Swing Device SP002413
Travel Device SP002414
Main Pump SP002415
Gear Pump (Option) SP002457
Fan Motor for Oil Cooler SP002552
Fan Pump SP002553
Main Control Valve SP002416
PRV (Peak Reducing Valve) SP002459
Sensor Block SP002460
Remote Control Valve (Work Lever / Joystick) SP002450
Travel Control Valve (with Damper) SP002381
Solenoid Valve Assembly SP002406
Breaker EPPR Valve (Option) SP002458
Hydraulic Schematic SP002417

Electrical System

Electrical System SP002418
Electrical Schematic SP002419

Attachments

Boom and Arm SP002420
Bucket SP002421

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Check After Long-term Parking

- All oil and fluid levels.
- Tension of all belts.
- Air pressure.
- Air cleaner.
- Batteries and electrical connections.
- Lubricate all greasing points.
- Wipe off grease from piston rods.
- Inspect for signs of nests (i.e. birds, rodents, etc.)

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GENERAL DIMENSIONS

One - Piece Boom

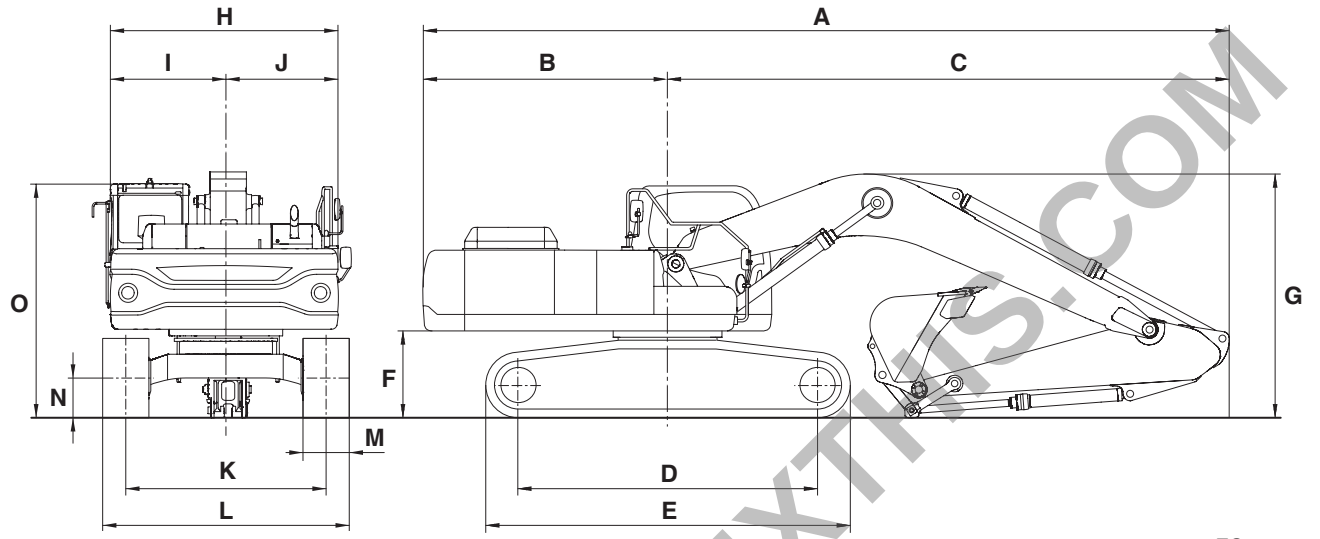


Figure 2

Dimension	6.5 m (21' 3") Boom		
	3.2 m (10' 5") Arm	**2.6 m (8' 5") Arm**	**3.95 m (13' 0") Arm**
A	11,285 mm (21' 10")	11,375 mm (37' 4")	11,315 mm (37' 1")
B	3,500 mm (11' 6")		
C	7,785 mm (25' 6")	7,875 mm (25' 10")	7,815 mm (25' 8")
D	4,040 mm (13' 3")		
E	4,940 mm (16' 2")		
F	1,195 mm (3' 11")		
G (Boom)	3,255 mm (10' 8")	3,495 mm (11' 6")	3,420 mm (11' 3")
G (Hose)	3,390 mm (11' 1")	3,640 mm (11' 11")	3,550 mm (11' 8")
H	3,000 mm (9' 10")		
I	1,510 mm (4' 11")		
J	1,490 mm (4' 11")		
K	2,680 mm (8' 10") / 2,400 mm (7' 10") - Narrow		
L	3,280 mm (10' 9") / 3,000 mm (9' 10") - Narrow		
M	600 mm (23.62 in)		
N	510 mm (20.08 in)		
O	3,080 mm (10' 1")		

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14. When bolts (2, Figure 5) and washers (3) have been removed, lift counterweight (1) a very short distance above support frame (4) and stop. Check slings and make sure counterweight is being supported evenly.

INSTALLATION

1. Using suitable lifting device capable of handling the weight of the counterweight. Raise counterweight (1, Figure 6) into position just above support frame (4) leaving counterweight suspended. Verify that counterweight is level and even.

   NOTE: *Leave counterweight (1, Figure 6) suspended 3 mm (0.125") above support frame (4) until all four mounting bolts (2) are started in counterweight mounting holes.*

2. Slide washers (3, Figure 6) onto bolts (2). Apply Loctite #242 to mounting bolt threads.

3. Install four bolts (2, Figure 6) with washers (3) into counterweight until washers contact support frame. Fully lower counterweight onto support frame and finish tightening bolts.

   NOTE: *Torque bolts (2,* Figure 6*) to values shown in the following table.*

Model	Bolt Torque
DX340LC-3	250 kg•m (1,807 ft lb)

4. Remove lifting device from counterweight lifting holes (5, Figure 6)

5. Make sure all electrical and other items are connected.

6. Turn battery disconnect switch to "ON" position.

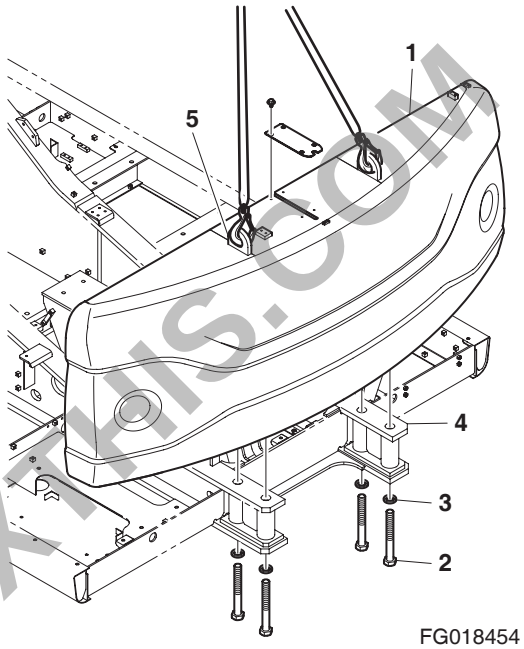


Figure 6

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Track Assembly

Edition 2

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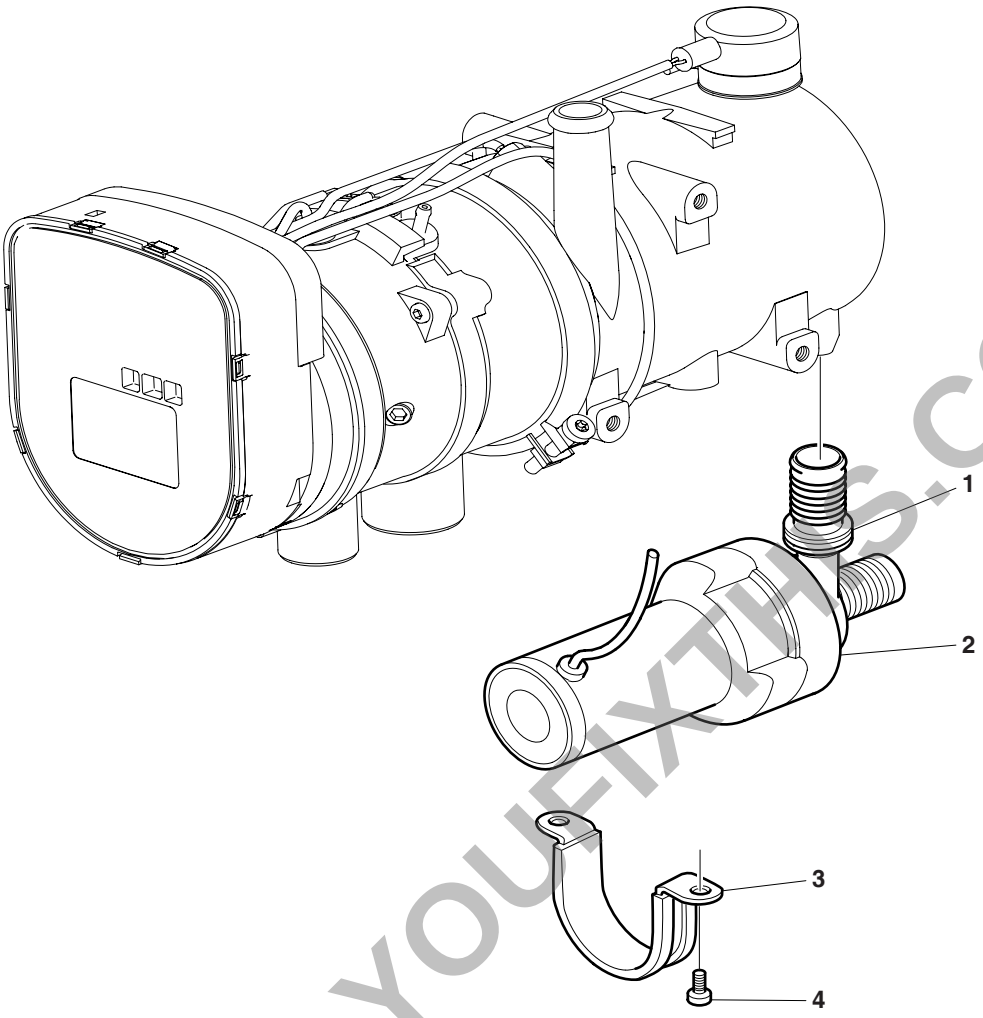


Figure 1 Changing the Circulating Pump

Reference Number	Description
1	Sealing Ring
2	Circulating Pump

Reference Number	Description
3	Clip
4	Screw (2)

NOTE: *A Thermo 90 ST heater is shown. In the Thermo 90 S heater, the control unit can also be arranged on the combustion air fan without having any effect on changing the circulating pump.*

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PUMP REGULATOR

Adjustment and Testing

WARNING

AVOID DEATH OR SERIOUS INJURY

This procedure should be done with two people. To reduce the chance of accidental movement of the excavator, one person should be properly seated at the operator's controls while checks and adjustments are made.

If the pump swash plate tilting angle and/or pump control pressure is out of the range which allows calibration, the pump regulator needs adjustment.

To perform these adjustments accurately, the use of a flow meter is strongly recommended, as is consulting the factory (before starting work) to validate the need for making regulator adjustments. Vent hydraulic pressure from the reservoir before breaking the seal in fittings to install the flow meter kit. (Refer to the "Flow Meter Installation and Testing" procedure.)

IMPORTANT

Before starting this procedure or going onto make any changes of adjustment settings;

- **Verify that engine speed is above the rated speed of 1,800 rpm.**
- **Permanently mark setscrew positions at the current regulator control setting.**

Use a scribe or other permanent marker to identify a reference point on adjusting screws with a corresponding reference on the body of the valve. The adjustment process affects a complex balance and could require some time to complete. If adjustment has to be interrupted or postponed, reference marks at the adjustment points allow immediate restoration of original performance.

The adjustment procedure is normally performed:

- If the engine is being constantly overloaded (and engine troubleshooting shows engine performance to be at or above rated output).
- If reduced cylinder speed and diminished work performance provide an indication that rated, maximum pump flow may not be available (and all other troubleshooting gives no indication of other flaws or hydraulic system problems).

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5. Take out the No.1 carrier subassembly. Take care not to damage the gear while taking out the gear.

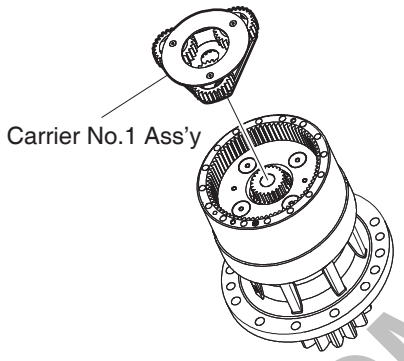


Figure 68

6. Remove the No. 2 sun gear (R17).

   Take care not to damage the gear while disassembling.

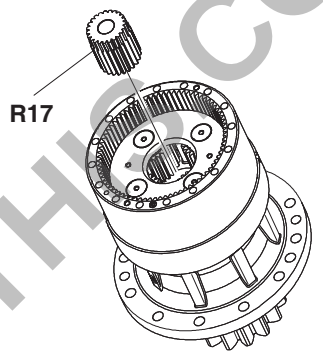


Figure 69

7. Remove the hex bolts (R33).

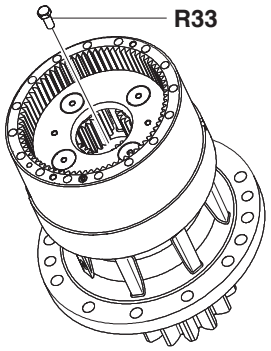


Figure 70

8. Remove the No. 2 carrier subassembly.

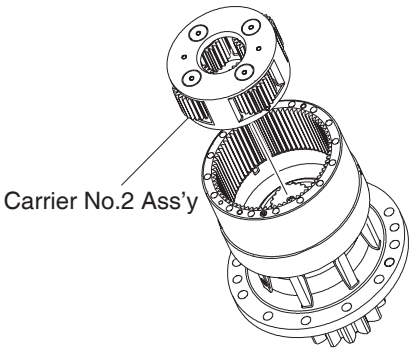


Figure 71

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REMOVE AND INSTALL TRAVEL DEVICE

WARNING

AVOID DEATH OR SERIOUS INJURY

Release any pressure in the hydraulic oil tank before doing any work.

Removal

Remove track before removal. See appropriate section in this manual for track removal.

1. Remove bolts (4) (4 used). Remove cover (2) from track frame (3).
   - : 19 mm
2. Remove hoses (5, 6, 7, and 8) and adapters (9 and 10) from travel device (1). Cap the open ends.

   Attach an identification tag onto the removed hoses for assembling.
   - : 17 mm, 19 mm, 24 mm, 27 mm
   - : 10 mm

   NOTE: *Travel device (1) weighs 400 kg (880 lbs).*
3. Remove bolts (11) (26 used). Hoist and remove travel device (1) from track frame (3).
   - : 30 mm

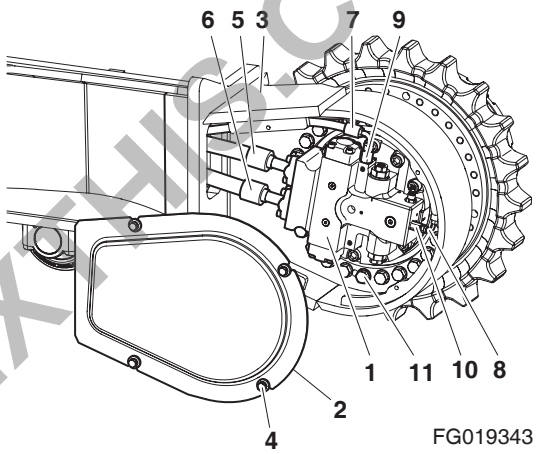


Figure 16

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Manual Override

When power supply to the machine is interrupted, maximum operating pressure can be established by means of a manual override so that machine can be driven under its own power and relocated to another work area.

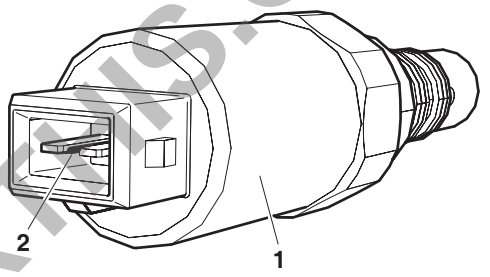
IMPORTANT

Prior to actuating the manual override device of the system the safety lever near the operator's seat must be activated.

Activate Manual Override

To activate the manual override:

1. Unplug the electrical connectors from both pressure reducing valves (1).
2. Using a pointed tool, press both PINs (2) in up to the stop. Both PINs must remain in the depressed position.



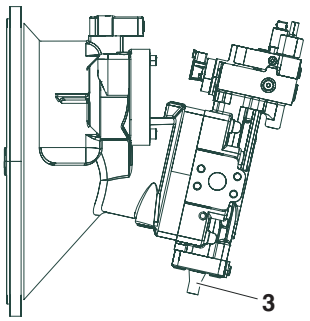
FG020722

Figure 2

3. Remove both protective caps (3) on the covers with a suitable tool (e.g. gripper).

IMPORTANT

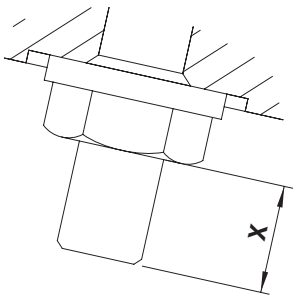
The protective caps will be destroyed by the removal process. When you require replacement protective caps, please contact your responsible Rexroth Service partner or the service department of the manufacturer's plant for the axial piston unit; See “Spare Parts” on page 45 for further information.



FG020723

Figure 3

4. On both $V_{g\ max}$-limiting threaded pins measure and record the extension X to the SEAL LOCK®- nut.
5. Fix both $V_{g\ max}$-limiting threaded pins with hexagonal socket wrench (wrench size M6). Loosen the SEAL LOCK® nuts (wrench size M12).
6. Screw the $V_{g\ max}$-limiting threaded pins into the cover with a hexagonal socket wrench (wrench size M6).



FG020724

Figure 4

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Malfunction Table

Fault	Possible cause	Remedy
Unusual noises	Drive speed too high.	Machine or system manufacturer.
	Wrong direction of rotation.	Ensure correct direction of rotation.
	Insufficient suction conditions, e.g. air in the suction line, inadequate diameter of the suction line, viscosity of the hydraulic fluid too high, suction height too high, suction pressure too low, contaminants in the suction line.	Machine or system manufacturer (e.g. optimize inlet conditions, use suitable hydraulic fluid).
		Completely air bleed the axial piston unit, fill the suction line with hydraulic fluid.
		Remove contaminants from the suction line.
	Improper fixing of the axial piston unit.	Check fixing of the axial piston unit according to the specifications of the machine or system manufacturer. Observe tightening torques.
	Improper fixing of the attachment parts, e.g. coupling and hydraulic lines.	Fix attachment parts according to the information provided by the coupling or fitting manufacturer.
	Malfunction of the pressure relief valve of the axial piston unit (pressure cut-off).	Bleeding the axial piston unit. Check viscosity of the hydraulic fluid. Contact Rexroth Service.
	Mechanical damage to the axial piston unit (e.g. bearing damage).	Exchange axial piston unit, contact Rexroth Service.
No or insufficient flow	Faulty mechanical drive (e.g. defective coupling).	Machine or system manufacturer.
	Drive speed too low.	Machine or system manufacturer.
	Insufficient suction conditions, e.g. air in the suction line, inadequate diameter of the suction line, viscosity of the hydraulic fluid too high, suction height too high, suction pressure too low, contaminants in the suction line.	Machine or system manufacturer (e.g. optimize inlet conditions, use suitable hydraulic fluid).
		Completely air bleed the axial piston unit, fill the suction line with hydraulic fluid.
		Remove contaminants from the suction line.
	Hydraulic fluid not in optimum viscosity range.	Use suitable hydraulic fluid (machine or system manufacturer).
	External control of the control device defective.	Check external control (machine or system manufacturer).
	Insufficient pilot pressure or control pressure.	Check pilot pressure or control pressure, contact Rexroth Service.
	Malfunction of the control device or controller of the axial piston unit.	Contact Rexroth Service.
	Wear of axial piston unit.	Exchange axial piston unit, contact Rexroth Service.
	Mechanical damage to the axial piston unit (e.g. bearing damage).	Exchange axial piston unit, contact Rexroth Service.

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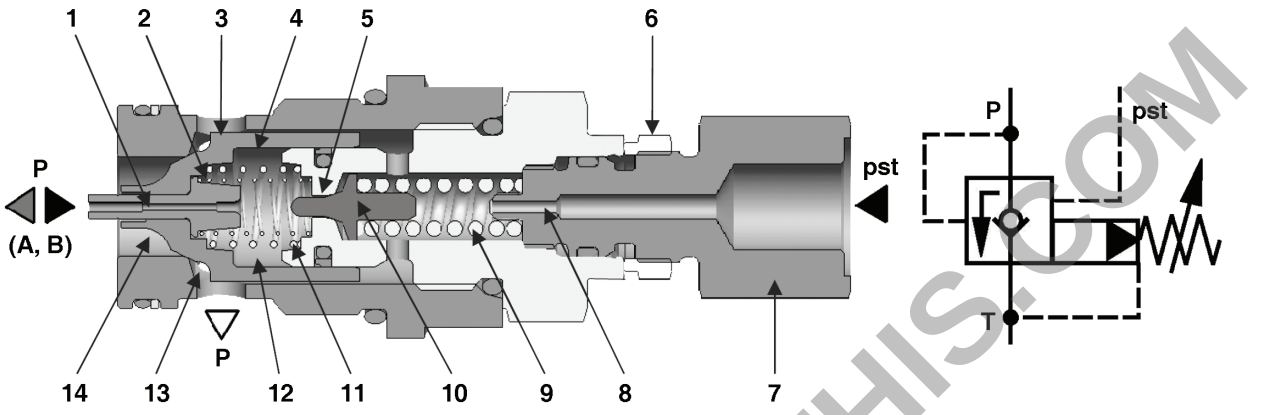
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line to the tank. The anticavitation (feed) function is not used on the primary side.

Primary Pressure Relief Valve with Pressure Connection Step



FG021097

Figure 30

Reference Number	Description
1	D1 Restrictor
2	Spring 1
3	Main Poppet
4	A2 Surface
5	D2 Restrictor
6	Counternut
7	pst Adapter and Setting Spindle

Reference Number	Description
8	pst Supply
9	Pressure Setting Spring
10	Pilot Poopet
11	Spring 2
12	Volume C
13	A3 Surface
14	A1 Surface

The function of the primary pressure relief valve with pressure connection step (DZ) essentially corresponds to the function of the primary pressure relief valve. The primary pressure relief valve with 2 stage setting offers the option of increasing the value set by way of the spindle (8) and compression spring (9) using pilot pressure (pst). The lower pressure step can therefore be increased in a 1 : 1 ratio to the higher maximum system pressure by way of the pilot oil connection (7) by the pilot pressure (pst). When the system is delivered, the pressure setting is set according to the project, and must not be changed.

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NOTE: *Non-compliance with protection class IP67 and risk of short-circuit due to missing seals and caps.*

Fluids and foreign matters may penetrate into the control block and destroy it.

– *Prior to assembling make sure that all seals and plugs of the plug-in connections are tight.*

NOTE: *Damage caused by incorrect assembly!*

When assembling hydraulic lines and hoses under mechanical stress, they are exposed to additional mechanical forces during operation, which reduces the service life of the control block and the complete machine.

– *Assemble hydraulic lines and hoses without mechanical stress.*

NOTE: *Wear and malfunctions caused by contaminated pressure fluid*

The cleanliness of the hydraulic fluid has a considerable impact on the cleanliness and service life of the hydraulic system as a whole. Any pollution/ contamination of the hydraulic fluid will result in wear and malfunctions. In particular, foreign bodies like e.g. welding beats or metal cuttings in the hydraulic lines may damage the control block.

– *Always ensure absolute cleanliness*

– *Assemble the control block free from any pollution.*

– *Make sure that all connections, hydraulic lines and add-on units (e.g. measuring instruments) are clean.*

– *Ensure that no pollutants are able to penetrate when sealing the connections.*

– *Ensure that no detergents are able to penetrate the hydraulic system.*

– *Do not use cleaning rags/cotton waste or linty cloth for cleaning.*

– *Only use suitable and permitted sealing material for the seals.*

– *Possible oil residues from the factory check must be completely removed.*

– *Remove possible resinifications caused be incorrect storage.*

NOTE: *Functional impairment caused by wrong plug connections!*

Only use the plug connections listed in the "Technical data sheet" for electrical connection.

– *Observe the assembly instructions of the manufacturer of the plug connections!*

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Installation

When the valve is installed to joystick piping, take care not to damage the valve.

After installation, pull out the air from the joystick piping.

Hydraulic Oil

The hydraulic oil must be a general petroleum hydraulic oil or wear resistant hydraulic oil.

(ISO 3448, VG32 - 56 or equivalent)

The applicable viscosity range is as follows:

- Maximum allowable viscosity: 1,000 mm^2/s
- Minimum allowable viscosity: 10 mm^2/s

Guide for External Oil Leakage

The probable causes check methods of external oil leakage and countermeasures are summarized in the table in below. Refer to below next page for disassembly and assembly procedure.

Symptom	Cause	Check Point	Countermeasures
Oil leakage	Damage to O-rings.	Confirm the oil leaking point.	Replace the O-rings.
	Loose plugs.	Confirm the oil leaking point.	Retighten the plugs.

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17. Remove bolts (1) and washer (2).

    Remove travel pedal (3) from travel pedal bracket (4).

    - : 17 mm

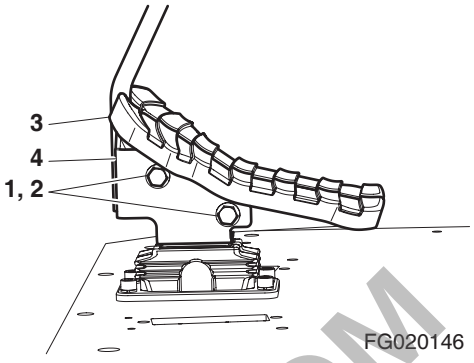


Figure 11

Remove socket bolts (1) and washer (2).

Remove travel pedal bracket (3) from travel control valve (4).

- : 8 mm

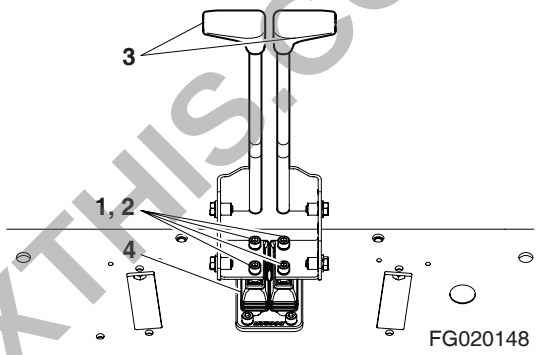


Figure 12

Remove socket bolts (1) and washer (2).

Remove travel control valve (3) from floor plate (4).

- : 8 mm

Move travel control valve (3) from floor plate (4).

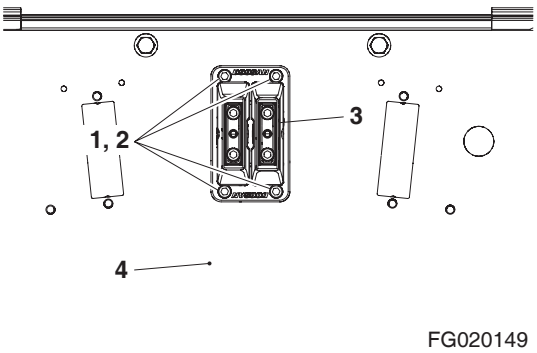


Figure 13

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INITIAL OPERATION

Item	Input (Terminal)	Output (Operation and initial setting mode)
Initial Operation	When "CN6-1, 2" is applied battery voltage (starter switch shifts from "OFF" to "ON"	• LCD, all of LED and warning lights are turned "ON" and turned "OFF" after about 2 seconds. • Warning buzzer is activated and turned "OFF" after about 2 seconds. • Power mode: Standard mode. • Auto Idle: High Output (Activation). • Display: Indicating coolant temperature, Fuel level, Hydraulic oil temperature, Engine speed. • Clock: Current time display.

NOTE: *Refer to method for setting clock in operation manual for setting time.*

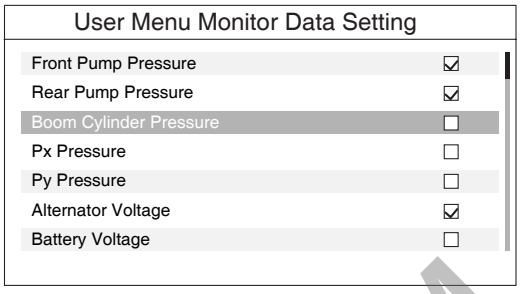
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User Menu Monitor Data Setting

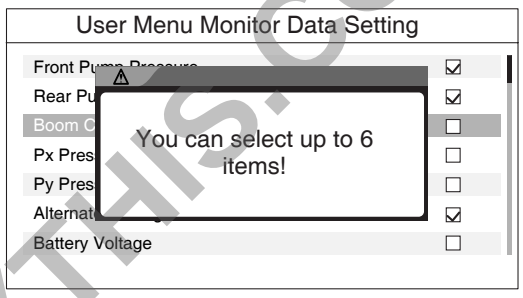
User can be monitor data setting.

The maximum limit of the monitor data setting is 6.



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Figure 126



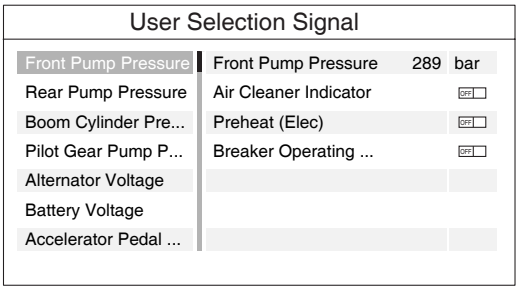
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Figure 127

User Selection Signal

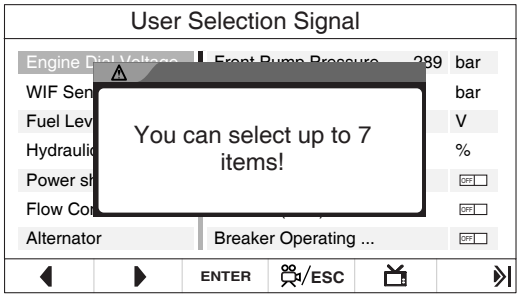
User can select signals of all monitoring items.

The maximum limit of monitoring signal is 7.



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Figure 128



FG018865

Figure 129

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AUTOMATIC TRAVEL SPEED CONTROL

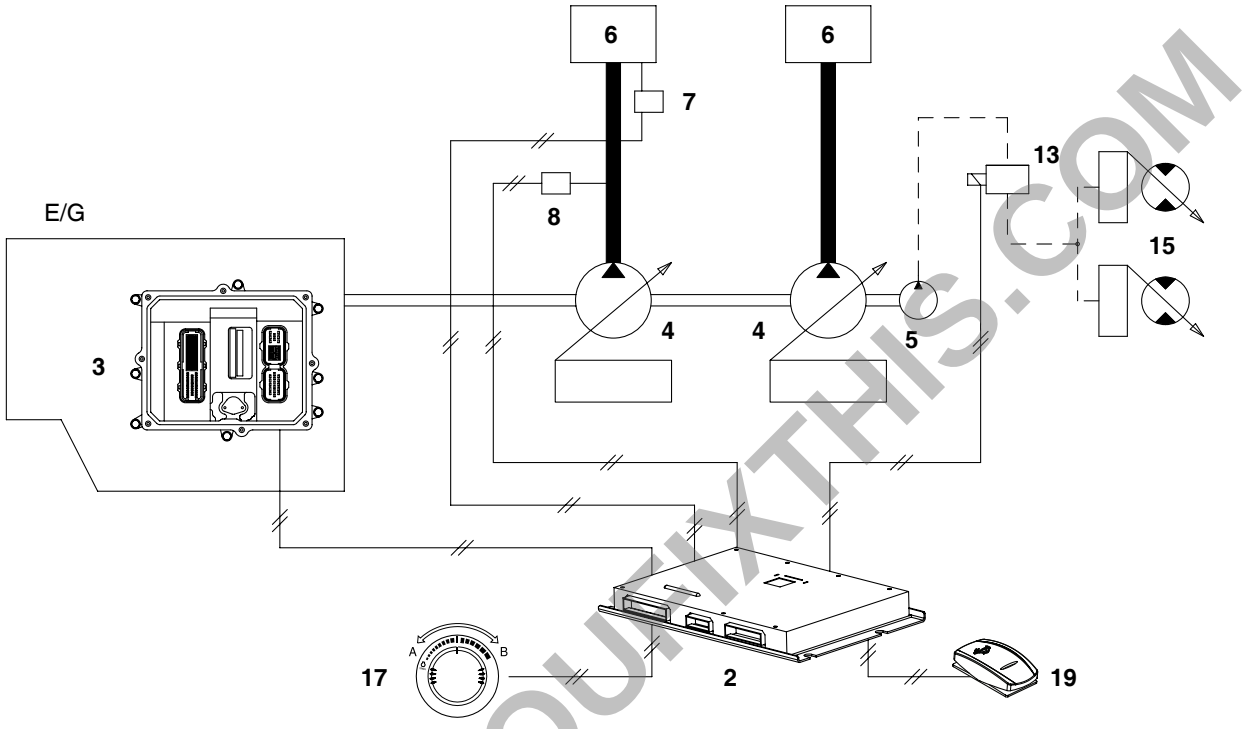


Figure 169

Reference Number	Description
2	e-EPOS Controller
3	Engine Controller
4	Main Pump
5	Aux Pump
6	Control Valve
7	Pressure Switch (Py Port)

Reference Number	Description
8	Pump Pressure Sensor
13	Solenoid Valve (High-speed)
15	Travel Motor
17	Engine Control Dial
19	Selector Switch For Automatic Travel

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Lighting System Circuit Diagram

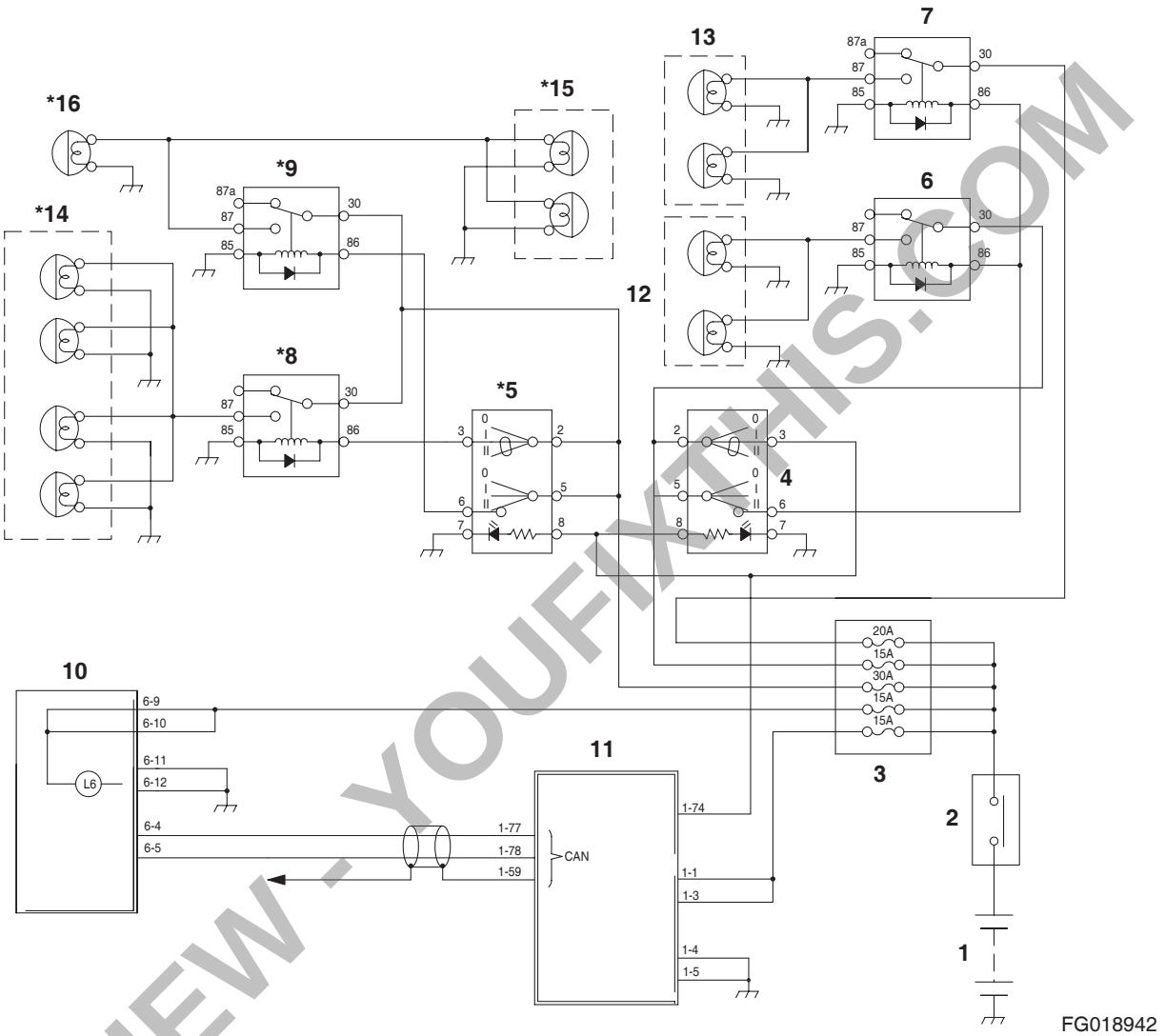


Figure 207

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