CRAWLER EXCAVATOR

SERVICE MANUAL

R505LVS (China)

HYUNDAI

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CONTENTS

FORWARD

Group 1 Structure 0-1
Group 2 How to read the service manual 0-2
Group 3 Conversion table 0-3

SECTION 1 GENERAL

Group 1 Safety Hints 1-1
Group 2 Specifications 1-10

SECTION 2 STRUCTURE AND FUNCTION

Group 1 Pump Device 2-1
Group 2 Main Control Valve 2-17
Group 3 Swing Device 2-46
Group 4 Travel Device 2-57
Group 5 RCV Lever 2-71
Group 6 RCV Pedal 2-78

SECTION 3 HYDRAULIC SYSTEM

Group 1 Hydraulic Circuit 3-1

SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location 4-1
Group 2 Electric Circuit 4-3
Group 3 Electrical Component Specification 4-18
Group 4 Connectors 4-26

SECTION 5 MECHATRONICS SYSTEM

Group 1 Outline 5-1
Group 2 Mode Selection System 5-3
Group 3 Automatic Deceleration System 5-6
Group 4 Power Boost System 5-7
Group 5 Travel Speed Control System 5-8

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Group 6 Automatic Warming Up System 5-9
Group 7 Engine Overheat Prevention System 5-10
Group 8 Variable power control system 5-11
Group 9 Electronic Pump Independent Control System(EPIC) 5-12
Group 10 Anti-restart system 5-13
Group 11 Self-Diagnostic System 5-14
Group 12 Engine Control System 5-26
Group 13 EPPR (Electro Proportional Pressure Reducing) Valve 5-27
Group 14 Monitoring System 5-32

SECTION 6 TROUBLESHOOTING

Group 1 Before Troubleshooting 6-1
Group 2 Hydraulic and Mechanical System 6-4
Group 3 Electrical System 6-24
Group 4 Mechatronics System 6-40

SECTION 7 MAINTENANCE STANDARD

Group 1 Operational Performance Test 7-1
Group 2 Major Components 7-19
Group 3 Track and Work Equipment 7-27

SECTION 8 DISASSEMBLY AND ASSEMBLY

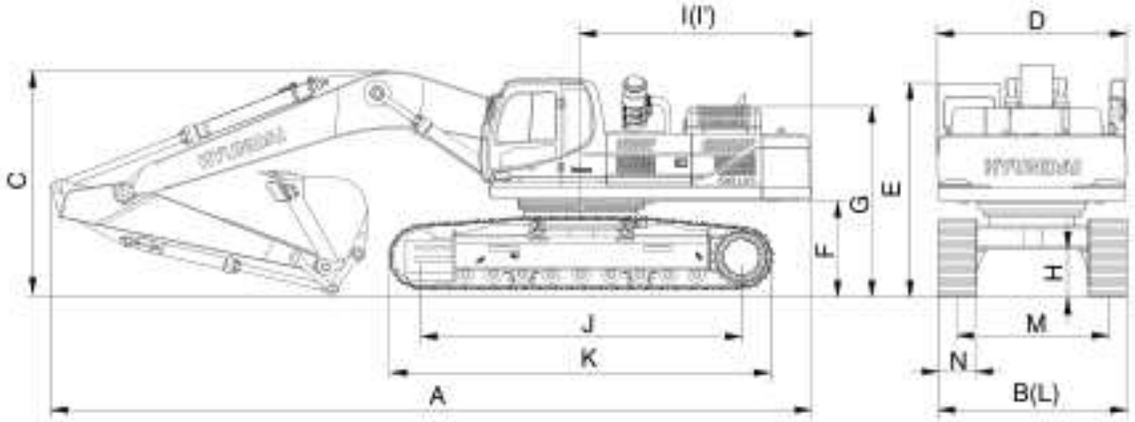
Group 1 Precaution 8-1
Group 2 Tightening Torque 8-4
Group 3 Pump Device 8-7
Group 4 Main Control Valve 8-50
Group 5 Swing Device 8-63
Group 6 Travel Device 8-96
Group 7 RCV Lever 8-126
Group 8 Turning Joint 8-140
Group 9 Boom, Arm and Bucket Cylinder 8-145
Group 10 Undercarriage 8-162
Group 11 Work Equipment 8-174

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2.SPECIFICATIONS

1) R505LVS

6.55m (21' 6") BOOM, 2.9m (9' 6") ARM



Description		Unit	Specification
Operating weight		kg (lb)	50200 (110673)
Bucket capacity (SAE heaped), standard		m³ (yd³)	2.79(3.65)
Overall length	A	mm (ft-in)	11710 (38' 5")
Overall width, with 600 mm shoe	B		3340 (10' 11")
Overall height	C		3810 (12' 6")
Superstructure width	D		2980 (9' 9")
Overall height of cab	E		3190 (10' 6")
Ground clearance of counterweight	F		1275 (4' 2")
Engine cover height	G		2770 (9' 1")
Minimum ground clearance	H		575(1' 11")
Rear-end distance	I		3750 (12' 4")
Rear-end swing radius	I'		3780(12' 5")
Distance between tumblers	J		4470 (14' 8")
Undercarriage length	K		5510(18' 1")
Undercarriage width	L		3340 (10' 11")
Track gauge	M		2740 (9' 0")
Track shoe width, standard	N		600 (24")
Travel speed (low/high)		km/hr	3.4/5.4
Swing speed		rpm	9.2
Gradeability		Degree (%)	35 (70)
Ground pressure (600 mm shoe)		kgf/cm² (psi)	0.88(12.53)
Max traction force		kg (lb)	34100 (75178)

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Fault code J1939 SPN J1939 FMI	Reason	Effect (only when fault code is active)
538 719 11	Either low voltage detected on autoshift neutral gear actuator circuit when +12 VDC are commanded or voltage detected when no voltage is commanded.	Top 2 neutral actuator will not function properly. Transmission will not shift properly.
544 611 7	Autoshift failure ; at least three shift attempts were missed.	Top 2 transmission will not be controlled correctly. Transmission remains in manual mode.
551 558 4	No voltage detected simultaneously on both the idle validation off-idle and on-idle circuits.	Engine will only idle.
581 1381 3	High voltage detected at the fuel inlet restriction sensor signal pin.	Fuel inlet restriction monitor deactivated.
582 1381 4	Low voltage detected at the fuel inlet restriction sensor signal pin	Fuel inlet restriction monitor deactivated.
583 1381 18	Restriction has been detected at the fuel pump inlet.	Fuel inlet restriction monitor warning is set.
588 611 3	High voltage detected at the alarm circuit when low voltage was expected by the ECM.	The ICON system will be disabled. Only mandatory shutdown will be enabled. Engine can be started normally.
589 611 4	Less than +6 VDC detected at the engine start alarm circuit when high voltage was expected by the ECM.	The ICON idle control system will be disabled. Only mandatory shutdown will be enabled. Engine can be started normally.
596 167 16	High battery voltage detected by the battery voltage monitor feature.	Yellow lamp will be lit until high battery voltage condition is corrected.
597 167 16	ICONTM has restarted the engine three times within three hours due to low battery voltage (automotive only) OR low battery voltage detected by the battery voltage monitor feature.	Yellow lamp will be lit until low battery voltage condition is corrected. The ECM may increase idle speed and deactivate idle decrement switch if idle speedup is enabled. The engine will run continuously if ICONTM is active (automotive only).
598 167 1	Very low battery voltage detected by the battery voltage monitor feature.	Red lamp lit until very low battery voltage condition is corrected.
611 1383 31	Engine shutdown by operator before proper engine cool down resulting in filtered load factor above maximum shutdown threshold.	No action taken by the ECM.
951 166 2	A power imbalance between cylinders was detected by the ECM.	Engine may have rough idle or misfire.

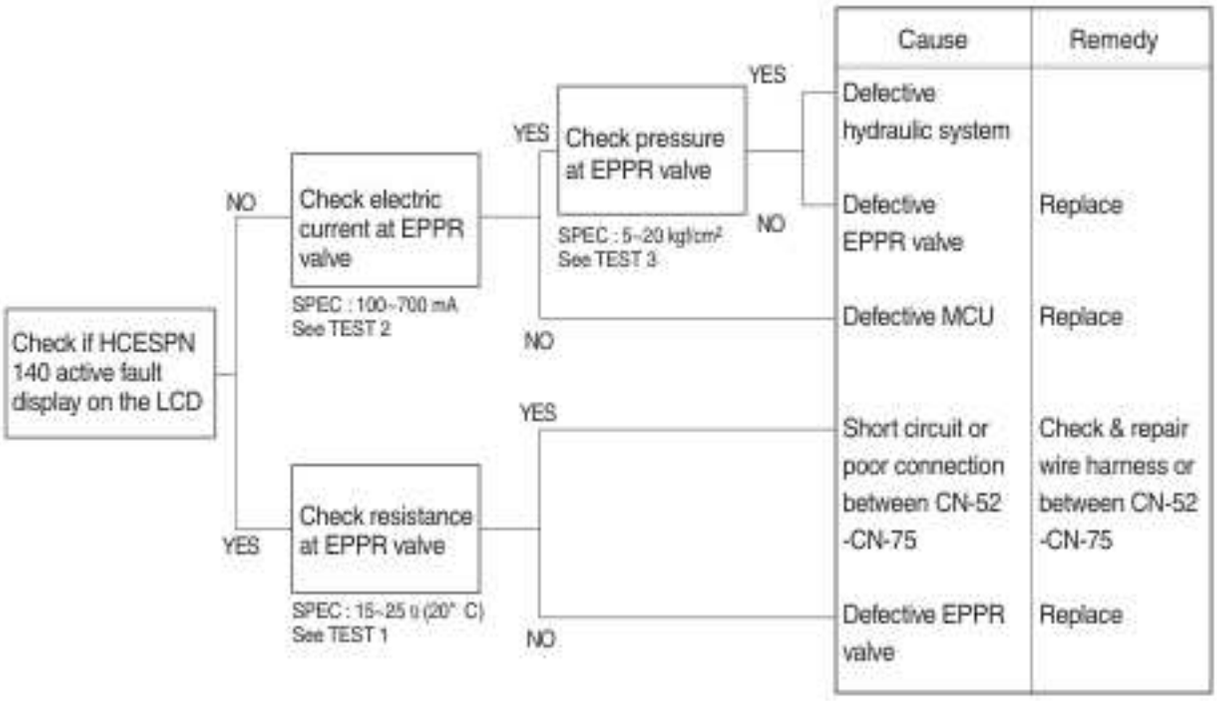
※ Some fault codes are not applied to this machine.

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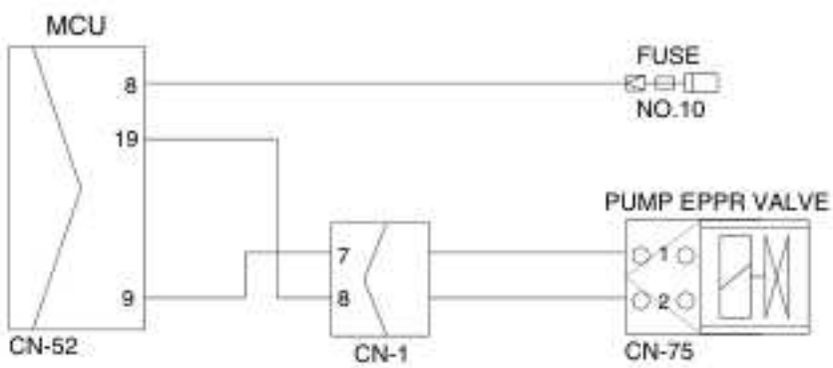
1. ALL ACTUATORS SPEED ARE SLOW

※ Boom, Arm, Bucket, Swing and travel speed are slow, but engine speed is good.
※ Spec : P-mode 1750 ± 50 rpm S -mode 1650 ± 50 rpm E-mode 1600 ± 50 rpm
※ Before carrying out below procedure, check all the related connectors are properly inserted and fault code on the cluster.

1) INSPECTION PROCEDURE



Wiring diagram



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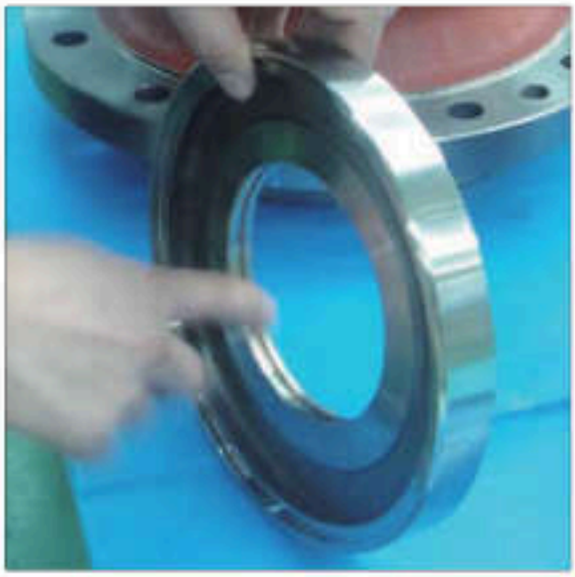
(4) Assembling pinion gear sub assy

① Prepare drive shaft pinion gear vertical with ground.



② Fully apply grease (albania ep02) to sleeve's O-ring gutter.
(Be sure to maintain it vertical with ground when assembling it.)

③ Put O-ring into sleeve's O-ring gutter.
(Fully apply grease on O-ring.)

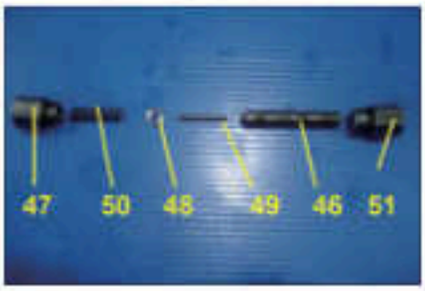


④ Assemble bearing taper and sleeve into drive shaft using press jig.
(Use special jig for pressing. Leave no space between sleeve and bearing taper.)



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(5) Insert spool (46), parallel pin (49), spring seat (48), spring (50) in regular sequence and then assemble plug (47), connector (51) using torque wrench.
· Tightening torque : 5.5±0.5 kgf · m (40±3.6 lbf · ft)







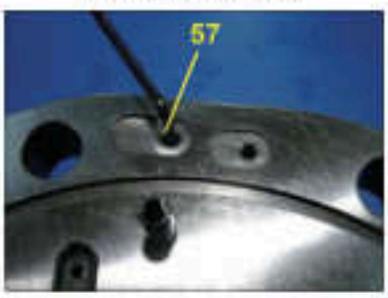
(6) Press needle bearing (10) into rear cover (32) using jig.

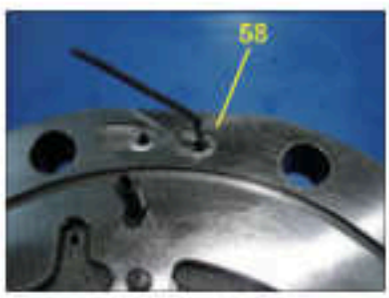


(7) Assemble spring pin (30), parallel pin (27) using small hammer.



(8) Apply loctitle #242 on the restrictor (57, 58) and then assemble restrictor (57, 58), O-ring (43, 44) into rear cover (32).

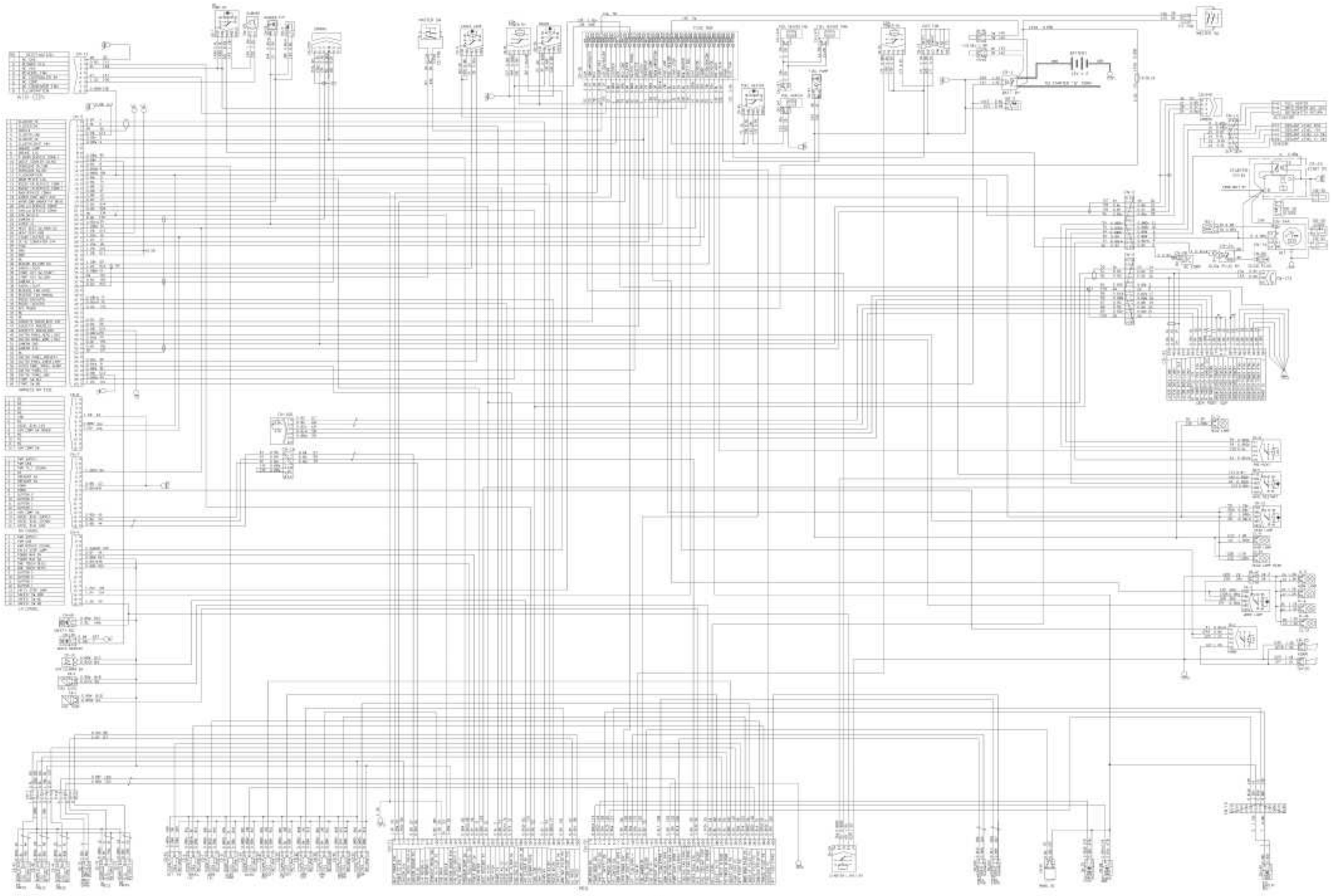






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ELECTRICAL CIRCUIT (1/2)



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