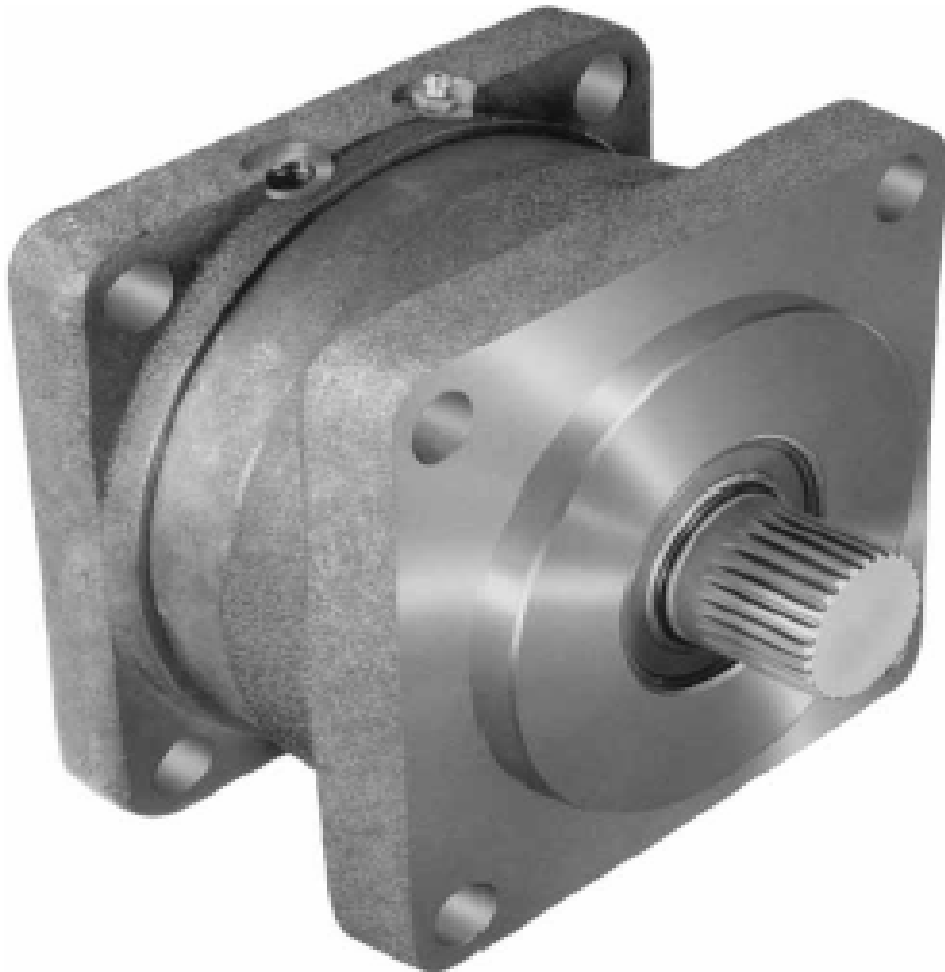


**SERVICE LITERATURE FOR
YOUR EXACT APPLICATION
IS NOT AVAILABLE AT THIS
TIME. THIS IS CLOSEST
AVAILABLE INSTRUCTIONS.**

**Modular
MULTIPLE
DISC BRAKE
(SAE A size)**



Service Manual



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DISASSEMBLY

1. Remove two socket head assembly screws (21) from pressure plate (20). A suitable holding fixture is useful to keep brake in position.
2. Remove pressure plate (20) and spring plate (13) assembly from cover (5).
3. Remove cover (5) and spline shaft (6) assembly from reducer.
4. Remove retaining ring (2) from spline shaft (6).
5. Remove spline shaft (6) from cover (5) by tapping male end of spline shaft with soft mallet.
6. Remove retaining ring (1) from cover (5) and press out oil seal (4) and bearing (3) if required.
7. Remove four socket head shoulder bolts (7). A suitable holding fixture is useful to hold brake in position.

⚠ CAUTION

Do not remove shoulder bolts without pressurization of brake, approx. 20.7 bar (300 psi), or damage may result.

8. Remove primary disc (8) rotor discs (9) and stator discs (10).
9. Release pressure to brake before removing four socket head cap screws (11).
10. remove case gasket (12) from spring plate (13).
11. Before removing springs (14), note pattern and color for reassembly purposes.
12. Remove piston (15) by carefully exerting hydraulic pressure through brake release port on pressure plate (20).
13. Remove o-rings (17 & 19) and back-up rings (16 & 18) from piston (15). **NOTE: Care must be taken so as not to scratch or mar piston.**
14. Remove case gasket (12) from pressure plate (20).

ASSEMBLY

LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN TYPE FLUID USED IN THE SYSTEM.

1. Clean all parts thoroughly before assembling.
2. Install back-up rings (16 & 18) on piston (15) toward spring pockets.
3. Install o-rings (17 & 19) on piston (15). Be sure o-rings are flat and all twists removed. **NOTE: Care must be taken so as not to scratch or mar piston.**
4. Lubricate piston (15) with clean type fluid used in the system. Carefully press piston into pressure plate (20). Be sure piston is oriented such that threaded holes in piston are in alignment with thru holes in spring plate (13) when installed.
5. Install springs (14) according to pattern and color noted during disassembly. Different colored springs must be alternated.
6. Affix case gaskets (12) to pressure plate (20) and spring plate (13).
7. Place pressure plate (20) assembly on a press. Using fixture, depress spring plate (13) and install four socket head assembly bolts (11). **NOTE: Apply two drops of Loctite #242 to threads.** Torque bolts 47.5-54.2 Nm (35-40 lbs-ft). A suitable holding fixture is useful to hold brake in position.
8. Install rotor discs (9) and stator discs (10). Begin with a rotor disc (9) and alternate with stator discs (10). For high torque models with four rotors and four stators, the last stator should be assembled next to the primary disc (8).
9. Install primary disc (8).
10. Align discs using spline shaft (6) and partially screw in four socket head shoulder bolts (7). **NOTE: Apply two drops of Loctite #242 to threads.** Inspect for free movement of stack. Pressurize brake release port, approx. 20.7 bar (300 psi), to release discs. Torque shoulder bolts 20.3-24.4 Nm (15-18 lbs-ft) and release pressure. A suitable holding fixture is useful to hold assembly in position.

11. Recheck that rotors are in line and centered in assembly with spline shaft (6). The shaft should move smoothly through lining stack.
12. Press oil seal (4) with open side facing pilot end of cover (5) until flush with bearing shoulder.
13. Press bearing (3) into position until it bottoms out on oil seal borestep.
14. Install retaining ring (1) into cover (5).
15. Press spline shaft (6) into bearing (4) until shaft bottoms on shaft shoulder. Bearing inner race must be supported during this operation.
16. Install retaining ring (2) on spline shaft (6).

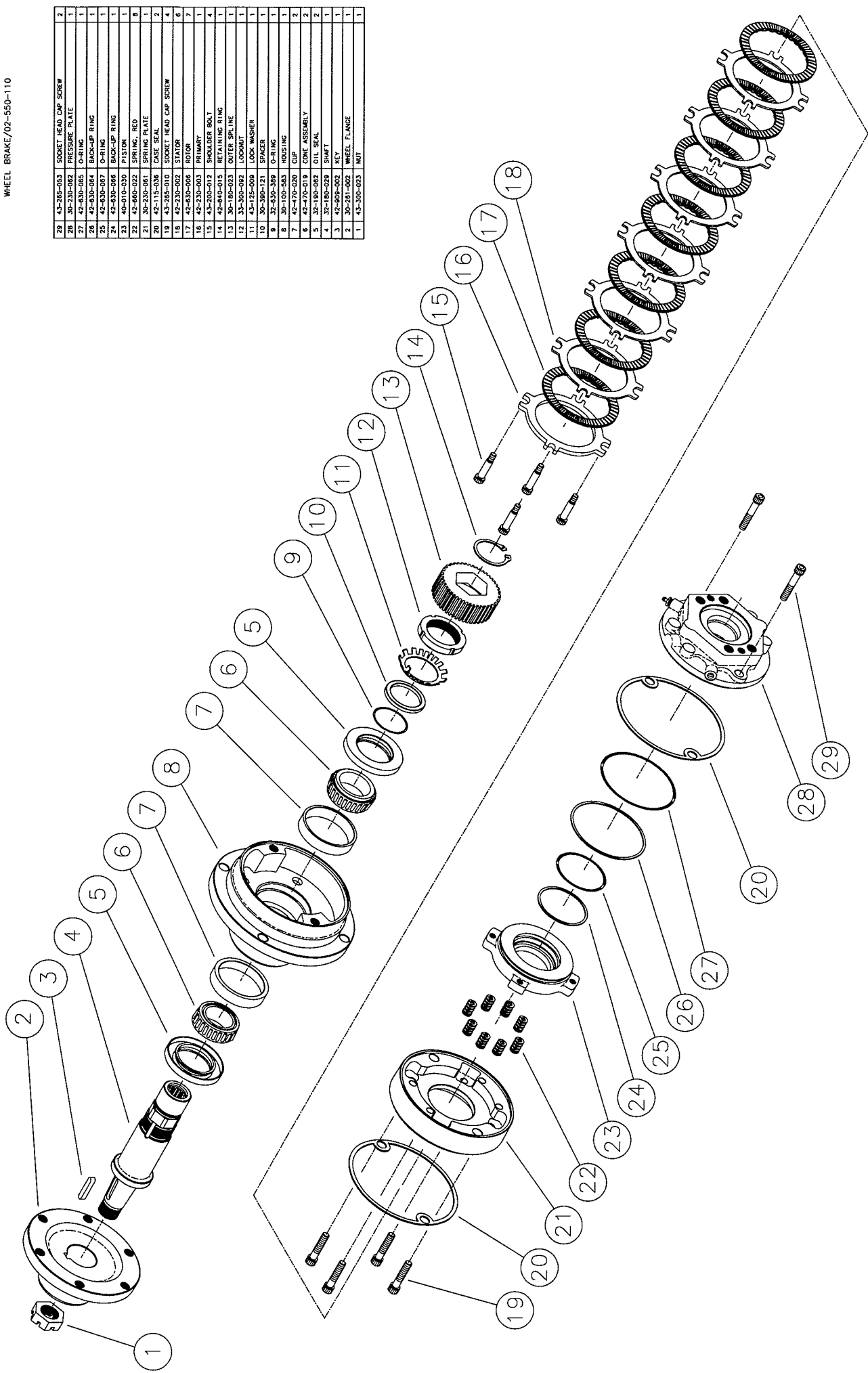
⚠ CAUTION

If hydrostatic bench testing is performed on the brake assembly, release pressure should not exceed 69.0 bar (1000 psi) unless two additional bolts are used for supplemental clamping.

MOUNTING INSTRUCTIONS

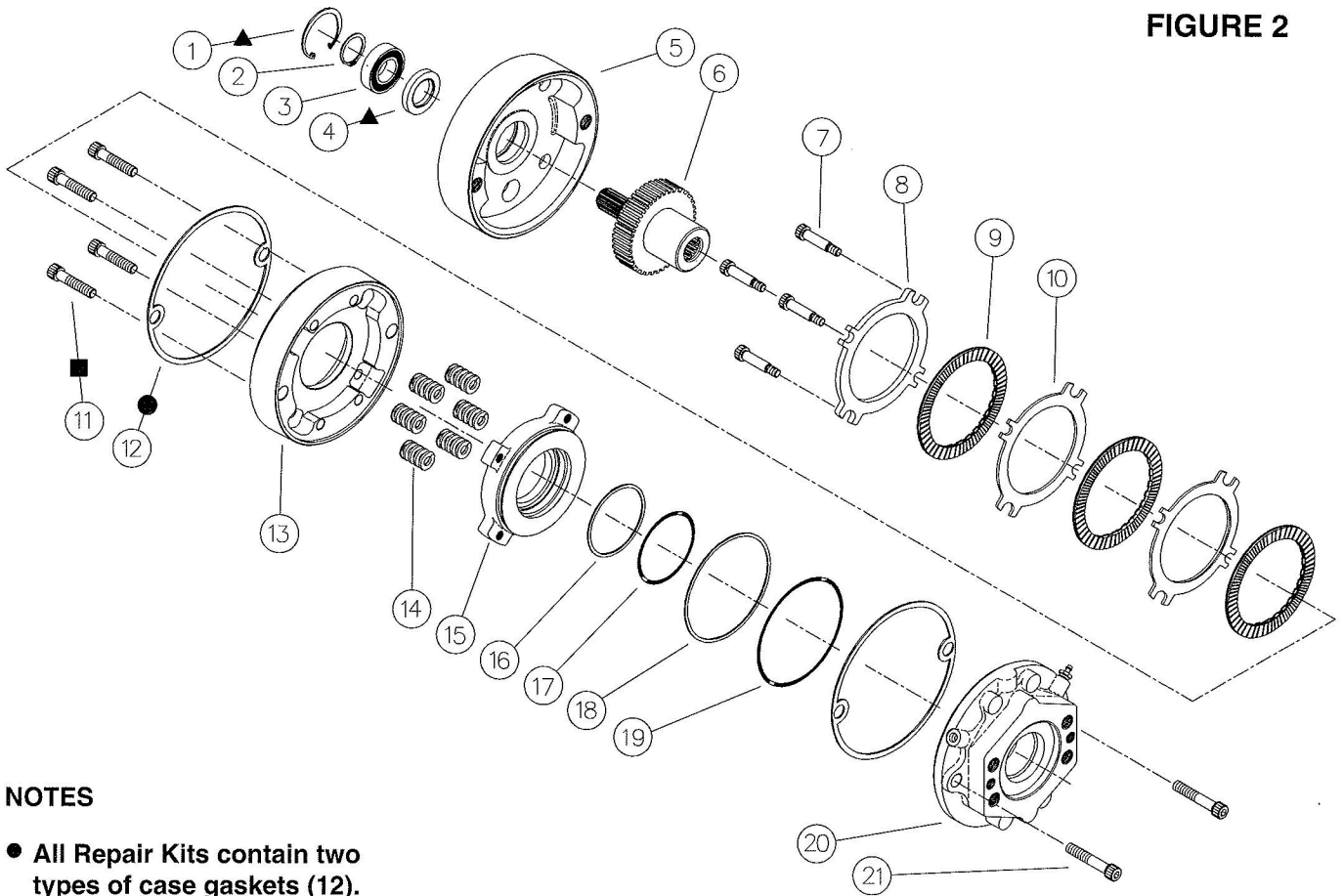
1. Install cover/shaft assembly on gearbox using either (2) or (4) 1/2 - 13 UNC x 1.00" long socket head cap screws, depending on brake module being used. Lubricate screw threads and torque 115.3-122.4 Nm (85-90 lbs-ft). [Earlier 540 Series Brakes required 1/2 - 13 flat head cap screws to be torqued 88.1-94.9 Nm (65-70 lbs-ft)]
2. Carefully assemble brake module to cover/shaft assembly with (2) bolts provided. Lubricate bolt threads and torque 115.3-122.4 Nm (85-90 lbs-ft). [Earlier 540 Series Brakes required (2) 9/16 - 12 UNC bolts to be torqued 149.2-162.7 Nm (110-120 lbs-ft). **NOTE: Care must be taken to assure cover and brake module are seated properly prior to installing 1/2 - 13 UNC assembly bolts. Damage will occur to rotor stack or shaft snap ring if not properly seated.**

WHEEL BRAKE/02-550-110



29	43-265-053	SOCKET HEAD CAP SCREW	2
28	30-230-082	PRESSURE PLATE	1
27	42-830-085	O-RING	1
26	42-830-084	BACK-UP RING	1
25	42-830-087	O-RING	1
24	42-830-086	BACK-UP RING	1
23	40-010-030	PISTON	1
22	42-600-022	SPRING, RED	8
21	30-230-091	SPRING PLATE	2
20	42-115-038	CASE SEAL	1
19	43-265-010	SOCKET HEAD CAP SCREW	4
18	42-230-002	STATOR	6
17	42-830-008	ROTOR	7
16	42-230-003	PRIMARY	1
15	43-200-012	SKULLER BOLT	4
14	42-640-015	RETAINING RING	1
13	30-180-023	OUTER SPLINE	1
12	33-300-092	LOOKOUT	1
11	43-125-009	LOCK WASHER	1
10	30-380-121	SPACER	1
9	32-630-339	O-RING	1
8	30-100-583	HOUSING	1
7	42-770-020	CLIP	2
6	42-770-019	ONE ASSEMBLY	2
5	32-180-082	OIL SEAL	2
4	32-180-029	SHAFT	1
3	42-909-002	KEY	1
2	30-261-002	WHEEL FLANGE	1
1	43-300-023	NUT	1

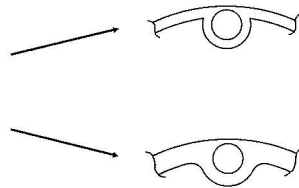
FIGURE 2



NOTES

● All Repair Kits contain two types of case gaskets (12). Be sure to use the correct gaskets for your model:

- 538 Series Brakes use this gasket
- 540 Series Brakes use this gasket



▲ Some 540 Series Brakes do not include retaining ring (1) and oil seal (4).

■ Some 540 Series Brakes required only two 3/8 - 16 bolts (11).

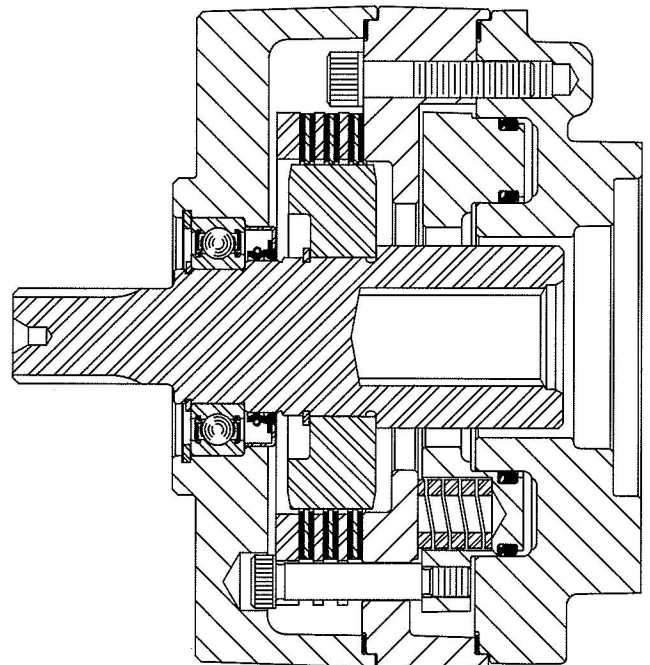


FIGURE 3

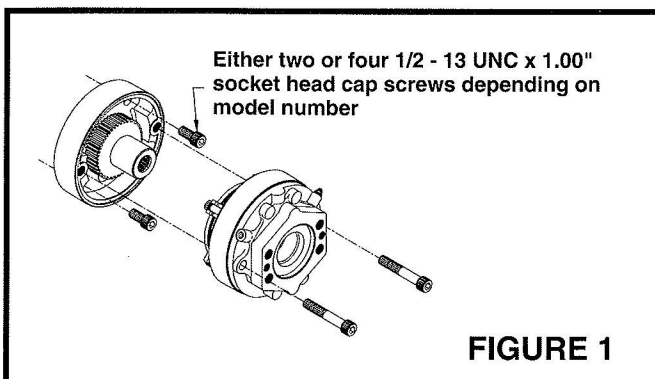


FIGURE 1

BLEEDING

1. Install brake in system and connect pressure lines.
2. Bleed pressure release section of brake by pressurizing side inlet port and allowing air to escape from top port. Pressure should not exceed 6.89 bar (100 psi) during bleeding.
3. Apply sufficient pressure to release brake and check for proper operation in system.

SERVICE DIAGNOSIS

PROBLEM	CAUSE	EXPLANATION	ACTION
Brake slips	A. Excessive pressure in hydraulic system	If there is back pressure in the actuation line of the brake, holding torque will be reduced.	Check filters, hose size, restrictions in other hydraulic components.
	B. Oil in brake if designed for dry use	Wet linings generate 67% of the dry torque rating. If the brake has oil in it, check the type of oil hydraulic or gearbox. 1. Gearbox oil 2. Hydraulic oil	Replace oil seal in brake Check motor seal Check piston seals Note: Internal components will need to be inspected, cleaned and replaced as required.
	C. Disc plates worn	The thickness of the disc stack sets the torque level. A thin stack reduces torque.	Check disc thickness
	D. Springs broken or have taken a permanent set	Broken or set springs can cause reduced torque - a rare occurrence.	Check release pressure
Brake drags or runs hot	A. Low actuation pressure	The brake should be pressurized to minimum of 1.38 bar (20 psi) over the full release pressure under normal operating conditions. Lower pressures will cause the brake to drag thus generating heat.	Place pressure gauge in bleed port & check pressure with system on
	B. Bearing failure	If the bearing should fail, a large amount of drag can be generated.	Replace bearing
	C. Oil in brake	Excess fill of oil in sump condition thru wet brakes can cause the unit to run hot. Also excessive rpm in sump condition.	Drain oil and refill as specified for brakes Switch to flow thru cooling.
Brake will not release	A. Stuck valve or clogged	Brakes are designed to come on when system pressure drops below stated release pressure. If pressure cannot get to brake, the brake will not release.	Place pressure gauge in bleed port - check for adequate pressure - Replace defective line or component
	B. Bad o-rings	If release piston will not hold pressure, brake will not release.	Replace o-rings
	C. Discs frozen	These brakes are designed for only limited dynamic braking. A severe emergency stop or prolonged reduced release pressure operation may result in this type of damage.	Replace disc stack