

Service Instructions

530 SERIES HYDRAULIC APPLY DISC BRAKES

CHANGE SEAL KIT PROCEDURE

(Refer to Figures 1 and 2)

See Figure 2 for components included in seal kit.

NOTE

When removing seals and back-up rings be careful not to scratch or mar pistons.

1. Disconnect fluid line from brake.

⚠ CAUTION

Cap end of fluid line to prevent entry of dirt into hydraulic system.

2. Remove bolts used to fasten the mounting bracket assembly to vehicle. Remove brake and mounting bracket assembly from vehicle and remove mounting bracket assembly from brake.
3. Remove two shaft seals (24) from housing (25). Not all models use shaft seals (24).
4. Remove bleeder screw (26).
5. Place brake in a soft jawed vise with end plug (6) facing up in a vertical position. **NOTE: Clamping should be done at the sides of the caliper on the machined surfaces.**
6. Using a spanner wrench, remove assembly (1) from housing (25).
7. Screw the spanner wrench side of end plug (6) back into the housing still clamped in vise. This will hold assembly (1) while using two large flat screw drivers to carefully separate piston assembly (3) from end plug assembly (2). Separate piston assembly (3) from end plug assembly (2). **NOTE: Be careful not to damage piston (16) or end plug (6).**

NOTE

If end plug assembly (2) and piston assembly (3) will not separate, flip end plug assembly over and screw into housing approximately 3 threads. Carefully drill a 3 mm (1/8") hole thru the center of frost plug (5). Not all models use frost plug (5). Be careful not to contact compensator assembly (4) with the drill bit. Remove frost plug (5) by prying it out of end plug (6) pocket. Loosen nut (9) so wedge (11) can move in piston (6) bore.

8. Remove end plug (6) from housing (25). Remove o-ring (8), back-up ring (7) and frost plug (5) from end plug (6). Not all models use frost plug (5) or back-up ring (7).
9. Do not remove compensator assembly (4) from piston (16). Remove nut (9), belleville spring (10), wedge (11), washer (12), and o-ring (13) from compensator assembly (4).
10. Loosen vise jaws and rotate caliper so that disc clearance slot is facing up.
11. Using a thin blade tool, remove o-ring (19), back-up ring (20) and seal (21) from housing bore.
12. Clean all parts thoroughly before assembling.
13. Lubricate o-rings and back-up rings from repair kit with clean system fluid. DO NOT LUBRICATE shaft

seals (24) or seal (21). Not all models use shaft seals (24).

14. Carefully install new back-up ring (7) and new o-ring (8) over non-threaded end of end plug (6) and into groove. Not all models use back-up ring (7).
15. Install new back-up ring (20) and new o-ring (19) in housing bore. Make sure they are installed in proper position in groove.

NOTE

When installing back-up rings, it is essential that surfaces of diagonal splice match with each other after back-up ring is installed in groove.

16. Install new seal (21) into groove of housing bore through the disc clearance slot end of bore. Note the direction of seal.
17. Install new o-ring (13), washer (12), wedge ring (11), and belleville spring (10) on compensator assembly (14). **NOTE: Make sure wedge ring (11) and belleville spring (10) are installed in proper direction.**
18. Apply loctite 262 or equivalent to threads of nut (9) and install on compensator assembly (14). DO NOT TIGHTEN nut (9) at this point.
19. Lubricate o-ring (13) with clean type system fluid. Assemble piston assembly (3) to end plug (6) by carefully inserting compensator assembly (4) into end plug (6) bore. Compress assembly (1) so there is a minimum gap as shown in Figure 1. Torque nut (9) 2.8-4.5 N·m (25-40 lb·ft).
20. Place assembly (1) on a flat surface with spanner wrench holes facing upward. Install new frost plug (5). Not all models use frost plug (5).
21. Rotate caliper in vise to original position.
22. Lightly lubricate housing bore and piston (16) with clean system fluid. Carefully reinstall assembly (1) into housing bore keeping lining face free of system fluid and contamination. Tighten end plug (6) with a spanner wrench until it bottoms out on housing (25) and torque 74.6-88.1 N·m (55-65 lb·ft).
NOTE: Assembly (1) must remain compressed with a minimum gap. See Figure (1).
23. Install two new shaft seals (24) in housing (25). Note direction of shaft seals. DO NOT LUBRICATE shaft seals (24). Not all models use shaft seals (24).
24. Mount brake and bracket assembly on disc and bolt securely to vehicle using SAE Grade 8 or better mounting bolts with lock washers.
25. After brake is mounted on vehicle, install new bleeder screw (26) and hydraulic lines.
26. Bleed system making sure all air is eliminated.
27. Apply rated pressure and check for leaks. Torque bleeder screw 12.2-20.3 N·m (9-15 lb·ft).

⚠ CAUTION

Do not move vehicle until a firm brake pedal is obtained.

CHANGE REPAIR KIT PROCEDURE

(Refer to Figures 1 and 2)

See Figure 1 for components included in repair kit.

NOTE

When removing seals and back-up rings be careful not to scratch or mar pistons.

New linings must be kept free of oil, grease, etc.

1. Disconnect fluid line from brake.

⚠ CAUTION

Cap end of fluid line to prevent entry of dirt into hydraulic system.

2. Remove bolts used to fasten the mounting bracket assembly to vehicle. Remove brake and mounting bracket assembly from vehicle and remove mounting bracket assembly from brake.
3. Remove two shaft seals (24) from housing (25). Not all models use shaft seals (24).
4. Remove bleeder screw (26).
5. Place brake in a soft jawed vise with end plug (6) facing up in a vertical position. **NOTE: Clamping should be done at the sides of the caliper on the machined surfaces.**
6. Using a spanner wrench, remove assembly (1) from housing (25).
7. Screw the spanner wrench side of end plug (6) back into the housing still clamped in vise. This will hold assembly (1) while using two large flat screw drivers to carefully separate piston assembly (3) from end plug assembly (2). Separate piston assembly (3) from end plug assembly (2). **NOTE: Be careful not to damage piston (16) or end plug (6).**

NOTE

If end plug assembly (2) and piston assembly (3) will not separate, flip end plug assembly over and screw into housing approximately 3 threads. Carefully drill a 3 mm (1/8") hole thru the center of frost plug (5). Not all models use frost plug (5). Remove frost plug (5) by prying it out of end plug (6) pocket. Loosen nut (9) so wedge (11) can move in piston (6) bore.

8. Remove end plug (6) from housing (25). Remove o-ring (8), back-up ring (7) and end frost plug (5) from end plug (6). Not all models use frost plug (5) or back-up ring (7).
9. Remove compensator assembly (4) from piston (16).
10. Remove screws (18) and lining (17) from piston (16).
11. Loosen vise jaws and rotate caliper so that disc clearance slot is facing up.
12. Remove screws (22) and lining (23) from housing (24).
13. Using a thin blade tool, remove o-ring (19), back-up ring (20) and seal (21) from housing bore.
14. Clean all parts thoroughly before assembling.
15. Lubricate o-rings and back-up ring from repair kit with clean system fluid. **DO NOT LUBRICATE** shaft seals (24) or seal (21). Not all models use shaft seals (24).
16. Carefully install new back-up ring (7) and new

o-ring (8) over non-threaded end of end plug (6) and into groove.

17. Install new back-up ring (20) and new o-ring (19) in housing bore. Make sure they are installed in proper position in groove.
18. Install new seal (21) into groove of housing bore through the disc clearance slot end of bore. Note the direction of seal.
19. Install new lining (23) in housing (25) using new screws (22). Torque screws 2.7-3.4 N·m (24-30 lb·in).

NOTE

When installing back-up rings, it is essential that surfaces of diagonal splice match with each other after back-up ring is installed in groove.

20. Install new compensator assembly (4) in piston (16). Torque compensator 19.0-24.4 N·m (14-18 lb·ft). **DO NOT TIGHTEN NUT (9)** at this point.
21. Install new lining (17) on piston (16) using new screws (18). Torque screws 2.7-3.4 N·m (24-30 lb·in).
22. Lubricate o-ring (13) with clean type system fluid. Assemble piston assembly (3) to end plug (6) by carefully inserting compensator assembly (4) into end plug (6) bore. Compress assembly (1) so there is a minimum gap as shown in Figure 1. Remove nut (9) and apply loctite 262 or equivalent to threads. Reinstall nut (9) and torque 2.8-4.5 N·m (25-40 lb·in).
23. Place assembly (1) on a flat surface with spanner wrench holes facing upward. Install new frost plug (6). Not all models use frost plug (6).
24. Rotate caliper in vise to original position.
25. Lightly lubricate housing bore and piston (16) with clean system fluid. Carefully reinstall assembly (1) into housing bore keeping lining face free of system fluid and contamination. Tighten end plug (6) with a spanner wrench until it bottoms out on housing (25) and torque 74.6-88.1 N·m (55-65 lb·ft).
NOTE: Assembly (1) must remain compressed with a minimum gap. See Figure (1).
26. Install two new shaft seals (24) in housing (25). Note direction of shaft seals. **DO NOT LUBRICATE** shaft seals (24). Not all models use shaft seals (24).
27. Mount brake and bracket assembly on disc and bolt securely to vehicle using SAE Grade 8 or better mounting bolts with lock washers.
28. After brake is mounted on vehicle, install new bleeder screw (26) and hydraulic lines. **NOTE: All porting is designed for #4 SAE o-ring boss port adapters.**
29. Bleed system making sure all air is eliminated. Apply rated pressure and check for leaks.
30. Torque bleeder screw 12.2-20.3 N·m (9-15 lb·ft).

⚠ CAUTION

Do not move vehicle until a firm brake pedal is obtained.

FIGURE 1
(Later design model shown)

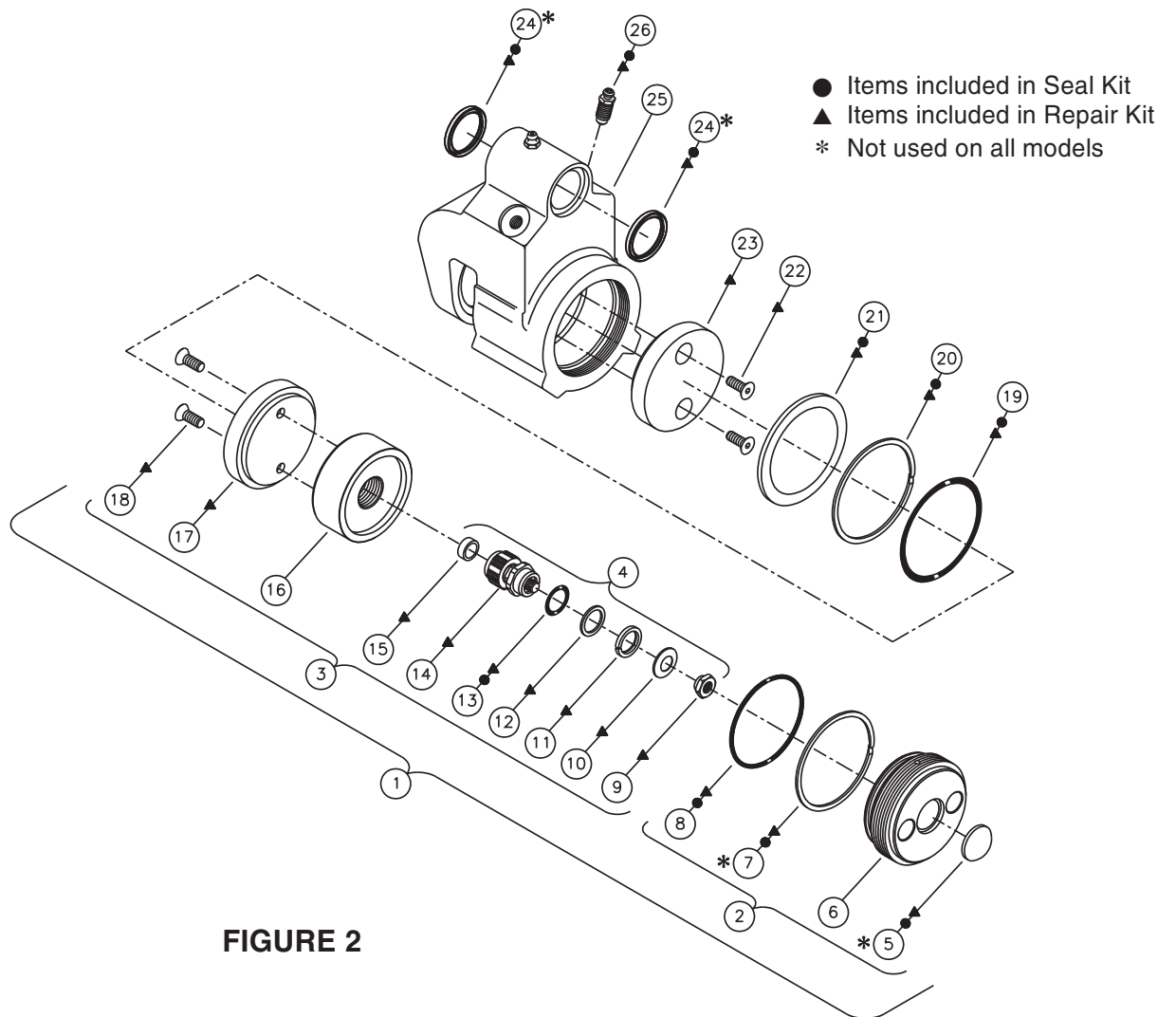
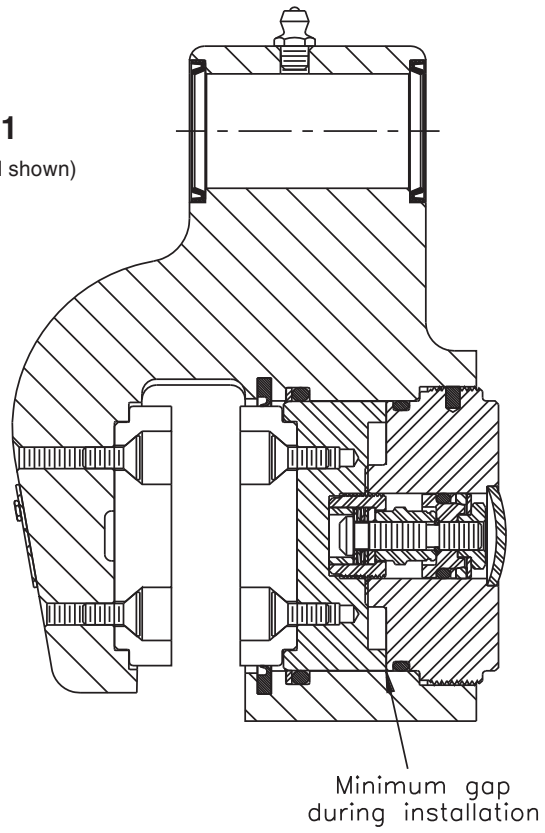


FIGURE 2

BASIC SERVICE PROCEDURES

SERVICE CHECKS

1. Maintain a proper fluid level. When adding fluid, use clean mineral base hydraulic oil, follow vehicle manufacturer's fluid specs.
2. Check brake lines and fittings for leaks, chaffing, etc. Always install new hoses, lines or fittings if they look the least bit questionable.
3. Check lining wear when servicing the brake.
4. Disc should be serviced in accordance with the original vehicle manufacturer's instructions.

SERVICE PRECAUTIONS

1. Never use brake fluid in a mineral base hydraulic oil system.
2. Keep grease, oil and fluid off the linings, caliper assembly and disc surfaces.
3. Clean fittings and seats when servicing the brake.

NOTE

Weekly greasing of slider-pin zerk is recommended. Under severe service conditions more frequent greasing will be required.