Shop Manual

VEBM400101

PW180-7E0

MACHINE MODEL **SERIAL NUMBER**

PW180-7E0 **H55051 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.
- PW180-7E0 mount the SAA6D107E-1 engine.
- For details of the engine, see the 107 Series Engine Shop Manual.

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7.1 Pump control function during travel

- If the machine travels in a work mode other than mode P, the work mode and the engine speed remain unchanged and the pump absorption torque is increased.
  - For details, see Engine/pump composite control function.

7.2 Travel speed change function

- Manual change with travel speed button on the monitor panel.
- If the travel speed switch is changed between CREEP, LO, and HI, the governor/pump controller controls the pump capacity and motor capacity at each gear speed (as shown in the table below) to change the travel speed. (See engine speed table, right)

Travel speed switch	CREEP	LO	HI	AUTO (LO–HI)
Pump capacity (%)	80	100	100	
Motor capacity	Max.	Min–Max	Min–Max	Min–Max
Travel speed (km/h)	2.5	0 –9.5	0 - 35 0 - 20	0 - 35 0 - 20 (German spec.)

- Automatic change by engine speed
- The travel speed changes to Hi level automatically if the travel speed has been Hi.
- Automatic change by pump discharge pressure
- While the machine is traveling with the travel speed switch at Hi, if the load is increased because of an upslope ground, etc. and the travel pressure keeps above 35 MPa {357 kg/cm²} for 0.5 seconds, the travel motor capacity is changed automatically and the travel speed is lowered (to the LO level) (The travel speed switch is kept at Hi, however).
- While the machine is travelling at LO, if the load is reduced on a flat or downslope ground, etc. and the travel pressure keeps below 23 MPa {234 kg/cm²} for 0.5 seconds, the travel motor capacity is changed automatically and the travel speed is set to Hi again.
- Controller does not change the travel mode in travel HI/LO switch unless a mode continues for more than 0.5 seconds.
- From CREEP to other mode, or from other mode to CREEP, travel mode should be changed immediately.
- Default mode should be the last mode when starter switch was turned off.
- Maximum speed 2100 rpm.

Maximum engine speed:

Max. Engine speed	
Travel	2450 rpm
P Mode	2150 rpm
E Mode	2010 rpm
L Mode	1830 rpm
B Mode	2040 rpm

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Before carrying out troubleshooting when failure code is displayed

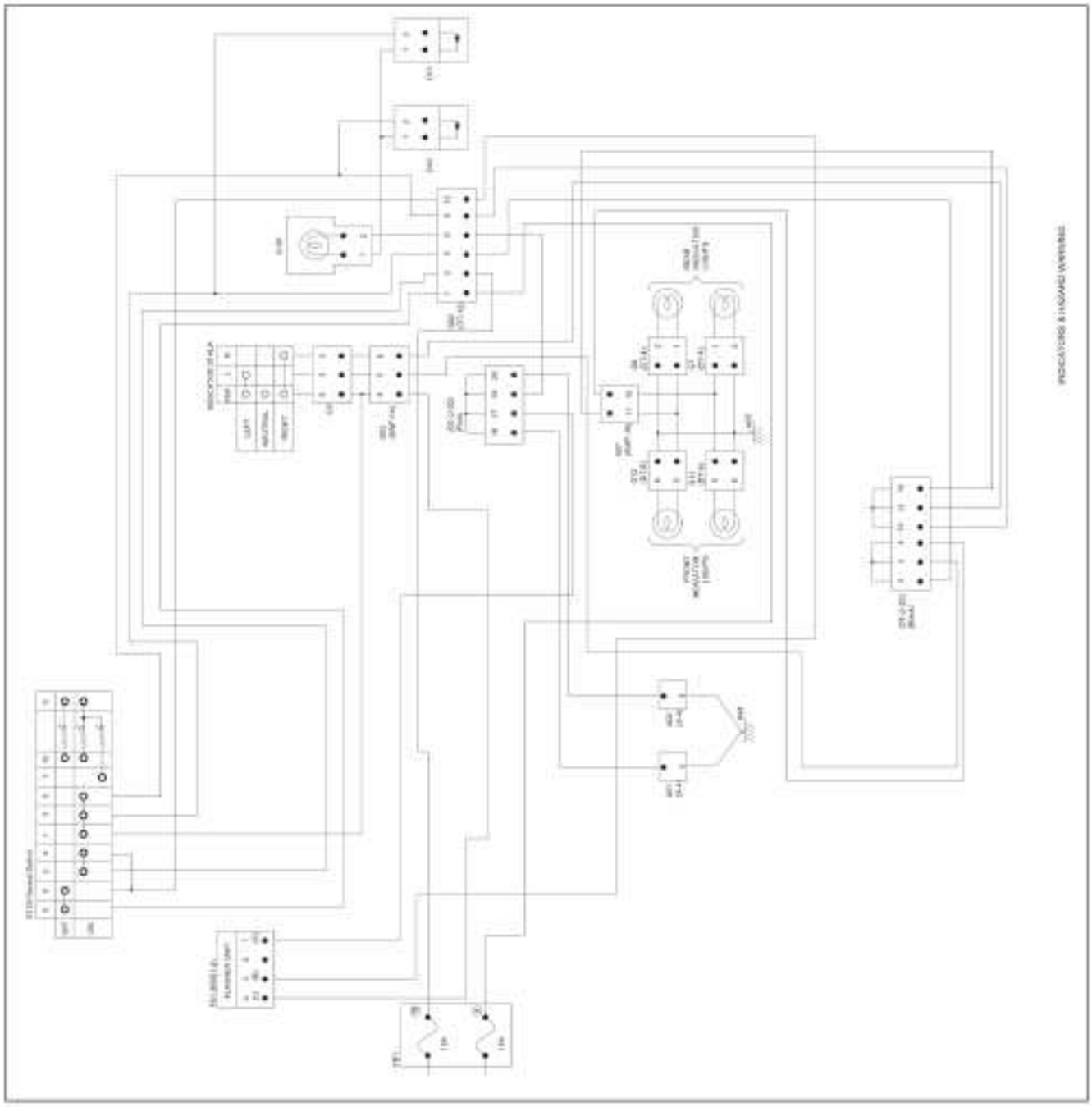
Connection table of fuse box

- This connection table shows the devices to which each power supply of the fuse box supplies power (A switch power supply is a device which supplies power while the starting switch is in the ON position and a constant power supply is a device which supplies power while the starting switch is in the OFF and ON positions).
- When carrying out troubleshooting related to the electrical system, you should check the fuses and fusible links to see if the power is supplied normally.

Type of power supply	Fusible link	Fuse	Fuse No.	Fuse capacity	Destination of power
Switch power supply	A34 (65 A)	FB1	1	10 A	Controller (Switched Power)
			2	20 A	Chassis attachment solenoids (controller)
			3	10 A	PPC Lock
			4	10 A	Cigarette lighter
					Windshield washer motor
			5	10 A	Horn and power max. switch.
	A34 (65 A)		6	10 A	Lower wiper and auto pre-heat relay
			7	10 A	Beacon
			8	25 A	Low brake pressure
			9	10 A	Flasher
			10	10 A	Refuel pump
	A34 (65 A)		11	20 A	Air conditioner unit
			12	20 A	Monitor (Switched power)
			13	20 A	Spare fuse
			14	10 A	Optional power supply (24V) and heated seat
			15	20 A	RH PPC lever power
	Starting switch ACC		20	5 A	Engine controller (ACC signal)
Constant power supply	A34 (65 A)	FB2	1	5 A	Travel FNR
			2	10 A	Park brake
			3	20 A	Work lights (C/W, boom + operator cab rear) and quick coupler
			4	25 A	Worklights (Operators cab front)
			5	20 A	Worklights (Operators fitment option)
	A35 (30 A)		11	20 A	Road lights (Master fuse)
			12	10 A	Rotolit controller (1)
			13	10 A	(Spare)
			14	10 A	(Spare)
			15	10 A	(Spare)

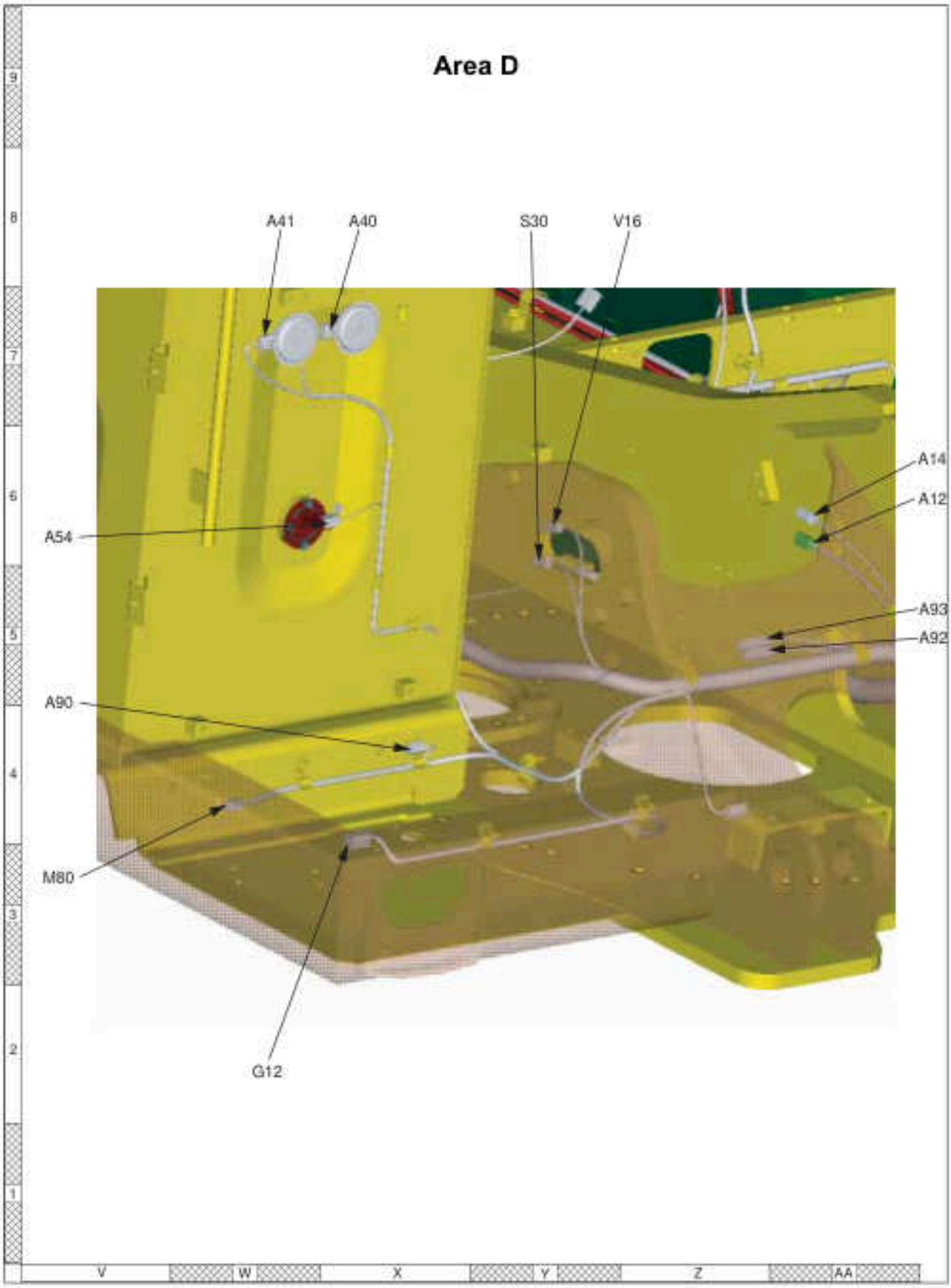
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Circuit diagram for indicators and hazard warning



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Area D



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Measurement of PPC valve output pressure

- PPC valve output pressure measurement tools

Mark	Part No.	Part Name
M	799-101-5002	Hydraulic Tester
	790-261-1203	Digital Type Hydraulic Tester

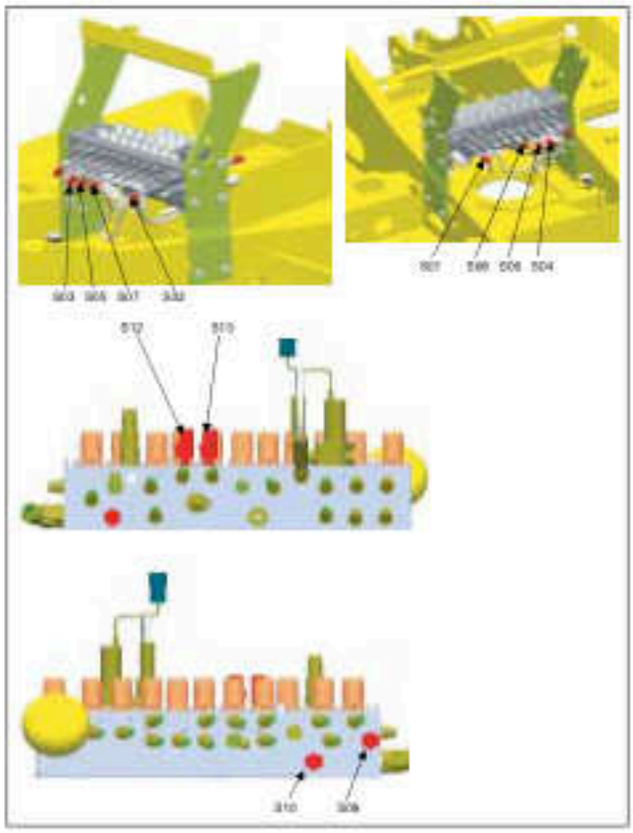
- Measure PPC valve output pressure after confirming that control circuit original pressure is normal.

Lower the work equipment to the ground and stop the engine. After the engine is stopped, (but with the ignition switch in the ON position and safety lever still ENGAGED), operated the control levers several times to release the remaining pressure in the hydraulic system. Then loosen the oil filler cap to release any pressure in the hydraulic tank.

1. Remove PPC oil pressure switches (see table) in the hydraulic circuits to be measured.

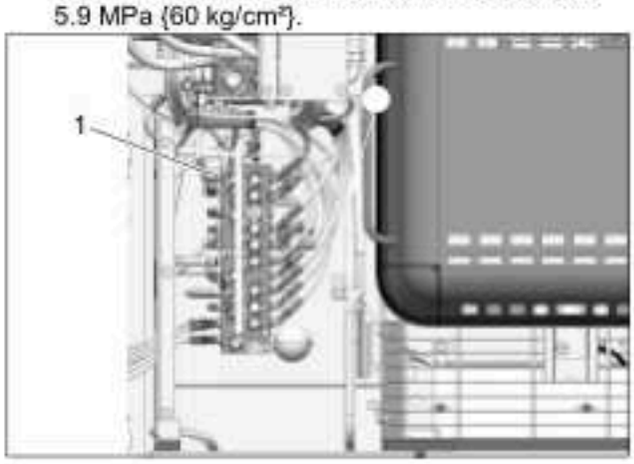
N°.	Circuit to be measured	Location
S01	Swing right	Main valve
S02	Swing left	Main valve
S03	Bucket dump	Main valve
S04	Bucket dig	Main valve
S05	Arm dump	Main valve
S06	Arm dig	Main valve
S07	2nd Boom extend *	Main valve
S08	2nd Boom retract *	Main valve
S09	Travel reverse	Solenoid valve block
S10	Travel forward	Solenoid valve block
S12	Boom/Stabilizer down	Solenoid valve block
S13	Boom/Stabilizer up	Solenoid valve block

* Pressure switch fitted to this port if 2 piece boom fitted.



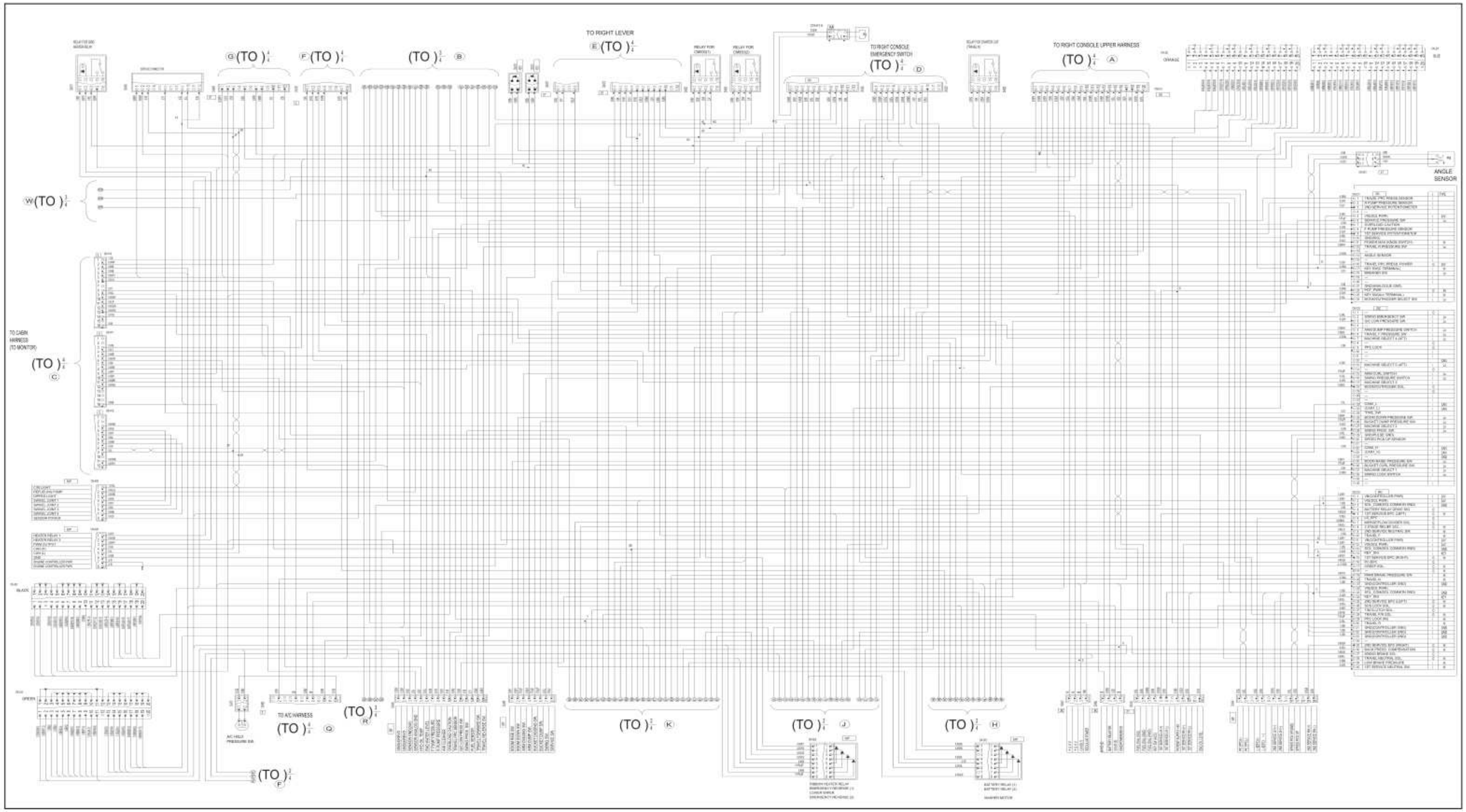
2. Fit tool (1) of hydraulic tester **M** and connect oil pressure gauge (2).

- Use an oil pressure gauge with the capacity of 5.9 MPa {60 kg/cm²}.



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Electrical circuit diagram (1/7)



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