CRAWLER EXCAVATOR

SERVICE MANUAL

R510L (India)

HYUNDAI

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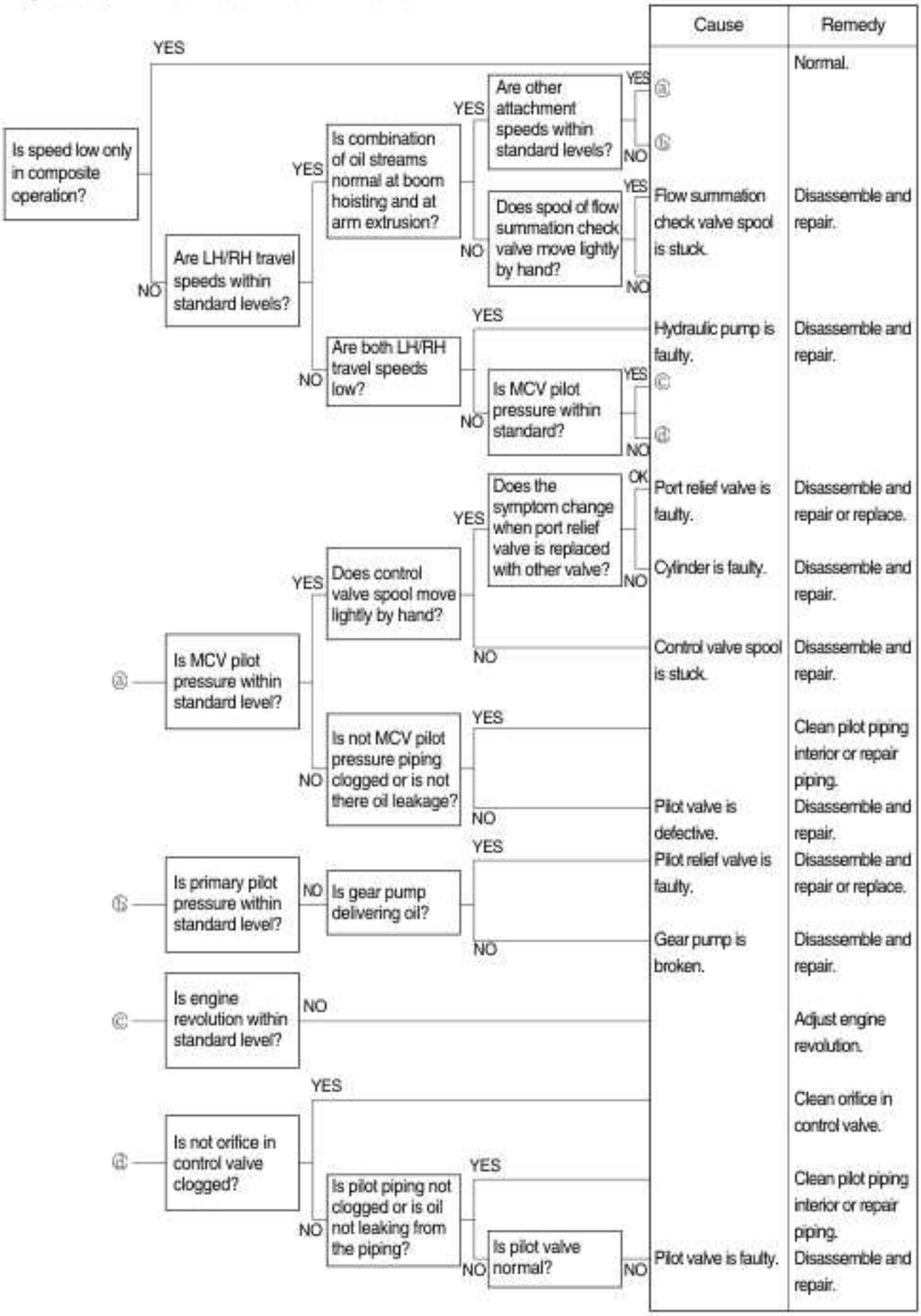
GROUP 4 CONNECTORS

1. CONNECTOR DESTINATION

Connector number	Type	No. of pin	Destination	Connector part No.	
				Female	Male
CN-1	AMP	6	I/conn(Engine harness-Frame harness)	S816-006002	S816-106002
CN-2	AMP	15	I/conn(Engine harness-Frame harness)	2-85262-1	368301-1
CN-3	AMP	8	I/conn(Engine harness-Frame harness)	S816-008002	S816-108002
CN-4	AMP	8	I/conn(Frame harness-Console harness LH)	S816-008002	S816-108002
CN-5	AMP	15	I/conn(Frame harness-Side harness RH)	2-85262-1	368301-1
CN-6	AMP	12	I/conn(Frame harness-Side harness RH)	S816-012002	S816-112002
CN-7	AMP	15	I/conn(Frame harness-Console harness RH)	2-85262-1	368301-1
CN-8	AMP	12	I/conn(Frame harness-Console harness RH)	S816-012002	S816-112002
CN-9	AMP	8	I/conn(Frame harness-Console harness RH)	S816-008002	S816-108002
CN-10	DEUTSCH	12	I/conn(Frame harness-Cab harness)	DT06S-12S	DT04-12P
CN-11	DEUTSCH	8	I/conn(Frame harness-Aircon harness)	DT06-8S	-
CN-12	DEUTSCH	2	I/conn(Frame harness-Boom wire harness)	DT06-2S-EP06	DT04-2P
CN-14	DEUTSCH	31	I/conn(Engine harness-Engine)	HD36-24-31SE	-
CN-16	AMP	6	Emergency engine speed control	S816-006002	S816-106002
CN-17	DEUTSCH	8	I/conn(Side harness RH-Wiper harness)	DT06-8S-EP06	DT04-8P
CN-19	AMP	2	Emergency MCU connector	S816-002002	-
CN-20	MOLEX	2	Horn	35825-0211	-
CN-21	AMP	6	Wiper motor	925276-0	-
CN-22	KET	2	Washer tank	MG640605	-
CN-23	KET	2	Speaker-LH	MG610070	-
CN-24	KET	2	Speaker-RH	MG610070	-
CN-25	MOLEX	2	Horn	35825-0211	-
CN-27	AMP	14	Radio & USB player	173852	-
CN-28	MWP	1	Aircon compressor	NMWP01F-B	-
CN-29	KET	2	Receiver dryer	MG640795	-
CN-36	-	-	Fuse box	21N8-20041	-
CN-45	RING-TERM	-	Starter	S820-108000	-
CN-47	FASTEN	2	Resistor	S810-002202	-
CN-47A	FASTEN	2	Resistor	-	S810-102202
CN-48	-	1	Hour meter	GP890469	-
CN-50	AMP	36	MCU	3441111-1	-
CN-51	AMP	36	MCU	3441111-1	-
CN-56	DEUTSCH	4	Cluster	-	DT04-4P-E004
CN-60	YAZAKI	2	Fusible link	21N4-01320	7122-4125-50
CN-61	DEUTSCH	2	Fuel filler pump	DT06-2S-EP06	-

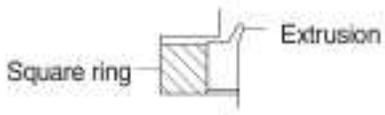
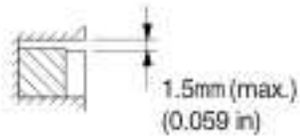
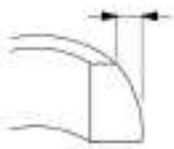
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2) BOOM, ARM OR BUCKET SPEED IS LOW



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7. TURNING JOINT

Part name		Maintenance standards	Remedy
Body, Stem	Sliding surface with sealing sections.	Plating worn or peeled due to seizure or contamination.	Replace
	Sliding surface between body and stem other than sealing section.	-Worn abnormality or damaged more than 0.1 mm (0.0039 in) in depth due to seizure contamination.	Replace
		-Damaged more than 0.1 mm (0.0039 in) in depth.	Smooth with oilstone.
	Sliding surface with thrust plate.	-Worn more than 0.5 mm (0.02 in) or abnormality.	Replace
		-Worn less than 0.5 mm (0.02 in).	Smooth
		-Damage due to seizure or contamination remediable within wear limit (0.5 mm) (0.02 in).	Smooth
Cover	Sliding surface with thrust plate.	-Worn more than 0.5 mm (0.02 in) or abnormality.	Replace
		-Worn less than 0.5 mm (0.02 in).	Smooth
		-Damage due to seizure or contamination remediable within wear limit (0.5 mm) (0.02 in).	Replace
Seal set	-	-Extruded excessively from seal groove square ring. 	Replace
	-	-Slipper ring 1.5 mm (0.059 in) narrower than seal groove, or narrower than back ring. 	Replace
	-	-Worn more than 0.5 mm (0.02 in)–1.5 mm (MAX.) (0.059 in) 	Replace

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(6) Remove drive gear (170).



(7) Remove carrier 1 (140), together with planetary gears 1 (141), sun gear 2 (160), etc. fitted.

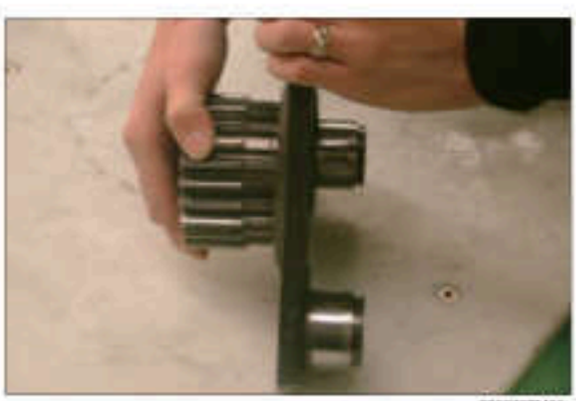


(8) Remove snap ring (145), and then remove side plate (144), planetary gear 1 (141), needle cage (142).

※ If flaking is observed on the inner ring surface replace inner ring. In this case, replace planetary gear 1 and needle cage simultaneously.



(9) Remove clip (162), and then remove carrier 1 (140) from sun gear 2 (160).



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3) Warning of main operation screen

(1) Warning display

① Engine coolant temperature




- This lamp blinks and the buzzer sounds when the temperature of coolant is over the normal temperature 105°C (221°F) .
- Check the cooling system when the lamp blinks.

② Fuel level




- This lamp blinks and the buzzer sounds when the level of fuel is below 68 ℓ (18 U.S. gal).
- Fill the fuel immediately when the lamp blinks.

③ Hydraulic oil temperature




- This warning lamp operates and the buzzer sounds when the temperature of hydraulic oil is over 105 °C (221 °F) .
- Check the hydraulic oil level when the lamp blinks.
- Check for debris between oil cooler and radiator.

④ All gauge




- This lamp blinks and the buzzer sounds when the all gauge is abnormal.
- Check the each system when the lamp blinks.

⑤ Communication error



- Communication problem between MCU controller and cluster makes the lamp blinks and the buzzer sounds.
- Check if any fuse for MCU burnt off. If not check the communication line between them.

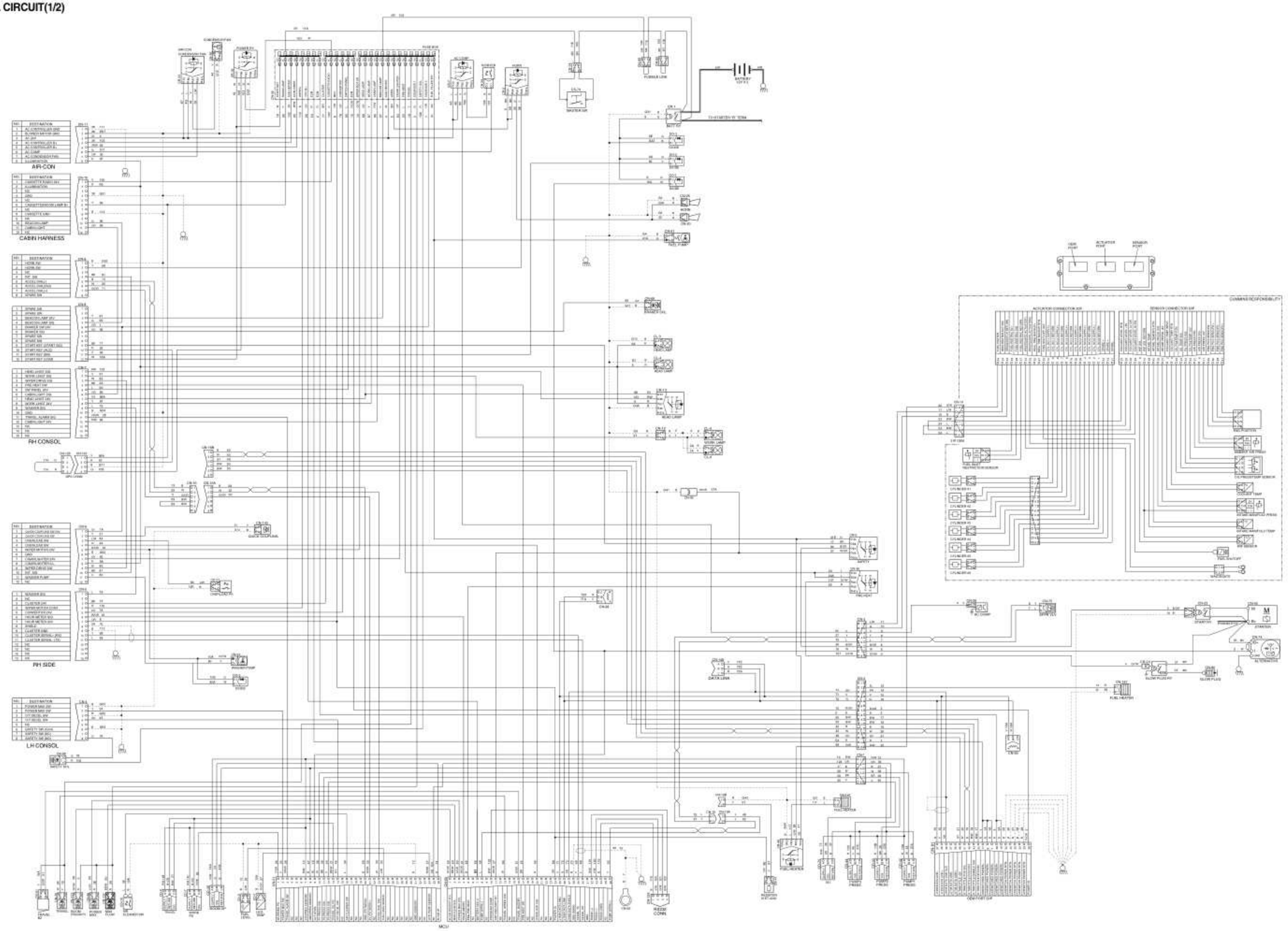
(2) Pop-up icon display

No	Switch	Selected mode	Display
1	Work mode switch	General work mode	
		Heavy duty work mode	
		Breaker operation mode	
2	Power mode switch	High power work mode	
		Standard power work mode	

No	Switch	Selected mode	Display
3	Auto deceleration switch	Light ON	
		Light OFF	
4	Travel speed control switch	Low speed	
		High speed	

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· ELECTRICAL CIRCUIT(1/2)


AIR-CON
CABIN HARNESS
RH CONSOL
RH SIDE
LH CONSOL
MCU
ACTUATOR CONNECTOR SIDE
SENSOR CONNECTOR SIDE
CUMMINS ISC/ISF(CM850) ECU
STARTER
ALTERNATOR
FUEL HEATER
GLOW PLUG
GLOW PLUG RELAY
FUEL HEATER
FUEL PUMP
ROOM LAMP
WORK LAMP
HORN
BATTERY
FUSIBLE LINK
MASTER S/W
CHECK CONNECTOR
DATA LINK
RADIO
CIGAR
SWING MOTOR
BOOM CYL
ARM CYL
BUCKET CYL
TRAVEL MOTOR
SWING MOTOR
BOOM CYL
ARM CYL
BUCKET CYL
TRAVEL MOTOR
PRESS
PRESS
PRESS