CRAWLER EXCAVATOR

SERVICE MANUAL

R480, R520LC-9A

HYUNDAI

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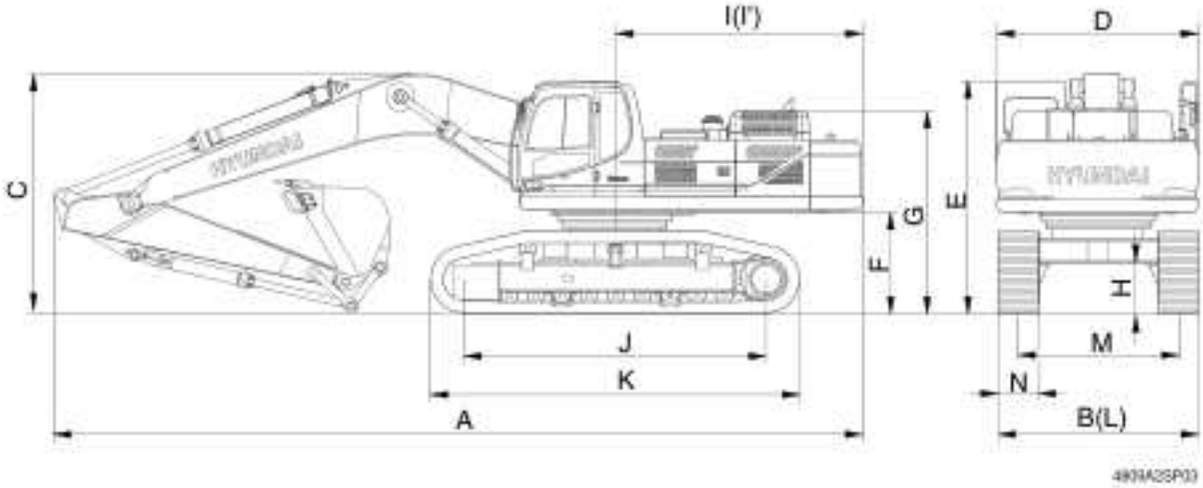
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4) ROBEX 520LC-9A

· 9.00 m (29' 6") BOOM, 5.85 m (19' 2") ARM



Description		Unit	Specification
Operating weight		kg (lb)	52410 (115540)
Bucket capacity (SAE heaped), standard		m³ (yd³)	2.15 (2.81)
Overall length	A	mm (ft-in)	13960 (45' 10")
Overall width, with 600 mm shoe (transport position / working position)	B		2980/3540 (9' 9"/11' 7")
Overall height	C		5190 (17' 0")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3400 (11' 2")
Ground clearance of counterweight	F		1500 (4' 11")
Engine cover height	G		2980 (9' 9")
Minimum ground clearance	H		770 (2' 6")
Rear-end distance	I		3855 (12' 8")
Rear-end swing radius	I'		3910 (12' 10")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5460 (17' 11")
Undercarriage width (transport position / working position)	L		2980/3540 (9' 9"/11' 7")
Track gauge (transport position / working position)	M		2380/2940 (7' 10"/9' 8")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr (mph)	3.2/5.0 (2.0/3.1)
Swing speed		rpm	9.0
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm² (psi)	0.91 (12.94)
Max traction force		kg (lb)	38500 (84800)

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Fault code J1939 SPN J1939 FMI	Reason	Effect (only when fault code is active)
1963 3482 7	Aftertreatment Fuel Shutoff Valve 1-Mechanical System Not Responding or Out of Adjustment. The aftertreatment fuel shutoff valve has been detected to be stuck closed.	Active aftertreatment diesel particulate filter regeneration will be disabled until the next key cycle.
1992 190 0	Engine Crankshaft Speed/Position - Data Valid But Above Normal Operating Range - Moderately Severe Level. Engine crankshaft speed/position signal indicates engine speed above engine protection limit.	Engine shutdown.
1993 4795 31	Aftertreatment Diesel Particulate Filter Missing - Condition Exists. The aftertreatment diesel particulate filter in the exhaust system is not present.	Active aftertreatment diesel particulate filter regeneration will be disabled.
2182 1072 3	Engine Brake Actuator Driver 1 Circuit - Voltage Above Normal or Shorted to High Source. High voltage or an open circuit detected at the engine brake solenoid number 1 signal circuit.	Engine brake on cylinders 1, 2, and 3 can not be activated.
2183 1072 4	Engine Brake Actuator Driver 1 Circuit - Voltage Below Normal or Shorted to Low Source. Low voltage detected at the engine brake solenoid number 1 signal circuit.	Engine brake on cylinders 1, 2, and 3 can not be activated.
2185 3512 3	Sensor supply 4 circuit - Voltage above normal, or shorted to high source. High voltage detected at 5 VDC sensor supply circuit to the accelerator pedal position sensor.	Engine will only idle.
2186 3512 4	Sensor supply 4 circuit - Voltage below normal, or shorted to low source. Low voltage detected at 5 VDC sensor supply circuit to the accelerator pedal position sensor.	Engine will only idle.
2195 703 14	Auxiliary Equipment Sensor Input Engine Protection Critical - Special Instructions. The emergency door of the vehicle has been detected open.	Engine will derate or shut down, depending on the engine protection settings.
2198 641 11	VGT Actuator Driver Circuit - Root Cause Not Known. Intermittent communication between the smart VGT controller and the ECM has been detected. The VGT controller is not interpreting the J1939 message from the ECM correctly.	VGT actuation will be disabled.
2265 1075 3	Electric lift pump for engine fuel supply circuit - Voltage above normal, or shorted to high source. High voltage or open detected at the fuel lift pump signal circuit.	Engine may be difficult to start.
2266 1075 4	Electric lift pump for engine fuel supply circuit - Voltage below normal, or shorted to low source. Low signal voltage detected at the fuel lift pump circuit.	Engine can be difficult to start.
2272 27 4	EGR Valve Position Circuit - Voltage Below Normal or Shorted to Low Source. Low signal voltage has been detected at the EGR valve position sensor circuit	EGR valve actuation will be disabled.

※ Some fault codes are not applied to this machine.

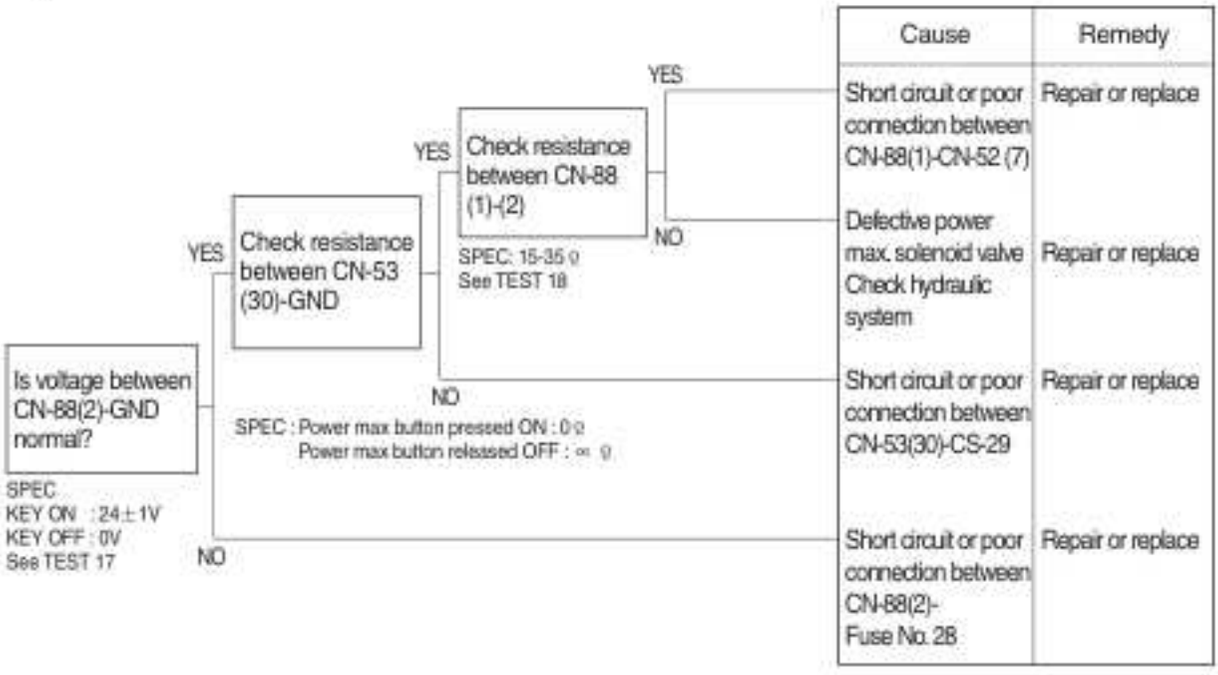
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14. MALFUNCTION OF POWER MAX

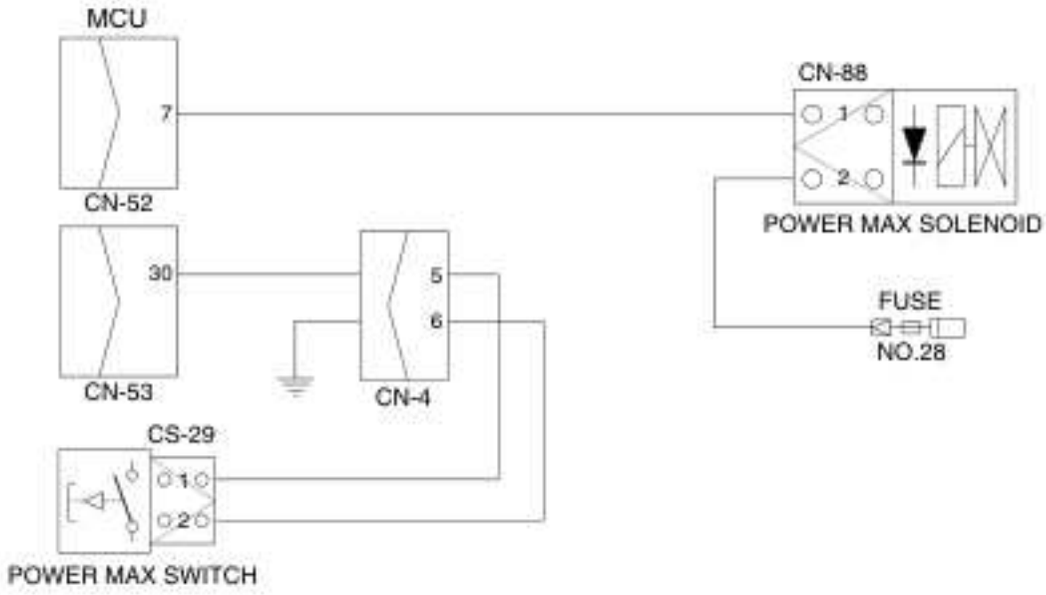
- Fault code : HCESPN 166, FMI 4 or 6

※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Wiring diagram



210KMS14

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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.

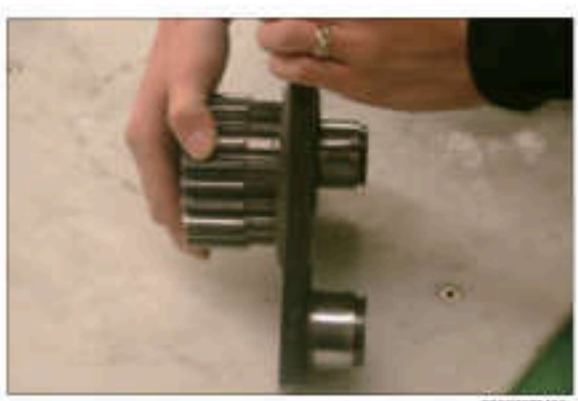


(8) Remove snap ring (145), and then remove side plate (144), planetary gear 1 (141), needle cage (142).

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



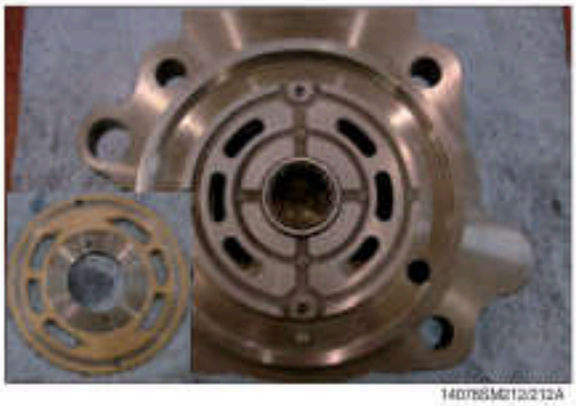
(9) Remove clip (162), and then remove carrier 1 (140) from sun gear 2 (160).



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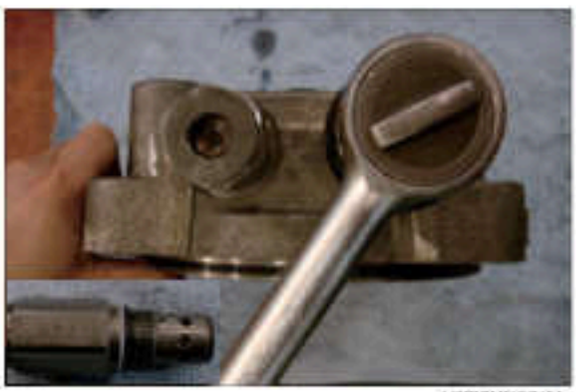
(3) Disassemble rear cover assy sub

① Disassemble pin (8, 23), valve plate (24) from rear cover (21).



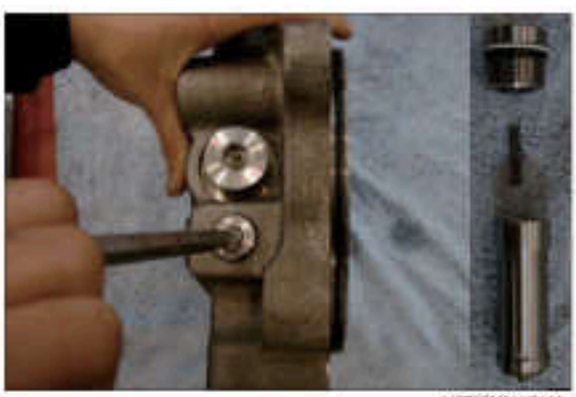
14078SM212/212A

② Using a torque wrench, disassemble relief valve assy (31) 2 set from rear cover (21).



14078SM213/213A

③ After disassembling plug with a L-wrench from rear cover (21), disassemble respectively back up ring, O-ring, O-ring, spring, anti-inversion valve assy (32)



14078SM214/214A

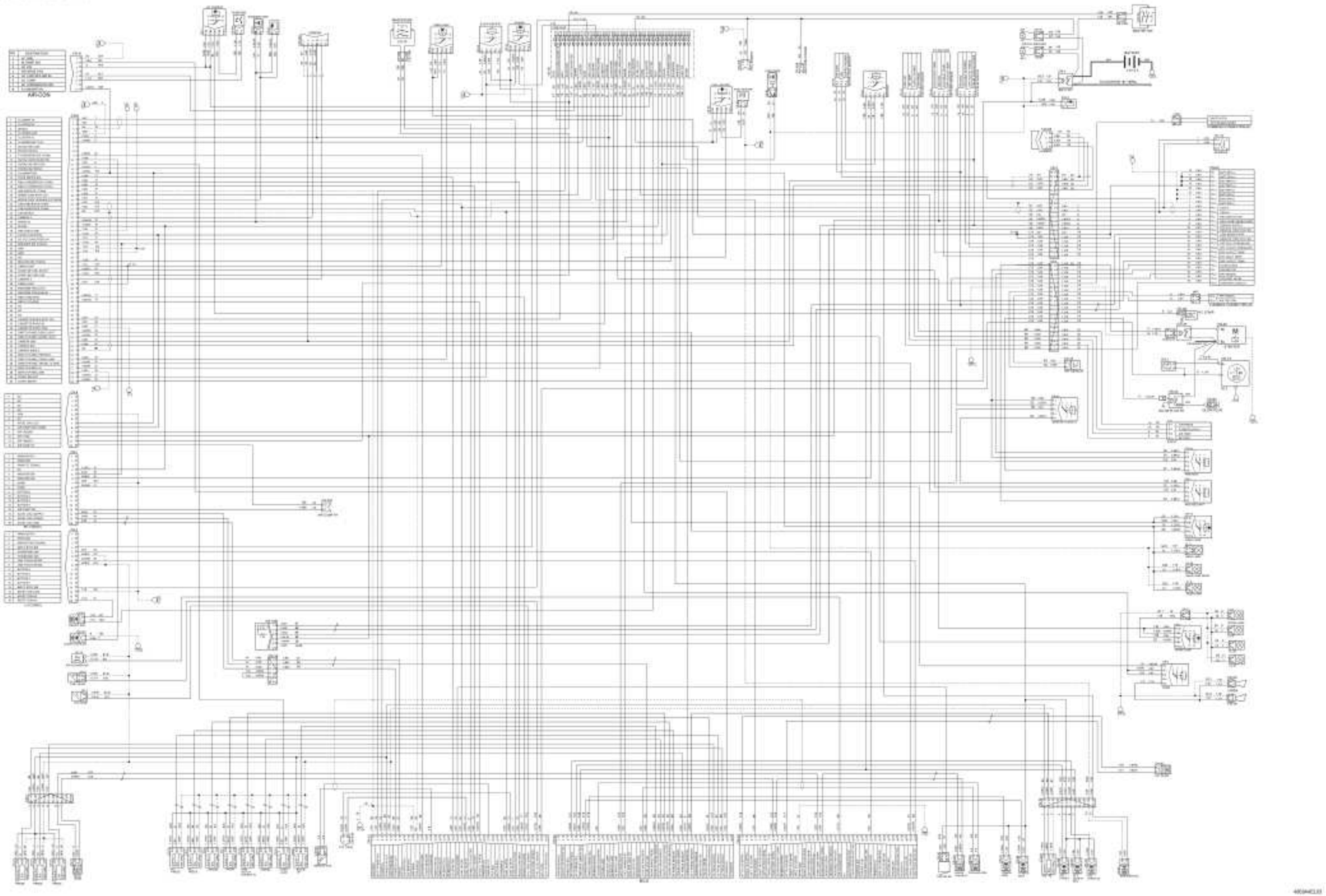
④ Disassemble make up check valve assy with a torque wrench from rear cover (21).



14078SM215/215A

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· ELECTRICAL CIRCUIT (1/2)



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