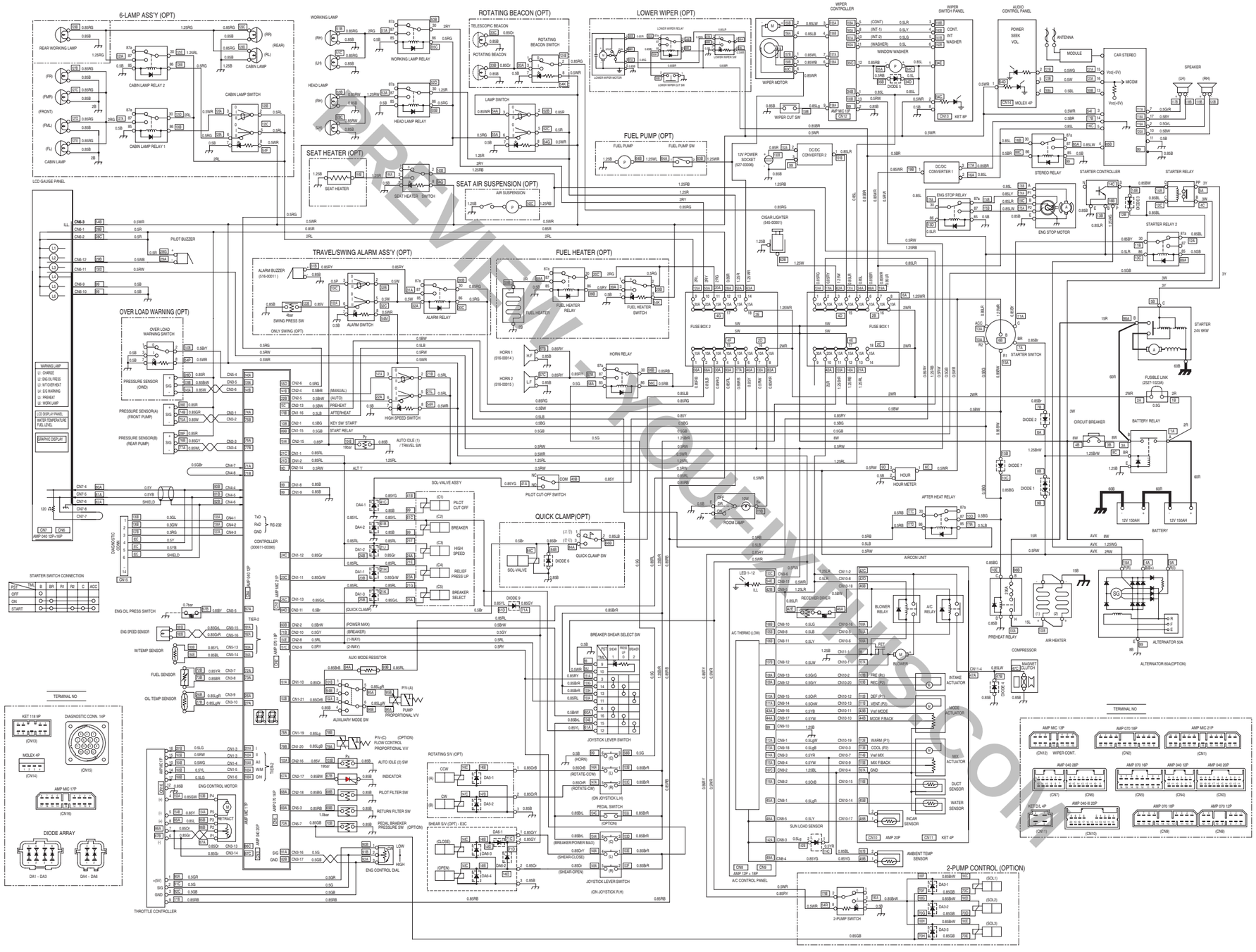
DX300LCA

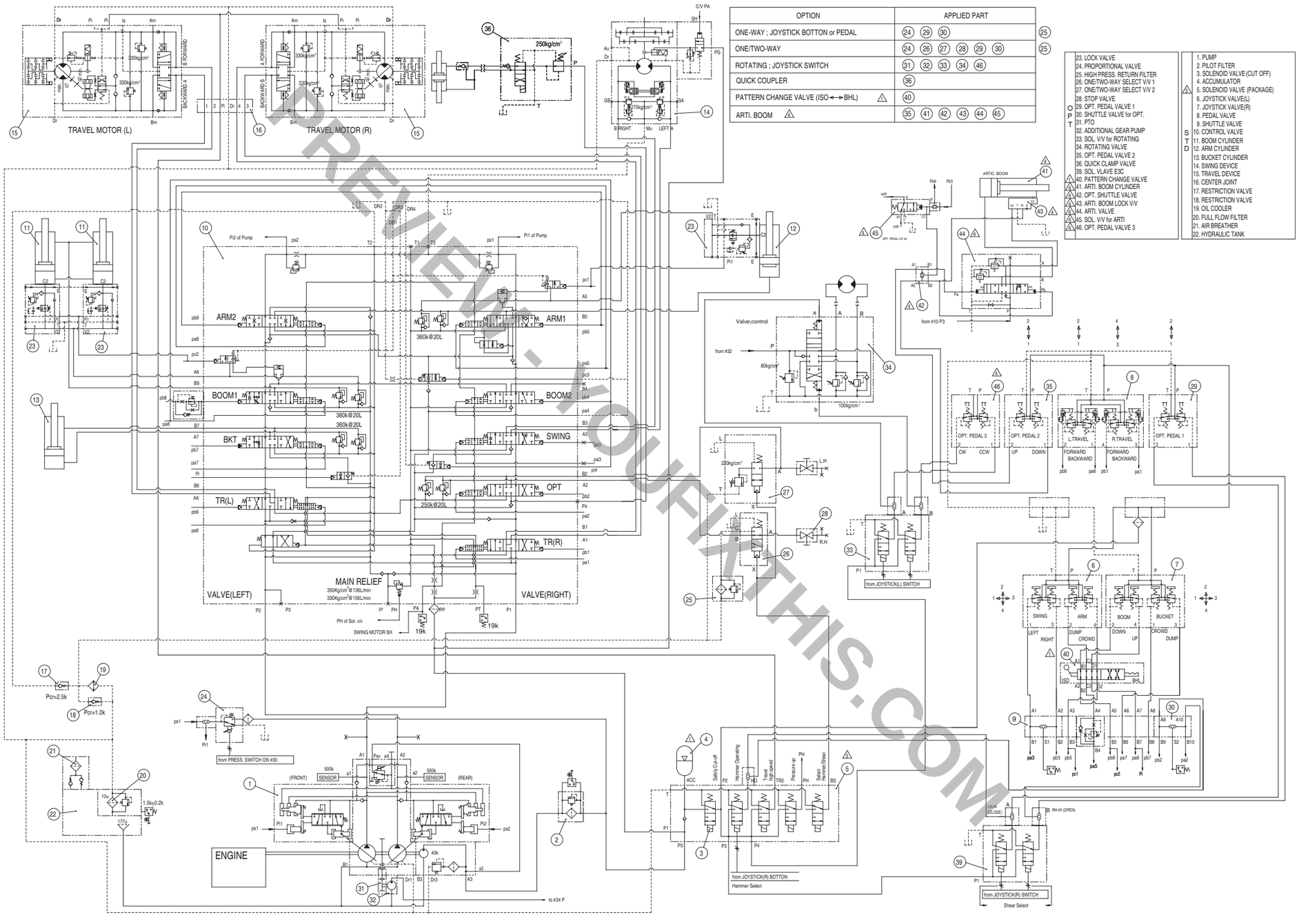


FG015521

Figure 1

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DX300LC/DX300LCA



OPTION	APPLIED PART
ONE-WAY ; JOYSTICK BOTTON or PEDAL	(24) (29) (30) (25)
ONE/TWO-WAY	(24) (26) (27) (28) (29) (30) (25)
ROTATING ; JOYSTICK SWITCH	(31) (32) (33) (34) (46)
QUICK COUPLER	(36)
PATTERN CHANGE VALVE (ISO ⇔ BHL) △	(40)
ARTI. BOOM △	(35) (41) (42) (43) (44) (45)

OPT
23. LOCK VALVE
24. PROPORTIONAL VALVE
25. HIGH PRESS. RETURN FILTER
26. ONE/TWO-WAY SELECT V/V 1
27. ONE/TWO-WAY SELECT V/V 2
28. STOP VALVE
29. OPT. PEDAL VALVE 1
30. SHUTTLE VALVE for OPT.
31. PTO
32. ADDITIONAL GEAR PUMP
33. SOL. V/V for ROTATING
34. ROTATING VALVE
35. OPT. PEDAL VALVE 2
36. QUICK CLAMP VALVE
39. SOL. VLAVE E3C
△ 40. PATTERN CHANGE VALVE
△ 41. ARTI. BOOM CYLINDER
△ 42. OPT. SHUTTLE VALVE
△ 43. ARTI. BOOM LOCK V/V
△ 44. ARTI. VALVE
△ 45. SOL. V/V for ARTI
△ 46. OPT. PEDAL VALVE 3

STD
1. PUMP
2. PILOT FILTER
3. SOLENOID VALVE (CUT OFF)
4. ACCUMULATOR
△ 5. SOLENOID VALVE (PACKAGE)
6. JOYSTICK VALVE(L)
7. JOYSTICK VALVE(R)
8. PEDAL VALVE
9. SHUTTLE VALVE
10. CONTROL VALVE
11. BOOM CYLINDER
12. ARM CYLINDER
13. BUCKET CYLINDER
14. SWING DEVICE
15. TRAVEL DEVICE
16. CENTER JOINT
17. RESTRICTION VALVE
18. RESTRICTION VALVE
19. OIL COOLER
20. FULL FLOW FILTER
21. AIR BREATHER
22. HYDRAULIC TANK

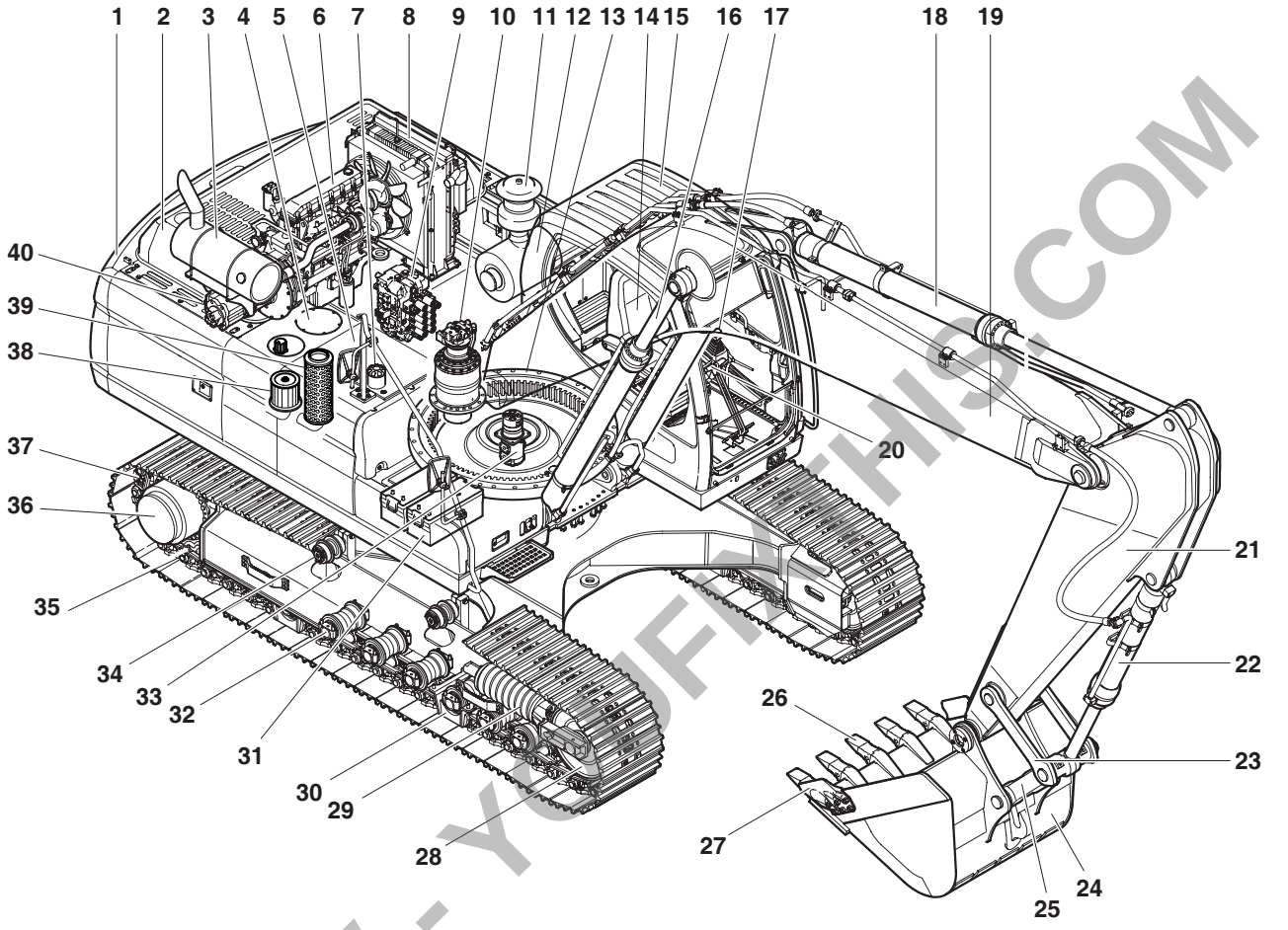
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Figure 1

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COMPONENT LOCATIONS



FG000671

Figure 1

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TORQUE VALUES FOR STANDARD METRIC FASTENERS

NOTE: *The units for the torque values are kg•m (ft lb).*

Dia. x Pitch (mm)	Grade										
	3.6 (4A)	4.6 (4D)	4.8 (4S)	5.6 (5D)	5.8 (5S)	6.6 (6D)	6.8 (6S)	6.9 (6G)	8.8 (8G)	10.9 (10K)	12.9 (12K)
M5 x Std.	0.15 (1.08)	0.16 (1.15)	0.25 (1.80)	0.22 (1.59)	0.31 (2.24)	0.28 (2.02)	0.43 (3.11)	0.48 (3.47)	0.50 (3.61)	0.75 (5.42)	0.90 (6.50)
M6 x Std.	0.28 (2.02)	0.30 (2.16)	0.45 (3.25)	0.40 (2.89)	0.55 (3.97)	0.47 (3.39)	0.77 (5.56)	0.85 (6.14)	0.90 (6.50)	1.25 (9.04)	1.50 (10.84)
M7 x Std.	0.43 (3.11)	0.46 (3.32)	0.70 (5.06)	0.63 (4.55)	0.83 (6.00)	0.78 (5.64)	1.20 (8.67)	1.30 (9.40)	1.40 (10.12)	1.95 (14.10)	2.35 (16.99)
M8 x Std.	0.70 (5.06)	0.75 (5.42)	1.10 (7.95)	1.00 (7.23)	1.40 (10.12)	1.25 (9.04)	1.90 (13.74)	2.10 (15.18)	2.20 (15.91)	3.10 (22.42)	3.80 (27.48)
M8 x 1	0.73 (5.28)	0.80 (5.78)	1.20 (8.67)	1.00 (7.23)	1.50 (10.84)	1.35 (9.76)	2.10 (15.18)	2.30 (16.63)	2.40 (17.35)	3.35 (24.23)	4.10 (29.65)
M10 x Std.	1.35 (9.76)	1.40 (10.12)	2.20 (15.91)	1.90 (13.74)	2.70 (19.52)	2.35 (19.99)	3.70 (26.76)	4.20 (30.37)	4.40 (31.18)	6.20 (44.84)	7.20 (52.07)
M10 x 1.25	1.50 (10.84)	1.60 (11.57)	2.50 (18.08)	2.10 (15.18)	3.10 (22.42)	2.80 (20.25)	4.30 (31.10)	4.90 (35.44)	5.00 (36.16)	7.00 (50.63)	8.40 (60.75)
M12 x Std.	2.40 (17.35)	2.50 (18.08)	3.70 (26.76)	3.30 (23.86)	4.70 (33.99)	4.20 (30.37)	6.30 (45.56)	7.20 (52.07)	7.50 (54.24)	10.50 (75.94)	12.50 (90.41)
M12 x 1.25	2.55 (18.44)	2.70 (19.52)	4.00 (28.93)	3.50 (25.31)	5.00 (36.16)	4.50 (32.54)	6.80 (49.18)	7.70 (55.69)	8.00 (57.86)	11.20 (81.00)	13.40 (96.92)
M14 x Std.	3.70 (26.76)	3.90 (28.20)	6.00 (13.23)	5.20 (37.61)	7.50 (54.24)	7.00 (50.63)	10.00 (72.33)	11.50 (83.17)	12.00 (86.79)	17.00 (122.96)	20.00 (144.66)
M14 x 1.5	4.10 (29.65)	4.30 (31.10)	6.60 (47.73)	5.70 (41.22)	8.30 (60.03)	7.50 (54.24)	11.10 (80.28)	12.50 (90.41)	13.00 (94.02)	18.50 (11.26)	22.00 (158.12)
M16 x Std.	5.60 (40.50)	6.00 (43.39)	9.00 (65.09)	8.00 (57.86)	11.50 (83.17)	10.50 (75.94)	15.50 (112.11)	17.90 (129.47)	18.50 (133.81)	26.00 (188.05)	31.00 (224.22)
M16 x 1.5	6.20 (44.84)	6.50 (47.01)	9.70 (70.16)	8.60 (62.20)	12.50 (90.41)	11.30 (81.73)	17.00 (122.96)	19.50 (141.04)	20.00 (144.66)	28.00 (202.52)	35.50 (256.77)
M18 x Std.	7.80 (56.41)	8.30 (60.03)	12.50 (90.41)	11.00 (79.56)	16.00 (115.72)	14.50 (104.87)	21.00 (151.89)	27.50 (198.90)	28.50 (206.14)	41.00 (296.55)	43.00 (311.01)
M18 x 1.5	9.10 (65.82)	9.50 (68.71)	14.40 (104.15)	12.50 (90.41)	18.50 (133.81)	16.70 (120.79)	24.50 (177.20)	27.50 (198.90)	28.50 (206.14)	41.00 (296.55)	49.00 (354.41)
M20 x Std.	11.50 (83.17)	12.00 (86.79)	18.00 (130.19)	16.00 (115.72)	22.00 (159.12)	19.00 (137.42)	31.50 (227.83)	35.00 (253.15)	36.00 (260.38)	51.00 (368.88)	60.00 (433.98)
M20 x 1.5	12.80 (92.58)	13.50 (97.64)	20.50 (148.27)	18.00 (130.19)	25.00 (180.82)	22.50 (162.74)	35.00 (253.15)	39.50 (285.70)	41.00 (296.55)	58.00 (419.51)	68.00 (491.84)
M22 x Std.	15.50 (112.11)	16.00 (115.72)	24.50 (177.20)	21.00 (151.89)	30.00 (216.99)	26.00 (188.05)	42.00 (303.78)	46.00 (332.71)	49.00 (354.41)	67.00 (484.61)	75.00 (542.47)
M22 x 1.5	17.00 (122.96)	18.50 (133.81)	28.00 (202.52)	24.00 (173.59)	34.00 (245.92)	29.00 (209.75)	47.00 (339.95)	52.00 (44.76)	56.00 (405.04)	75.00 (542.47)	85.00 (614.80)
M24 x Std.	20.50 (148.27)	21.50 (155.50)	33.00 (238.68)	27.00 (195.29)	40.00 (289.32)	34.00 (245.92)	55.00 (397.81)	58.00 (419.51)	63.00 (455.67)	82.00 (593.10)	92.00 (655.43)
M24 x 2.0	23.00 (166.35)	35.00 (253.15)	37.00 (267.62)	31.00 (224.22)	45.00 (325.48)	38.00 (202.52)	61.00 (441.21)	67.00 (484.61)	74.00 (535.24)	93.00 (672.66)	103.00 (744.99)

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Failure Information Code at Machine Side

Code	Failure Component	Measuring Points	Correct Value		Remarks
			Active	Passive	
V201	Gauge Panel Communication Error	CN7-4 CN7-5	-	R = 60 ± 5 Ω	It is a composite resistance of CAN line. This value has to be measured by connected condition of CAN line.
V202	ECU Communication Error	CN4-4 CN4-5	-	R = 60 ± 5 Ω	
V210	Pump P/V	CN1-10 CN1-21	-	R = 18 ± 2 Ω (25°C (77°F))	Pump proportional pressure reducing valve.
V211	Cooling Fan P/V		-	-	N.A.
V212	Flow Control P/V	CN1-19 CN1-20	-	R = 14 ± 2 Ω (25°C (77°F))	Flow control proportional pressure reducing valve.
V213	Relief Pressure Up S/V	CN1-1 CN1-11	V = V_volt (Note 4.)	R = 26.2 ± 2 Ω (25°C (77°F))	Breaker/boost/ shear selector switch has to be selected as a boost function and the boost switch on the right-hand joystick is "ON" status.
V214	High Speed S/V	CN1-1 CN1-12	V = V_volt	R = 26.2 ± 2 Ω (25°C (77°F))	Voltage is only measured when the pressure switch (Py) is turned "ON."
V216	Reverse Fan Speed S/V		-	-	N.A.
V217	Starter Relay	CN1-1 CN1-15	V = V_volt	-	It has to be measured in engine start up state.
V218	After Heat Relay	1-16 1-04	-	-	N.A.
V220	Front Pump Press. Sensor	CN3-1 CN3-2	V = 1V	-	It has to be measured in engine stop state.
V221	Rear Pump Press. Sensor	CN3-3 CN3-4	V = 1V	-	

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REMOVAL

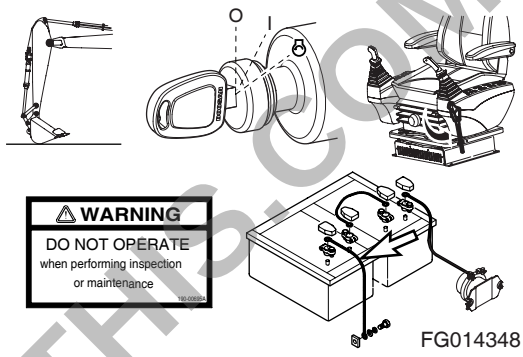
CAUTION

Avoid disassembling cabin if there are strong wind gusts, which could catch large surface area of cabin shell and push it sideways during lift.

1. Park on firm and level ground.
2. Lower front attachment (bucket) to ground.
3. Shut down engine.
4. Set safety lever on "RELEASED" position.
5. Turn starter switch to "I" (ON) position.

WARNING

If engine must be run while performing maintenance, use extreme care. Always have one person in the cabin at all times. Never leave the cabin with the engine running.



FG014348

Figure 1

6. Fully stroke work levers (joysticks) in all directions to relieve pressure from accumulators.
7. Set safety lever on "LOCK" position.
8. Turn key to "O" (OFF) position and remove from starter switch.
9. Hang maintenance warning tag on controls.
10. Disconnect the battery cable from the negative (-) battery terminal.
11. Prepare cabin shell for removal by disconnecting wiring connectors for:
    A. Cabin interior lighting.
    B. External light wiring.
    C. Radio antenna and connections.
    D. Wiper/washer connections.

NOTE: *Control console wiring harnesses and hydraulic piping lines that pass through the floor of the cabin do not need to be disassembled.*

NOTE: *If unit is equipped with a cabin protective structure (for forestry, or hazardous working conditions), it must be removed.*

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TROUBLESHOOTING – SWING GEARBOX

Problem	Possible Cause	Remedy
Swing motor fails to operate and:		
Three pressure tests at motor, brake or makeup valve show low reading(s).	Swing relief valve defective Brake release valve defective Motor makeup valve defective.	Adjust pressure to recommended range in affected valve. OR Disassemble and clean valve assembly. Replace all valve components that show damage.
All three pressure checks are OK but left travel also fails to run.	Exchange front and rear pump inlet and outlet hoses to test pump function.	If swing and left travel are restored but right travel stops working, replace or repair P1 pump.
All three pressure tests are OK, but machine fails to swing at all.	Brake assembly or motor friction plate failing to release.	Check for binding. Disassemble and repair.
	Pilot (control) pressure low or swing control valve stuck.	Disassemble / Repair pilot pressure swing spool (305) and / or swing control valve.
	Swing motor defective.	Test motor drain rate. Replace / Repair motor.
	Gear train defective.	Refer to "Swing Gear Troubleshooting" procedure.
Swing functions but only at reduced rpm.	Causes listed above could also produce dragging swing, OR hot or wrong oil OR worn-out parts.	Check above list; then replace oil, test motor drain rate and check for "03" reading (e-EPOS self-test).
Left travel speed is also reduced.	Low output at P1 pump or external pilot piping leaks/is clogged.	Clean and repair piping or repair or replace pump P1.
Swing control movement is reversed.	Inlet / outlet piping reversed.	Reset controls or reverse piping.
Machine swings but continues coasting on past stopping point.	Swing control valve spool not centered.	Replace return spring; clean/ repair valve piston and spool.
	Pilot pressure may be outside range.	Disassemble, clean or replace pilot relief valve or pilot valve.
	Swing relief valve may be faulty.	Repair/Replace swing relief valve.
Swing movement is in one direction only.	Check to see that pilot pressure is the same right and left.	If pilot pressure is unequal, clean or repair piping or repair/replace valve.
	Swing control valve spool may be stuck.	Repair/Replace the swing control valve.
	Swing relief valve may be faulty.	Repair/Replace the swing relief valve.
No rotation and:		
Pressure at swing motor inlet increases.	Swing brake not releasing.	Check brake engagement and disengagement; check release pressure.
	Internal damage to gearbox drive train.	Replace broken gears and drive train assemblies.
	Overload.	Reduce load weight.

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GENERAL SPECIFICATIONS

Shipping Weight	29.2 metric tons (64,375 lb), includes 10% fuel, boom, 3,100 mm (10' 2") arm, 1,334 mm (4' 5") backhoe bucket and standard shoes
Operating Weight	Add weight of full fuel tank and operator.
Shipping Weights With Optional Track Shoes	Add 600 kg (1,320 lb) for 700 mm (27.6") shoes
	Add 900 kg (1,984 lb) for 800 mm (31.5") shoes
	Add 1,200 kg (4,408 lb) for 850 mm (33.5") shoes
Major Component Weights	Standard Boom 2,330 kg (5,137 lb)
	2,500 mm (8' 2") Arm 900 kg (1,984 lb)
	3,100 mm (10' 2") Arm 1,050 kg (2,315 lb)
	3,750 mm (12' 4") Arm 1,060 kg (2,337 lb)
	Boom Cylinders 260 kg (573 lb) each
	Arm Cylinder 340 kg (750 lb)
	Bucket Cylinder 220 kg (485 lb)
	Counterweight 5,300 kg (11,684 lb)
	Upper Turntable 7,700 kg (16,975 lb)
	Lower - below Swing Bearing 10,660 kg (23,500 lb)
Digging Forces:	
Bucket Cylinder	177 KN or 18,000 kg (39,700 lb) - (with either 3,100 mm [10' 2"] or 2,500 mm [8' 2"] arm)
Arm Cylinder	131 KN or 13,400 kg (29,500 lb) with 3,100 mm (10' 2") standard arm
Fuel Tank Capacity	500 liters (132.1 U.S. gal)
Hydraulic System Capacity	280 liters (74 U.S. gal)
Hydraulic Reservoir Capacity	160 liters (42 U.S. gal)
Bucket Heaped Capacity Range	PCSA 0.80 - 1.75 m^3 (1.05 - 2.29 yd^3)
	IMPORTANT: Refer to the Load Weight, Bucket and Arm Length Compatibility Table for information on which bucket sizes may be used safely with which arm length, for load material weights.
Shoe Type	Triple Grouser
Shoe Width and Optional Sizes	600 mm (23.6") - standard
	700 mm (27.6") - optional
	800 mm (31.5") - optional
	850 mm (33.5") - optional
Ground Pressure Ratings:	
Standard 600 mm (23.6") shoe -	0.56 kg/cm^2 (8.0 psi)
Optional 700 mm (27.6") shoe -	0.49 kg/cm^2 (7.0 psi)
Optional 800 mm (31.5") shoe -	0.43 kg/cm^2 (6.1 psi)
Optional 850 mm (33.5") shoe -	0.41 kg/cm^2 (5.8 psi)
Transport Dimensions	
Overall Shipping Length (standard boom and arm)	10,620 mm (34' 10")
Overall Shipping Width (standard shoes)	3,200 mm (10' 6")

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SAFETY PRECAUTIONS

CAUTION

Follow all safety recommendations and safe shop practices outlined in the front of this manual or those contained within this section.

Always use tools and equipment that are in good working order.

Use lifting and hoisting equipment capable of safely handling load.

Remember, that ultimately safety is your own personal responsibility.

APPLICABLE MODELS

The contents of this section apply to the following models and serial number ranges.

MODEL	SERIAL NUMBER RANGE
DX300LCA	5001 and Up

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10. Connect as tagged, fuel supply line (21, Figure 20) and fuel return line (19) to fuel tank (1).
11. Install clamp (20, Figure 20) to hold fuel return line (19) to tank (1).

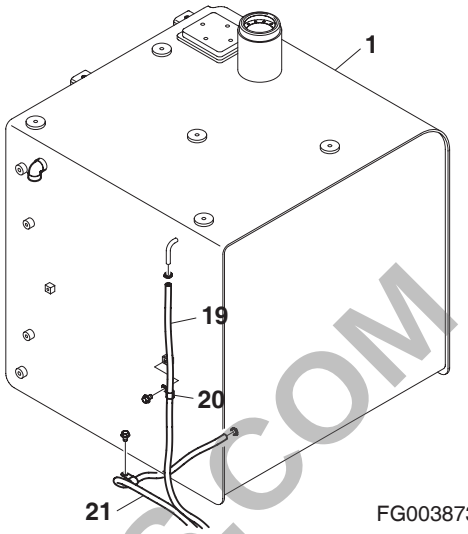


Figure 20

12. Make sure fuel tank drain valve (6, Figure 21) on bottom of tank is closed.
13. Fill fuel tank and check for signs of leaks. Correct any problems found.
14. Connect negative (-) battery cable to battery.

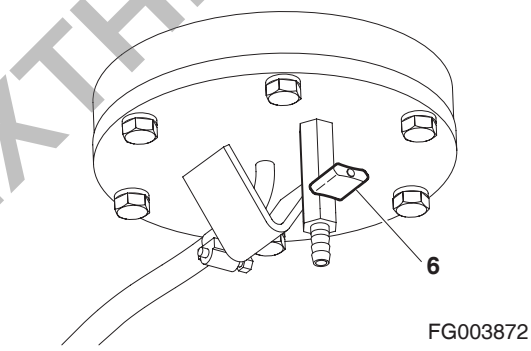


Figure 21

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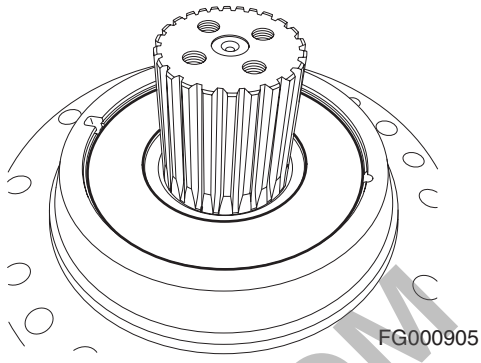


Figure 60

3. Install lock ring in groove of gear case.

   NOTE: *Make sure lock ring is inserted completely into groove.*

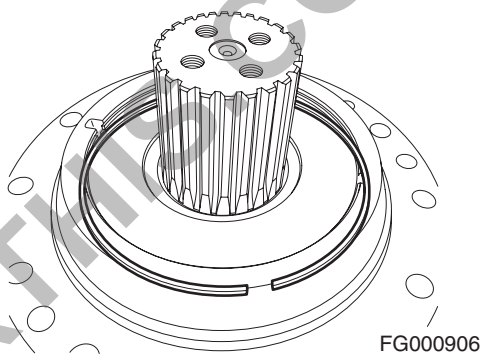


Figure 61

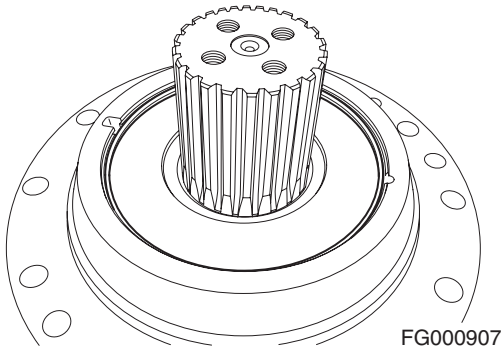


Figure 62

4. Insert collar on shaft, making sure it is properly seated. Install pinion gear and special jig on shaft, and press collar and pinion gear into place on shaft and case.

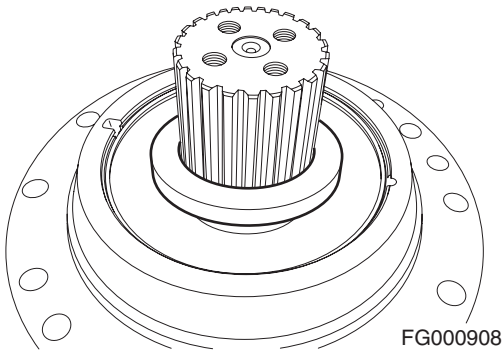


Figure 63

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2. Remove the bolts (13, Figure 37) and cover (10). Detach bolts (12) and washer (11).

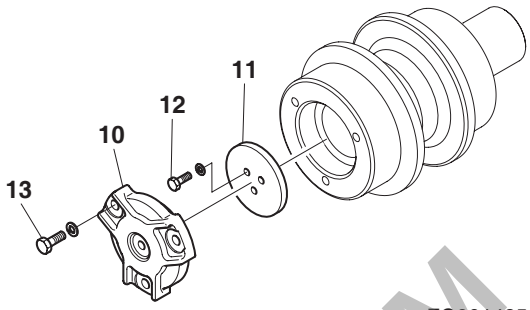


Figure 37

3. Separate the roller (1, Figure 38) from the axle (2).

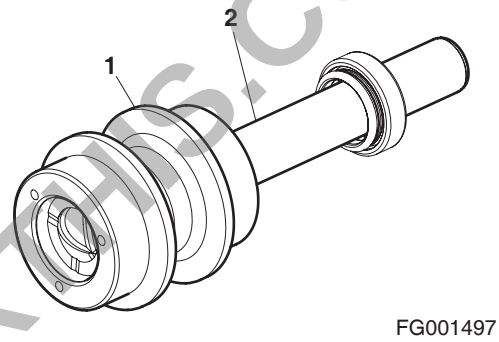


Figure 38

4. Separate the floating seal (6, Figure 39) from the roller.
5. Separate the O-ring (8) and thrust ring (3) from the axle.

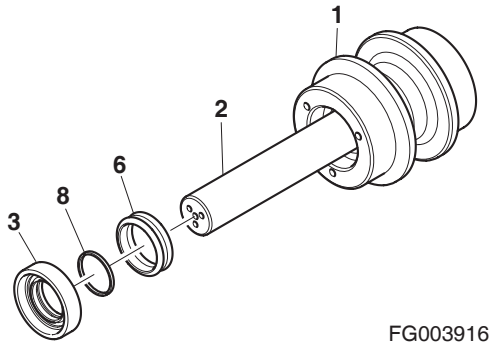


Figure 39

6. Separate the bushing (4 and 5, Figure 40) from the roller with a press and special tool (ST-1919).

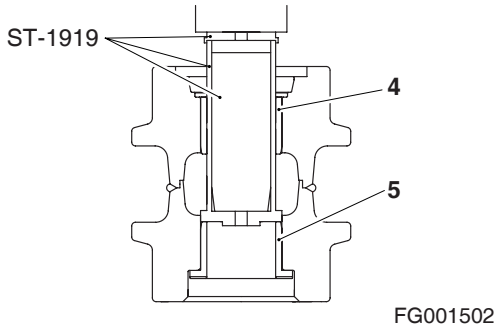


Figure 40

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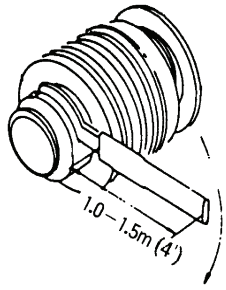
Accumulator

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7. Use specially fabricate or factory sourced tool to tighten piston nut (22).

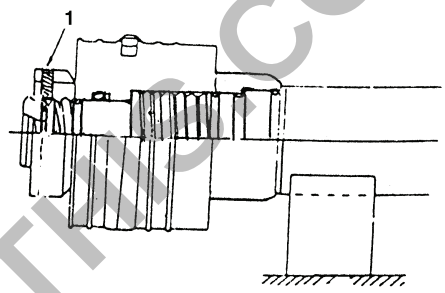


0356

Figure 35

8. Assemble wear ring (18), slide ring (17) and set screw (23) to piston assembly.

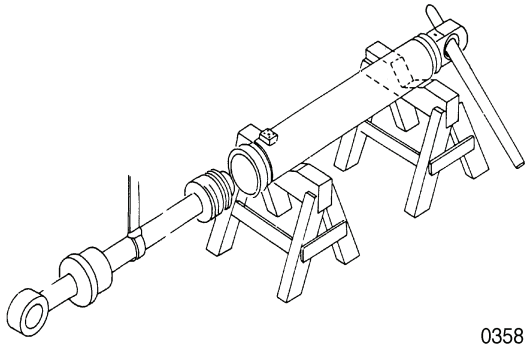
Reference Number	Description
1	Set Screw



HAOF470S

Figure 36

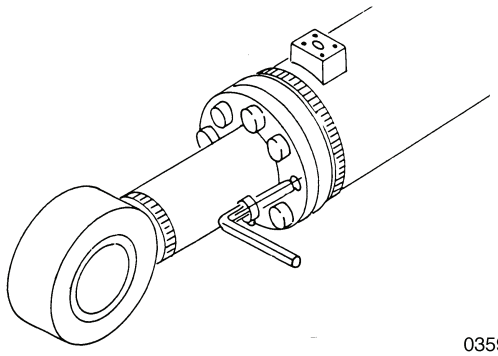
9. Immobilize body of cylinder before reassembly.



0358

Figure 37

Preapply fastener locking compound (Loctite #242 or #243 or an alternate manufacturer's equivalent product) to all end cover retaining bolts. Wrap a protective cushion around end of rod while tightening fasteners, to prevent possible damage to polished surface of rod, should a wrench slip during retightening.



0359

Figure 38

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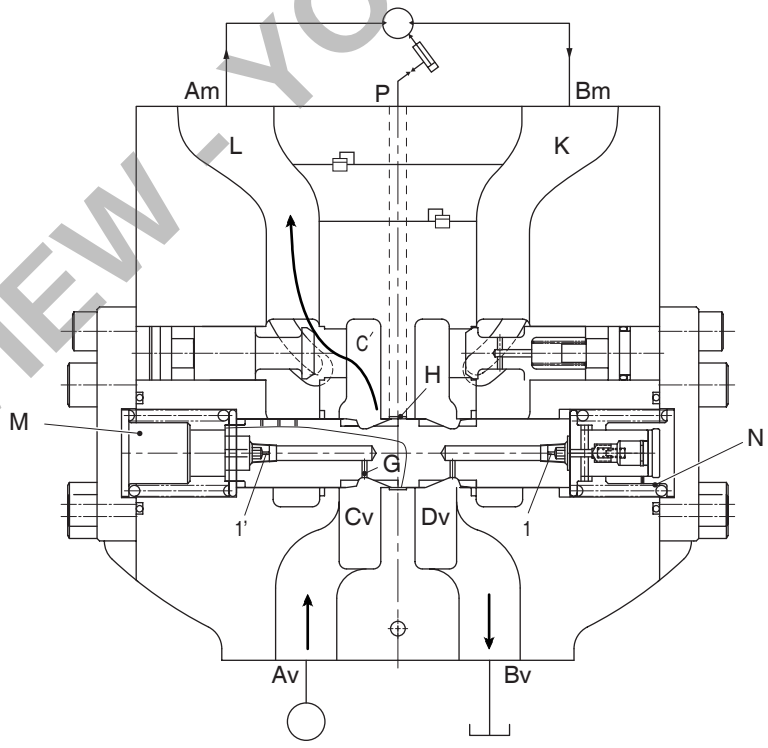
Counterbalance Valve

The port Av is connected to hydraulic pump. Port Bv is connected to hydraulic oil tank. The oil supplied from the hydraulic pump tries to turn the hydraulic motor by opening the check valve poppet, allowing oil to flow from; Av → Cv → C' → L → Am of the hydraulic motor.

Even though oil tries to turn the motor, the motor cannot turn due to the negative brake. Pressurized oil from pump rises, and it is transmitted through passage G and orifice 1' to spring chamber M. As pressure in chamber M exceeds spring force keeping the spool centered in neutral, the spool is then moved to the right. Oil in the chamber N (at the opposite end of the spool), flows to the chamber Dv through orifice 1, and is discharged to the hydraulic oil tank through port Bv. The spool continues to move to the right and oil starts to flow from K → Dv → Bv. Once the spool is moved far enough to the right, passage H is opened. With passage H opened, oil now flows from Cv → H → port P. The spool will be moved slowly because oil in the chamber N is discharged through orifice 1.

When the pump decreases flow to port Av, the spring of the chamber N moves the spool back to the left. Oil in the chamber M flows to the chamber Cv through orifice 1' and is discharged to the port Av.

The spool returns to the neutral position when the hydraulic oil pressure in chamber M and port Av, equals the hydraulic oil tank pressure in chamber N.



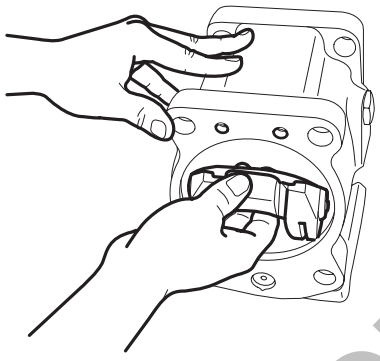
FG003922

Figure 5

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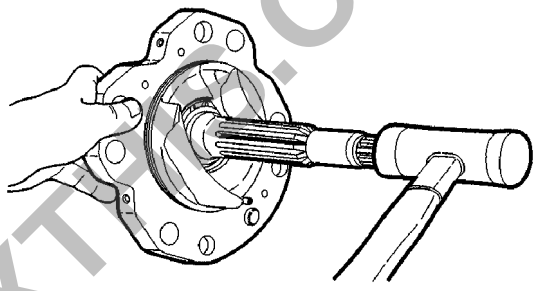
10. Remove shoe plate (211) and swash plate (212) from pump casing (271).



HDM3021L

Figure 10

11. Lightly tapping shaft ends of drive shafts (111 and 113) with plastic hammer, remove drive shafts from swash plate supports.



HDM3022P

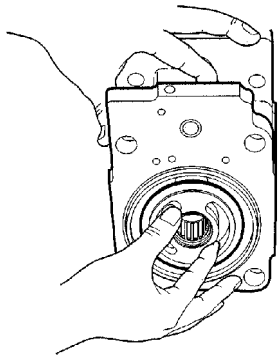
Figure 11

12. Remove valve plates (313 and 314) from valve block (312).

IMPORTANT

These may be removed in work 6.

13. If necessary, remove stopper (L) (534), stopper (S) (535), servo piston (532) and tilting pin (531) from pump casing (271). Remove needle bearing (124) and splined coupling (114) from valve block (312).



HDM3023P

Figure 12

IMPORTANT

When removing tilting pin, use a protector to prevent pin head from being damaged.

Since Loctite is applied to mounting areas of tilting pin and servo piston, do not damage servo piston.

Do not remove needle bearing if possible, except when it is considered to be worn out.

Do not loosen hex nuts of valve block and swash plate support. If loosened, flow setting will be changed.

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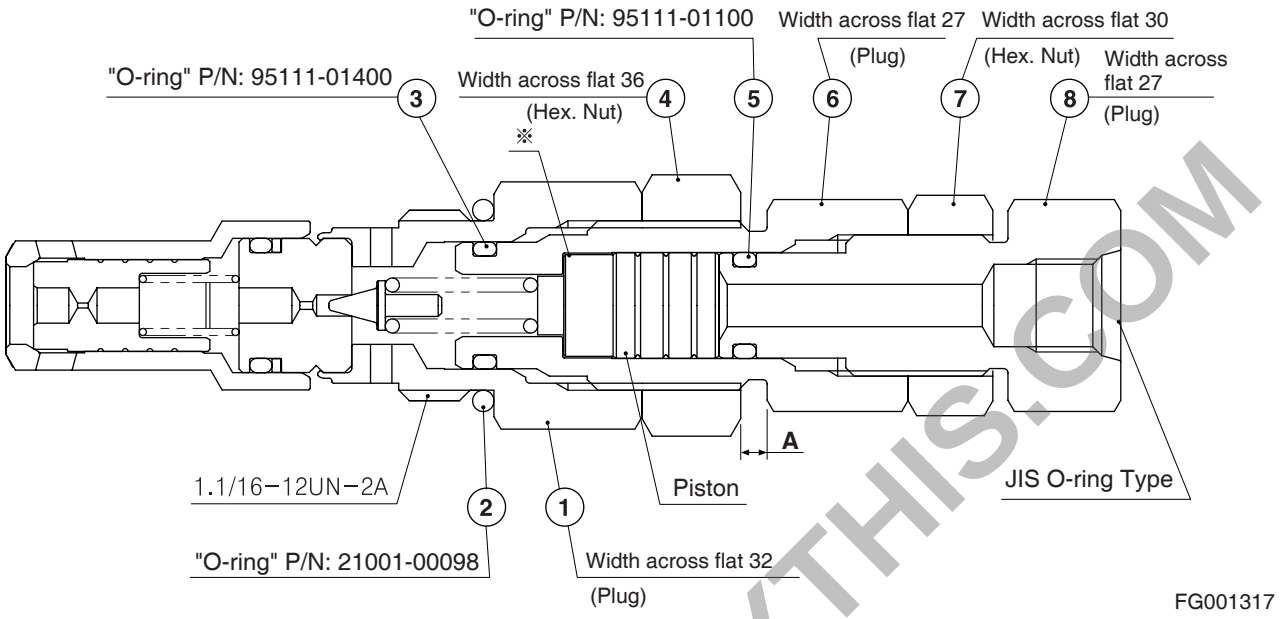


Figure 38

1. This relief valve should be replaced as an assembly. When replacing it, remove plug (1, width across flats: 32 mm), and O-ring (2). If oil is leaking from nut (4), remove nut (4) and plug (1), and replace O-ring (3). If oil is leaking from nut (7), remove nut (7) and plug (8), and replace O-ring (3).

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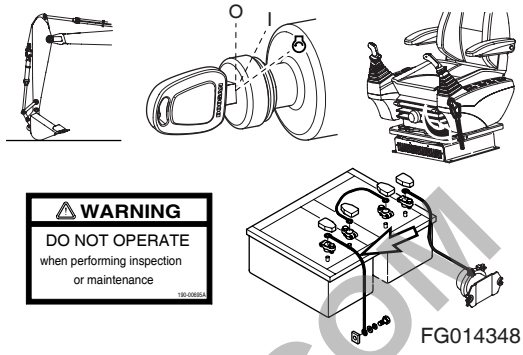
REMOVAL

1. Park on firm and level ground.
2. Lower front attachment (bucket) to ground.
3. Shut down engine.
4. Set safety lever on "RELEASED" position.
5. Turn starter switch to "I" (ON) position.

WARNING

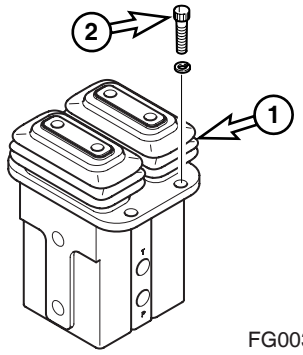
If engine must be running while performing maintenance, always use extreme caution. Always have one person in the cab at all times. Never leave the cab with engine running.

6. Fully stroke work levers (joysticks) in all directions to relieve any pressure from accumulators.
7. Set safety lever on "LOCK" position.
8. Turn key to "O" (OFF) position and remove from starter switch.
9. Hang a maintenance warning tag on controls.
10. Disconnect negative (-) battery cable leading to frame from battery.
11. Remove cabin under cover by loosening bolts.
12. Tag and disconnect hoses from pedal valve (1, Figure 7). Plug and cap hoses and ports to prevent contamination from entering hydraulic system or component.



FG014348

Figure 6



FG003016

Figure 7

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Code	Failure Component	Measuring Points	Current Valve		Remarks
			Active	Passive	
E068	Preheat relay (E/G: Highside Power stage 1)	1-13 1-07	V = V_volt	R=40 ± 5 Ω (25°C (77°F))	Voltage is only measured when afterheat function is operating status.
E083	Preheat light (E/G: Lowside Power stage 2)	1-13 1-56	-	-	
E091	CAN - A Line	1-53 1-52	-	R=60 ± 5 Ω (20°C (68°F))	It is a composite resistance of CAN line. This value has to be measured by connected condition of CAN line.
E097	Monitoring of misfire cylinder 1	-	-	-	Injector error Speed signal error of cam shaft speed sensor or crank shaft speed sensor.
E098	Monitoring of misfire cylinder 2	-	-	-	
E099	Monitoring of misfire cylinder 3	-	-	-	
E101	Monitoring of misfire cylinder 4	-	-	-	
E102	Monitoring of misfire cylinder 5	-	-	-	
E103	Monitoring of misfire cylinder 6	-	-	-	
E104	Monitoring of misfire multiple cylinder	-	-	-	
E105	Monitoring of overrun	-	-	-	
E106	Engine speed redundant	-	-	-	

NOTE: *1. Active value: Starter switch has to be turned "ON"*

Measuring points between component and wire harness have to be connected.

2. Passive value: Starter switch has to be turned "OFF"

Measuring points between component and wire harness have to be disconnected.

3. Measuring points are engine controller's points and passive value is each component's value.

4. V_batt: Source power of equipment.

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4	**High-pressure: Over 6 kg/cm^2 (85 psi)** **Low-pressure: Approximately 760 mmHg (Negative Pressure)**		
Possible Cause: Refrigerant does not circulate			
Step	**Inspection Item**		**Remedy**
1	1. Connect manifold gauge and start engine. 2. Turn on air conditioner. 3. Set blower switch to HIGH position. 4. Turn air conditioner OFF and wait 10 minutes. 5. Recheck high / low-pressure readings. High-pressure: 13.0 - 19.0 kg/cm^2 (185 - 270 psi) Low-pressure: 1.5 - 3.3 kg/cm^2 (21.3 - 46.9 psi)	Yes	Moisture in system, replace receiver dryer.
		No	Contaminated system, replace expansion valve. (Replace evaporator core assembly.)

5	**High-pressure: Over 6 - 18 kg/cm^2 (85 - 256 psi)** **Low-pressure: 500 mmHg (Negative Pressure) - Dial indicator needle unstable.**
Possible Cause: Moisture in system has iced up the expansion valve.	
NOTE: *When the absorbed moisture freezes the pressure readings may look normal. Careful readings should be made to determine whether pressure is in normal range.*	
1. Recover any remaining refrigerant. 2. Vacuum out system. 3. Recharge system. **NOTE:** *If the system has been exposed to the air for a long period of time, replace the receiver dryer.*	

6	**High-pressure: Over 22.0 - 23 kg/cm^2 (313 - 327 psi)** **Low-pressure: 2.5 kg/cm^2 (36 psi)**		
Possible Cause: Refrigerant pressure problem due to defective expansion valve or temperature sensor.			
Step	**Inspection Item**		**Remedy**
1	Inspect whether the temperature sensor is installed properly.	Yes	Replace expansion valve.
		No	Exchange duct sensor.

7	**High-pressure: Over 7.0 - 11.0 kg/cm^2 (100 - 156 psi)** **Low-pressure: 4.0 - 6.0 kg/cm^2 (57 - 85 psi)**
Possible Cause: Low refrigerant pressure due to poor compressor compression.	
Inspect and replace compressor if necessary.	

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