SEN00823-16

Shop Manual

WHEEL LOADER **WA430-6**

SERIAL NUMBERS 65001 and up

ecot3

KOMATSU®

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Determination of lift arm raise operation start
The load meter determines that the lift arm starts moving and starts weight calculation when all the following conditions are satisfied.

Condition 1	The lift arm angle is between –10 and –30°. (The range between the horizontal position and position immediately before it contacts the ground)
Condition 2	The lift arm angle changes at least 0.1° for 0.1 second. (The lift arm starts moving with min. specified speed in raising direction.)

Determination of lift arm raise operation stop
The load meter determines that the lift arm stops moving and ends weight calculation when one of the following conditions is satisfied.

Condition 1	The change of the lift arm angle has decreased to below 0.5° per 0.5 second. (The lift arm speed in the raise direction has decreased to a speed below a certain speed)
Condition 2	The lift arm angle has started decreasing. (If the lift arm lower operation is started, the calculation of the load weight is finished)
Condition 3	The lift arm angle has increased to +20° or more. (The load weight calculation is stopped at the lift arm high position)
Condition 4	The lift arm raise speed has changed sharply. (The angular velocity is 70% of the previous one or less)
Condition 5	The load weight has been calculated 7 times.

Display of calculated weight
The average of calculated weight values are displayed.

Number of calculations	Calculation time (sec)	Weight calculation and display method
Only 1 time	1.5 – 2.5	Displays weight based on a single calculation result. In this case, however, the weight display blinks to inform the operator that the precision is unstable due to short calculation time.
2 times	2.5 – 3.5	Displays weight based on the mean value of 2 calculation results.
Min. 3 times	3.5 –	Displays weight based on the mean value of latest 3 calculation results.

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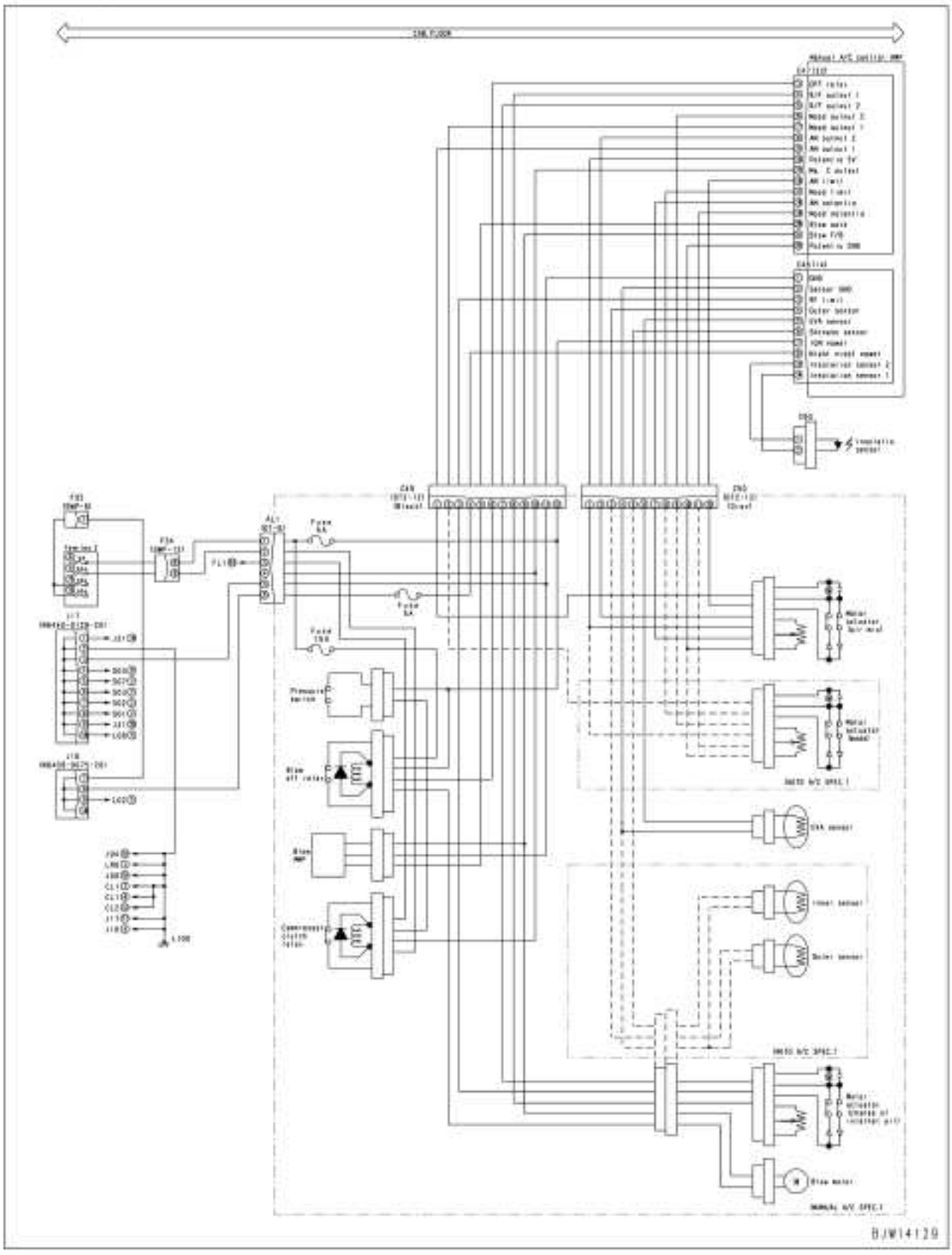
Failure code [DKA0KA] (Lift arm angle sensor: Disconnection)

Action code	Failure code	Trouble	Lift arm angle sensor: Disconnection (Work equipment controller system)
E01	DKA0KA		
Contents of trouble	• Due to disconnection or ground fault in lift arm angle sensor system, the signal voltage is lower than normal range (Lift arm angle sensor signal: Max. 0.3 V).		
Action of controller	• Judges that lift arm is at the lowest position. • Resets the remote positioner function. • Resets semi auto digging function. • No PC control while the lift arm is rising. • When the remote positioner down setting is ON, turns OFF the lift arm float detent, and when the remote positioner down setting is OFF, usually operates the lift arm float detent. • Turns the lift arm up detent OFF • If problem is removed, system is returned to normal operating state.		
Problem that appears on machine	• Remote positioner malfunction (operation is not stopped) • Malfunctioning in semi-auto digging operation (operation is stopped) • No PC control while the lift arm is rising		
Related information	• The input state (angle) from the lift arm angle sensor can be checked with the monitoring function (Code: 06002, BOOM ANG). • The input state (voltage) from the lift arm angle sensor can be checked with the monitoring function (Code: 06005, BOOM ANG). • If failure code [DAF5KP] (Machine monitor: Low output voltage) is displayed, carry out troubleshooting for it first. • Method of reproducing failure code: Turn the starting switch ON.		

Possible causes and standard value in normal state	Causes		Standard value in normal state/Remarks on troubleshooting			
	1	Defective lift arm angle sensor (Internal disconnection or short circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			F18 (male)	Resistance		
			Between (A) and (C)	5 kΩ ± 20%		
			Between (A), (B), (C) and chassis ground	Min. 1 MΩ		
			★ Prepare with starting switch OFF, then start engine and carry out troubleshooting.			
			F18	Lift arm position	Voltage	
			Between (C) and (A)	Constant	4.85 – 5.15 V	
			Between (B) and (A)	Constant	0.83 – 4.17 V	
				Up stroke end	3.50 – 4.17 V	
				Lower stroke end	0.83 – 1.88 V	
	2	Disconnection in wiring harness (Disconnection in wiring harness or defective contact)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between F18 (female) (A) – chassis ground	Resistance	Max. 1 Ω	
			Wiring harness between F18 (female) (B) – L71 (female) (8)	Resistance	Max. 1 Ω	
			Wiring harness between F18 (female) (C) – L71 (female) (22)	Resistance	Max. 1 Ω	
	3	Grounding fault in wiring harness (Contact with ground circuit)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.			
			Wiring harness between F18 (female) (B) – L71 (female) (8) and chassis ground	Resistance	Min. 1 MΩ	
			Wiring harness between F18 (female) (C) – L71 (female) (22), – circuit branch end and chassis ground	Resistance	Min. 1 MΩ	

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Circuit diagram related to air conditioner

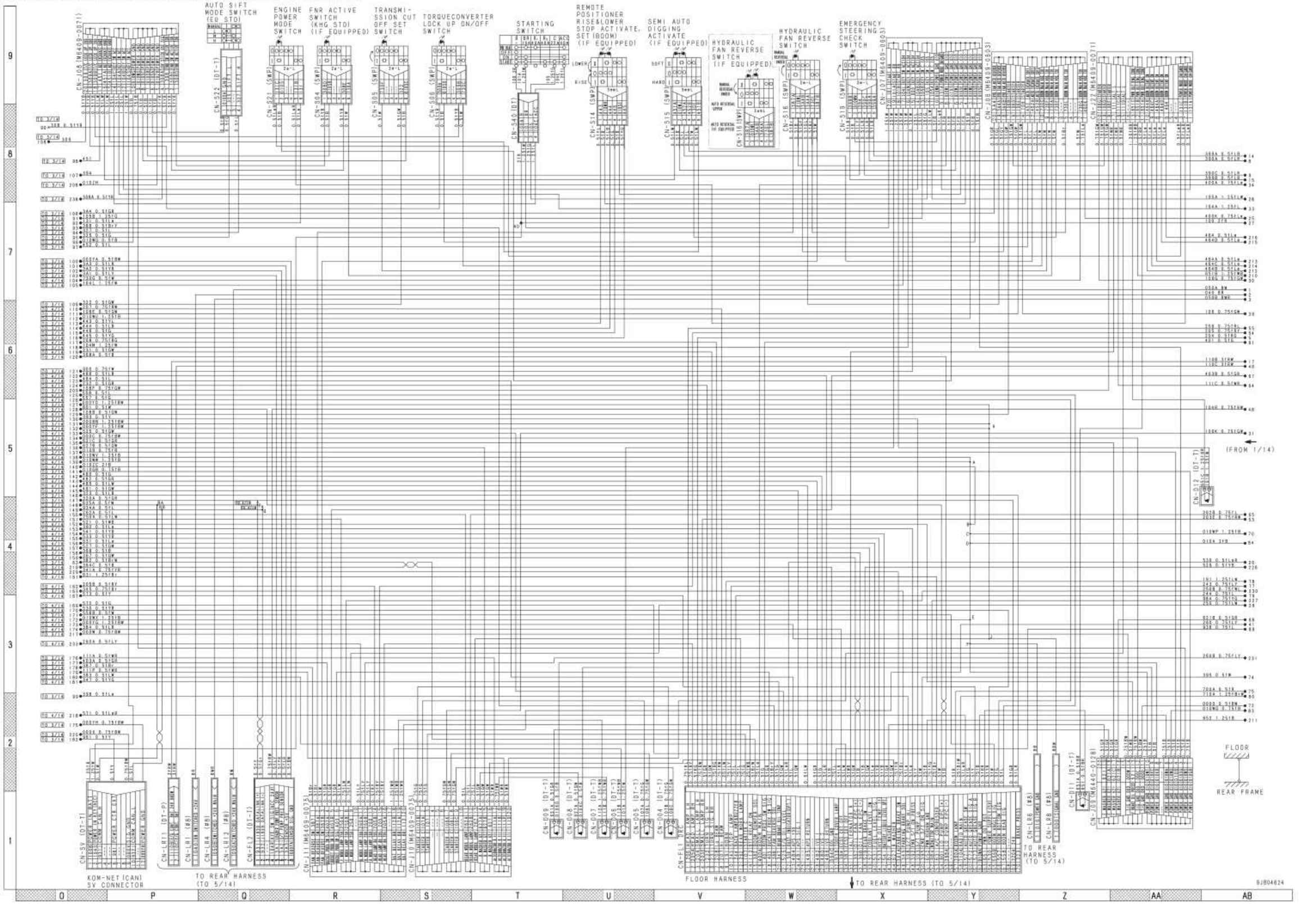


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Electrical circuit diagram (2/14)

Common to WA380-6, WA430-6, WA470-6 and WA480-6

★ This figure covers the equipment and devices that are unavailable as optional items in some areas.



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