SEBM028005

SHOP MANUAL

KOMATSU®

WA400-5

MACHINE MODEL
WA400-5

SERIAL NUMBER
70001 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.

- WA400-5 mounts the SAA6D114E-2 engine.
  For details of the engine, see the 114-2 Series Engine Shop Manual.

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Judgment of Lift Arm Lifting Start
When all the following conditions are satisfied, the lift arm is judged to have started moving, and weight calculation starts.

Condition 1	The lift arm angle ranges from -10° to -30°. (The range between below horizontal and above touching the ground)
Condition 2	The lift arm angle increases more than 0.1° in 0.1 second. (The lift arm started moving upward at a fixed speed.)

Judgment of Stop of Lift Arm Lifting
When any of the following conditions is satisfied, the lift arm is judged to have stopped, and a weight calculation ends.

Condition 1	The lift arm angle incseases less than 0.5° in 0.5 seconds. (The lift arm lifting speed reduced below fixed value.)
Condition 2	The lift arm moves downward. (When lift arm lowering operation is done, the calculation is finished.)
Condition 3	The lift arm angle became up to +20° (The calculation stops at high position.)
Condition 4	The lift arm lifting speed changed suddenly. (The speed reduced below 70% in comparison with the previous angular velocity.)
Condition 5	The calculation was carried out for 7 times.

Display of Calculated Weight
Calculated weight is displayed as the average value of each calculated values.

Calculation count	Calculating time (sec.)	Weight calculating and displaying methods
1 time only	1.5 - 2.5	Weight is displayed by only one calculation. In this case, the weight display flashes to inform the operator that the calculating time is short and the calculation accuracy is not enough.
2 times	2.5 - 3.5	Averaged weight of the two calculations is displayed.
3 times or more	3.5 -	The averaged weight of the latest three calculations is displayed.

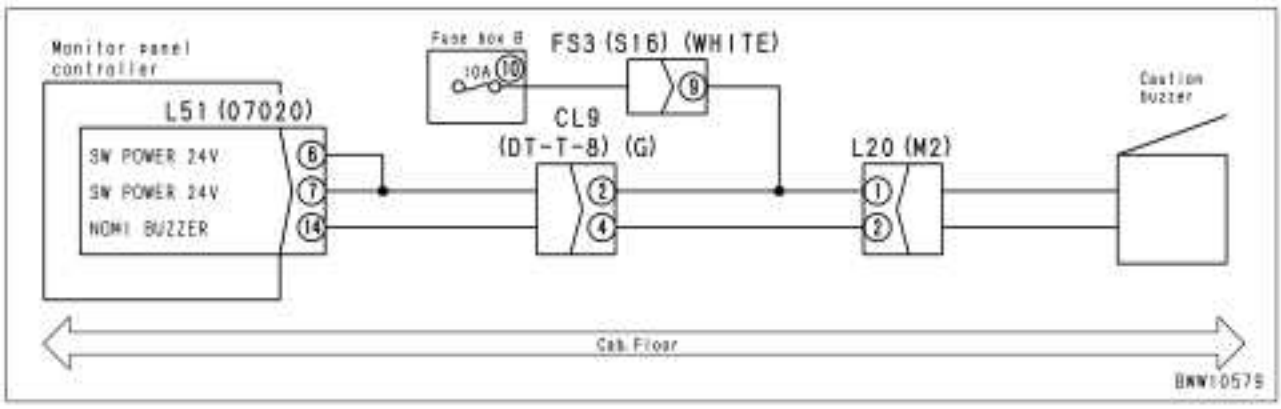
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ACTION CODE [MON-20]

Action Code	Error Code	Controller Code	Trouble	The alarm buzzer does not sound or stop. (Disconnection in alarm buzzer output system, or ground fault)
MON-20	—	(MON)		
Description of Trouble	• A disconnection or ground fault occurs in the alarm buzzer output circuit.			
Controller Reaction	• No reaction.			
Effect on Machine	• The alarm buzzer does not sound or stop.			
Related Information	—			

	Causes		Standard Value in Normal State and Remarks on Troubleshooting		
Possible Causes and Standard Values	1	Defective alarm buzzer	1) Turn starting switch OFF. 2) Disconnect connectorL20. 3) Connect T-adapter. 4.) Connect connector L20. 5.) 5 sec. lapsed after the starting switch was turned ON.		
			L20 (2) to body earth	The alarm buzzer sounds	Alarm buzzer normal
				The alarm buzzer does not sound.	Alarm buzzer abnormal
	2	Harness disconnection (Disconnection or contact fault)	1) Turn starting switch OFF. 2) Disconnect connectors FS3 and L20. 3) Connect T-adapter.		
			Harness between L51 (Female) (14) - L20 (Female) (2)	Resistance	1 Ω and below
			Harness between FS3 (Female) (3) - L20 (Female) (1)	Resistance	1 Ω and below
	3	Harness ground fault	1) Turn starting switch OFF. 2) Disconnect connectors L51, FS3, and L20. 3) Connect T-adapter.		
			Between L51 (Female) (14), L20 (Female) (2) - body	Resistance	1 MΩ and above
			Between FS3 (Female) (3) and L51 (Female) (6), (7), L20 (Female) (1) and body ★ In this case, fuse B-(3) blows, and the monitor does not start.	Resistance	1 MΩ and above
	4	Defective monitor panel	1) Turn starting switch OFF. 2) Disconnect connector L51. 3) Connect T-adapter.		
			Between L51 (14) - body	Turn starting switch ON.	Voltage 20 - 30 V
				For 2 sec. after the starting switch was turned ON. (The alarm buzzer sounds.)	Voltage 1 V and below
				For 1 sec. after 2 sec. lapsed after the starting switch was turned ON. (The alarm buzzer does not sound.)	Voltage 17 - 30 V

Related circuit diagram



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METHOD OF USING TROUBLE-SHOOTING CHARTS

This troubleshooting chart is divided into three sections: **questions, check items, and troubleshooting.**
The questions and check items are used to pinpoint high probability causes that can be located from the failure symptoms or simple inspection without using troubleshooting tools.
Next, troubleshooting tools or direct inspection are used to check the high probability causes to make final confirmation.

[Questions]

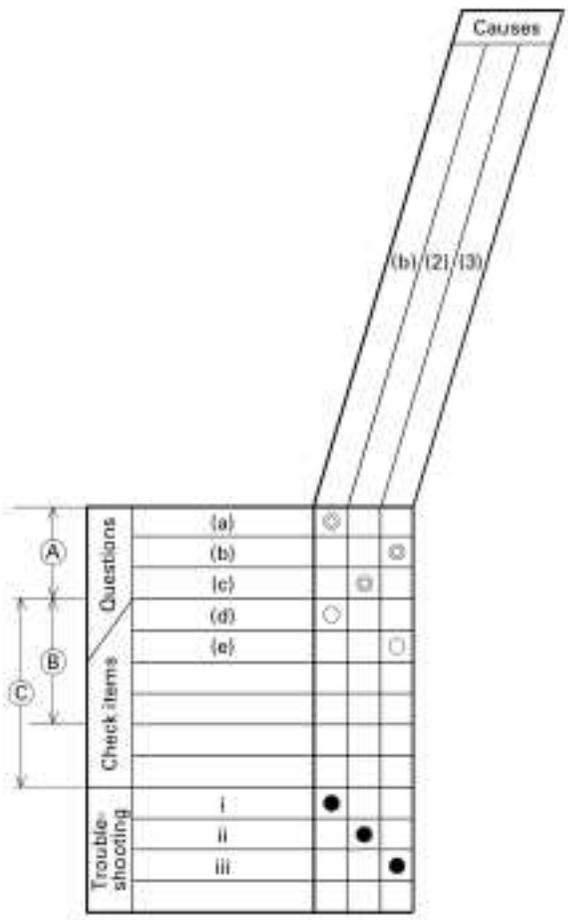
Sections Ⓐ + Ⓑ in the chart on the right corresponds to the items where answers can be obtained from the user. The items in Ⓑ are items that can be obtained from the user, depending on the user's level.

[Check items]

The serviceman carries out simple inspection to narrow down the causes. The items under Ⓒ in the chart on the right correspond to this.
The serviceman narrows down the causes from information Ⓐ that hi has obtained from the user and the results of Ⓒ that hi has obtained from his own inspection.

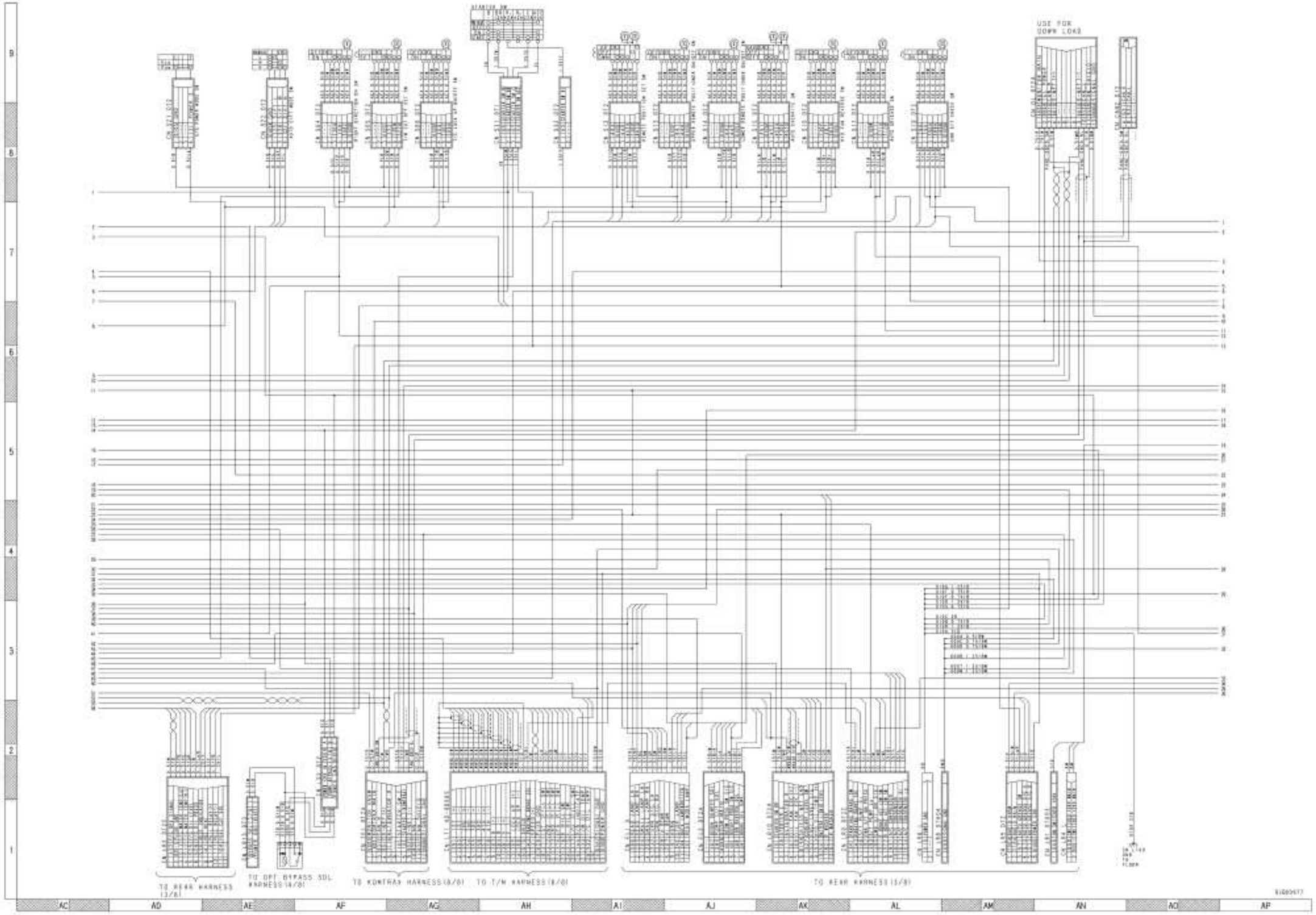
[Troubleshooting]

Troubleshooting is carried out in the order of probability, starting with the causes that have been marked as having the highest probability form information gained from **[Questions]** and **[Check items]**.



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ELECTRICAL CIRCUIT DIAGRAM 2/8 (3/4)



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