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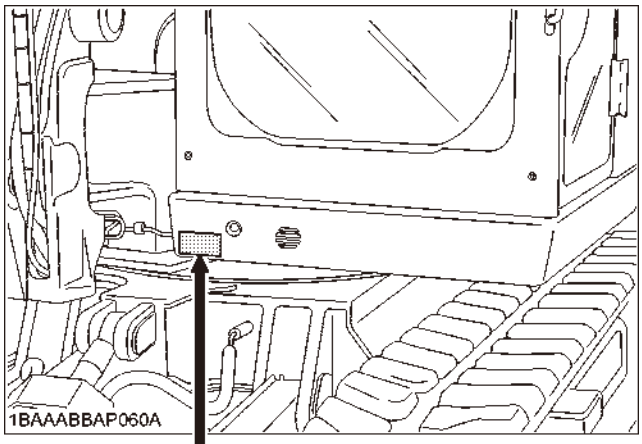
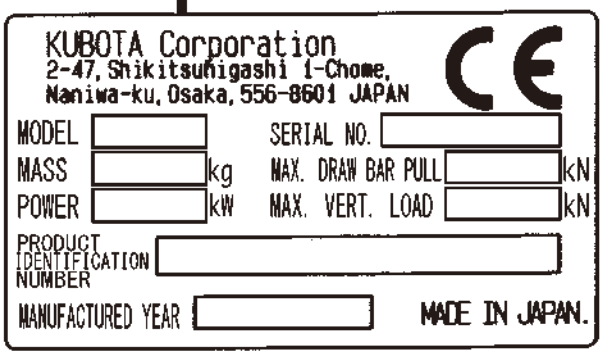
VI ir Conditioner

A.Body and engine identification marks

If trouble should occur during use, or if servicing is necessary, contact the dealer who handles the machine. At that time please inform the machine model and engine type and serial numbers.

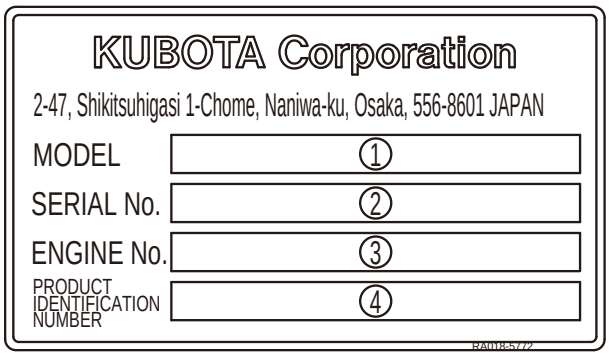
(1)Product number plate





1BAAABBAP0770

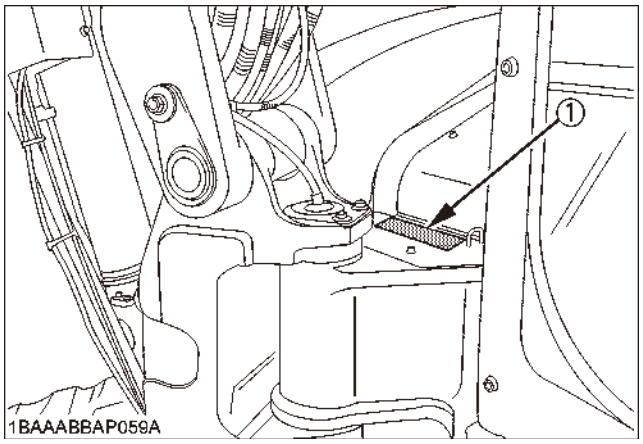
KTC, KCL, KTA-version



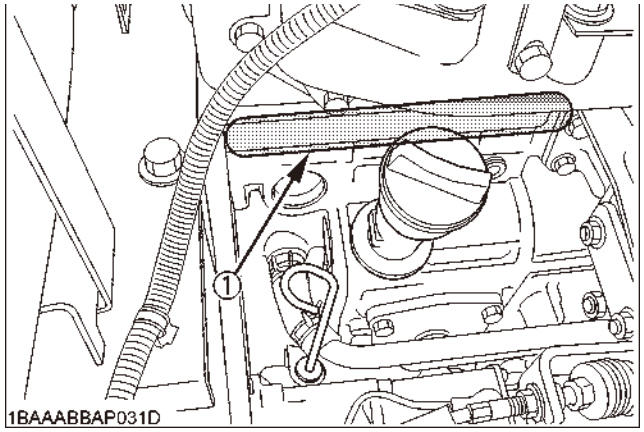
Name plate : Code No. RA018-57721

(3) Engine serial number
e.g. D1105-5L0025
"5" indicates year of 2005 and "L" indicates June. So, 5L indicates that the engine was manufactured in June 2005.

(2)Machine and engine serial number



(1) Machine serial No.



(1) Engine serial No.

(Engine production month code)

Month	Serial No.	
	0001~9999	10001~19999
Jan.	A	B
Feb.	C	D
Mar.	E	F
April	G	H
May	J	K
June	L	M
July	N	P
Aug.	Q	R
Sept.	S	T
Oct.	U	V
Nov.	W	X
Dec.	Y	Z

F. Maintenance intervals

a. Maintenance intervals chart : EU-version

	General Maintenance	Elapsed Operating Hours																							
		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	Interval	
Operator Services	Check fuel level																					daily	
	Check coolant level																					daily	
	Check engine oil level																					daily	
	Check hydraulic oil level																					daily	
	Check V-belt																					daily	
	Check washer liquid																					daily	
	Check water separator																					daily	
	Check, clean air filter	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	50 h	
	Tracks and chassis: clean, visual inspection and check tension	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	50 h	
	Grease swivel gear	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	50 h	
	Grease front attachments: Bucket and bucket link pin, Boom swing fulcrum		○		○		○		○		○		○		○		○		○		○	100 h	
	Grease front attachments: Others					○					○					○					○	250 h	
	Grease swivel gear bearing				○				○				○				○				○	200 h	
	Clean air conditioner filter				○				○				○				○				○	200 h	
	Check air conditioner drive belt				○				○				○				○				○	200 h	
	Clean air conditioner condenser				○				○				○				○				○	200 h	
	Drain water in fuel tank										○										○	500 h	
	Check battery electrolyte level										○										○	500 h	
	Check air conditioner pipes and hoses																					every 2 years	

C. Disassemble and Reassmble

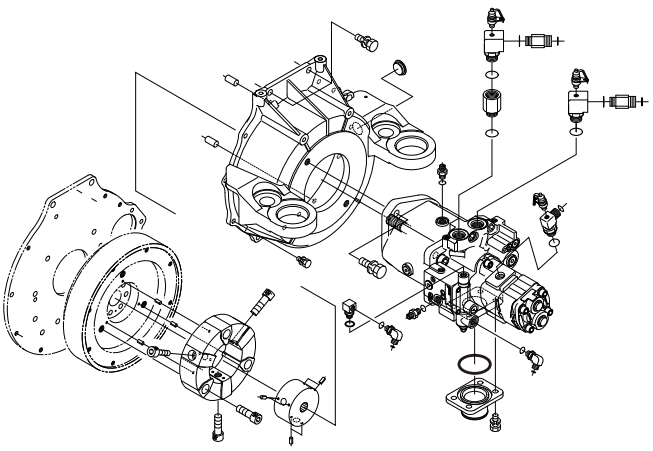
a. Pump coupling

1.Disconnect the hoses and fit the plugs.

2.Hang the hydraulic pump with nylon sling.

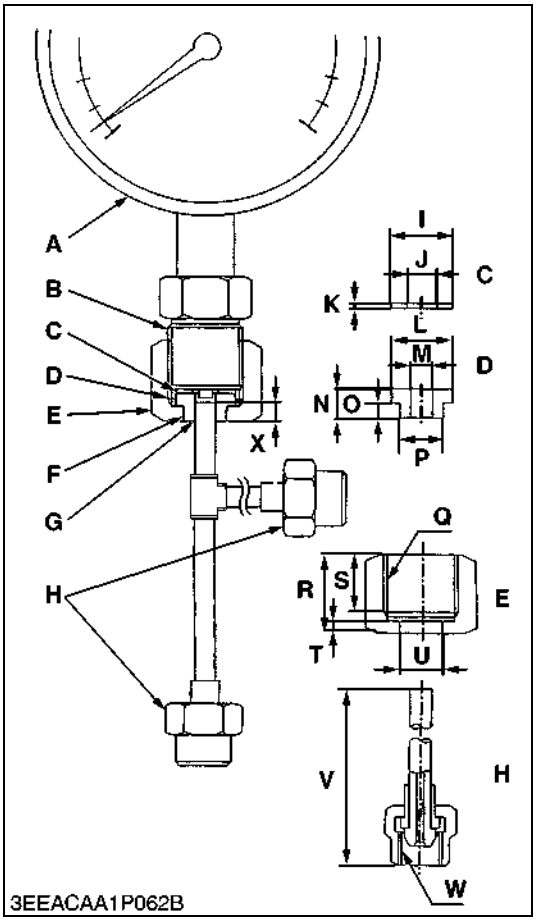
3.Dismount the pump assy.

4.Pump housing.



5.Pump coupling.

- **The following special tools are not provided, so make them referring to the figure.**



Injection Pump Pressure Tester

Application: Use to check fuel tightness of injection pumps.

A	Pressure gauge full scale : More than 29.4 MPa (300 kgf/cm^2, 4267 psi)
B	PF 1/2
C	Copper gasket
D	Flange (Material : Steel)
E	Hex. nut 27 mm (1.06 in.) across the plat
F	Adhesive application
G	Fillet welding on the enter circumference
H	Retaining nut
I	17 mm dia. (0.67 in. dia.)
J	8 mm dia. (0.31 in. dia.)
K	1.0 mm (0.039 in.)
L	17 mm dia. (0.67 in. dia.)
M	6.10 to 6.20 mm dia. (0.2402 to 0.2441 in. dia.)
N	8 mm (0.31 in.)
O	4 mm (0.16 in.)
P	11.97 to 11.99 mm dia. (0.4713 to 0.4720 in. dia.)
Q	PF 1/2
R	23 mm (0.91 in.)
S	17 mm (0.67 in.)
T	4 mm (0.16 in.)
U	12.00 to 12.02 mm dia. (0.4724 to 0.4732 in. dia.)
V	100 mm (3.94 in.)
W	M12 × P1.5
X	5 mm (0.20 in.)

W10252400

Alternator on Unit Test

(Before testing)

- Before alternator on unit test, check the battery terminal connections, circuit connection, fan belt tension, charging indicator lamp, fuses on the circuit, and abnormal noise from the alternator.
- Prepare full charged battery for the test.

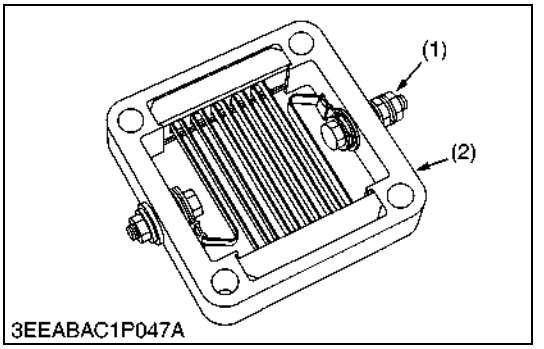
■ NOTE

- **Be careful not to touch the rotating engine parts while engine is running.**
  Keep safety distance from the engine rotating parts.

1. Start the engine.
2. When the engine is operating measure the voltage between two battery terminals. If the voltage is between 13.8 V and 14.8 V, the alternator is operating normally.
3. If the results of alternator on unit test are not within the specifications, disassemble the alternator and check the each component part for finding out the failure. See the "DISASSEMBLING AND ASSEMBLING" and "SERVICING" for alternator.

Regulating voltage at no load	Factory spec.	13.8 to 14.8 V at 25 °C (77 °F)

0000010745E



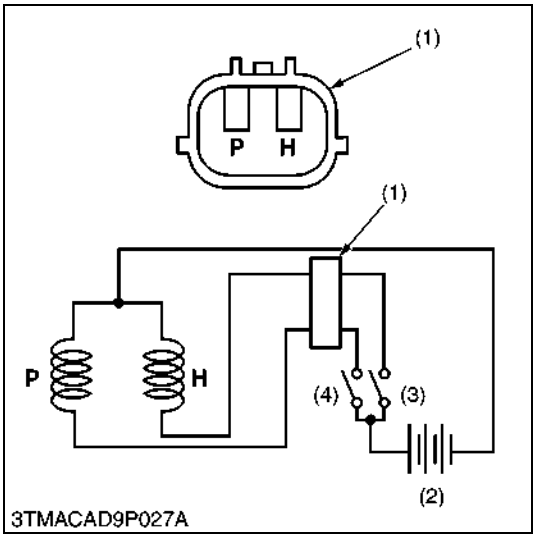
Intake Air Heater

1. Disconnect the lead.
2. Measure the resistance between + terminal (1) and intake air heater body (2).
3. If the resistance is infinity, the intake air heater is faulty.

Intake air heater resistance	Factory spec.	Approx. 0.3 <Symbol>W (At cold occasion)

(1) + Terminal (2) Intake Air Heater Body

W1073774



Engine Stop Solenoid

1. Remove the engine stop solenoid from the engine.
2. Connect the jumper leads from the pulling coil **P** terminal to the switch (3), and from switch (3) to the battery positive terminal.
3. Connect the jumper leads from the holding coil **H** terminal to the switch (4), and from switch (4) to the battery positive terminal.
4. Connect the jumper leads from the engine stop solenoid body to the battery negative terminal.
5. When switch (4) is turn on, the plunger pull into the solenoid body and then turn off the switch (4), the plunger comes out.
6. Turn on the switch (3) then turn on the switch (4), the plunger pull into the solenoid body and it keep in holding position after turn off the switch (4).
7. If the plunger is not attracted, the engine stop solenoid is faulty.

■ IMPORTANT

- **Never apply the current for pulling coil more than two seconds when inspecting.**

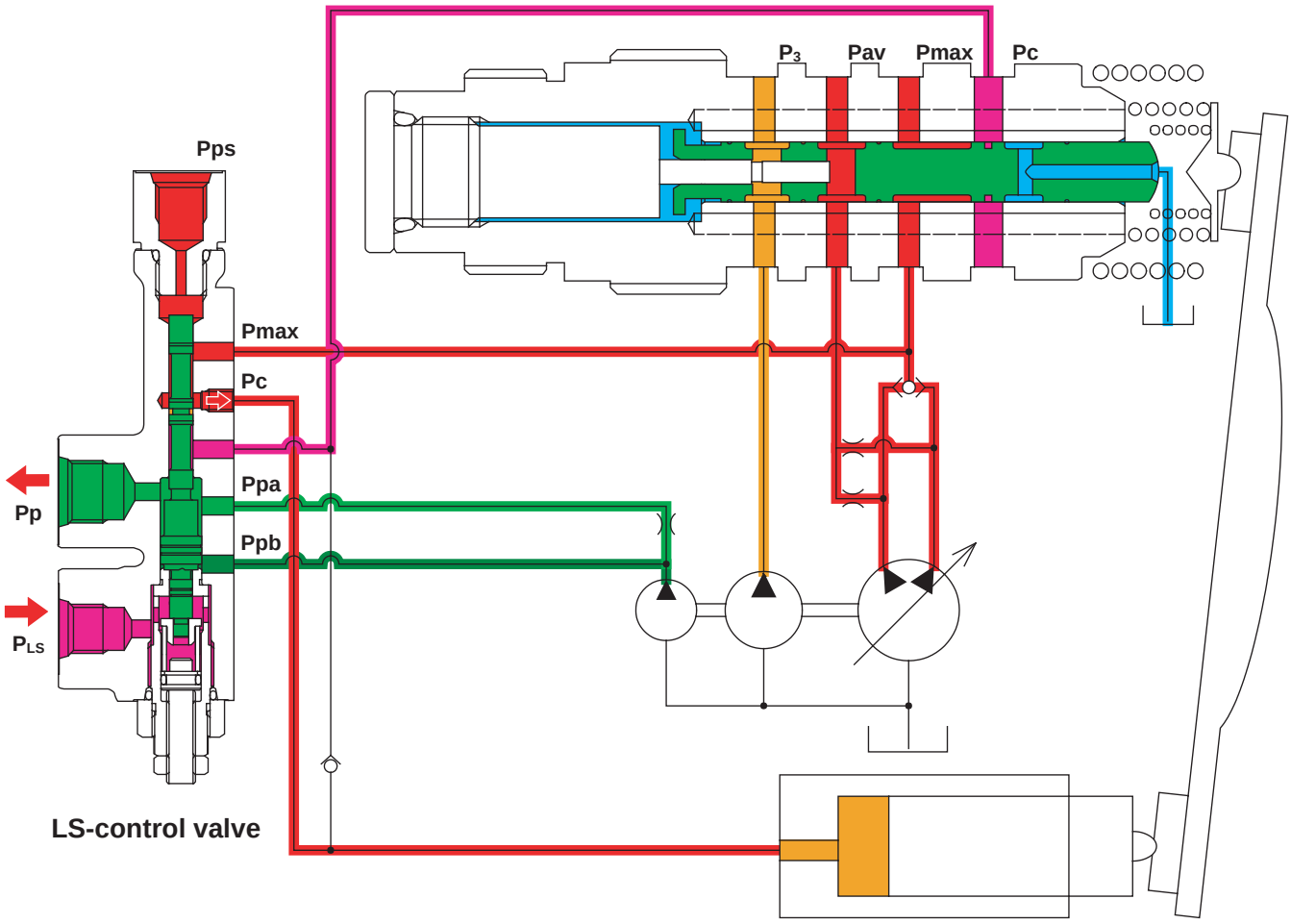
(1) Connector
(2) Battery
(3) Switch for Holding Coil
(4) Switch for Pulling Coil

P : Terminal for Pulling Coil
H : Terminal for Holding Coil

W1020600

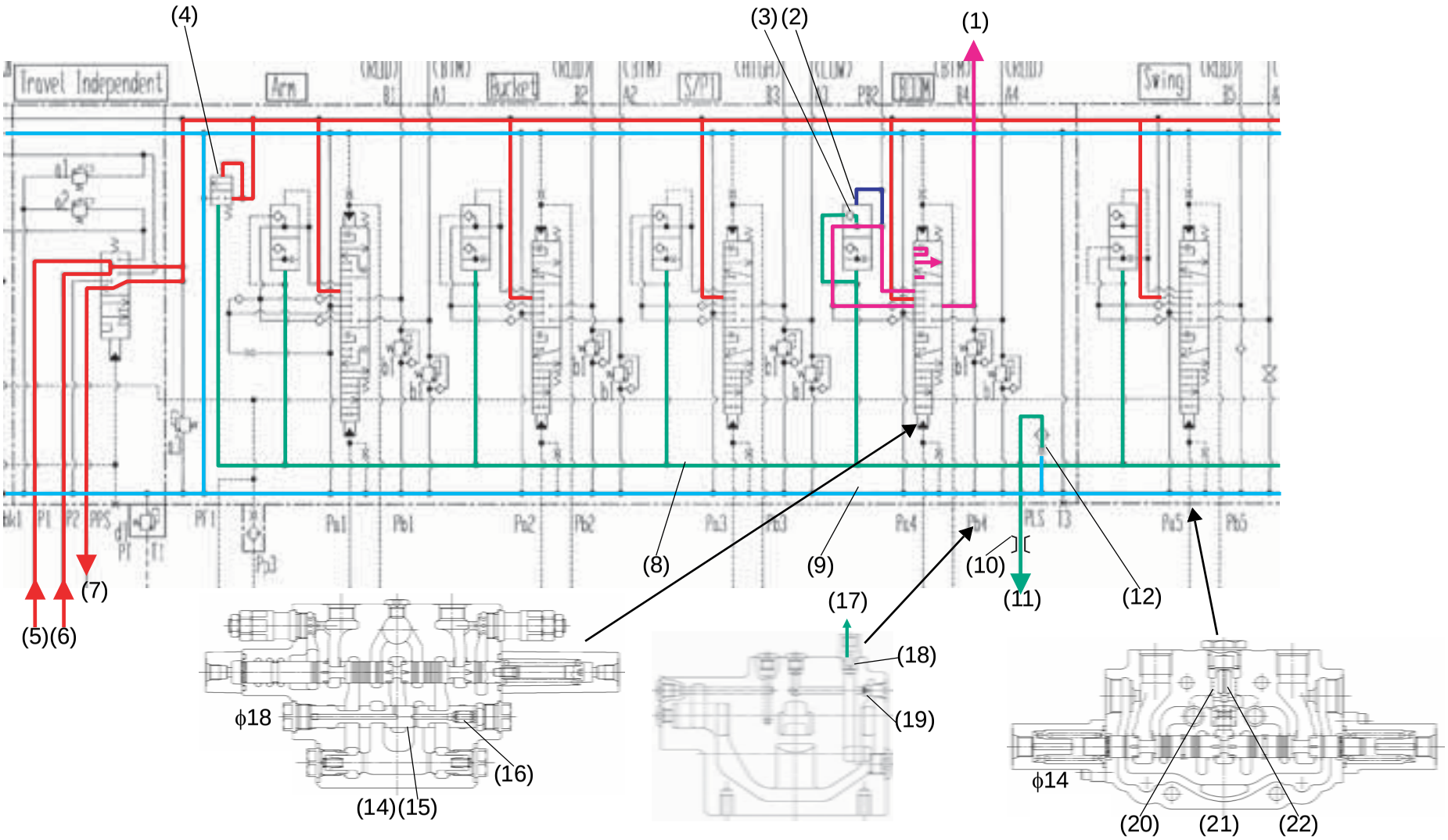
2. LS control 2

P_{PS} $P_{LS} + P_F + \Delta P_P$



When an operator shifts the control lever to the inching movement of the front attachment, main spool notch opening area of the control valve is regurated to limit the oil flow through.
Therefore, pressure value before the spool notch (P_{PS}) becomes comparatively higher and the pressure difference between P_{PS} (pressure before the spool notch) and P_{LS} (pressure after the spool notch) increases momentarily.
Thus, pressure balance changes to shift down the LS control spool, which leads the high pressure (P_{max}) to push the control pin and decrease the swash plate angle.

g. Control valve high-pressure selection function



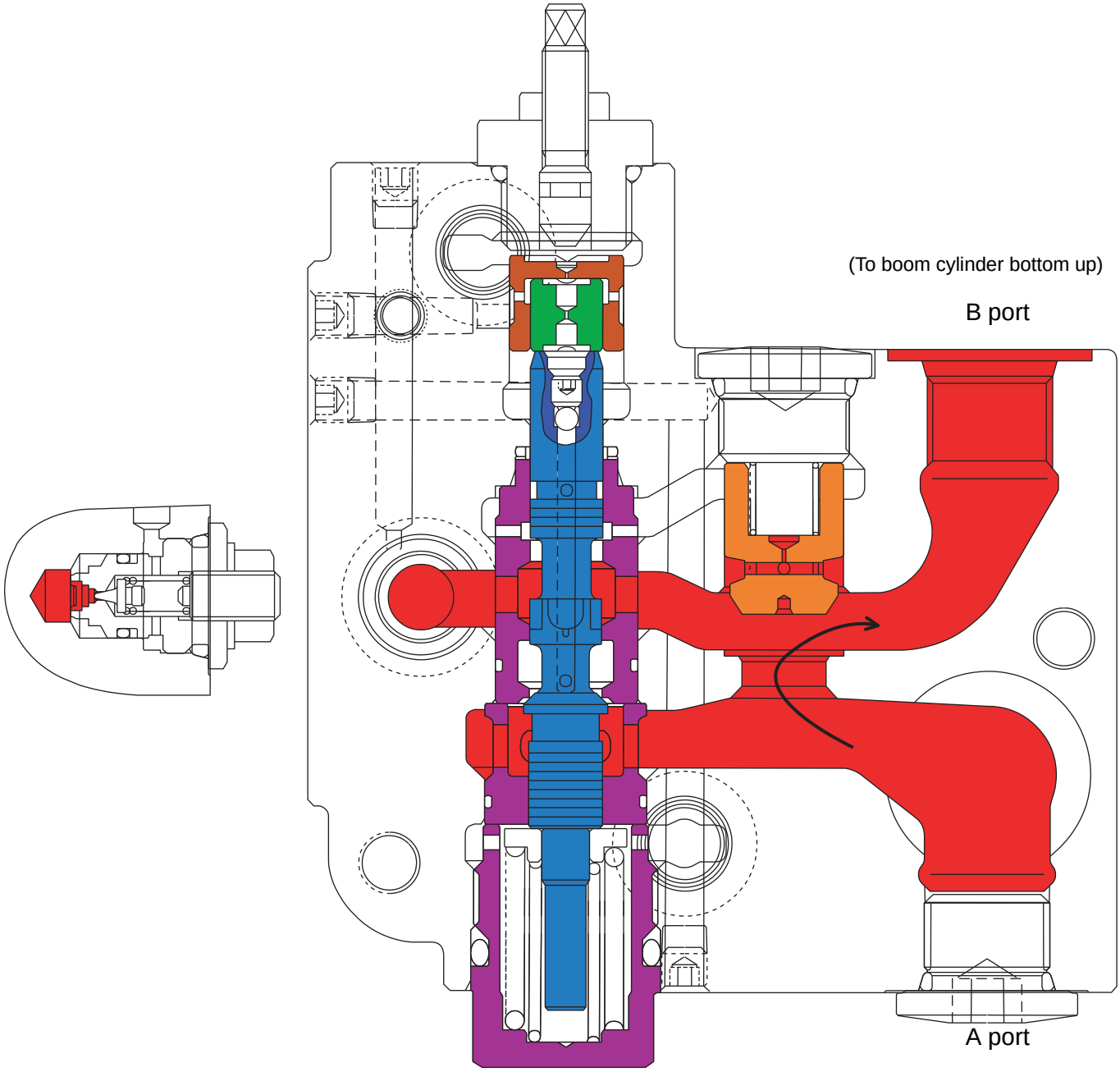
hanging the high-pressure select system

Formerly, the high-pressure side was selected by a high-pressure selector valve (⋖○⋗). On the new system, the high pressure is introduced by the check valve that is incorporated in the pressure compensating valve. The LS bleeder lets the high-pressure oil into the tank.

(1) To cylinder
(2) Pressure compensating valve
(3) PLS signal high-pressure select check valve
(4) Unload valve
(5) P1 pump
(6) P2 pump
(7) PPS signal (to pump)
(8) PLS signal
(9) Tank circuit
(10) PLS signal aperture
(11) PLS signal (to pump)
(12) PLS signal bleed aperture
(13) Pressure compensating valve
(14) Boom section
(15) PLS signal high-pressure select check valve
(16) PLS signal (to pump)
(17) PLS signal aperture
(18) PLS signal bleed aperture
(19) Pressure compensating valve
(20) PLS signal high-pressure select check valve
(21) Swing section

2. With oil flowing from A-port to B-port (from main control valve to cylinder)

The oil from A-port flows against the cylinder pressure and the poppet s return spring force. It then gets the poppet open and flows on to B-port.



(a) Poppet seat
(b) Spool seat
(c) Sliding sleeve seal
(d) Relief valve poppet seat

Fig. 2 With oil flowing from A-port to B-port

6. Remove horsepower control valve

1) Horsepower control valve punch the mating mark before disassembling.

2) Take out the valve assy.

3) Inner parts.

4) Average pressure sensing puppet.

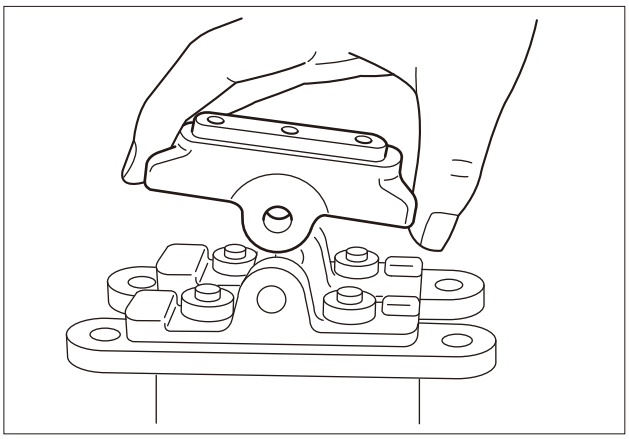
9. Mono-block valve assy

1) Outer view

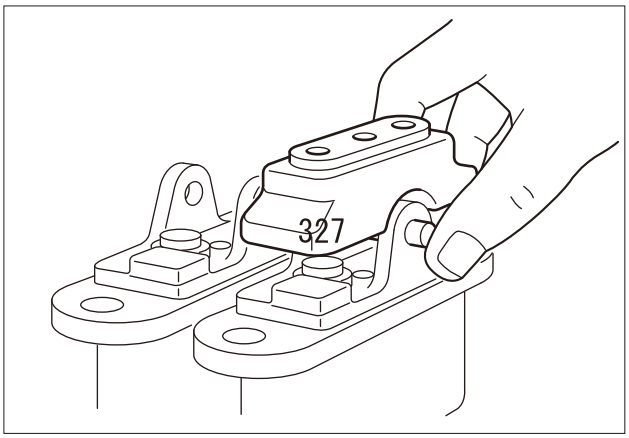
2) Other side
LS main relief valve Unload valve

3) Boom valve section.

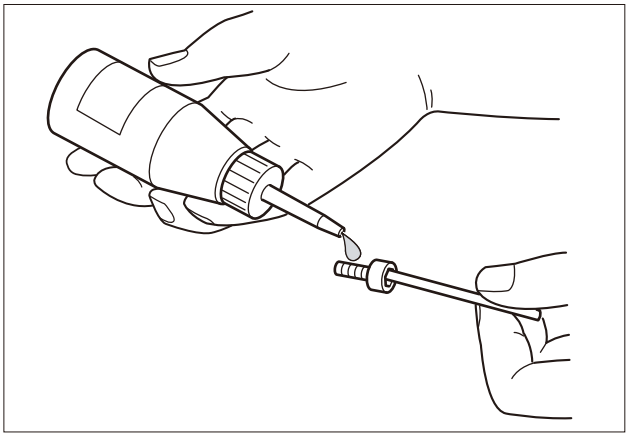
4) Arm valve section



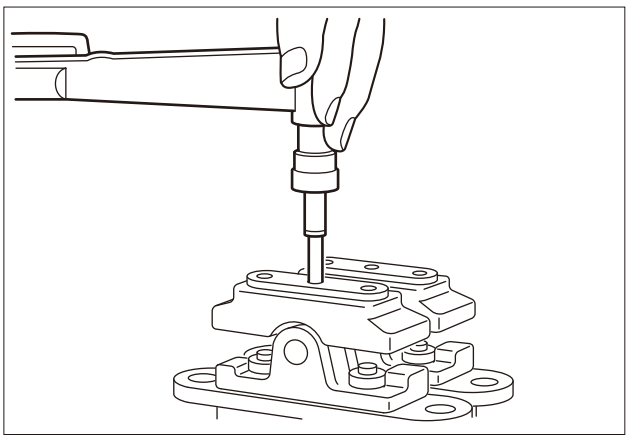
25.Install the cam (420) into the cover.
Install it at the previous position before it was disassembled.



26.Holding down the cam (420), insert the cam shaft (413) from outside.



27.Apply Loctite #241 or equivalent to the surface of the setscrew (423).



28.Tighten the setscrew (423) with the torque specified.

(3) Mount the RV gear assembly.
1)I nstall RVgearA[4] inthehub [1].

2) Install the crankshaft [9] in the hub [1].

Note : Match the inner race of the tapered roller bearing [22] of the crank shaft [9] with the outer race hole of the tapered roller bearing [22] fit in the spindle [2].

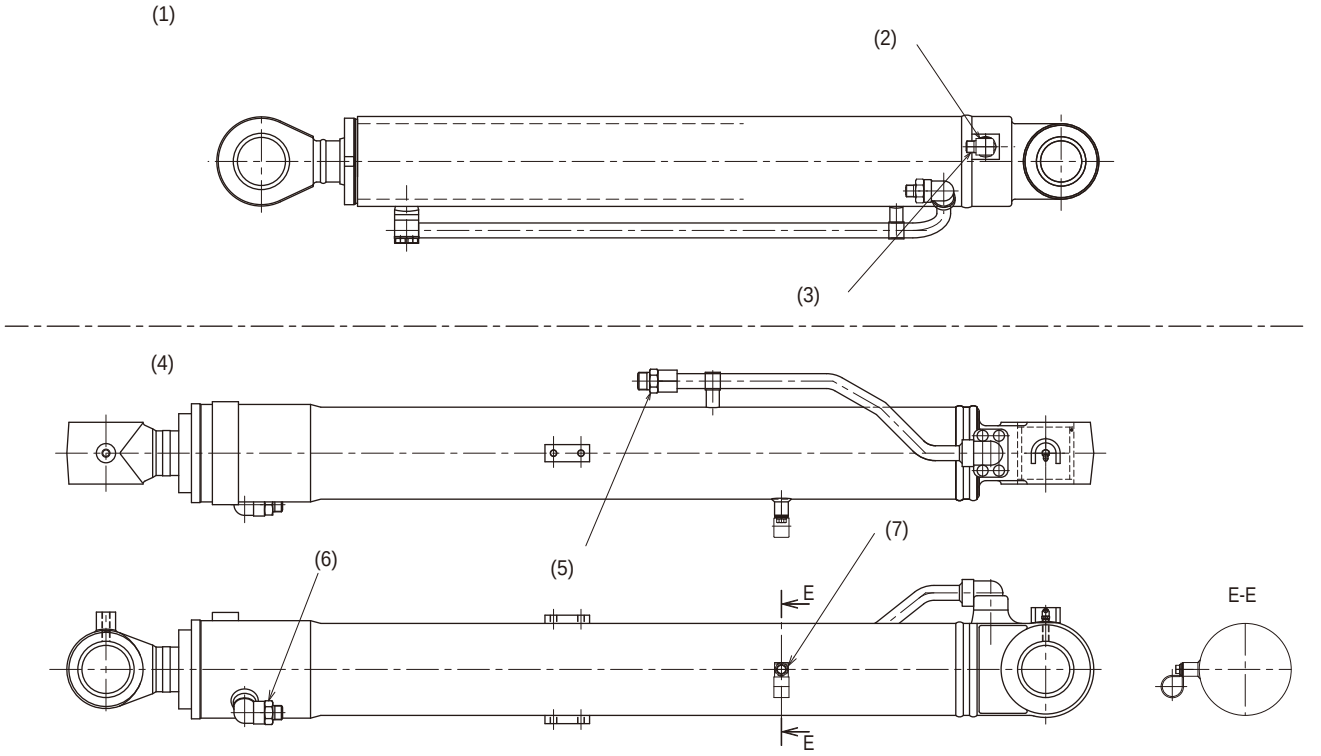
3) Install RVgearB [5] inthe hub [1].

4) After applying lubricating oil to the pins [17] (24 pins), insert between the pin groove of the hub [1] and gear teeth groove.

x.Cylinders

1 .Fitting the adaptor of each cylinder
Fit the adaptors at the angle specified in the figure.

2. Adaptor tightening torque
G1/2 size
58.8~63.7N.m(6.0~6.5kgf.m)43.4~47.0ft.lbs



(1)(Swing cylinder)
(2)Pipe joint (LG4, 11/16U)
(3)Pipe joint (SG4, 11/16U)
(4)(Boom cylinder)
(5)Pipe joint (SG4, 1U)
(6)Pipe joint (SG4, 13/16U)
(7)Clamp

Bolt