

BRAKE SYSTEM

1990 Nissan 240SX

1990 BRAKE SYSTEMS
Nissan Disc & Drum

Axxess, Maxima, Pathfinder, Pickup, Pulsar NX, Sentra,
Stanza, 240SX, 300ZX

DESCRIPTION

All brake systems are hydraulically operated using a tandem master cylinder and vacuum power unit. The Pathfinder SE, 240SX and 300ZX models have 4-wheel disc brakes as a standard feature. All other models have front disc and rear drum brakes standard. On Axxess, Maxima, Pathfinder and Pickup, a load sensing proportioning valve to regulate rear brake pressure is used. Rear disc brakes are optional.

BRAKE BLEEDING

* PLEASE READ FIRST *

NOTE: See HYDRAULIC BLEEDING article in GENERAL INFORMATION.

BLEEDING PROCEDURES

NOTE: Check fluid level in master cylinder frequently during the bleeding sequence.

BRAKE LINE BLEEDING SEQUENCE TABLE

Application	(1) Sequence
Pathfinder, Pickup, 240SX & 300ZX	.... LR, RR, LF, RF
Axxess, Maxima, Pulsar NX, Sentra & Stanza	..... LR, RF, RR, LF

ADJUSTMENTS

BRAKE PEDAL HEIGHT SPECS TABLE

1) Measure pedal height from pressure face of pedal pad to floor pan insulator, without carpet.

2) To adjust to specification shown in table, loosen brake booster input rod lock nut, and turn input rod to attain proper height. Tighten lock nut and adjust stoplight switch.

PEDAL HEIGHT SPECIFICATIONS TABLE

Application	Pedal Height In. (mm)
Axxess	
Auto. Trans.	6.85-7.24 (174-184)
Man. Trans.	6.50-6.89 (165-175)
Maxima & Stanza	
Auto. Trans.	6.65-7.05 (169-179)
Man. Trans.	6.26-6.65 (159-169)

Pathfinder & Pickup		
Auto. Trans.	8.35-8.74	(212-222)
Man. Trans.	8.23-8.62	(209-219)
Pulsar NX & Sentra		
Auto. Trans.	6.46-6.85	(164-174)
Man. Trans.	6.30-6.61	(160-168)
240SX		
Auto. Trans.	7.32-7.72	(186-196)
Man. Trans.	6.97-7.36	(177-187)
300ZX		
Auto. Trans.	7.52-7.91	(191-201)
Man. Trans.	7.17-7.56	(182-192)

BRAKE PEDAL FREE PLAY TABLE

Application	In. (mm)
All Models .....	.04-.12 (1-3)

LOAD SENSING PROPORTIONING VALVE

NOTE: Axxess & Maxima uses a dual load sensing proportional valve.
 Replace dual load-sensing valve as an assembly.

Axxess

1) With one person inside vehicle, set rear axle load to 1544 lbs. (695 kg) of weight in trunk. Attach 2 pressure gauges, one to front brake and one to rear brake bleeder. Bleed air from front and rear bleeders. Depress brake pedal until front brake pressure reading is 711 psi (50 kg/cm²). Check rear brake pressure. Refer to REAR BRAKE PRESSURE SPECIFICATIONS TABLE.

CAUTION: Check rear brake pressure 2 seconds after front brake pressure reaches specified value.

2) Depress brake pedal until front pressure reading is 1422 psi (100 kg/cm²). Check rear brake pressure reading. Refer to REAR BRAKE PRESSURE SPECIFICATIONS TABLE. If readings are not correct, adjust sensor spring length by turning adjusting bolt. See Fig. 1.

3) If rear brake pressure is less than specified, adjust bracket in direction "B". If rear brake pressure is greater than specified, adjust bracket in direction "A". See Fig. 1. Repeat as necessary. If pressure cannot be adjusted to specifications, replace load-sensing valve assembly.

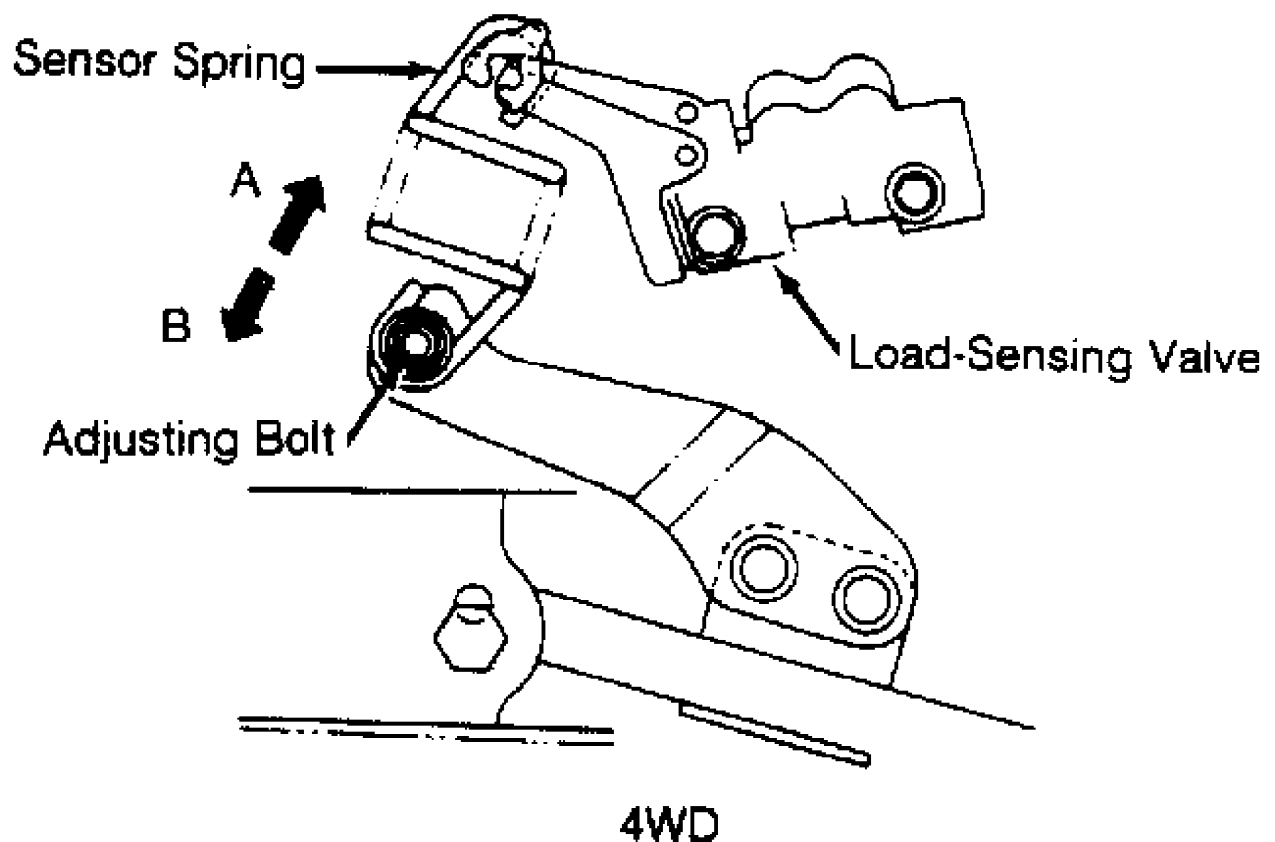
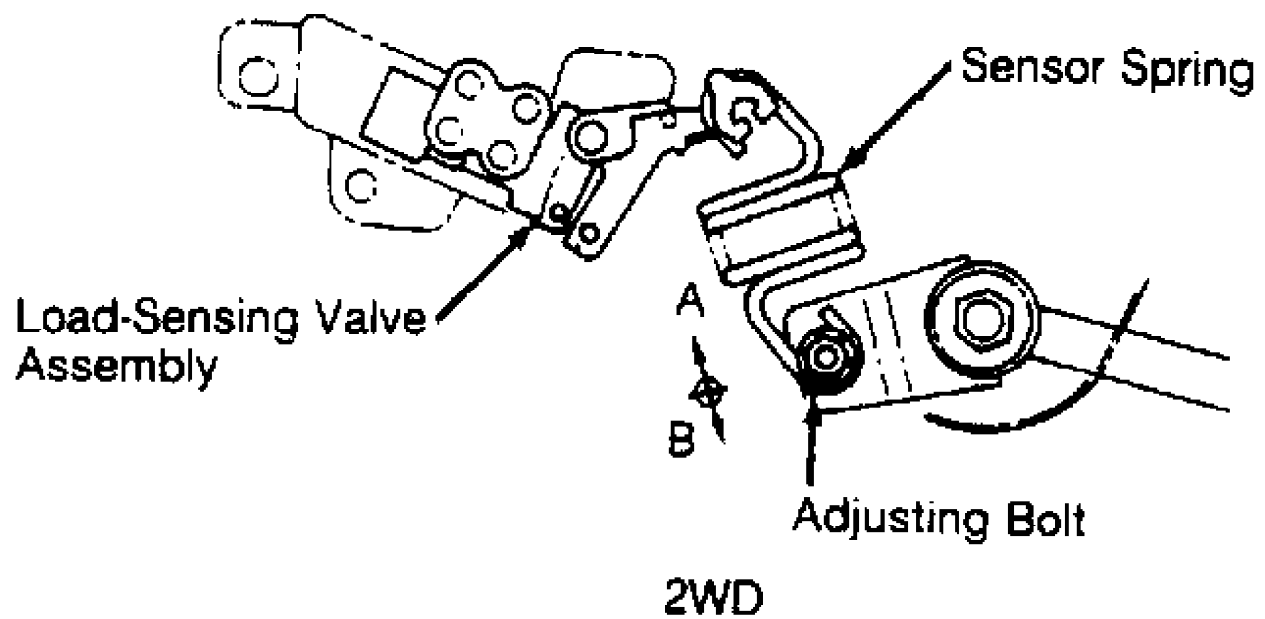


Fig. 1: Adjusting Load-Sensing Proportioning Valve (Axxess)
 Courtesy of Nissan Motor Co., U.S.A.

Maxima

1) With one person inside vehicle, set rear axle load to 1323

lbs. (595 kg) of weight in trunk. Attach 2 pressure gauges, one to front brake and one to rear brake bleeder. Bleed air from front and rear bleeders. Depress brake pedal until front brake reading is 711 psi (50 kg/cm²). Rear brake pressure should be 555-697 psi (39-49 kg/cm²).

CAUTION: Check rear brake pressure 2 seconds after front brake pressure reaches specified value.

2) Depress brake pedal until front reading is 1422 psi (100 kg/cm²). Rear brake reading should be 739-939 psi (52-66 kg/cm²). If readings are not correct, adjust sensor spring length by turning adjusting bolt.

3) Repeat test and recheck pressure. Replace dual load-sensing valve as an assembly, if pressure is not as specified after adjustments are made.

Pathfinder/Pickup

1) Ensure vehicle is in unladen condition. Have one person sit in the driver's seat and one person sit on the rear of vehicle. Then have the person on the rear of vehicle get off slowly. This will stabilize suspension deflection.

2) Attach a lever to load-sensing proportioning valve stopper bolt. Adjust spring length to about 7.44" (189mm). See Fig. 2. Install 2 pressure gauge, one to front brake bleeder and one to rear brake bleeder. Bleed air from front and rear bleeders. Depress brake pedal until front brake pressure reading is 1422 psi (100 kg/cm²). Check rear brake pressure. See REAR BRAKE PRESSURE SPECIFICATIONS TABLE.

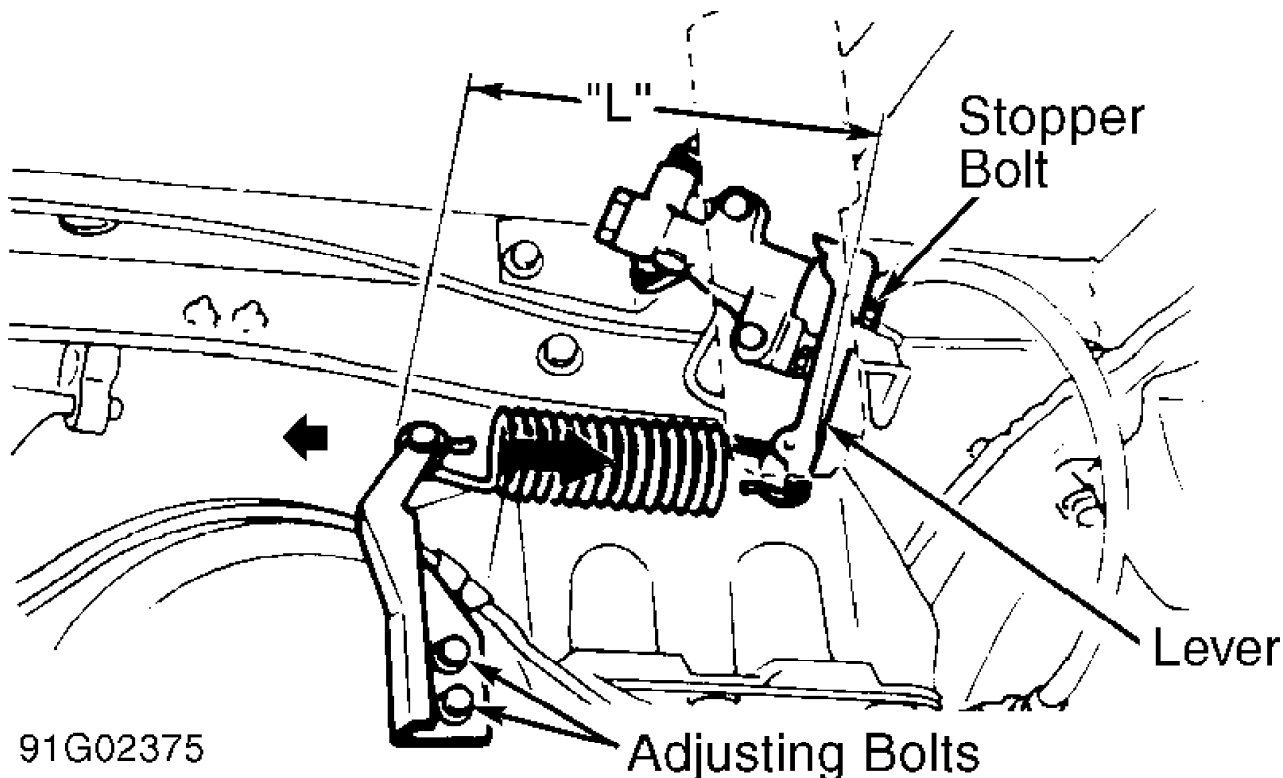


Fig. 2: Adjusting Load-Sensing Proportioning Valve (Pathfinder & Pickup)
Courtesy of Nissan Motor Co., U.S.A.

3) Set a 221 lbs. (100 kg) weight slowly on rear of vehicle

by axle center. Depress brake pedal until front reading is 1422 psi (100 kg/cm²). Rear brake pressure reading should be as specified. See REAR BRAKE PRESSURE SPECIFICATIONS TABLE. If readings are not correct, adjust spring bracket. See Fig. 2. Repeat test.

REAR BRAKE PRESSURE SPECIFICATIONS TABLE

Application	psi (kg/cm ²)
Axxess	
2WD	
5-Pass. Models	455-597 (32-42)
7-Pass. Models	412-555 (29-39)
4WD	
5-Pass. Models	370-512 (26-36)
7-Pass. Models	341-483 (24-34)
Maxima	739-939 (52-66)
Pathfinder & Pickup	
Except Heavy Duty	
With Weight (1)	(2) 711-995 (50-70)
Without Weight	327-441 (23-31)
Heavy Duty	
With Weight (1)	640-924 (45-65)
Without Weight	327-441 (23-31)

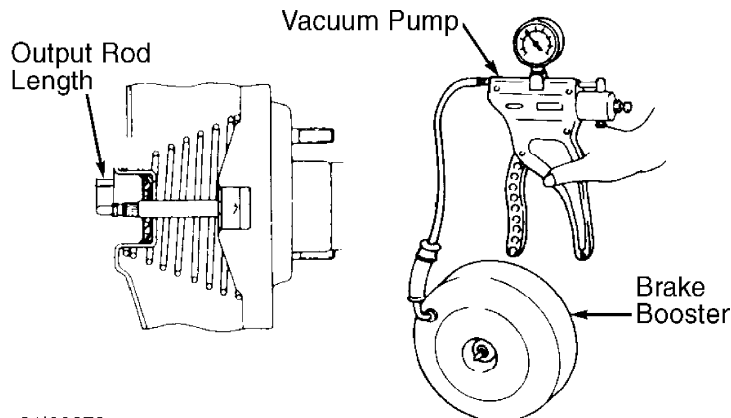
- (1) - Weight is 221 lbs. (100 kg) above rear axle center.
 (2) - 526-811 psi (37-57 kg/cm²) for Canadian models.

BRAKE BOOSTER OUTPUT ROD

NOTE: Output rod on Sentra is nonadjustable.

Axxess, Maxima, Pathfinder, Pickup, Pulsar NX, Stanza, 240SX, 300ZX

Attach a hand held vacuum pump to brake booster supply port. Apply 20 in. Hg vacuum to brake booster. Check length of output rod extending from power unit housing. Length should be .40-.41" (10.3-10.5mm). Adjust output rod length, if necessary. See Fig. 3. If adjustment cannot be obtained, replace brake booster assembly.



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Fig. 3: Measuring Length of Output Rod Extending From Power Unit Housing
 Courtesy of Nissan Motor Co., U.S.A.

PARKING BRAKE

Axxess

1) Remove parking brake lever cover. Raise and support rear of vehicle. On 2WD models, rear wheels should lock at 8-9 notches with 44 lbs. (20kg) force applied to parking brake lever.

2) On 4WD models, rear wheels should lock at 10-11 notches with 44 lbs. (20kg) force applied to parking brake lever. On all models, loosen lock nut at equalizer link and rotate adjuster until parking brake is properly adjusted. Tighten lock nut.

Maxima

Remove parking brake lever cover. Raise and support rear of vehicle. Rear wheels should lock at 9-11 notches with 44 lbs. (20 kg) force applied to parking brake lever. Adjust parking brake through adjusting nut beside parking brake lever.

Pathfinder & Pickup

1) Raise and support rear of vehicle. To adjust, apply parking brake with 44 lbs. (20 kg) force to obtain lever stroke of 10-12 clicks on 2WD models, 9-11 clicks on 4WD. Adjust equalizer link with adjusting nut until rear wheels are locked.

2) Release parking brake. Ensure rear wheels turn freely. After adjustment, parking brake should operate smoothly without noise or drag.

Pulsar NX & Sentra

Remove parking brake lever cover. Raise and support rear of vehicle. Rear wheels should lock at 7-11 notches with 44 lbs. (20 kg) force applied to parking brake lever. To adjust, turn adjusting nut by control lever until proper adjustment is obtained.

Stanza

Remove parking brake lever cover. Raise and support rear of vehicle. Rear wheels should lock at 9-11 notches with 44 lbs. (20 kg) force applied. To adjust, turn adjusting nut by control lever until proper adjustment is obtained.

240SX & 300ZX

Raise and support rear of vehicle. Pull parking brake lever 44 lbs. (20 kg) force. Rear wheels should lock when brake lever is pulled 4-5 notches (240SX) or 6-7 notches (300ZX). To adjust, turn adjusting nut below parking brake lever. After releasing lever, ensure rear wheels rotate freely, and no slack should be present at rear cables.

STOPLIGHT & AUTOMATIC SPEED CONTROL DEVICE SWITCH

1) Both switches are located below dash panel at brake pedal. Adjust travel during pedal height adjustment. After obtaining correct pedal height, check clearance and position of switches.

2) To adjust, loosen lock nut and turn switch body. Clearance between brake pedal stopper rubber and threaded end of switch is .01-.04" (.3-1 mm) on all models. After adjustment, tighten lock nut.

TESTING

POWER BRAKE UNIT

Manufacturer does not recommend disassembly of this unit. After air-tight and operational tests, if problem is determined to be

in power brake unit, complete assembly must be replaced. Do not disassemble power brake unit.

NOTE: Determine whether source of problem is in power brake unit or check valve. ALWAYS, inspect check valve.

Air Tight Check

1) Start engine and run for 2 minutes. Turn engine off.

Depress brake pedal several times. If brake pedal goes down further on first time, but slowly rises after that, go to next step. If not, check for air leak.

2) Start engine. Depress brake pedal and turn engine off.

Hold brake pedal down for 30 seconds. If there is no change in brake pedal height, power brake unit is air tight. If there is change, check for air leak.

LOAD SENSING PROPORTIONING VALVE

NOTE: Axxess & Maxima uses a dual load sensing proportional valve. Replace dual load-sensing valve as an assembly.

Axxess

1) With one person inside vehicle, set rear axle load to 1544 lbs. (695 kg) of weight in trunk. Attach 2 pressure gauges, one to front brake and one to rear brake bleeder. Bleed air from front and rear bleeders. Depress brake pedal until front brake pressure reading is 711 psi (50 kg/cm²). Check rear brake pressure. Refer to REAR BRAKE PRESSURE SPECIFICATIONS TABLE.

CAUTION: Check rear brake pressure 2 seconds after front brake pressure reaches specified value.

2) Depress brake pedal until front pressure reading is 1422 psi (100 kg/cm²). Check rear brake pressure reading. Refer to REAR BRAKE PRESSURE SPECIFICATIONS TABLE. If readings are not correct, adjust sensor spring length by turning adjusting bolt. See Fig. 1.

3) If rear brake pressure is less than specified, adjust bracket in direction "B". If rear brake pressure is greater than specified, adjust bracket in direction "A". See Fig. 1. Repeat as necessary. If pressure cannot be adjusted to specifications, replace load-sensing valve assembly.

Maxima

1) With one person inside vehicle, set rear axle load to 1323 lbs. (595 kg) of weight in trunk. Attach 2 pressure gauges, one to front brake and one to rear brake bleeder. Bleed air from front and rear bleeders. Depress brake pedal until front brake reading is 711 psi (50 kg/cm²). Rear brake pressure should be 555-697 psi (39-49 kg/cm²).

CAUTION: Check rear brake pressure 2 seconds after front brake pressure reaches specified value.

2) Depress brake pedal until front reading is 1422 psi (100 kg/cm²). Rear brake reading should be 739-939 psi (52-66 kg/cm²). If readings are not correct, adjust sensor spring length by turning adjusting bolt.

3) Repeat test and recheck pressure. Replace dual load-sensing valve as an assembly, if pressure is not as specified after adjustments are made.

Pathfinder/Pickup

1) Ensure vehicle is in unladen condition. Have one person

sit in the driver's seat and one person sit on the rear of vehicle. Then have the person on the rear of vehicle get off slowly. This will stabilize suspension deflection.

2) Attach a lever to load-sensing proportioning valve stopper bolt. Adjust spring length to about 7.44" (189mm). See Fig. 2. Install 2 pressure gauge, one to front brake bleeder and one to rear brake bleeder. Bleed air from front and rear bleeders. Depress brake pedal until front brake pressure reading is 1422 psi (100 kg/cm²). Check rear brake pressure. See REAR BRAKE PRESSURE SPECIFICATIONS TABLE.

3) Set a 221 lbs. (100 kg) weight slowly on rear of vehicle by axle center. Depress brake pedal until front reading is 1422 psi (100 kg/cm²). Rear brake pressure reading should be as specified. See REAR BRAKE PRESSURE SPECIFICATIONS TABLE. If readings are not correct, adjust spring bracket. See Fig. 2. Repeat test.

REAR BRAKE PRESSURE SPECIFICATIONS TABLE

Application	psi (kg/cm ²)
Axxess	
2WD	
5-Pass. Models	455-597 (32-42)
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With Weight (1)	640-924 (45-65)
Without Weight	327-441 (23-31)
(1) - Weight is 221 lbs. (100 kg) above rear axle center.	
(2) - 526-811 psi (37-57 kg/cm ²) for Canadian models.	

REMOVAL & INSTALLATION

* PLEASE READ FIRST *

NOTE: When removing or installing components, refer to illustration for specific model in this article. See Figs. 4-10.

FRONT DISC BRAKE PADS

Removal

1) Raise and support front of vehicle. Remove wheel assembly. Remove bottom guide pin. Rotate caliper body upward on guide pin.

2) Remove pad retainers, shims and brake pads. Note pad condition and location for proper installation (if reusable). Minimum pad thickness is .080" (2.0 mm) for all models.

Installation

1) Clean piston and area around lock and guide pins. Install inner pad. Seat piston by placing lever through opening in caliper body and pushing piston into bore. Apply brake grease to pad retainer points on caliper assembly. Install outer pad and shims.

2) Install pad retainers. Rotate caliper body down into

original position. Install lower lock pin. Tighten bolt and depress brake pedal several times to seat pads.

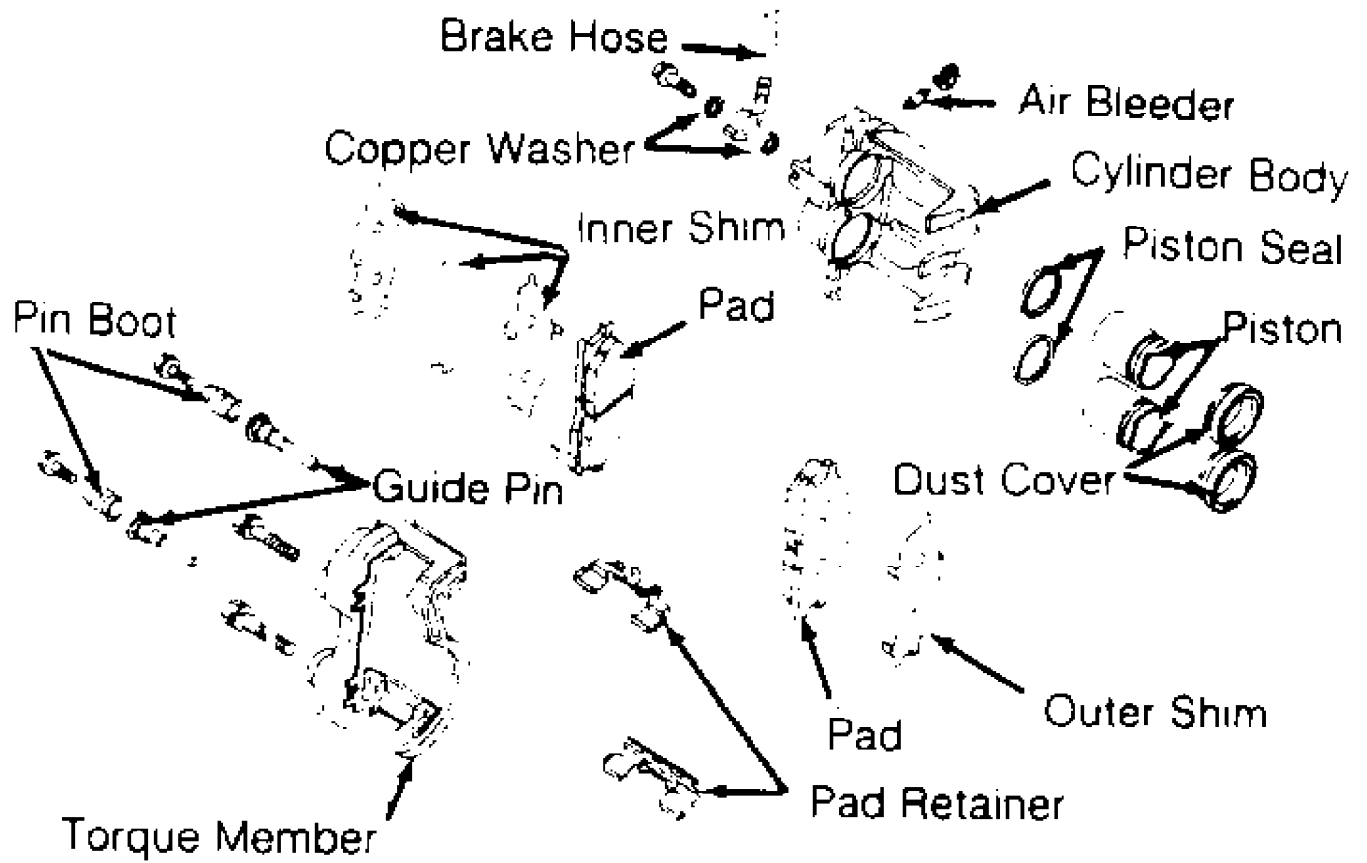


Fig. 4: Exploded View of Front Brakes (Pathfinder/Pickup; 300ZX Similar)
 Courtesy of Nissan Motor Co., U.S.A.

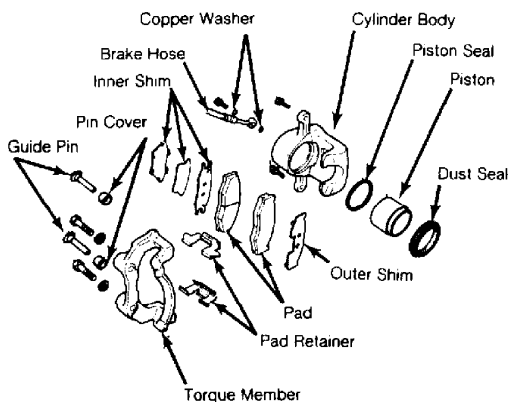
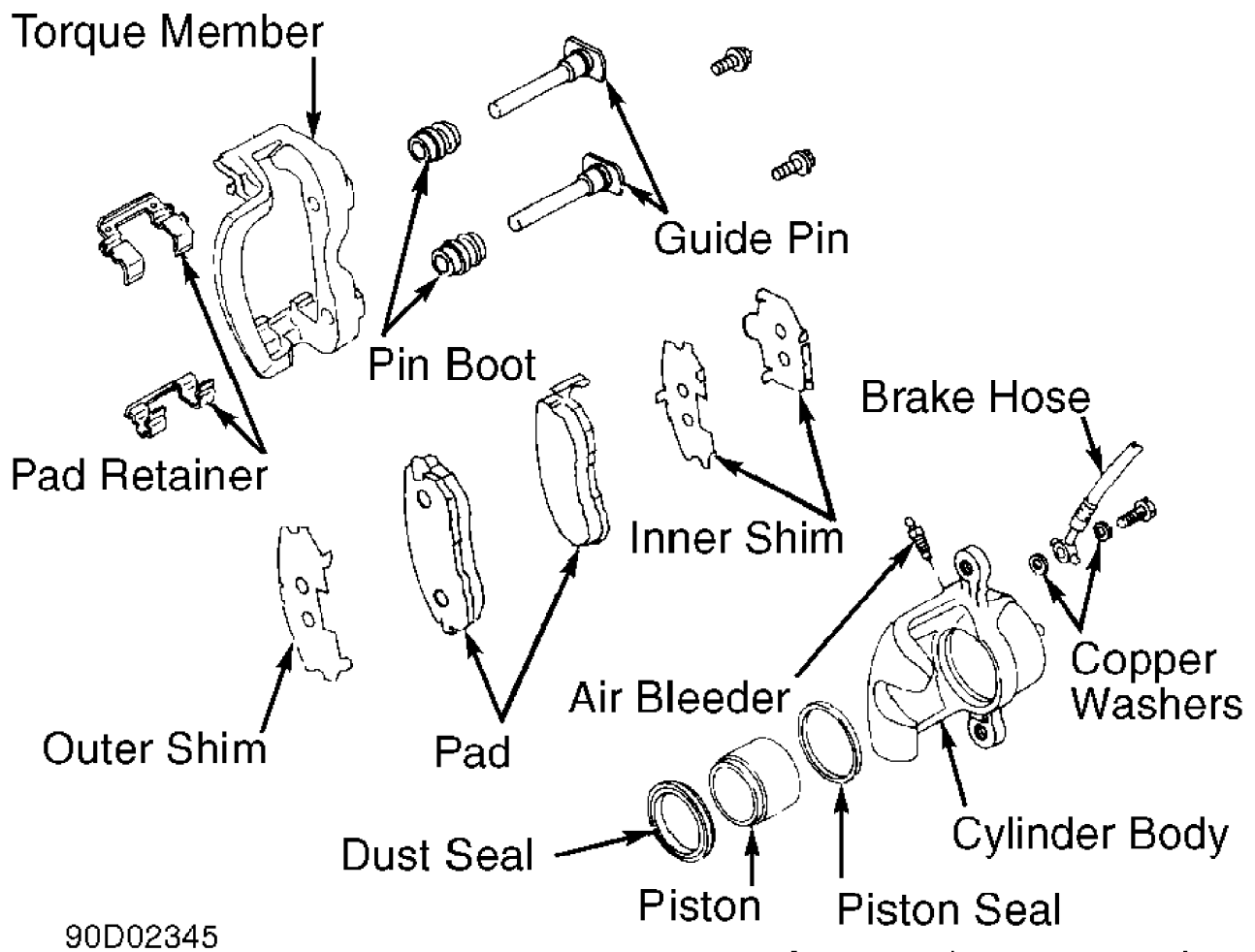


Fig. 5: Exploded View of Front Brakes (Pathfinder/Pickup)
 Courtesy of Nissan Motor Co., U.S.A.



Courtesy of Nissan Motor Co., U.S.A.

Fig. 6: Exploded View of Front Brakes (Axxess & Maxima)
Courtesy of Nissan Motor Co., U.S.A.

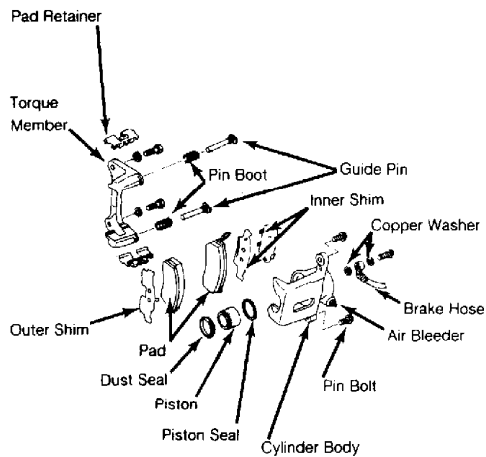


Fig. 7: Exploded View of Front Brakes (Pulsar NX)
Courtesy of Nissan Motor Co., U.S.A.

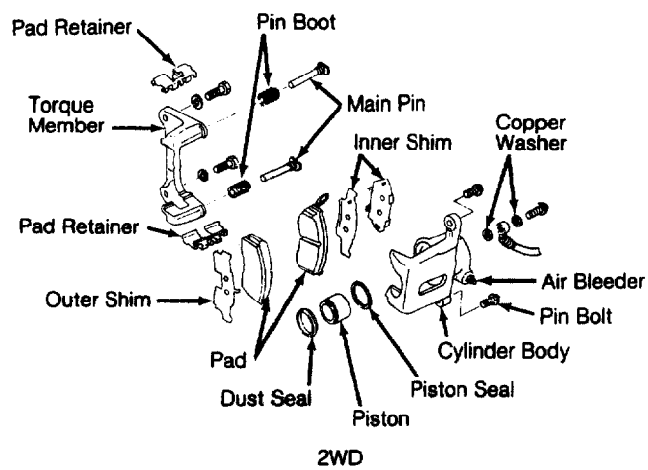


Fig. 8: Exploded View of Front Brakes (Sentra)
Courtesy of Nissan Motor Co., U.S.A.

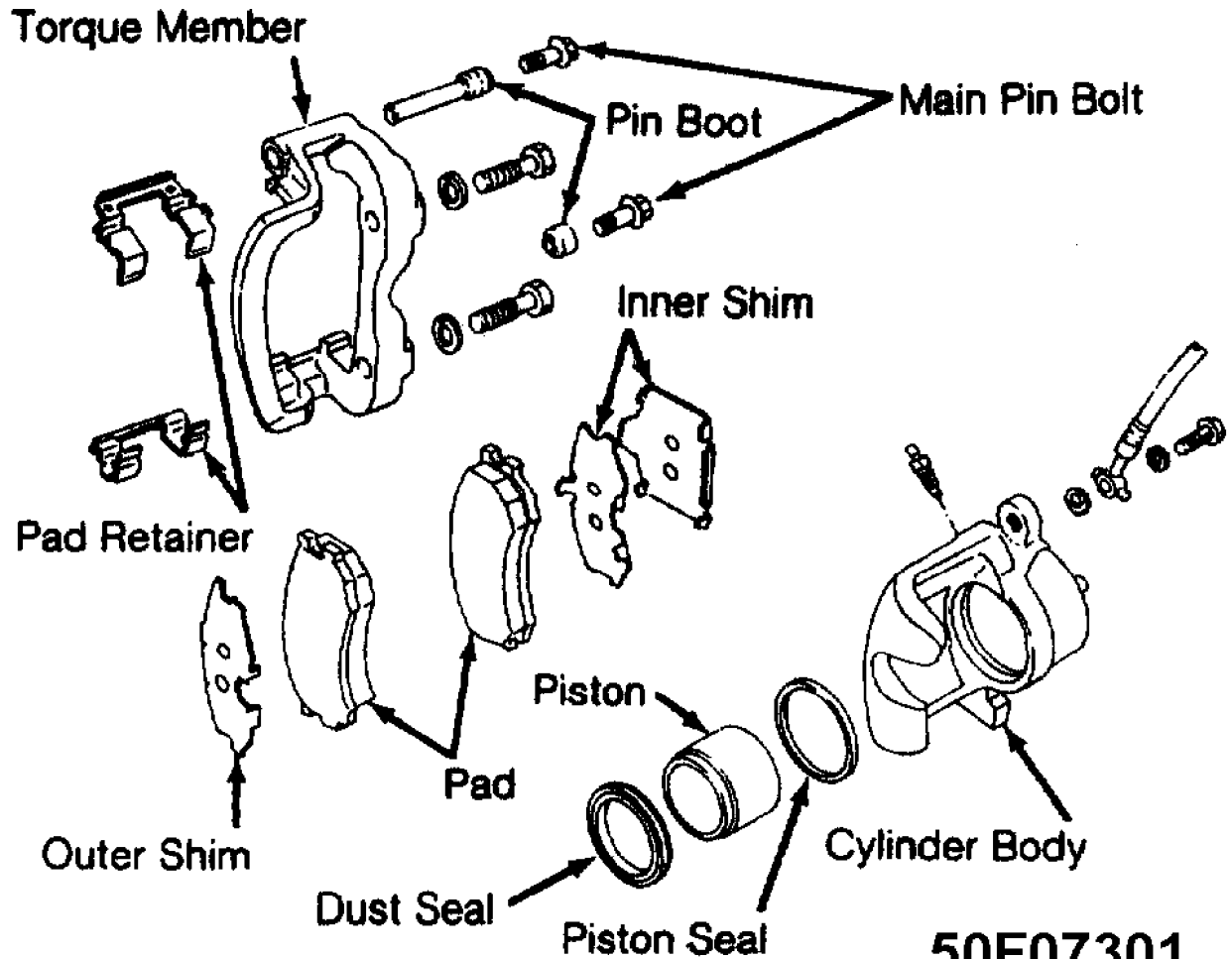
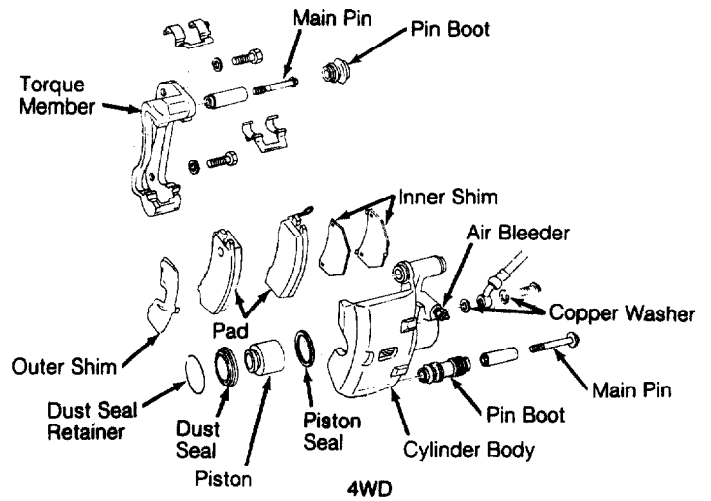
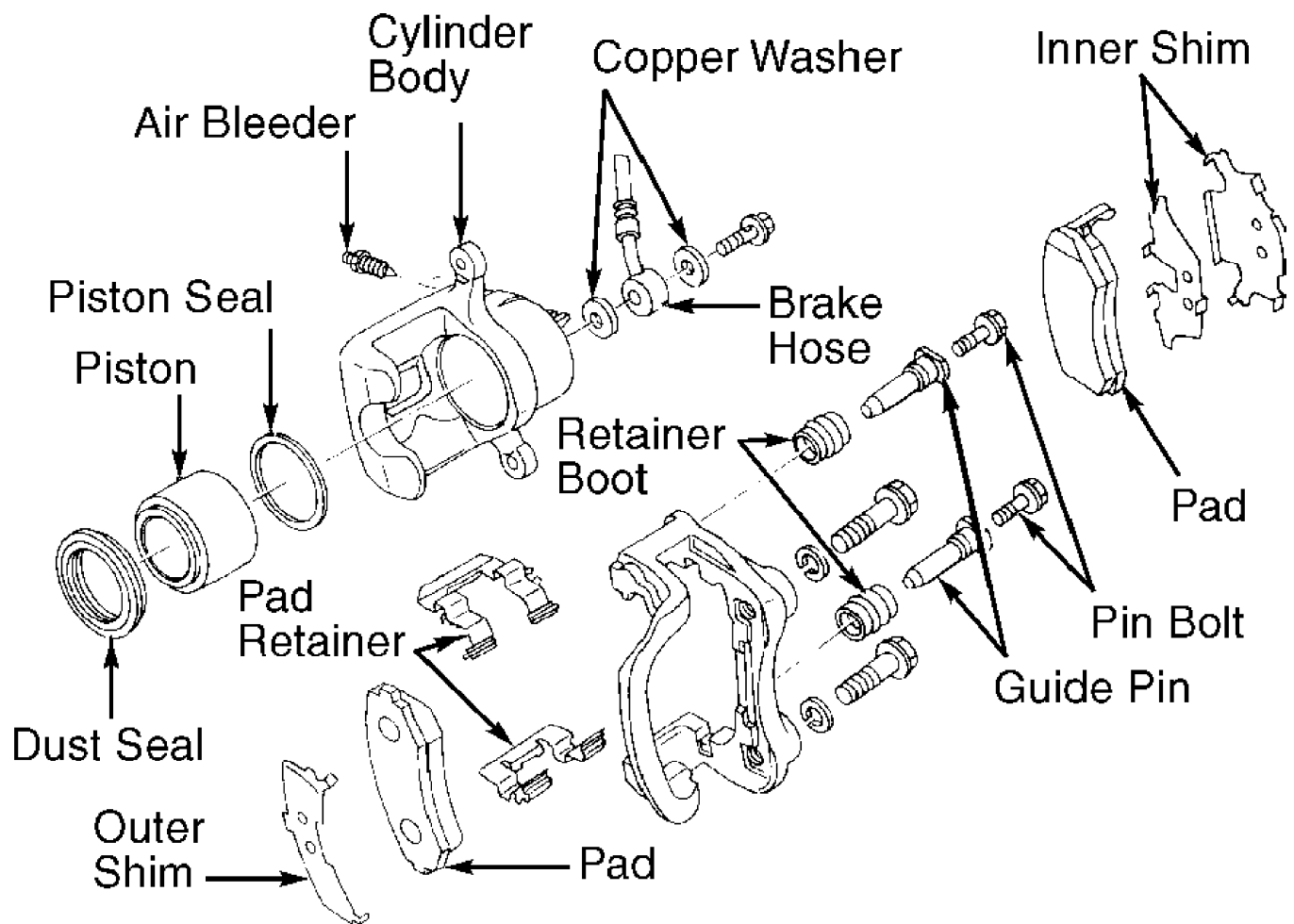


Fig. 9: Exploded View of Front Brakes (Stanza)
Courtesy of Nissan Motor Co., U.S.A.



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Fig. 10: Exploded View of Front Brakes (240SX)
Courtesy of Nissan Motor Co., U.S.A.

FRONT DISC BRAKE CALIPER

Removal

Raise and support front of vehicle. Remove wheel assembly. Disconnect and plug brake line from caliper. Remove caliper mount bolts. Remove caliper assembly.

Installation

To install, reverse removal procedure. Tighten caliper mount bolts, and bleed hydraulic system.

FRONT DISC BRAKE ROTOR

NOTE: For exploded views of hub assemblies, see FRONT SUSPENSION article in the SUSPENSION section.

Removal (2WD Pathfinder & Pickup)

1) 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.

2) Remove washer, outer bearing, inner grease seal, inner

wheel bearing and bolts attaching hub to rotor. Separate hub from rotor.

NOTE: DO NOT damage "O" ring when removing hub dust cap.

Installation

1) To install, reverse removal procedure. Coat wheel bearings and inside hub with wheel bearing grease. Install new inner grease seal.

2) Tighten bolts attaching hub to rotor evenly and adjust wheel bearings. Tighten wheel bearing lock nut. Refer to TORQUE SPECIFICATIONS table in this article. Bleed hydraulic system.

Removal (Pathfinder 4WD & Pickup)

Raise and support vehicle. Remove wheel assembly. Remove caliper as previously described and hang from frame with wire. Do not disconnect hydraulic line. Remove locking hub. See LOCKING HUBS article in the DRIVE AXLE section. Remove hub with rotor from knuckle.

Installation

1) Install hub-to-rotor bolts and tighten. Assemble wheel hub and knuckle in reverse order of disassembly. Pack cavity of knuckle with wheel bearing grease and coat all bearings.

2) Rotate hub to seat bearings. Tighten wheel bearing lock nut. See TORQUE SPECIFICATIONS table in this article. Bend lock washer lip up into a lock nut groove. Install spindle assembly and tighten suspension components. Ensure axle shaft end play is .004-.012" (.1-.3 mm).

3) Adjust axle shaft end play with proper thickness of snap ring. Mount and tighten caliper bolts. Bleed hydraulic system.

Removal & Installation (Axxess, Maxima, Pulsar NX, Sentra, Stanza, 240SX & 300ZX)

Raise and support vehicle. Remove wheel assembly. Remove caliper, but do not disconnect brake hose. Wire caliper out of way. Remove rotor from hub. To install, reverse removal procedure.

REAR DISC BRAKE PADS

Removal (Pathfinder, 240SX & 300ZX)

1) Raise and support rear of vehicle. Remove rear wheel assembly. Release parking brake. Remove parking brake cable retainer. Remove pin bolts and lock spring. Remove caliper and wire out of way.

2) Remove pads and pad shims. Note location and condition of pads for proper installation (if reusable). Minimum pad thickness is .080" (2.0 mm) for all models.

Installation

1) To install, reverse removal procedure. Clean area around pin bolts and piston end. Use care not to damage piston boot. Retract piston into cylinder body by turning it clockwise.

2) Apply silicone brake grease to caliper sliding surfaces and pad contact area on mounting support. Install pads, shim and pad springs. Tighten cylinder body and outer spring retainer. Connect parking brake cable.

REAR DISC BRAKE CALIPER

Removal (Maxima)

Remove rear wheel assembly. Disconnect hydraulic line from caliper, and plug openings. Disconnect parking brake cable and stay (if equipped). Remove caliper mount bolts, and remove caliper assembly.

Installation (Maxima)

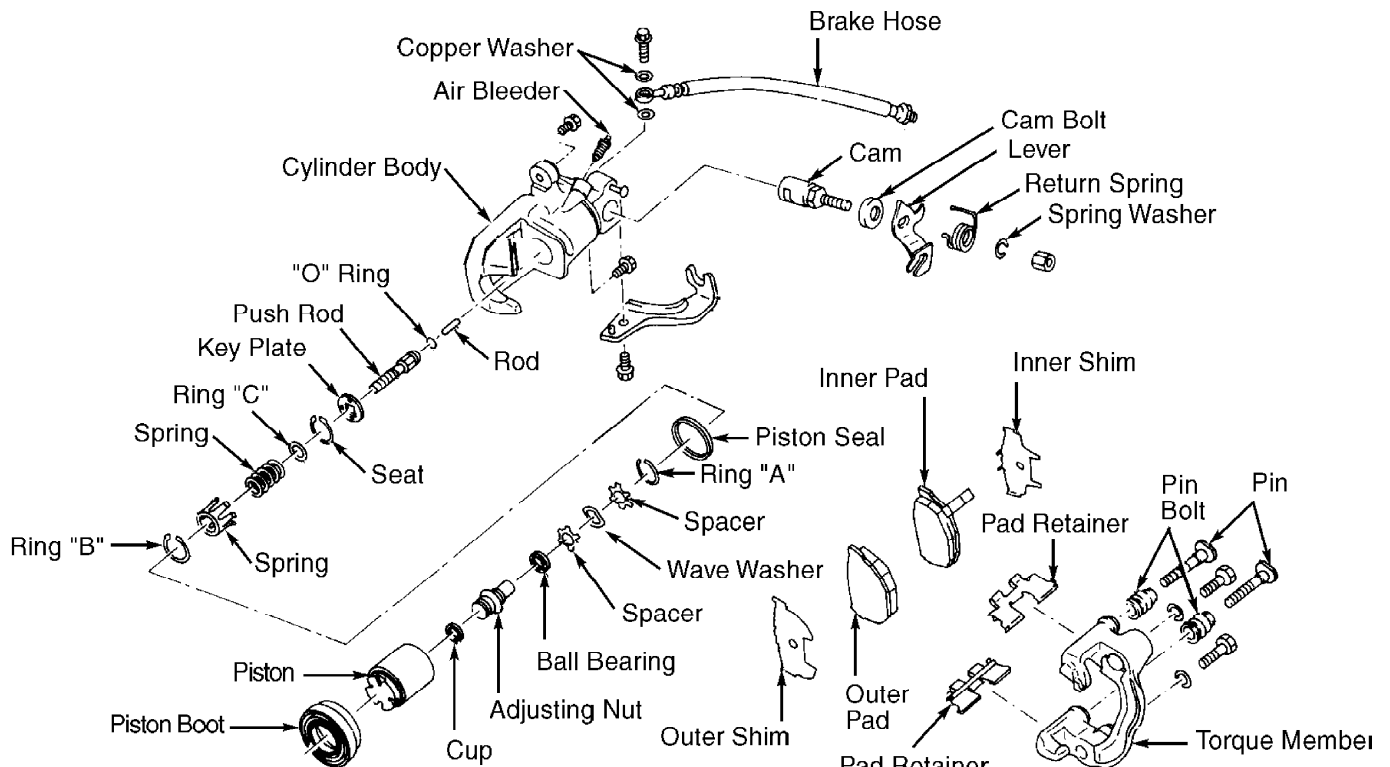
To install, reverse removal procedure. Install and tighten hydraulic line and caliper mount bolts to specification. Refer to TORQUE SPECIFICATIONS TABLE at end of article. Bleed hydraulic system. See BRAKE BLEEDING.

Removal (Pathfinder, 240SX & 300ZX)

Remove rear wheel assembly. Disconnect hydraulic line from caliper and plug openings. Disconnect parking brake cable. Remove 2 caliper mount bolts and remove caliper assembly. See Fig. 11.

Installation

To install, reverse removal procedure. Install and tighten hydraulic line and caliper mount bolts. Bleed hydraulic system.



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Fig. 11: Exploded View of Rear Disc Brake Caliper (240SX & 300ZX)
Courtesy of Nissan Motor Co., U.S.A.

REAR DISC BRAKE ROTOR

Removal (Pathfinder, 240SX & 300ZX)

With caliper removed, rotor can be removed from axle flange.

Installation

Install rotor and caliper assembly. After installation, adjust clearance between pad and rotor by depressing pedal until pedal stroke is constant.

REAR AXLE SHAFT BEARING & OIL SEAL

Removal & Installation (Axxess & Maxima)

Raise & support vehicle rear. Remove brake drum and wheel bearing lock nut. Remove hub. Remove oil seal and inner wheel bearing

from hub. To install, reverse removal procedure.

Removal (Pathfinder & Pickup)

1) Raise and support vehicle. Remove rear wheel assembly. Remove brake drum. Disconnect parking brake cable and hydraulic brake line from backing plate. Remove 4 nuts holding backing plate to rear axle case. Using Rear Axle Adapter (KV4010000) and Slide Hammer (ST36230000), pull out axle shaft assembly with backing plate assembly.

2) Remove oil seal from rear axle case. Discard oil seal. Using screwdriver, straighten lock washer, securing lock nut on rear axle case side of backing plate. Position axle shaft in vise, using Rear Axle Adapter (KV40101000).

3) Using Lock Nut Remover (ST38020000), remove bearing lock nut. Using hydraulic press and Bearing Puller (HT72480000), withdraw wheel bearing, bearing cage and backing plate. Remove oil seal in bearing cage of backing plate and discard.

Inspection

Check axle shaft for straightness, cracks, damage, wear or distortion. Check bearing for wear or damage and axial end play.

Installation

1) To install, reverse removal procedure. Install new oil seal in bearing cage and lubricate cavity between seal lips. Be careful to place faced side of lock nut on washer side. Tighten lock nut specification. See TORQUE SPECIFICATIONS TABLE at end of article. Ensure washer lips fits in nut groove.

2) After installation, be sure to bend up locking tab on new bearing lock washer. Apply wheel bearing grease to wheel bearing and recess of axle case end. Apply gear oil to axle spline and grease to seal surface before installing axle shaft. When the axle shaft is installed, use Shaft Guide (ST37840000) as a guide.

NOTE: When installing axle shaft, adjust axial end play by applying case end shims. When servicing one axle only, axial end play is .0008-.0059" (.020-.150 mm). When servicing both axles, end play on first axle (right or left) is .012-.035" (.30-.90 mm); on second axle, end play is .0008-.0059" (.020-.150 mm).

Removal (Pulsar NX & Sentra 2WD)

Raise and support vehicle. Remove rear wheel assembly. DO NOT lift at parallel links. Remove hub cap. Remove lock nut and washer. Remove brake drum. Remove snap ring from back side of brake drum. Using Adapter (J-25804-01), press bearing from brake drum.

Installation

Using Adapter (J-26082) and 3-ton press, install bearing in brake drum. Install snap ring. Apply multi-purpose grease to sealing lip. Install brake drum, washer and lock nut. Install lock nut and tighten to 137-188 ft. lbs. (186-255 N.m). Install hub cap.

Removal (Sentra 4WD)

1) Raise and support vehicle. Remove tire and wheel assembly. Depress brake and remove wheel bearing lock nut. Disconnect brake hydraulic line and parking brake cable. Separate drive shaft from knuckle by slightly tapping on drive shaft.

2) Place matching marks on transverse link adjusting pin. Remove transverse link and radius rod bolt. Extract drive shaft by prying with screwdriver from differential assembly. Ensure circlip is properly meshed with side gear and does not come out.

3) Mount wheel hub on vise. Using Differential Side Bearing

Drive (ST33220000), drive out hub with outer bearing inner race from knuckle. Using Bearing Puller (ST30031000) on a press, drive out outside bearing inner race.

4) Mount knuckle on a vise. Drive out inside bearing outer race and grease seal Differential Side Bearing Drift (ST33220000). Remove inner and outer circular clips. Drive out bearing outer race.

NOTE: Always replace wheel bearing assembly when wheel hub or wheel bearing is removed from knuckle.

Installation

1) Install inner circular clip into knuckle groove. Apply multi-purpose grease to each bearing cone and grease seal lip. Install outer circular clip into knuckle groove. Press hub into knuckle.

2) Check bearing preload by using press to apply a load of 5.5 Tons (4950 kg). Spin knuckles several turns in both directions. Ensure wheel bearings operate smoothly. Install inner grease seal.

3) To complete installation, reverse removal procedure. Ensure that drive shaft moves freely over its entire length. Cover drive shaft serration with tape to avoid damage to boot during installation.

4) Install boot and new boot band on drive shaft. Install knuckle and wheel hub as an assembly. Tighten rear wheel bearing nut to 174-231 ft.lbs. (235-324 N.m).

Removal (Stanza)

Raise and support vehicle. Remove rear wheel assembly. Release parking brake. Remove hub cap, cotter pin and wheel bearing nut. Remove brake drum with outer bearing and washer. Remove grease seal and inner wheel bearing from hub.

Installation

Coat inner and outer wheel bearing with multipurpose grease and place inner bearing in hub. Install new grease seal, coating sealing lips with grease. Tighten wheel bearing lock nut to specification. See TORQUE SPECIFICATIONS TABLE.

Removal (240SX & 300ZX)

1) Raise and support rear of vehicle. Remove rear wheel assembly. Remove caliper and rotor. Remove drive shaft. See DRIVE AXLE SHAFT article in DRIVE AXLE Section.

2) Remove wheel bearing hub and wheel bearing from drive axle housing. Remove grease seal. Press wheel bearing assembly out of hub. Using bearing puller, remove bearing race remaining in hub.

Installation

1) Press wheel bearing assembly into hub. Use care to not damage grease seal. To complete installation, reverse removal procedure. Tighten wheel bearing lock nut to specification. Refer to TORQUE SPECIFICATIONS TABLE.

MASTER CYLINDER

Removal

Disconnect electrical wiring at cylinder reservoir. Disconnect and plug hydraulic lines at master cylinder. Drain fluid from reservoir. Remove cylinder mounting nuts and master cylinder.

Installation

To install master cylinder, reverse removal procedure. Bleed hydraulic system and check pedal height.

POWER BRAKE UNIT

Removal

1) Disconnect power unit push rod from brake pedal by removing clevis pin. Disconnect hydraulic lines from master cylinder and vacuum line from power brake unit.

2) Remove master cylinder mounting nuts and master cylinder. Remove nuts attaching power brake unit to firewall. Remove power brake unit.

NOTE: Output rod in Sentra is nonadjustable.

Installation

To install, reverse removal procedure. On all models except Sentra, apply 20 in. Hg. Check length of output rod extending from power unit housing. See Fig. 3. Length should be .40-.41" (10.3-10.5 mm).

CHECK VALVE REPLACEMENT

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

OVERHAUL

FRONT DISC BRAKE CALIPER

Disassembly

1) Drain brake fluid from caliper body and clean exterior of caliper assembly. Remove pin bolts and separate caliper body from caliper mount.

2) Remove pad retainers and pads. Force piston(s) and dust seal(s) out of bore by applying low pressure compressed air to brake inlet.

WARNING: Gradually increase air pressure so piston does not fly out and cause personal injury or component damage.

Reassembly

1) Apply brake fluid to sliding portions of piston and caliper bore. Apply rubber grease to inside of dust seals. Install piston seal in bore. Install dust seal on piston and slide piston into caliper bore. Secure dust seal in piston groove and caliper groove.

2) Apply multipurpose grease to guide pin rubber bushing and guide pin. Install seals, guide pin rubber bushing and guide pin. Apply grease to disc pad-to-caliper mount contact portions. Install caliper mount to caliper body.

3) Install caliper assembly without pads or retainer to knuckle spindle. Install upper pin bolt. Install disc pads, shims, retainer and rotate caliper down into position. Install lower pin bolt. When caliper assembly is mounted on vehicle, turn rotor to ensure that there is no excessive drag. Install front brake hose and bleed brake system.

REAR DISC BRAKE CALIPER

Disassembly (240SX & 300ZX)

1) With caliper removed, remove outer spring retainer and pin bolts. Separate caliper body from caliper mount. Using long nose pliers, remove piston from bore by rotating it counterclockwise.

2) Disassemble piston by prying off retainer ring. Remove

adjuster nut. Remove cup from adjuster nut. To disassemble caliper body, remove snap ring. Remove spring cover, spring and seat. See Fig. 11. Remove piston seal.

Cleaning & Inspection

1) Clean all parts in brake fluid only. Check caliper bore for wear, rust, corrosion or other damage. Minor deposits or scratches can be removed with fine emery cloth. Check caliper mount for wear, cracks or other damage. Replace if defective.

NOTE: Piston surfaces are plated. Pistons must be replaced if corroded or worn. DO NOT polish with emery cloth. Use DOT 3 or higher rated brake fluid.

2) Check piston for rust, wear or damage. Replace if defective. Replace piston seal, dust seal, adjusting nut cup, and push rod "O" ring during overhaul.

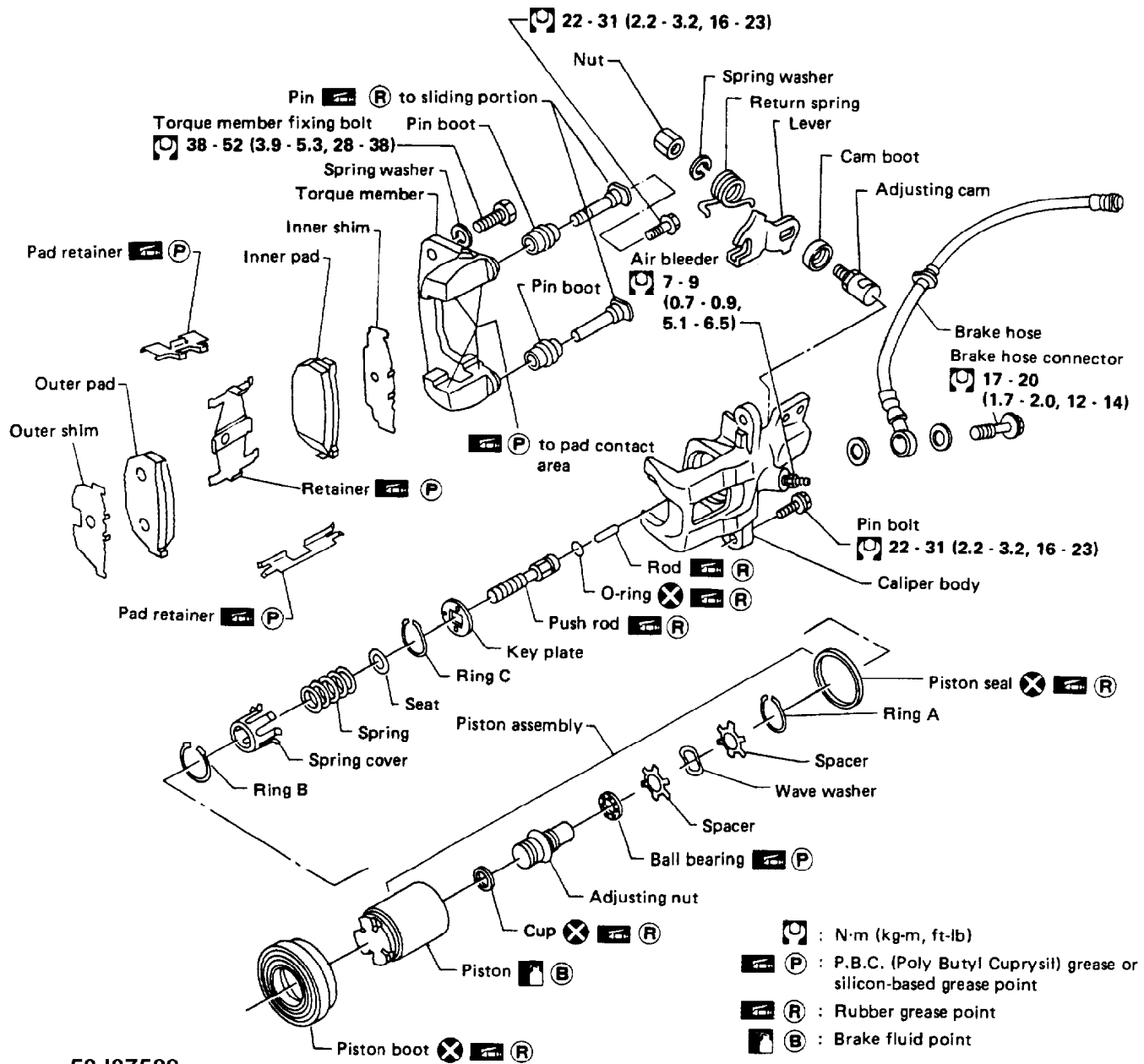
Reassembly

1) Before reassembly, apply rubber grease to groove in push rod, new "O" ring, groove in adjusting nut and cup, piston seal, inside of boot and sliding portions of piston and pins.

2) Install cup with lip facing center of adjust nut. Fit rod to push rod and push rod into square hole in key plate. Fit convex portion of key plate with concave portion of caliper. Install first snap ring. Install seat, spring, spring cover and second snap ring with press and drift. To complete reassembly, reverse disassembly procedure. See Fig. 11.

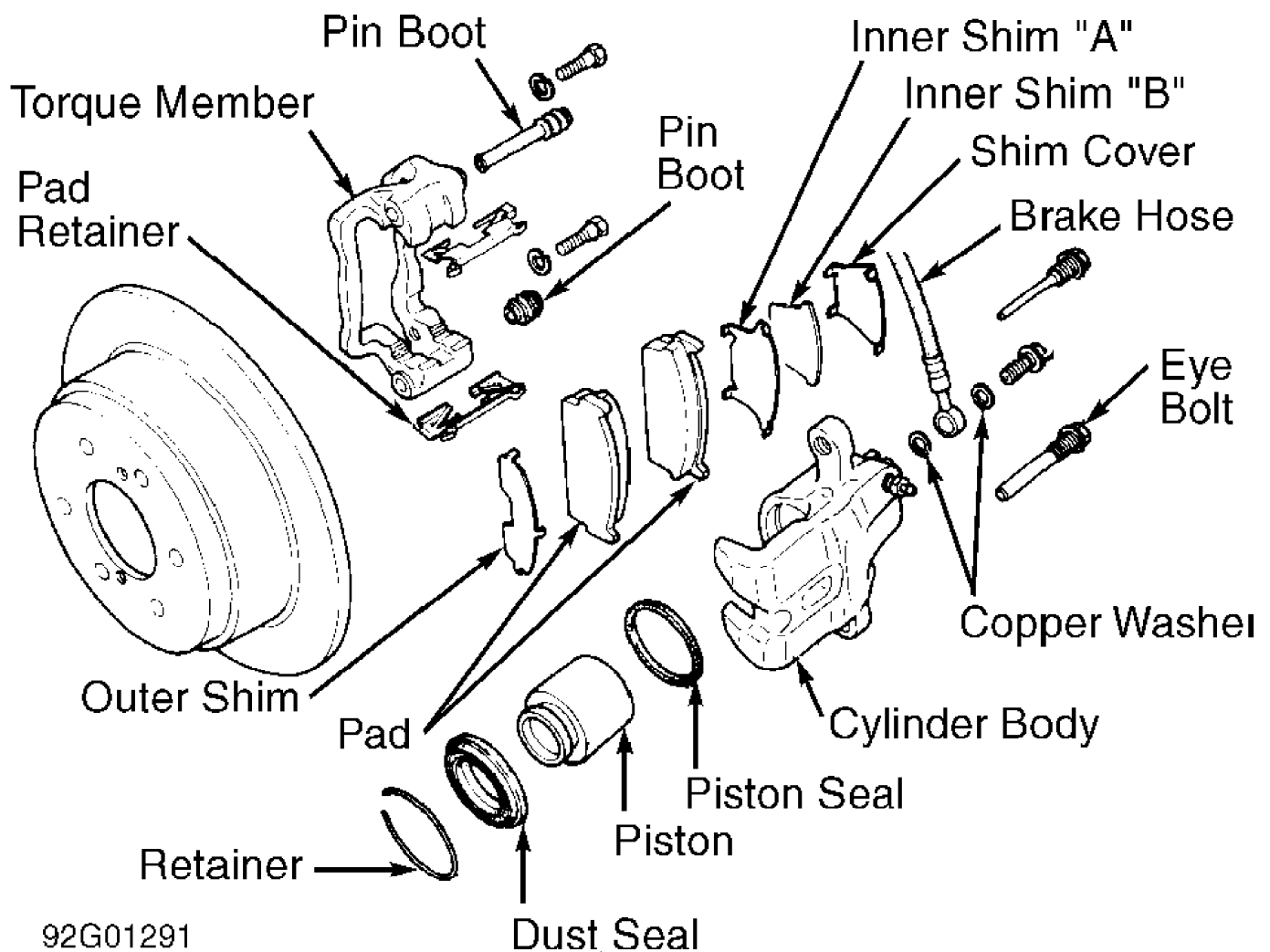
Pathfinder & Maxima

Overhaul procedures are not available from manufacturer. Refer to appropriate illustration for exploded view of specific assembly. See Fig. 12 or 13.



50J07529

Fig. 12: Rear Brake Caliper
Courtesy of Nissan Motor Co., U.S.A.



92G01291

Dust Seal

Fig. 13: Rear Disc Brake Caliper Pathfinder W/ Drum-In-Disc Rear Brake

Courtesy of Nissan Motor Co., U.S.A.

REAR BRAKE DRUM & LININGS

Disassembly (Except 240SX)

1) Raise and support rear of vehicle. Remove rear wheel assembly. Release parking brake. Remove brake drum. Remove parking brake rear cable. Remove retainer, anti-rattle spring, spring seat and pin from primary brake shoe. Remove return springs and primary shoe. Remove secondary brake shoe. On Stanza, remove adjuster assembly.

2) On Sentra, remove toggle lever spring. Remove clip, washer, spacer and toggle pin. Separate toggle lever and shoe. See Figs. 14-18. On all models, note lining condition and location for proper installation.

NOTE: Minimum lining thickness is .059" (1.5 mm) on Maxima and .080" (2.0 mm) on all other models.

Reassembly

1) To install, reverse removal procedure. Using brake grease, lubricate all brake shoe sliding surfaces, adjuster nut and rod threads, shoe-to-adjuster contact points and shoe-to-wheel cylinder

and anchor.

2) After installing brake shoes, set initial clearance between shoe and drum with adjuster. See INITIAL CLEARANCE SPECIFICATIONS table. After installation is complete, adjust final clearance between shoe and drum by operating parking brake several times.

INITIAL CLEARANCE SPECIFICATIONS TABLE

Application		In. (mm)
Pickup .....	.010-.016	(.25-.41)
All Other Models .....	.014-.022	(.35-.55)

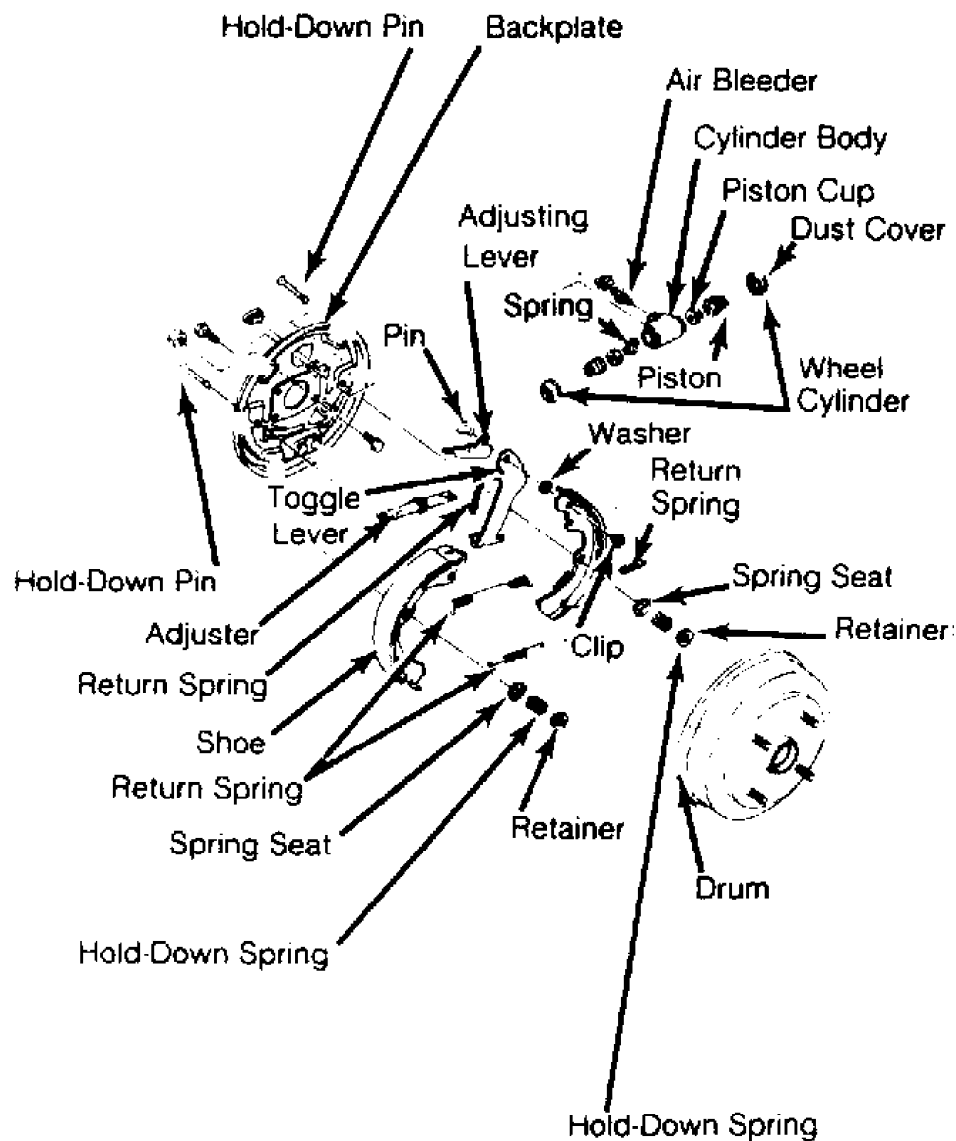


Fig. 14: Exploded View of Rear Drum Brakes (Axxess, Maxima & Stanza)
Courtesy of Nissan Motor Co., U.S.A.

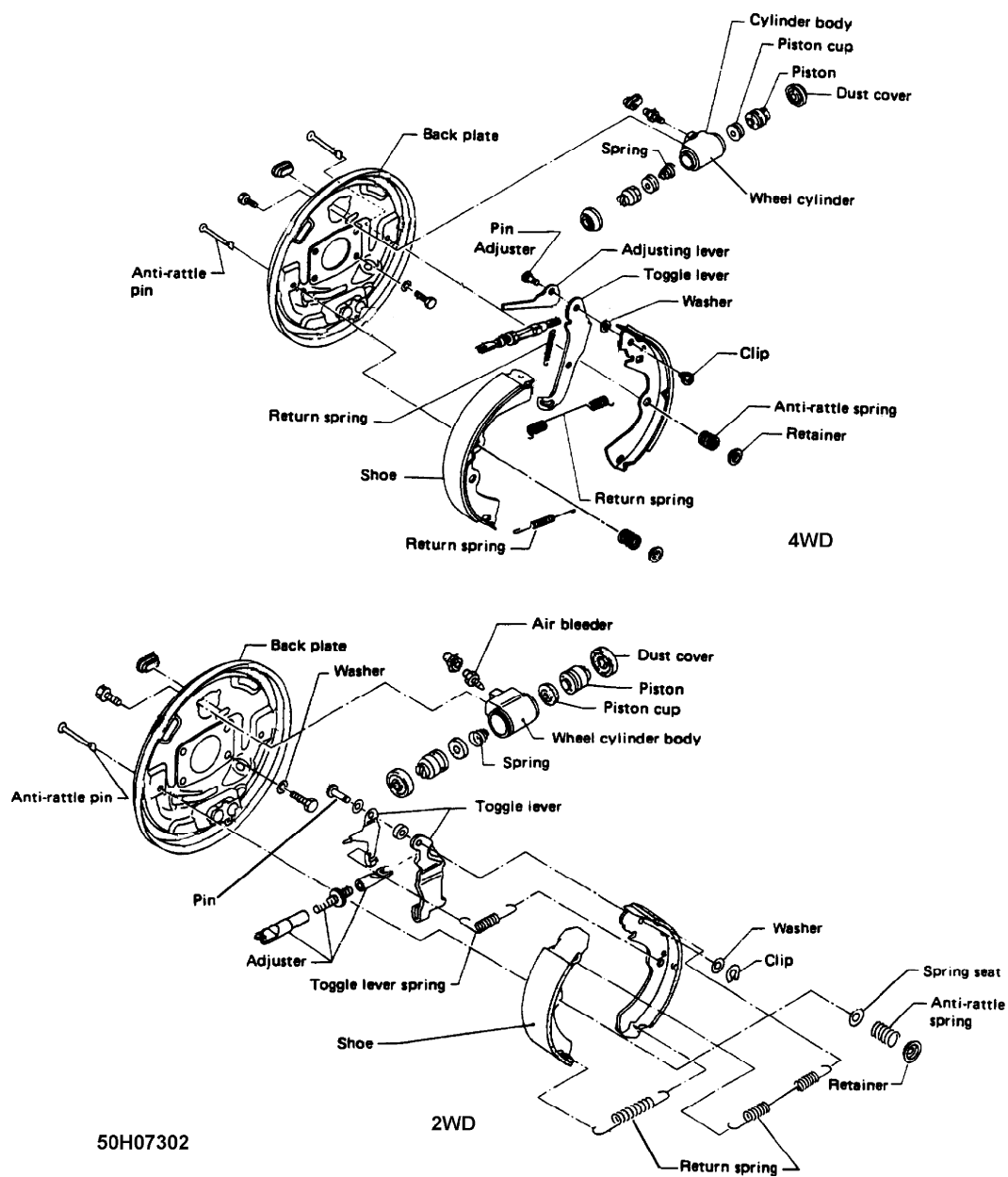


Fig. 15: Installed View of Rear Brakes (Sentra)
 Courtesy of Nissan Motor Co., U.S.A.

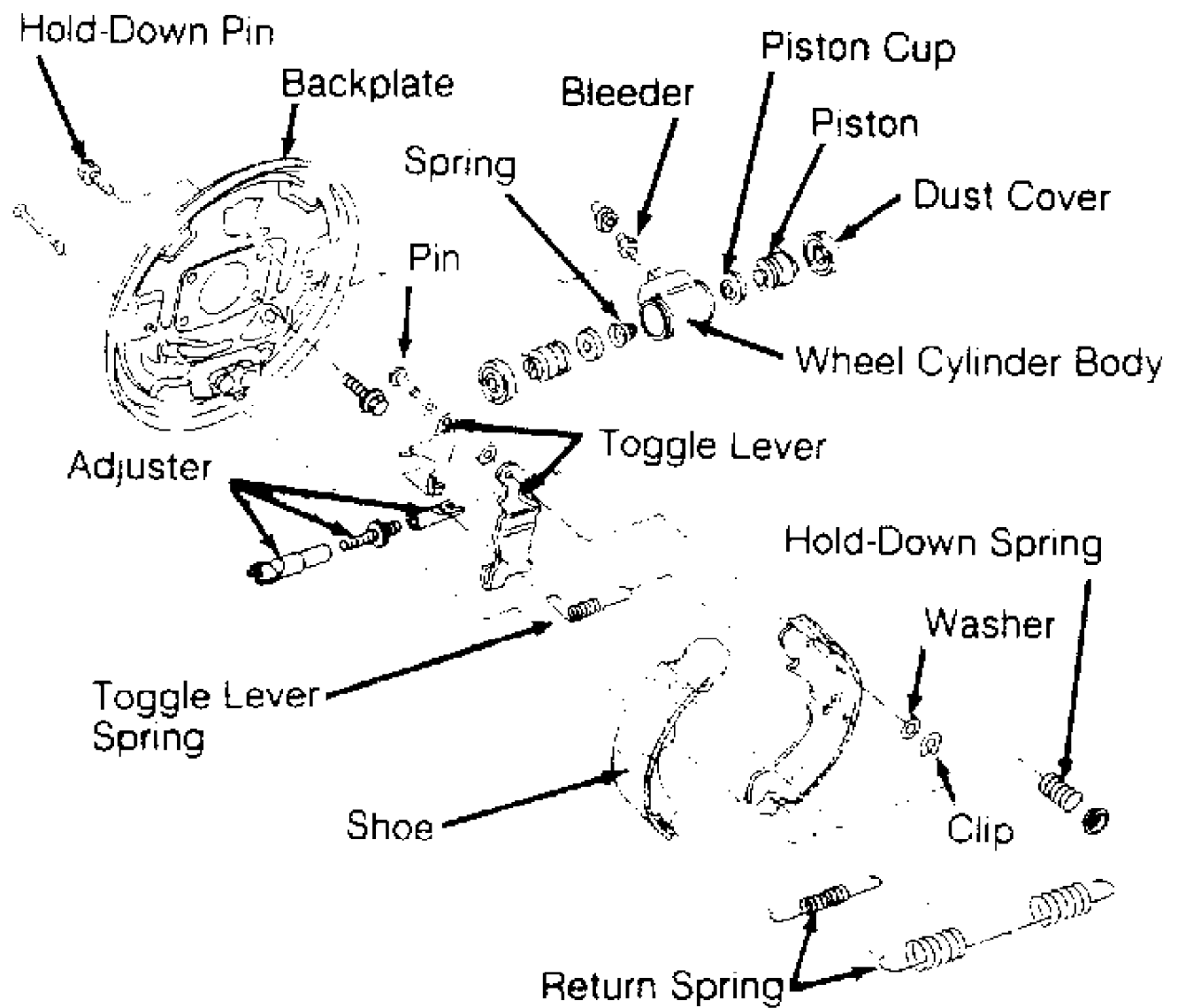
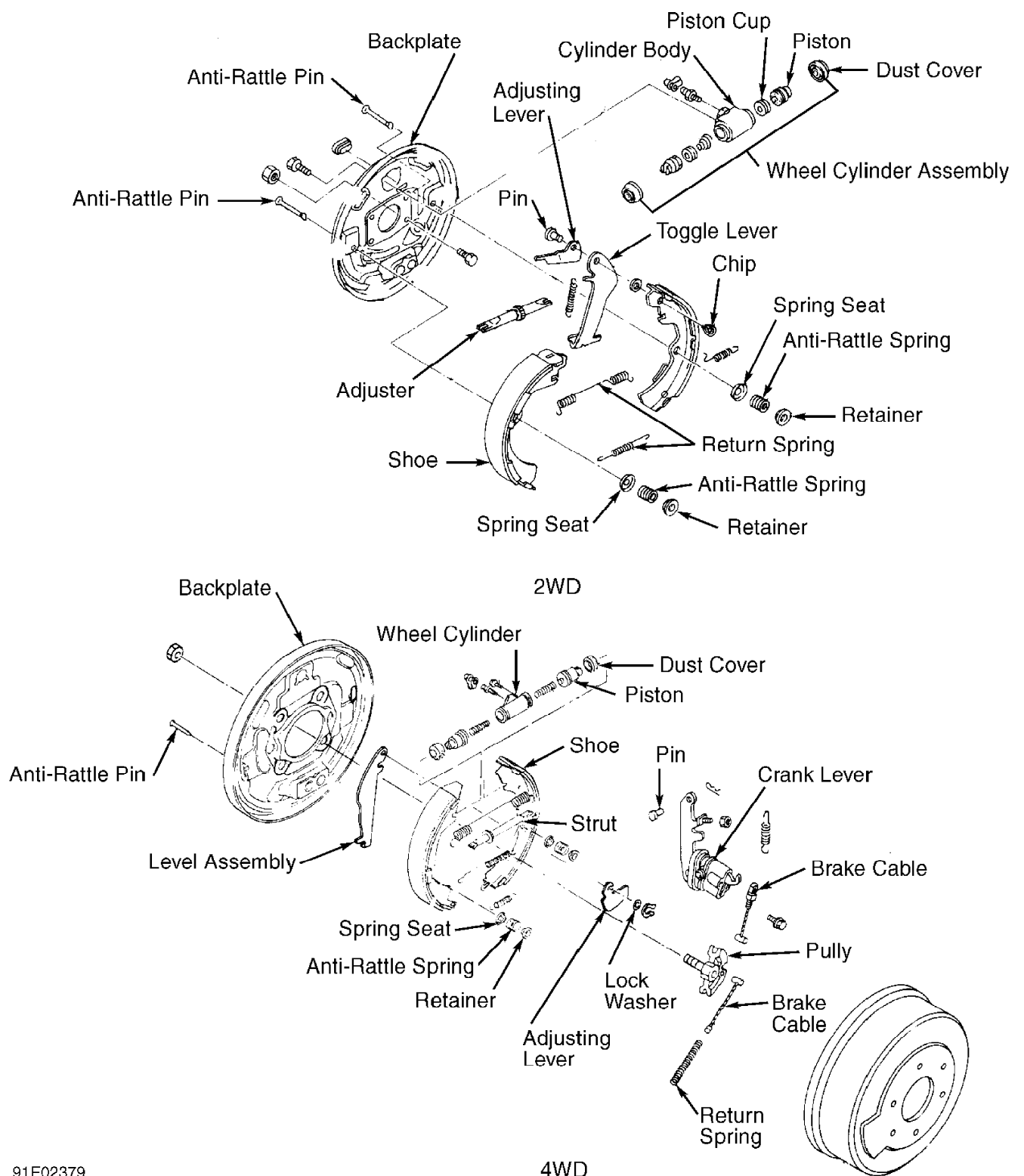


Fig. 16: Exploded View of Rear Drum Brakes (Pulsar NX)
Courtesy of Nissan Motor Co., U.S.A.



91E02379
 Fig. 17: Exploded View of Rear Drum Brakes (Pathfinder & Pickup)
 Courtesy of Nissan Motor Co., U.S.A.

REAR WHEEL CYLINDER

Disassembly

With rear brake linings removed, disconnect hydraulic line and 2 mounting bolts. With wheel cylinder removed, remove dust covers, pistons, cups and spring.

Cleaning & Inspection

Clean all parts in brake fluid. Check cylinder bore and pistons for excessive wear or damage. Replace any torn or damaged rubber parts.

Reassembly

To reassemble, reverse disassembly procedure. Apply brake fluid to cylinder bore, pistons and piston cups. Install parts using fingers only to avoid damage to rubber components.

MASTER CYLINDER

Disassembly

Remove reservoir caps and filters. Drain brake fluid from reservoir. Remove snap ring and stopper bolt. Withdraw stopper, primary piston assembly, secondary piston assembly and springs. See Fig. 18. Remove check valve plugs. Withdraw check valve assemblies.

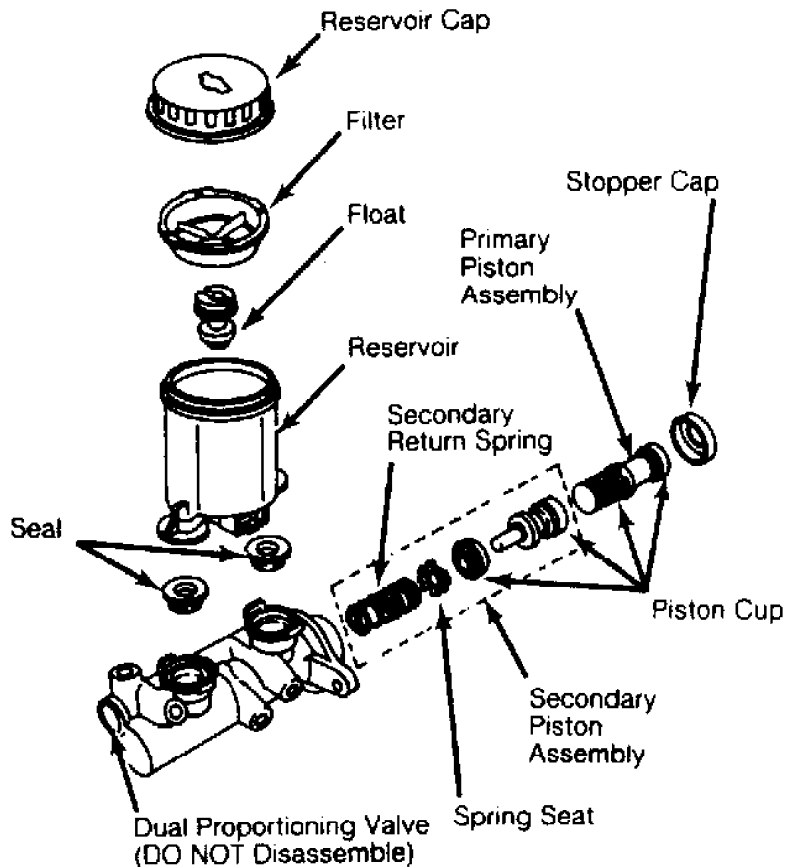


Fig. 18: Exploded View of Master Cylinder Assembly
Courtesy of Nissan Motor Co., U.S.A.

Reassembly

To reassemble, reverse disassembly procedure. Apply rubber

grease to all rubber parts. To prevent damage, apply brake fluid to remaining parts when assembling.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)	
Axxess		
Backing Plate Mount Bolt (Rear)	28-38	(38-52)
Booster Input Rod Lock Nut	12-16	(16-22)
Brake Line Bolt	12-14	(16-19)
Carrier-to-Mount Bolt	53-72	(72-97)
Front Caliper-to-Carrier Bolt	16-23	(22-31)
Wheel Bearing Lock Nut		
Front	174-231	(236-314)
Rear	137-188	(186-255)
Maxima		
Backing Plate Mount Bolt (Rear)	28-38	(38-52)
Booster Input Rod Lock Nut	12-16	(16-22)
Brake Line Bolt	12-14	(16-19)
Brake Pedal Fulcrum Shaft Nut	12-16	(16-22)
Carrier-to-Mount Bolt	53-72	(72-97)
Front Caliper-to-Carrier Bolt	16-23	(22-31)
Wheel Bearing Lock Nut		
Front	174-231	(236-314)
Rear	137-188	(186-255)
Pathfinder & Pickup		
Backing Plate Mount Nut (Rear)	39-46	(53-62)
Booster Input Rod Lock Nut	12-16	(16-22)
Brake Line Bolt	12-14	(16-19)
Brake Line Flare Nut	11-13	(15-18)
Brake Pedal Fulcrum Shaft Nut	12-16	(16-22)
Caliper-to-Carrier Bolt	16-23	(22-31)
Carrier-to-Mount Bolt	53-72	(72-97)
Free-Running Hub Bolts	18-25	(25-34)
Hub-to-Rotor Bolt (Front)	36-51	(49-69)
Wheel Bearing Lock Nut		
Front		
2WD	25-29	(34-39)
4WD	58-72	(79-98)
Rear		
W/Disc Brakes	181-217	(245-294)
W/Drum Brakes	108-145	(147-196)
Pulsar NX		
Backing Plate Mount Nut (Rear)	25-33	(34-45)
Brake Line Bolt	12-14	(16-19)
Brake Line Flare Nut	11-13	(15-18)
Caliper-to-Carrier Bolt	16-23	(22-31)
Carrier-to-Mount Bolt	40-47	(54-64)
Wheel Bearing Lock Nut		
Front	145-203	(196-275)
Rear	137-188	(186-255)
Sentra		
Backing Plate Mount Bolt (Rear)		
2WD	25-33	(34-45)
4WD	25-38	(38-52)

Brake Line Bolt	12-14	(16-19)
Brake Line Flare Nut	11-13	(15-18)
Caliper-to-Carrier Bolt	12-21	(17-20)
Carrier-to-Mount Bolt	40-47	(54-64)
Wheel Bearing Lock Nut		
Front	145-203	(196-275)
Rear		
2WD	137-188	(186-255)
4WD	174-231	(236-313)
Stanza		
Backing Plate Mount Nut (Rear)	28-38	(38-52)
Brake Line Bolt	12-14	(16-19)
Brake Line Flare Nut	11-13	(15-18)
Caliper-to-Carrier Bolt	16-23	(22-31)
Carrier-to-Mount Bolt	53-72	(72-97)
Wheel Bearing Lock Nut		
Front	174-231	(236-313)
Rear	137-188	(186-255)
240SX		
Brake Line Bolt	12-14	(17-20)
Brake Line Flare Nut	11-13	(15-18)
Brake Pedal Fulcrum Shaft Nut	12-16	(16-22)
Caliper Pin Bolt	16-23	(22-31)
Carrier-to-Mount Bolt	53-72	(72-97)
Wheel Bearing Lock Nut		
Front	108-159	(146-215)
Rear	174-231	(236-313)
300ZX		
Brake Pedal Fulcrum Bolt	22-30	(30-41)
Carrier-to-Mount Bolt	53-72	(72-97)
Wheel Bearing Lock Nut		
Front	152-210	(206-284)
Rear	152-203	(206-275)
	INCH	Lbs. (N.m)
Brake Pedal Fulcrum Bolt		
Maxima, Pathfinder, Pickup & 240SX		(1)
Axxess, Pulsar NX, Sentra & Stanza	72-96	(8-11)

(1) - Listed by model above 12-16 ft.lbs. (16-22).

DISC BRAKE SPECIFICATIONS

DISC BRAKE SPECIFICATIONS TABLE

Application	In.	(mm)
Disc Diameter		
Axxess	10.12	(257.0)
Maxima	11.02	(280.0)
Pathfinder & Pickup (V6)		
Front		
2WD	10.24	(260.0)
4WD	10.91	(277.0)
Rear	11.26	(286.0)
Pickup (4-Cyl.)		
2WD	9.84	(250.0)
Pulsar NX	9.45	(240.0)

Sentra		
All Models	9.45	(240.0)
Stanza	10.12	(257.0)
240SX		
Front	9.92	(252.0)
Rear	10.16	(257.0)
300ZX		
Front	11.02	(280.0)
Rear	11.69	(297.0)

Disc Thickness (Std)

Axxess	.87	(22.0)
Maxima	.87	(22.0)
Pathfinder & Pickup (V6)		
Front		
2WD	1.02	(26.0)
4WD	1.02	(26.0)
Rear	.71	(18.3)
Pickup (4-Cyl.)		
2WD	.87	(22.0)
Pulsar NX		(1)
Sentra		
2WD		
Except Wagon	.47	(12.0)
Wagon	.71	(18.0)
4WD		
All Models	.71	(18.0)
Stanza	.87	(22.0)
240SX		
Front	.79	(20.0)
Rear	.35	(8.9)
300ZX		
Front	1.02	(26.0)
Rear	.71	(18)

Lateral Runout

All Models	.003	(.08)
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Master Cylinder Bore

Axxess	.938	(23.83)
Maxima	.938	(23.83)
Pathfinder & Pickup	.938	(23.83)
Pulsar NX		
Small	.750	(19.05)
Large	.938	(23.83)
Sentra		
Small	.813	(20.65)
Large	1.00	(25.40)
Stanza	.938	(23.83)
240SX	.875	(22.23)
300ZX	1.062	(26.99)

Minimum Disc Thickness

Axxess	.79	(20.1)
Maxima	.79	(20.1)
Pathfinder & Pickup (V6)		
Front		
2WD	.95	(24.1)
4WD	.95	(24.1)
Rear	.63	(16.0)
Pickup (4-Cyl.)		
2WD	.79	(20.1)
Pulsar NX	.39	(10.0)

Sentra		
2WD		
Except Wagon	.....	.39 (10.0)
Wagon	.....	.63 (16.0)
4WD		
All Models	.....	.63 (16.0)
Stanza	.....	.79 (20.1)
240SX		
Front	.....	.71 (18.0)
Rear	.....	.32 (8.1)
300ZX		
Front	.....	.95 (24.0)
Rear	.....	.63 (16.0)
Wheel Cylinder Bore Diameter		
Axxess	.....	2.25 (57.2)
Maxima	.....	2.25 (57.2)
Pathfinder & Pickup (V6)		
2WD	.....	1.69 (42.9)
4WD	.....	1.69 (42.9)
Pickup (4-Cyl.)		
2WD	.....	2.39 (60.7)
Pulsar NX	.....	1.89 (10.0)
Sentra	.....	1.89 (10.0)
Stanza	.....	2.25 (57.2)
240SX		
Front	.....	2.13 (54.1)
Rear	.....	1.34 (34.0)
300ZX		
Front	.....	1.59 (40.4)
Rear	.....	1.50 (38.1)

(1) - Information not available from manufacturer.

DRUM BRAKE SPECIFICATIONS

DRUM BRAKE SPECIFICATIONS

Application	In. (mm)
Drum Diameter	
Axxess	
2WD	
5-Passenger Models	9.0 (229)
7-Passenger Models	10.2 (259)
4WD	10.2 (259)
Maxima	9.0 (229)
Pathfinder & Pickup (V6)	
2WD & 4WD	11.6 (295)
Pickup (4-Cyl.)	
2WD	10.2 (259)
Pulsar NX	8.0 (203)
Sentra	
2WD	8.0 (203)
4WD	9.0 (229)
Stanza	9.0 (229)
Master Cylinder Bore Diameter	
Axxess	.938 (23.83)
Maxima	.938 (23.83)
Pathfinder & Pickup	.938 (23.83)

Pulsar NX		
Small	.....	.750 (19.05)
Large	.....	.938 (23.83)
Sentra		
Small	.....	.813 (20.65)
Large	.....	1.00 (25.40)
Stanza	.....	.938 (23.83)
Maximum Out-of-Round		
All Models	.....	.0012 (.030)
Maximum Refinish Diameter		
Axxess		
2WD		
5-Passenger Models	.....	9.06 (230.1)
7-Passenger Models	.....	10.30 (261.6)
4WD	.....	10.30 (261.6)
Maxima	.....	9.06 (230.1)
Pathfinder & Pickup (V6)		
2WD & 4WD	.....	11.67 (295.4)
Pickup (4-Cyl.)		
2WD	.....	10.30 (261.6)
Pulsar NX	.....	8.05 (204.5)
Sentra		
2WD	.....	8.05 (204.5)
4WD	.....	9.06 (230.1)
Stanza	.....	9.06 (230.1)
Runout		
All Models	.....	.002 (.05)
Wheel Cylinder Bore		
Axxess	.....	.813 (20.65)
Maxima	.....	.750 (19.05)
Pathfinder & Pickup (V6)		
2WD & 4WD	.....	.813 (20.65)
Pickup (4-Cyl.)		
2WD	.....	.875 (22.23)
Pulsar NX	.....	.625 (15.88)
Sentra		
2WD	.....	.625 (15.88)
4WD	.....	.688 (17.48)
Stanza	.....	.813 (20.65)
