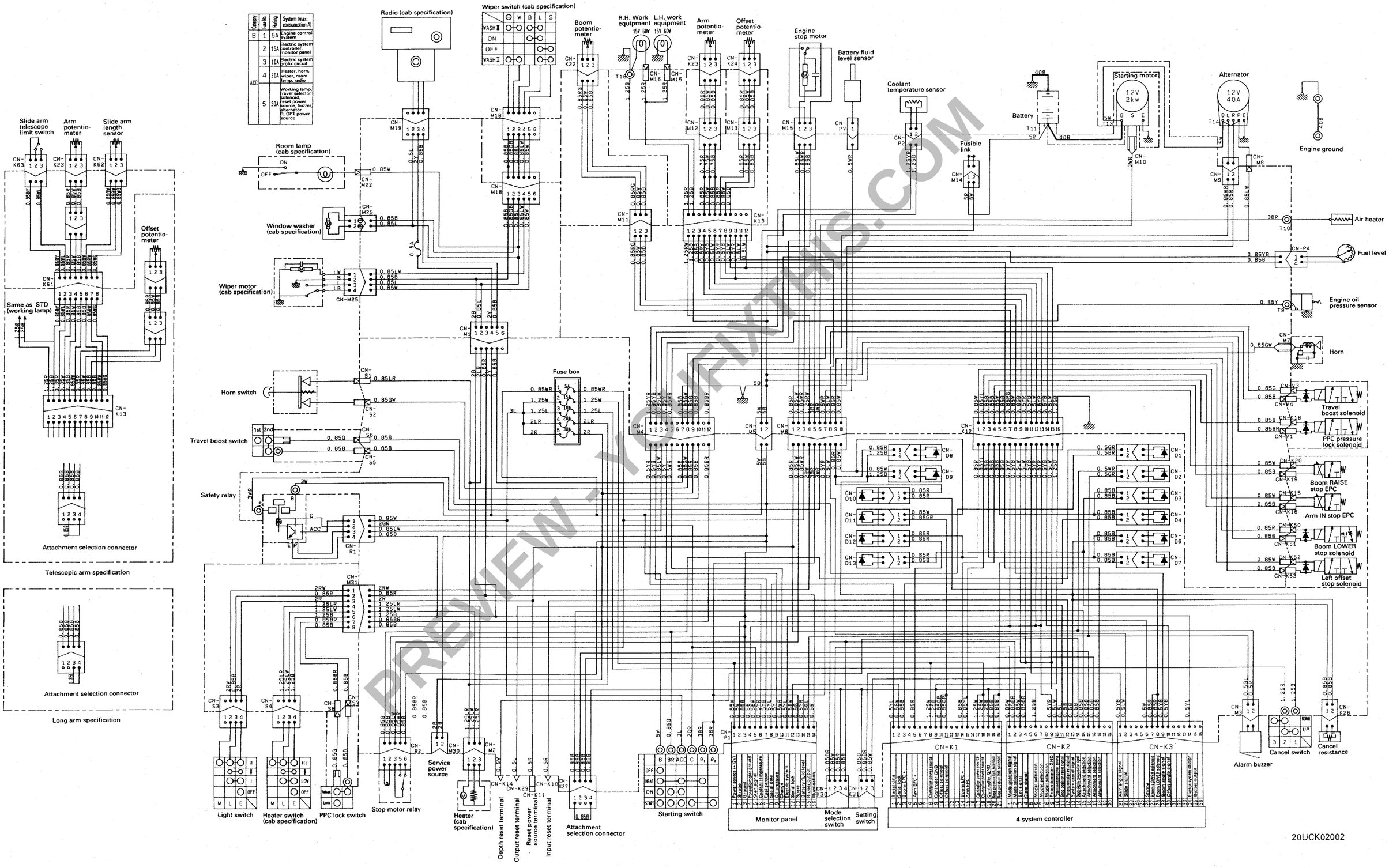
ELECTRIC CIRCUIT DIAGRAM

Serial No.: 8586 – 12771

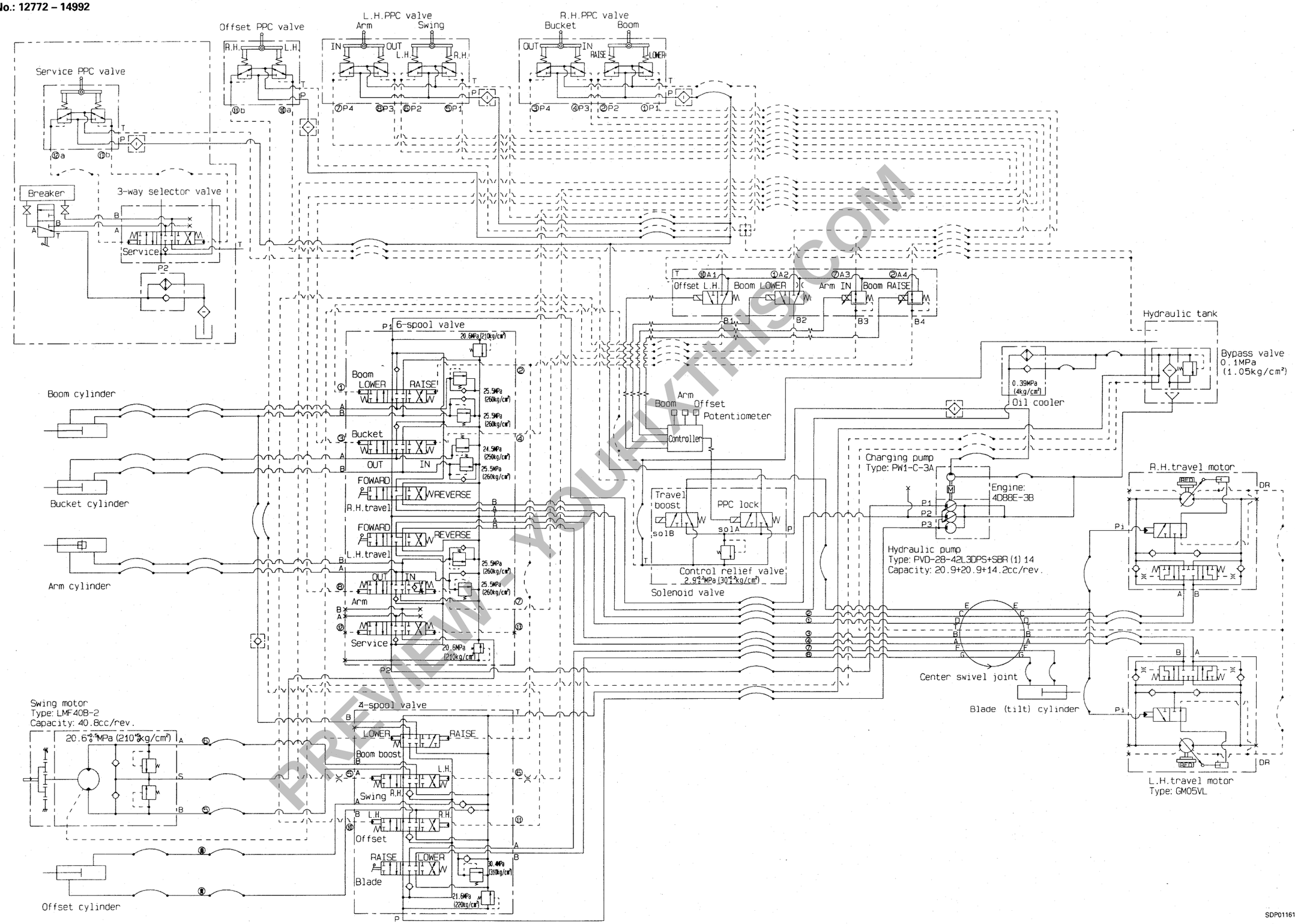


PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HYDRAULIC CIRCUIT DIAGRAM

Serial No.: 12772 – 14992



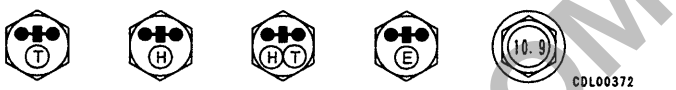
PREVIEW YOUR

Download full manual at youfixthis.com

STANDARD TIGHTENING TORQUE

STANDARD TIGHTENING TORQUE TABLE (WHEN USING TORQUE WRENCH)

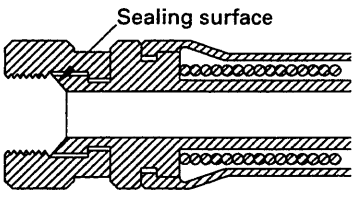
★ In the case of metric nuts and bolts for which there is no special instruction, tighten to the torque given in the table below.

Thread diameter of bolt	Width across flats	 CDL00372	
mm	mm	Nm	kgm
6	10	13.2±1.4	1.35±0.15
8	13	31±3	3.2±0.3
10	17	66±7	6.7±0.7
12	19	113±10	11.5±1
14	22	177±19	18±2
16	24	279±30	28.5±3
18	27	382±39	39±4
20	30	549±59	56±6
22	32	745±83	76±8.5
24	36	927±103	94.5±10.5
27	41	1320±140	135±15
30	46	1720±190	175±20
33	50	2210±240	225±25
36	55	2750±290	280±30
39	60	3290±340	335±35

Thread diameter of bolt	Width across flats	 CDL00373	
mm	mm	Nm	kgm
6	10	7.85±1.95	0.8±0.2
8	13	18.6±4.9	1.9±0.5
10	14	40.2±5.9	4.1±0.6
12	27	82.35±7.85	8.4±0.8

TABLE OF TIGHTENING TORQUES FOR FLARED NUTS

★ In the case of flared nuts for which there is no special instruction, tighten to the torque given in the table below.



SAD00483

Thread diameter	Width across flat	Tightening torque	
mm	mm	Nm	kgm
14	19	24.5±4.9	2.5±0.5
18	24	49±19.6	5±2
22	27	78.5±19.6	8±2
24	32	137.3±29.4	14±3
30	36	176.5±29.4	18±3
33	41	196.1±49	20±5
36	46	245.2±49	25±5
42	55	294.2±49	30±5

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ACTION TAKEN BY SELF-DIAGNOSTIC FUNCTION AND PROBLEMS ON MACHINE

Display code	Abnormal system	Nature of abnormality
21	Model selection system	1) Disconnection in wiring harness used for model selection, or 2) Short circuit with ground in wiring harness not being used
22	Work equipment selection system	1) Disconnection in wiring harness used for work equipment selection, or 2) Short circuit with ground in wiring harness not being used
31	Boom potentiometer system	1) Disconnection in wiring harness (in one of three wiring harnesses) 2) Short circuit between wires in wiring harness (two of three wiring harnesses) 3) Wiring harness short circuiting with ground 4) Defective potentiometer
32	Arm potentiometer system	
34	Offset potentiometer system	
38	Slide arm length sensor system [Deep Master (telescopic arm specification machine)]	1) Disconnection in wiring harness (in one of three wiring harnesses) 2) Short circuit between wires in wiring harness (two of three wiring harnesses) 3) Wiring harness short circuiting with ground 4) Defective length sensor
41	PPC lock solenoid system	1) (+) end of solenoid (K18 end) short circuiting with ground 2) Short circuit inside solenoid 3) Contact between wiring harness at ground end and (+) end of solenoid
42	Left offset stop solenoid system	1) (+) end of solenoid (K50, K52 end) short circuiting with ground 2) Disconnection at (+) end of solenoid (K50, K52 end) 3) Short circuit inside solenoid (if the resistance of the solenoid is extremely low) 4) Contact between wiring harness at ground end and (+) end of solenoid
44	Boom LOWER stop solenoid system	
51	Boom RAISE stop solenoid (EPC) system	1) Disconnection inside solenoid 2) Short circuit inside solenoid or short circuit with ground 3) Disconnection in wiring harness between solenoid and controller 4) Wiring harness between solenoid and controller short circuiting with ground
52	Arm IN stop solenoid (EPC) system	
61	Valve open system	1) Valve for solenoids for boom RAISE stop, arm IN stop, left offset stop blocked by dirt and staying open (inside interference range)
EE	Communications system or controller power source system	1) Defective contact, or disconnection in wiring harness between K1 (1) and P1 (8) 2) Defective contact, or disconnection in wiring harness between K1 (2) and P1 (12) 3) Defective contact, or disconnection in wiring harness between K3 (6) and P1 (2) 4) When power source is not being input to controller 5) When voltage is more than 38V or less than 9.5V

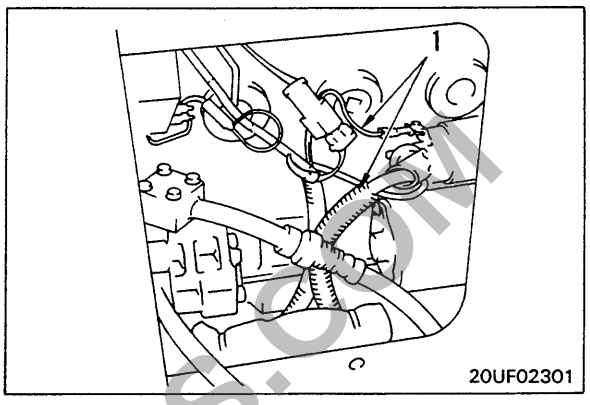
★ If error codes 11 to 1F are displayed, carry out the resetting operation.
For details, see PROCEDURE FOR RESETTING ELECTRICAL SYSTEM INPUT/OUTPUT SIGNALS AND CHECKING OPERATION.

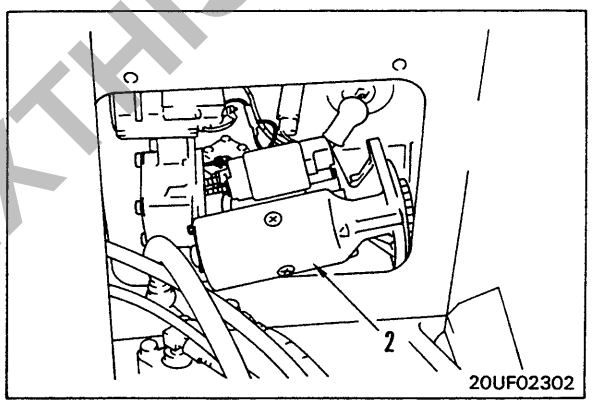
PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

REMOVAL OF STARTING MOTOR ASSEMBLY

⚠ Disconnect the cable from the negative (-) terminal of the battery.

1. Open hood.
2. Remove inspection cover of engine partition cover.
3. Disconnect wire (1).
4. Remove starting motor assembly (2).
   ★ Remove the engine undercover, then remove the underside mounting bolt from below. Since the hose and wire clamp are obstacles to work at this time, remove the bolt and move them aside.





INSTALLATION OF STARTING MOTOR ASSEMBLY

- Carry out installation in the reverse order to removal.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

POINTS TO REMEMBER WHEN TROUBLESHOOTING

⚠ Stop the machine in a level place, and check that the safety pin, blocks, and parking brake are securely fitted.

⚠ When carrying out the operation with two or more workers, keep strictly to the agreed signals, and do not allow any unauthorized person to come near.

⚠ If the radiator cap is removed when the engine is hot, hot water may spurt out and cause burns, so wait for the engine to cool down before starting troubleshooting.

⚠ Be extremely careful not to touch any hot parts or to get caught in any rotating parts.

⚠ When disconnecting wiring, always disconnect the negative (-) terminal of the battery first.

⚠ When removing the plug or cap from a location which is under pressure from oil, water, or air, always release the internal pressure first. When installing measuring equipment, be sure to connect it properly.

The aim of troubleshooting is to pinpoint the basic cause of the failure, to carry out repairs swiftly, and to prevent reoccurrence of the failure.
When carrying out troubleshooting, and important point is of course to understand the structure and function. However, a short cut to effective troubleshooting is to ask the operator various questions to form some idea of possible causes of the failure that would produce the reported symptoms.

1. When carrying out troubleshooting, do not hurry to disassemble the components.
   If components are disassembled immediately any failure occurs:
   - Parts that have no connection with the failure or other unnecessary parts will be disassembled.
   - It will become impossible to find the cause of the failure.

   It will also cause a waste of manhours, parts, or oil or grease, and at the same time, will also lose the confidence of the user or operator.
   For this reason, when carrying out troubleshooting, it is necessary to carry out through prior investigation and to carry out troubleshooting in accordance with the fixed procedure.
2. Points to ask user or operator
   1) Have any other problems occured apart from the problem that had been reported?
   2) Was there anything strange about the machine before tha failure occurred?
   3) Did the failure occur suddenly, or were there problems with the machine condition before this?
   4) Under what conditions did the failure occur?
   5) Had any repairs been carried out before the failure?
      When were these repairs carried out?
   6) Has the same kind of failure occurred before?
3. Check before troubleshooting
   1) Check the oil level.
   2) Check for any external leakage of oil from the piping or hydraulic equipment.
   3) Check the travel of the control levers.
   4) Check the stroke of the control valve spool.
   5) Other maintenance items can be checked externally, so check any item that is considered to be necessary.
4. Confirming failure
   Confirm the extent of the failure yourself, and judge whether to handle it as a real failure or as a problem with the method of operation, etc.
   ★ When operating the machine to reenact the troubleshooting symptoms, do not carry out any investigation or measurement that may make the problem worse.
5. Troubleshooting
   Use the results of the investigation and inspection in Items 2 - 4 to narrow down the causes of failure, then use the troubleshooting flowchart to locate the position of the failure exactly.
   ★ The basic procedure for troubleshooting is as follows.
      1) Start from the simple points.
      2) Start from the most likely points.
      3) Investigate other related parts or information.
6. Measures to remove root cause of failure
   Even if the dailure is repaired, if the root cause of the failure is not repaired, the same failure will occur again.
   To prevent this, always investigate why the problem occureed. Then, remove the root cause.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

SPECIFICATIONS

Machine model				PC50UU-2	
Serial Number				8001 – 12771	
Specifications				Canopy specification	Cab specification
		Cab specification	kg	5,100(5,150)	5,250(5,300)
		Bucket capacity	m^3	0.20	0.20
Performance	Working ranges	Max. digging depth	mm	4,000	4,000
		Max. vertical wall depth	mm	2,620	2,620
		Max. digging reach	mm	5,660	5,660
		Max. reach at ground level	mm	5,565	5,565
		Max. digging height	mm	6,300	6,300
		Max. dumping height	mm	4,600	4,600
		Bucket offset (left/right)	mm	910/730	910/730
		Max. blade lifting height	mm	370	370
		Max. blade lowering depth	mm	370	370
		Max. digging force	kN {kg}	34.32 {3,500}	34.32 {3,500}
		Swing speed	rpm	8.0	8.0
		Max. slope angle for swing	deg.	13	13
		Travel speed	km/h	Low : 2.2/High : 3.8 (Low : 2.1/High : 3.6)	Low : 2.2/High : 3.8 (Low : 2.1/High : 3.6)
		Gradeability	deg.	30	30
		Ground pressure (shoe width: 450mm)	kPa {kg/cm^2}	29.4 {0.30}(30.4{0.31})	30.4 {0.31}(31.4{0.32})
Dimensions		Overall length (for transport)	mm	5,335	5,335
		Overall width	mm	2,000	2,000
		Overall height (for transport)	mm	2,550(2,545)	2,565(2,560)
		Overall height	mm	2,550(2,545)	2,565(2,560)
		Ground clearance of counterweight	mm	630	630
		Min. ground clearance	mm	320	320
		Tail swing radius	mm	1,000	1,000
		Min. swing radius of work equipment	mm	1,000	1,000
		Height of work equipment at min. swing radius	mm	4,720	4,720
		Length of track on ground	mm	1,940(1,910)	1,940(1,910)
		Track gauge	mm	1,600	1,600
		Overall length of track	mm	2,455(2,430)	2,455(2,430)
		Blade width x height	mm	2,000X365	2,000X365

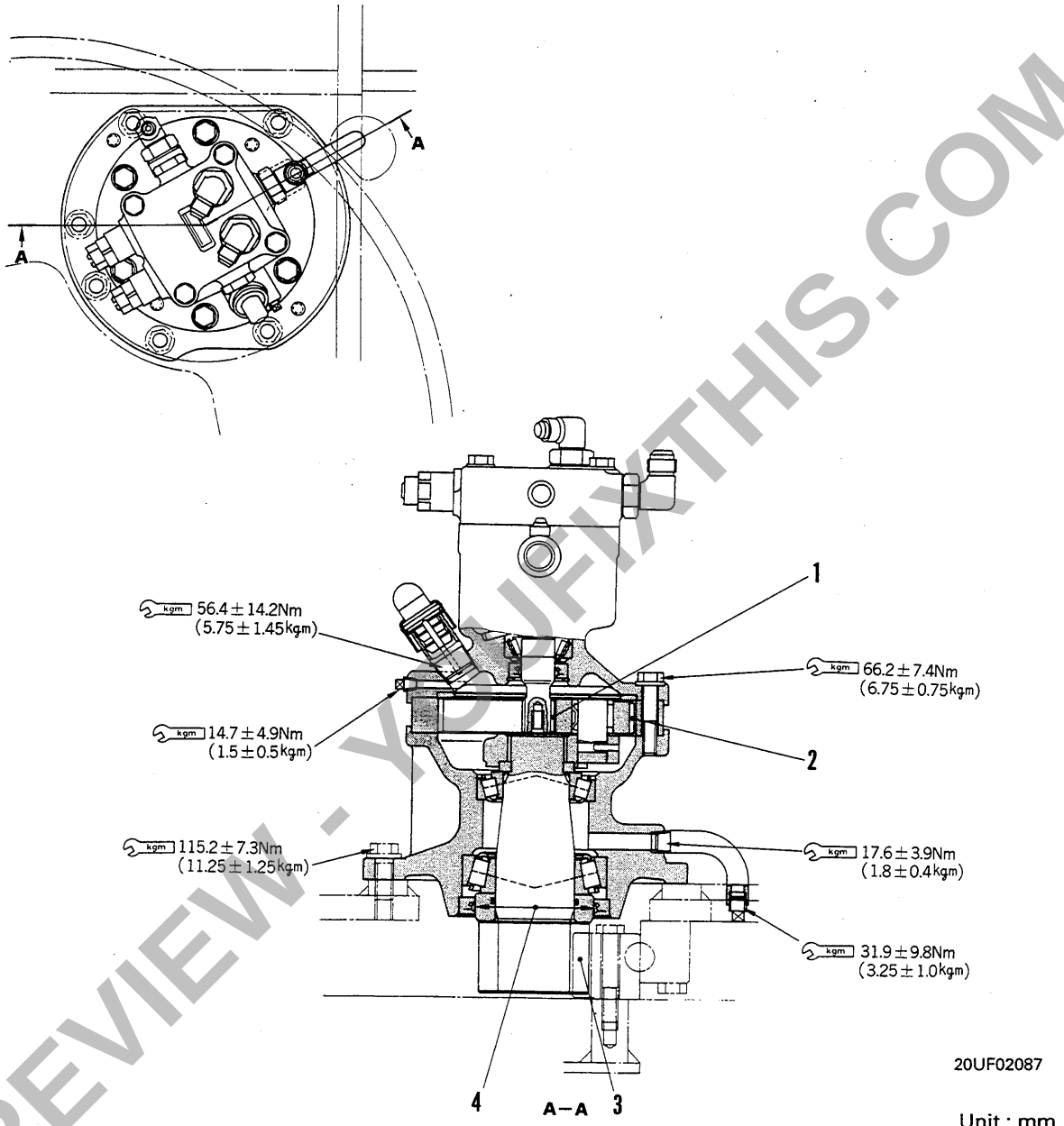
Figures in ( ) : Steel shoe specification

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SWING MACHINERY

Serial No.: 8001 – 12771

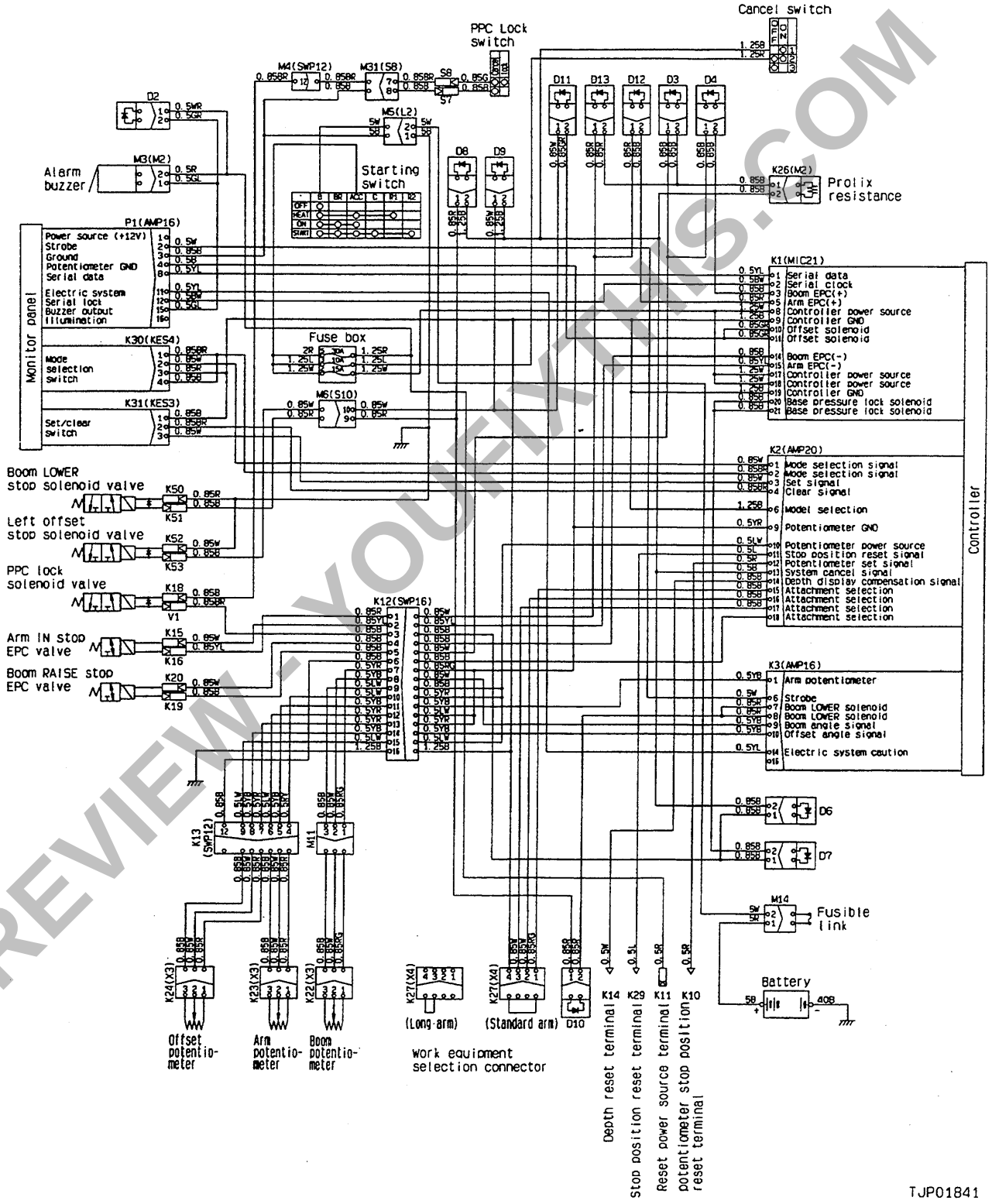


Unit : mm

No.	Check item	Criteria			Remedy
1	Backlash between drive gear and planetary gear	Standard clearance		Clearance limit	Replace
		0.08 0.26		0.6	
2	Backlash between planetary gear and ring gear	0.12 0.31		0.6	
3	Backlash between swing pinion and swing circle gear	0.08 0.89		2.0	
4	Wear of swing pinion collar surface contacting with oil seal	Standard size	Tolerance	Repair limit	Repair hard chrome plating or replace
		90	0 −0.087	89.8	

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Serial No.: 8586 and up

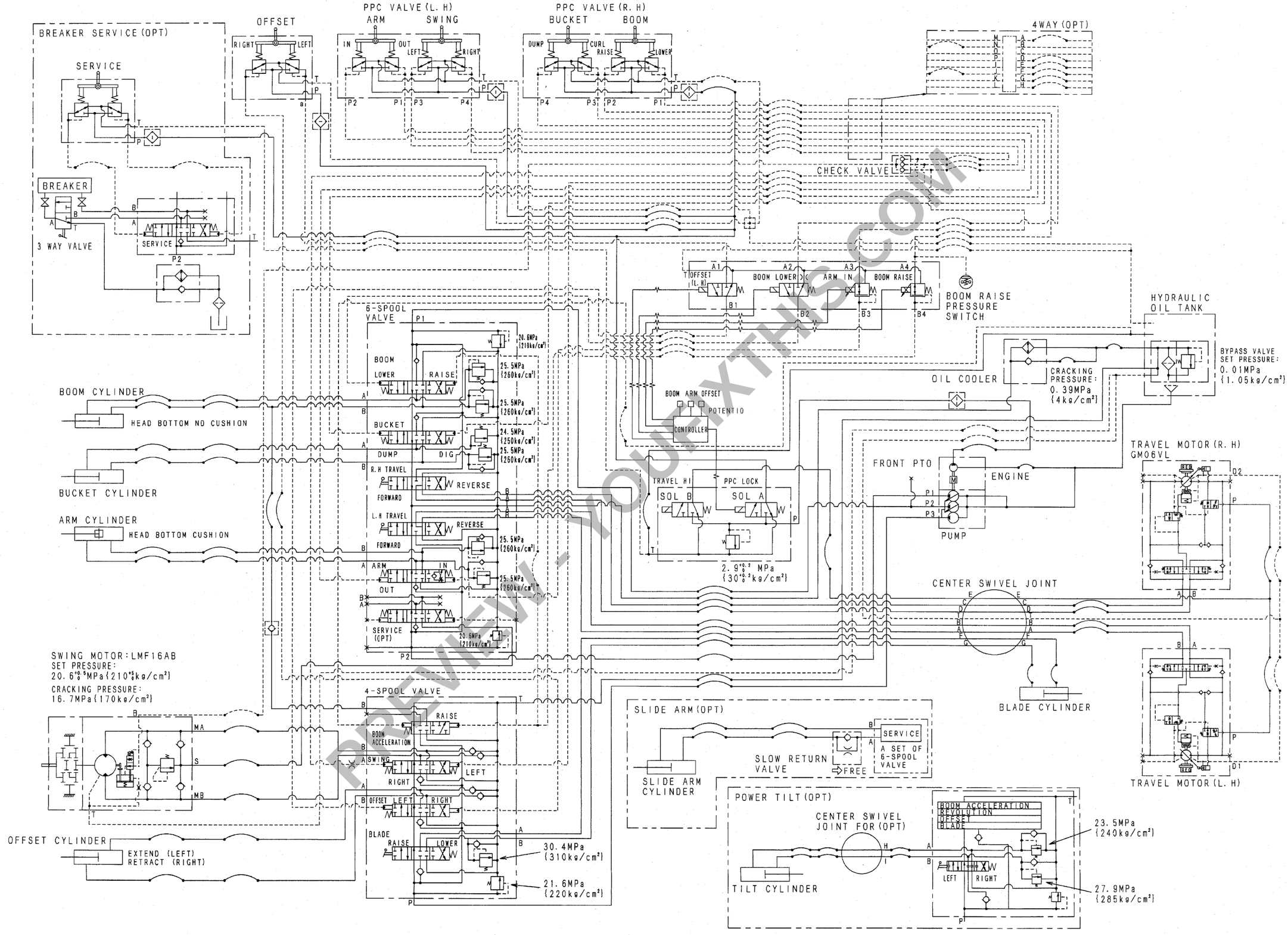


PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HYDRAULIC CIRCUIT DIAGRAM

Serial No.: 14993 and up



PREVIEW - YOUFIXTHIS.COM

SWP07409

Download full manual at youfixthis.com

TABLE OF TIGHTENING TORQUES FOR SPLIT FLANGE BOLTS

★ In the case of split flange bolts for which there is no special instruction, tighten to the torque given in the table below.

Thread diameter	Width across flat	Tightening torque	
mm	mm	Nm	kgm
10	14	65.7±6.8	6.7±0.7
12	17	112±9.8	11.5±1
16	22	279±29	28.5±3

TABLE OF TIGHTENING TORQUES FOR O-RING BOSS PIPING JOINTS

★ Unless there are special instructions, tighten the O-ring boss piping joints to the torque below.

Nominal No.	Thread diameter	Width across flat	Tightening torque	
	mm	mm	Nm	kgm
02	14	Varies depending on type of connector.	34.3±4.9	3.5±0.5
03, 04	20		93.1±9.8	9.5±1
05, 06	24		142.1±19.6	14.5±2
10, 12	33		421.4±58.8	43±6
14	42		877.1±132.3	89.5±13.5

TABLE OF TIGHTENING TORQUES FOR O-RING BOSS PLUGS

★ Unless there are special instructions, tighten the O-ring boss plugs to the torque below.

Nominal No.	Thread diameter	Width across flat	Tightening torque	
	mm	mm	Nm	kgm
08	8	14	7.35±1.47	0.75±0.15
10	10	17	11.27±1.47	1.15±0.15
12	12	19	17.64±1.96	1.8±0.2
14	14	22	22.54±1.96	2.3±0.2
16	16	24	29.4±4.9	3±0.5
18	18	27	39.2±4.9	4±0.5
20	20	30	49±4.9	5±0.5
24	24	32	68.6±9.8	7±1
30	30	32	107.8±14.7	11±1.5
33	33	—	127.4±19.6	13±2
36	36	36	151.9±24.5	15.5±2.5
42	42	—	210.7±29.4	21.5±3
52	52	—	323.4±44.1	33±4.5

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

★: This indicates the display on the monitor panel.

Condition when normal (voltage, current, resistance)	Action by controller when abnormality is detected	Problem that appears on machine when there is abnormality
1) Resistance between K2 (7), (8) – chassis: Min. 1 MΩ 2) Resistance between K2 (6) – chassis: Max. 1 Ω	1) Selects PC50UU as model	
1) Standard arm: Resistance between K2 (15) – chassis: Max. 10 Ω 2) Long arm: Resistance between K2 (16) – chassis: Max. 10 Ω 3) Slide arm: Resistance between K2 (17) – chassis: Max. 10 Ω 4) Resistance between K2 (15) – (17), (15) – (16), (16) – (17): Min. 1 MΩ	1) Selects long arm as work equipment	1) When the work equipment stops, the gap between the cab (canopy) and bucket may be larger than the specified value.
1) Voltage between K3 (9) – (12): 0.3 – 4.7 V 2) Voltage between K3 (1) – (12): 0.3 – 4.7 V 3) Voltage between K3 (10) – (12): 0.3 – 4.7 V 4) Voltage between K2 (10) – (9): 4.9 – 5.1 V	1) Turns output OFF (current 0A) to solenoids for boom RAISE stop, arm IN stop, left offset stop ★ Even when the location of the failure is restored, the abnormality display continues to be displayed. (The operation also remains stopped)	1) Boom RAISE, arm IN, and left offset cannot be operated
1) Voltage between K3 (2) – (12): 0.3 – 4.7 V 2) Voltage between K2 (10) – (9): 4.9 – 5.1 V	1) Displays error code [38] and buzzer sounds, but takes no particular action.	1) Does not display DEPTH or UP on the depth display (displays error code [38] and buzzer continues to sound) 2) All parts of the work equipment work normally
1) Resistance of solenoid: 5 – 25 Ω	1) Turns output OFF (current 0A) to solenoids for boom RAISE stop, arm IN stop, left offset stop ★ With this system only, it does not carry out self diagnosis for disconnections (the work equipment stops)	1) None of the work equipment or swing can be operated (travel, blade still work)
	1) Turns output OFF (current 0A) to solenoids for boom RAISE stop, arm IN stop, left offset stop 2) Turns output OFF (current 0A) to all abnormal solenoids ★ With this system, it does not display any abnormality even when there is a disconnection during operation, but left offset or boom LOWER stop. If the starting switch is turned OFF and then ON again, the display is given.	1) Boom RAISE, arm IN, and left offset cannot be operated
		1) Boom RAISE, boom LOWER, arm IN, and left offset cannot be operated, or 2) Depth mode (boom depth control) cannot be used
1) Resistance of solenoid: 3 – 15 Ω 2) Voltage between K1 (14) – (9): 0.75 – 1.0 V (in safe range for bucket)	1) Turns output OFF (current 0A) to solenoids for boom RAISE stop, arm IN stop, left offset stop ★ Even when the location of the failure is restored, the abnormality display continues to be displayed. (The operation also remains stopped)	1) Boom RAISE, arm IN, and left offset cannot be operated
1) Resistance of solenoid: 3 – 15 Ω 2) Voltage between K1 (15) – (9): 0.75 – 1.0 V (in safe range for bucket)		
1) Impossible to measure electrical system	1) Turns output OFF (current 0A) to PPC lock solenoid ★ If the location of the failure is restored, the abnormality display goes out, and it returns to normal operation.	1) None of the work equipment or swing can be operated (travel, blade still work)
1) Resistance between K1 (1) – P1 (8): Max. 10 Ω 2) Resistance between K1 (2) – P1 (12): Max. 10 Ω 3) Resistance between K3 (6) – P1 (2): Max. 10 Ω 4) Voltage: 10 – 16 V	1) Communications system: Does not carry out any particular action. 2) Controller power source system: Stops all functions, but if power source voltage becomes normal, it returns to normal operation. ★ The abnormality display also returns to normal.	1) Communications system: Operations are possible in normal way, but (1) No display is given except EE (2) Buzzer does not sound 2) Controller power source system: None of the work equipment or swing can be operated (travel, blade still work)

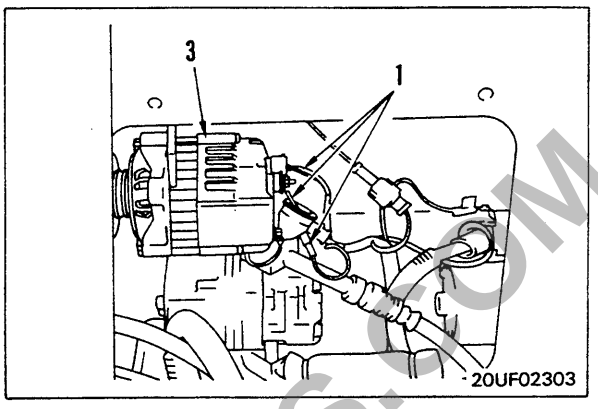
PREVIEW - YOUFIXTHIS.COM

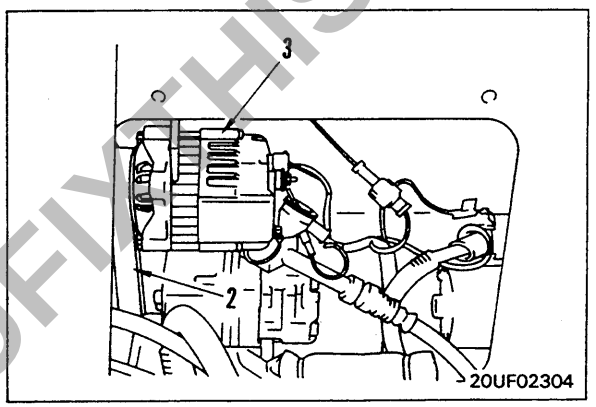
Download full manual at youfixthis.com

REMOVAL OF ALTERNATOR ASSEMBLY

⚠ Disconnect the cable from the negative (-) terminal of the battery.

1. Open hood.
2. Remove inspection cover of engine partition cover.
3. Disconnect alternator wires (1).
4. Loosen adjustment bolt and mounting nuts, then remove fan belt (2) from pulley.
5. Remove adjustment bolt and mounting nuts to remove alternator (3). ※ 1





INSTALLATION OF ALTERNATOR ASSEMBLY

. Carry out installation in the reverse order to removal.

※ 1

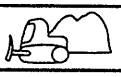
★ Adjust the fan belt tension. For details, see TESTING AND ADJUSTING, Testing and adjusting fan belt tension.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SEQUENCE OF EVENTS IN TROUBLESHOOTING

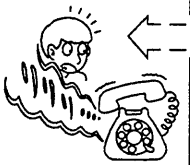

TEW00180


TEW00181

Step 1

Examination, confirmation of symptoms

1) When a request for repairs is received, first ask the following points.
   - Name of customer
   - Type, serial number of machine
   - Details of jobsite, etc.
2) Ask questions to gain an outline of the problem.
   - Condition of failure
   - Work being carried out at the time of the failure
   - Operating environment
   - Past history, details of maintenance, etc.


TEW00182





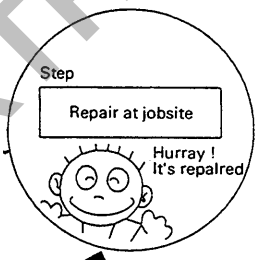
TEW00183

Step 2

Determining probable location of cause

1) Look at the troubleshooting section of the shop manual to find locations of possible causes.


TEW00184



TEW00185

Step 3

Preparation of troubleshooting tools

1) Look at the table of troubleshooting tools in the shop manual and prepare the necessary tools.
   - T-adapter
   - Hydraulic pressure gauge kit, etc.
2) Look in the parts book and prepare the necessary replacement parts.

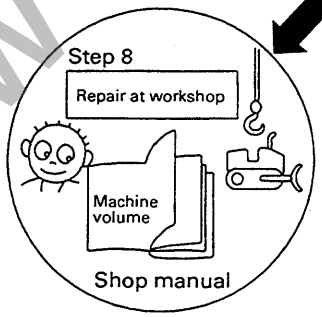

TEW00186

Step 7

- **Pinpoint locations of failure (carry out troubleshooting)**
- **Decide action to take**

1) Before starting troubleshooting, locate and repair simple failures.
   - Check before starting items
   - Other check items
2) See the Troubleshooting Section of the shop manual, select a troubleshooting flowchart that matches the symptoms, and carry out troubleshooting.


TEW00187



TEW00188

Step 6

Re-enacting failure

- Drive and operate the machine to confirm the condition and judge if there is really a failure.

Step 4

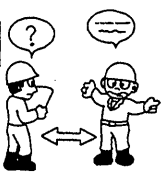
Go to jobsite


TEW00189

Step 5

Ask operator questions to confirm details of failure.

- Was there anything strange about the machine before the failure occurred?
- Did the failure occur suddenly?
- Had any repairs been carried out before the failure?



TEW00190

PREVIEW - YOUFIXTHIS.COM

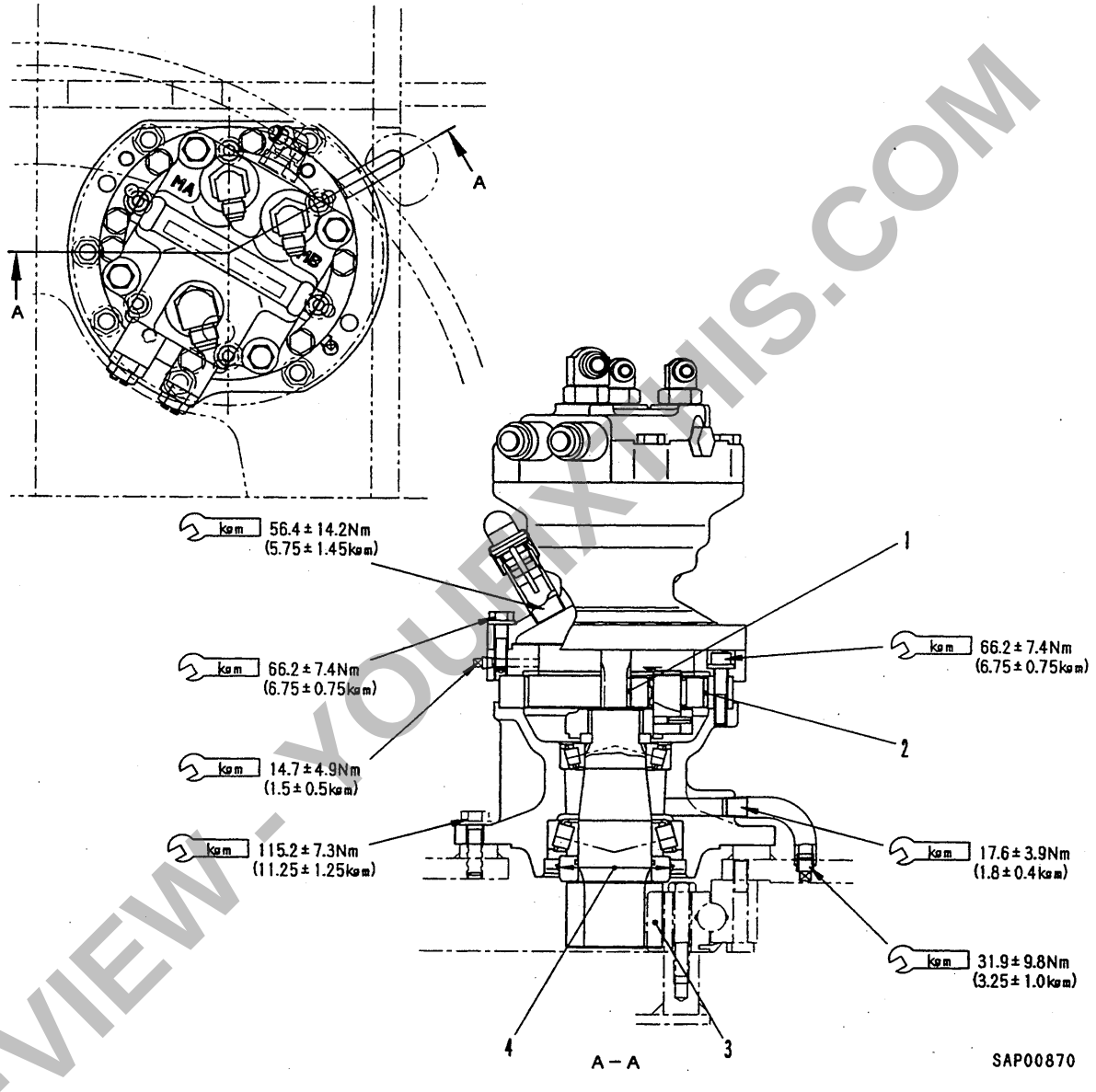
Download full manual at youfixthis.com

Machine model				PC50UU-2	
Serial Number				8001 – 12771	
Specifications				Canopy specification	Cab specification
Engine	Model			4D84-2GA	
	Type			4-cycle, water-cooled, vertical, direct injection	
	No. of cylinders – bore x stroke		mm	4 – 84 × 86	
	Piston displacement		ℓ {cc}	1.906{1,906}	
	Firing order			1 – 3 – 4 – 2	
	Flywheel horsepower		kW {HP}/rpm	28.7/2,700{38.4/2,700}	
	Max. torque		Nm {kgm} /rpm	118/2,700{12/1,900}	
	Max. speed at no load		rpm	2,875	
	Min. speed at no load		rpm	1,050	
	Min. fuel consumption		g/kWh {g/HPh}	237 {177}	
	Starting motor			12V, 20 kW	
	Alternator			12V, 40A	
	Battery			12V, 70Ah	
	Radiator core type			CD4	
Undercarriage	Carrier roller			1	
	Track roller			5	
	Track shoe			Integrated rubber shoe (assembly-type triple grouser x 38)	
Hydraulic system	Hydraulic pump	Type x no.		Gear type triple pump (SBR14+14+9) x 1 38 + 38 + 24	
		Discharge	ℓ/min	Gear type single pump (PW1-C-3A) x 1 6.9	
		Set pressure for work equipment, travel	MPa {kg/cm²}	20.6 {210}	
		• Offset, blade	MPa {kg/cm²}	21.6 {220}	
		• Control	MPa {kg/cm²}	2.9 {30}	
	Control valve	Type x no.		5-spool type (3-spool + 2-spool) x 1, 4-spool type x 1	
		Control method		Hydraulic assist + mechanically operated (travel, blade)	
	Hydraulic motor	Travel motor		Piston type (with reduction gear, counterbalance valve) x 2	
		Swing motor		Piston type (with brake valve) x 1	
	Hydraulic cylinder			Duble-acting piston	
	Hydraulic tank			Box-shaped, open	
	Hydraulic filter			Tank return side	
	Hydraulic cooler			Air cooled	

Figures in ( ) : Steel shoe specification

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Serial No.: 12772 – 14992



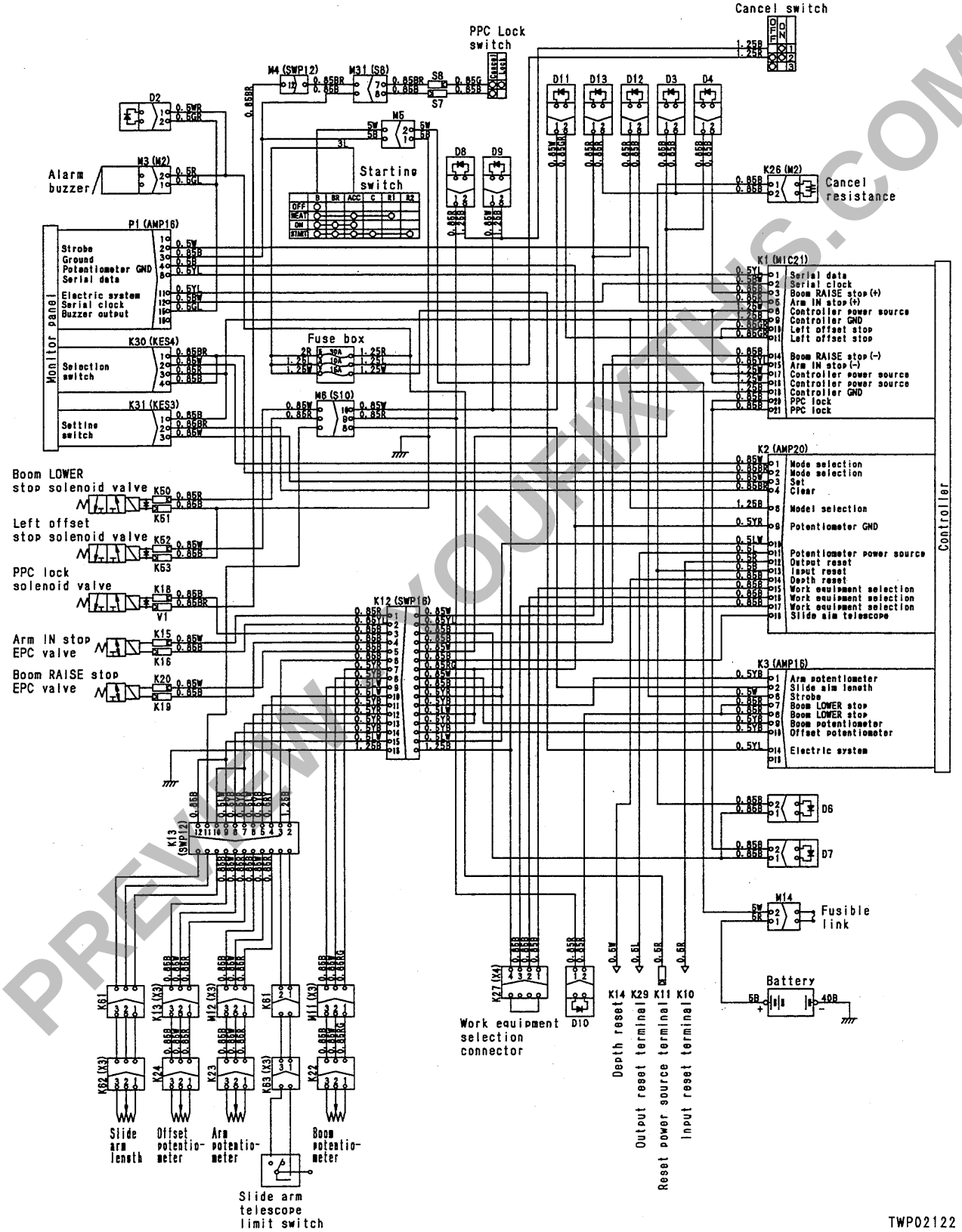
Unit : mm

No.	Check item	Criteria			Remedy
1	Backlash between drive gear and planetary gear	Standard clearance		Clearance limit	Replace
		0.08 0.26		0.6	
2	Backlash between planetary gear and ring gear	0.12 0.31		0.6	
3	Backlash between swing pinion and swing circle gear	0.08 0.89		2.0	
4	Wear of swing pinion collar surface contacting with oil seal	Standard size	Tolerance	Repair limit	Repair hard chrome plating or replace
		90	0 −0.087	89.8	

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Serial No.: 8586 – 12771



Download full manual at youfixthis.com

TIGHTENING TORQUE FOR 102 ENGINE SERIIES (BOLT AND NUTS)

Use these torques for bolts and nuts (unit: mm) of Cummins Engine.

Thread diameter	Tightening torque	
mm	Nm	kgm
6	10 ± 2	1.02 ± 0.20
8	24 ± 4	2.45 ± 0.41
10	43 ± 6	4.38 ± 0.61
12	77 ± 12	7.85 ± 1.22

TIGHTENING TORQUE FOR 102 ENGINE SERIIES (EYE JOINTS)

Use these torques for eye joints (unit: mm) of Cummins Engine.

Thread diameter	Tightening torque	
mm	Nm	kgm
6	8 ± 2	0.81 ± 0.20
8	10 ± 2	1.02 ± 0.20
10	12 ± 2	1.22 ± 0.20
12	24 ± 4	2.45 ± 0.41
14	36 ± 5	3.67 ± 0.51

TIGHTENING TORQUE FOR 102 ENGINE SERIIES (TAPERED SCREWS)

Use these torques for tapered screws (unit: inch) of Cummins Engine.

Thread diameter	Tightening torque	
inch	Nm	kgm
1 / 16	3 ± 1	0.31 ± 0.10
1 / 8	8 ± 2	0.81 ± 0.20
1 / 4	12 ± 2	1.22 ± 0.20
3 / 8	15 ± 2	1.53 ± 0.41
1 / 2	24 ± 4	2.45 ± 0.41
3 / 4	36 ± 5	3.67 ± 0.51
1	60 ± 9	6.12 ± 0.92

PREVIEW - YOUFIXTHIS.COM

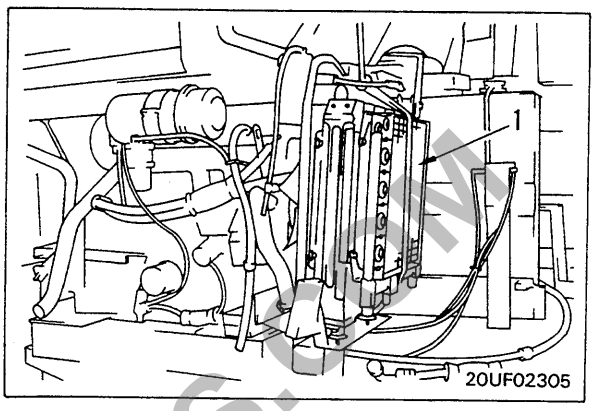
Download full manual at youfixthis.com

REMOVAL OF FUEL INJECTION PUMP ASSEMBLY

1. Remove counterweight assembly. For details, see REMOVAL OF COUNTERWEIGHT.

2. Remove radiator and oil cooler assembly (1).

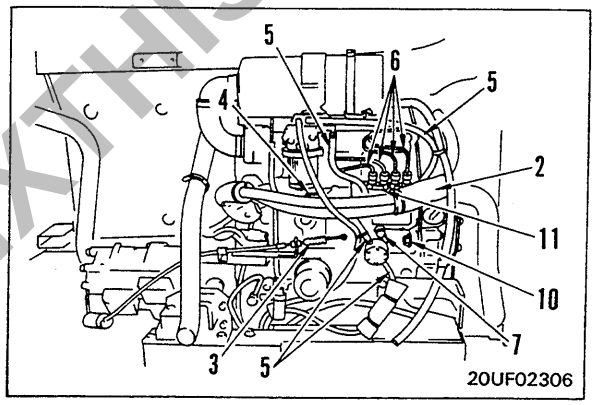
3. Disconnect car heater hose (2) (Operator's cab specification) and move it toward hydraulic pump.



Serial No.: 8001 - 12771

4. Disconnect fuel control linkage (3), stop motor linkage (4), and bracket together. ※ 1

Serial No.: 8001 – 12771

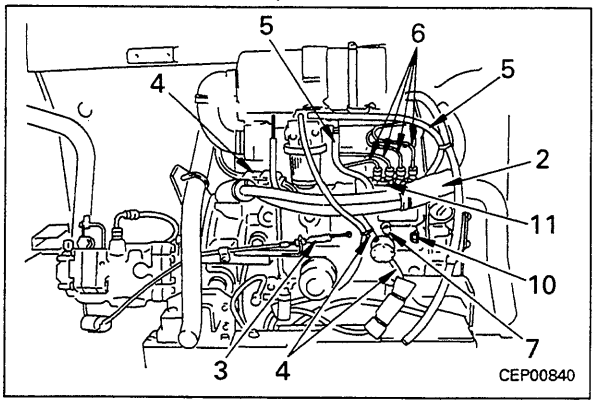


Serial No.: 12772 and up

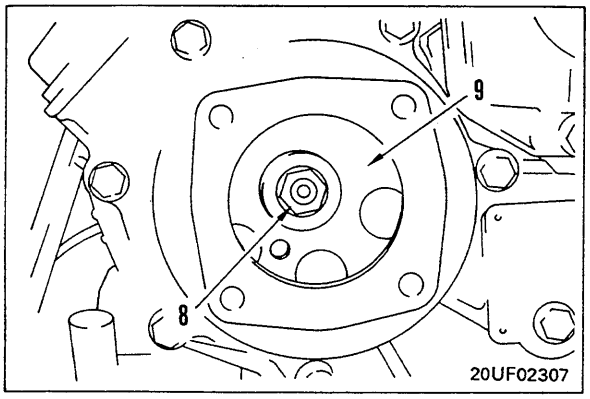
4. Disconnect fuel control linkage (3) and stop solenoid connector (4).

5. Disconnect fuel hose (5), fuel tube (6), and lubrication tube (7). ※ 2 ※ 3

Serial No.: 12772 and up



6. Remove cover, then remove drive gear mounting nut (8). ※ 4
   - ★ Take care that the nut and collar will not fall in the case.
   - ★ Make match marks on the drive gear and idler gear with white paint, etc.



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

METHOD OF USING JUDGEMENT TABLE

This judgement table is a tool to determine if the problem with the machine is caused by an abnormality in the electrical system or by an abnormality in the hydraulic or mechanical system. The symptoms are then used to decide which troubleshooting table (E-○○, H-○○) matches the symptoms.
The judgement table is designed so that it is easy to determine from the self-diagnostic display which troubleshooting table to go to.

★ The abnormality display given by the monitor panel leads directly to troubleshooting of the machine monitor (M-○○).
(See the Contents for troubleshooting of the machine monitor system)

[Method of using judgement table]

- A ● mark is put at the places where the failure mode and self diagnostic display match, so check if that abnormality display is being given, and proceed as follows.
  - If the abnormality display is given, go to the troubleshooting code at the bottom of the judgement table (🡻) ..... Go to E-○○.
  - If the problem has appeared but no abnormality display is given, go to the troubleshooting code on the right of the judgement table (➔) ..... Go to H-○○.
- For failure modes not marked with ●, go directly to the troubleshooting code on the right side (➔).
  <Example> Failure mode "offset mode cannot be used"
  Procedure: Check if the self-diagnostic error code is being displayed on the depth display portion (side face of controller) of the monitor panel.

020U02

JUDGEMENT TABLE FOR CONTROLLER, ELECTRICAL, HYDRAULIC AND MECHANICAL SYSTEMS

Failure mode \ Error code			Self-diagnostic display (abnormality display)													
			Communications system or controller power source system ★1	Model selection system	Work equipment selection system	Boom potentiometer system	Arm potentiometer system	Offset potentiometer system	Slide arm length sensor system	PPC lock solenoid system	Left offset stop solenoid system	Boom LOWER stop solenoid system	Boom RAISE stop solenoid system	Arm IN stop solenoid system	Valve open system	Troubleshooting code when no abnormality display is given
			EE	21	22	31	32	34	38	41	42	44	51	52	61	
Individual work equipment	No work equipment moves (except travel, blade)		●							●						E-13
	Boom RAISE does not work					●	●	●			●	●	●	●		H- 8
	Boom LOWER does not work											●				H- 8
	Arm IN does not work					●	●	●			●	●	●	●		H- 8
	Left offset does not work					●	●	●			●	●	●	●		H- 8
	Boom RAISE speed is slow															H- 6
	Arm IN speed is slow															H- 6
	Boom RAISE does not carry out automatic stop properly	All operations stop immediately before interference													●	—
		There is interference													●	H-24
	Arm IN does not carry out automatic stop properly	All operations stop immediately before interference													●	—
		There is interference													●	H-24
	Left offset does not carry out automatic stop properly	All operations stop immediately before interference													●	—
		There is interference													●	H-24
	Depth mode cannot be used											●				H-23
	Height mode cannot be used												●			H-23
	Offset mode cannot be used										●					H-23
	Automatic stop distance is too close (during operation)			●	●											E-14
	Automatic stop distance is too far (during operation)			●	●											E-14
	Abnormality in depth mode stop (after setting, during operation)	Goes too far before stopping														E-14
		Stops too soon														E-14
	Abnormality in height mode stop (after setting, during operation)	Goes too far before stopping														E-14
		Stops too soon														E-14
	Abnormality in offset mode stop (after setting, during operation)	Goes too far before stopping														E-14
		Stops too soon														E-14
	No modes can be set or cleared															E-15
	Slide arm	Depth display is abnormal (display does not change even when arm is extended)							●							—
		Automatic stop distance is too close when arm is being extended (200 mm or more)														E-19
		Automatic stop distance is too far when arm is being extended (200 mm or less)														E-20
Buzzer does not sound		When automatic stop is carried out														M-12a)
		When cancel switch is ON														M-12a)
		When setting mode, stopped														M-12a)
		During self-diagnostic display (display is given)														M-12a)
Cancel switch is not turned ON, but buzzer sounds for 7 seconds and electric system lamp flashes																E-16
Electric system caution lamp stays lighted up																M-15
Automatic stop is not carried out for boom RAISE, arm IN, left offset ★2		All operations stop immediately before interference											●	●		E-17
		There is interference											●	●		E-17
Work equipment moves even when work equipment lock lever is at LOCK position																E-18
Troubleshooting code when abnormality display is given			E-1	E-2	E-3	E-4	E-5	E-6	E-7	E-8	E-9	E-10	E-11	E-12	E-23	—

★1: EE is displayed on monitor panel, but no display is given on the controller panel.
★2: When error code [61] is not displayed

Judgement: If error code 42 is being displayed
..... go to troubleshooting E-9 of electrical system
If no error code is displayed, and the offset mode cannot be used
..... go to troubleshooting H-23 of hydraulic system

PREVIEW - YOUFIXTHIS.COM

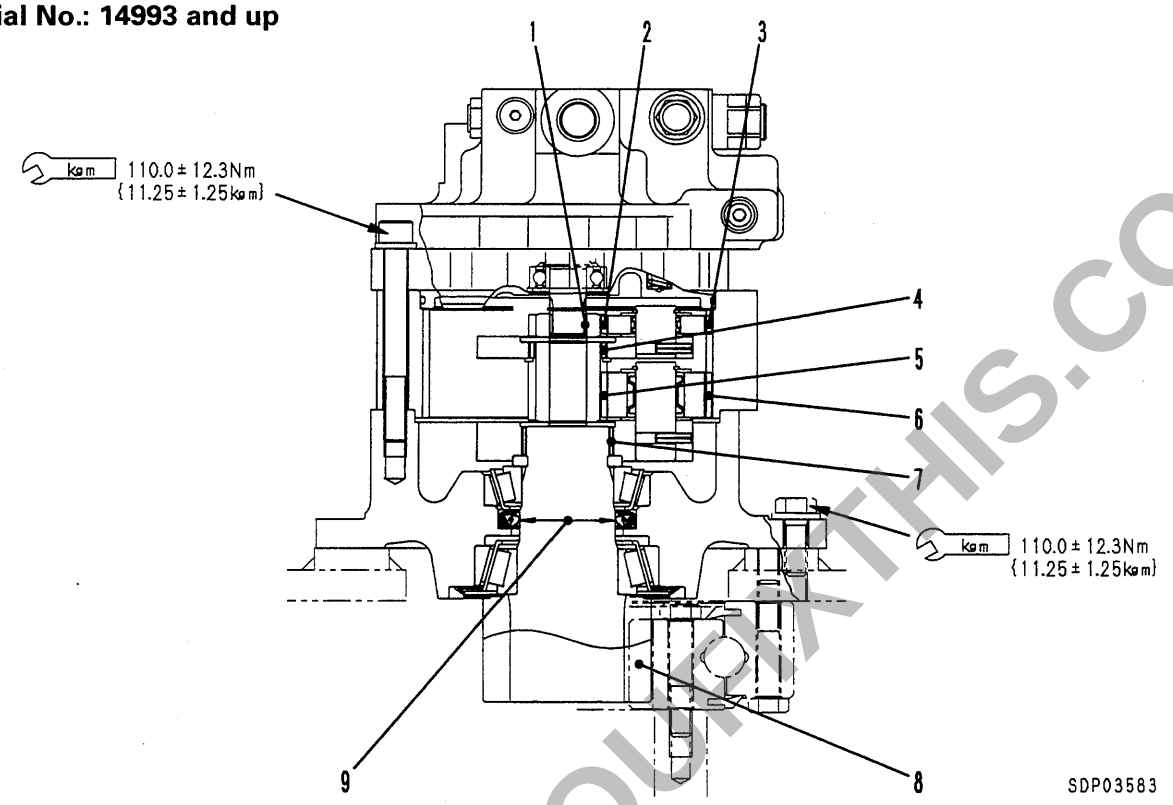
Download full manual at youfixthis.com

Machine model				PC50UU-2	
Serial Number				12772 – 14992	
Specifications				Canopy specification	Cab specification
Cab specification			kg	5,100(5,150)	5,250(5,300)
Bucket capacity			m^3	0.20	0.20
Performance	Working ranges	Max. digging depth	mm	4,000	4,000
		Max. vertical wall depth	mm	2,620	2,620
		Max. digging reach	mm	5,660	5,660
		Max. reach at ground level	mm	5,565	5,565
		Max. digging height	mm	6,330	6,330
		Max. dumping height	mm	4,600	4,600
		Bucket offset (left/right)	mm	910/730	910/730
		Max. blade lifting height	mm	370	370
		Max. blade lowering depth	mm	370	370
	Max. digging force		kN {kg}	34.32 {3,500}	34.32 {3,500}
	Swing speed		rpm	11	11
	Max. slope angle for swing		deg.	13	13
	Travel speed		km/h	Low : 2.6/High : 4.3 (Low : 2.4/High : 4.0)	Low : 2.6/High : 4.3 (Low : 2.4/High : 4.0)
	Gradeability		deg.	30	30
	Ground pressure (shoe width: 400mm)		kPa {kg/cm^2}	29.4 {0.30}(30.4{0.31})	30.4 {0.31}(31.4{0.32})
Dimensions	Overall length (for transport)		mm	5,335	5,335
	Overall width		mm	2,000	2,000
	Overall height (for transport)		mm	2,550(2,545)	2,565(2,560)
	Overall height		mm	2,550(2,545)	2,565(2,560)
	Ground clearance of counterweight		mm	630	630
	Min. ground clearance		mm	320	320
	Tail swing radius		mm	1,000	1,000
	Min. swing radius of work equipment		mm	1,000	1,000
	Height of work equipment at min. swing radius		mm	4,720	4,720
	Length of track on ground		mm	1,940(1,910)	1,940(1,910)
	Track gauge		mm	1,600	1,600
	Overall length of track		mm	2,455(2,430)	2,455(2,430)
	Blade width x height		mm	2,000X365	2,000X365

Figures in ( ) : Steel shoe specification

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Serial No.: 14993 and up



Unit : mm

No.	Check item	Criteria		Remedy
1	Backlash between swing motor shaft and No. 1 sun gear	Standard clearance	Clearance limit	Replace
		0.04 – 0.11	—	
2	Backlash between No. 1 sun gear and No. 1 plenetary gear	0.12 – 0.28	0.6	
3	Backlash between No. 1 plentary gear and ring gear	0.14 – 0.38	0.6	
4	Backlash between No. 1 plentary carrier and No. 2 sun gear	0.10 – 0.26	—	
5	Backlash between No. 2 sun gear and No. 2 planetary gear	0.12 – 0.28	0.6	
6	Backlash between No. 2 plentary gear and ring gear	0.14 – 0.38	0.6	
7	Backlash between No. 2 plentary carrier and swing pinion	0.07 – 0.21	—	
8	Backlash between swing pinion and swing circle	0.14 – 0.73	2.0	
9	Wear of swing pinion surface contacting with oil seal	Standard size	Repair limit	Apply hard-chrome plating recondition, or replace
		ø 52 $^{0}_{-0.074}$	—	

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

CONTENTS

No. of page

01 GENERAL 01-1

10 STRUCTURE AND FUNCTION 10-1

20 TESTING AND ADJUSTING 20-1

30 DISASSEMBLY AND ASSEMBLY 30-1

40 MAINTENANCE STANDARD 40-1

90 OTHERS 90-1

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SAFETY
SAFETY NOTICE

IMPORTANT SAFETY NOTICE

Proper service and repair is extremely important for safe machine operation. The service and repair techniques recommended by Komatsu and described in this manual are both effective and safe. Some of these techniques require the use of tools specially designed by Komatsu for the specific purpose.

To prevent injury to workers, the symbol ⚠ is used to mark safety precautions in this manual. The cautions accompanying these symbols should always be followed carefully. If any dangerous situation arises or may possibly arise, first consider safety, and take the necessary actions to deal with the situation.

GENERAL PRECAUTIONS

Mistakes in operation are extremely dangerous. Read the Operation and Maintenance Manual carefully BEFORE operating the machine.

1. Before carrying out any greasing or repairs, read all the precautions given on the decals which are fixed to the machine.
2. When carrying out any operation, always wear safety shoes and helmet. Do not wear loose work clothes, or clothes with buttons missing.
   - Always wear safety glasses when hitting parts with a hammer.
   - Always wear safety glasses when grinding parts with a grinder, etc.
3. If welding repairs are needed, always have a trained, experienced welder carry out the work. When carrying out welding work, always wear welding gloves, apron, hand shield, cap and other clothes suited for welding work.
4. When carrying out any operation with two or more workers, always agree on the operating procedure before starting. Always inform your fellow workers before starting any step of the operation. Before starting work, hang UNDER REPAIR signs on the controls in the operator's compartment.
5. Keep all tools in good condition and learn the correct way to use them.
6. Decide a place in the repair workshop to keep tools and removed parts. Always keep the tools and parts in their correct places. Always keep the work area clean and make sure that there is no dirt or oil on the floor. Smoke only in the areas provided for smoking. Never smoke while working.

PREPARATIONS FOR WORK

7. Before adding oil or making any repairs, park the machine on hard, level ground, and block the wheels or tracks to prevent the machine from moving.
8. Before starting work, lower blade, ripper, bucket or any other work equipment to the ground. If this is not possible, insert the safety pin or use blocks to prevent the work equipment from falling. In addition, be sure to lock all the control levers and hang warning signs on them.
9. When disassembling or assembling, support the machine with blocks, jacks or stands before starting work.
10. Remove all mud and oil from the steps or other places used to get on and off the machine. Always use the handrails, ladders or steps when getting on or off the machine. Never jump on or off the machine. If it is impossible to use the handrails, ladders or steps, use a stand to provide safe footing.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Mark	Page	Revision number
	20-26-1	④
	20-27	
	20-28	
	20-29	④
	20-30	
	20-31	④
	20-31-1	④
	20-32	
	20-32-1	④
	20-33	④
	20-33-1	④
	20-34	④
	20-35	④
	20-36	
	20-37	
	20-38	
	20-39	④
	20-40	
	20-41	
	20-42	
	20-43	
	20-44	
	20-45	
	20-46	
	20-47	
	20-48	
	20-49	④
	20-49-1	④
	20-49-2	④
	20-49-3	④
	20-49-4	④
	20-49-5	④
	20-49-6	④
	20-49-7	④
	20-49-8	④
	20-49-9	④
	20-49-10	④
	20-49-11	④
	20-49-12	④
	20-49-13	④
	20-49-14	④
	20-49-15	④
	20-49-16	④
	20-49-17	④
	20-49-18	④
	20-49-19	④
	20-49-20	④
	20-49-21	④
	20-49-22	④
	20-49-23	④
	20-49-24	④
	20-50	④
	20-51	④
	20-51-1	④
	20-52	④
	20-53	④
	20-54	④
	20-55	④
	20-56	④
	20-57	④
	20-58	④
	20-59	④
	20-60	④
	20-61	④
	20-62	④
	20-63	④
	20-63-1	④
	20-64	④
	20-64-1	④
	20-65	
	20-65-1	④
	20-65-2	④
	20-65-3	④
	20-66	④
	20-66-1	④
	20-66-2	④
	20-67	①
	20-68	④
	20-69	④
	20-71	④
	20-71-1	④
	20-71-2	④
	20-71-3	④
	20-71-4	④
	20-71-6	④
	20-71-7	④
	20-71-8	④
	20-71-9	④
	20-71-10	④
	20-71-12	④
	20-71-13	④
	20-71-14	④
	20-72	④
	20-73	④
	20-74	④
	20-75	④
	20-76	④
	20-77	④
	20-78	④
	20-78-1	④
	20-78-2	④
	20-79	④
	20-80	④
	20-80-1	④
	20-81	
	20-82	
	20-83	④
	20-84	④
	20-85	
	20-86	
	20-87	④
	20-87-1	④
	20-88	
	20-88-2	④
	20-89	④
	20-91	
	20-92	
	20-93	
	20-95	④
	20-96	④
	20-97	④
	20-98	④
	20-99	④
	20-100	
	20-101	
	20-102	
	20-103	
	20-104	
	20-105	
	20-106	
	20-107	④
	20-107-1	④
	20-108	④
	20-108-1	④
	20-109	
	20-110	④
	20-110-1	④
	20-111	④
	20-111-1	④
	20-112	④
	20-112-1	④
	20-113	④
	20-113-1	④
	20-114	④
	20-114-1	④
	20-115	④
	20-115-1	④
	20-116	④
	20-116-1	④
	20-116-2	④
	20-117	
	20-118	
	20-119	④
	20-119-1	④
	20-120	④
	20-120-1	④
	20-121	
	20-122	
	20-124	④
	20-125	
	20-125-1	④
	20-125-2	④
	20-125-3	④
	20-125-4	④
	20-126	④
	20-126-1	④
	20-127	④
	20-127-1	④
	20-128	④
	20-128-1	④
	20-128-2	④
	20-128-3	④
	20-128-4	④
	20-128-5	④
	20-128-6	④
	20-128-7	④
	20-129	④
	20-129-1	④
	20-129-2	④
	20-130	④
	20-131	
	20-131-1	④
	20-131-2	④
	20-132	④
	20-132-1	④
	20-133	④
	20-133-1	④
	20-134	
	20-135	
	20-136	
	20-137	
	20-138	
	20-139	
	20-140	
	20-141	
	20-142	
	20-143	
	20-144	④
	20-145	④
	20-145-1	④
	20-146	
	20-147	
	20-148	④
	20-149	④
	20-150	④
	20-151	
	20-152	
	20-153	
	20-154	
	20-155	
	20-156	
	20-157	
	20-158	
	20-159	
	20-160	
	20-161	
	20-162	
	20-163	
	30-1	⑤
	30-2	⑤
	30-3	③
	30-4	③
	30-5	③
	30-6	⑤
	30-7	⑤
	30-8	⑤
	30-8-1	⑤
	30-8-2	⑤
	30-8-3	⑤
	30-8-4	⑤
	30-9	③
	30-10	③
	30-11	③
	30-12	③
	30-13	③
	30-14	③
	30-15	③
	30-16	③
	30-17	③
	30-18	③
	30-19	③
	30-20	③
	30-21	③
	30-22	③
	30-23	③
	30-24	③
	30-25	③
	30-26	③
	30-27	③
	30-28	③
	30-29	③
	30-30	③
	30-31	③
	30-32	③
	30-33	③
	30-34	③
	30-35	③
	30-36	③
	30-37	③
	30-38	③
	30-39	③
○	30-39-1	⑤
○	30-39-2	⑤
○	30-39-3	⑤
○	30-39-4	⑤
○	30-39-5	⑤
○	30-39-6	⑤
○	30-39-7	⑤
○	30-39-8	⑤

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 828 pages

The full manual includes:

- All 828 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Komatsu PC50UU-2 Shop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual