GENERAL SPECIFICATIONS

Component			Specification	
			1.7 m (5' 7") STD Arm	2.25 m (7' 5") Arm
Bucket Capacity (SAE/CECE)	STD.		0.28 m^3 (0.37 yd^3)/0.24 m^3 (0.31 yd^3)	
	OPT.		0.20 m^3 (0.26 yd^3)/0.18 m^3 (0.23 yd^3)	
Operating Weight			8.54 metric tons (9.4 tons)	8.60 metric tons (9.5 tons)
Engine	Model		4TNV98C	
	Type		4 cycle, Inline, Water-cooled Diesel	
	Displacement (Total Displaced Volume)		3,319 cc	
	Rated Output (Gross)		44.3 kW (60.2 PS) @ 2,100 rpm	
	Rated Output (Net)		43.6 kW (59.3 PS) @ 2,100 rpm	
	Maximum Torque		24.58 kg•m (241 Nm) @ 1,365 rpm	
	Fuel Tank Capacity		110 liters (29 U.S. gal.)	
Hydraulic Pump	Type		Variable Displacement Axial Piston Pump	
	LS Relief Set Pressure		285 kg/cm^2 (4,054 psi)	
	System Pressure (Working/Traveling)		300 kg/cm^2 (4,267 psi)	
	Maximum Discharge Quantity		162 liter/min (43 U.S. gpm) Gear Pump: 24.7 liter/min (6.5 U.S. gpm)	
	Hydraulic Oil Capacity	Tank Level	87 liters (23 U.S. gal.)	
		Full	121 liters (32 U.S. gal.)	
		System	148 liters (39 U.S. gal.)	
Performance	Digging Capability (SAE)	Bucket (STD)	5,801 kg (56.9 kN)	5,801 kg (56.9 kN)
		Arm (STD)	4,248 kg (41.7 kN)	3,566 kg (35.0 kN)
	Digging Capability (ISO)	Bucket (STD)	6,581 kg (64.5 kN)	6,581 kg (64.5 kN)
		Arm (STD)	4,389 kg (43.0 kN)	3,660 kg (35.9 kN)
	Swing Speed		9.5 rpm	
	Travel Speed	High-speed	4.7 km/h (2.92 MPH)	
		Low-speed	2.7 km/h (1.67 MPH)	
	Traction Force	High-speed	6.6 metric tons (7.3 tons)	
		Low-speed	3.9 metric tons (4.3 tons)	
	Gradeability		30° (58% slope)	
	Ground Pressure		0.39 kg/cm^2	
Control	Lever Control Type		Hydraulic Control/Electronic Proportional Control for Auxiliary flow	
	Lever Pattern		SAE/BHL	
Ground Clearance			364 mm (1' 2")	
Track Shoe Width			450 mm (1' 6")	
Upper Roller Qty.			1 per side	
Lower Roller Qty.			5 per side	

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REMOVAL

1. Park on firm and level ground.
2. Lower bucket or work tool to ground.
3. Stop engine.
4. Move safety lever to "RELEASED" (UNLOCK) position.
5. Turn starter switch to "I" (ON) position.

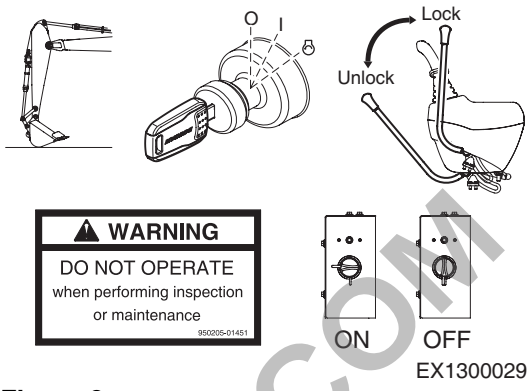


Figure 2

WARNING

AVOID DEATH OR SERIOUS INJURY

If engine must 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.

6. To relieve pressure from accumulators, fully stroke work levers in all directions. Movement can occur.
7. Move safety lever to "LOCK" position.
8. Turn key to "O" (OFF) position and remove from starter switch.
9. Install maintenance warning tag on controls.
10. Turn battery disconnect switch to "OFF" position.
11. Prepare cabin shell for removal by disconnecting wiring connectors for:
    A. Main harness.
    B. Left stand harness.
    C. Right stand harness.
    D. Harness passing next to the air conditioner box.

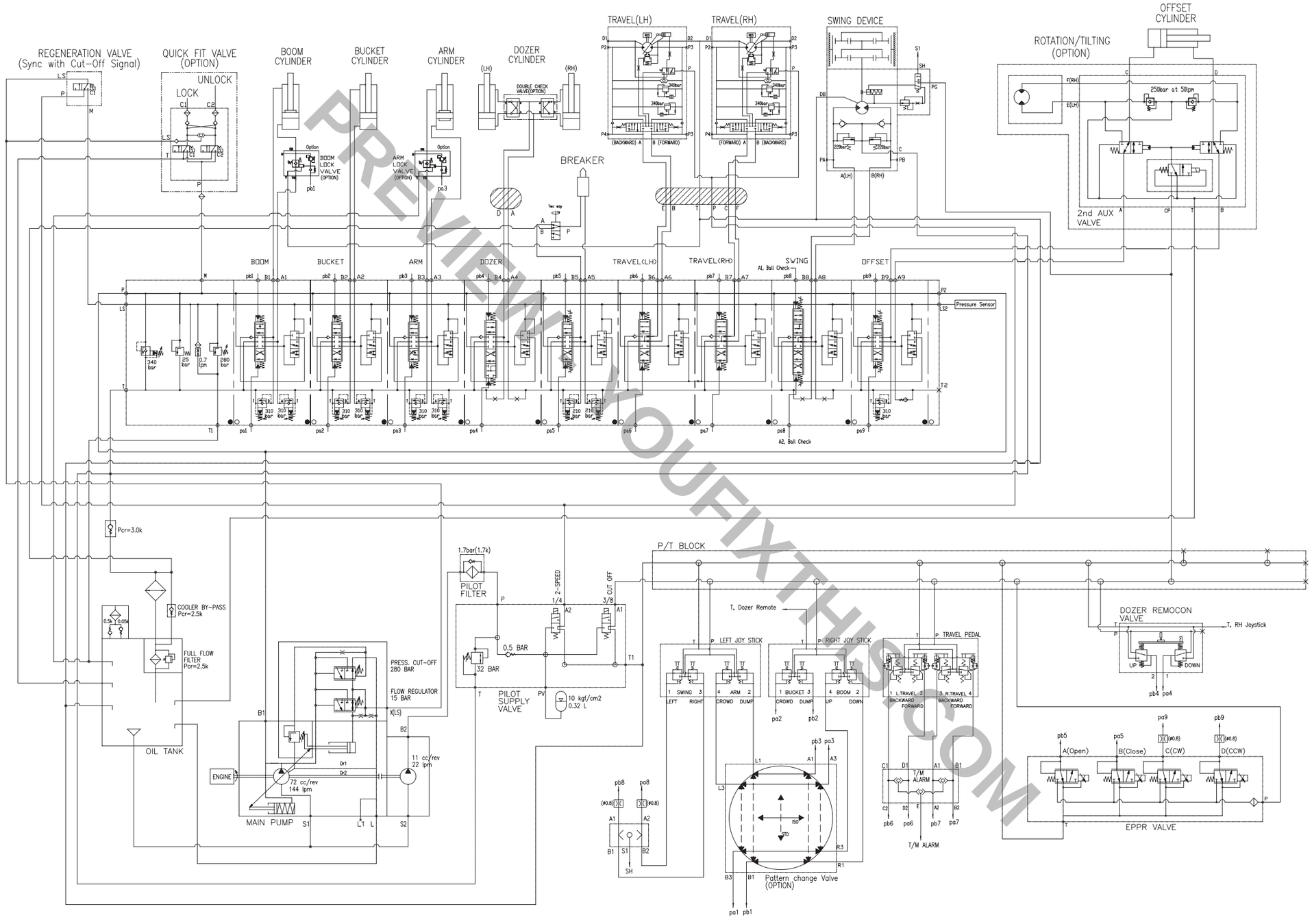
NOTE: *Control console wiring harnesses and hydraulic piping lines that pass through the floor of the cabin do not need to be disassembled.*

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

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DX85R-3



EX1300493

Figure 1

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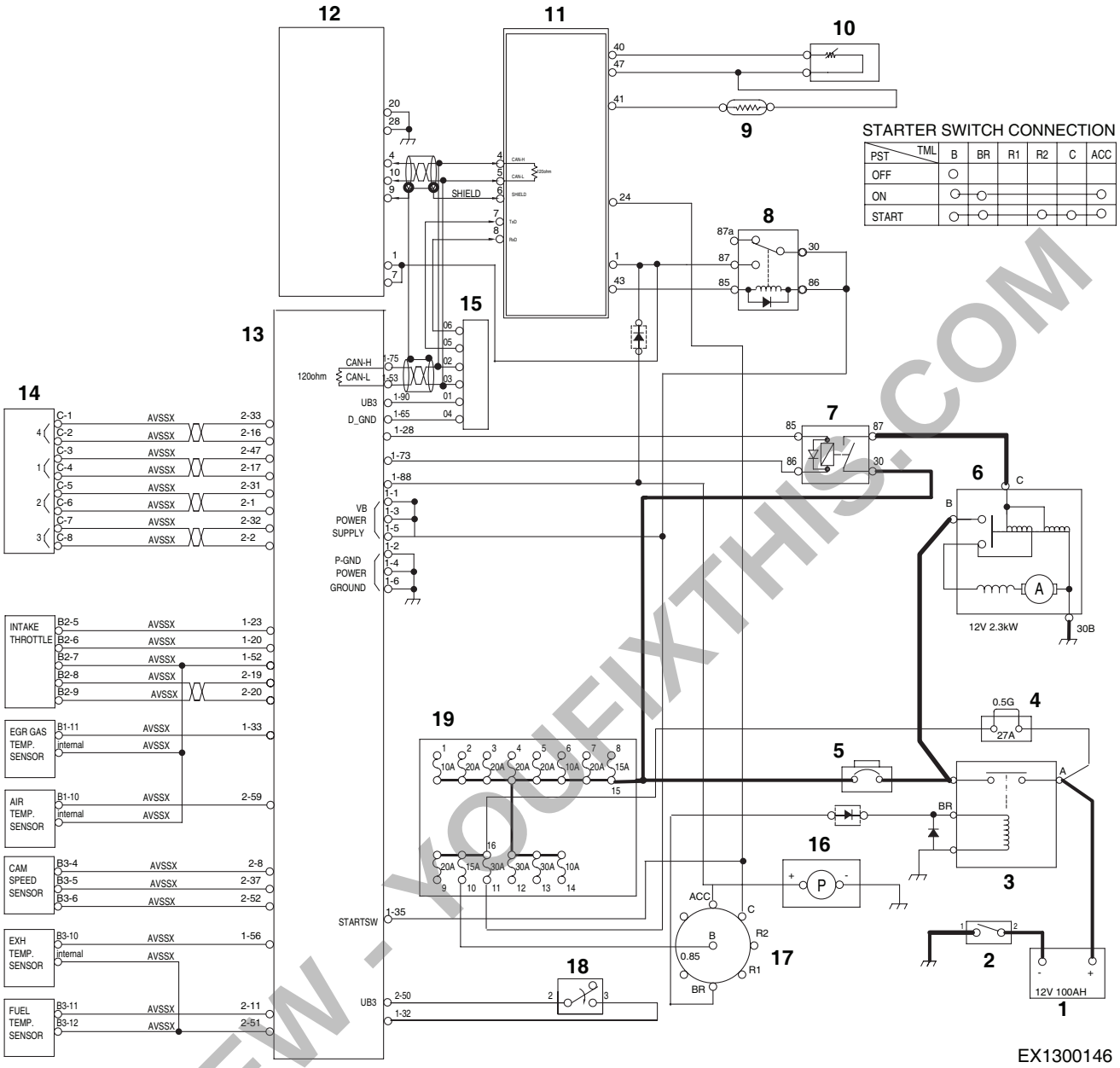


Figure 2 Starter Circuit

Reference Number	Description
1	Battery
2	Master Switch
3	Battery Relay
4	Fusible Link
5	Circuit Breaker
6	Starter
7	Start Relay
8	Main Relay
9	Hyd.Temp.Sensor
10	Fuel Sensor

Reference Number	Description
11	VCU
12	LCD Gauge Panel
13	ECU
14	Injector
15	Can Checker
16	Fuel Feed Pump
17	Starter Switch
18	Emergence E/G Stop
19	Fuse Box

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COMPONENT LOCATIONS

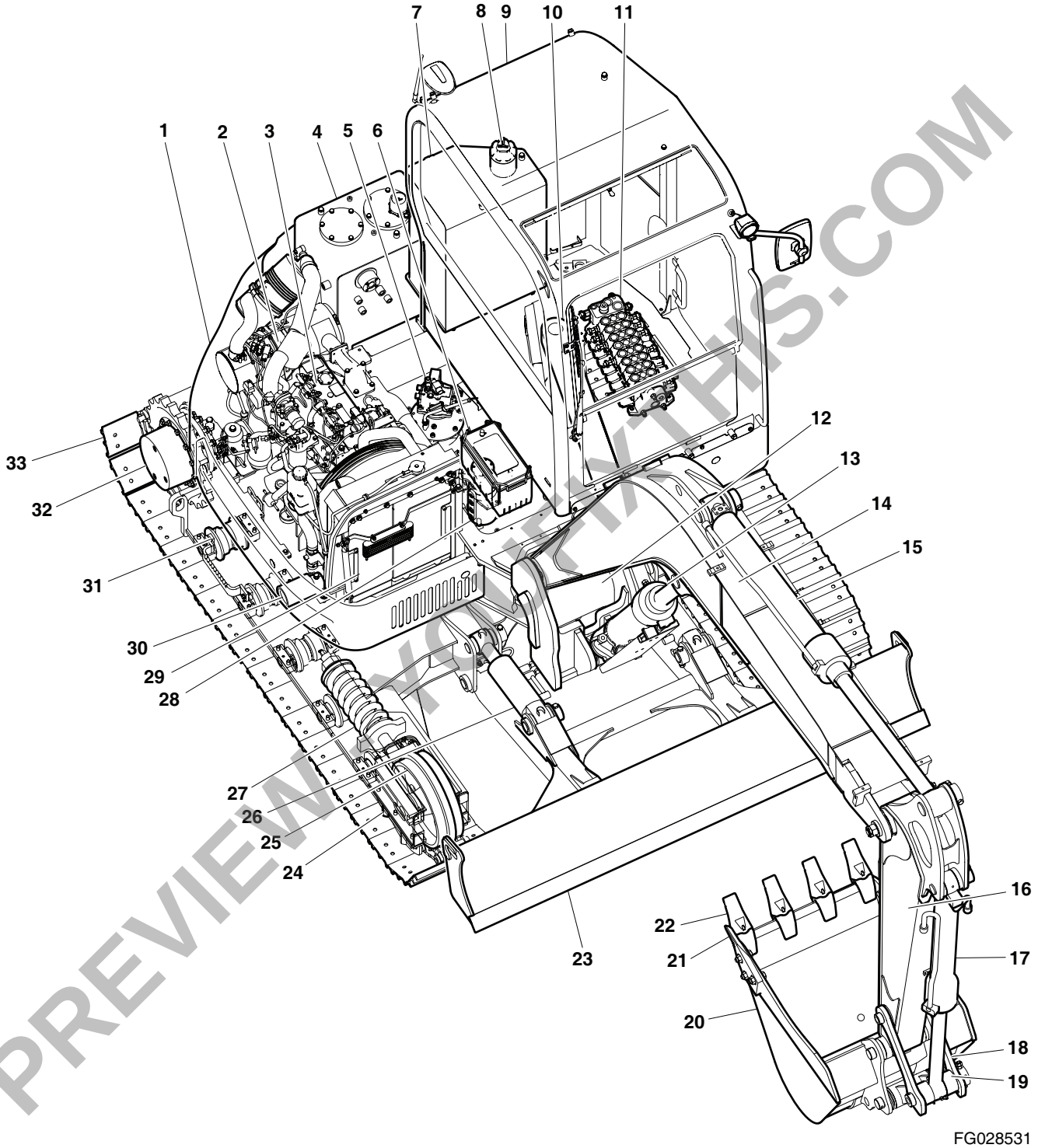


Figure 1

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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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Track Excavator Maintenance Safety

Edition 1

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Accumulator

The pilot control system is equipped with an accumulator. For a short period of time after engine has been stopped, accumulator will store a pressure charge that allow hydraulic controls to be activated. Activation of any controls will allow selected functions to operate under force of gravity.

When performing maintenance on pilot control system, release hydraulic pressure in system as described in “Handling of Accumulator” on page 4-80.

The accumulator is charged with high-pressure nitrogen gas. If it is improperly handled it can explode causing death or serious injury. Always observe the following precautions:

- Do not drill or punch holes in accumulator or expose it to any flames, fire or external heat source.
- Do not weld on accumulator.
- When performing disassembly or maintenance of accumulator, or when disposing of accumulator, charged nitrogen gas must be properly released. Contact your DOOSAN distributor for assistance.
- Wear safety goggles and leather gloves when working on an accumulator. Hydraulic oil under pressure can penetrate skin and result in death or serious injury. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.



FG018458

Figure 43

Compressed Air

- When cleaning filters, radiator or other components with compressed air, there is a hazard of flying particles that can result in serious injury.
- Always wear safety goggles, dust mask, leather gloves, and other protective devices.

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CLEANING AND INSPECTION

General Instructions

All parts must be clean to permit an effective inspection. During assembly, it is very important that no dirt or foreign material enters unit being assembled. Even minute particles can cause malfunction of close fitting parts such as thrust bearing, matched parts, etc.

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Do not inhale vapors or allow solvent type cleaners to contact skin. Keep solvent away from open flame, arcs or sparks or other sources of ignition that could start a fire.

1. Clean all metal parts thoroughly using a suitable cleaning fluid. It is recommended that parts be immersed in cleaning fluid and moved up and down slowly until all oils, lubricants, and/or foreign materials are dissolved and parts are thoroughly clean.
2. For bearings that can be removed, soak them in a suitable cleaning fluid for a minute or two, then remove bearings from cleaning fluid and strike flat against a block of wood to dislodge solidified particles of lubricant. Immerse again in cleaning fluid to flush out particles. Repeat above operation until bearings are thoroughly clean. To dry bearings, use moisture-free compressed air. Be careful to direct airstream across bearing to avoid spinning bearings that are not lubricated. DO NOT SPIN BEARINGS WHEN DRYING; bearings may be rotated slowly by hand to facilitate drying process.
3. Carefully inspect all bearing rollers, cages and cups for wear, chipping or nicks to determine condition. Do not replace a bearing cone or cup individually without replacing mating cup or cone at the same time. After inspection, dip bearings in lightweight oil and wrap in clean lintless cloth or paper to protect them until installation.

   For those bearings that are to be inspected in place; inspect bearings for roughness of rotation, scoring, pitting, cracked or chipped races. If any of these defects are found, replace bearings. Also, inspect defective bearing housing and/or shaft for grooved, galled or burred conditions that indicate bearing has been turning in its housing or on its shaft.
4. It is more economical to replace oil seals, O-rings, sealing rings, gaskets and retaining rings when unit is disassembled than waiting for premature failures; refer to latest Micro Fiche and/or Parts Book for replacement items.

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SAFETY INSTRUCTIONS

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments repairs or service. Untrained operators and failure to follow instructions can cause death or serious injury.

APPLICABLE MODELS

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

MODEL	SERIAL NUMBER RANGE
DX85R-3	1001 and Up

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Principal Engine Specifications

Engine Model		4TNV98C
Version		VM
Type		Vertical in-line Diesel Engine (Common Rail System)
Combustion System		Direct Injection
Aspiration		Natural Aspiration
No. of Cylinders		4
Bore x Stroke		98 x 110 mm
Displacement		3.319 L
Max. Rated Output (Gross)		2500 min^{-1}
		51.7 kW
		70.3 ps
High Idling		2650 ±25 min^{-1}
Engine Weight (Dry)		280 kg
PTO Position		Flywheel End
Direction of Rotation		Counterclockwise Viewed From the Flywheel End
Cooling System		Liquid-Cooled with Radiator
Lubricating System		Forced Lubrication with Trochoid Pump
Normal Oil Pressure	Rated Engine Speed	0.29 - 0.39 (3.0 - 4.0) MPa
	Low Idle Speed	0.06 (0.6) MPa
Starting System	Electric Starting	(Starter Motor: DC12 V (3.0 kW)
	Alternator	(DC12V/55A)
	Recommended Battery Capacity	12V 799CCA
Dimensions (L x W x H)*		Depend on DPF Layout
Engine Oil Pan Capacity**		10.5 L/6.0 L (Dipstick Upper Limit/Lower Limit)
Engine Coolant Capacity		4.2 L Engine Only
Standard Cooling Fan		ø430 pusher
Crank V-pulley Dia./Fan V-pulley Dia.		ø130 mm
Top Clearance		0.793 ±0.063 mm

Set Output Listed by Rotation

Model	Displacement	Gross Output (kW)									
		2000	2100	2200	2300	2400	2500	2600	2700	2800	3000
4TNV98C	3.318	42.4	44.3	46.2	48.1	49.9	51.7	-	-	-	-

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(1, Figure 126) to specification. See “Cylinder Head” on page -90 for specifications.

Grind the valve face and/or valve seat as necessary to return them to serviceable condition. Grinding is needed if the valve and valve seat do not contact correctly. Check the valve margin and valve recession after grinding.

If the valve or seat require grinding, lap the valve after grinding. Lap the valve face to the valve seat using a mixture of valve lapping compound and engine oil.

Be sure to thoroughly wash all parts to remove all grinding powder or compound.

Inspection of Valve Springs

Inspect the valve springs. If damage or corrosion is seen, or if measurements exceed the specified limits, replace the springs.

Fractures

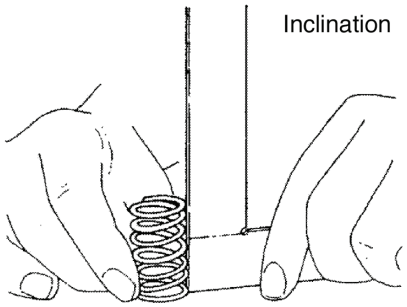
Check for fractures on the inside and outside portions of the springs. If the valve spring is fractured, replace the valve spring.

Corrosion

Check for corrosion of spring material caused by oxidation.

Squareness

Use a flat surface and a square to check each spring for squareness (Figure 127). See “Valve Spring” on page -91 for the service limit.

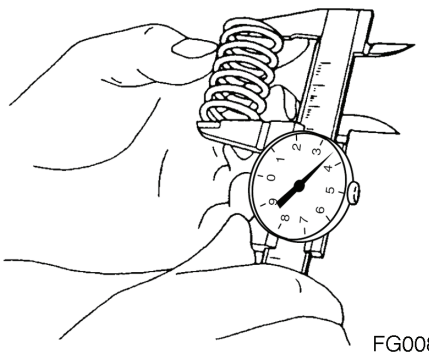


FG008316

Figure 127

Free Length

Use a caliper to measure the length of the spring (Figure 128). See “Valve Spring” on page -91 for the service limit.



FG008892

Figure 128

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Reassembly of Injector

1. Reassembly of injector
   Insert the injector into the head by using the new injector seat.

IMPORTANT

- **If you reuse the injector, be sure to install it to the original cylinder.**
- **When replacing the injector, replace it in the assembly.**
- **If you replace the injector, it is required to write the correction value of each injector to ECU.**
- **If rewriting is not correctly done, the engine performance cannot be guaranteed.**
- **Be sure to rewrite the correction value by using the SA-D.**
- **The correction value is written on the injector.**

2. Reassembly of injector fixture retainer
   A. Install the injector fixture retainer.
      Temporarily tighten the bolt by hand now.
3. Reassembly of high-pressure pipe (Common rail - injector)

⚠ CAUTION

AVOID INJURY

For high-pressure pipe, use a new one. If you reuse it, the displacement of the working face can occur, causing the fuel leaks.

   A. Before reinstalling the high-pressure pipe, apply fuel to the cap nut thread portion.
   B. Temporarily tighten the cap nut (both the injector and rail sides) while pressing and fixing the seat portions.
4. Tighten the injector fixture retainer bolt to specification.

Tightening Torque for M8 Bolts	24.4 - 28.4 Nm (2.5 - 2.9 kg•m)

5. Tighten the high-pressure pipe cap nut to specification.

Tightening Torque for Cap Nut (Injector Side)	26.5 - 31.4 Nm (2.7 - 3.2 kg•m)
Tightening Torque for Cap Nut (Rail Side)	29.4 - 34.3 Nm (3.0 - 3.5 kg•m)

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4. Remove screws (1, Figure 325) and the stator assembly (2, Figure 325).
5. Remove rear bearing (3, Figure 325).

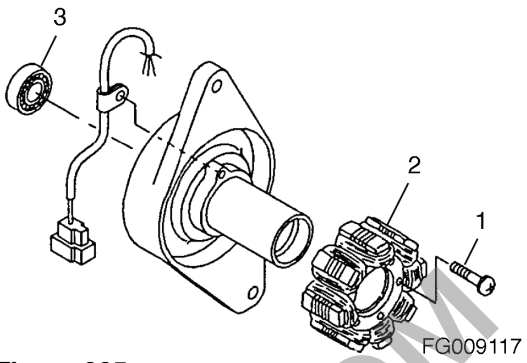


Figure 325

Reassembly of Dynamo

1. Install the rear bearing (3, Figure 326).
2. Install the stator (2, Figure 326) and screws.

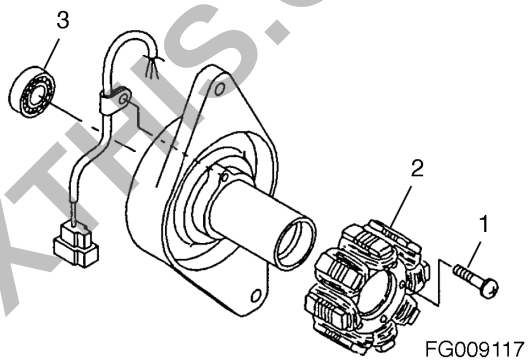


Figure 326

3. Install the front bearings (5, Figure 327) and spacer (6, Figure 327).
4. Install the flat washer (4, Figure 327), flywheel (3, Figure 327, pulley half (2, Figure 327) and through bolt (1, Figure 327).

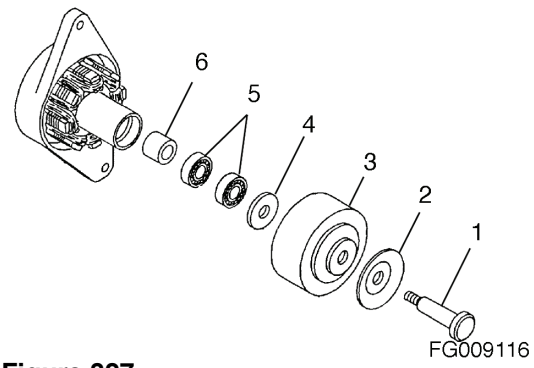


Figure 327

5. Install the flat washer (4, Figure 328), lock washer (3, Figure 328), and nut (2, Figure 328). Tighten the nut to the specified torque.
6. Install the rear cap (1, Figure 328).

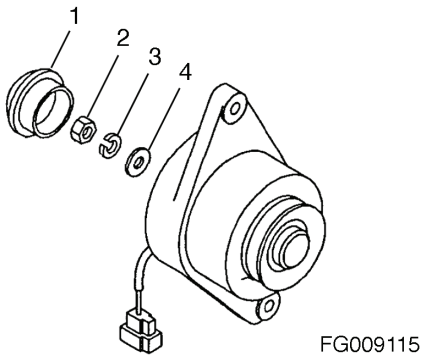


Figure 328

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DISASSEMBLY

CAUTION

AVOID INJURY

It is recommended to use a hoist or a similar device for it is heavy.

CAUTION

AVOID INJURY

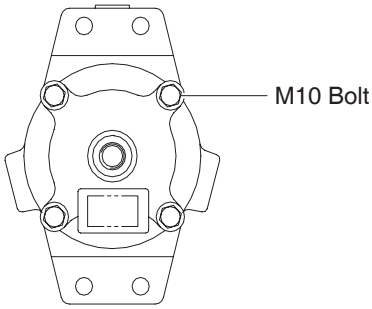
Remove active oil and wash it out before starting disassembly.

CAUTION

AVOID INJURY

It must be disassembled after it's active oil is cool enough after it is removed form the system for it's active oil is very hot.

1. Remove oil remaining in each port with air.
2. Use a 17 mm wrench to loosen cover bolts and remove cover and O-rings (1AG95).
3. Use a pliers to remove retaining ring and remove the spacer at the back of the retaining ring.



FG013234

Figure 2

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Installation and Piping

1. When the motor is installed, its shaft should face downward.
2. The motor must be installed that it is concentricity below 0.05 mm or less.
3. The tightening torque of bolts for mounting the motor to the bracket is shown in assembly drawing the customer's reference.
4. The casing inside should always be kept filled with oil. The drain must be positioned in such a place as shown in Figure 7.
5. Motors will tolerate in the casing pressure up to maximum 3 kg/cm^2, but for common pressure, 2 kg/cm^2 below must be kept.
6. Piping must be cleaned and flushed well.
7. Be care to as the installation to piping.
8. Use the drain pipe bigger than the port size and short as possible.

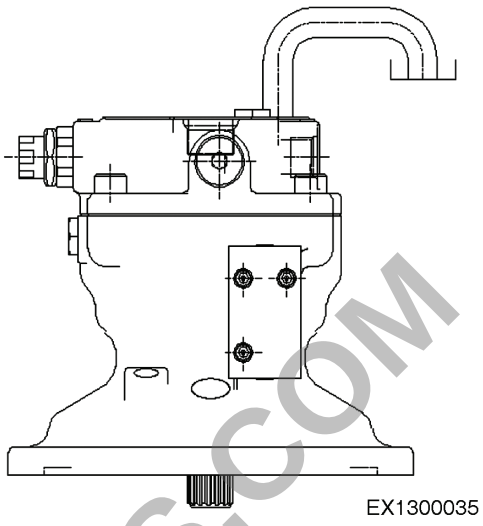


Figure 7

Oil Filling and Air Ventilation

1. Fill in the casing with oil by using the drain port before operating.

   In the motor, there are many kinds of high-speed sliding surface like bearing, piston, shoe, spherical bushing, and etc. So If there isn't enough oil, it can cause problems like sticking or breaking in those parts.
2. All the air in the motor and circuit must be removed, otherwise, it will be likely to be cause of imperfect working or damage of the motor.

Instructions Before Starting to Operate

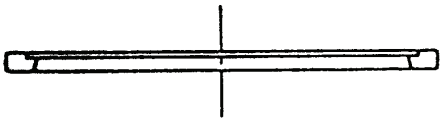
1. Check if the direction of revolution is correct or not.
2. Check whether or not there is any leakage of oil from the motor.
3. Check if the equipment vibrates abnormally or not during operation or when the revolution direction is changed.
4. Check if the oil temperature rises rapidly despite running for a short period of time.
5. Check whether the pressure varies to a great extent as compared with the established one.
6. Check if the piping is fully connected or not.

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F/S Installation Tool (III)

For installing floating seal (31) to spindle (2).



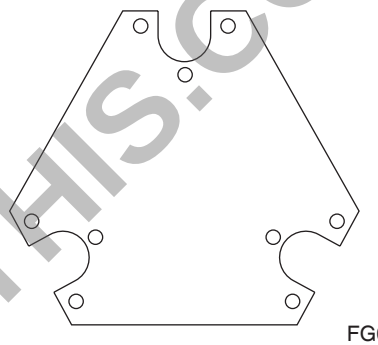
AXS0430S

Figure 27

Thrust Washer Installation Tool (Carrier (3))

For installing three thrust washers (3) (12) to the carrier (3) with hexagon head bolt.

NOTE: *Assembling work is possible without this jig.*



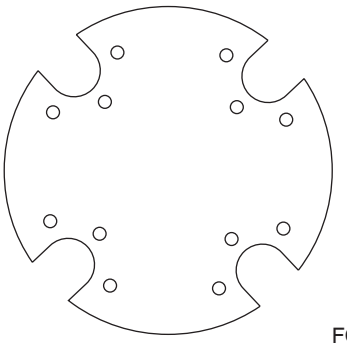
FG013481

Figure 28

Thrust Washer Installation Tool (Spindle (2))

For installing four thrust washers (1) (10) to the spindle (2) with hexagon head bolt.

NOTE: *Assembling work is possible without this jig.*



FG013482

Figure 29

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Function Power Control

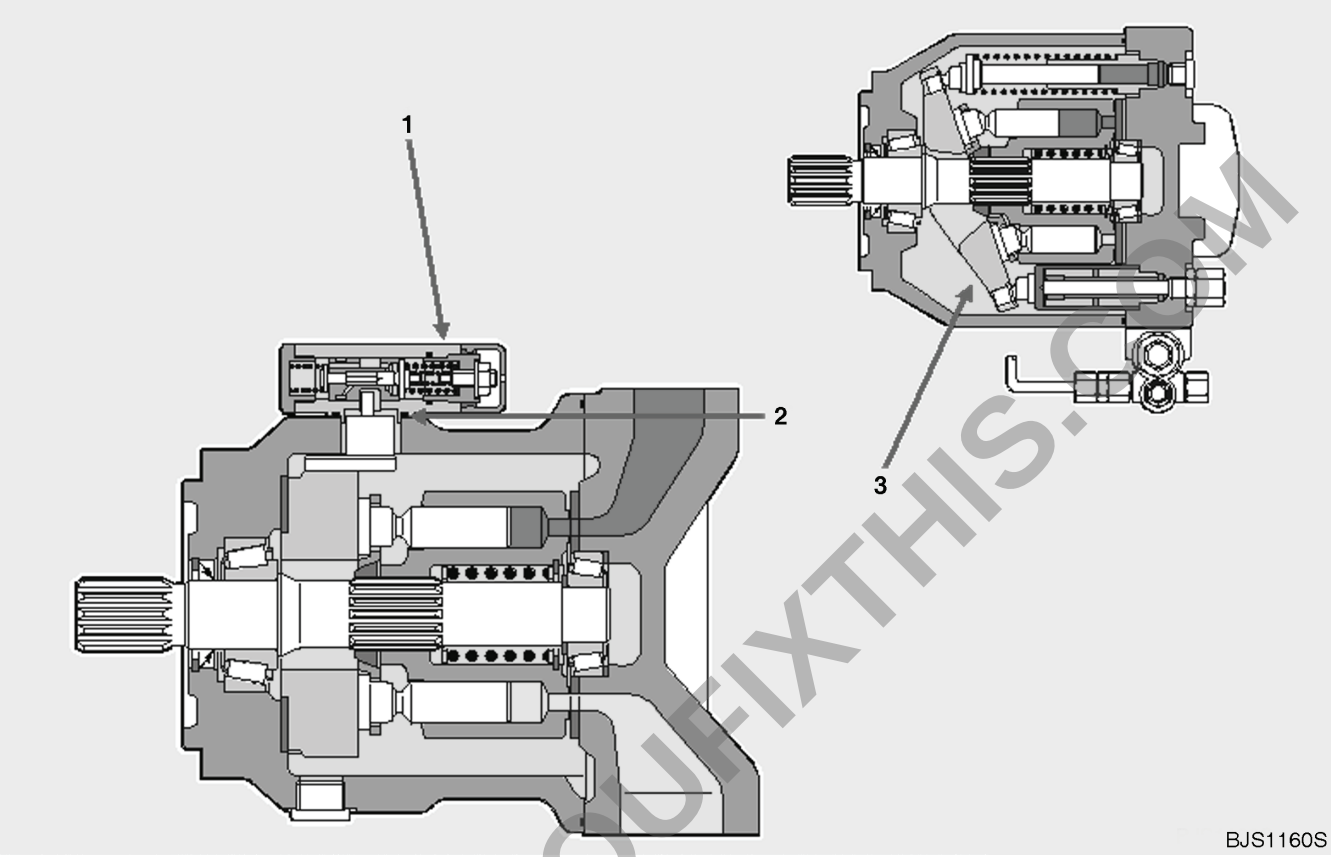


Figure 6

Reference Number	Description
1	Adjustable Spring Package of Power Control Valve
2	Eccenter
3	Cradle position i. e. displaced volume) will be restored by the eccenter Prestress of the spring package will be changed by the eccenter Thereby the opening pressure of the power control valve has been changed Small swivel angle => high-pressure Large swivel angle => low-pressure

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REMOVAL/INSTALLATION OF THE SX 14 CONTROL BLOCK

General Recommendations

IMPORTANT

Before removing the SX 14 control block from the machine, the block and its surroundings must be thoroughly cleaned with a high-pressure cleaner.

No impurities must enter the hydraulic system. Plastic plugs are to be fitted on lines and orifices immediately the following their removal.

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Wear protective clothing and use suitable equipment to prevent accidents, particularly concerning the hydraulic fluid.

Use the lifting eyes and suitable handling equipment.

Set all actuators connected to the machine in neutral position (on the ground, at lower limit...) to avoid accidents which could result from uncontrolled movements of the equipment when the hydraulic system is disconnected.

With the machine off, release the pressure remaining in the system by manipulating all the distribution spools. This is performed by moving the handle in all directions.

Removal of the SX 14 Control Block

Install a vacuum pump on the tank to limit oil leakage when connections are removed.

After disconnecting the lines from the block, immediately fit the sealing plugs. Make sure to collect any possible oil leakage in a suitable receptacle.

Unscrew the mounting screws and remove control block.

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STRUCTURE DIAGRAM

Parts List

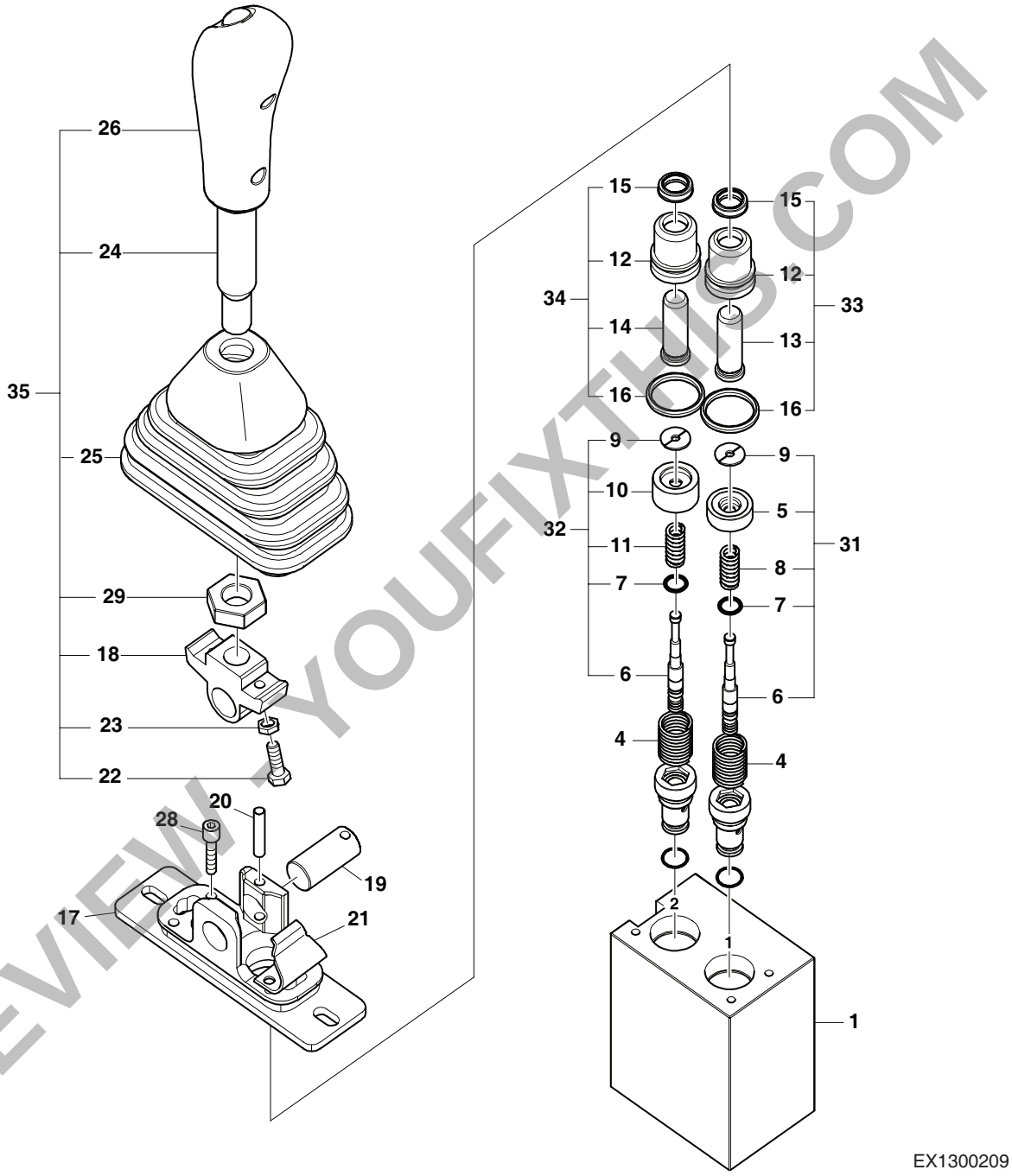


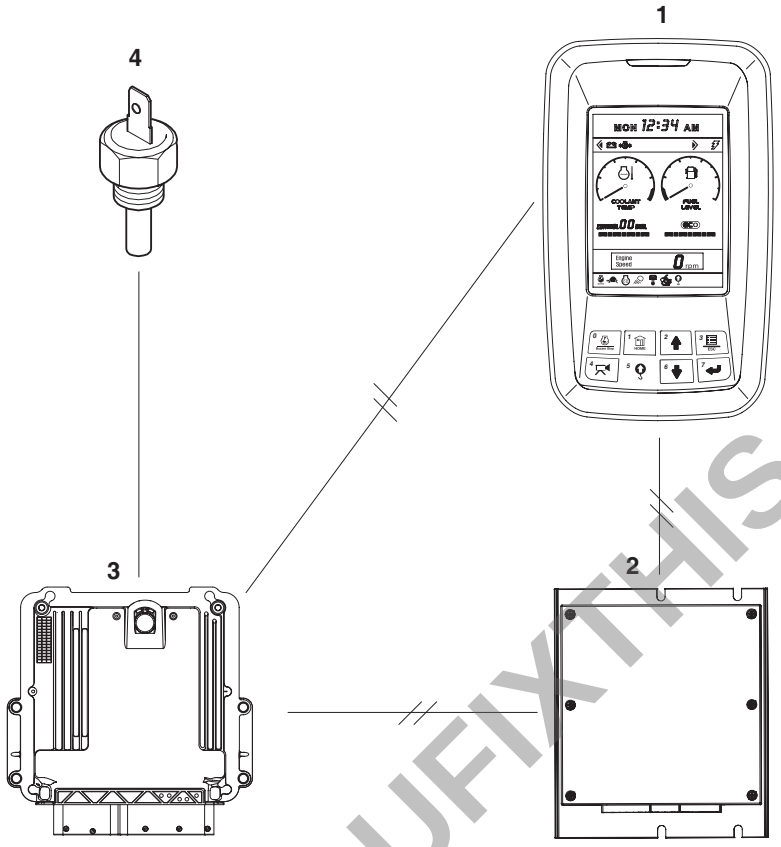
Figure 1

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EX1300491

Figure 46

Reference Number	Description
1	Instrument Panel
2	VCU (Vehicle Control Unit)

Reference Number	Description
3	ECU (Engine Control Unit)
4	Hydraulic Oil Temperature Sensor

The VCU receives the temperature signal of the hydraulic oil from the hydraulic oil temperature sensor installed on the side wall of the oil reservoir.

If the resistance of the temperature sensor falls below 157 Ohms, the instrument panel lights alarm lamp and pop-up warning, and the VCU set the engine speed to 1,500 rpm.

When the resistance of the temperature sensor rises above 179 Ohms, the alarms are reset and return to normal conditions.

The table to the right presents the resistance vs. temperature.

Temperature (°C)	Resistance (KΩ)
-30	(28.6)
-20	16.2 ±1.6
-10	(9.56)
0	(5.88)
10	(3.73)
20	2.45 ±0.24
30	(1.65)
40	(1.14)
50	(0.808)
60	(0.584)
70	(0.430)
80	0.322 ±0.032
90	(0.245)
100	(0.189)
110	(0.148)
120	(0.117)

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