SPECIFICATIONS

BACK HOE

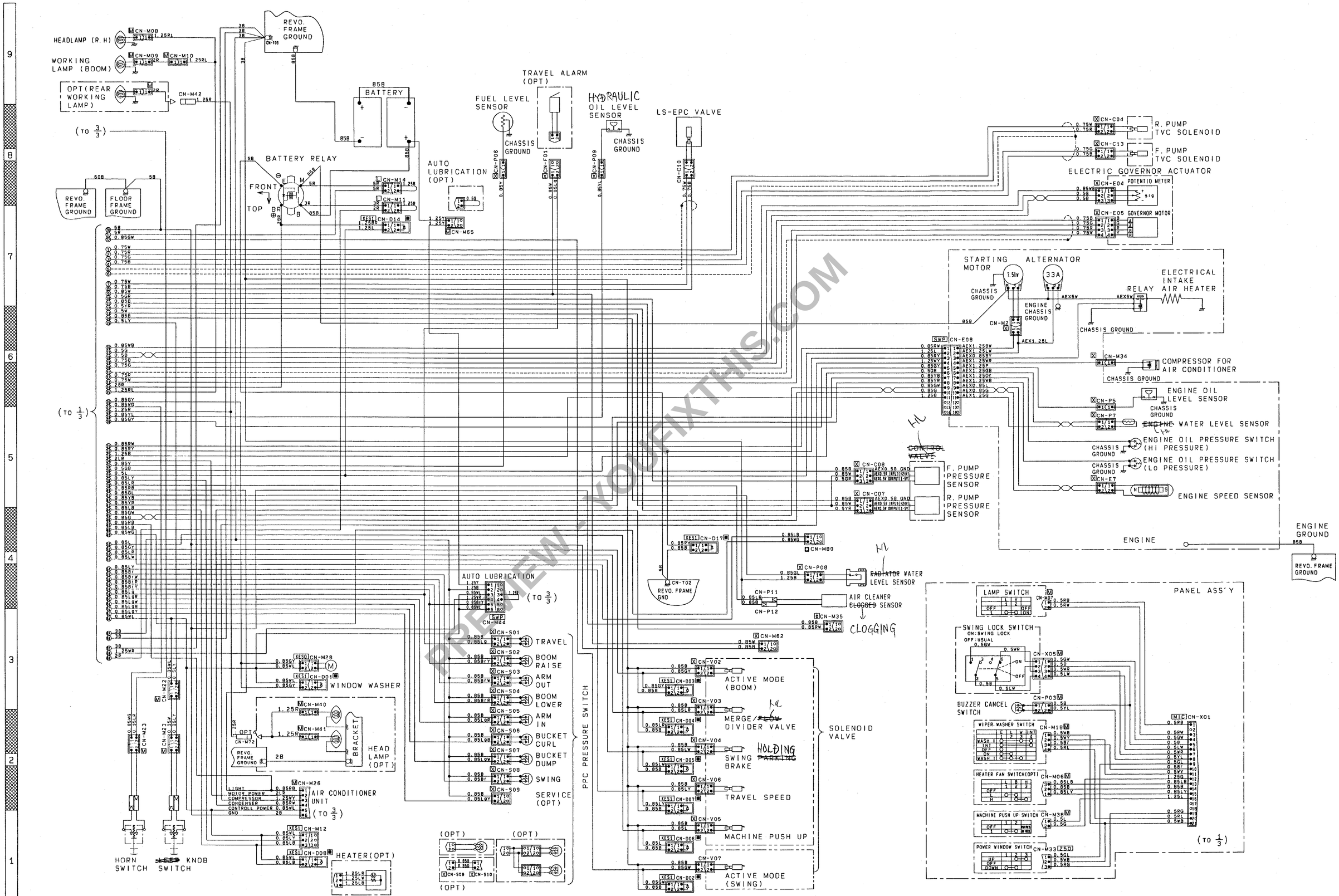
PC400, 400LC-6

				PC400-6	PC400LC-6
Machine model					
Serial number				32001 and up	32001 and up
Bucket capacity			m³	1.8	1.8
Operating weight			kg	41,400	42,600
Performance	Working ranges	Max. digging depth	mm	7,760	7,760
		Max. vertical wall depth	mm	6,850	6,850
		Max. digging reach	mm	12,020	12,020
		Max. reach at ground level	mm	11,810	11,810
		Max. digging height	mm	10,920	10,920
		Max. dumping height	mm	7,570	7,570
	Max. digging force (using power max. function)		kN{kg}	224.7 {22,900}	224.7 {22,900}
	Swing speed		rpm	9.3	9.3
	Swing max. slope angle		deg.	20.0	20.0
	Travel speed		km/h	Lo: 3.2 Mi: 4.5 Hi: 5.5	Lo: 3.2 Mi: 4.5 Hi: 5.5
	Gradeability		deg.	35	35
	Ground pressure [standard triple grouser shoe width]		kPa{kg/cm²}	77.42 {0.79} [600 mm]	63.7 {0.65} [700 mm]
Dimensions	Overall length (for transport)		mm	11,835	11,835
	Overall width		mm	3,340	3,340
	Overall width of track		mm	3,340	3,340
	Overall height (for transport)		mm	3,635	3,635
	Overall height to top of cab		mm	3,265	3,265
	Ground clearance of counterweight		mm	1,320	1,320
	Min. ground clearance		mm	554	554
	Tail swing radius		mm	3,500	3,500
	Min. swing radius of work equipment		mm	4,770	4,770
	Height of work equipment at min. swing radius		mm	9,200	9,200
	Length of track on ground		mm	4,020	4,350
	Track gauge		mm	2,740	2,740
	Height of machine cab		mm	2,715	2,715

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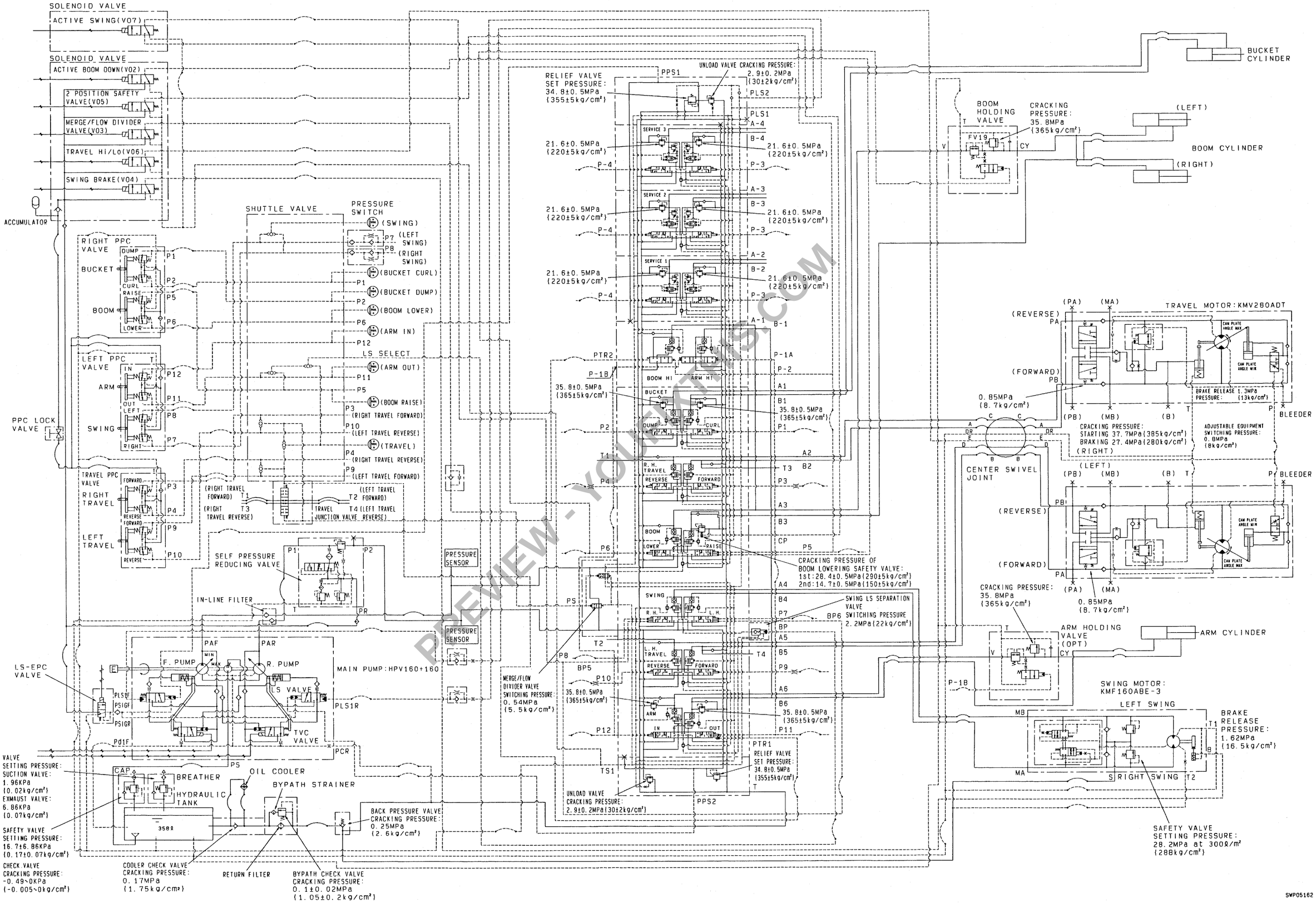
ELECTRIC CIRCUIT DIAGRAM (2/3)



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HYDRAULIC CIRCUIT DIAGRAM



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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.

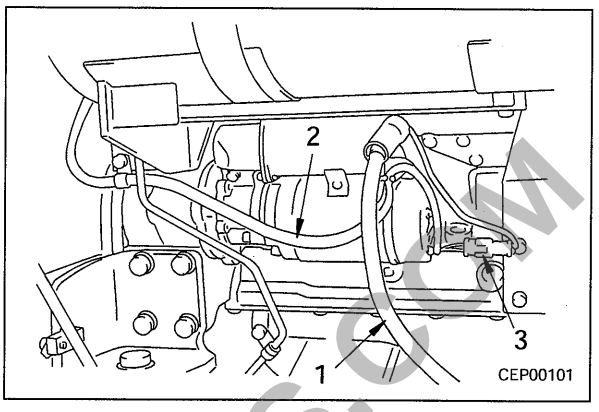
1. When carrying out troubleshooting, do not hurry to disassemble the components.
   If components are disassembled immediately any failure occurs:
   - Parts that have no connection with the failure or other unnecessary parts will be disassembled.
   - It will become impossible to find the cause of 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 thorough 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 occurred apart from the problem that has been reported?
   2) Was there anything strange about the machine before the 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 failure 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 occurred. Then, remove the root cause.

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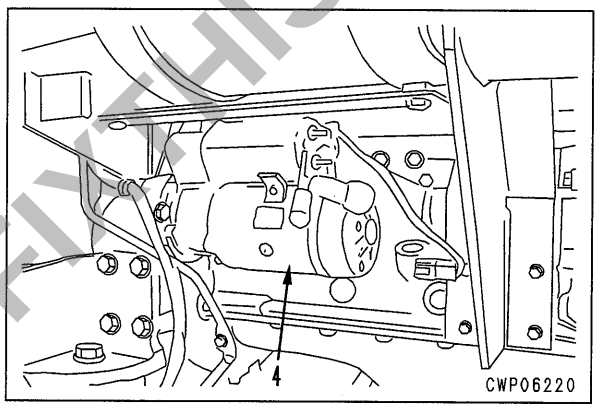
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REMOVAL OF STARTING MOTOR ASSEMBLY



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

1. Remove undercover under engine.
2. Disconnect starting motor wiring (1) and (2), and connector (3) (CN-M2).
3. Remove mounting bolts of starting motor assembly (4), then remove starting motor assembly from undercover.



INSTALLATION OF STARTING MOTOR ASSEMBLY

- Carry out installation in the reverse order to removal.

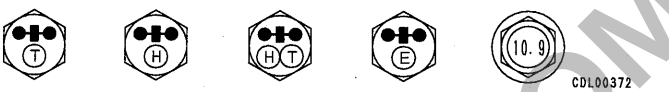
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STANDARD TIGHTENING TORQUE

STANDARD TIGHTENING TORQUE TABLE (WHEN USING TORQUE WRENCH)

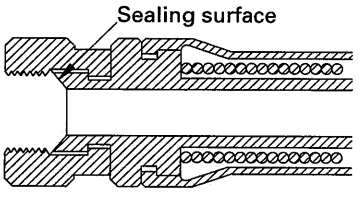
★ In the case of metric nuts and bolts for which there is no special instruction, tighten to the torque given in the table below.

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.



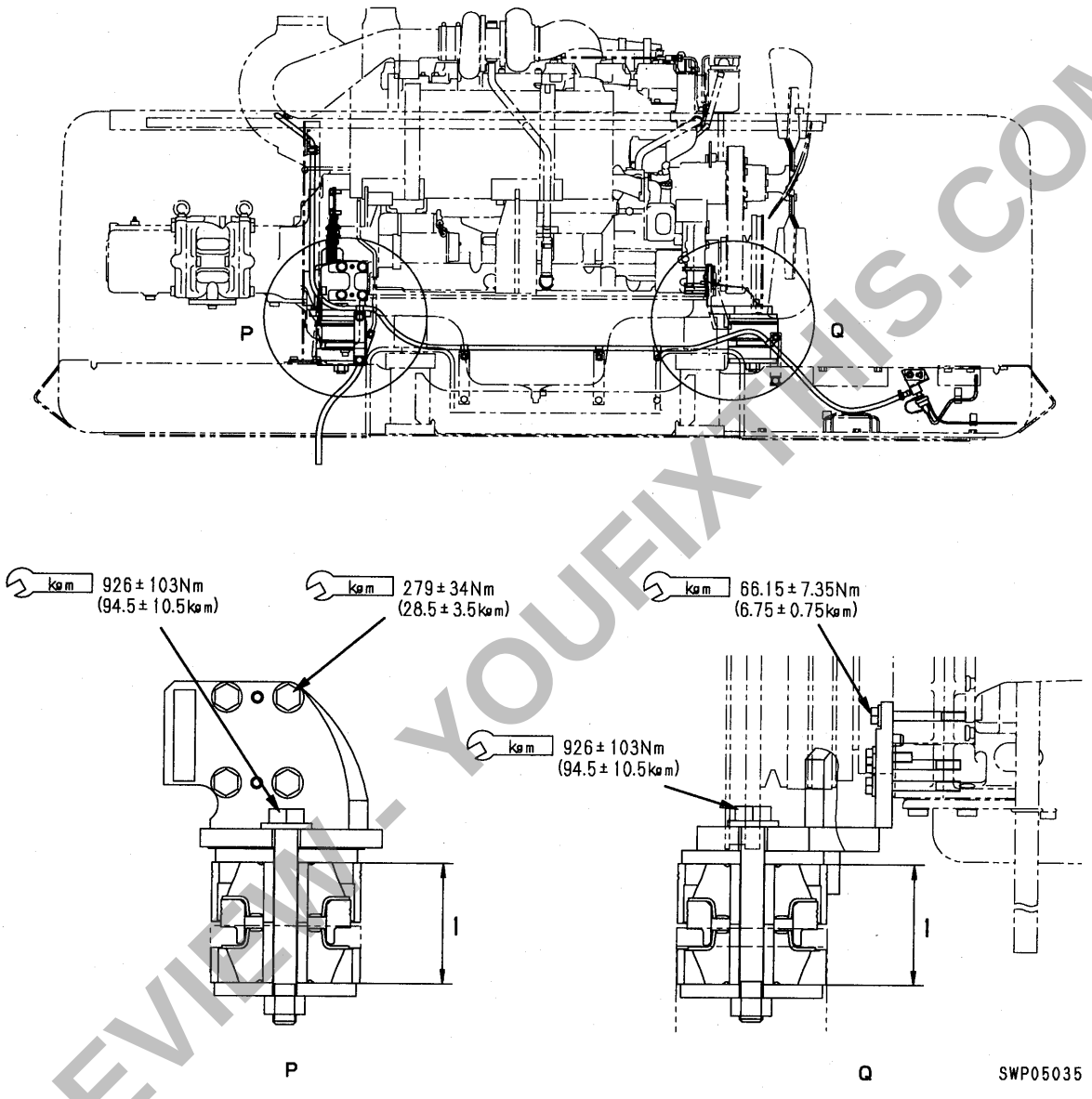
SAD00483

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

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ENGINE MOUNT



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Unit: mm

No.	Check item	Criteria		Remedy
		Standard size	Repair limit	
1	Free height of front mount rubber	126	—	Replace

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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

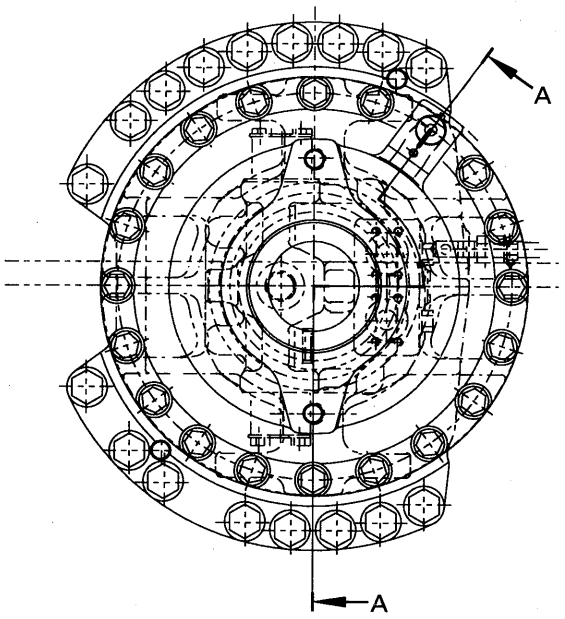
7. Before adding oil or making any repairs, park the machine on hard, level ground, and block the wheels or tracks to prevent the machine from moving.
8. Before starting work, lower blade, ripper, bucket or any other work equipment to the ground. If this is not possible, insert the safety pin or use 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.

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SWING MACHINERY

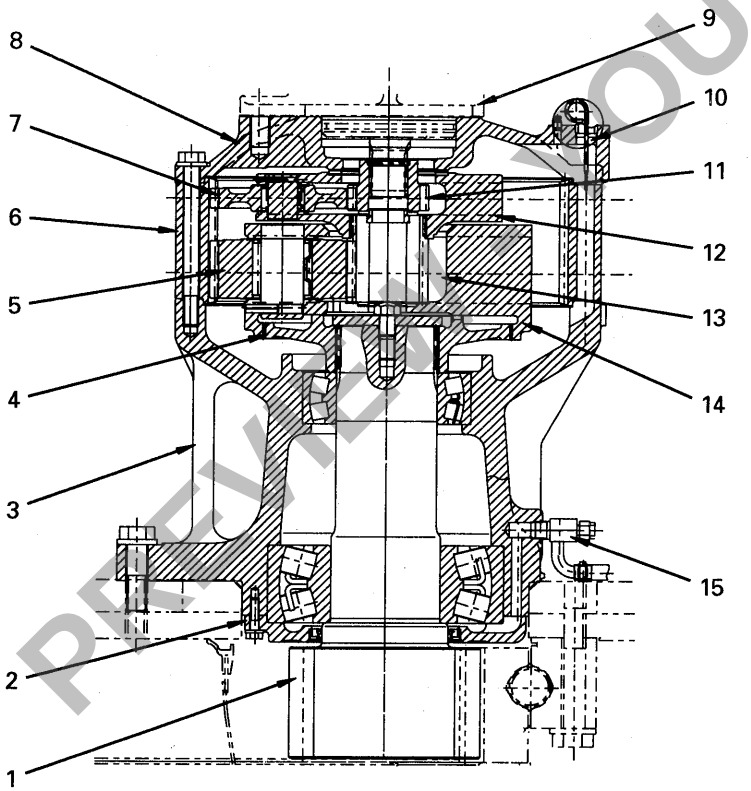


1. Swing pinion (No. of teeth: 13)
2. Cover
3. Case
4. Coupling
5. No. 2 planetary gear (No. of teeth: 35)
6. Ring gear (No. of teeth: 92)
7. No. 1 planetary gear (No. of teeth: 35)
8. Cover
9. Swing motor
10. Oil level gauge
11. No. 1 sun gear (No. of teeth: 19)
12. No. 1 planetary carrier
13. No. 2 sun gear (No. of teeth: 19)
14. No. 2 planetary carrier
15. Drain plug

Specifications

Reduction ratio: $\frac{19+92}{19} \times \frac{19+92}{19}$

$= 34.130$



A–A

SAP00146

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1A. Main relief valve (bucket group)
Set pressure: 34.8 ± 0.5 MPa {355 ± 5 kg/cm²}
1B. Main relief valve (arm group)
Set pressure: 34.8 ± 0.5 MPa {355 ± 5 kg/cm²}
2A. Unload valve (bucket group)
Clutch pressure: 2.9 ± 0.2 MPa {30 ± 2 kg/cm²}
2B. Unload valve (arm group)
Clutch pressure: 2.9 ± 0.2 MPa {30 ± 2 kg/cm²}
3. Pressure compensation valve
4A. Safety-suction valve
Set pressure: 17.2 ± 0.5 MPa {175 ± 5 kg/cm²}
4B. Safety-suction valve
Set pressure: 35.8 ± 0.5 MPa {365 ± 5 kg/cm²}
5. Safety-suction valve (for large flow)
Set pressure: 35.8 ± 0.5 MPa {365 ± 5 kg/cm²}
6. Safety-suction valve (2-stage)
Set pressure:
1-stage: 28.4 ± 0.5 MPa {290 ± 5 kg/cm²}
2-stage: 14.7 ± 0.5 MPa {150 ± 5 kg/cm²}
7. Bucket spool
8. LS shuttle valve
9. R.H. travel spool
10. Suction valve
11. Boom Lo spool
12. Check valve (for boom regeneration circuit)
13. Swing spool
14. L.H. travel spool
15. Arm Lo spool
16. Check valve (for arm regeneration circuit)
17. Boom Hi spool
18. Arm Hi spool
19. LS select valve
20. Bottom dump spool
21. Merge/flow divider valve

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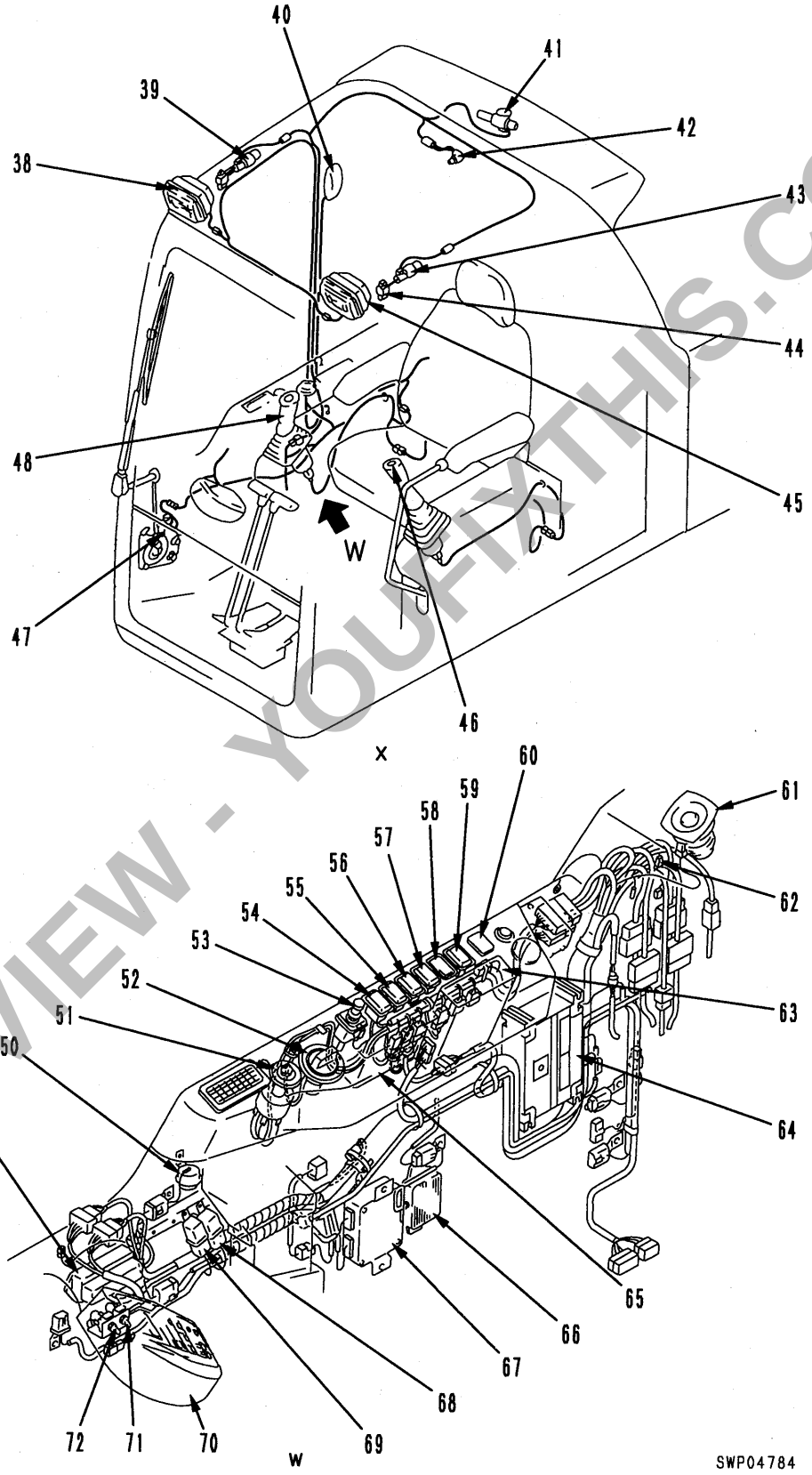
Operation (When pump flow divided (pump pressure: 19.6 MPa {200 kg/cm²} or above), travel + boom RAISE operated simultaneously)

- When the travel and boom RAISE are operated simultaneously (such as when raising the boom before traveling up a steep slope), if the pump pressure rises to 19.6 MPa {200 kg/cm²}, the merge/flow divider valve pilot is turned ON and the pump flow is divided.
- In addition, the boom Hi spool does not move because of the travel **PPC** pressure. The flow of oil to the boom at this point is restricted, so the travel pressure is maintained and it is possible to carry out compound operations easily.

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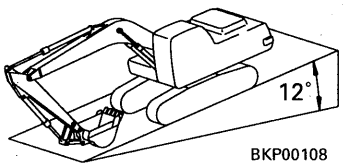
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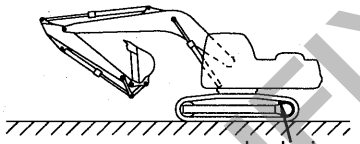
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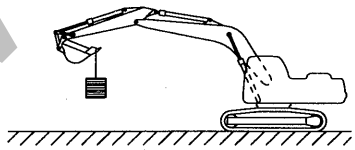


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<table>
<tr><td colspan="3">Applicable model</td><td colspan="2">PC400, 450-6</td><td colspan="3"></td></tr>
<tr><td>Category</td><td colspan="2">Item</td><td>Measurement conditions</td><td>Unit</td><td>Standard value for new machine</td><td colspan="2">Service limit value</td></tr>
<tr><td rowspan="2">Travel</td><td colspan="2">Hydraulic drift of travel</td><td>

BKP00108
· Engine stopped
· Hydraulic oil temperature: 45 – 55°C
· Stop machine on 12° slope with sprocket facing straight up the slope.
· Measure the distance that machine moves in 5 minutes.</td><td>mm</td><td>0</td><td colspan="2">0</td></tr>
<tr><td colspan="2">Leakage of travel motor</td><td>

BKP00109
· Engine at full throttle
· Hydraulic oil temperature: 45 – 55°C
· Lock shoes and relieve travel circuit.</td><td>ℓ/min</td><td>Max. 20</td><td colspan="2">Max. 40</td></tr>
<tr><td rowspan="4">Work equipment</td><td rowspan="4">Hydraulic drift of work equipment</td><td>Total work equipment (hydraulic drift at tip of bucket teeth)</td><td rowspan="4">Posture for measurement

BKP00110
· Place in above posture and measure extension or retraction of each cylinder and downward movement at tip of bucket teeth.
· Bucket: Rated load 21.2 kN {2160 kg}
· Flat ground
· Levers at neutral
· Engine stopped
· Hydraulic oil temperature: 45 – 55°C
· Start measuring immediately after setting.
· Measure hydraulic drift every 5 minutes, and judge from results for 15 minutes.</td><td rowspan="4">mm</td><td>PC400</td><td>PC450</td><td>PC400</td><td>PC450</td></tr>
<tr><td>Boom cylinder (amount of retraction of cylinder)</td><td>Max. 600</td><td>Max. 700</td><td>Max. 900</td><td>Max. 1,050</td></tr>
<tr><td>Arm cylinder (amount of extension of cylinder)</td><td>Max. 25</td><td>Max. 29</td><td>Max. 38</td><td>Max. 44</td></tr>
<tr><td>Bucket cylinder (amount of retraction of cylinder)</td><td>Max. 85</td><td>Max. 100</td><td>Max. 128</td><td>Max. 150</td></tr>
<tr><td></td><td>Max. 30</td><td>Max. 35</td><td>Max. 45</td><td>Max. 53</td></tr>
</table>

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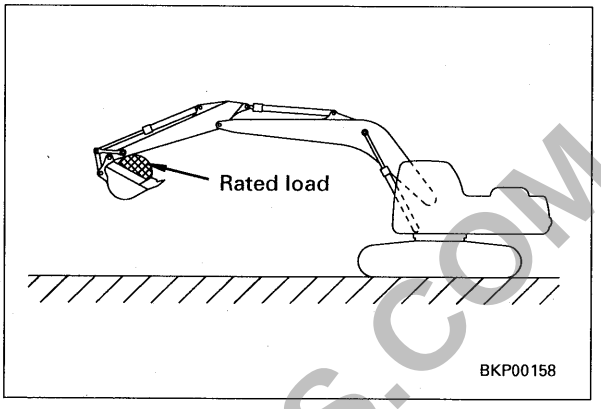
TESTING LOCATIONS CAUSING HYDRAULIC DRIFT OF WORK EQUIPMENT

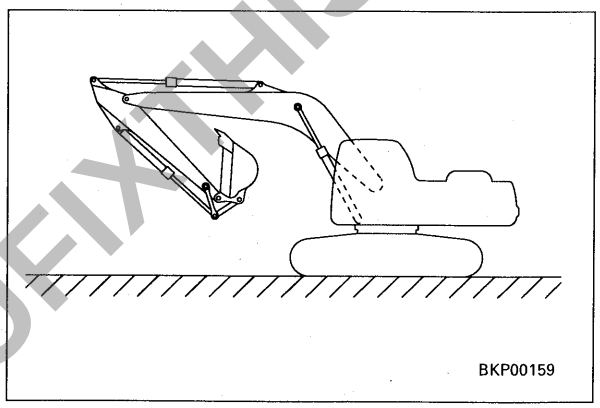
★ If there is any hydraulic drift in the work equipment (cylinders), check as follows to determine if the cause is in the cylinder packing or in the control valve.

1. **Checking for defective cylinder packing**
   1) Checking boom and bucket cylinders
      i) Set in the same posture as when measuring hydraulic drift, and stop the engine.
      ii) Operate the boom control lever to RAISE or the bucket control lever to CURL.
         • If the lowering speed increases, the packing is defective.
         • If there is no change, the boom lock valve (boom) or the control valve (bucket) is defective.
   2) Checking arm cylinder
      i) Operate the arm cylinder to move the arm in fully, then stop the engine.
      ii) Operate the control lever to arm IN.
         • If the lowering speed increases, the packing is defective.
         • If there is no change, the control valve is defective.
         ★ If the pressure in the accumulator has dropped, run the engine for approx. 10 seconds to charge the accumulator again before operating.

[Reference] If the cause of the hydraulic drift is in the packing, and the above operation is carried out, the downward movement becomes faster for the following reasons.

1) If the work equipment is set to the above posture (holding pressure applied to the bottom end), the oil at the bottom end leaks to the head end. However, the volume at the head end is smaller than the volume at the bottom end by the volume of the rod, so the internal pressure at the head end increases because of the oil flowing in from the bottom end.
2) When the internal pressure at the head end increases, the pressure at the bottom end also rises in proportion to this. The balance is maintained at a certain pressure (this differs according to the amount of leakage) by repeating this procedure.
3) When the pressure is balanced, the downward movement becomes slower. If the lever is then operated according to the procedure given above, the circuit at the head end is opened to the drain circuit (the bottom end is closed by the check valve), so the oil at the head end flows to the drain circuit and the downward movement becomes faster.





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4) Check kerosene mode input signal
   i) Set to the monitoring mode, and display monitoring code 22.
   ii) Connect the CN-M36 connector and check that bit (5) lights up.
5) Check knob switch input signal .
   i) Set to the monitoring mode, and display monitoring code 22.
   ii) Turn the knob switch ON and check that bit (6) lights up.

2. Check output signals
1) Check LS-EPC solenoid output current
   i) Set to the monitoring mode, and display monitoring code 15.
   ii) Run the engine at high idling with all the levers at neutral and in the G/O or H/O mode, and measure the current.
   ★ All levers at neutral: 900 ± 80 mA
   Engine at high idling, any lever operated (other than travel): 0 A
2) No. 2 throttle signal
   i) Set to the monitoring mode, and display monitoring code 16.
   ii) Use the procedure in Item 2 for checking the monitor panel output signal, and measure the engine speed.
3) Checking ON ↔ OFF solenoid condition
   i) Set to the monitoring mode, and display monitoring code 23.
   ii) Refer to Table 3 and check that the applicable bit lights up.

Table 3 Types of solenoid and conditions for actuation

Name of solenoid	Actuation condition	Bit that lights up
Active (boom)	Active mode switch OFF	(2)
Swing holding brake	Swing or work equipment lever operated	(3)
Pump merge/divider	Travel operated independently	(4)
Travel speed selector	Travel speed selector switch Hi or Mi	(6)
Active (swing)	Active mode switch ON + swing + boom raise lever operated simultaneously	(5)

★ Operate the lever slightly not enough to move the machine.

4) Check TVC solenoid output current
   i) Set to the monitoring mode, and display monitoring codes 13 and 14.
   • Code 13 is for the front pump and code 14 is for the rear pump.
   ii) With the starting switch kept at the ON position (G/O mode), measure the current when the fuel control dial is turned to the MAX position.
   • Current with starting switch ON (G/O mode) and fuel control dial at MAX
   : 520 ± 80 (mA)

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S-10 Fuel consumption is excessive

General causes why fuel consumption is excessive

- Leakage of fuel
- Improper condition of fuel injection
- Excessive injection of fuel

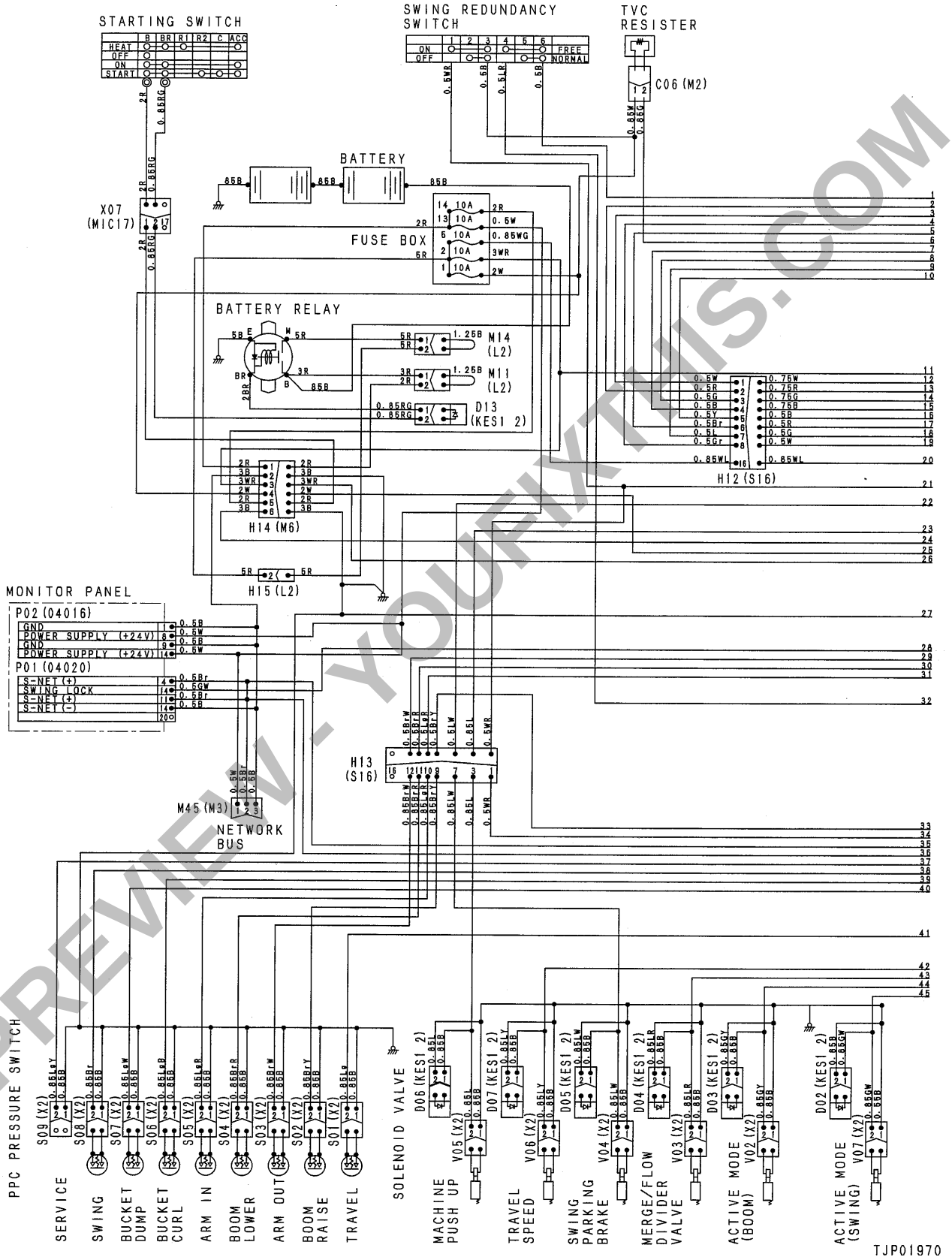
Legend
◯ : Possible causes (judging from Questions and check items)
◎ : Most probable causes (judging from Questions and Check items)
△ : Possible causes due to length of use (used for a long period)
● : Items to confirm the cause.

			Causes: Defective injection pump (excessive injection)	Defective nozzle holder spray	Defective injection pump plunger	Defective fuel injection timing	External leakage from fuel piping, fuel filter	Leakage of fuel inside head cover	Defective oil seal inside feed pump (piston)	Defective adjustment of fuel control linkage
Questions	Confirm recent repair history									
	Degree of use of machine	Operated for long period		△	△				△	
	Condition of fuel consumption	More than for other machines of same model	◎			◯				
		Gradually increased		◯	◯					
		Suddenly increased					◯	◯		
Check items	Exhaust smoke color	Black	◎	◯		◯				◯
		White						◯		
	Seal on injection pump has come off		◎							
	There is irregular combustion			◎						
	When exhaust manifold is touched immediately after starting engine, temperature of some cylinders is low			◎	◯					
	Match mark on injection pump is misaligned					◎				
	There is external leakage of fuel from engine						◎			
	Engine oil level rises and smells of diesel fuel		◯					◎	◎	
	Engine low idling speed is high		◯							◎
Troubleshooting	Injection pump measurement shows that injection amount is excessive		●							
	Speed does not change when operation of certain cylinders is stopped			●						
	When control rack is pushed, it is found to be heavy, or does not return				●					
	When check is made using delivery method, injection timing is found to be incorrect					●				
	Remove head cover and inspect directly							●		
	Remove feed pump and inspect directly								●	
	When engine speed is measured, low idling speed is found to be high									●
Remedy			Adjust	Replace	Replace	Adjust	Correct	Correct	Correct	Adjust

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ELECTRICAL CIRCUIT DIAGRAM FOR F MODE

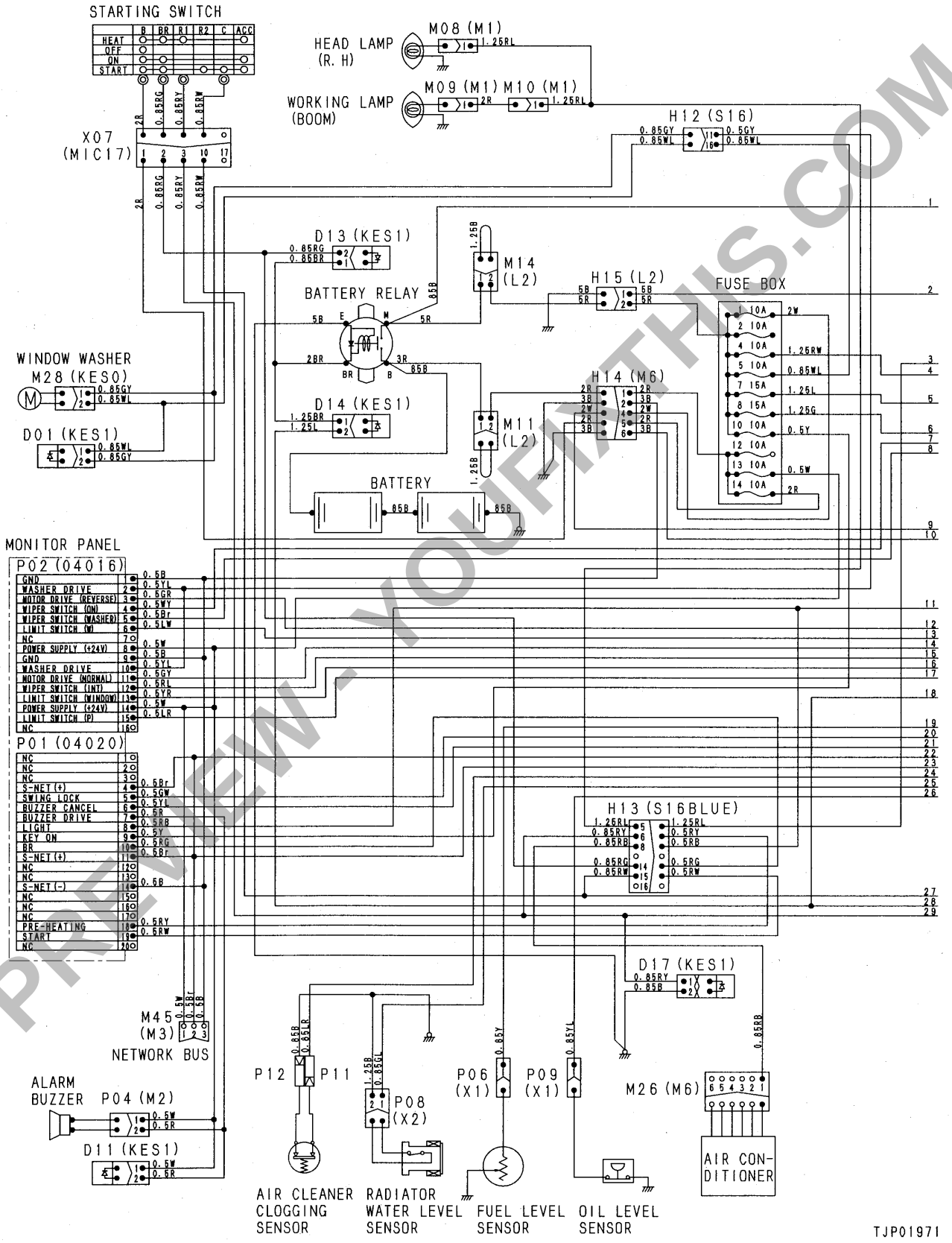


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- **WITHOUT POWER WINDOW**

PC400-6 Serial No.: 32250 and up
PC450-6 Serial No.: 12144 and up



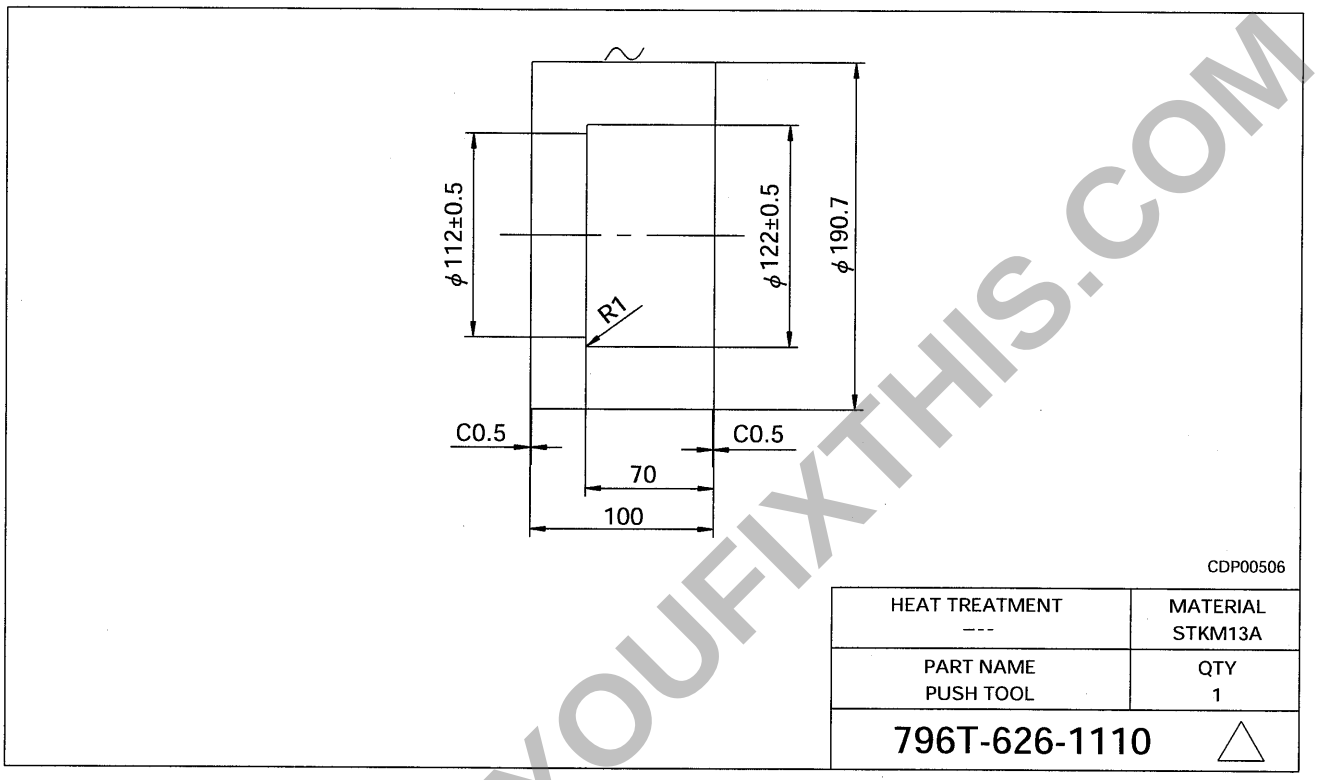
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SKETCHES OF SPECIAL TOOLS

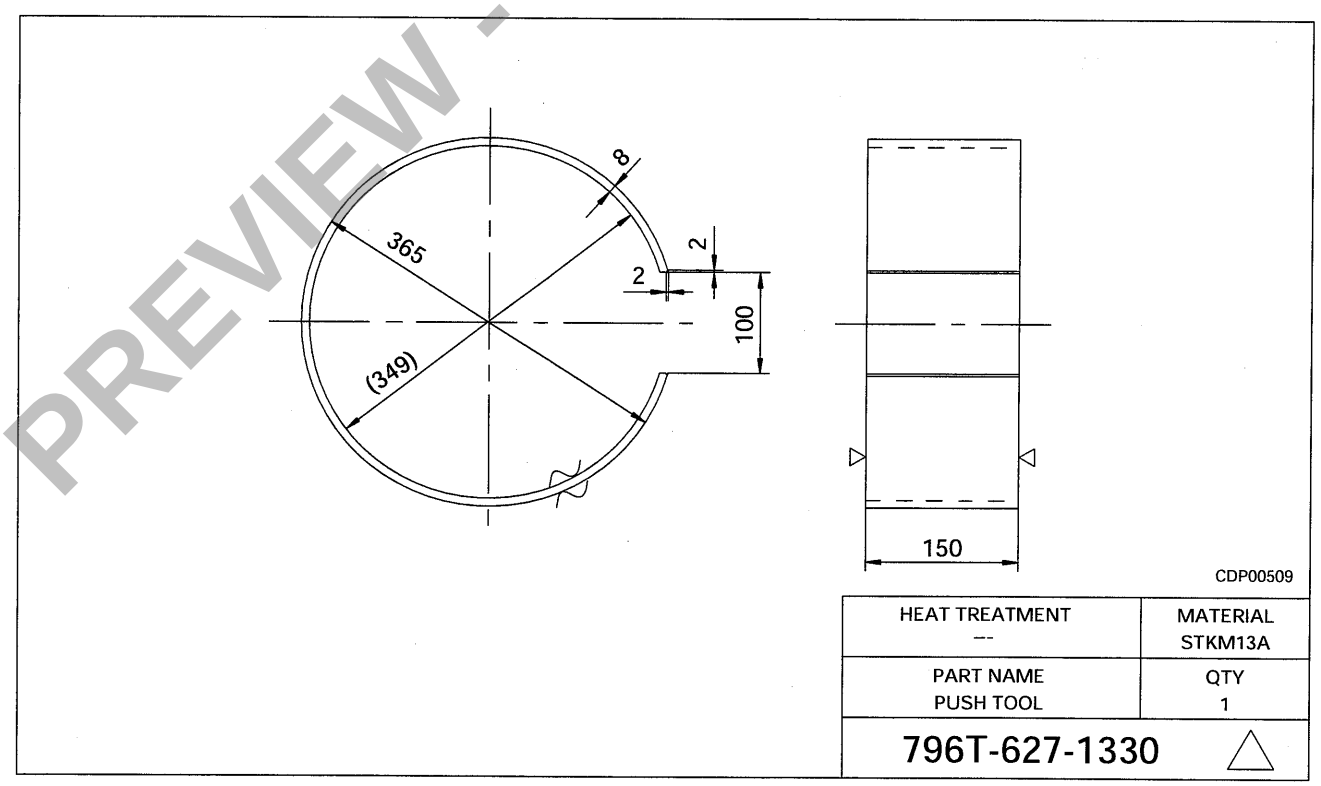
Note: Komatsu cannot accept any responsibility for special tools manufactured according to these sketches.

F Push tool



HEAT TREATMENT ---	MATERIAL STKM13A
PART NAME PUSH TOOL	QTY 1
796T-626-1110 △	

J2-1 Push tool

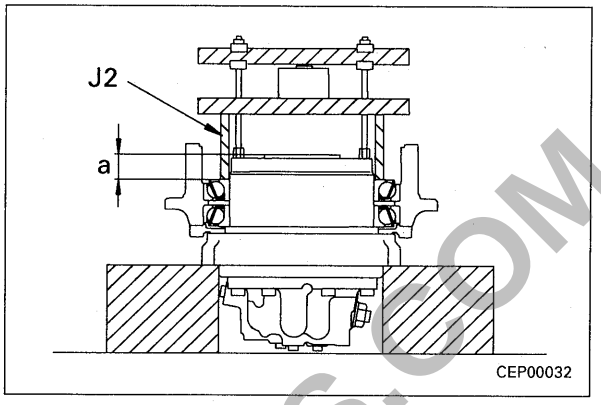


HEAT TREATMENT --	MATERIAL STKM13A
PART NAME PUSH TOOL	QTY 1
796T-627-1330 △	

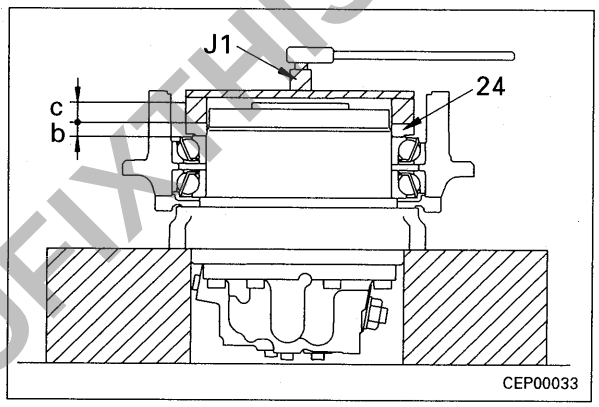
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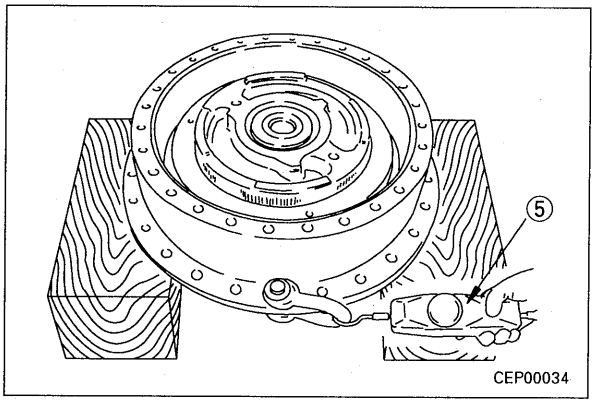
ii) Measure dimension **a** in the condition in Step i) above.



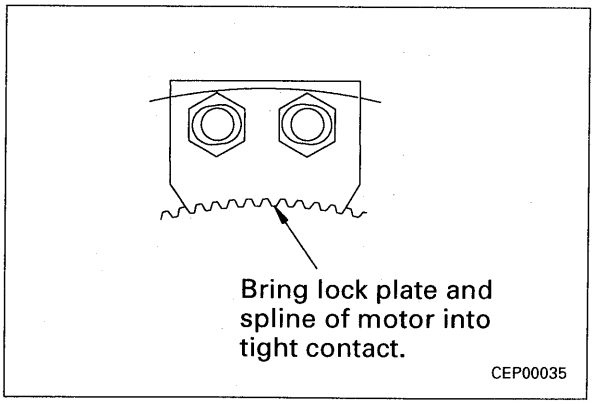
iii) Measure thickness **b** of nut (24) as an individual part.
iv) Calculate **a – b = c**.
v) Using tool **J1**, tighten nut (24) until **c** portion dimension is as follows.
c portion dimension = **c** $^{0}_{-0.1}$ mm.



vi) Using push-pull scale ⑤, measure tangential force in direction of rotation of hub in relation to motor case.
★ Tangential force: Max. 667 N (68 kg)
★ The tangential force is the maximum force when starting rotation.

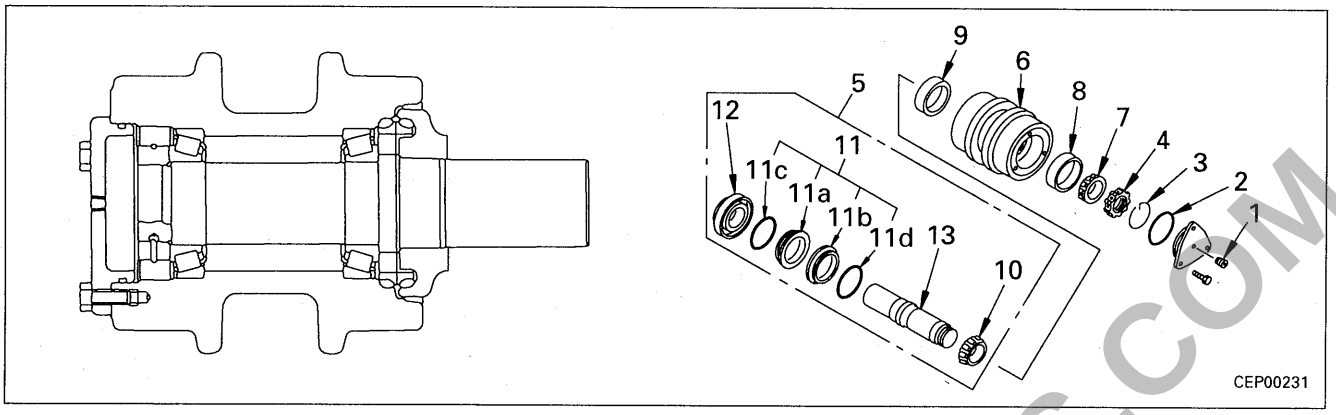


vii) Install lock plate (23).
★ Install the lock plate as shown in the diagram on the right.
Thread of mounting bolt:
Thread tightener (LT-2)
kgm Mounting bolt:
66.2 ± 7.4 Nm {6.75 ± 0.75 kgm}



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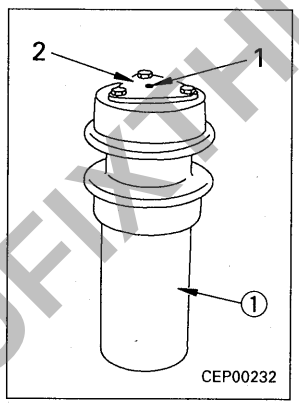
DISASSEMBLY OF CARRIER ROLLER ASSEMBLY

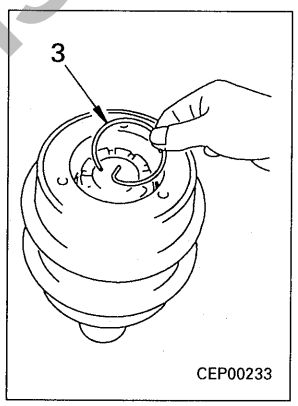


1. Remove plug (1) and drain oil.

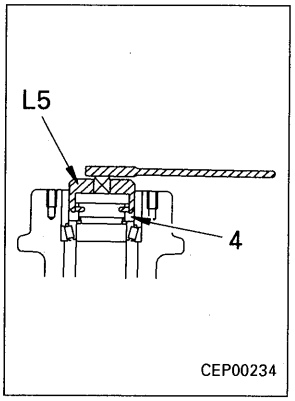
   Carrier roller assembly: **450 – 500 cc**

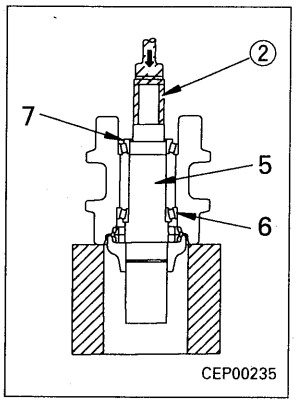
2. Set carrier roller assembly on stand ①.
3. Remove cover (2).
4. Remove ring (3).



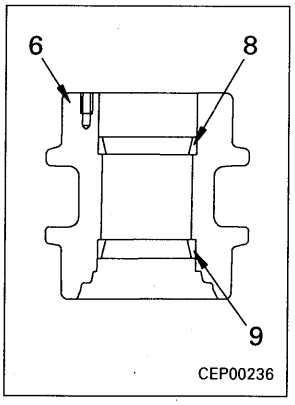


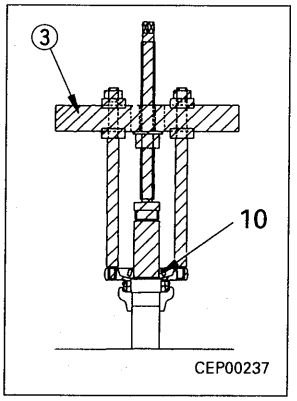
5. Using tool **L5**, remove nut (4).
6. Using push tool ②, pull out shaft assembly (5) from roller (6) with press, then remove inner race (7).





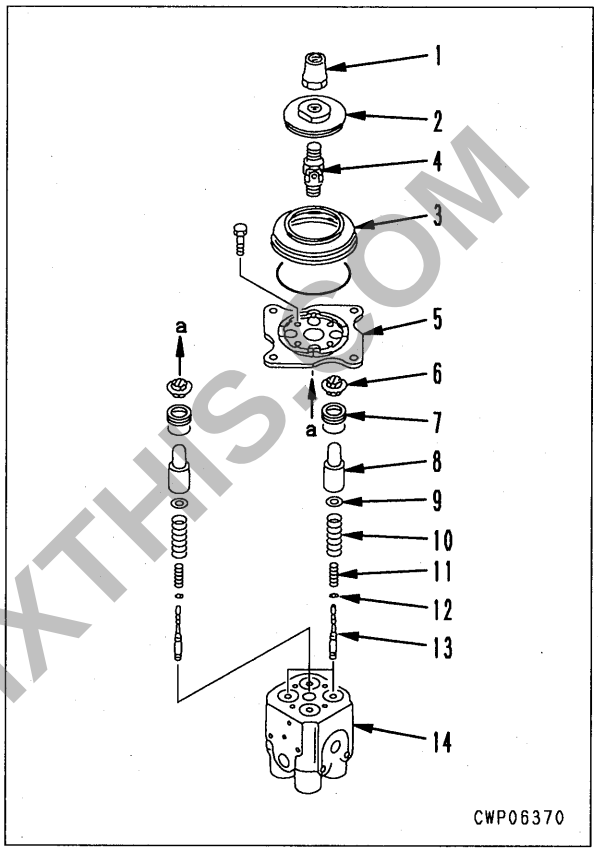
7. Remove outer races (8) and (9) from roller (6).
8. **Disassembly of shaft assembly.**
   1) Using puller ③, remove inner race (10).





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DISASSEMBLY OF WORK EQUIPMENT PPC VALVE ASSEMBLY



1. Remove nut (1), then remove disc (2) and boot (3).

2. Remove bolts, then remove plate (5).
   ★ Do not remove joint (4) unless it is to be replaced.

3. Remove seal (6) and collar (7).

4. Pull out piston (8), and remove retainer (9), springs (10) and (11), and shim (12).
   ★ Spring (10) consists of two springs each of two types with different installed loads, so check the mounting position (hydraulic port) and mark with tags to prevent mistakes when installing.

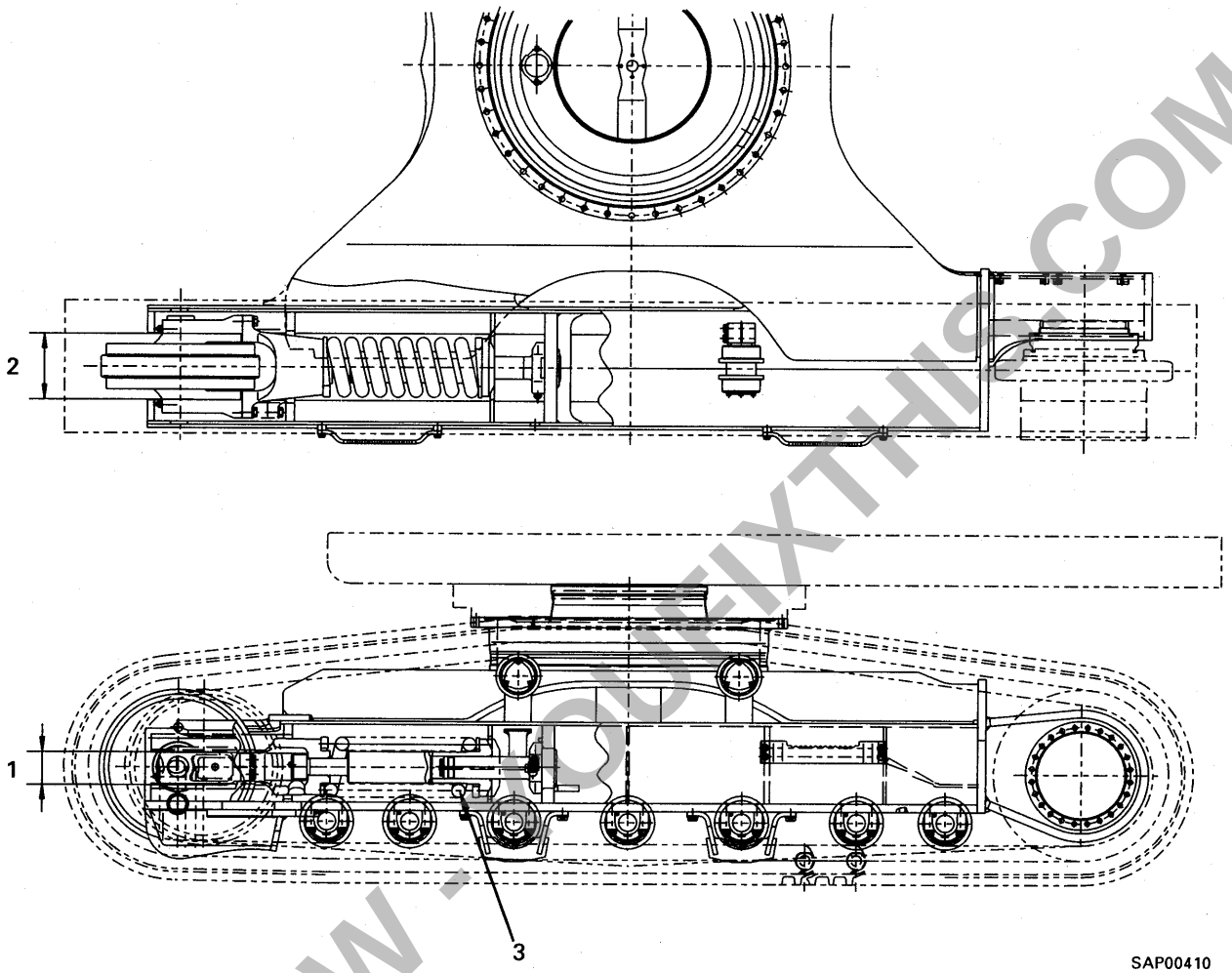
5. Pull out valve (13) from body (14).

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TRACK FRAME AND RECOIL SPRING

★ The diagram shows the PC400-6.



SAP00410

Unit: mm

No.	Check item	Criteria				Remedy
			Standard size	Tolerance	Repair limit	
1	Top-to-bottom width of idler guide	Track frame	148	+2 −1	152	Rebuild or replace
		Idler support	145	±0.5	143	
2	Left-to-right width of idler guide	Track frame	302	+3 −1	307	
		Idler support	297	—	295	
3	Recoil spring	Standard size			Repair limit	Replace
		Free length x OD	Installed length	Installed load	Free length	Installed load
		857 x 270	707	239 kN (24,375 kg)	—	191 kN (19,500 kg)

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