SEBM027708

SHOP MANUAL

KOMATSU®

PC1800-6

MACHINE MODEL **PC1800-6**

SERIAL No. **10011, 11002 and up**

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

- PC1800-6 mounts the SAA6D140E-3 engine.
  For details of the engine, see the 140-3 Series Engine Shop Manual.

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List of Items Monitored

REAL TIME MONITOR (1/6)		Contents	Unit(SI)	Unit (METRIC)	Range of display	Remarks
1	F. engine speed	Rpm of front engine	rpm	rpm	0 – 3000	Temperature of engine coolant is monitored on the machine monitor side.
2	F. engine fuel temp	Fuel temperature of front engine	degC	°C	-30 – 100	
3	F. fuel injection	Fuel injection volume of front engine	mm^3/st	mm^3/st	0 – 600	
4	F. rail press.	Common rail pressure of front engine	MPa	kg/cm^2	0 – 200	
5	F. PCV ACT timing	Common rail angle of front engine	deg	deg	0 – 180	
6	F. TVC amp.	Current of front TVC	mA	mA	0 – 1000	
REAL TIME MONITOR (2/6)		Contents	Unit(SI)	Unit (METRIC)	Range of display	Remarks
1	R. engine speed	Rpm of rear engine	rpm	rpm	0 – 3000	Temperature of engine coolant is monitored on the machine monitor side.
2	R. engine fuel temp	Fuel temperature of rear engine	degC	°C	-30 – 100	
3	R. fuel injection	Fuel injection volume of rear engine	mm^3/st	mm^3/st	0 – 600	
4	R. rail press.	Common rail pressure of rear engine	MPa	kg/cm^2	0 – 200	
5	R. PCV ACT timing	Common rail cam angle of rear engine	deg	deg	0 – 180	
6	R. TVC amp.	Current of rear TVC	mA	mA	0 – 1000	
REAL TIME MONITOR (3/6)		Contents	Unit(SI)	Unit (METRIC)	Range of display	Remarks
1	F. engine speed	Rpm of front engine	rpm	rpm	0 – 3000	Temperature of engine coolant is monitored on the machine monitor side.
2	No.1,2 F. pump press.	Pressure of No.1 and No.2 front pumps	MPa	kg/cm^2	0 – 50.0	
3	No.3,4 F. pump press.	Pressure of No.3 and No.4 front pumps	MPa	kg/cm^2	0 – 50.0	
4	swing pump press.	Pressure of swing pump	MPa	kg/cm^2	0 – 50.0	
5	F. TVC amp.	Current of front TVC	mA	mA	0 – 1000	
6	F. NC press.	Pressure of front NC	MPa	kg/cm^2	0 – 5.0	

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REAL TIME MONITOR (4/6)		Contents	Unit(SI)	Unit (METRIC)	Range of display	Remarks
1	R. engine speed	Rpm of rear engine	rpm	rpm	0 – 3000	Temperature of engine coolant is monitored on the machine monitor side.
2	No.1,2R. pump press.	Pressure of No.1 and No.2 rear pumps	MPa	kg/cm^2	0 – 50.0	
3	No.3,4R. pump press.	Pressure of No.3 and No.4 rear pumps	MPa	kg/cm^2	0 – 50.0	
4	swing pump press.	Pressure of swing pump	MPa	kg/cm^2	0 – 50.0	
5	R. TVC amp.	Current of rear TVC	mA	mA	0 – 1000	
6	R. NC press.	Pressure of rear NC	MPa	kg/cm^2	0 – 5.0	
REAL TIME MONITOR (5/6)		Contents	Unit(SI)	Unit (METRIC)	Range of display	Remarks
1	PPC boom raise	Boom Raise oil-pressure switch	on-off	on-off	—	
2	PPC boom lower	Boom Lower oil-pressure switch	on-off	on-off	—	
3	PPC arm in	Arm IN oil-pressure switch	on-off	on-off	—	
4	PPC arm out	Arm OUT oil-pressure switch	on-off	on-off	—	
5	PPC bucket curl	Bucket Curl oil-pressure switch	on-off	on-off	—	
6	PPC bucket dump	Bucket Dump oil-pressure switch	on-off	on-off	—	
REAL TIME MONITOR (6/6)		Contents	Unit(SI)	Unit (METRIC)	Range of display	Remarks
1	PPC RH travel	Right travel oil-pressure switch	on-off	on-off	—	
2	PPC LH travel	Left travel oil-pressure switch	on-off	on-off	—	
3	PPC swing	Swing oil-pressure switch	on-off	on-off	—	
4	ST. travel valve	Straight-travel solenoid valve	on-off	on-off	—	
5	CO cansel valve	CO cancel solenoid valve	on-off	on-off	—	
6	swing brake valve	Swing parking-brake solenoid valve	on-off	on-off	—	

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Failure Code dB22KK or Error Code EA56

Failure Code	Error Code	Failure Phenomenon	R. engine power failure (1) (rear engine controller system)
dB22KK	EA56		
Failure Content	• Load source voltage of rear engine controller dropped to 10 V or lower when Starting switch is ON.		
Controller Reaction	• No response in particular		
Phenomenon on Machine			
Related Information			

Possible Cause and Standard value		Cause	Standard value, Remarks for Troubleshooting		
	1	Defective circuit breaker	If circuit breaker has been shut-down, a circuit is likely to be defective caused by grounding, etc. (refer to possible cause 4).		
	2	Defective load power-source relay of rear engine controller	★Prepare by turning Starting switch OFF, and diagnose with the switch OFF.		
			Try to replace the right-side relay with another; if engine becomes normal, load power-source relay of engine controller is defective.		CM12
	3	Defective harness caused by disconnection (disconnection, defective contact of connector)	★Prepare by turning Starting switch OFF, and diagnose with the switch OFF.		
			Harness (RE03 (female) ①②㉑ - CM13 (female) ⑤)	Resistance	1Ω max.
			Harness (CM13 (female) ③ - CM21)	Resistance	1Ω max.
			Harness (CM13 (female) ① - branched point of circuit)	Resistance	1Ω max.
			Harness (CM13 (female) ② - branched point of circuit)	Resistance	1Ω max.
	4	Defective harness caused by grounding (contact with GND circuit)	★Prepare by turning Starting switch OFF, and diagnose with the switch OFF.		
			Between harness (RE03 (female) ①②㉑ - CM13 (female) ⑤) and GND	Resistance	1MΩ min.
			Between harness (CM13 (female) ③ - CM21) and GND	Resistance	1MΩ min.
			Between harness (CM13 (female) ① - branched point of circuit) and GND	Resistance	1MΩ min.
	5	Defective rear engine controller	★Prepare by turning Starting switch OFF, and diagnose with the switch turned OFF or ON.		
			RE03	Starting switch	Voltage
			①②㉑ - GND	When OFF	1V max.
				When ON	20 – 30V

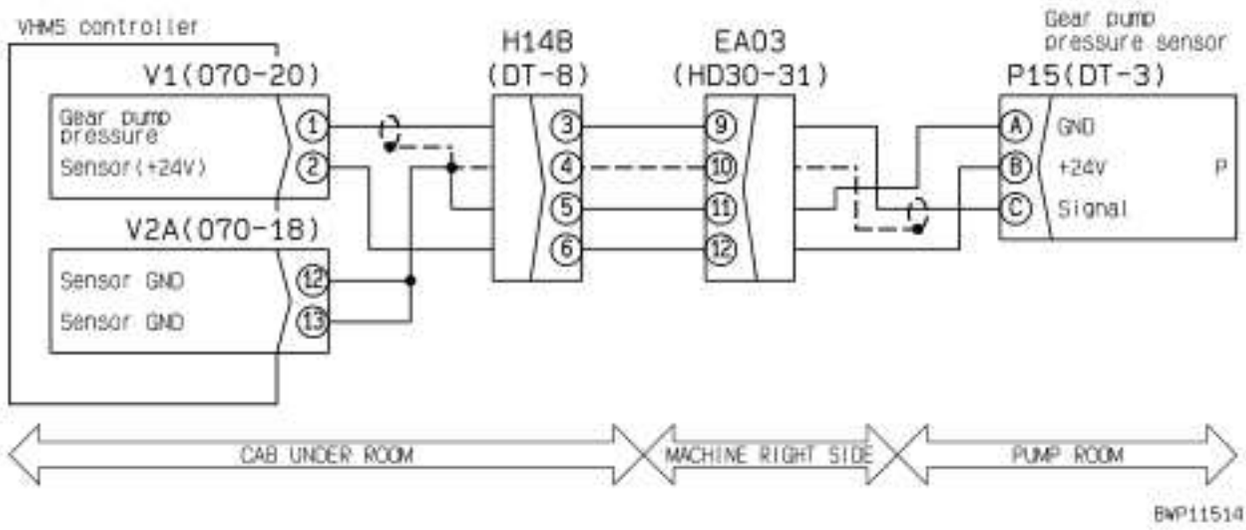
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Failure Code J100KA

Failure Code	Error Code	Failure Phenomenon	Break gear pump Press. sensor failure (VHMS Controller System)
J100KA	—		
Failure Content	• The signal voltage of the swing pump pressure sensor dropped below 0.3V.		
Controller Reaction	• No action is taken.		
Phenomenon on Machine			
Related Information			

Possible Cause and Standard value		Cause	Standard value, Remarks for Troubleshooting			
	1	Defective sensor 24V power system	Check if Failure Code (DBB0KP) is displayed. Troubleshoot it if displayed.			
	2	Defective gear pump pressure sensor (Internal defect)	★Turn off the starting switch and turn it on or start the engine for troubleshooting.			
			P15	Voltage		
			Between Ⓑ and Ⓐ	20 – 30V		
			Between Ⓒ and Ⓐ	0.3 – 4.7V		
	3	Disconnection of wiring harness (Disconnection, defective contact of connector)	★Turn off the starting switch for preparation and troubleshoot while keeping it off.			
			Wiring harnesses between V1 (female) ② and P15 (female) Ⓑ	Resistance value	1Ω max.	
			Wiring harnesses between V1 (female) ① and P15 (female) Ⓒ	Resistance value	1Ω max.	
	4	Short circuit with ground in wiring harness (Contact with GND circuit)	★Turn off the starting switch for preparation and troubleshoot while keeping it off.			
			Wiring harness between V1 (female) ① and P15 (female) Ⓒ, and ground	Resistance value	1MΩ min.	
	5	Defective VHMS controller	★Turn off the starting switch for preparation, and turn it on or start the engine for troubleshooting.			
			V1, V2A	Voltage		
			Between V1 ① and V2A ⑫⑬	0.3 – 4.7V		

Circuit Diagram related to Gear Pump Pressure Sensor



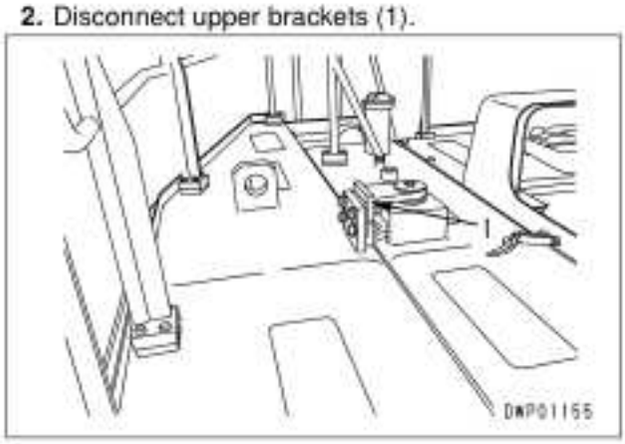
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REMOVAL AND INSTALLATION OF COUNTERWEIGHT ASSEMBLY

REMOVAL

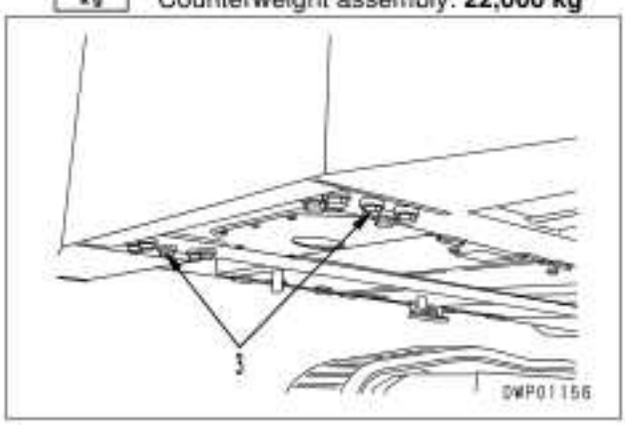
⚠ Stop the machine on level ground, and lower the work equipment completely to the ground.

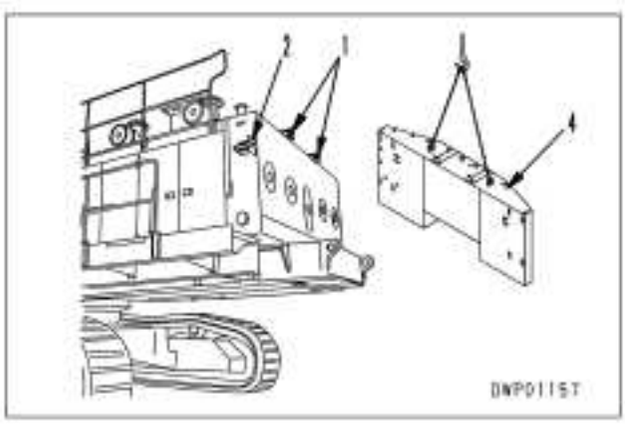
1. Sling counterweight assembly.
2. Disconnect upper brackets (1).



3. Disconnect left and right brackets (2).
4. Remove mounting bolts (3).
5. Lift off counterweight assembly (4). ※1

kg Counterweight assembly: **22,000 kg**





INSTALLATION

- Carry out installation in the reverse order to removal.

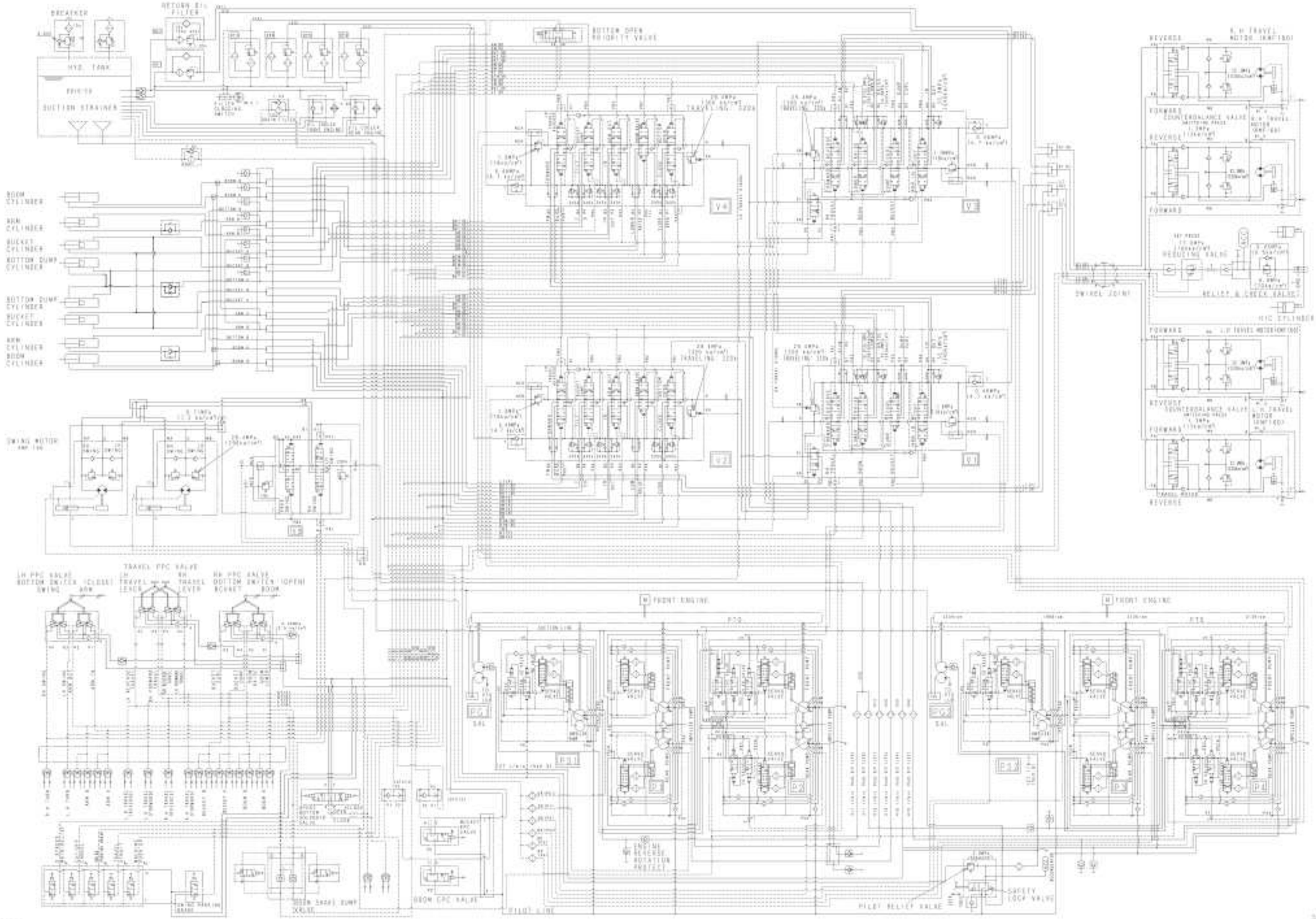
※1

★ Install so that the clearance between the counterweight and the fuel tank is uniform on the left and right.

Counterweight mounting bolt:
3923 ± 490 Nm {400 ± 50 kgm}

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HYDRAULIC CIRCUIT DIAGRAM (LOADING SHOVEL)



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