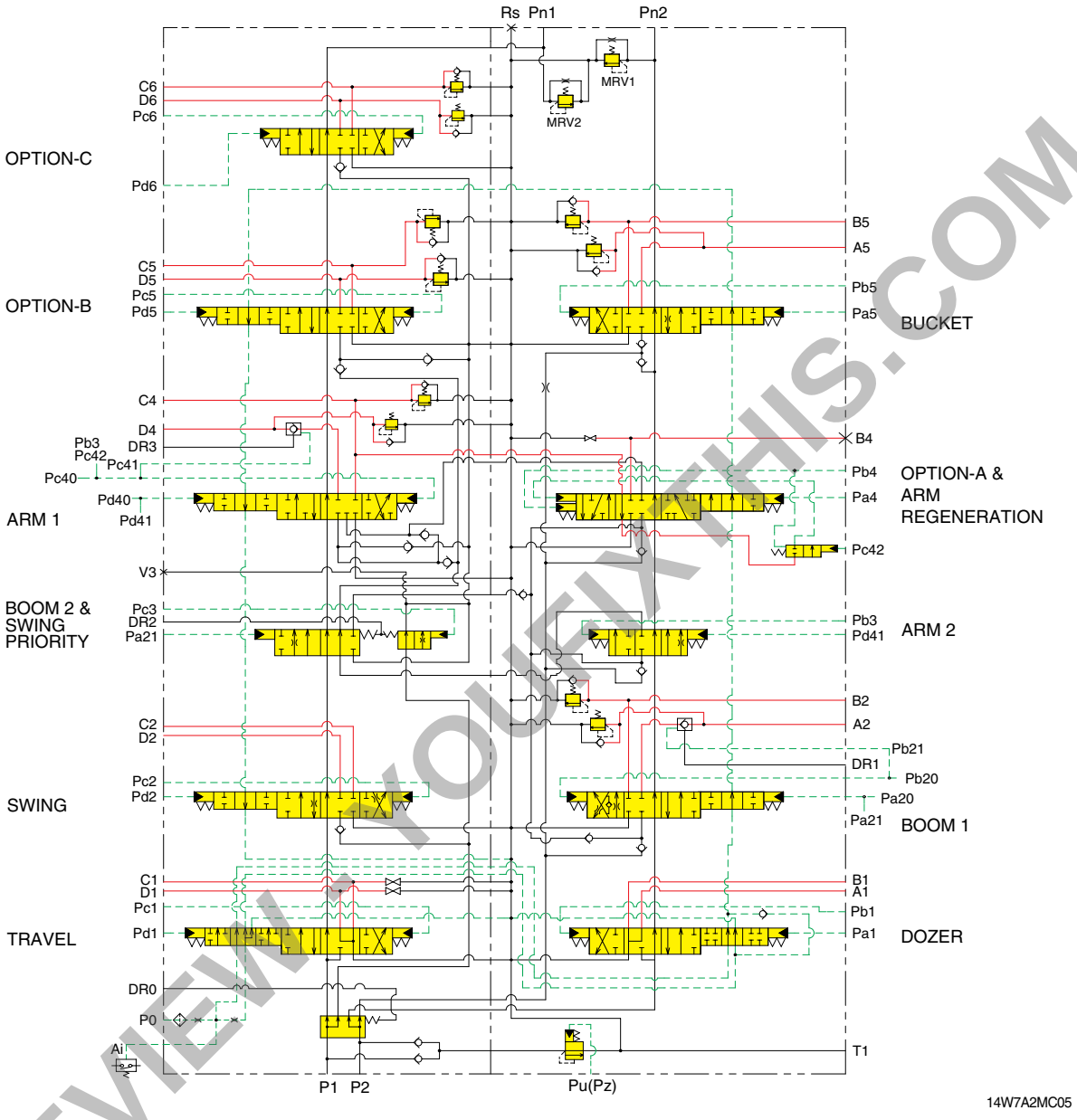
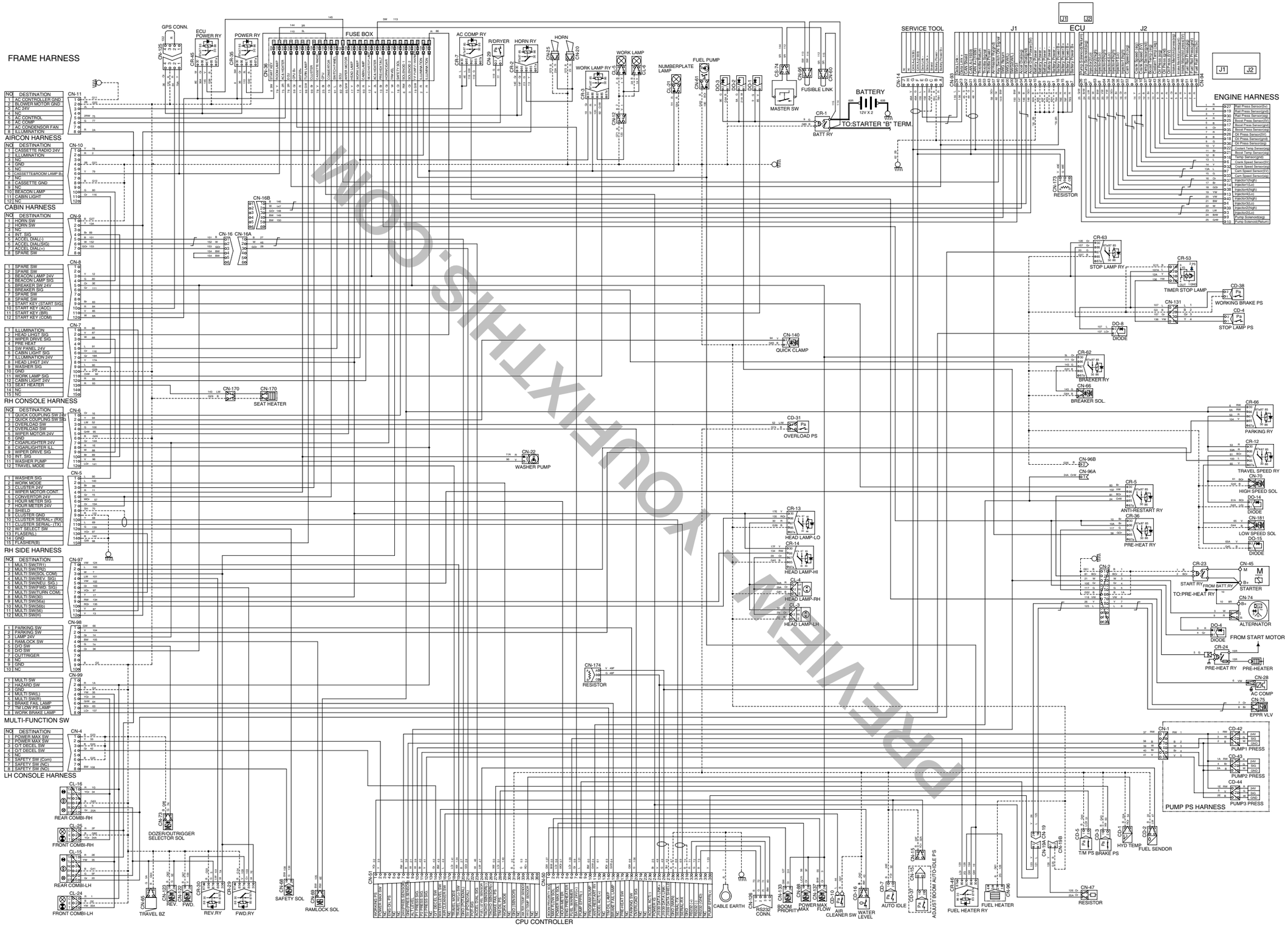
2. HYDRAULIC CIRCUIT



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GROUP 2 ELECTRICAL CIRCUIT (1/2)

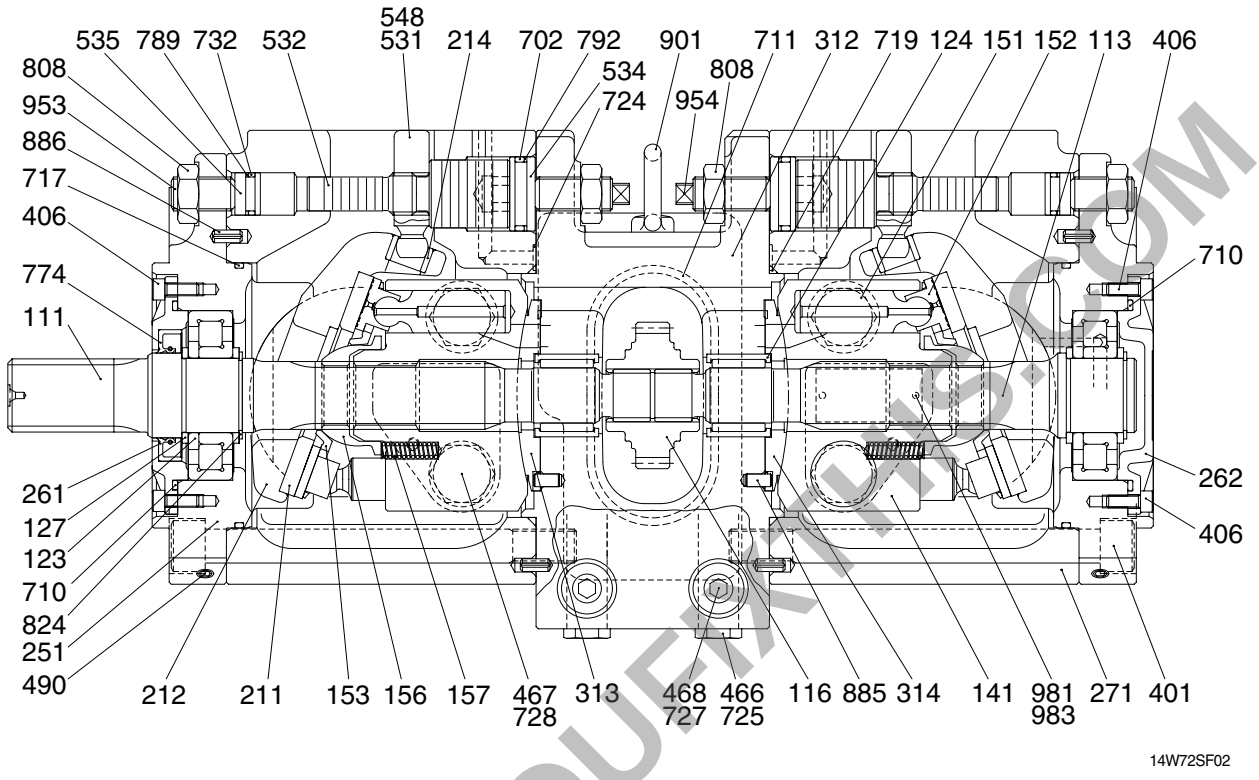


14W7A4CI01

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1) MAIN PUMP(1/2)

The main pump consists of two piston pumps(front & rear) and valve block.



111	Drive shaft (F)	312	Valve block	724	O-ring
113	Drive shaft (R)	313	Valve plate (R)	725	O-ring
116	Gear	314	Valve plate (L)	727	O-ring
123	Roller bearing	401	Hexagon socket bolt	728	O-ring
124	Needle bearing	406	Hexagon socket bolt	732	O-ring
127	Bearing spacer	466	VP Plug	774	Oil seal
141	Cylinder block	467	VP Plug	789	Back up ring
151	Piston	468	VP Plug	792	Back up ring
152	Shoe	490	Plug	808	Hexagon head nut
153	Push-plate	531	Tilting pin	824	Snap ring
156	Bushing	532	Servo piston	885	Pin
157	Cylinder spring	534	Stopper (L)	886	Spring pin
211	Shoe plate	535	Stopper (S)	901	Eye bolt
212	Swash plate	548	Pin	953	Set screw
214	Bushing	702	O-ring	954	Set screw
251	Support	710	O-ring	981	Plate
261	Seal cover (F)	711	O-ring	983	Pin
262	Seal cover (R)	717	O-ring		
271	Pump casing	719	O-ring		

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GROUP 2 TIGHTENING TORQUE

1. MAJOR COMPONENTS

No.	Descriptions		Bolt size	Torque	
				kgf · m	lbf · ft
1	Engine	Engine mounting bolt (Bracket-Frame, FR)	M16 × 2.0	30±3.5	217±25.3
2		Engine mounting bolt (Bracket-Frame, RR)	M20 × 2.5	55±3.5	398±25.3
3		Engine mounting bolt (Engine-Bracket)	M12 × 1.75	10.0±1.0	72.3±7.2
4		Radiator mounting bolt, nut	M12 × 1.75	12.2±1.3	88.2±9.4
5		Coupling mounting bolt	M16 × 2.0	22.0±1.0	159±7.2
6	Hydraulic system	Main pump housing mounting bolt	M10 × 1.5	6.9±1.4	49.9±10.1
7		Main pump mounting bolt	M16 × 2.0	22.0±1.0	159±7.2
8		Main control valve mounting bolt	M12 × 1.75	12.2±1.3	88.2±9.4
9		Travel motor mounting bolt	M16 × 2.0	29.7±4.5	215±32.5
10		Fuel tank mounting bolt	M20 × 2.5	45±5.1	325±36.9
11		Hydraulic oil tank mounting bolt	M20 × 2.5	45±5.1	325±36.9
12		Turning joint mounting bolt, nut	M12 × 1.75	12.2±1.3	88.2±9.4
13	Power train system	Swing motor mounting bolt	M16 × 2.0	29.6±3.2	215±23.1
14		Swing bearing upper mounting bolt	M18 × 2.5	41.3±6.2	299±44.8
15		Swing bearing lower mounting bolt	M16 × 1.5	31.3±3.2	226±23.1
16		Real axle mounting bolt, nut	M20 × 2.5	58±6.3	419±45.5
17		Transmission bracket mounting bolt	M20 × 2.5	44±2.0	318±14.4
18		Transmission mounting bolt	M20 × 2.5	29.6±3.2	214±23.1
19		Oscillating cylinder mounting bolt	M22 × 1.5	83.2±9.2	602±66.5
20		Oscillating cylinder support bolt	M12 × 1.75	12.3±2.5	88.9±18.1
21		Wheel nut	M22 × 1.5	62±3.0	448±21.7
22		Front drive shaft mounting bolt, nut	M10 × 1.0	5.9±0.6	42.7±4.3
23		Rear drive shaft mounting bolt, nut	M10 × 1.0	5.9±0.6	42.7±4.3
24	Others	Counterweight mounting bolt	M27 × 3.0	140±15	1013±108
25		Cab mounting bolt, nut	M12 × 1.75	12.8±3.0	92.6±21.7
26		Operator's seat mounting bolt	M 8 × 1.25	4.05±0.8	29.3±5.8

※ **For tightening torque of engine and hydraulic components, see each components disassembly and assembly.**

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3. ERROR CODES TABLE

Error code No.	Description
1	Short circuit in accel actuator system
2	Potentiometer circuit is shorted to Vcc(5V) or battery +
3	Short circuit in pump EPPR valve system
4	Short circuit in boom down EPPR valve system
5	Short circuit in travel speed solenoid system
6	Short circuit in power boost solenoid system
7	Short circuit in max flow solenoid system
10	Short circuit in hour-meter system
11	Accel dial circuit is shorted to Vcc(5V) or battery +
12	P1 pressure sensor circuit is shorted to power supply(24V) line
13	P2 pressure sensor circuit is shorted to power supply(24V) line
14	P3 pressure sensor circuit is shorted to power supply(24) line
15	Boom down pressure circuit is shorted to power supply(24V) line
16	Accel actuator circuit is open or shorted to ground
17	Potentiometer circuit is open or shorted to ground
18	Pump EPPR valve circuit is open or shorted to ground
19	Boom down EPPR valve circuit is open or shorted to ground
20	Travel speed solenoid circuit is open or shorted to ground
21	Power boost solenoid circuit is open or shorted to ground
22	Max flow solenoid circuit is open or shorted to ground
25	Hour-meter circuit is open or shorted to ground
26	Accel dial circuit is open or shorted to ground
27	P1 pressure sensor circuit is open or shorted to ground
28	P2 pressure sensor circuit is open or shorted to ground
29	P3 pressure sensor circuit is open or shorted to ground
30	Boom down pressure sensor circuit is open or shorted to ground
31	Engine preheater circuit is open or shorted to ground
32	Travel alarm buzzer circuit is open or shorted to ground
33	Alternator circuit is open or shorted to ground
34	Controller input voltage is below 18V
35	Controller input voltage is over 38V
36	Communication error with cluster
37	Engine speed sensor circuit is open or shorted to ground
38	Anti-restart relay circuit is open or shorted to ground
39	Accel actuator does not stop at a target position
40	There is more than 500rpm difference between target speed and actual speed

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1. REMOVAL AND INSTALL

1) REMOVAL

(1) Lower the work equipment to the ground and stop the engine.

(2) Operate the control levers and pedals several times to release the remaining pressure in the hydraulic piping

(3) Loosen the breather slowly to release the pressure inside the hydraulic tank.

⚠ **Escaping fluid under pressure can penetrate the skin causing serious injury.**

(4) Loosen the drain plug under the hydraulic tank and drain the oil from the hydraulic tank.

· Hydraulic tank quantity : 124 ℓ (32.7 U.S. gal)

(5) Remove socket bolts (13) and disconnect hoses (1,2).

(6) Disconnect pilot line hoses (5, 6, 7, 8, 9, 10, 11).

(7) Remove socket bolts (14) and disconnect pump suction pipe (4).

※ When pump suction tube is disconnected, the oil inside the piping will flow out, so catch it in oil pan.

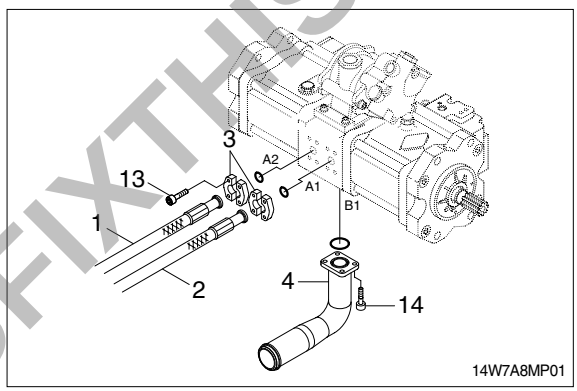
(8) Sling the pump assembly and remove the pump mounting bolts.

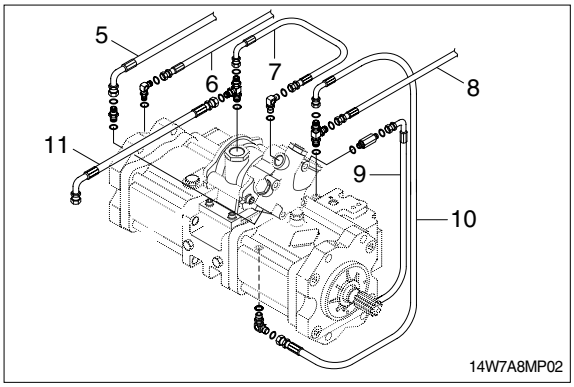
· Weight : 91kg (200lb)

※ Pull out the pump assembly from housing.

When removing the pump assembly, check that all the hoses have been disconnected.







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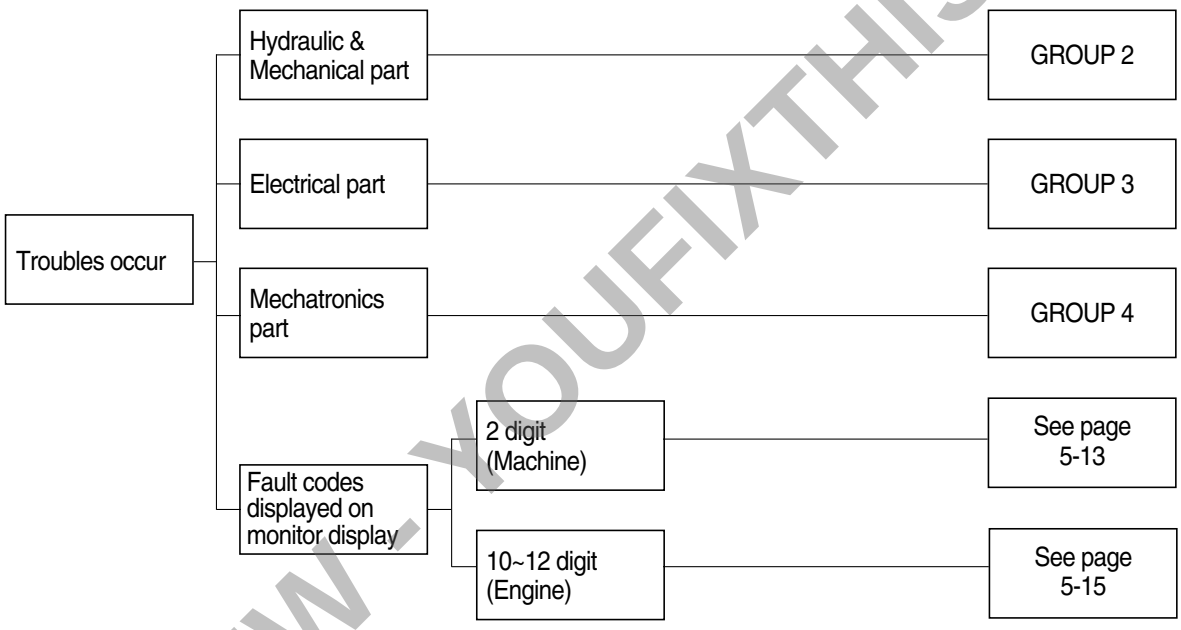
SECTION 6 TROUBLESHOOTING

GROUP 1 BEFORE TROUBLESHOOTING

1. INTRODUCTION

When a trouble is occurred in the machine, this section will help an operator to maintain the machine with easy.

The trouble of machine is parted Hydraulic & Mechanical system, Electrical system and Mechatronics system. At each system part, an operator can check the machine according to the troubleshooting process diagram.

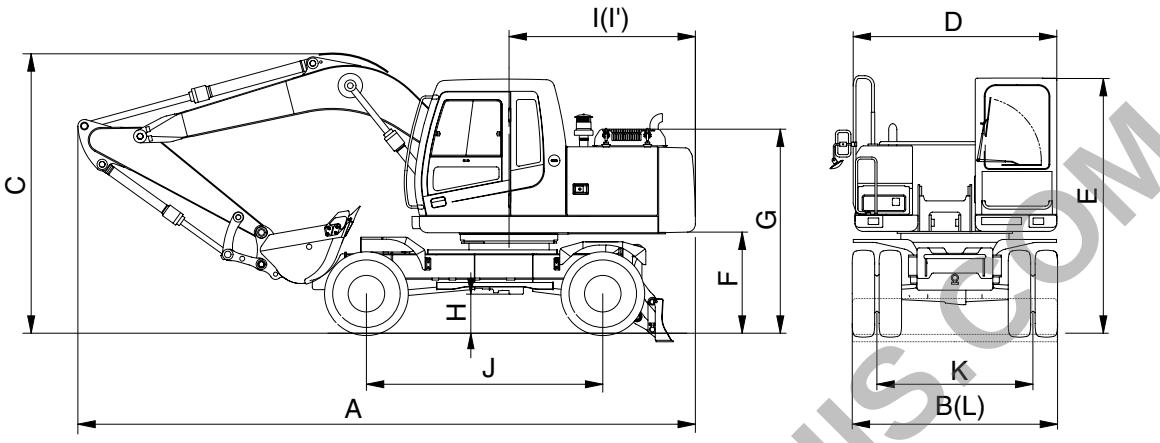


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2. SPECIFICATIONS

1) 4.6m(15' 1") ONE PIECE BOOM, 2.1m(6'11") ARM AND REAR DOZER BLADE



14W7A2SP02

Description		Unit	Specification
Operating weight		kg (lb)	13500 (29760)
Bucket capacity (SAE heaped), standard		m^3 (yd^3)	0.58 (0.76)
Overall length	A	mm (ft-in)	7800 (25' 7")
Overall width	B		2500 (8' 2")
Overall height	C		3500 (11' 6")
Upperstructure width	D		2475 (8' 1")
Cab height	E		3140 (10' 4")
Ground clearance of counterweight	F		1240 (4' 1")
Engine cover height	G		2340 (7' 8")
Minimum ground clearance	H		435 (1' 5")
Rear-end distance	I		2290 (7' 6")
Rear-end swing radius	I'		2310 (7' 7")
Wheel base	J		2600 (8' 6")
Tread	K		1929 (6' 4")
Dozer blade width	L		2490 (8' 2")
Travel speed	Low	km/hr (mph)	7.9 (4.9)
	High		30.0 (18.7)
Swing speed		rpm	12.4
Gradeability		Degree (%)	33 (65)

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1. STRUCTURE

This service manual has been prepared as an aid to improve the quality of repairs by giving the serviceman an accurate understanding of the product and by showing him the correct way to perform repairs and make judgements. Make sure you understand the contents of this manual and use it to full effect at every opportunity.
This service manual mainly contains the necessary technical information for operations performed in a service workshop.
For ease of understanding, the manual is divided into the following sections.

SECTION 1 GENERAL
This section explains the safety hints and gives the specification of the machine and major components.

SECTION 2 STRUCTURE AND FUNCTION
This section explains the structure and function of each component. It serves not only to give an understanding of the structure, but also serves as reference material for troubleshooting.

SECTION 3 HYDRAULIC SYSTEM
This section explains the hydraulic circuit, single and combined operation.

SECTION 4 ELECTRICAL SYSTEM
This section explains the electrical circuit, monitoring system and each component. It serves not only to give an understanding electrical system, but also serves as reference material for trouble shooting.

SECTION 5 MECHATRONICS SYSTEM
This section explains the computer aided power optimization system and each component.

SECTION 6 TROUBLESHOOTING
This section explains the troubleshooting charts correlating **problems** to **causes**.

SECTION 7 MAINTENANCE STANDARD
This section gives the judgement standards when inspecting disassembled parts.

SECTION 8 DISASSEMBLY AND ASSEMBLY
This section explains the order to be followed when removing, installing, disassembling or assembling each component, as well as precautions to be taken for these operations.

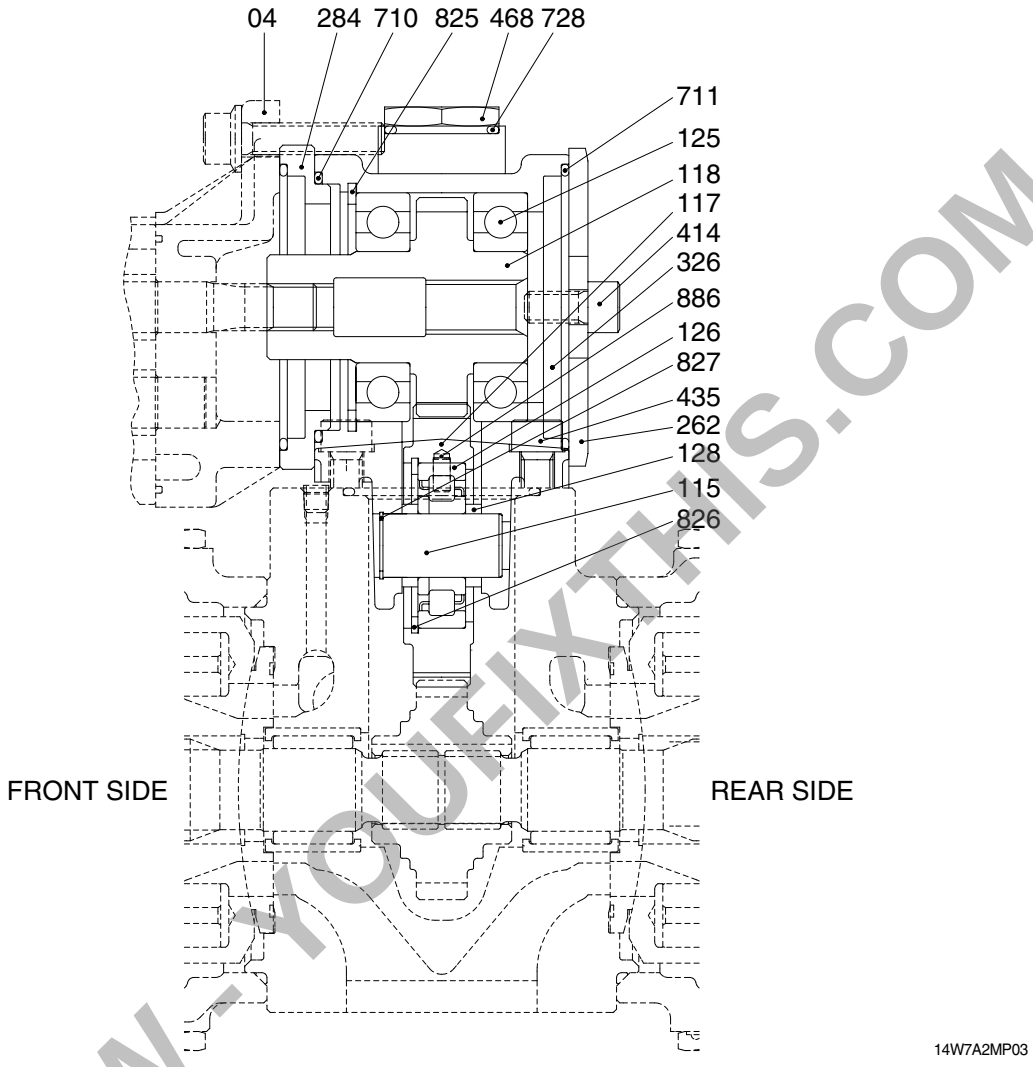
SECTION 9 COMPONENT MOUNTING TORQUE
This section shows bolt specifications and standard torque values needed when mounting components to the machine.

The specifications contained in this shop manual are subject to change at any time and without any advance notice. Contact your HYUNDAI distributor for the latest information.

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MAIN PUMP(2/2)

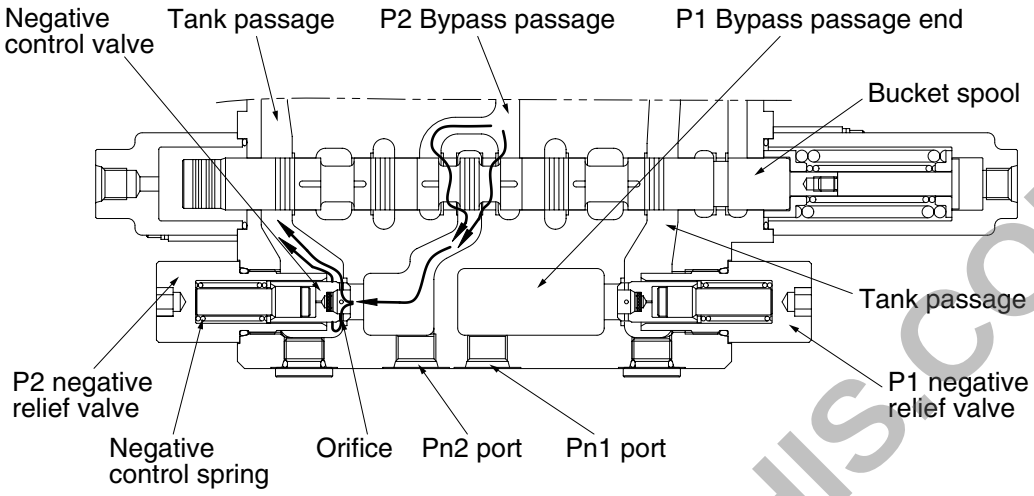


04	Gear pump	262	Cover	711	O-ring
115	Shaft	284	Plate	728	O-ring
117	Gear No.2	326	Case	825	Retainer ring
118	Gear No.3	414	Screw	826	Retainer ring
125	Ball bearing	435	Hexagon socket bolt	827	Retainer ring
126	Roller bearing	468	Plug	886	Pin
128	Bearing spacer	710	O-ring		

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(9) NEGATIVE RELIEF VALVE CONTROL



When no function is being actuated on P2 side, the hydraulic fluid from the pump A2, flows into the tank passage through the bypass passage and orifice. The restriction caused by this orifice thereby pressurizes. This pressure is transferred as the negative control signal pressure Pn2 to the pump P2 regulator.

It controls the pump regulator so as to minimize the discharge of the pump A2.

The bypass passage is shut off when the shifting of one or more spools and the flow through bypass passage became zero. The pressure of negative control signal become zero and the discharge of the pump P2 become maximum.

The negative control pressure reaches to the set level, the hydraulic fluid in the passage pushes open negative control valve and escapes into the return passage.

For the pump A1 the same negative control principle.

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4. TECHNICAL DATA

1) GENERAL DATA

(1) Max input power : 110kW

(2) Max input torque : 78.5kgf · m

(3) Max output speed : 3500rpm

(4) Hydraulic motor : 140cm^3/rev

(5) Transmission ratio
Gear step : 4.06
- Low speed gear : 4.87
- High speed gear : 1.20

(6) Shift interlock
Downshift possible at operating temperature with input speed 1000rpm(Downshift point lower when oil temperature cold).

(7) Disconnection device
For towing away machine auxiliary release device for parking brake.

(8) Brake
Parking brake. Necessary brake deceleration by controlled locking of planetary drive. Braking torque depends on opening pressure set at brake valve(13bar).

(9) Output flange
Bolts for propshaft connection : M10 × 1.0(Class 10.9)

(10) Transmission weight : 135kg

2) TRANSMISSION CONTROL

Following data are valid for oil temperature 30℃ to 40℃ in hydraulic tank, measured at connections at powershift transmission(See Structure and Diagram).

(1) Control pressure
① At connection P1 and P2 at Low/High engine speed : 33+1kgf/cm^2
② Definition of lubricants : API GL-5, SAE 10W-30, 15W-40

(2) Oil flow
① Min oil flow at 24+1kg/cm^2 counter pressure(Low engine speed) : 5.5 ℓ /min
② Max oil flow : 25 ℓ /min

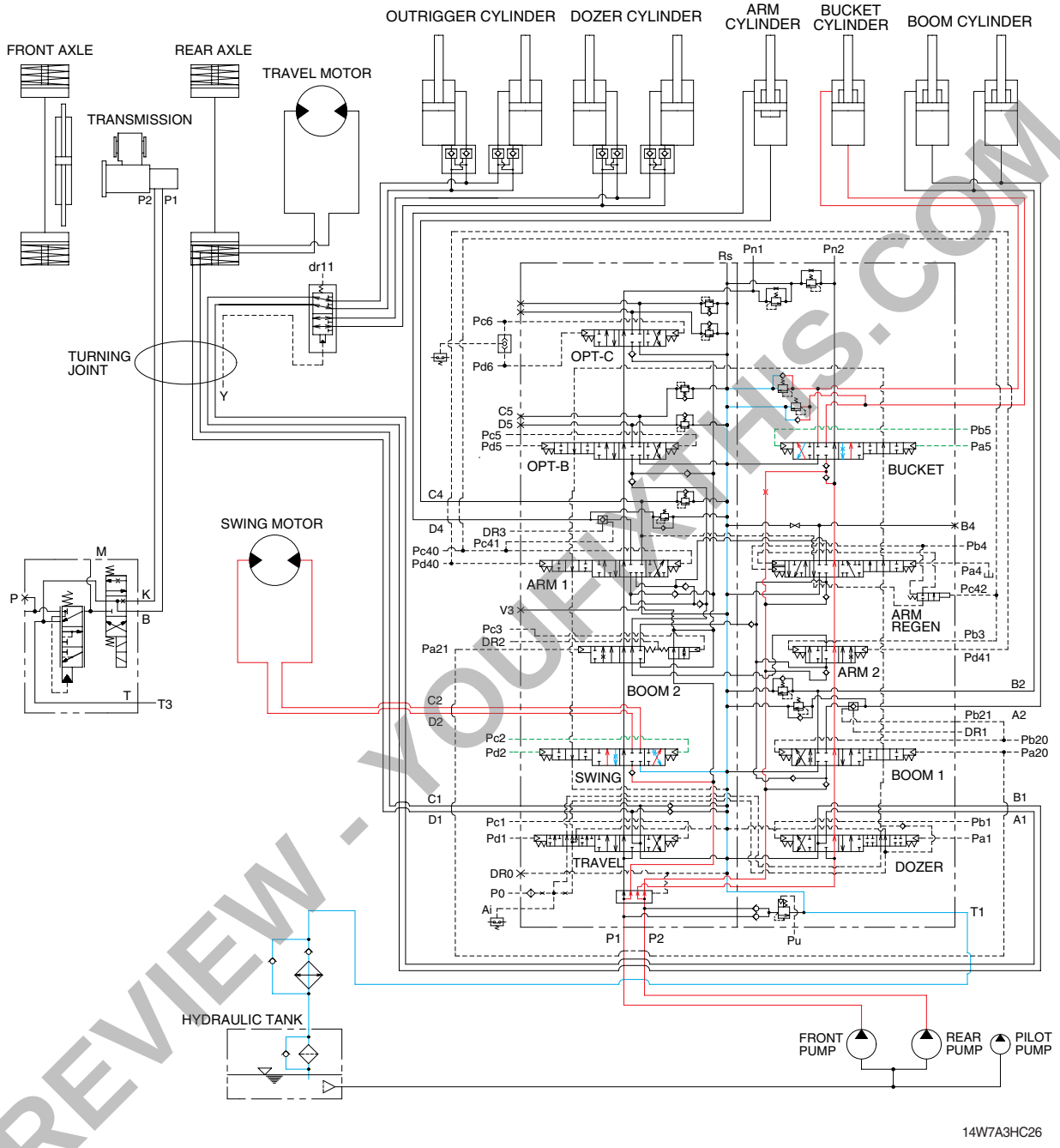
(3) Residual pressure
① Max residual pressure in control line to tank connection P1 and P2 : 1.0kgf/cm^2

(4) Leakage oil transmission control
① Pressure in input housing connection(E) max : 1.0kgf/cm^2
② Max oil flow(Low speed actuated) : 1 ℓ /min

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4. COMBINED SWING AND BUCKET OPERATION



When the swing and bucket functions are operated, simultaneously the swing spool and bucket spool in the main control valve are moved to the functional position by the pilot oil pressure from the remote control valve.

The oil from the front pump flows into the swing motor through the swing spool in the left control valve.

The oil from the rear pump flows into the bucket cylinder through the bucket spool in the right control valve.

The superstructure swings and the bucket is operated.

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Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
· Relay					
CR-1	RING-TERN	-	Battery relay	-	S820-208002
CR-2	-	5	Horn relay	-	-
CR-3	-	5	Work lamp relay	-	-
CR-5	-	5	Anti restart relay	-	-
CR-7	-	5	Aircon compressor relay	-	-
CR-11	AMP	3	Flasher unit relay	S810-003702	-
CR-12	-	5	Travel speed relay	-	-
CR-13	-	5	Head lamp low relay	-	-
CR-14	-	5	Head lamp high relay	-	-
CR-23	RING-TERM	2	Start relay	S814-002001	S814-102001
CR-24	RING-TERM	1	Pre-heater relay	S822-014000	-
CR-29	AMP	4	Forward relay	S810-004202	-
CR-30	AMP	4	Reverse relay	S810-004202	-
CR-35	-	5	Power relay	-	-
CR-45	-	5	ECU power relay	-	-
CR-46	-	5	Fuel heater relay	-	-
CR-53	AMP	4	Timer stop lamp relay	S810-004202	-
CR-62	-	5	Breaker relay	-	-
CR-63	-	5	Stop lamp relay	-	-
CR-66	-	5	Parking relay	-	-
· Switch					
CS-1	SHUR	1	Door switch	S822-014004	-
CS-2	SWP	6	Start key switch	S814-006000	-
CS-4	DEUTSCH	3	Safety switch	DT06-3S-P012	-
CS-5	DEUTSCH	1	Horn switch	-	DT04-2P-E004
CS-19	DEUTSCH	2	One touch decel	-	DT04-2P-E004
CS-20	AMP	1	Safety switch	S822-014002	-
CS-23	SWF	10	Beacon lamp switch	SWF 593757	-
CS-26	DEUTSCH	1	Breaker switch	DT06-2S-P012	-
CS-26A	AMP	2	Breaker pedal switch	S816-002002	S816-102002
CS-27	SWF	10	Breaker switch	SWF 593757	-
CS-29	DEUTSCH	2	Power max switch	DT06-2S-P012	-
CS-50	SWF	10	Overload switch	SWF 593757	-
CS-53	AMP	1	Wiper cut switch	S822-014002	-
CS-54	SWF	10	Spare switch	SWF 593757	-
CS-67	SWF	10	Quick clamp switch	SWF 593757	-
CS-74	AMP	2	Master switch	S813-030201	-
CS-81	SWF	10	Travel / work switch	SWF 593757	-

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4. ENGINE FAULT CODE INFORMATION

SPN	FMI	Fault code No.	Description
91	2	SPN91-FMI2	Throttle Position Sensor Data Erratic, Intermittent, or Incorrect
	3	SPN91-FMI3	(Secondary) Throttle Position Sensor Voltage Above Normal or Shorted High
	4	SPN91-FMI4	(Secondary) Throttle Position Sensor Voltage Below Normal or Shorted Low
	8	SPN91-FMI8	(Secondary) Throttle Position Sensor Abnormal Frequency or Period
	12	SPN91-FMI12	(Secondary) Throttle Position Sensor Bad Device or Component
100	1	SPN100-FMI1	Engine Oil pressure Low-Warning
	2	SPN100-FMI2	Engine Oil Pressure Low-Derate
	3	SPN100-FMI3	Engine Oil Pressure Sensor Voltage Above Normal or Shorted High(Shutdown)
	4	SPN100-FMI4	Engine Oil Pressure Sensor Voltage Below Normal or Shorted Low
	10	SPN100-FMI10	Engine Oil Pressure Sensor 5V Supply Connection Open Circuit
105	1	SPN105-FMI1	Inlet Manifold Air Temp High-Warning
	2	SPN105-FMI2	Inlet Manifold Air Temp High-Derate
	3	SPN105-FMI3	Inlet Manifold Air Temp Sensor Voltage Above Normal or Shorted High
	4	SPN105-FMI4	Inlet Manifold Air Temp Sensor Voltage Below Normal or Shorted Low
106	3	SPN106-FMI3	Inlet Manifold Pressure Sensor Voltage Above Normal or Shorted High
	4	SPN106-FMI4	Inlet Manifold Pressure Sensor Voltage Below Normal or Shorted Low
	10	SPN106-FMI10	Inlet Manifold Pressure Sensor 5V Supply Connection Open Circuit
110	1	SPN110-FMI1	Engine Coolant Temp High-Warning
	2	SPN110-FMI2	Engine Coolant Temp High-Derate
	3	SPN110-FMI3	Engine Coolant Temp Sensor Voltage Above Normal or Shorted High(Shutdown)
	4	SPN110-FMI4	Engine Coolant Temp Sensor Voltage Below Normal or Shorted Low
157	3	SPN157-FMI3	Fuel Rail Pressure Sensor Voltage Above Normal or Shorted High
	4	SPN157-FMI4	Fuel Rail Pressure Sensor Voltage Below Normal or Shorted Low
158	2	SPN158-FMI2	Keyswitch Data Erratic, Intermittent, or Incorrect
168	0	SPN168-FMI0	ECU Battery Power Excessive
	1	SPN168-FMI1	ECU Battery Power Low
	2	SPN168-FMI2	ECU Battery Power Intermittent
190	1	SPN190-FMI1	Engine Overspeed - Warning
	8	SPN190-FMI8	Speed/Timing Sensor Abnormal Signal Frequency
558	2	SPN558-FMI2	(Secondary) Throttle Position Sensor Idle Validation Switch
630	2	SPN630-FMI2	Customer or System Parameters Data Incorrect
631	2	SPN631-FMI2	Engine Software Data Incorrect
637	11	SPN637-FMI11	Primary to Secondary Engine Speed Signal Calibration Fault
639	9	SPN639-FMI9	SAE J1939 Data Link Abnormal Update
646	5	SPN646-FMI5	Turbo Wastegate Solenoid Current Low
	6	SPN646-FMI6	Turbo Wastegate Solenoid Current High
651	5	SPN651-FMI5	Cylinder #1 Injector Current Low

※SPN : Suspect Parameter Number

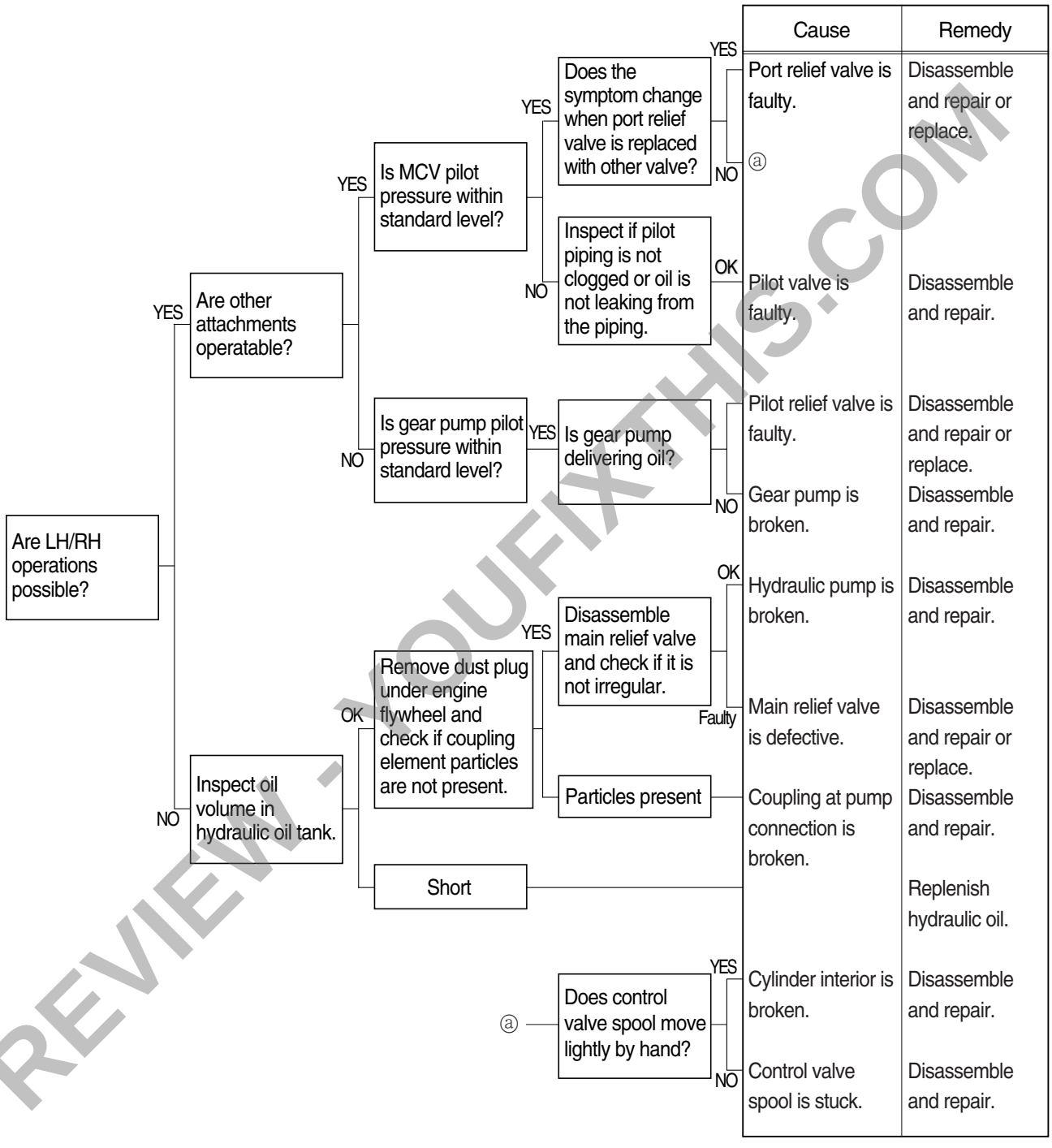
FMI : Failure Mode Identifier

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6. ATTACHMENT SYSTEM

1) BOOM OR ARM ACTION IS IMPOSSIBLE AT ALL



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3. OPERATION FOR PERFORMANCE TESTS

1) Observe the following rules in order to carry out performance tests accurately and safely.

(1) The machine

Repair any defects and damage found, such as oil or water leaks, loose bolts, cracks and so on, before starting to test.

(2) Test area

① Select a hard, flat surface.

② Secure enough space to allow the machine to run straight more than 20m, and to make a full swing with the front attachment extended.

③ If required, rope off the test area and provide signboards to keep unauthorized personnel away.

(3) Precautions

① Before starting to test, agree upon the signals to be employed for communication among coworkers. Once the test is started, be sure to communicate with each other using these signals, and to follow them without fail.

② Operate the machine carefully and always give first priority to safety.

③ While testing, always take care to avoid accidents due to landslides or contact with high voltage power lines. Always confirm that there is sufficient space for full swings.

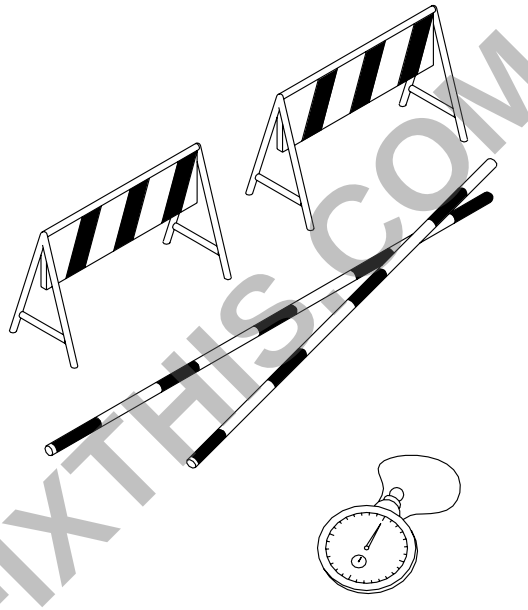
④ Avoid polluting the machine and the ground with leaking oil. Use oil pans to catch escaping oil. Pay special attention to this when removing hydraulic pipings.

(4) Make precise measurements

① Accurately calibrate test instruments in advance to obtain correct data.

② Carry out tests under the exact test conditions prescribed for each test item.

③ Repeat the same test and confirm that the test data obtained can be procured repeatedly. Use mean values of measurements if necessary.

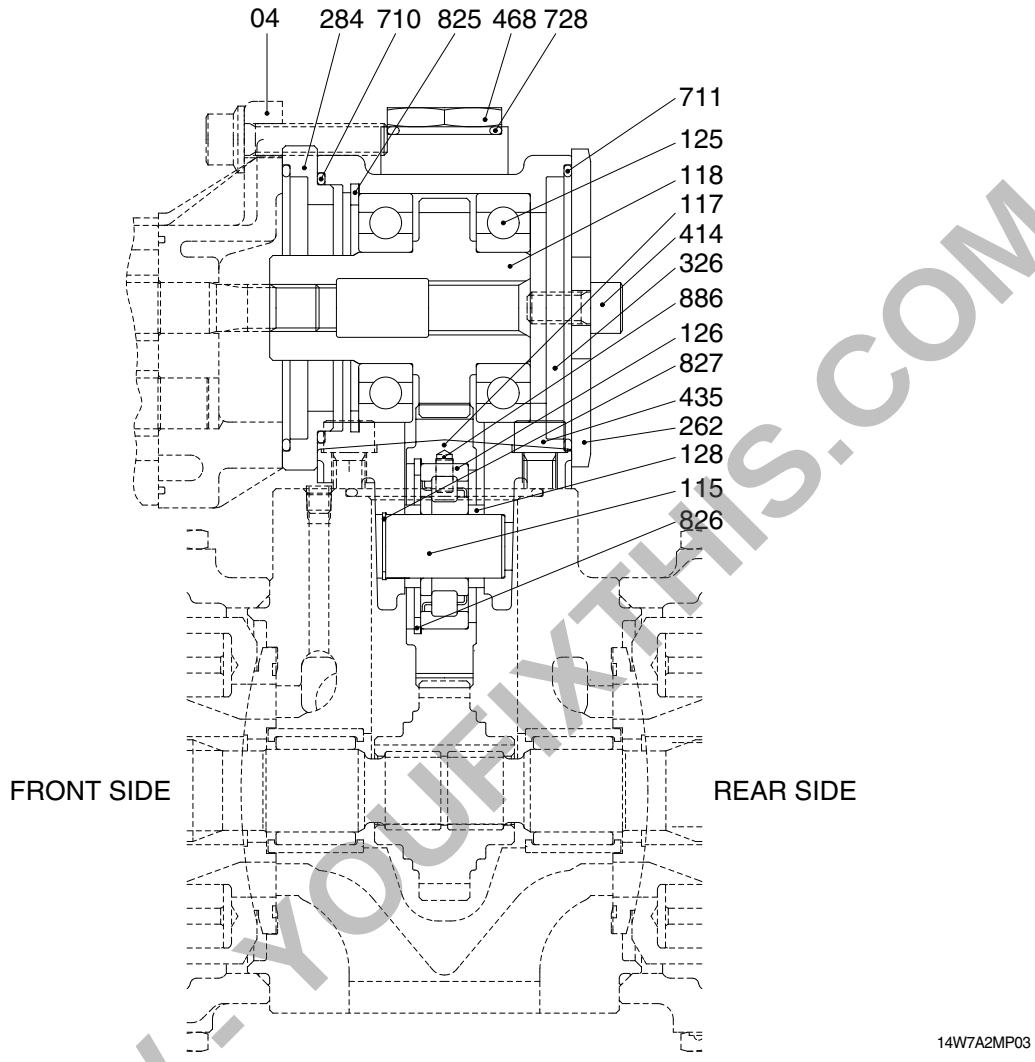


(290-7TIER) 7-3

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MAIN PUMP(2/2)



04	Gear pump	262	Cover	711	O-ring
115	Shaft	284	Plate	728	O-ring
117	Gear No.2	326	Case	825	Retainer ring
118	Gear No.3	414	Screw	826	Retainer ring
125	Ball bearing	435	Hexagon socket bolt	827	Retainer ring
126	Roller bearing	468	Plug	886	Pin
128	Bearing spacer	710	O-ring		

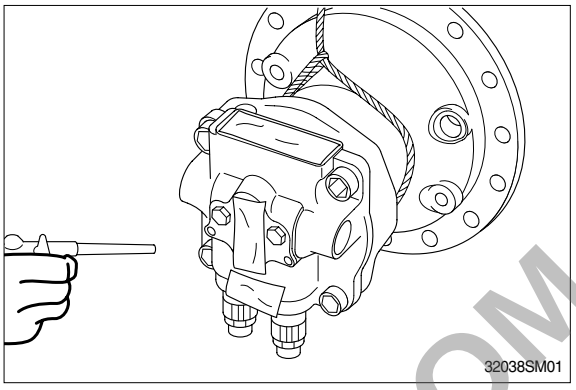
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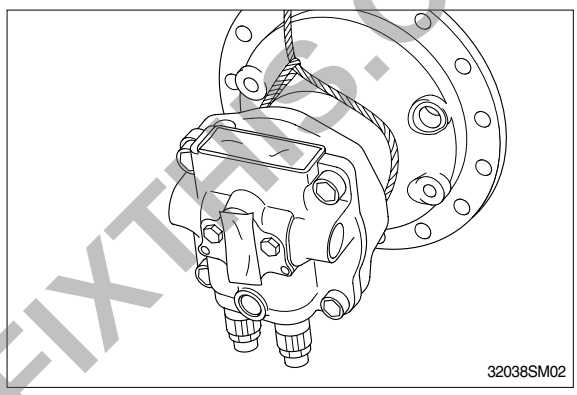
2) DISASSEMBLY

(1) Lift the motor out. Clean the motor in kerosene and dry with compressed air.

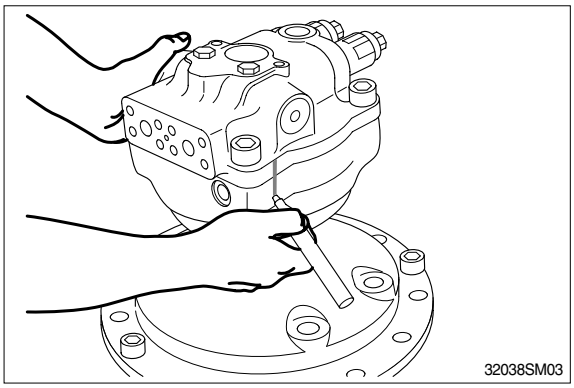
※ To avoid dust inside the motor, mask all the ports of the motor with tapes.



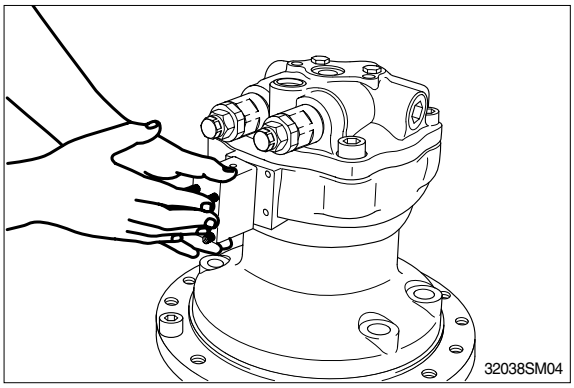
(2) Loosen the drain plug to discharge oil in the body(1).



(3) Fix the drive shaft (5) on the workbench with the end of output shaft down. Put matching marks on body (1) and valve rear cover (20) for easy reassembly.



(4) Remove the valve (34).

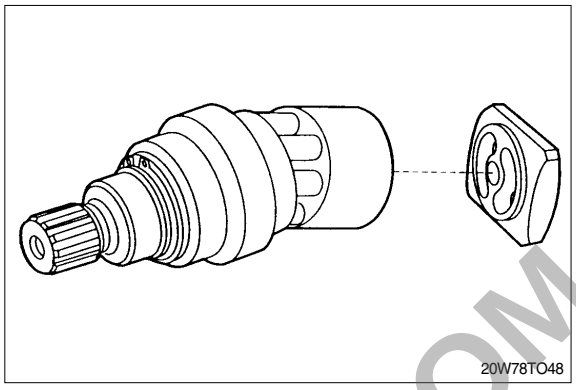


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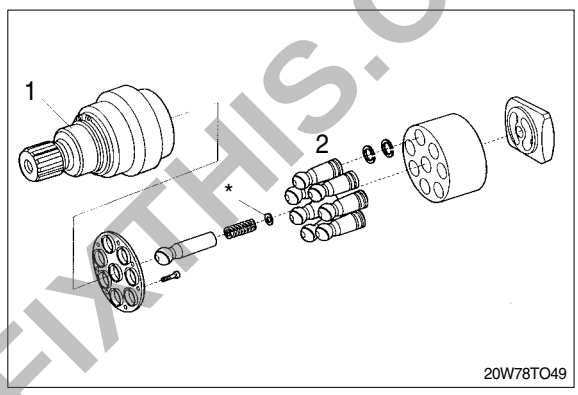
10) EXCHANGING OF THE ROTARY GROUP

※ Complete rotary group
Setting of hydraulic part necessary.

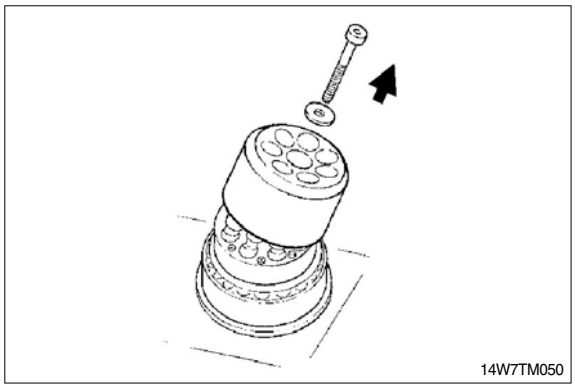


Rotary group

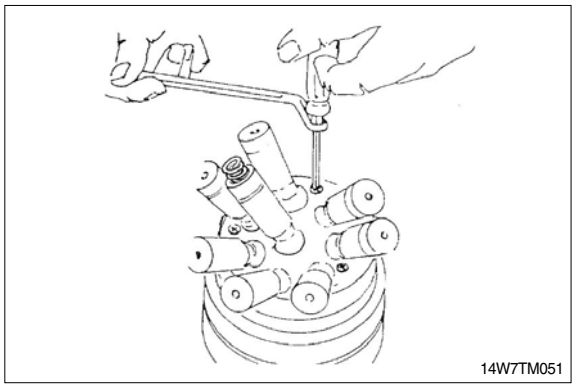
1 Mechanical part : Adjust drive shaft with bearing
2 Hydraulic part : Adjustment necessary



(1) Remove fixing screw(Cylinder).
Remove cylinder.



(2) Disassemble retaining plate.
※ Screws are glued.
Use Torx tools.

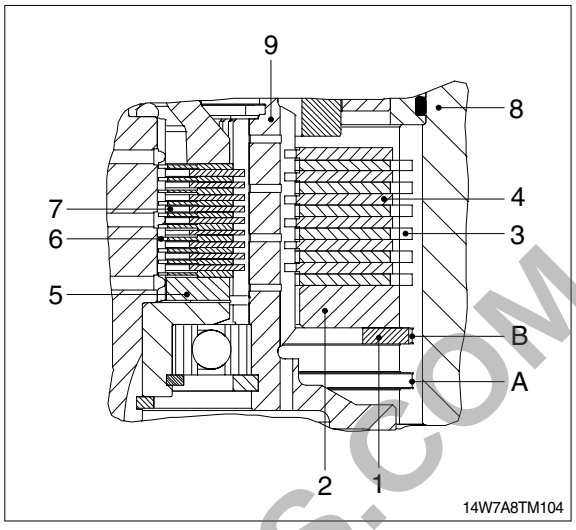


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(29) **Disc components brake and clutch :**

A = lower ring groove (Item retaining ring-1)
B = Upper ring groove (Item retaining ring-1)
1 = Retaining ring
2 = End shim / Brake (1 Pc.)
3 = Outer disc / Brake (6 Pcs.)
4 = Inner disc / Brake (6 Pcs.)
5 = End shim / Clutch (1 Pc.)
6 = Inner disc / Clutch (10 Pcs.)
7 = Inner disc / Clutch (9 Pcs.)
8 = Transmission housing
9 = Disc carrier / Internal gear

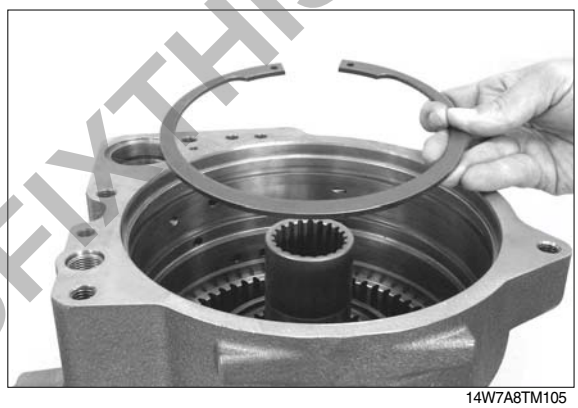


14W7A8TM104

(30) **Brake**

Snap the retaining ring (1) into the ring groove (A).

(S) Clamping pliers 5870 900 021


14W7A8TM105

(31) Insert the end shim (2).


14W7A8TM106

(32) Insert the disc set (outer/inner discs)-beginning with an outer disc alternately.

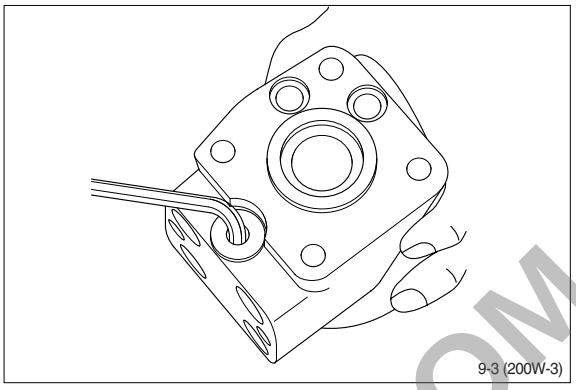
※ Position the outer disc (1 Pc) s = variable 2.8~3.7㎜, in the disc set on the top (piston-side)!
With outer disc s = variable, the disc clearance / piston stroke will be adjusted - sec figure TM 120.


14W7A8TM107

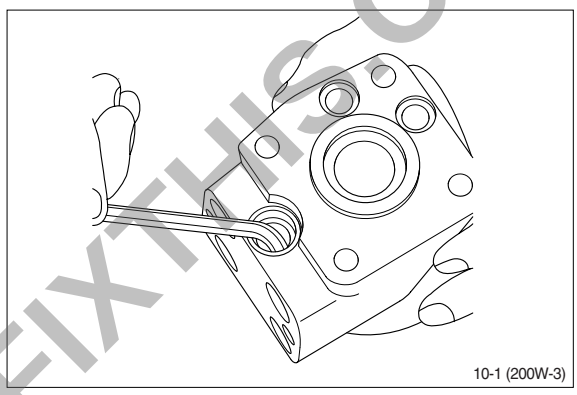
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(16) Disassemble the pressure relief valve (cartridge)

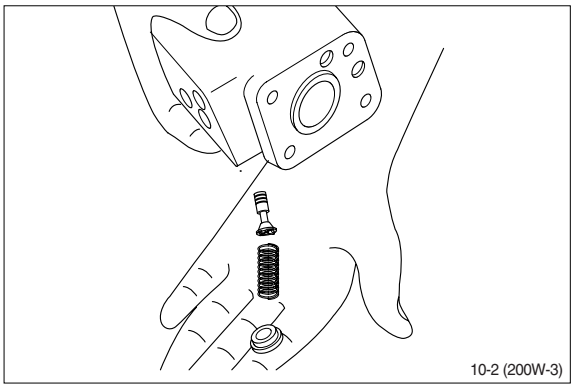
① Screw out the plug using an 8mm hexagon socket spanner. Remove seal washers.


9-3 (200W-3)

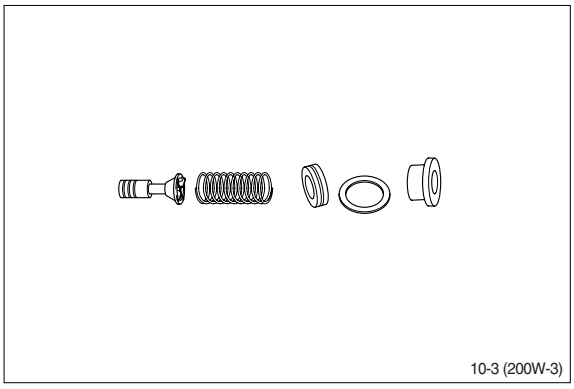
② Unscrew the setting screw using an 8mm hexagon socket spanner.


10-1 (200W-3)

③ Shake out spring and piston. The valve seat is bonded into the housing and cannot be removed.


10-2 (200W-3)

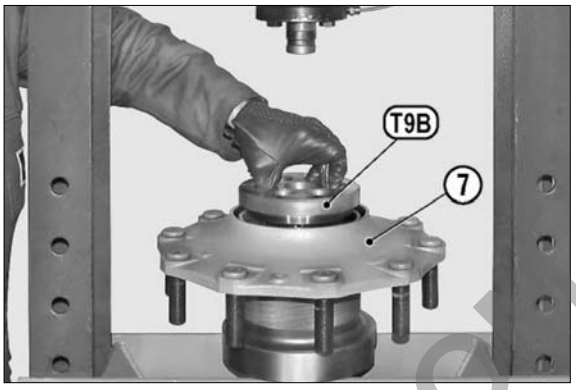
④ The pressure relief valve is now disassembled.


10-3 (200W-3)

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(5) Position the upper part of tool T9B and press the thrust blocks into the hub (7) all the way down.



14W7FA081

(6) Fit the bearing (15) into the internal thrust block.

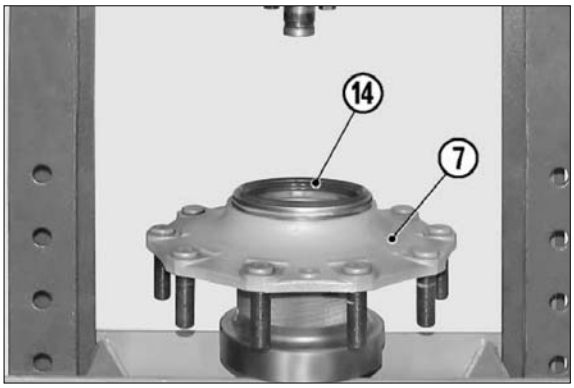


14W7FA082

(7) Apply a repositionable jointing compound for seals to the outer surface of the sealing ring (14). Position the sealing ring (14) in the hub (7).

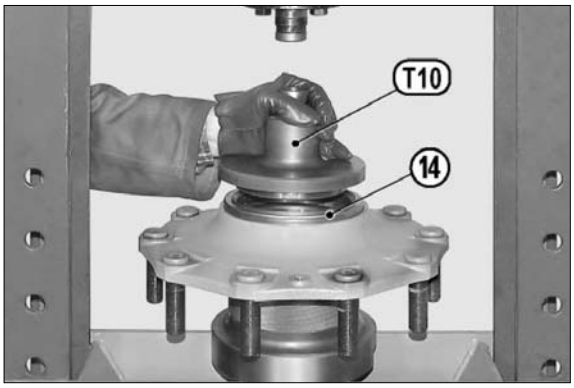
NOTE

Check that the ring (14) is correctly oriented.



14W7FA083

(8) Position tool T10 and press the sealing ring (14) into its seat.

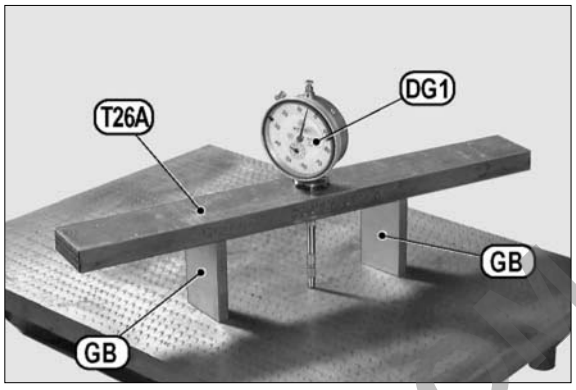


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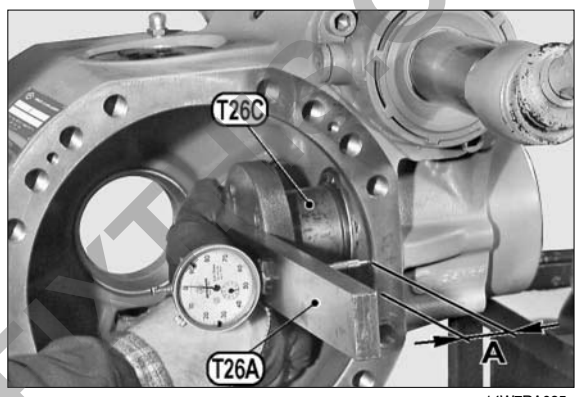
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(9) Fit a centesimal comparator "DG1" with long stem into bar T26A; when the bar rests on two size-blocks "GB" of 57mm, reset the comparator.
Preset the comparator to approx. 2mm and reset.



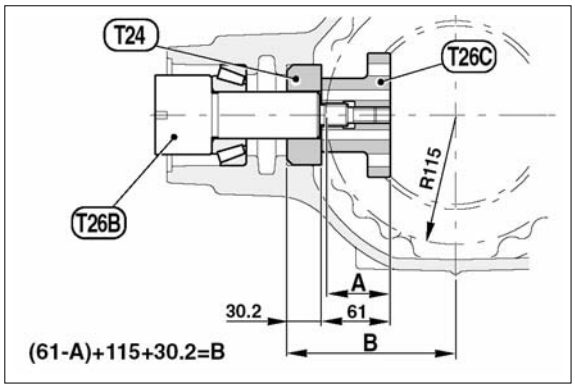
14W7RA084

(10) Lay bar T26A on gauged nut T26C and take the size "A" at about 57mm corresponding to the maximum diameter of arms centering.



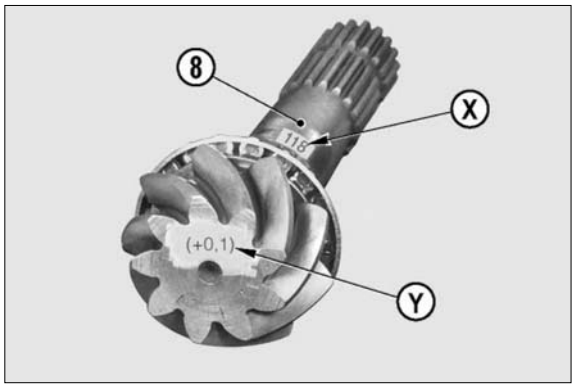
14W7RA085

(11) Calculate size "B" which will be the first useful valve for calculating the size of the shims (14) that are to be inserted under the thrust block of the internal bearing (9).



14W7RA086

(12) Check the nominal size (X) marked on the pinion and add or subtract the indicated variation (Y) so as to obtain size "Z".
e.g; Z=118+0.1=118.1
Z=118-0.2=117.8



14W7RA087

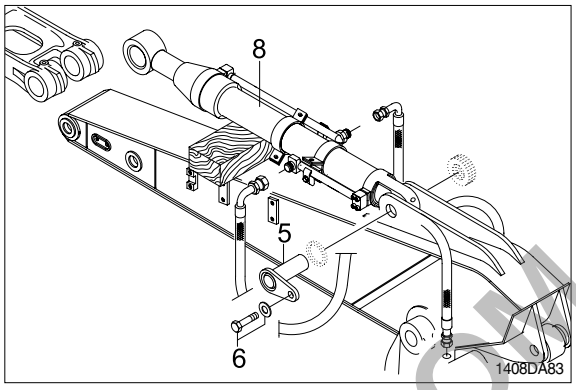
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④ Sling bucket cylinder assembly (8) and remove bolt (6) then pull out pin (5).

⑤ Remove bucket cylinder assembly (8).

・Weight : 105kg (230lb)



(2) Install

① Carry out installation in the reverse order to removal.

⚠ When aligning the mounting position of the pin, do not insert your fingers in the pin hole.

※ Bleed the air from the bucket cylinder.

※ Confirm the hydraulic oil level and check the hydraulic oil leak or not.

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