CRAWLER EXCAVATOR

SERVICE MANUAL

R210NLC-7A

HYUNDAI

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8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins QSB 6.7
Type	4-cycle, turbocharged, charge air cooled, diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore × stroke	107 × 124mm (4.21" × 4.88")
Piston displacement	6700cc (408cu in)
Compression ratio	17.2 : 1
Rated gross horse power (SAE J1995)	151Hp at 1900rpm (113kW at 1900rpm)
Maximum torque at 1500rpm	63.0kgf · m (456lbf · ft)
Engine oil quantity	24 ℓ (6.3U.S. gal)
Dry weight	556kg (1226lb)
High idling speed	1950 ± 50rpm
Low idling speed	850 ± 100rpm
Rated fuel consumption	167.8g/Hp · hr at 1900rpm
Starting motor	Nippon denso (24V-4.5kW)
Alternator	Delco Remy (24V-50A)
Battery	2 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 117cc/rev
Maximum pressure	330kgf/cm² (4694psi) [360kgf/cm² (5120psi)]
Rated oil flow	2 × 222 ℓ /min (58.6U.S. gpm/ 48.8U.K. gpm)
Rated speed	1900rpm

[ ] : Power boost

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Fault code No.	Reason	Effect (only when fault code is active)
2558	Auxiliary PWM driver 1 circuit - Voltage below normal, or shorted to low source. Low signal voltage detected at the analog torque circuit.	Power derate and possible engine shutdown if engine protection shutdown feature is enabled.
2973	Intake manifold 1 pressure - Data erratic, intermittent, or incorrect. The ECU has detected an intake manifold pressure signal that is too high or low for current engine operating conditions.	

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4. AUTO DECEL SYSTEM DOES NOT WORK

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

1) INSPECTION PROCEDURE

Check resistance between CN-51 (1)-GND and CN-51(13)-GND

SPEC :
Actuator operating : 11–13V
Actuator stop :0–2V
See TEST 6
See TEST 7

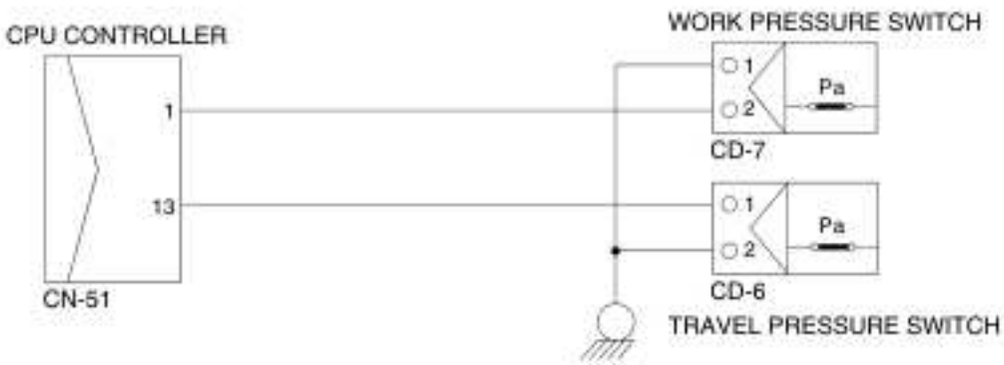
YES

NO

NO

Cause	Remedy
Defective CPU controller	Replace
Short circuit or poor connection vetween CN-51(1), (13)- pressure switches	Replace or repair
Defective auto decel pressure switch	Replace

Wiring diagram



3607A6MS1D

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■ **Disassemble cylinder sub.**

9) Disassemble cylinder block assembly, piston assembly(9) and seat plate(M).





10) Disassemble ball guide(16), ring and pin(15) from cylinder block, respectively.

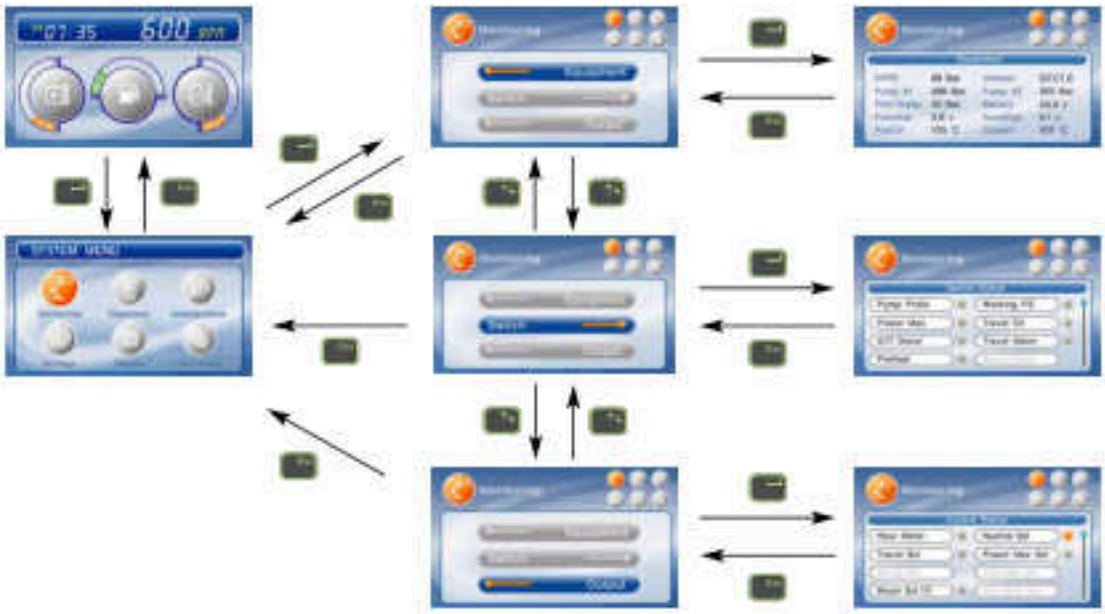




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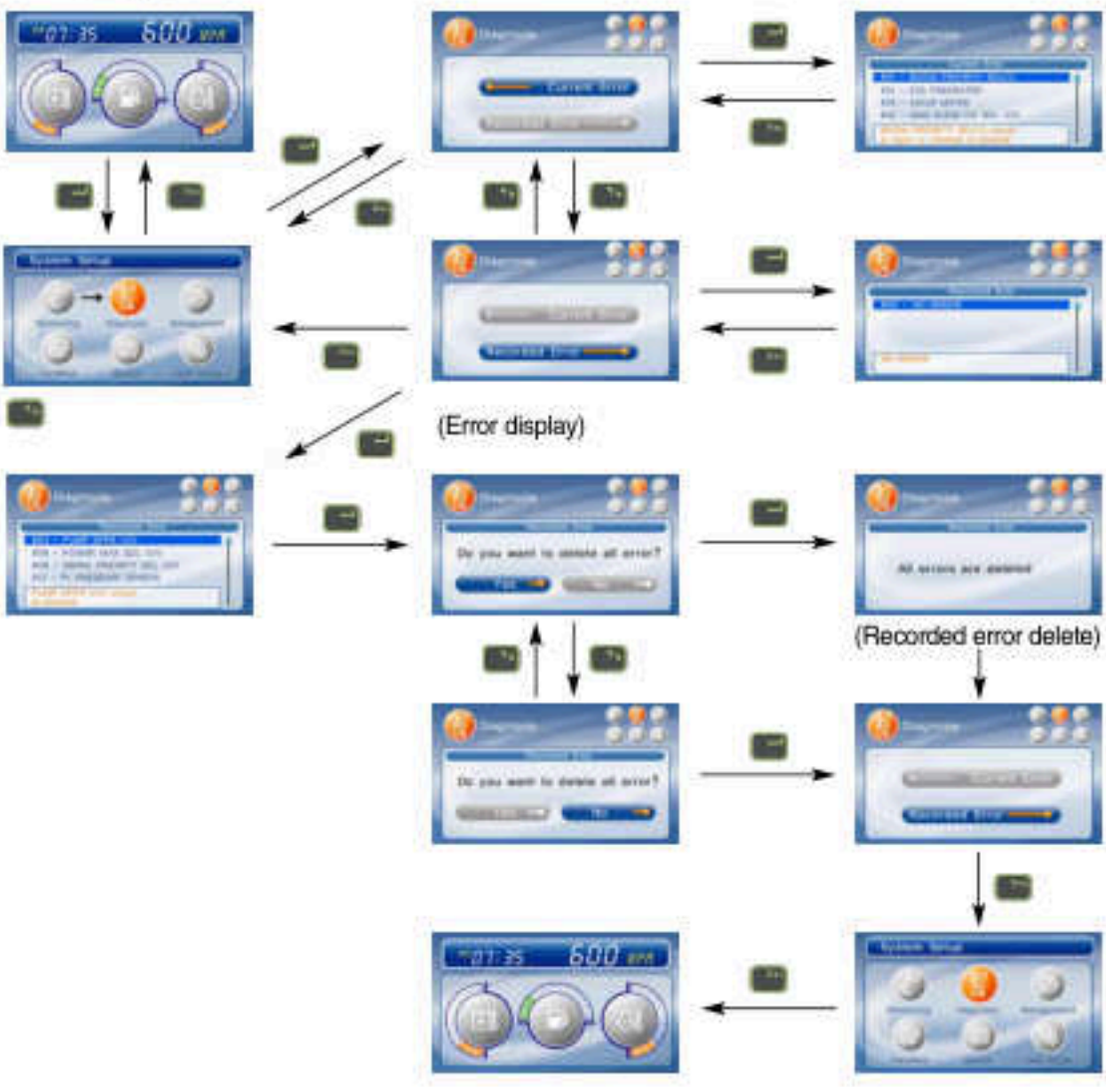
(2) Display map

① Monitoring



② Diagnosis

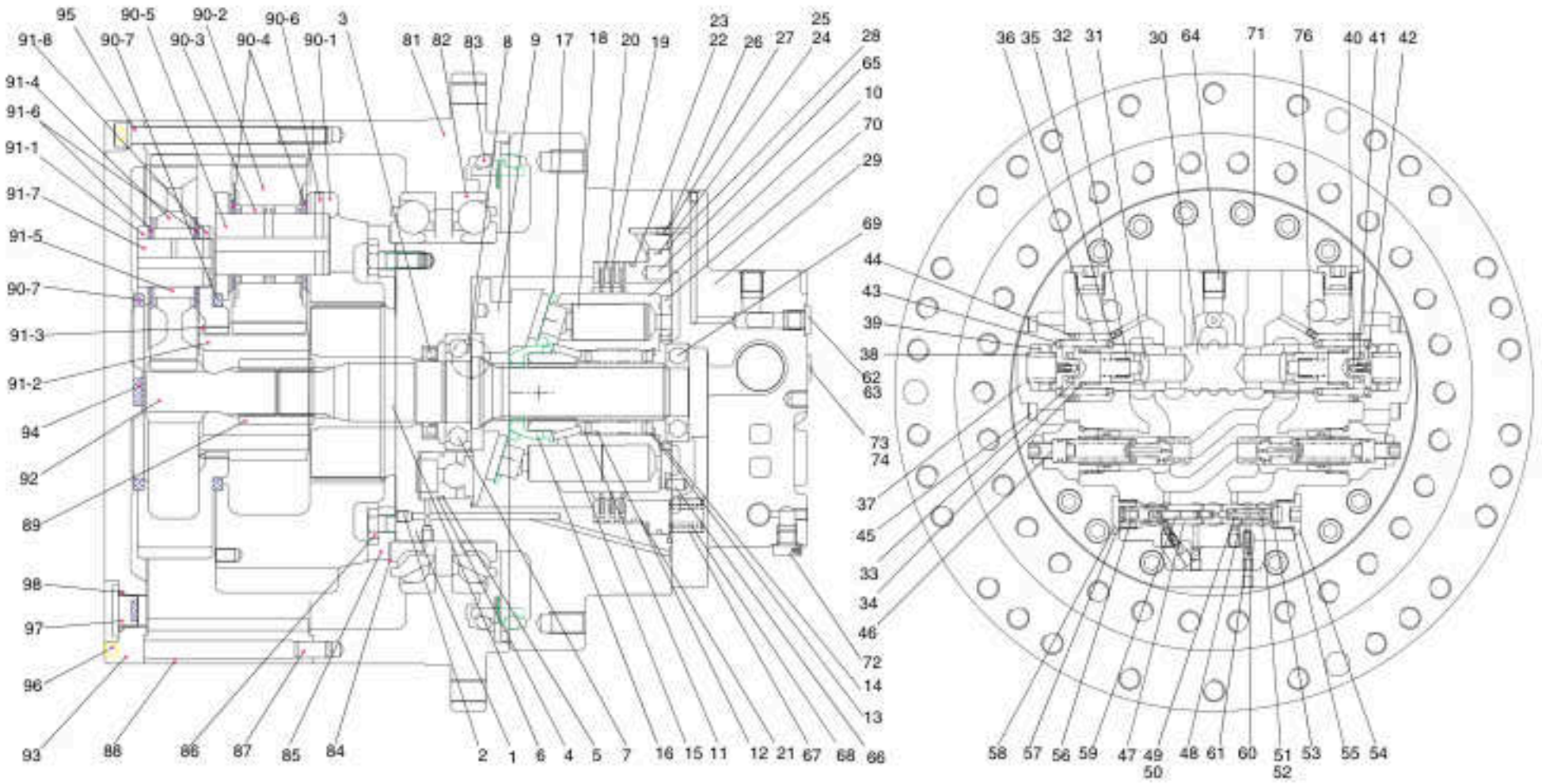
a. Protocol type 1



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2. TRAVEL MOTOR

1) STRUCTURE



1	Shaft casing	20	Plate	39	Spool	57	Spring seat	75	Seal kit	90-7	Thrust ring
2	Plug	21	Packing piston	40	Steel ball	58	Plug	76	Orifice	91	Carrier assy No.1
3	Oil seal	22	O-ring	41	Spring	59	Spool	81	Housing	91-1	Carrier No.1
4	Swash piston	23	Back up ring	42	Plug	60	Orifice	82	Main bearing	91-2	Sun-gear No.2
5	Piston ring	24	O-ring	43	Spring seat	61	Orifice	83	Floating seal	91-3	Retaining ring
6	Shaft	25	Back up ring	44	O-ring	62	Plug	84	Shim	91-4	Planetary gear No.1
7	Bearing	26	Orifice	45	Wrench bolt	63	O-ring	85	Retainer	91-5	Needle bearing No.1
8	Steel ball	27	O-ring	46	Relief valve assy	64	Plug	86	Hex head bolt	91-6	Thrust washer
9	Swash plate	28	O-ring	47	Spool	65	Pin	87	Parallel pin	91-7	Pin No.1
10	Cylinder block	29	Rear cover	48	Guide	66	Pin	88	Ring gear	91-8	Spring pin
11	Spring seat	30	Spool	49	O-ring	67	Spring	89	Coupling	92	Sun gear No.1
12	Spring	31	Check	50	Back up ring	68	Spring	90	Carrier assy No.2	93	Cover
13	End plate	32	Spring	51	O-ring	69	Bearing	90-1	Carrier No.2	94	Pad
14	Snap ring	33	Plug	52	Back up ring	70	Valve plate	90-2	Planetary gear No.2	95	Hex socket head bolt
15	Pin	34	O-ring	53	Snap ring	71	Wrench bolt	90-3	Needle bearing No.2	96	Hex socket Screw
16	Ball guide	35	Spring seat	54	plug	72	Plug	90-4	Thrsut washer	97	Hydraulic plug
17	Set plate	36	Spring	55	O-ring	73	Name plate	90-5	Pin No.2	98	O-ring
18	Piston assy	37	Cover	56	Spring	74	Rivet	90-6	Spring pin	99	Name plate
19	Friction plate	38	Spring								

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