DATSUN 200SX, 210, 310, 510 & 810

200SX
210
310
510
810

DESCRIPTION

Brake system is hydraulically operated using tandem master cylinder and vacuum power unit. All models are equipped with single cylinder, dual piston, fixed caliper, sliding yoke type front disc brakes and leading/trailing rear drum brakes. All brake systems are self-adjusting. Parking brake is cable actuated and operates on rear brakes.

ADJUSTMENT

DISC BRAKES

Self-adjusting.

DRUM BRAKES

Self-adjusting.

PEDAL HEIGHT & FREE PLAY

1) Adjust pedal height to specifications shown in chart by moving stop light switch. Lock switch in place with retaining nut. After pedal height is adjusted, loosen push rod lock nut and adjust pedal free play to .04-.20" (1-5 mm).

2) After adjustment, depress pedal several times to check for travel and smooth operation. Travel should be 4" (102 mm) on 200SX; 5.5" (140 mm) on 210 & 510; 5.1" (129 mm) on 310 and 5.7" (145 mm) on 810.

Pedal Height Specifications

Application	Pedal Height In. (mm)
200SX	
Man. Trans.	6.9 (176)
Auto. Trans.	7.0 (178)
210	5.6-5.9 (143-149)
310	7.0-7.3 (180-186)
510	
Man. Trans.	6.0-6.3 (154-160)
Auto. Trans.	6.0-6.5 (156-162)
810	7.1 (180)

PARKING BRAKE

810 Sedan – With rear brakes properly adjusted, adjust front cable adjusting nut so that dimension "A" (See *Fig. 1*) is .28" (7 mm) when parking brake lever is off. Tighten lock nut and adjust rear cable until rear brakes are locked when brake lever is pulled 5-6 notches at a force of 44 lb. (20 kg). With parking brake off, make sure cables are slack and all parts are in their original position.

All Other Models – With rear brakes properly adjusted, adjust parking brake turnbuckle until rear brakes are locked when brake lever is pulled specified number of ratchet stops shown in chart, with pulling force of 24-33 lb. (11-15 kg) on 200SX; 53 lb. (24 kg) on 810 Station Wagon and 44 lb. (20 kg) on all other models. With parking brake off, make sure cables are slack and all parts are in their original positon.

Parking Brake Adjustment Specifications

Application	No. of Notches
200SX	6
210, 310, & 510	7-8
810	
Sedan	5-6
Sta. Wgn.	6

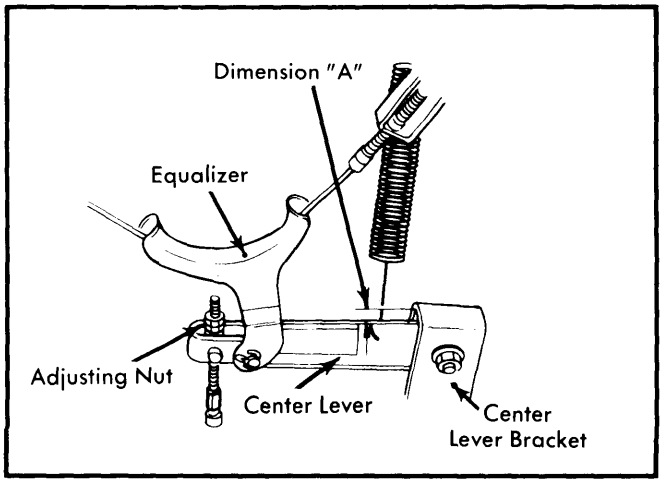


Fig. 1 Adjusting Center Lever (810 Sedan)

BRAKE WARNING LIGHT

Light indicates parking brake is engaged. To adjust light operation, bend switch plate down until light comes on when brake lever is pulled up one notch and goes out when lever is released.

COMBINATION VALVE

Function Test – Accelerate to 30 MPH on a dry concrete surface and rapidly apply brakes. If rear wheels lock before front wheels, malfunction of combination valve is indicated. Replace combination valve as an assembly; DO NOT disassemble.

Warning Light Test – Release hand brake lever and raise reservoir cap with level indicator attached. Warning light should come on; if not, check switch and wire connector.

HYDRAULIC SYSTEM BLEEDING

1) Attach a bleed tube to bleeder screw and immerse opposite end of tube in a container partially filled with brake fluid. Pump brake pedal two or three times, keep pedal fully depressed and open bleeder screw. Exhaust air, close bleeder screw and allow brake pedal to return slowly.

DATSUN 200SX, 210, 310, 510 & 810 (Cont.)

2) Repeat operation until air bubbles are no longer seen in discharged fluid. Check master cylinder fluid level often; replace fluid as required. Repeat procedure on remaining brake lines. See chart.

Bleeding Sequence

Application	Sequence
310	Master Cyl., LR, RF, RR, LF
810	Rear, Front
All Other Models	Master Cyl., Rear, Front

REMOVAL & INSTALLATION

FRONT DISC BRAKE PADS

NOTE – *Replace all pads at same time.*

Removal – Raise and support vehicle on safety stands; remove front wheels. Remove retaining pin clips, retaining pins, coil spring and pad springs. Remove pads from caliper assembly, using suitable pliers if necessary.

CAUTION – *DO NOT force piston groove inside piston seal. Piston seal could be damaged and caliper will have to be disassembled.*

Installation – 1) Clean and apply P.B.C. grease or equivalent to cylinder body yoke guide groove, yoke sliding contact points and piston end surface. Loosen bleeder screw and push outer piston into cylinder until piston end surface coincides with boot retaining ring end surface. Tighten bleeder screw and install inner brake pad.

NOTE – *Make sure arrow mark on pad shims of 310 are installed in forward rotating direction.*

2) Push inner piston into cylinder by pulling on yoke, then install outer pad. Install pad springs, coil springs, retaining pins and clips. Depress brake pedal several times to seat pads and bleed brakes, if necessary.

FRONT DISC BRAKE CALIPER

Removal – Raise and support vehicle on safety stands; remove tire and wheel. Remove brake pads and disconnect brake line from caliper assembly. To ease removal of caliper, remove strut assembly and knuckle arm mounting bolt. Withdraw caliper mounting bolt and separate it from strut assembly.

Installation – Reverse removal procedure to install caliper assembly. Bleed hydraulic system.

FRONT DISC BRAKE ROTOR

Removal (310) – With caliper removed, remove cotter pin. Remove hub nut from drive shaft end while holding hub with suitable tool. Using a puller, remove hub and rotor assembly. Remove hub-to-rotor bolts. With rotor supported on wooden blocks, remove hub from rotor with suitable press and drift.

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

Removal (All Other Models) – With caliper removed, remove hub dust cap, "O" ring, cotter pin, adjusting cap and lock nut. Remove hub and rotor assembly from spindle without dropping outer bearing and washer. Remove outer bearing and washer and hub-to-rotor bolts. Separate hub and rotor.

NOTE – *Avoid damaging dust cap "O" ring while removing hub dust cap.*

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

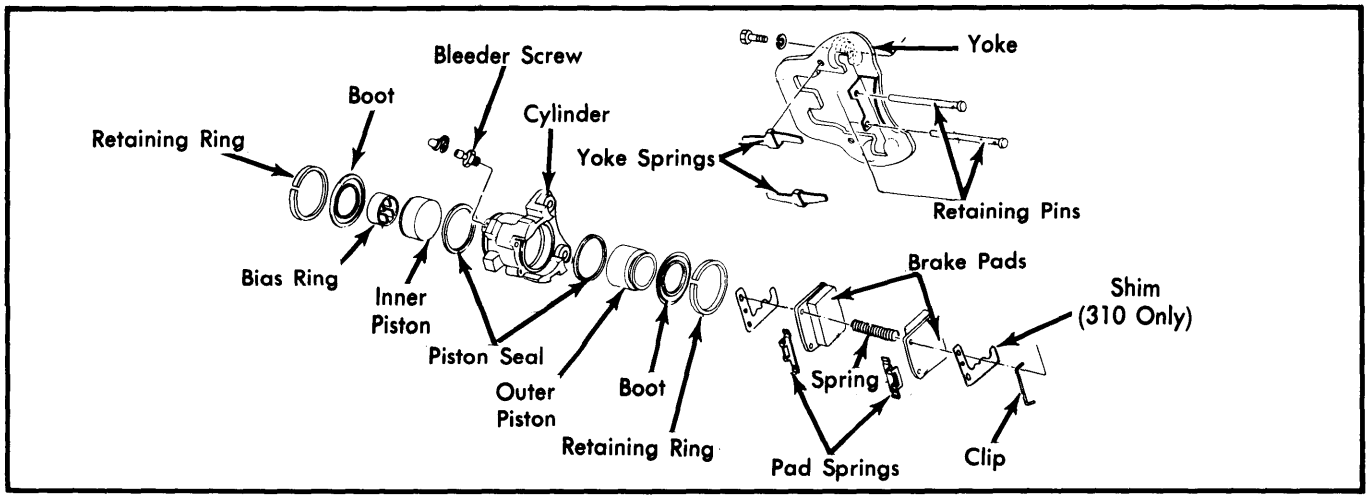


Fig. 2 Exploded View of Front Disc Brake Caliper (200SX, 210 & 310 Models)

DATSUN 200SX, 210, 310, 510 & 810 (Cont.)

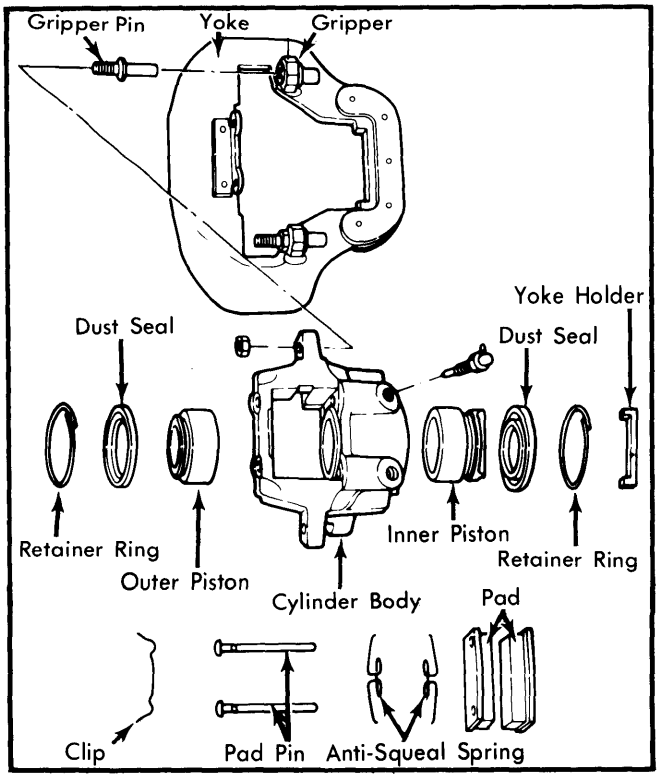


Fig. 3 Exploded View of Front Disc Brake Caliper (510 & 810 Models)

REAR BRAKE SHOES

Removal (810 Sedan) – 1) Raise and support vehicle on safety stands; remove tire and brake drum. Apply hand brake, lightly tap stopper head and remove stopper and fastener as an assembly. Release parking brake.

2) Remove retainers, anti-rattle springs and pins and spring seats. Remove return springs and brake shoes with adjuster assembly. Remove parking brake cable from lever. Pry off snap ring and remove lever from brake shoe.

CAUTION – *Left hand thread adjuster must be installed on RIGHT wheel and right hand thread adjuster must be installed on LEFT wheel.*

Installation – To install, reverse removal procedure and apply brake grease to all contact points and mating surfaces. Make sure adjuster operates properly, readjust shoe-to-drum clearance and bleed hydraulic system, if necessary.

Removal (All Other Models) – 1) Raise and support vehicle on safety stands; remove tire and wheel. Apply hand brake and remove stopper pin, then remove stopper from lever. Release hand brake and remove brake drum. Remove parking brake cable from backing plate (except 810 Station Wagon).

2) On 810 Station Wagon, remove hand brake return spring, cross rod cotter pin, then dust cover and lever with adjuster assembly. On all models, remove retainers, anti-rattle springs, pins and spring seats. Remove return springs and brake shoes.

CAUTION – *Right hand thread adjuster must be installed on RIGHT wheel and left hand thread adjuster must be installed on LEFT wheel.*

Installation – Apply brake grease to all contact points and mating surfaces; reverse removal procedure to install brake shoes and note the following: Make sure adjuster operates properly, readjust shoe-to-drum clearance and bleed hydraulic system, if necessary.

REAR WHEEL CYLINDER

Removal – With rear drum and brake shoes removed, disconnect hydraulic line and plug opening. Remove bolts securing wheel cylinder to backing plate and remove cylinder.

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

MASTER CYLINDER

Removal – Disconnect electrical wiring at cylinder reservoir. Disconnect front and rear brake lines from master cylinder. Remove cylinder mounting nuts and remove master cylinder. Do not allow brake fluid to drop on paint.

Installation – To install master cylinder, reverse removal procedure and note the following: Bleed hydraulic system and check pedal height.

POWER BRAKE UNIT

NOTE – *Before removal, test check valve. Using a suitable brake booster tester, apply 19.7" (500 mm) vacuum to brake unit side of check valve port. If pressure drops more than .39" (10 mm) in 15 seconds, replace check valve. Also, if valve does not open when pressure is applied to brake unit side of check valve, replace check valve. If check valve is not defective, check brake system and vacuum lines for leaks; replace booster as an assembly.*

Removal – Drain master cylinder, remove hydraulic lines from master cylinder and vacuum line from power unit. Remove master cylinder attaching nuts and remove master cylinder. Disconnect power unit push rod from brake pedal by removing clevis pin and remove brake return spring, if equipped. Remove power unit attaching bolts and remove power unit from engine compartment.

Installation – Reverse removal procedure and check push rod length, operating rod length and pedal height. Push rod length should be .37-.39" (9.8-10.0 mm) for all models and is adjusted by turning tip of push rod. Bleed hydraulic system.

Operating Rod Length

Application	Length In. (mm)
200SX	6.5 (165)
210 & 510	5.3 (135)
310	5.1 (130)
810	5.7 (145)

DATSUN 200SX, 210, 310, 510 & 810 (Cont.)

Check Valve Removal – Check valve is located in vacuum line between intake manifold and power unit. To remove, disconnect retaining clip, remove hose clamps, separate hoses from valve and remove check valve. To install, reverse removal procedure.

OVERHAUL

FRONT DISC BRAKE CALIPER

Disassembly (510 & 810) – With caliper and pads removed, drain any remaining fluid from cylinder. Remove gripper pin attaching bolts. Separate yoke and cylinder body. Remove yoke holder from piston. Remove retaining rings and dust seals from pistons. Push both pistons out in one direction. Remove piston seals. Remove gripper, if necessary.

Cleaning & Inspection – Clean all parts with brake fluid and check all components for wear or damage. If minor corrosion can not be removed from cylinder bore with emery cloth, cylinder must be replaced. All seals must be replaced during overhaul.

NOTE – *Piston surfaces are plated and must be replaced if corroded or worn. DO NOT polish with emery cloth.*

Reassembly – 1) Install piston seals without damaging seals. Coat cylinder bore and pistons with brake fluid. Push outer piston into cylinder until piston end surface coincides with boot retaining ring end surface. DO NOT force piston groove inside piston seal. Push inner piston into cylinder bore by holding cylinder body.

2) Apply brake grease to sealing surface of dust seal and install dust seal; clamping securely with retaining ring. Install yoke holder to inner piston. Install gripper to yoke. Apply 1% soap solution to inner gripper wall and drive gripper pin into position. Install yoke to yoke holder by supporting outer piston end and pressing yoke into yoke holder with 44-66 lb. (20-30 kg) force. No clearance should be present between piston and yoke.

Disassembly (All Other Models) – 1) With caliper and pads removed, drain any remaining fluid from cylinder. Push both pistons into cylinder bore and place yoke in a vise and tap the top of yoke lightly with a hammer to separate cylinder from yoke. Remove bias ring from inner piston, then remove retaining rings and boots from piston. Push both pistons out in one direction and remove piston seals. Remove yoke spring from yoke.

Cleaning & Inspection – Clean all parts with brake fluid and check all components for wear or damage. If minor corrosion cannot be removed from cylinder bore with emery cloth, cylinder must be replaced. Piston seals, dust covers and bias ring must be replaced during overhaul.

NOTE – *Piston surfaces are plated and must be replaced if corroded or worn. DO NOT polish with emery cloth.*

Reassembly – 1) Apply brake fluid to cylinder bore and install piston seal. Insert bias ring into inner piston with rounded end in bottom of piston bore.

NOTE – *Bias ring must be installed in inner piston. Inner piston is identified with a recession on inside bottom surface.*

2) Lightly coat piston with brake fluid and insert inner piston until yoke groove of bias ring aligns with cylinder yoke groove. DO NOT force piston groove inside piston seal. Push outer piston into cylinder bore by holding cylinder body. Install dust boots and retaining rings. Install yoke springs on yoke and bias spring to yoke. Align bias ring groove so it coincides with yoke. With yoke springs lightly inserted in cylinder groove, assemble cylinder body and yoke by tapping yoke lightly.

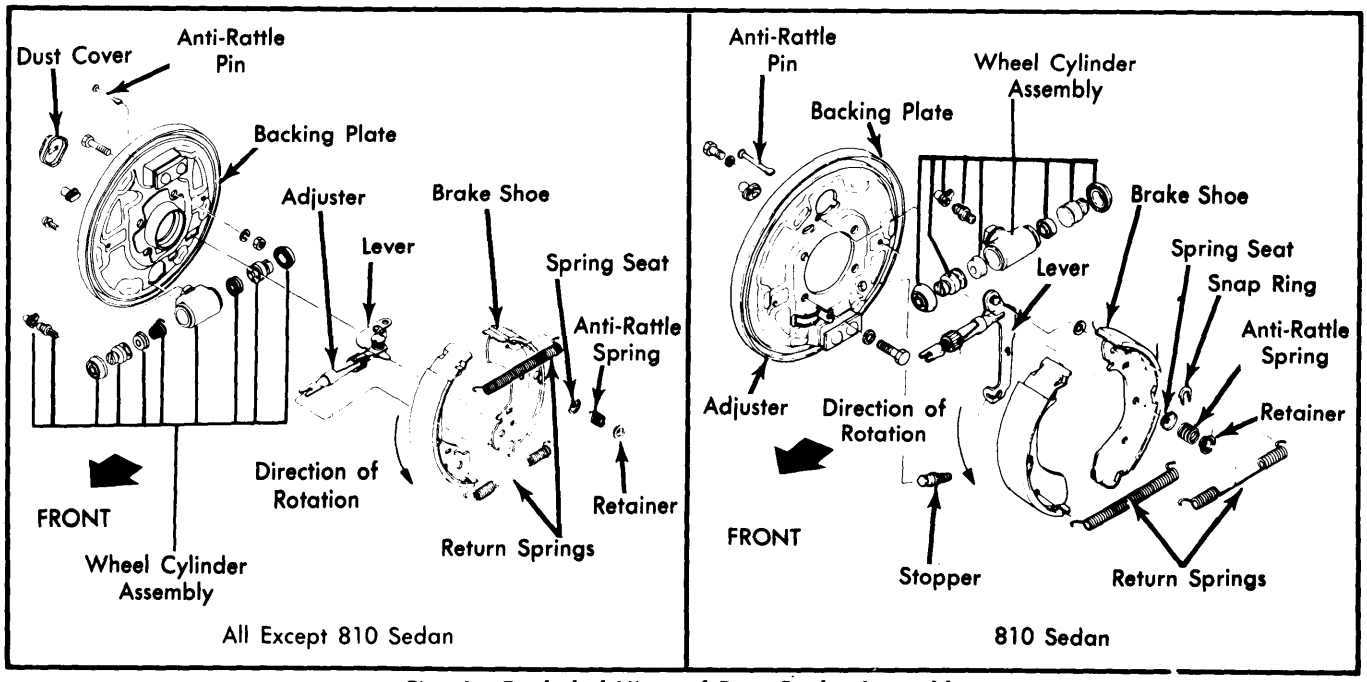


Fig. 4 Exploded View of Rear Brake Assembly

DATSUN 200SX, 210, 310, 510 & 810 (Cont.)

REAR WHEEL CYLINDER

Disassembly – With rear wheel cylinder removed, remove dust covers and remove components.

Cleaning & Inspection – Clean all parts in brake fluid and check cylinder bore and pistons for excessive wear or damage. If piston-to-cylinder clearance is greater than .006" (.15 mm), replace necessary parts. Replace any torn or damaged rubber parts.

NOTE – *Wheel cylinders are produced by two companies and parts are not interchangeable. Ensure repair kit matches wheel cylinder.*

Reassembly – Apply brake fluid to cylinder bore, pistons and piston cups. Reverse disassembly procedure and install parts as shown in *Fig. 4*.

MASTER CYLINDER

NOTE – *Do not remove reservoir tanks. If tanks are removed for any reason, discard and install new tanks.*

Disassembly – Remove master cylinder reservoir caps and filters and drain brake fluid. Using a screwdriver, pry off stopper ring. Remove stopper screw and pull out primary piston assembly, spring and secondary piston assembly. Remove plugs and pull out front and rear check valves.

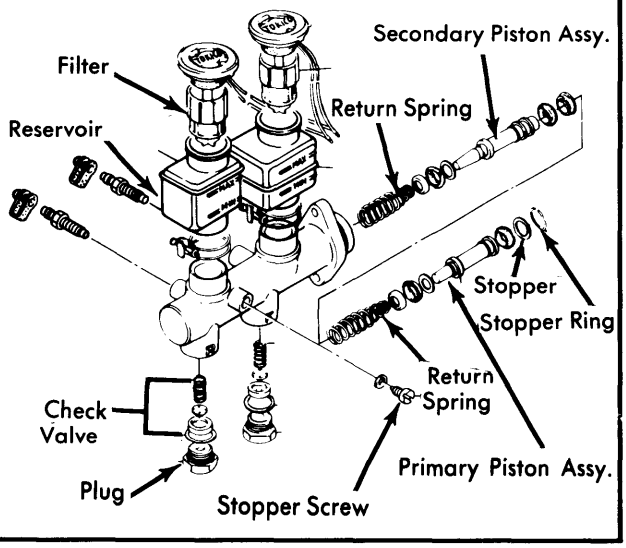


Fig. 5 Exploded View of Tokico Master Cylinder Nabco Master Cylinder is Similar But Has Different Piston Configuration

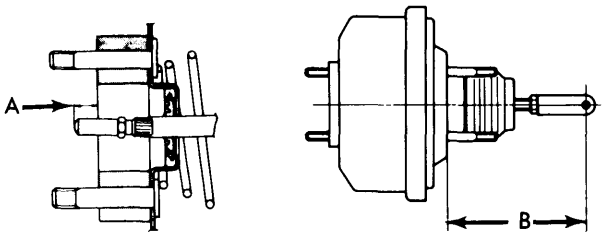
Cleaning & Inspection – Clean all parts in brake fluid and check components for excessive wear or damage. If piston-to-cylinder clearance is greater than .006" (.15 mm), replace necessary part. Caps, gaskets and valves must be replaced during overhaul.

NOTE – *Master cylinders are produced by two companies and parts are not interchangeable. Ensure repair kit matches master cylinder.*

Reassembly – Reverse disassembly procedure and note the following: Coat all parts with brake fluid (rubber parts with brake grease) when assembling.

POWER BRAKE UNIT

NOTE – *Manufacturer does not recommend disassembly of this unit. If a problem is determined to be in booster unit, complete assembly must be replaced. Do not disassemble booster unit.*



A – Push Rod Length
B – Operating Rod Length

Fig. 6 Location for Measuring Push Rod & Operating Rod Lengths

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Master Cylinder	
Check Valve Plugs	
Nabco Make	18-25 (2.5-3.5)
Tokico Make	58-65 (8.0-9.0)
Piston Stop Bolt	
Nabco Make	1-2 (.14-.28)
Tokico Make	5-6 (.7-.9)
Retaining Nuts	5.8-8.0 (.8-1.1)
Hydraulic Lines	11-13 (1.5-1.8)
Hub-to-Rotor Bolts	
310	18-25 (2.5-3.4)
All Other Models	28-38 (3.9-5.3)
Hydraulic Line-to-Caliper	11-13 (1.5-1.8)
Wheel Cylinder	4-6 (.6-.8)
Bleeder Valves	5-6 (.7-.9)
Caliper Mounting Bolts	
310	40-47 (.33-.44)
All Other Models	53-72 (7.3-9.9)

DATSUN 200SX, 210, 310, 510 & 810 (Cont.)

DISC BRAKE ROTOR SPECIFICATIONS

Application	Disc Diameter In. (mm)	Lateral Runout In. (mm)	Paralelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
200SX & 210	9.65 (245)	.005① (.13)	.001 (.03)	.39 (10)	.331 (8.4)	②
310	9.45 (240)	.005① (.13)	.001 (.03)	.38 (9.6)	.339 (8.6)	②
510	9.65 (245)	.005① (.13)	.003① (.08)	.39 (10)	.331 (8.4)	②
810	10.67 (271)	.006① (.15)	.001 (.03)	.49 (12.5)	.413 (10.5)	②

① — Maximum.
② — Less than Minimum Refinish Thickness.

BRAKE SYSTEM SPECIFICATIONS

Application	Drum Diam. In. (mm)	Wheel Cylinder Diameter		Master Cylinder
		Front In. (mm)	Rear In. (mm)	Diameter In. (mm)
200SX & 510	9.00 (228.6)	2.012① (51.1)	.813 (20.64)	.813 (20.64)
210	8.00 (203.2)	2.012① (51.1)	.813 (20.64)	.813 (20.64)
310	8.00 (203.2)	1.894① (48.1)	.687 (17.46)	.813 (20.64)
810	9.00 (228.6)	2.125① (53.98)	.813 (20.64)	.813 (20.64)

① — Caliper cylinder bore diameter.

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
210 & 310	8.00 (203.2)	8.00 (203.2)	8.05 (204.4)	①
All Other Models	9.00 (228.6)	9.00 (228.6)	9.06 (230.1)	①

① — More than Maximum Refinish Diameter.