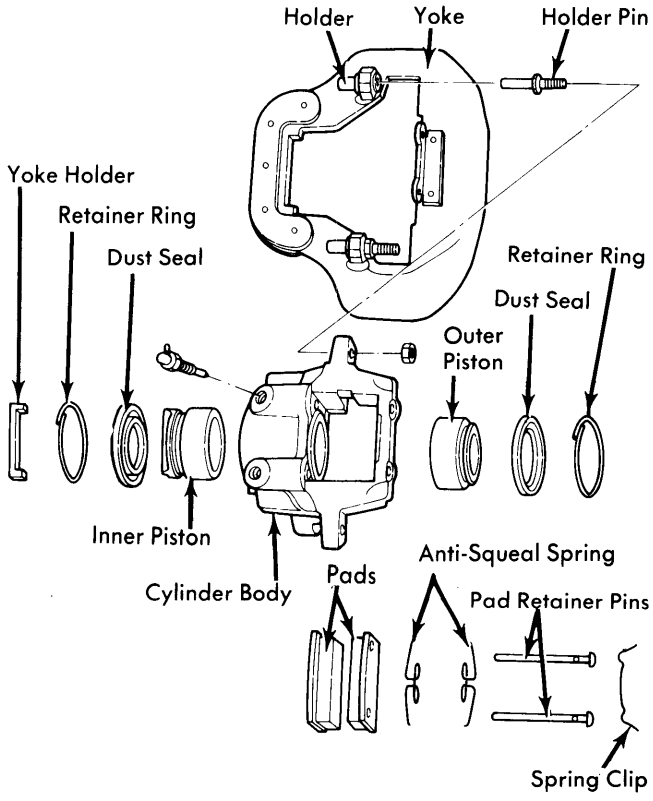

Fig. 3 Exploded View of Front Disc Brake Caliper

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Inspection – Clean all components in brake fluid. Inspect for rust, score marks, damage, or wear. Minor damage can be polished out with a fine emery cloth, except on piston head.

Reassembly – Carefully refit piston seals. Apply a light coat of brake fluid to sliding surfaces. Insert inner piston so yoke groove aligns with groove in cylinder. Fit dust seal and insert retainer ring. Fit yoke holder to inner piston. Drive in holding pin. Support end of piston, then press yoke into holder.

REAR WHEEL CYLINDER

Disassembly – Remove snap ring and dust boot, then withdraw piston and seal assembly from cylinder bore. Remove seal from piston.

Cleaning & Inspection – Clean and dry all parts and inspect for wear or damage. Measure clearance between piston and cylinder bore; if clearance exceeds .006" (.15 mm), replace piston or cylinder as required.

Reassembly – Reverse disassembly procedure and note the following: Apply a thin coat of rubber grease to all parts when assembling wheel cylinder.

MASTER CYLINDER

Disassembly – Remove reservoir cap and drain fluid. Remove dust cover, retaining ring and piston stop screw. Remove washer, primary piston assembly, secondary piston assembly and return spring. Remove valve plugs and remove check valves. **NOTE** – *Do not remove master cylinder reservoir tanks; if removed new tanks must be reinstalled.*

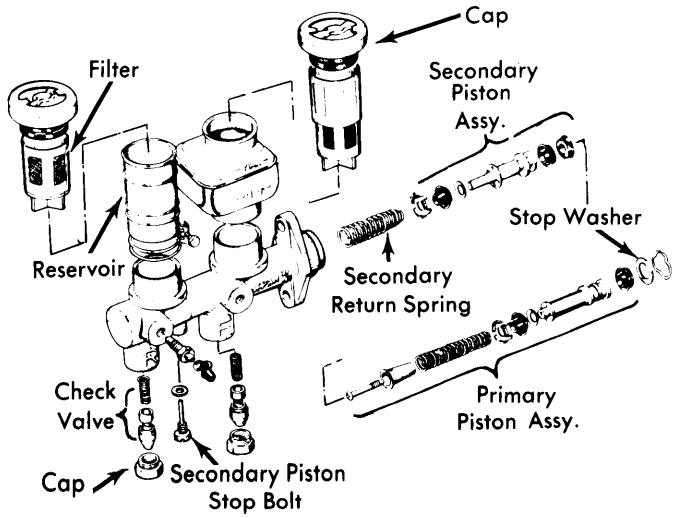

Fig. 4 Master Cylinder Reservoir Body and Pistons

Cleaning & Inspection – Clean all parts in alcohol or brake fluid, and inspect for wear or damage; replace parts as required. Check clearance between cylinder bore and piston; if greater than .006" (.15 mm) replace cylinder or piston as required. **NOTE** – *Manufacturer recommends replacing cylinder cups and valves whenever master cylinder has been disassembled.*

Reassembly – Coat all parts with clean brake fluid and reverse disassembly procedure.

POWER BRAKE UNIT

Disassembly – 1) Place power unit in a soft jaw vise with operating rod pointing up. Scribe alignment marks on front and rear shells to assure reassembly in original position. Remove operating rod clevis, lock nut and dust boot.

2) Place Master-Vac wrench (ST08080000) over rear shell mounting studs. Press down on wrench while rotating counterclockwise and separate rear shell from front shell, then remove diaphragm plate assembly, diaphragm spring and push rod assembly. Pry off retainer and remove bearing and valve body seal from rear shell.

3) Remove rubber diaphragm from diaphragm plate assembly, then pry off air silencer retainer and remove silencer and filter. Rotate plate assembly until valve plunger key slot is down, then press in on plunger and shake out stop key. Remove reaction disc from plate assembly. Detach flange from front shell and remove plate and seal assembly.

Cleaning & Inspection – Clean all parts in denatured alcohol and blow dry with compressed air. Inspect front and rear shells for wear or damage. If slight rust is found on inside surface of shell, polish clean with fine emery cloth. Inspect all parts for cracks, nicks, distortion or other damage and replace as necessary.

Reassembly – Reverse disassembly procedure and note the following: Apply a thin coat of silicone grease to parts before reassembly. When assembling front shell to rear shell, ensure marks made during disassembly are aligned. After reassembly, measure distance from master cylinder mounting surface of power unit to end of power unit push rod; distance should be .38-.39" (9.8-10.0 mm). If distance is not to specifications, correct by adjusting tip of push rod.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Hydraulic Lines	11-13 (1.5-1.8)
Rotor-to-Hub	28-38 (3.9-5.3)
Caliper-to-Steering Knuckle	53-72 (7.3-9.9)
Wheel Cylinder Mounting Nuts	11-13 (1.5-1.8)
Bleeder Screw	5-6 (.69-.83)

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BRAKE SYSTEM SPECIFICATIONS

Application	Drum Diam. In. (mm)	Wheel Cylinder Diameter		Master Cylinder
		Front In. (mm)	Rear In. (mm)	Diameter In. (mm)
710	9 (229)	2.012① (51.1)	.813 (20.6)	.750 (19.0)

① — Caliper cylinder diameter.

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)
710	9.65 (245)	.0024 (.06)	.0028① (.07)	.394 (10.0)	.331 (8.4)	②

① — Maximum allowable.
② — Less than minimum refinish thickness.

BRAKE LINING SPECIFICATION

Application	Drum Dia. In. (mm)	Width		Length		Thickness	
		Front In. (mm)	Rear In. (mm)	Primary In. (mm)	Secondary In. (mm)	Primary In. (mm)	Secondary In. (mm)
710	9.0 (229)	①	1.575 (40)	8.642 (219.5)	8.642 (219.5)	.177 (4.5)	.177 (4.5)

① — Front disc brake equipped.

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
710	9 (229)	9.000 (229)	9.055 (230)	①

① — More than maximum refinish diameter.