Technical Manual

EX8-2B

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SECTION 1
GENERAL

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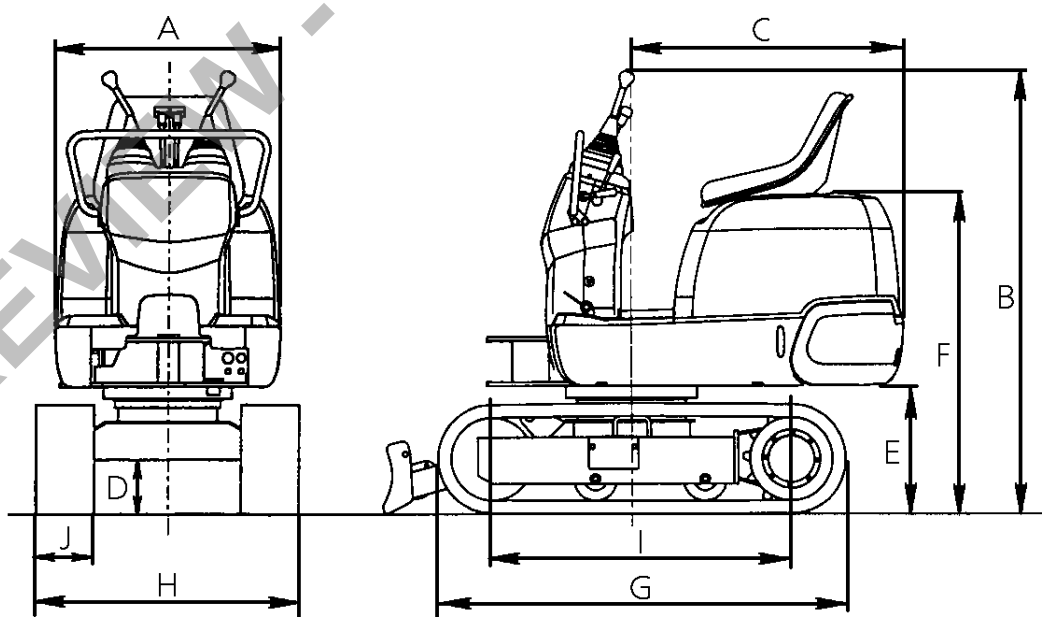
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SPECIFICATIONS

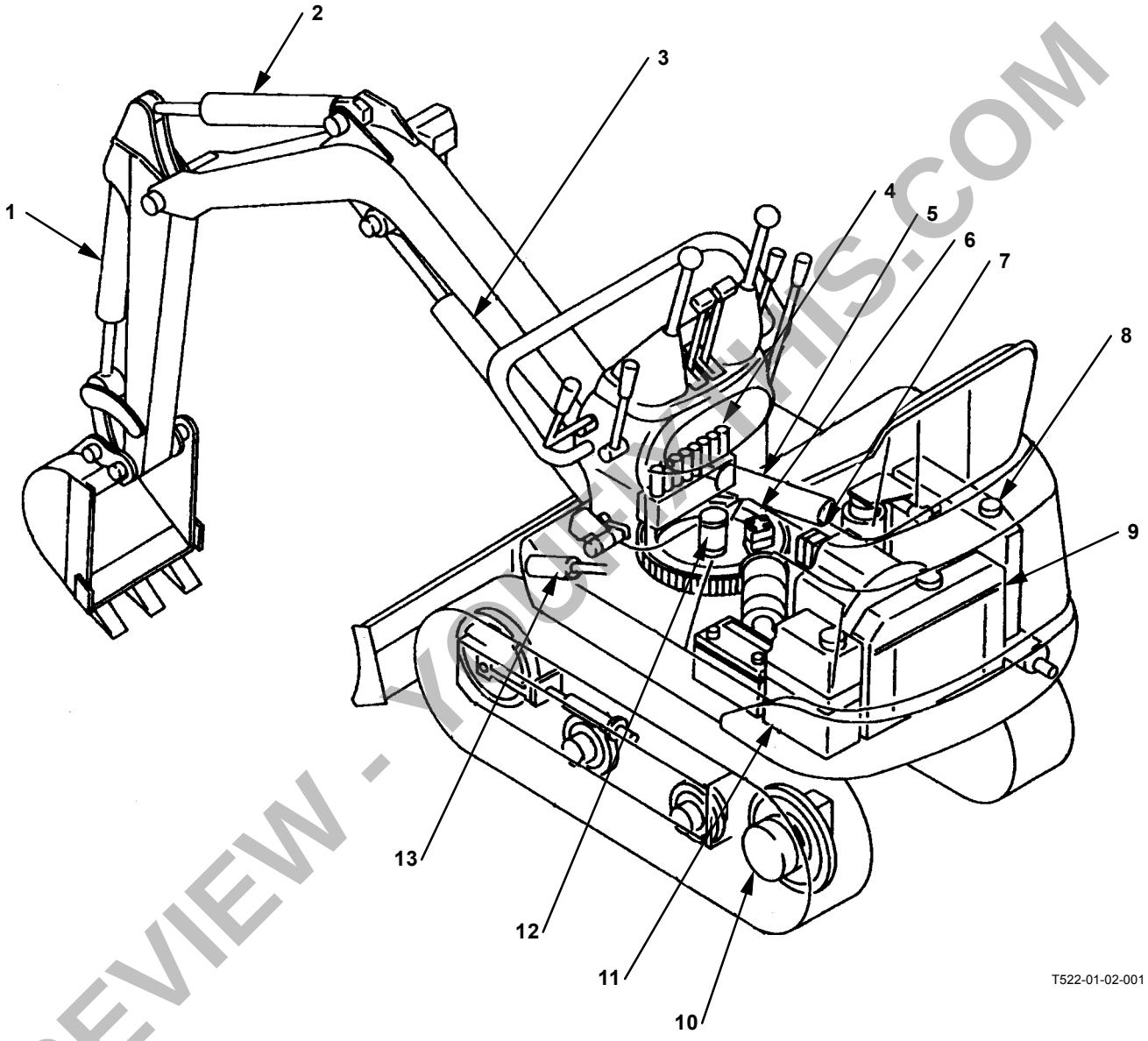
Item	Unit	Fixed Undercarriage Width Type		Undercarriage Width Extension/Retraction Type	
		Standard	Canopy	Standard	Canopy
Front Attachment	–	Boom swing type			
Bucket Capacity (Heaped)	m^3	0.022 PCSA heaped (0.020 CECE heaped)			
Machine Weight	kg (lb)	740 (1630)	770 (1700)	780 (1720)	810 (1790)
Base Machine Dry Weight	kg (lb)	570 (1260)	600 (1320)	610 (1340)	640 (1410)
Engine	–	KUBOTA Z482-B 6.4 kW/2450min^{-1} (8.7 PS/2450 rpm)			
A: Upperstructure Width	mm (ft in)	720 (2’ 4”)		720 (2’ 4”)	
B: Overall Transportation Height	mm (ft in)	1350 (4’ 5”)	2040 (6’ 8”)	1335 (4’ 6”)	2045 (6’ 9”)
C: Rear End Swing Radius	mm (ft in)	820 (2’ 8”)		820 (2’ 8”)	
D: Minimum Ground Clearance	mm (ft in)	165 (0’ 6”)		130 (0’ 5”)	
E: Counterweight Clearance	mm (ft in)	385 (1’ 3”)		390 (1’ 3”)	
F: Engine Cover Height	mm (ft in)	965 (3’ 2”)		970 (3’ 2”)	
G: Undercarriage Length	mm (ft in)	1225 (4’ 0”)		1225 (4’ 0”)	
H: Undercarriage Width	mm (ft in)	810 (2’ 8”)		720 / 900 (2’4” / 2’11”) (Retraction/Extension)	
I: Sprocket Center to Idler Center	mm (ft in)	900 (2’ 11”)		900 (2’ 11”)	
J: Track Shoe Width	mm (ft in)	180 (0’ 7”)		180 (0’ 7”)	
Ground Pressure	kPa (kgf/cm^2, psi)	19.6 (0.20, 2.8)	20.6 (0.21, 3.0)	20.6 (0.21, 3.0)	21.6 (0.22, 3.1)
Swing Speed	min^{-1} (rpm)	9.2 (9.2)			
Travel Speed	km/h (mph)	2.0 (1.2)			
Gradeability	% (deg.)	58 (30)			



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MAIN COMPONENTS



1 - Bucket Cylinder
2 - Arm Cylinder
3 - Boom Cylinder
4 - Control Valve
5 - Boom-Swing Cylinder
6 - Swing Device
7 - Pump Device
8 - Hydraulic Oil Tank
9 - Radiator
10 - Travel Device
11 - Fuel Tank
12 - Center Joint
13 - Blade Cylinder

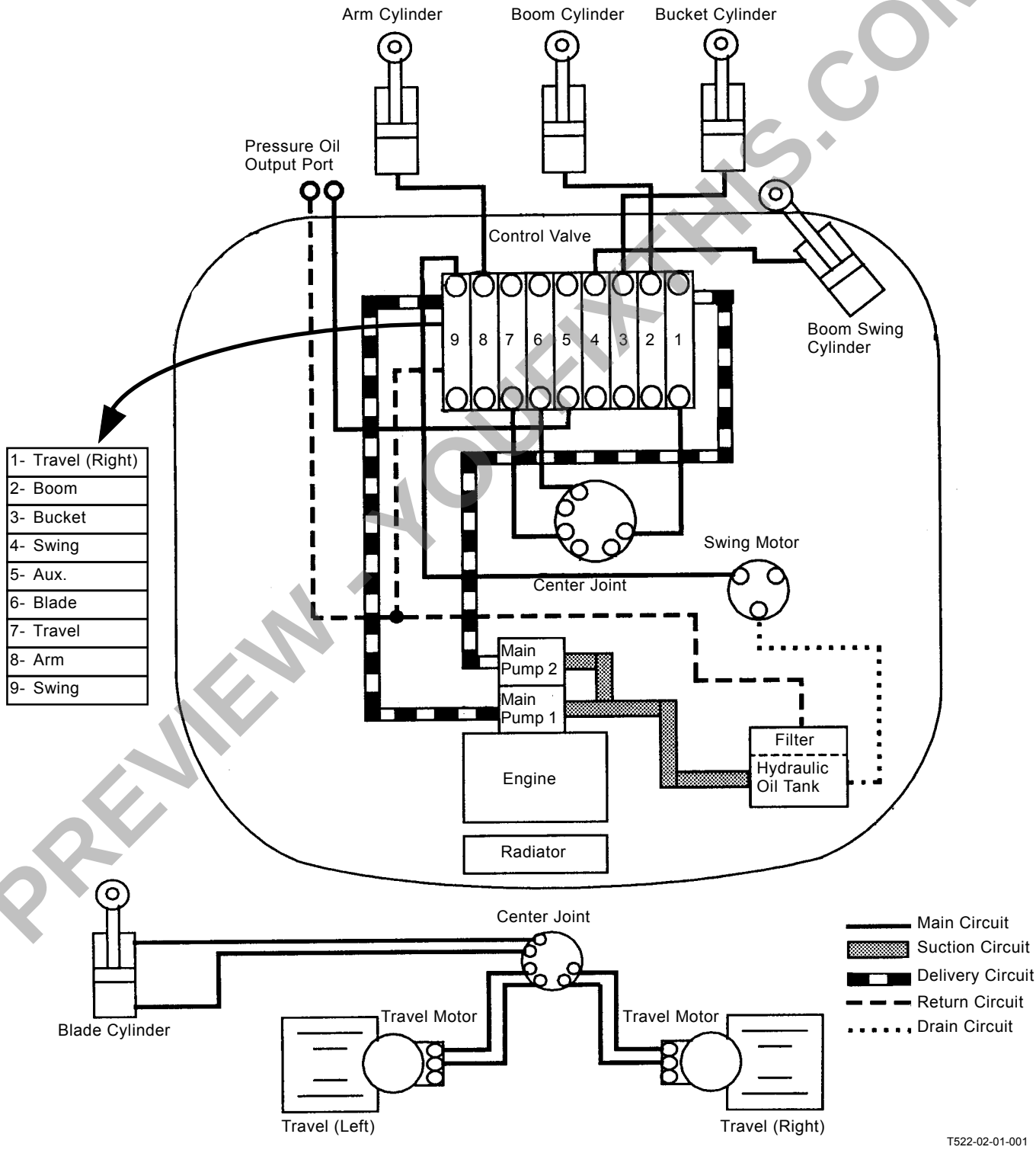
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HYDRAULIC SYSTEM

The main pumps draw hydraulic oil from the hydraulic oil tank and discharge pressure oil to the control valve. Changing flow direction and flow rate, pressure oil from the control vale flows to and actuates motors and cylinders, respectively.

Return oil from the cylinders and motors flows back to the hydraulic oil tank via the control valve.

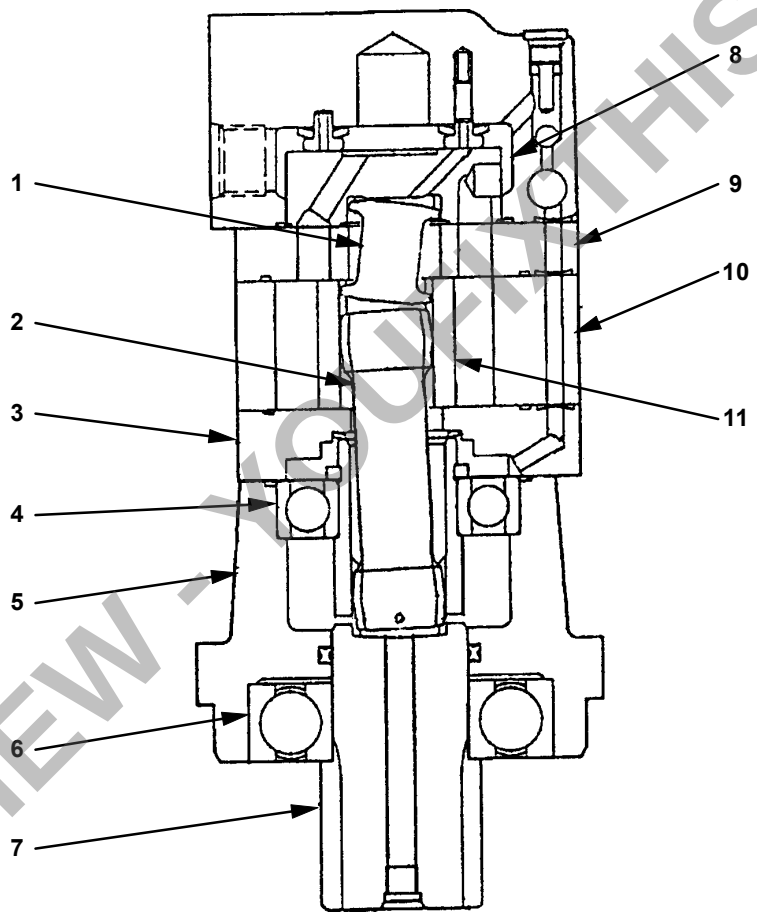


T522-02-01-001

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SWING MOTOR

The swing motor is a orbit motor.
The main components are; valve (8), valve drive (1), valve plate (9), gerotor (10), drive (2) and pinion gear (7).
Valve drive (1) is combined with valve (8) and star (11) inside of gerotor (10), and drive (2) is combined with star (11) inside of gerotor (10) and pinion gear (7).



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1 - Valve Drive
2 - Drive
3 - Valve Plate
4 - Ball Bearing
5 - Housing
6 - Ball Bearing
7 - Pinion Gear
8 - Valve
9 - Valve Plate
10 - Gerotor
11 - Star (Gerotor)

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ENGINE SPEED

Be sure to check the engine speed before performing all other tests, since it always affects test results.

Preparation:

1. Warm up the machine, until the engine coolant temperature reaches 50 °C (122 °F) or more, and hydraulic oil temperature is 50±5 °C (122±9 °F).
2. Move the engine speed control lever from slow idle to fast idle. Confirm that the fuel injection pump governor lever comes into contact with the slow-idle and fast-idle stoppers.
3. Connect an engine tachometer to the fuel injection line.

Measurement:

1. Slow idle.
   Start the engine. Place the engine speed control lever in the slow idle position and measure the speed of the engine.
2. Fast idle.
   Start the engine. Place the engine speed control lever in the fast idle position and measure the speed of the engine.
3. Repeat measurement three times and calculate the mean value.

Evaluation:

Refer to T4-5 Standard.

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INTRODUCTION

Troubleshooting charts shown in this section indicate the orderly procedures for inspecting and finding out the cause(s) of problems in the machine.

This section is comprised of three groups: Troubleshooting A (diagnosis of machine by symptom), Troubleshooting B (diagnosis of monitor) and Electric System Check.

- Troubleshooting A (diagnosis of machine by symptom)
  This procedure is used when operating the diagnosis by the symptom.

  Example: Starter does not rotate.

- Troubleshooting B (diagnosis of monitor)
  This procedure is used when there are malfunction on components regarding monitor, such as gauges or indicators.

  Example: Fuel gauge does not operate.

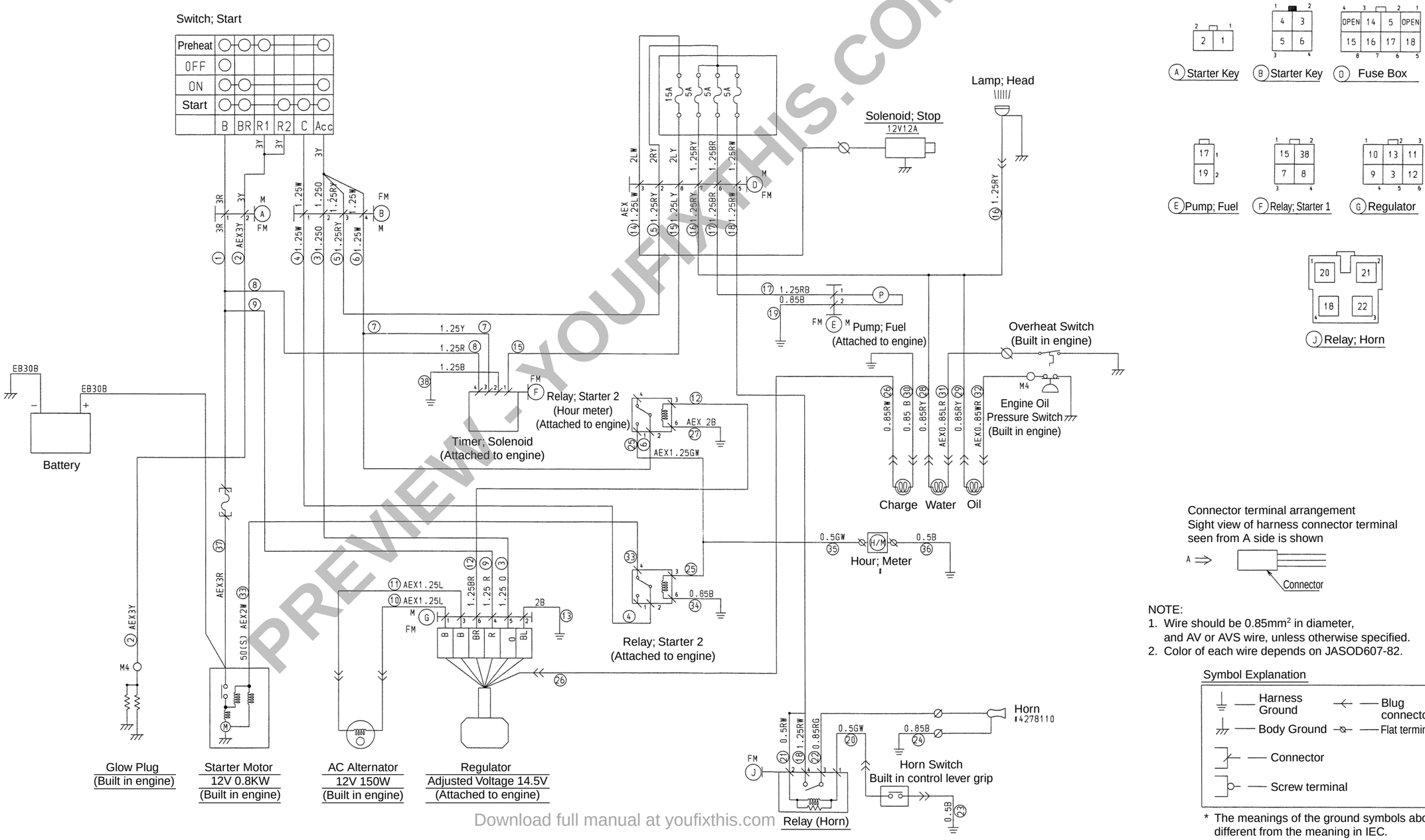
- Electric System Check
  This procedure is used when the information on precaution for electric system inspection or inspection method is needed.

  Example: Fuse inspection.

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EX8-2B ELECTRICAL CIRCUIT DIAGRAM



Connector terminal arrangement
Sight view of harness connector terminal seen from A side is shown

NOTE:
1. Wire should be 0.85mm^2 in diameter, and AV or AVS wire, unless otherwise specified.
2. Color of each wire depends on JASOD607-82.

Symbol Explanation

Harness Ground		Blug connector	
Body Ground		Flat terminal	
Connector			
Screw terminal			

* The meanings of the ground symbols above are different from the meaning in IEC.

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TIGHTENING TORQUE SPECIFICATIONS

Bolts and Nuts of Machine: Standard Torque Chart

No.	Descriptions		Bolt Dia mm	Q'ty	Wrench Size mm	Torque		
						N·m	(kgf·m)	(lbf·ft)
1	Engine cushion rubber mounting nut		8	8	13	9.8	(1)	(7.2)
2	Engine bracket mounting bolt		10	8	17	49	(5)	(36)
3	Hydraulic oil tank mounting bolt		10	4	17	49	(5)	(36)
4	Fuel tank mounting nut		8	1	13	9.8	(1)	(7.2)
5	Hydraulic hoses and union joints				19	29.5	(3)	(22)
					22	39	(4)	(29)
					27	64	(6.5)	(47)
6	Pump mounting bolt		8	2	13	9.8	(1)	(7.2)
7	Pump cover mounting bolt		8	3	13	9.8	(1)	(7.2)
8	Control valve mounting bolt		8	4	13	9.8	(1)	(7.2)
9	Swing device mounting bolt		10	4	17	49	(5)	(36)
10	Battery mounting nut		6	4	10	4.2	(0.4)	(2.9)
11	Swing bearing mounting bolt	Swing Device	10	12	17	64	(6.5)	(47)
		Track	10	12	17	64	(6.5)	(47)
12	Travel device mounting bolt *		10	17	8	64	(6.5)	(47)
13	Sprocket mounting bolt*		10	17	8	64	(6.5)	(47)
14	Lower roller mounting bolt*		14	8	22	175	(18)	(130)
15	Cover mounting bolt		6		10	5	(0.5)	(3.7)
			8		13	9.8	(1)	(7.2)
			10		17	49	(5)	(36)
16	Counterweight mounting bolt		12	2	19	88	(9)	(65)

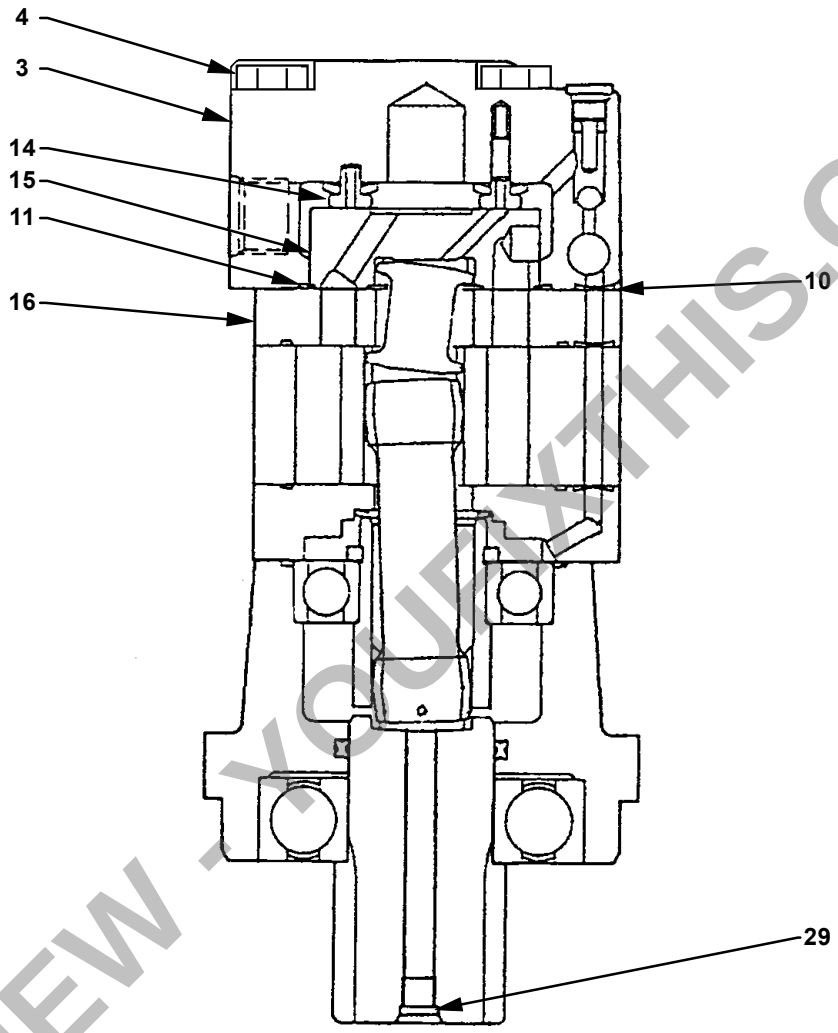
NOTE: (1) Apply lubricant (i.e. white zinc B dissolved into spindle oil) to reduce their friction coefficients.

(2) Remove rust, dirt, and dust before installing fasteners.

*(3) Apply LOCTITE to threads of fasteners indicated with * marks in the above chart.*

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