2.3 SPECIFICATIONS AND PERFORMANCE

SPEED AND GRADEABILITY

Model					
Applicable Machines		PV13-33453~			
Shoe Type		Rubber shoe		Iron shoe (OPT)	
Slewing Speed	min^{-1} {rpm}	8.7 (8.7)			
Travel Speed	km/h (mph)	Low (1st)	High (2nd)	Low (1st)	High (2nd)
		2.3	4.0	2.3	4.0
Gradeability	% (degree)	58(30)			

ENGINE

Model (YANMAR)		3TNV82A-SYB
Type		Water-cooled, 4-cycle type Swirl chamber type diesel engine
Number of cylinders-Bore X Stroke		3 - 82 dia. mm X 84 mm (3.23 in X 3.31 in)
Total Displacement	L	1.330 (81.2 cu-in)
Output Rating	kW/min^{-1} {PS/rpm}	15.9/2,200 (21.6/2,200)
Intermediate Torque (Net)	$N-m/min^{-1}$ (lbf-ft/rpm)	79.0~86.0/1,320±100 (58.3~63.4/1,320±100)
Starting Motor	V X kW	12 X 1.7
Generator	V X A	12 X 40

HYDRAULIC COMPONENTS

Hydraulic Pump	Variable displacement axial piston + gear pump
Hydraulic Motor	Axial piston
Hydraulic Motor w/Reducer (Travel)	2-Axial piston, 2-Speed motor
Control Valve	10-spool multiple control valve
Cylinder (Boom, Arm, Swing, Bucket, Dozer)	Double action cylinder
Return Filter	Safety valve containing/Filter Type (30μ)

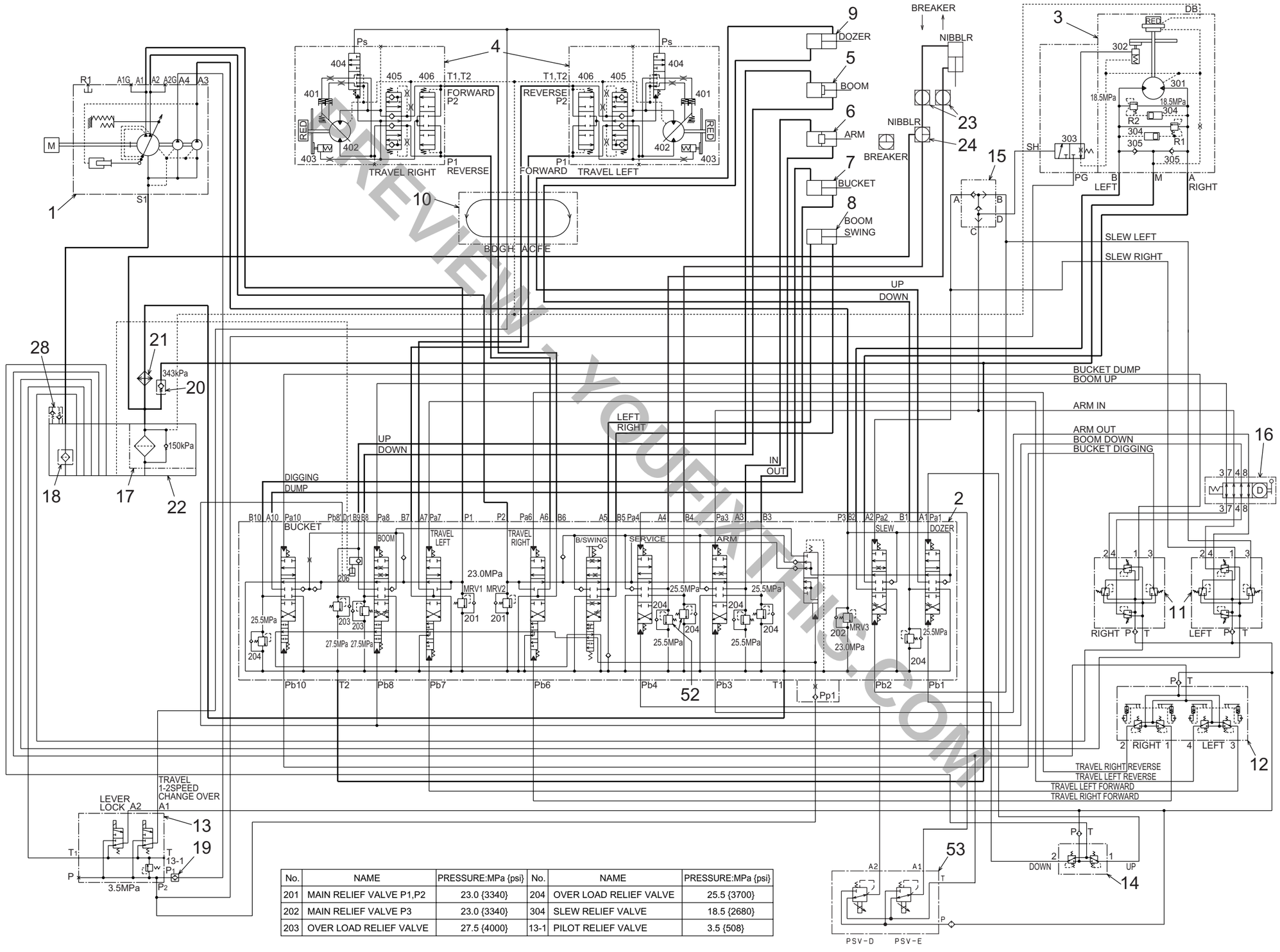
SIDE DIGGING & DOZER

Type		Boom swing by hydraulic cylinder
Boom Swing Angle	Right	55 degrees
	Left	60 degrees
Stroke of Dozer (above/below)	mm (in)	445 / 335 (17.5/13.2)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

22.2.1 STANDARD SPECIFICATION

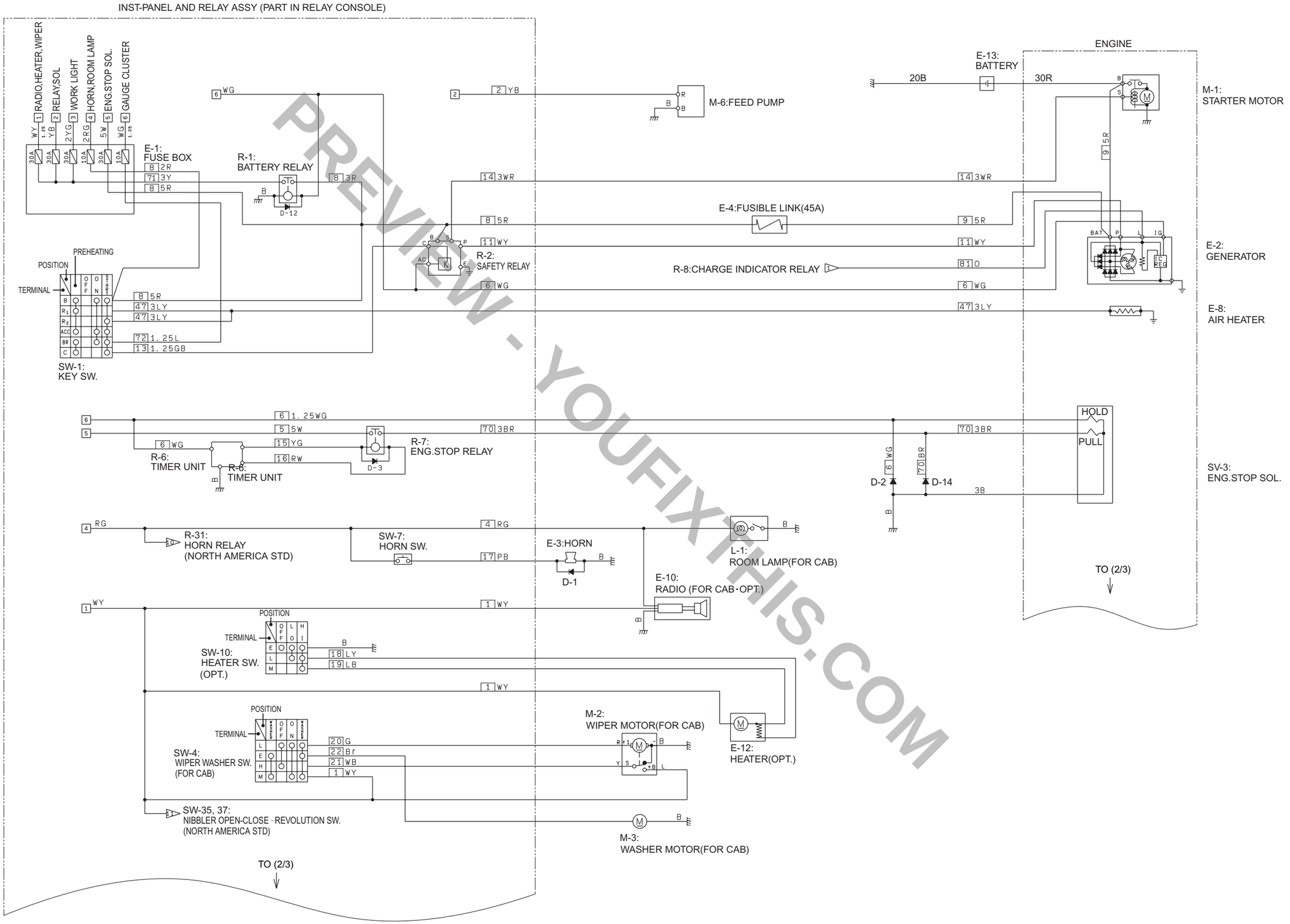


No.	NAME	PRESSURE:MPa {psi}	No.	NAME	PRESSURE:MPa {psi}
201	MAIN RELIEF VALVE P1,P2	23.0 {3340}	204	OVER LOAD RELIEF VALVE	25.5 {3700}
202	MAIN RELIEF VALVE P3	23.0 {3340}	304	SLEW RELIEF VALVE	18.5 {2680}
203	OVER LOAD RELIEF VALVE	27.5 {4000}	13-1	PILOT RELIEF VALVE	3.5 {508}

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

23.2.3 ELECTRIC CIRCUIT DIAGRAM



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

11.1.1 Metric Coarse Thread Standard Tightening Torque Values

Note

Make Certain to tighten all Capscrews & Nuts to proper torque values.

Torque value Unit : N•m (lbf•ft)

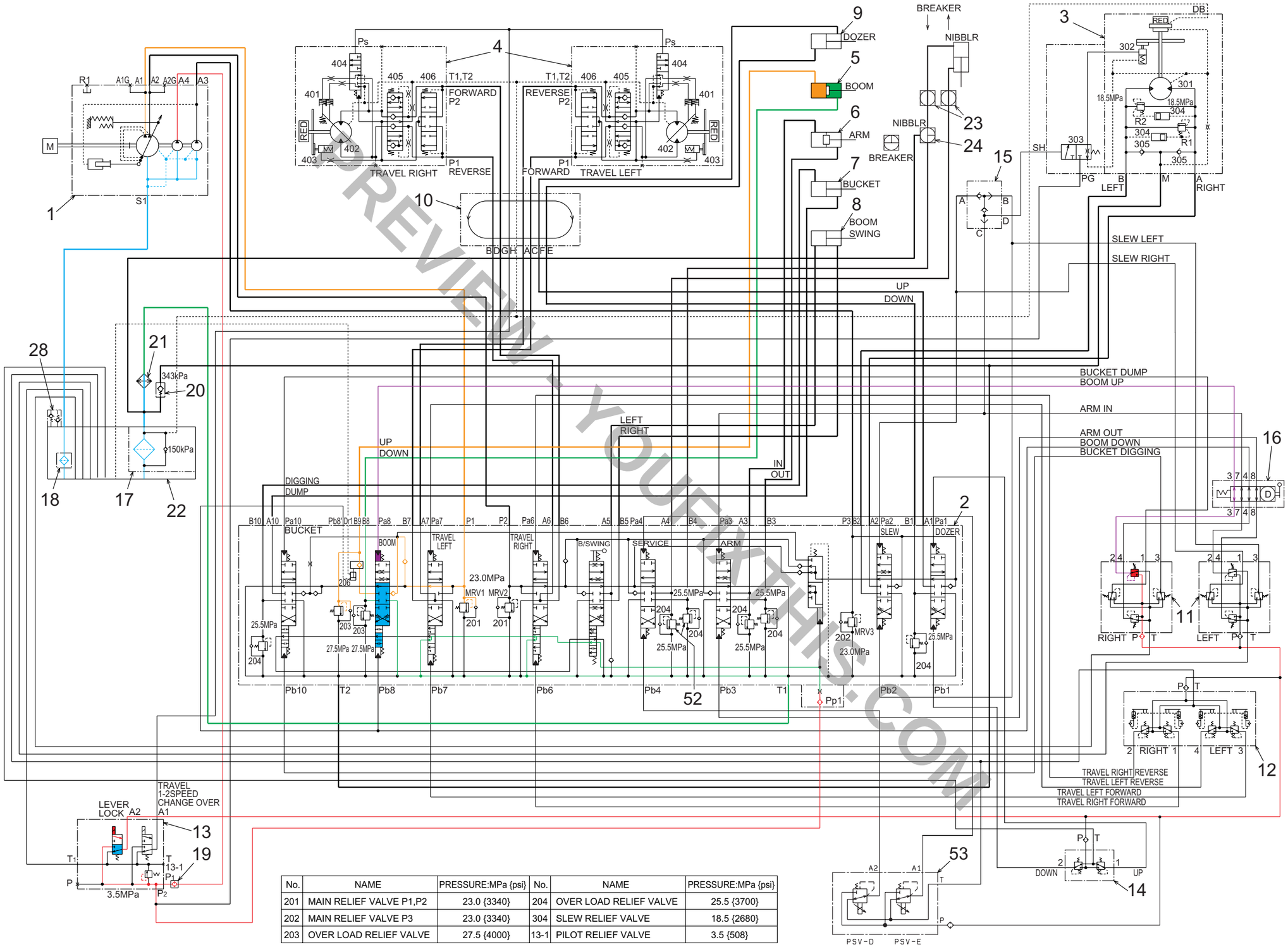
Classification		4.8T		7T		10.9T	
Nominal size		No lubrication	Oil lubrication	No lubrication	Oil lubrication	No lubrication	Oil lubrication
M6	P=1	4.4±0.5 (3.2±0.4)	3.7±0.4 (2.7±0.3)	9.6±1.0 (7.1±0.7)	8.1±0.8 (6.0±0.6)	17.4±1.8 (12.8±1.3)	14.7±1.5 (10.8±1.1)
M8	P=1.25	10.7±1.1 (7.9±0.8)	9.0±0.9 (6.6±0.7)	23.5±2.0 (17.3±1.5)	19.6±2.0 (14.5±1.5)	42.2±3.9 (31.1±2.9)	35.3±3.9 (26.0±2.9)
M10	P=1.5	21.6±2.0 (15.9±1.4)	17.9±1.8 (13.2±1.3)	46.1±4.9 (34.0±3.6)	39.2±3.9 (28.9±2.9)	83.4±8.8 (61.5±6.5)	70.6±6.9 (52.1±5.1)
M12	P=1.75	36.3±3.9 (26.8±2.9)	31.4±2.9 (23.2±2.1)	79.4±7.8 (58.6±5.8)	66.7±6.9 (49.2±5.1)	143±15 (105±11)	121±12 (89.2±8.9)
M14	P=2	57.9±5.9 (42.7±4.4)	49.0±4.9 (36.1±3.6)	126±13 (92.9±9.6)	106±10 (78.2±7.4)	226±20 (167±15)	191±19 (141±14)
M16	P=2	88.3±8.8 (65.1±6.5)	74.5±6.9 (55.0±5.1)	191±20 (141±15)	161±16 (119±12)	343±39 (253±29)	284±29 (209±21)
M18	P=2.5	122±12 (90.0±8.9)	103±10 (75.8±7.2)	265±29 (195±21)	226±20 (167±15)	481±49 (355±36)	402±39 (297±29)
M20	P=2.5	172±17 (127±13)	144±14 (106±10)	373±39 (275±29)	314±29 (232±21)	667±69 (492±51)	559±59 (412±44)

Torque value Unit : N•m (lbf•ft)

Classification		4.8T		7T		10.9T	
Nominal size		No lubrication	Oil lubrication	No lubrication	Oil lubrication	No lubrication	Oil lubrication
M22	P=2.5	226±20 (167±15)	192±20 (142±15)	500±49 (369±36)	422±39 (311±29)	902±88 (665±65)	755±78 (557±58)
M24	P=3	294±29 (217±21)	235±29 (173±21)	637±69 (470±51)	520±49 (383±36)	1160±118 (856±87)	941±98 (694±72)
M27	P=3	431±39 (318±29)	353±39 (260±29)	941±98 (694±72)	765±78 (564±58)	1700±167 (1250±123)	1370±137 (1010±101)
M30	P=3.5	588±59 (434±44)	490±49 (361±36)	1285±127 (948±94)	1079±108 (796±80)	2300±235 (1700±173)	1940±196 (1430±145)
M33	P=3.5	794±78 (586±58)	667±69 (492±51)	1726±177 (1270±131)	1451±147 (1070±108)	3110±314 (2290±232)	2610±265 (1930±195)
M36	P=4	1030±98 (760±72)	863±88 (637±65)	2226±226 (1640±167)	1863±186 (1370±137)	4010±402 (2960±297)	3360±333 (2480±246)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



No.	NAME	PRESSURE:MPa {psi}	No.	NAME	PRESSURE:MPa {psi}
201	MAIN RELIEF VALVE P1,P2	23.0 {3340}	204	OVER LOAD RELIEF VALVE	25.5 {3700}
202	MAIN RELIEF VALVE P3	23.0 {3340}	304	SLEW RELIEF VALVE	18.5 {2680}
203	OVER LOAD RELIEF VALVE	27.5 {4000}	13-1	PILOT RELIEF VALVE	3.5 {508}

Boom circuit : Boom up operation

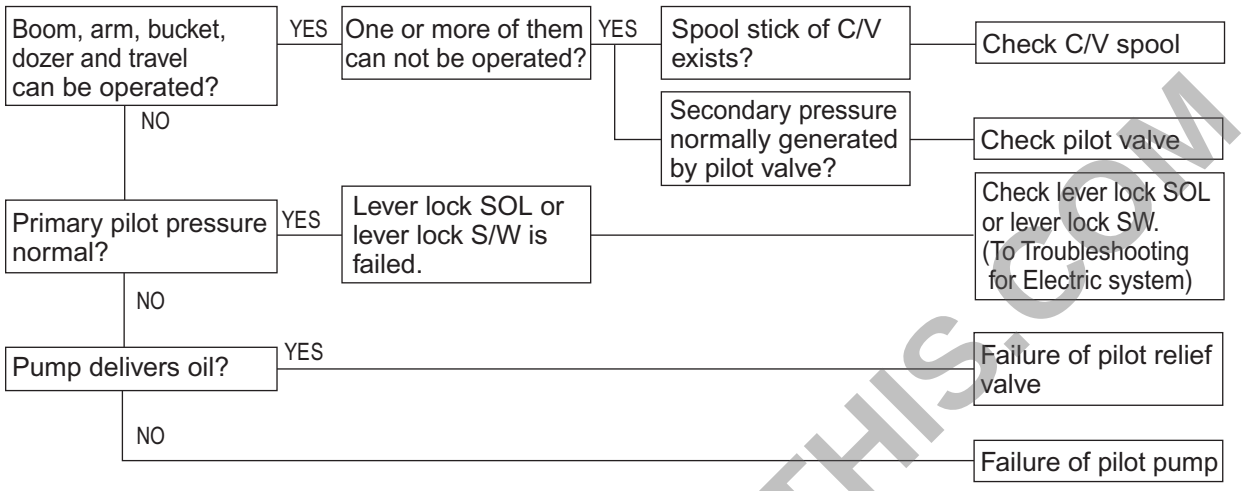
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

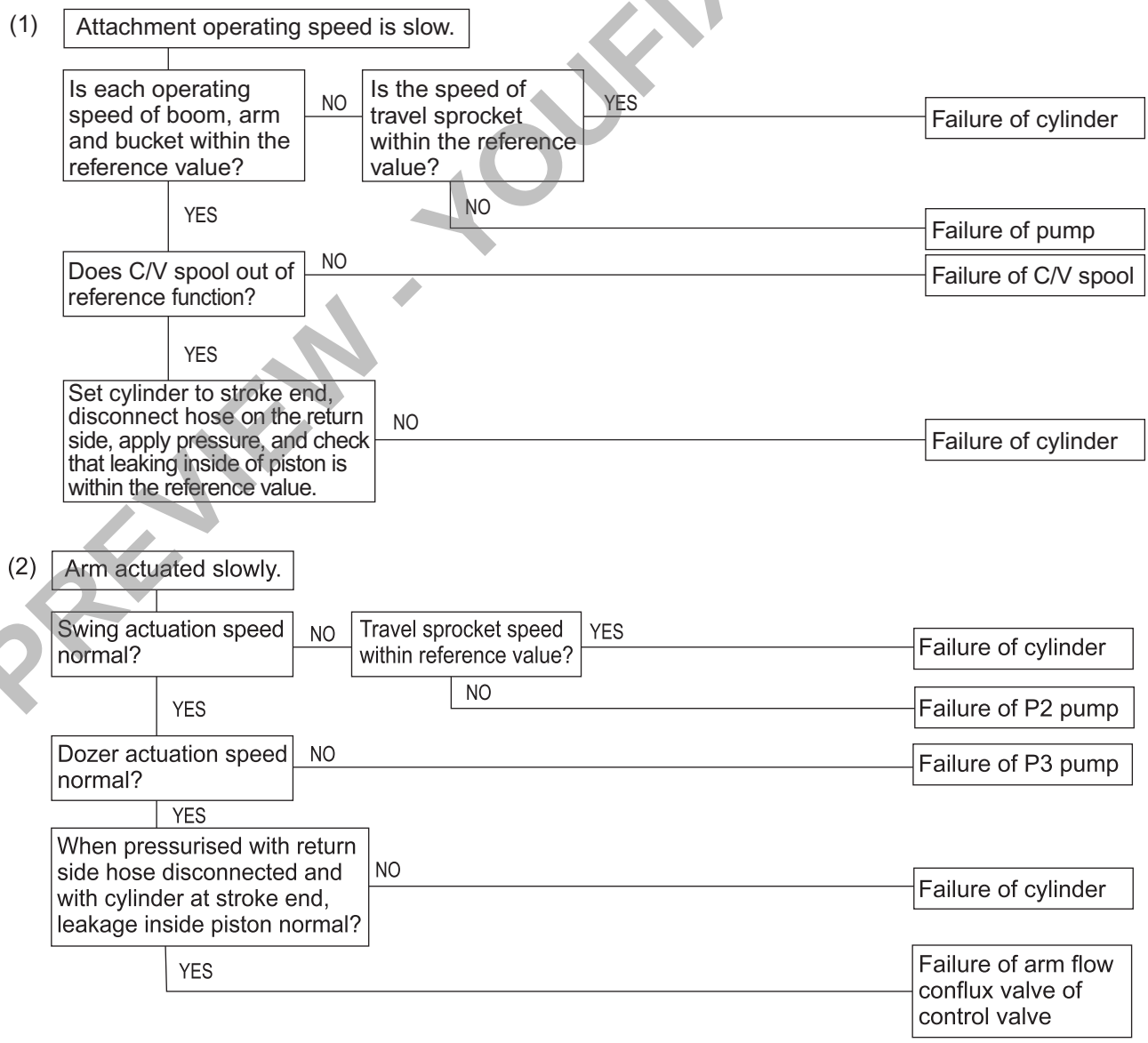
42.3 TROUBLESHOOTING

42.3.1 ATTACHMENT

42.3.1.1 ATTACHMENT OPERATIONAL FAILURE (Excluding swing operations)



42.3.1.2 ATTACHMENT SPEED IS SLOW



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

12.1 STANDARD WORKING TIME TABLE FOR THE MAINTENANCE OF EXCAVATOR

(1) Standard maintenance time table

1. Units of working time : 6 minutes = 0.1 hour
2. Calculating method of standard maintenance time :
   Maintenance time = Working time X Number of workers
   (Working time = Maintenance time / Number of workers)
3. When more than one work are done,
   a. Add each standard maintenance time
   b. A net time (readily starting) is given except covers easily removed by hand.
   c. Assy works include the following works marked with black dot ·
4. O / H : The removing and installing time are not included.
5. Abbreviations in the table.

ASSY	; Assembly	SOL	; Solenoid	Rem.	; Removal
ATT	; Attachment	SW	; Switch	Inst.	; Installation
BRG	; Bearing	V	; Valve	O/H	; Overhaul
C/V	; Control valve	F hose	; Flexible hose		
Cyl	; Cylinder	E/G	; Engine		

(2) Classification of work code

No.	GROUP	REMARKS
01 02 03 04	Attachment Canopy and Guard Upper Structure Under carriage	To indicate removing, installing, replacement and overhaul.

01 Attachment(1/2)

No.	EQUIPMENT PORTION	WORK TO BE DONE	UNIT	REMARKS	UNIT: HOUR
00	Bucket portion			Refer to 32.1.2	
01	Bucket ASSY	Rem.l/Inst.	1 pc.	Include adjustment	0.4
02	-Bucket removing / installing position	Preparation	1 pc.		0.1
03	-Bucket installing pin	Rem./Inst.	1 pc.	Include stopper pin.	0.1
04	-Bucket drive pin	- ditto -	1 pc.		0.1
05	-Bucket sling and transfer	Preparation	1 pc.		0.1
06	Bucket (Single)	O/H	1 pc.	Not include removal / inst.	0.6
07	-Bushing	Replace	1 pc.		0.5
10	Arm portion			Refer to 32.1.3	
11	Arm ASSY	Rem./Inst.	1 pc.		0.8
12	-Bucket cylinder removing / installing position and piping	Preparation	1 pc.		0.2
13	-Bucket cylinder rod pin	Rem./Inst.	1 pc.	Include stopper pin.	0.1
14	-Bucket cylinder head pin	- ditto -	1 pc.	Include stopper pin.	0.1
15	-Bucket cylinder assy	- ditto -	1 pc.		0.1
16	-Arm cylinder rod pin	- ditto -	1 pc.	Include stopper pin.	0.1
17	-Boom top pin	- ditto -	1 pc.		0.1
18	-Arm sling and transfer	- ditto -	1 pc.		0.1

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

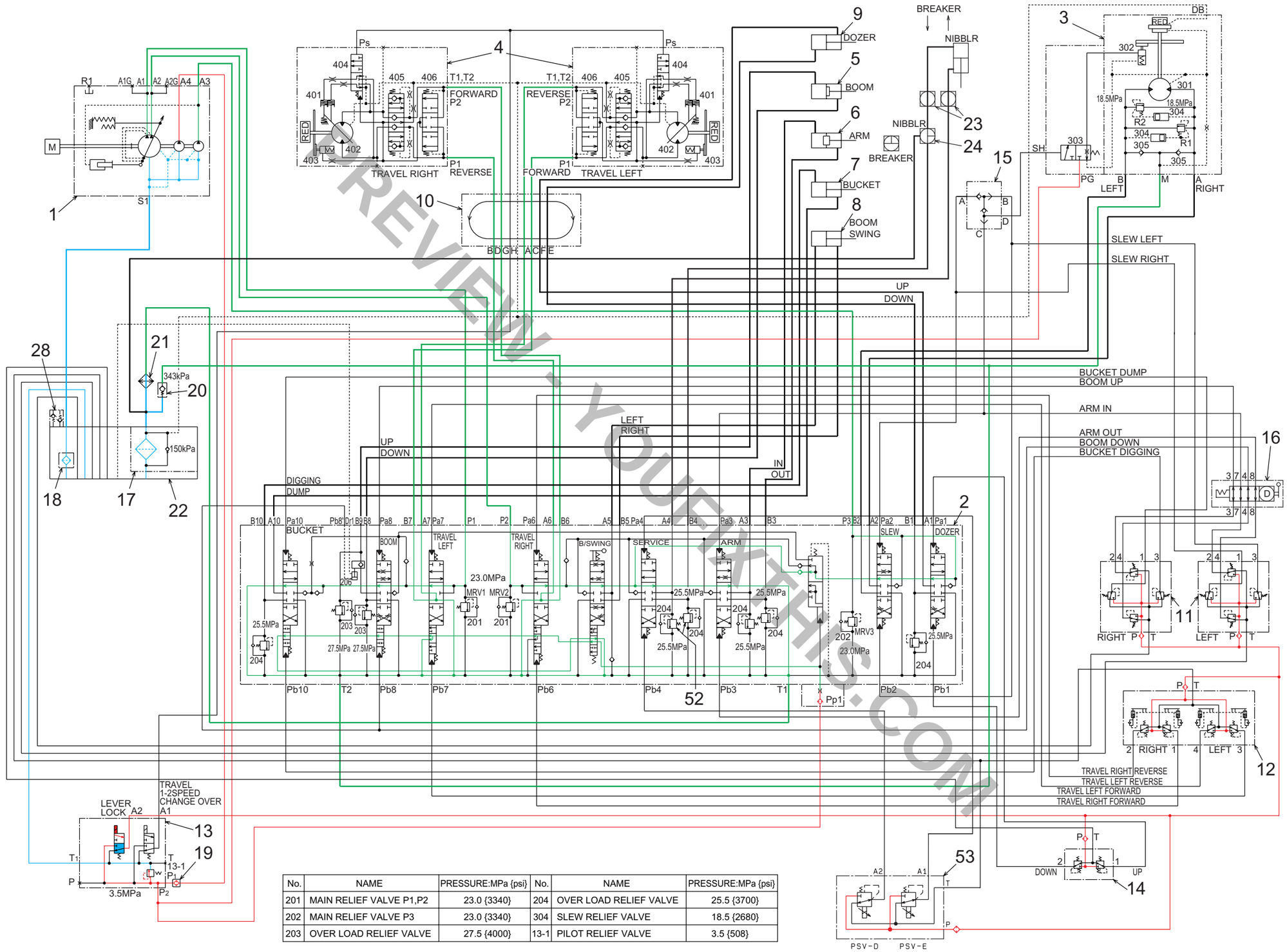
2.8 ENGINE SPECIFICATIONS

2.8.1 SPECIFICATIONS

Model		E27B	
Engine Model (YANMAR)		3TNV82A-SYB	
Type		Vertical, 4-cycle water-cooled diesel engine	
No. of cylinders - Bore × Stroke		3 - 82 mm (3.23 in) × 84mm (3.31 in)	
Total displacement		1.330 liter (81 cu•in)	
Compression ratio		19.2	
Rated output		15.9 kW (21.6 PS) at 2200 rpm	
Intermediate torque		79.0 ~ 86.1 N•m (58.3 ~ 63.4 lbf•ft) at 1320±100 rpm	
Low idling		1200±25 rpm	
High idling		2375±25 rpm	
Fuel consumption rate		242±10 g / kWh {178±7 g / PS•h}	
Allowable tilting angles		Continuous ; 30° for all direction	
Rotating direction		Counterclockwise as seen from flywheel side	
Firing order		1-3-2-1	
Static fuel injection timing Automatic injection advance range		(FIT) (at 2.5 mm) b.T.D.C 16.0 ±1° (FIR) b.T.D.C 2.5 ±1°	
Fuel injection pressure		19.6^{+1}_{0} MPa (2840^{+140}_{0} psi)	
Valve action		Open	Close
	Intake valve	b.T.D.C. 15±5°	a.B.D.C. 45±5°
	Exhaust valve	b.B.D.C. 56±5°	a.T.D.C. 18±5°
Valve clearance	Intake valve	0.2 mm (0.008 in) in cold condition	
	Exhaust valve	0.2 mm (0.008 in) in cold condition	
Thermostat action		Start 71 ± 1.5°C (160 ± 3°F) / Full open 85°C (185°F)	
Compression pressure		3.16 ± 0.1 MPa (460 ± 14 psi) at 250 rpm	
Lubrication oil pressure		0.392 MPa (57 psi) at 2200 rpm	
Dimensions L × W × H		565 × 494× 611 mm (22.2 × 19.4 × 24.1 in)	
Dry weight		128^{+10}_{0} kg (282^{+22}_{0} lb)	
Governor		Mechanical centrifugal governor (All speed type)	
Fuel filtration		cartridge type paper filter	
Lubrication system		Forced lubrication with trochoid pump	
Cooling system		Liquid cooling / Radiator	
Starter capacity		12 V × 1.7 kW	
Generator capacity		12 V × 40 A	
Starting aid		Air heater (12 V - 400 W)	
Cooling water capacity : Max / Engine		4.0 / 1.8 liter (1.06 / 0.48 gal)	
Engine oil volume : High / Low		5.5 / 3.6 liter (1.45 / 0.95 gal)	

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

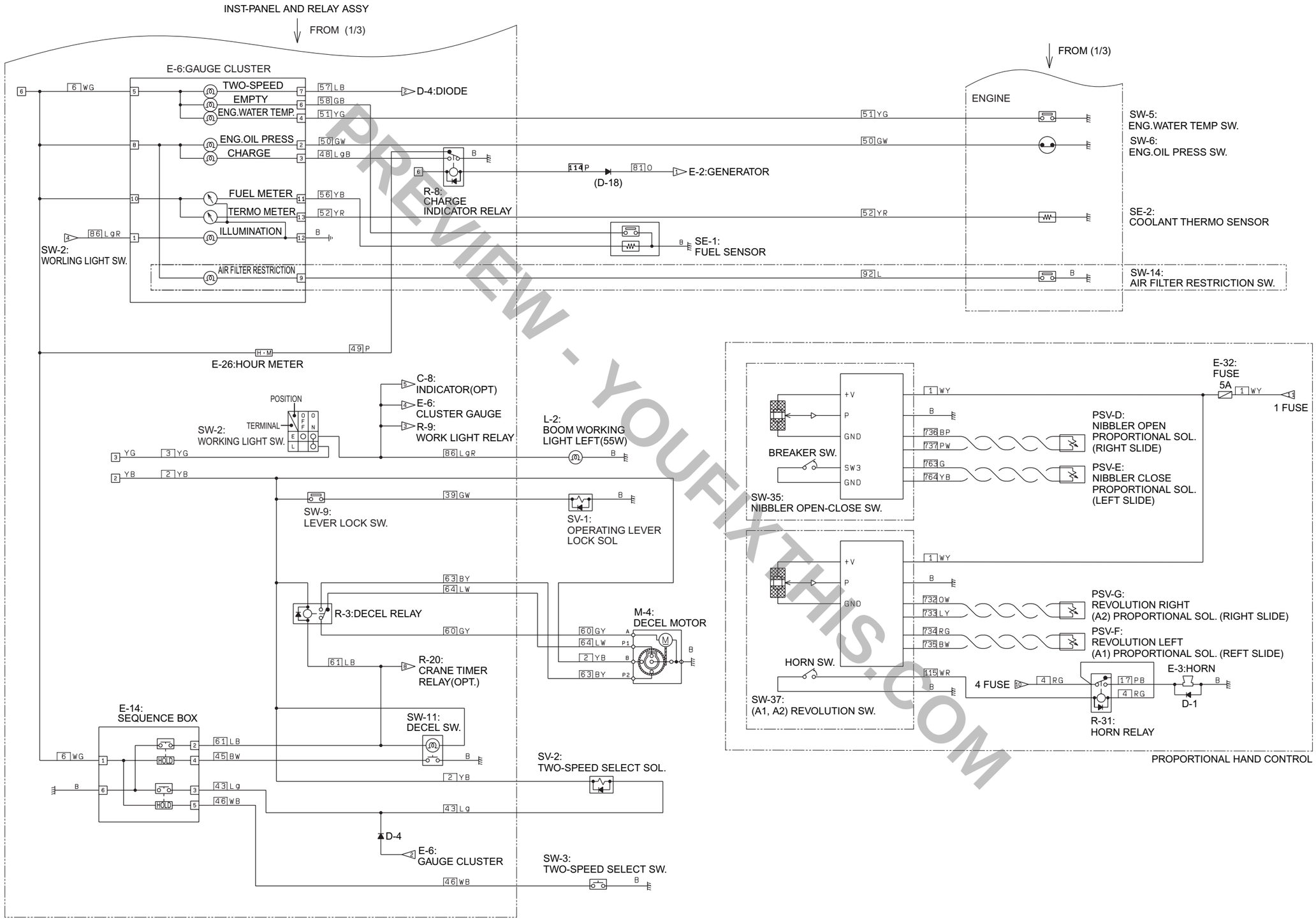


No.	NAME	PRESSURE:MPa {psi}	No.	NAME	PRESSURE:MPa {psi}
201	MAIN RELIEF VALVE P1,P2	23.0 {3340}	204	OVER LOAD RELIEF VALVE	25.5 {3700}
202	MAIN RELIEF VALVE P3	23.0 {3340}	304	SLEW RELIEF VALVE	18.5 {2680}
203	OVER LOAD RELIEF VALVE	27.5 {4000}	13-1	PILOT RELIEF VALVE	3.5 {508}

Neutral circuit

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

11.1.2 Metric Fine Thread Standard Tightening Torque Values

Note

Make certain to tighten all Capscrews & Nuts to proper torque values.

Torque value Unit : N•m (lbf•ft)

Classification		4.8T		7T		10.9T	
Nominal size		No lubrication	Oil lubrication	No lubrication	Oil lubrication	No lubrication	Oil lubrication
M8	P=1.0	11.3±1.1 (8.3±0.8)	9.5±1.0 (7.0±0.7)	24.5±2.0 (18.1±1.5)	20.6±2.0 (15.2±1.5)	44.1±3.9 (32.5±2.9)	37.3±3.9 (27.5±2.9)
M10	P=1.25	22.6±2.0 (16.7±1.5)	18.7±1.9 (13.8±1.4)	48.1±4.9 (35.5±3.6)	41.2±3.9 (30.3±2.9)	87.3±8.8 (64.4±6.5)	73.5±6.9 (54.2±5.1)
M12	P=1.25	39.2±3.9 (28.9±2.9)	33.3±2.9 (24.6±2.1)	85.3±8.8 (62.9±6.5)	71.6±6.9 (52.8±5.1)	154±16 (114±12)	129±13 (95.2±9.6)
M16	P=1.5	92.2±8.8 (68.0±6.5)	77.5±7.8 (57.2±5.8)	196±20 (145±15)	169±17 (125±13)	363±39 (268±29)	304±29 (224±21)
M20	P=1.5	186±19 (137±14)	155±16 (114±12)	402±39 (297±29)	333±29 (246±21)	726±69 (535±51)	608±59 (448±44)
M24	P=2	314±29 (232±21)	265±29 (195±21)	686±69 (506±51)	569±59 (420±44)	1240±118 (915±87)	1030±98 (760±72)
M30	P=2	637±59 (470±44)	530±49 (391±36)	1390±137 (1030±101)	1157±118 (853±87)	2500±255 (1840±188)	2080±206 (1530±152)
M33	P=2	853±88 (629±65)	706±70 (521±52)	1860±186 (1370±137)	1550±155 (1140±114)	3350±334 (2470±246)	2790±275 (2060±203)
M36	P=3	1070±108 (789±80)	892±88 (658±65)	2330±226 (1720±167)	1940±196 (1430±145)	4200±422 (3100±311)	3500±353 (2580±260)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

22.3.7 ARM OPERATING CIRCUIT

Pilot oil system with operating lever
With oil flow conflux function for the third pump.

22.3.7.1 Arm In Operating Circuit

(1) Pilot Circuit

1. Shift for Arm Spool

   At the arm in operation, the pilot secondary pressure generated from the pilot valve (11) is led to the Pa3 port on control valve (2) to shift the arm valve spool.

   Furthermore, the pilot secondary pressure acts to the SH port on timer valve (303) through the shuttle valve (15) to release the parking brake.

   Oil supplied to the Pp1 port is led to the tank passage through the pilot passages provided to the right and left travel spools.

   Therefore the independent travel and flow conflux valves are not actuated, that is to say, the flow conflux valve remains active.

(2) Main Circuit

1. Supply Circuit for Cylinder (6)

   The oil delivered from the A2 port on variable pump enters into P2 port on control valve (2).

   The pressurized oil from the P3 port joins with the oil from the P2 port through the independent travel and flow conflux valves. The joined oil flows out from the A3 port through the arm valve and is supplied to the head side of the arm cylinder (6) to perform arm in work.

2. Return Line from Cylinder (6)

   The return oil from the rod side of arm cylinder enters into the B3 port on control valve (2), and is led to the return line from the T1 port through arm valve, then return to the tank.

22.3.7.2 Operating Circuit for Arm Out

(1) Pilot Circuit

At the operation for arm out, the pilot secondary pressure is generated from the pilot valve (11), and led to the Pb3 port on control valve (2) to shift the arm valve spool.

The independent travel and flow conflux valves are not actuated, that is to say, the flow conflux valve remains active as in the excavating operation.

(2) Main Circuit

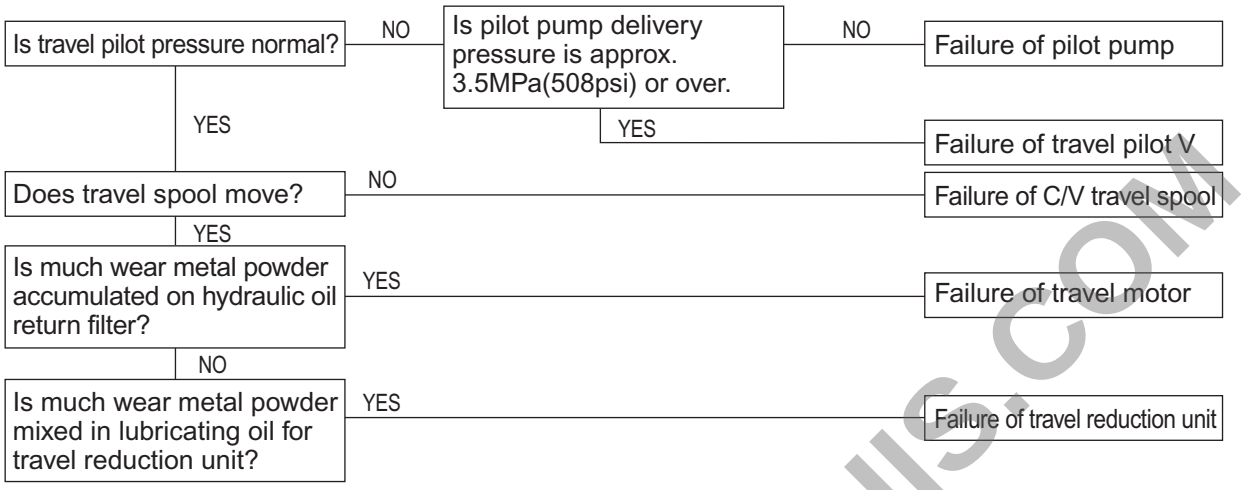
As in the case of excavating operation, the oil having flown into the control valve (2) joins with the pressurized oil from P2 and P3, flows out from the B3 port and is supplied to the rod side of the arm cylinder to perform arm out work.

Download full manual at youfixthis.com

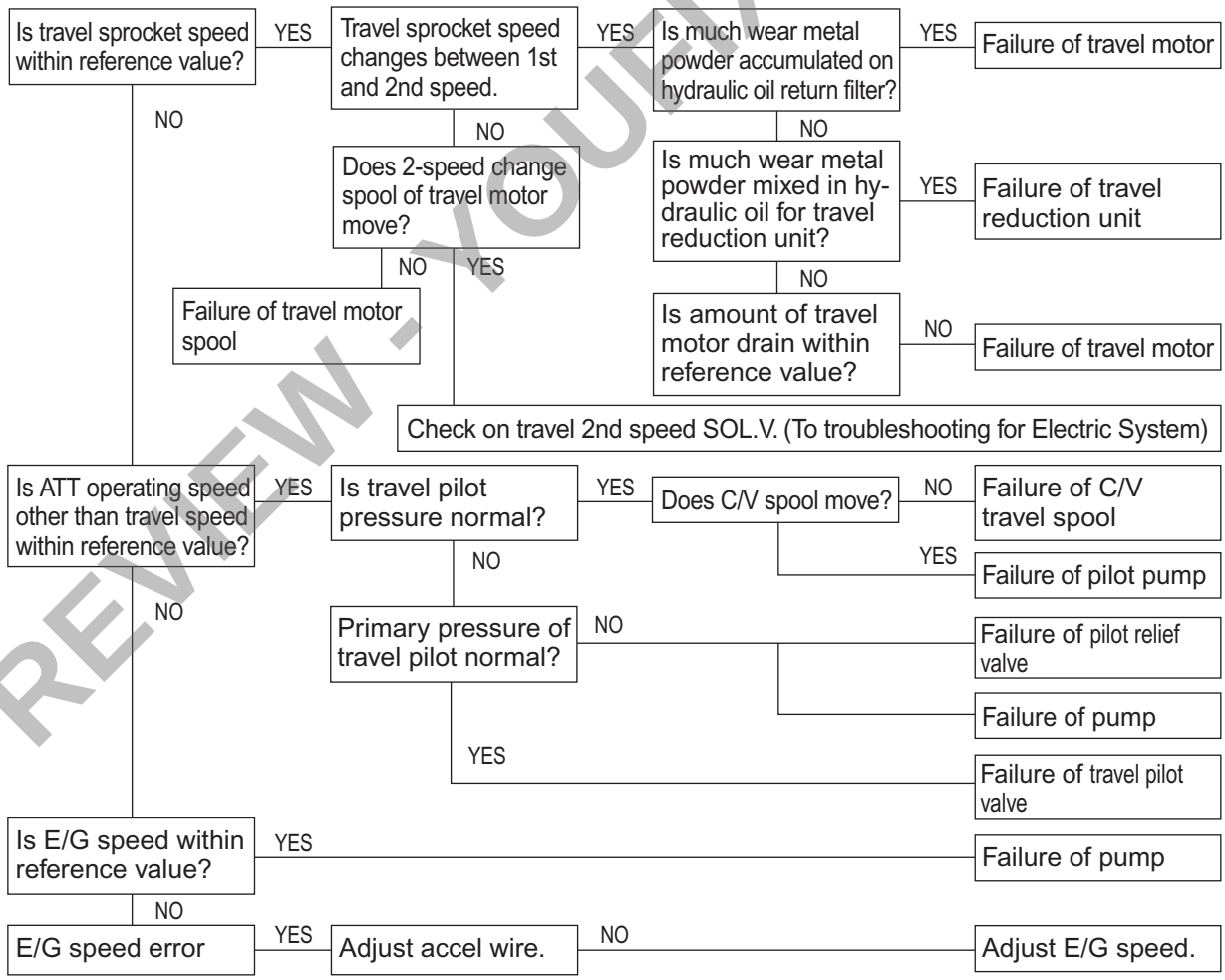
PREVIEW - YOUFIXTHIS.COM

42.3.2 TRAVEL OPERATION

42.3.2.1 TRAVEL OPERATIONAL FAILURE



42.3.2.2 TRAVEL SPEED IS SLOW



PREVIEW - YOUFIXTHIS.COM

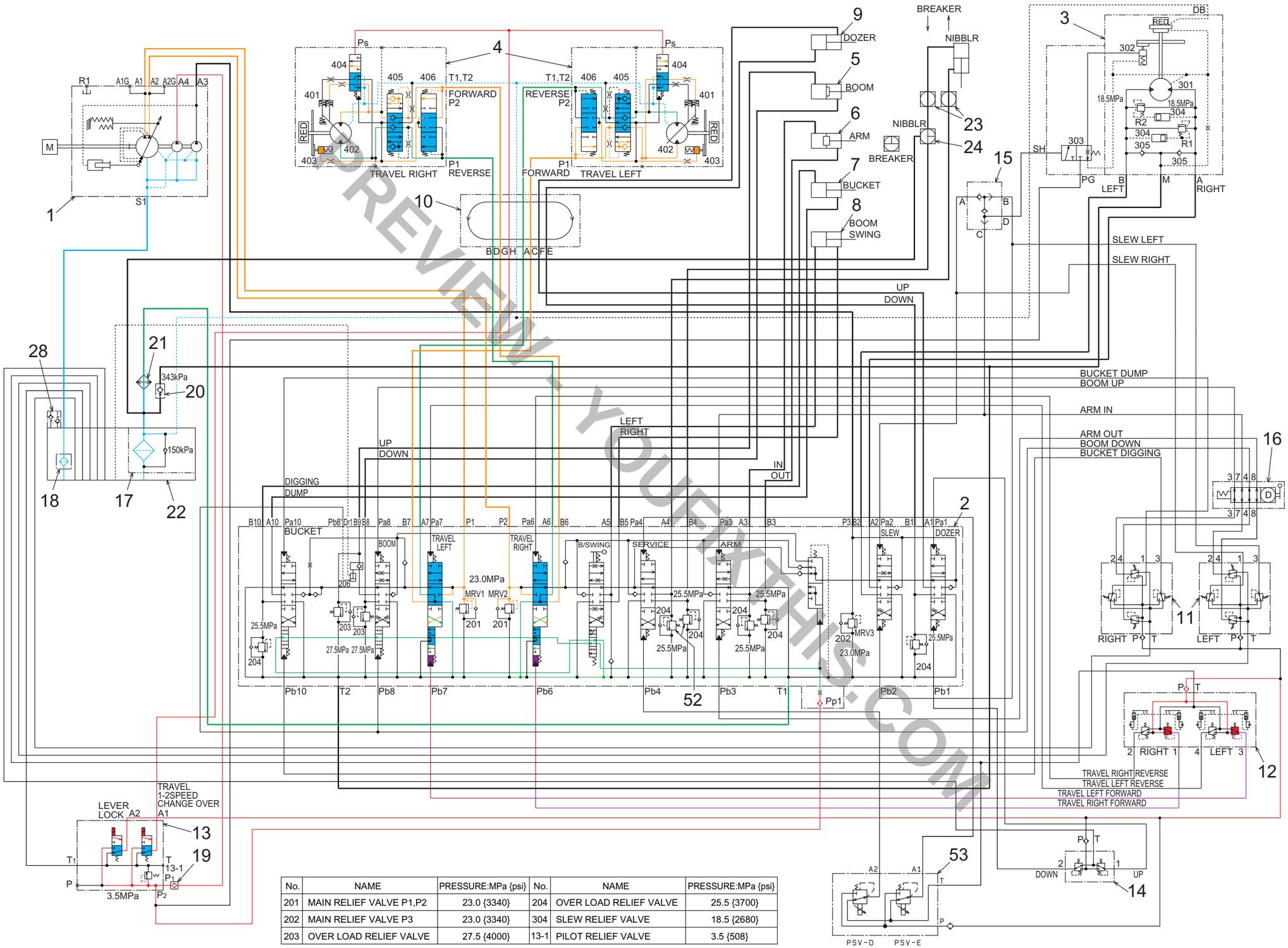
Download full manual at youfixthis.com

01 Attachment(2/2)

No.	EQUIPMENT PORTION	WORK TO BE DONE	UNIT	REMARKS	UNIT: HOUR
20	Boom portion			Refer to 32.1.4	
21	Boom ASSY	Rem./Inst.	1 pc.		1.0
22	-Boom removing / installing position	Preparation	1 pc.		0.1
23	-Boom cylinder temporary slinging	- ditto -	1 pc.	Include stopper pin.	0.1
24	-Boom cylinder rod pin	Rem./Inst.	1 pc.		0.1
25	-Boom cylinder piping	- ditto -	1 pc.		0.1
26	-Arm & Bucket piping	- ditto -	1 pc.		0.2
27	-Boom assy temporary slinging	Rem./Inst.	1 pc.	Include stopper pin.	0.1
28	-Boom foot pin	- ditto -	1 pc.		0.1
29	-Boom assy slinging	- ditto -	1 pc.		0.1
30	Arm cylinder removing / installing	- ditto -	1 pc.		0.3
31	-Arm cylinder piping	- ditto -	1 pc.		0.1
32	-Arm cylinder head pin	- ditto -	1 pc.	Include stopper pin.	0.1
33	-Arm cylinder slinging	- ditto -	1 pc.		0.1
40	Boom cylinder removing / installing	- ditto -	1 pc.		0.3
41	-Boom cylinder piping	- ditto -	1 pc.		0.1
42	-Boom cylinder head pin	- ditto -	1 pc.		0.1
43	-Boom cylinder slinging	- ditto -	1 pc.		0.1
50	Bucket cylinder	O / H	1 pc.		2.5
51	-Pin bushing	Replace	1 set	Include seal.	1.0
60	Arm cylinder	O / H	1 pc.		2.5
61	-Pin bushing	Replace	1 set	Include seal.	1.0
70	Boom cylinder	O / H	1 pc.		2.5
71	-Pin bushing	Replace	1 set	Include seal.	1.0
80	Swing portion			Refer to 32.1.5	
81	Swing bracket assy	Rem./Inst.	1 pc.	After removing boom.	0.4
82	-Swing cylinder rod pin	- ditto -	1 pc.		0.1
83	-Swing bracket slinging	- ditto -	1 pc.		0.1
84	-Swing center pin	- ditto -	1 pc.		0.1
85	Swing cylinder removing / installing	- ditto -	1 pc.	After removing swing	0.3
86	-Swing cylinder hose	Rem./Inst.	2 pcs.	bracket.	0.2
87	-Swing cylinder head pin	- ditto -	1 pc.		0.1
88	Swing cylinder	O / H	1 pc.		2.5
89	-Pin bushing	Replace	1 pc.		1.0
	Other necessary works	Rem./Inst.	1 set	Include seal. Panel assy (3)	0.1
90	Dozer portion			Refer to 32.1.6	
91	Dozer ASSY	Rem./Inst.	1 pc.		0.6
92	-Dozer cylinder hose	- ditto -	2 pcs.		0.2
93	-Dozer cylinder rod pin	- ditto -	1 pc.		0.1
94	-Dozer installing pin	- ditto -	2 pcs.		0.2
95	Dozer cylinder	O / H	1 pc.		2.5
96	-Pin bushing	Replace	1 set	Include seal.	1.0

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

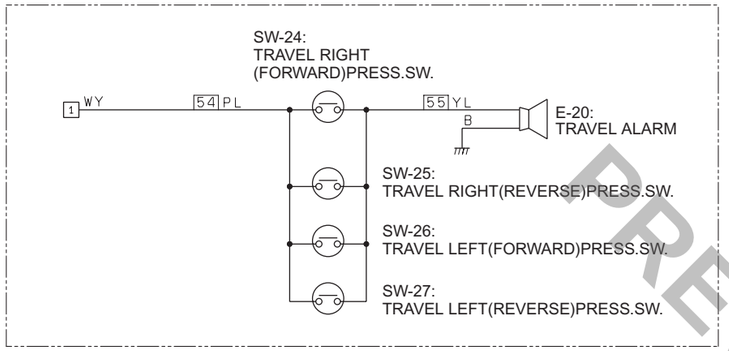


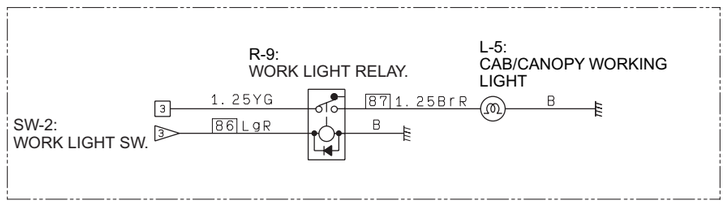
No.	NAME	PRESSURE:MPa {psi}	No.	NAME	PRESSURE:MPa {psi}
201	MAIN RELIEF VALVE P1,P2	23.0 {3340}	204	OVER LOAD RELIEF VALVE	25.5 {3700}
202	MAIN RELIEF VALVE P3	23.0 {3340}	304	SLEW RELIEF VALVE	18.5 {2680}
203	OVER LOAD RELIEF VALVE	27.5 {4000}	13-1	PILOT RELIEF VALVE	3.5 {508}

Travel circuit : Travel foward operation at travel 2nd speed

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com





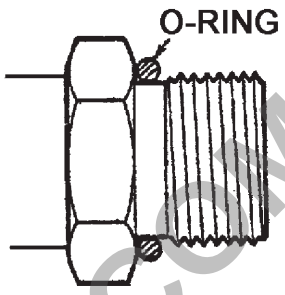
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

11.3 TORQUE SPECIFICATIONS FOR JOINTS AND HOSES

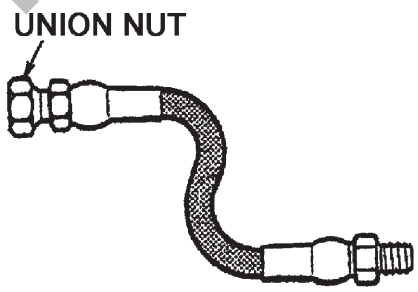
11.3.1 JOINTS FOR PIPING (O-RING SEALING TYPE)

Nominal screw size (PF)	Spanner size (mm)	Tightening torque N•m (lbf•ft)
1 / 8	14	17±2 (12±1)
1 / 4	19	36±2 (27±1)
3 / 8	22	74±5 (54±4)
1 / 2	27	108±9.8 (80±7)
3 / 4	36	162±9.8 (119±7)
1	41	255±9.8 (188±7)



11.3.2 HYDRAULIC HOSE (30 DEG. FLARE TYPE)

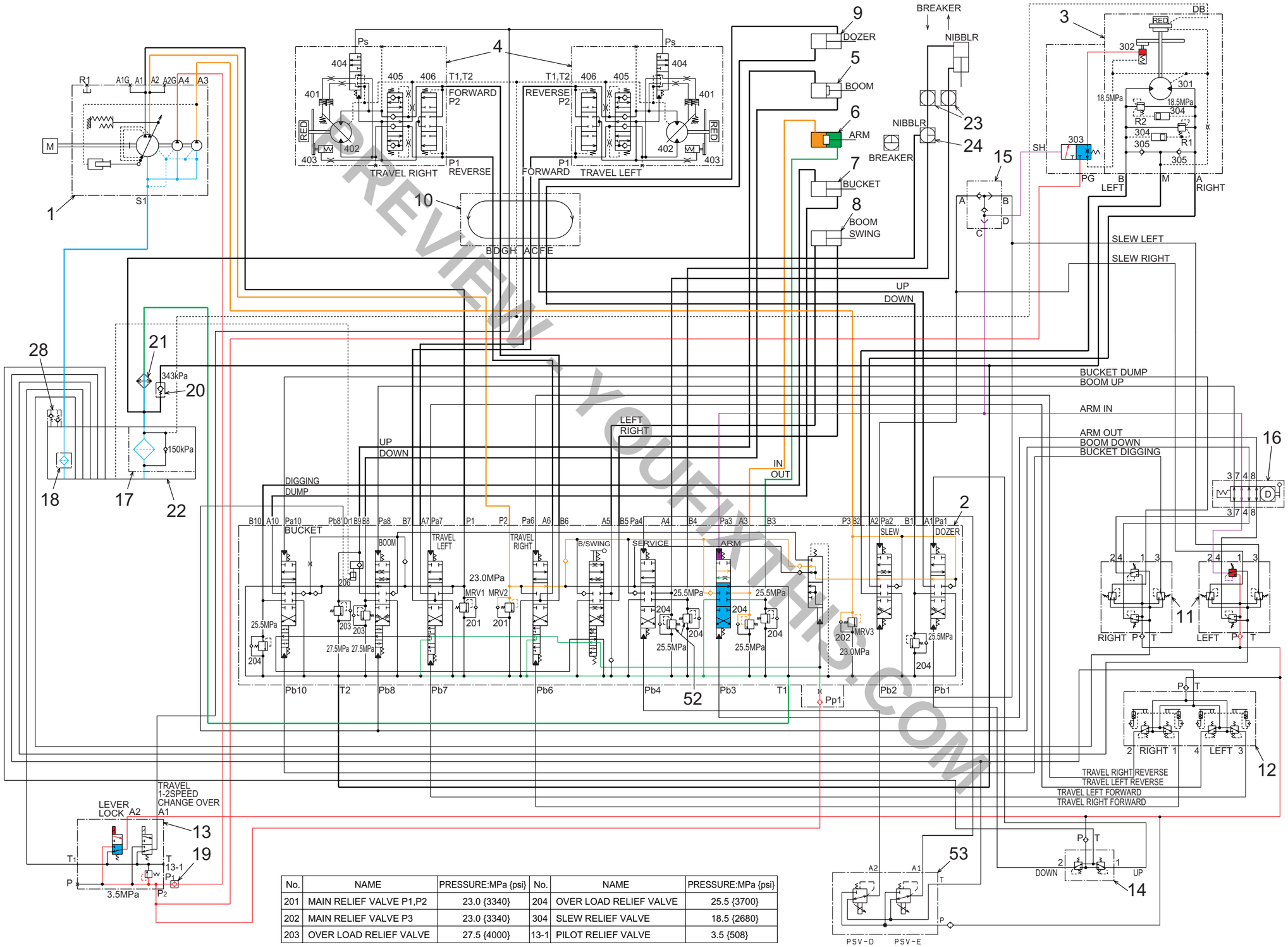
Nominal screw size (PF)	Spanner size (mm)	Tightening torque N•m (lbf•ft)
1 / 8	17	15±2.0 (11±1)
1 / 4	19	29±4.9 (22±4)
3 / 8	22	49±4.9 (36±4)
1 / 2	27	78±4.9 (58±4)
3 / 4	36	118±9.8 (87±7)
1	41	137±15 (101±11)



NOTE : The application of the tightening torque is subject to a dry condition.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



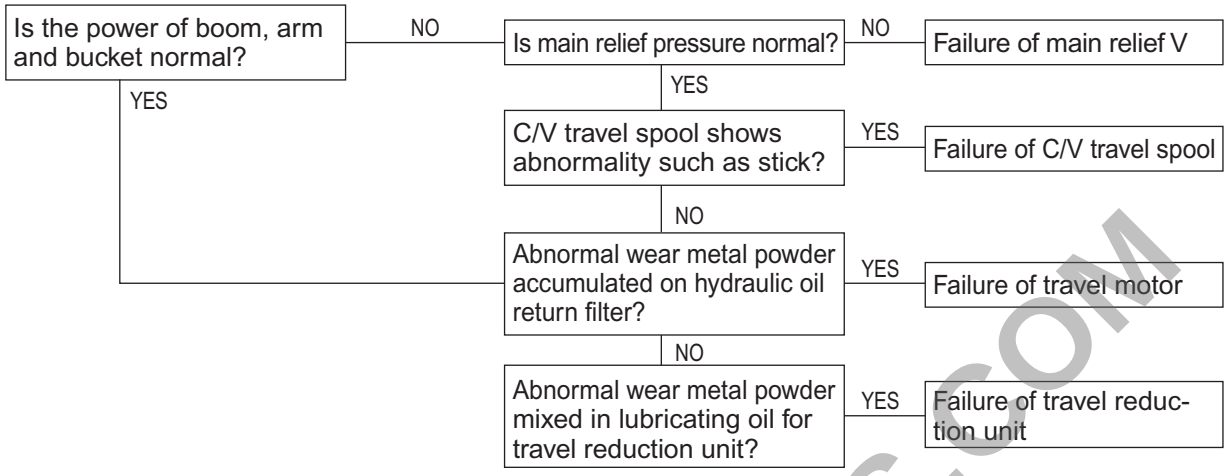
No.	NAME	PRESSURE:MPa {psi}	No.	NAME	PRESSURE:MPa {psi}
201	MAIN RELIEF VALVE P1,P2	23.0 {3340}	204	OVER LOAD RELIEF VALVE	25.5 {3700}
202	MAIN RELIEF VALVE P3	23.0 {3340}	304	SLEW RELIEF VALVE	18.5 {2680}
203	OVER LOAD RELIEF VALVE	27.5 {4000}	13-1	PILOT RELIEF VALVE	3.5 {508}

Arm circuit : Arm in operation

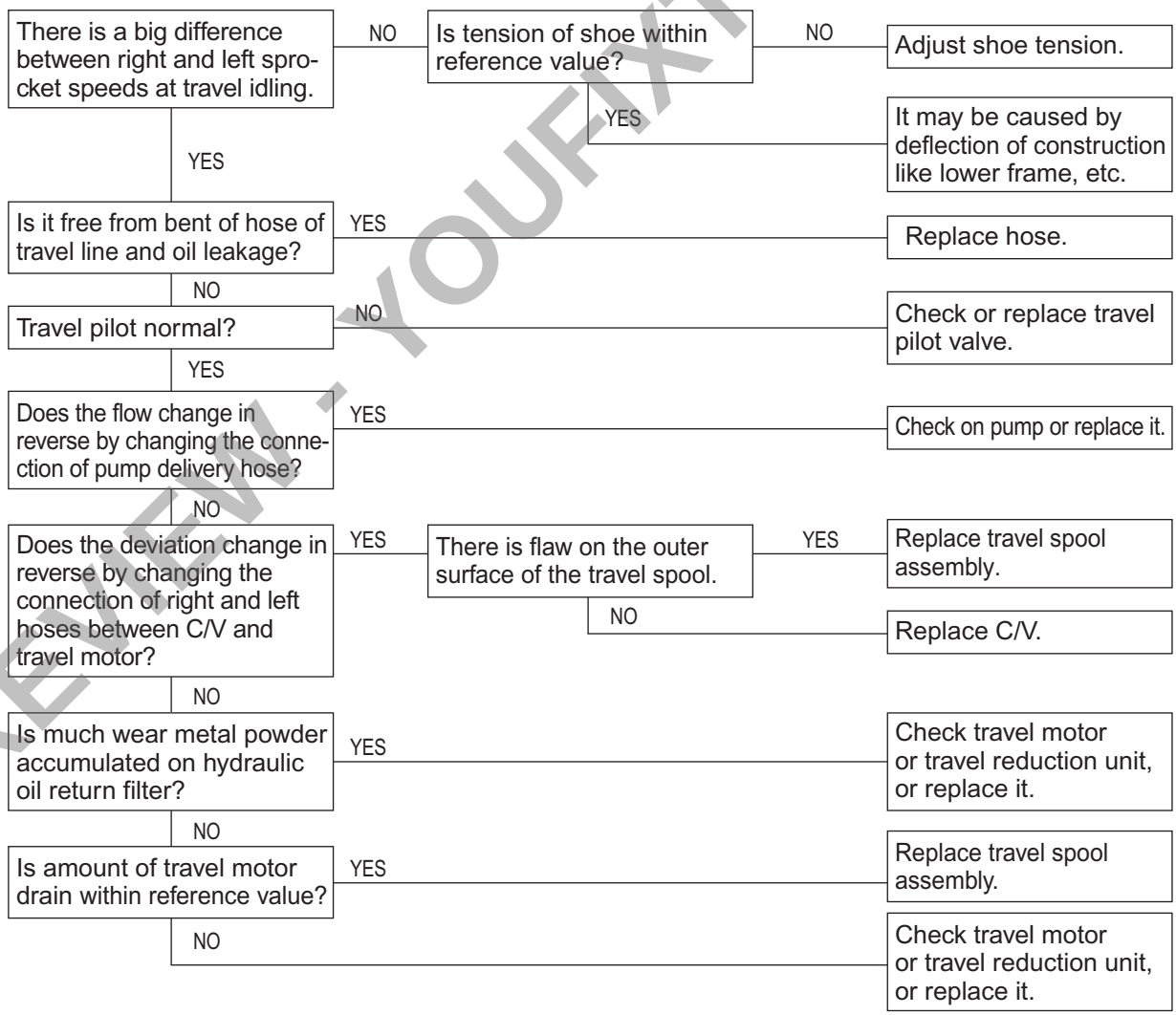
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

42.3.2.3 TRAVEL POWER IS LOW



42.3.2.4 IT DEVIATES IN TRAVEL INDEPENDENT OPERATION



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

02 Canopy & Guard (1/1)

No.	EQUIPMENT PORTION	WORK TO BE DONE	UNIT	REMARKS	UNIT: HOUR
00	Canopy portion			Refer to 33.1.1	
01	Canopy assy	Rem./Inst.	1 pc.		0.2
02	-Hand rail	- ditto -	1 pc.		0.1
10	Cab portion			Refer to 33.1.1	
11	Cab assy	Rem./Inst.	1 pc.		0.4
12	-Harness	- ditto -	1 pc.		0.1
20	Bonnet & Guard			Refer to 33.1.2	
21	Cover assy (1)	Rem./Inst.	1pc.		0.1
22	Bonnet assy (2)	- ditto -	1pc.		0.1
23	Cover assy (3)	- ditto -	1pc.		0.1
24	Cover assy (4)	- ditto -	1pc.		0.1
25	Cover assy (5)	Rem./Inst.	1pc.		0.1
30	Control stand portion			Refer to 33.1.15	
31	Control stand ASSY	Rem./Inst.	1 pc.		1.0
32	-Air cleaner	- ditto -	1 pc.		0.1
33	-E / G control cable	- ditto -	1 pc.		0.2
34	-Deceleration motor (OPT)	- ditto -	1 pc.		0.1
35	-Filler neck	- ditto -	1 pc.		0.1
36	-Fuel air bleed hose	- ditto -	1 pc.		0.1
37	-Harness	- ditto -	1 set		0.3
	Other necessary works	Rem./Inst.	1 set	Canopy	0.2
		- ditto -	1 set	Floor cover	0.1
		- ditto -	1 set	Guard (Cover, support)	0.4
		- ditto -	1 pc.	Counterweight	0.4
		- ditto -	1 pc.	Negative terminal of battery	0.1
40	Floor plate portion			Refer to 33.1.3	
41	Floor plate assy	Rem./Inst.	1 set		0.5
	Other necessary works	- ditto -	1 pc.	Canopy removal / inst	0.2
50	Counterweight portion			Refer to 33.1.5	
51	Counterweight ASSY	Rem./Inst.	1 pc.		0.4
52	-Lifting tools	Preparation	1 set		0.1
53	-Slinging	Rem./Inst.	1 pc.		0.1
54	-Counterweight fixing bolt	- ditto -	1 set		0.1
	Other necessary works	- ditto -	3 pcs.	Guards	0.3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

COMPACT HYDRAULIC EXCAVATOR

SHOP MANUAL model E27B

INDEX

1	SPECIFICATIONS SECTION
2	MAINTENANCE SECTION
3	SYSTEM SECTION
4	DISASSEMBLY SECTION
5	TROUBLESHOOTING
6	ENGINE SECTION
7	PROCEDURE OF INSTALLING OPTIONS SECTION

PREVIEW - YOUFIXTHIS.COM

Book Code No.S5PV0023E02

Download full manual at youfixthis.com

GENERAL SAFETY INFORMATION

⚠ WARNING ⚠

Avoid injury!

The safety alert symbol is used to alert you to potential personal injury hazards. Carefully read and observe all the precautionary advice contained in this manual. Failure to comply could result in death or serious injury.

W0044A

(1) Most accidents involving machine operating and maintenance can be avoided by following basic safety rules and precautions. Read and understand all the safety messages in this manual, the safety manual and the safety signs on the machine before you operate or service the machine. See your dealer if you have any questions.

NOTICE:

NOTES, DANGERS, WARNINGS and CAUTIONS contained in the manual and on the machine should be read and understood by all personnel before starting any work with or on the machine.

(2) Read the operator's manual and make sure you understand the machine controls. All equipment has a limit. Make sure you understand the speed, brakes, steering, stability, and load characteristics of this machine.

(3) DO NOT remove the operator's manual or the safety manual from the machine.

(4) The safety information given in this manual does not replace safety codes, insurance needs, federal, state, or local laws. Make sure that your machine has the correct equipment according to these rules or laws.

(5) Additional safety messages are used in the text of the manual to show specific safety hazards.

(6) Operation, inspection and maintenance should be performed at designated intervals. It may be necessary to shorten the intervals based on machine operating conditions.

(7) The safety information contained in the manual is intended only to supplement safety codes, insurance requirements, local laws, rules and regulations.

(3) Pay close attention to safety messages in this manual and on the machine. All safety messages are identified by either "DANGER", "WARNING" and/or "CAUTION".

1) **DANGER-** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury and is represented as follows:

⚠ DANGER

2) **WARNING-** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury and is represented as follows:

⚠ WARNING

(3) CAUTION- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against possible damage to the machine and its components and is represented as follows:

⚠ CAUTION

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

(SAFETY PRECAUTIONS

⚠ WARNING ⚠

Read, understand and follow all safety precautions contained in this manual before performing any inspection or maintenance procedures on this machine, its system or components. Failure to comply could result in death or serious injury.

M1087

Use caution when performing service work. A knowledge of the system and or components is important before the removal or disassembly of any component.

Because of the size of some of the machine components, check the weights noted in this manual. Use proper lifting procedures when removing any components. Weight of components table is shown in the Specification section.

(1) Read and understand all Warning plates and decal on the machine before Operating, Maintaining or Repairing this machine.

(2) Always wear protective glasses and protective shoes when performing maintenance or service. Wear protective glasses when using hammers, punches or drifts on any part of the machine or attachments. Use welders gloves, hood/goggles, apron and the protective clothing if welding is necessary. Do not wear loose fitting or torn clothing. Remove all rings from fingers, loose jewelry, confine long hair and loose clothing before working on this machinery.

(3) Disconnect the battery and hang a "Do Not Operate" tag in the Operator's Compartment. Remove the ignition keys.

(4) If possible, make all repairs with the machine parked on a firm level surface. Block the machine to prevent unexpected movement.

(5) Do not work on any machine that is supported only by lift, jacks or a hoist. Always use blocks or jack stands, capable of supporting the machine, before performing any disassembly.

⚠ WARNING ⚠

Wear goggles, safety shoes, hard hat, work clothes and work gloves to perform inspection and maintenance on this machine. Failure to comply could result in death or serious injury.

M1070

(6) Relieve all pressure in air, oil or water systems before any lines, fittings or related items are disconnected or removed. Always make sure all raised components are blocked correctly and be alert for possible pressure when disconnecting any device from a system that utilizes pressure.

(7) Lower the bucket, dozer, or other attachments to the ground before performing any work on the machine. If this cannot be done, make sure the bucket, dozer, ripper or other attachment is blocked correctly to prevent it from dropping unexpectedly.

(8) Use steps and grab handles when mounting or dismounting a machine. Clean any mud or debris from steps, walkways or work platforms before using. Always face to the machine when using steps, ladders and walkways. When it is not possible to use the designed access system, provide ladders, scaffolds, or work platforms to perform safe repair operations.

(9) To avoid back injury, use a hoist when lifting components which weigh 20 kg (45 lbs) or more. Make sure all chains, hooks, slings, etc., are in good condition and are the correct capacity. Be sure hooks are positioned correctly. Lifting eyes are not to be side loaded during a lifting operation.

(10) To avoid burns, be alert for hot parts on machines which have just been stopped and hot fluids in lines, tubes and compartments.

(11) Be careful when removing cover plates. Gradually back off the last two cap screws or nuts located at opposite ends of the cover or device and carefully pry cover loose to relieve any spring or other pressure, before removing the last two cap screws or nuts completely.

(12) Use caution when removing filler caps, breathers and plugs on the machine. Hold a rag over the cap or plug to prevent being sprayed or splashed by liquids under pressure. The danger is even greater if the machine has just been stopped because fluids can be hot.

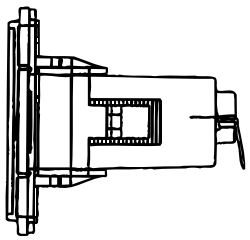
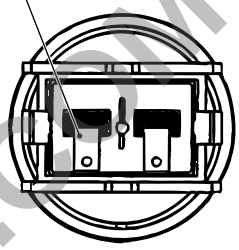
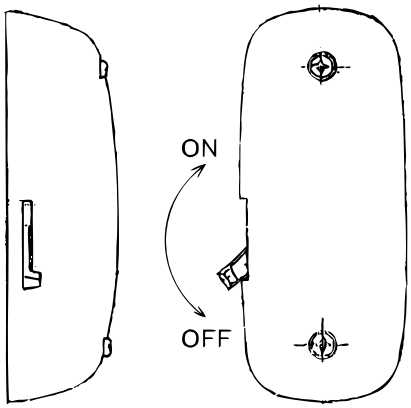
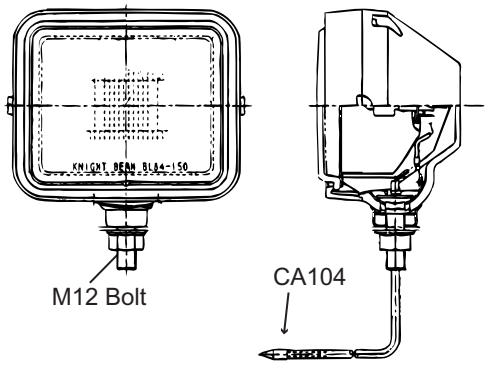
(13) Always use the proper tools that are in good condition and that are suited for the job at hand. Be sure you understand how to use them before performing any service work.

(14) Reinstall all fasteners with the same part number. Do not use a lesser quality fastener if replacements are necessary.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Code No. Parts Name Parts No. Use Applicable Machine	Specifications	Description

E-26 Hour meter YT58S00006P1 Service meter PV11-30001~ PW12-40001~ PX13-15001~ PV12-31001~ PV13-33001~ PV13-33292~ PV13-33453~	Movement: Quartz Rated voltage: DC10～32V	  TERMINAL PARTS No : 2962447 CONNECTOR PARTS No : 2962448 
E-32 Fuse 2479R655S10 Fuse PV13-33292~ PV13-33453~	Type: Slow blow fuse Allowable current: 5A	
L-1 Light PM80S00006P1 Room light (Cab Spec.) PV11-30001~ PW12-40001~ PX13-15001~ PV12-31001~ PV13-33001~ PV13-33292~ PV13-33453~	Rated voltage: 12V Bulb: 12V-10W	
L-2 Light PM80S00008F1 Boom working light (L.H.) PW12-40001~ PX13-15001~ PV12-31001~ PV13-33001~ PV13-33292~ PV13-33453~	Maker's P/No.: BL84-150 Effective area of lens: 82cm² Bulb: Halogen12V-55W	

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

42.1 GENERAL PRECAUTIONS

Troubleshooting provides the process to investigate the cause of trouble in order when a trouble occurred. This manual describes the way how to solve the specific phenomenon systematically as quick as possible. For the troubleshooting concerning the inside of equipment, refer to the troubleshooting for each manual of the equipment.

42.1.1 CONFIRM ACTUAL TROUBLED CONDITIONS AT SITE

(1) Get to the site as quickly as possible.

Verify the machine model, serial number, situation of trouble and field, and notify possible arrival time to the user.



Make field investigation

(2) Verify background.

1. Model name and serial number.
2. Kind of attachment.
   Check that the combination of attachments was proper and that the operating manner was not unreasonable.
3. Operating time on the hour-meter.
4. Record of troubles.
   First trouble or repeated trouble.
5. History of the trouble and additional modifications.
   Reoccurrence of the same trouble in the past or trouble due to additional modification.



Verify background.

(3) How to diagnose trouble

1. Verify defective part.
2. Reproduce the troubled conditions.
3. Where the defective part cannot be verified, surmise the possible causes systematically.
4. Verify the surmised cause.
5. Report estimated repairing method, procedures and term to the user.



Diagnose trouble.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 765 pages

The full manual includes:

- All 765 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

New Holland E27B Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual