CRAWLER EXCAVATOR

SERVICE MANUAL

HX300L

HYUNDAI

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8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins QSB6.7
Type	4-cycle turbocharged, charge air cooled diesel engine
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 × 124 mm (4.21" × 4.88")
Piston displacement	6700 cc (409 cu in)
Compression ratio	17.3 : 1
Rated net horse power (SAE J1349)	230 Hp at 1950 rpm (171 kW at 1950 rpm)
Rated gross horse power (SAE J1995)	242 Hp at 1950 rpm (180 kW at 1950 rpm)
Maximum torque	100.9 kgf · m (729.8 lbf · ft) at 1500 rpm
Engine oil quantity	23.1 ℓ (6.1 U.S. gal)
Wet weight	520 kg (1146 lb)
High idling speed	1950 ± 50 rpm
Low idling speed	800 ± 100 rpm
Rated fuel consumption	152.1 g/Hp · hr at 1950 rpm
Starting motor	Denso 24 V-4.8 kW
Alternator	Denso 24 V-95 A
Battery	2 × 12 V × 160 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 140 cc/rev
Maximum pressure	350 kgf/cm² (4980 psi) [380 kgf/cm² (5400 psi)]
Rated oil flow	2 × 273 ℓ/min (72.1 U.S. gpm / 60.1 U.K. gpm)

[ ] : Power boost

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Fault code J1939 SPN J1939 FMI	Reason	Effect (only when fault code is active)
3498 1761 18	Aftertreatment diesel exhaust fluid tank level - Data valid but below normal operating range - Moderately severe level. The aftertreatment diesel exhaust fluid tank level is very low.	None on performance.
3525 84 19	Wheel-based vehicle speed - Received network data in error. The J1939 multiplexing controller has indicated a malfunction of the wheel-based vehicle speed sensor.	Engine speed limited to maximum engine speed without VSS parameter value. Cruise control, gear-down protection, and road speed governor will not work.
3526 84 9	Wheel-Based vehicle speed - Abnormal update rate. No communication or an invalid data transfer rate has been detected on the J1939 data link between the ECM and the wheel-based vehicle speed sensor.	Engine speed limited to maximum engine speed without VSS parameter value. Cruise control, gear-down protection, and road speed governor will not work.
3527 558 19	Accelerator pedal or lever idle validation switch - Received network data in error. The J1939 multiplexing controller has indicated a malfunction of the accelerator pedal or lever idle validation switch.	The engine will only idle.
3528 558 9	Accelerator pedal or lever idle validation switch - Abnormal update rate. No communication or an invalid data transfer rate has been detected on the J1939 data link between the ECM and the accelerator pedal or lever idle validation switch.	Engine will only idle.
3531 171 9	Ambient air temperature - Abnormal update rate. No communication or an invalid data transfer rate has been detected on the J1939 data link between the ECM and the ambient air temperature sensor.	Possible reduced engine performance.
3532 171 19	Ambient air temperature - Received network data in error. The J1939 multiplexing controller has indicated a malfunction of the ambient air temperature sensor.	Possible reduced engine performance.
3539 51 3	Engine intake throttle actuator position sensor circuit - Voltage above normal, or shorted to high source. High signal voltage detected at the engine intake air throttle position sensor circuit.	Possible reduced engine performance.
3541 51 4	Engine intake throttle actuator position sensor circuit - Voltage below normal, or shorted to low source. Low signal voltage detected at the engine intake air throttle position sensor circuit.	Possible reduced engine performance.
3542 51 2	Engine intake throttle actuator position sensor - Data erratic, intermittent or incorrect. The engine intake air throttle posistion feedback is erratic or incorrect.	Possible reduced engine performance.
3545 3226 10	Aftertreatment outlet NOx sensor circuit - Abnormal rate of change. The aftertreatment outlet NOx sensor reading is not valid.	None on performance.

※ Some fault codes are not applied to this machine.

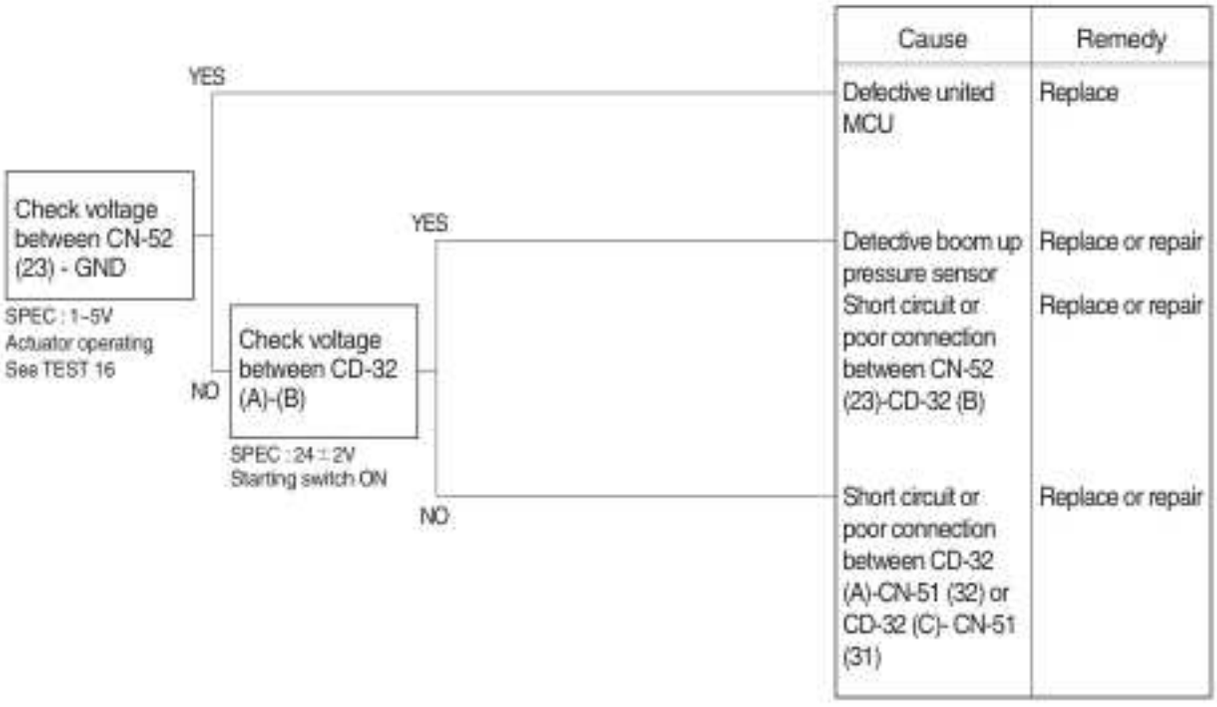
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12. MALFUNCTION OF BOOM UP PRESSURE SENSOR (SERIAL NO. : #0786-)

· Fault code : HCESPN 127, FMI 0~4

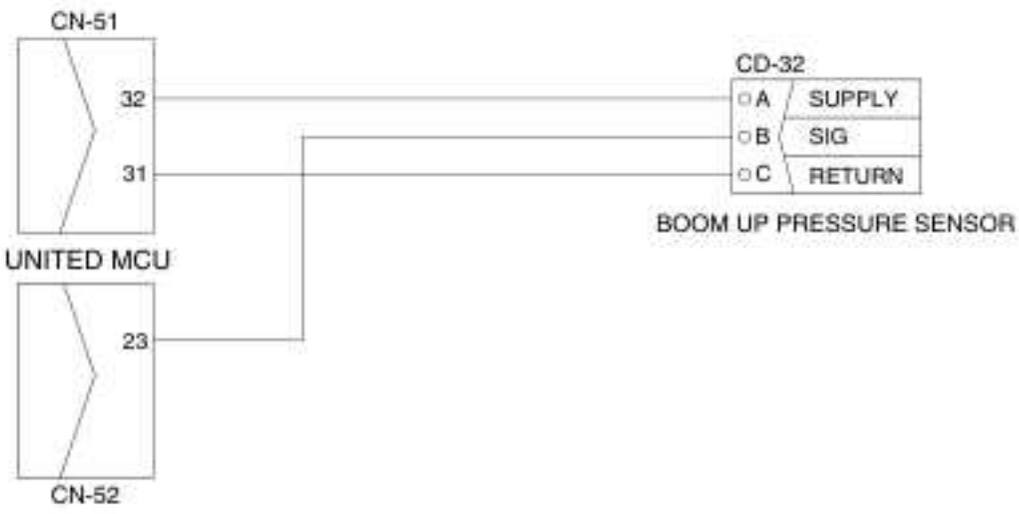
※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Cause	Remedy
Defective united MCU	Replace
Defective boom up pressure sensor	Replace or repair
Short circuit or poor connection between CN-52 (23)-CD-32 (B)	Replace or repair
Short circuit or poor connection between CD-32 (A)-CN-51 (32) or CD-32 (C)- CN-51 (31)	Replace or repair

Wiring diagram



140L6MS119

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3) ASSEMBLING TRAVEL MOTOR

(1) Shaft sub assembly

① Fit bearing spacer to shaft (08) and press-fit roller bearing (09).

※ Press the roller bearing after preheating.



3609A2TM060



3609A2TM061

a. Induction heating apparatus temperature : 100˚C

b. Be careful not to damage the sliding surface for the seal on the shaft.



3609A2TM062

② Insert stop ring (10) with snap ring pliers.

※ Pay attention to the direction of the stop ring. (round direction is bearing direction.)



3609A2TM063

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③ Disassemble drive shaft sub assy by using the press machine.

※ The drive shaft sub assy fall all together, so becareful when removing it.



④ Disassemble sph. roller bearing (3), cover (7), oil seal (30), and sleeve (28) from the drive shaft (2).

※ Do not reuse oil seal (30).

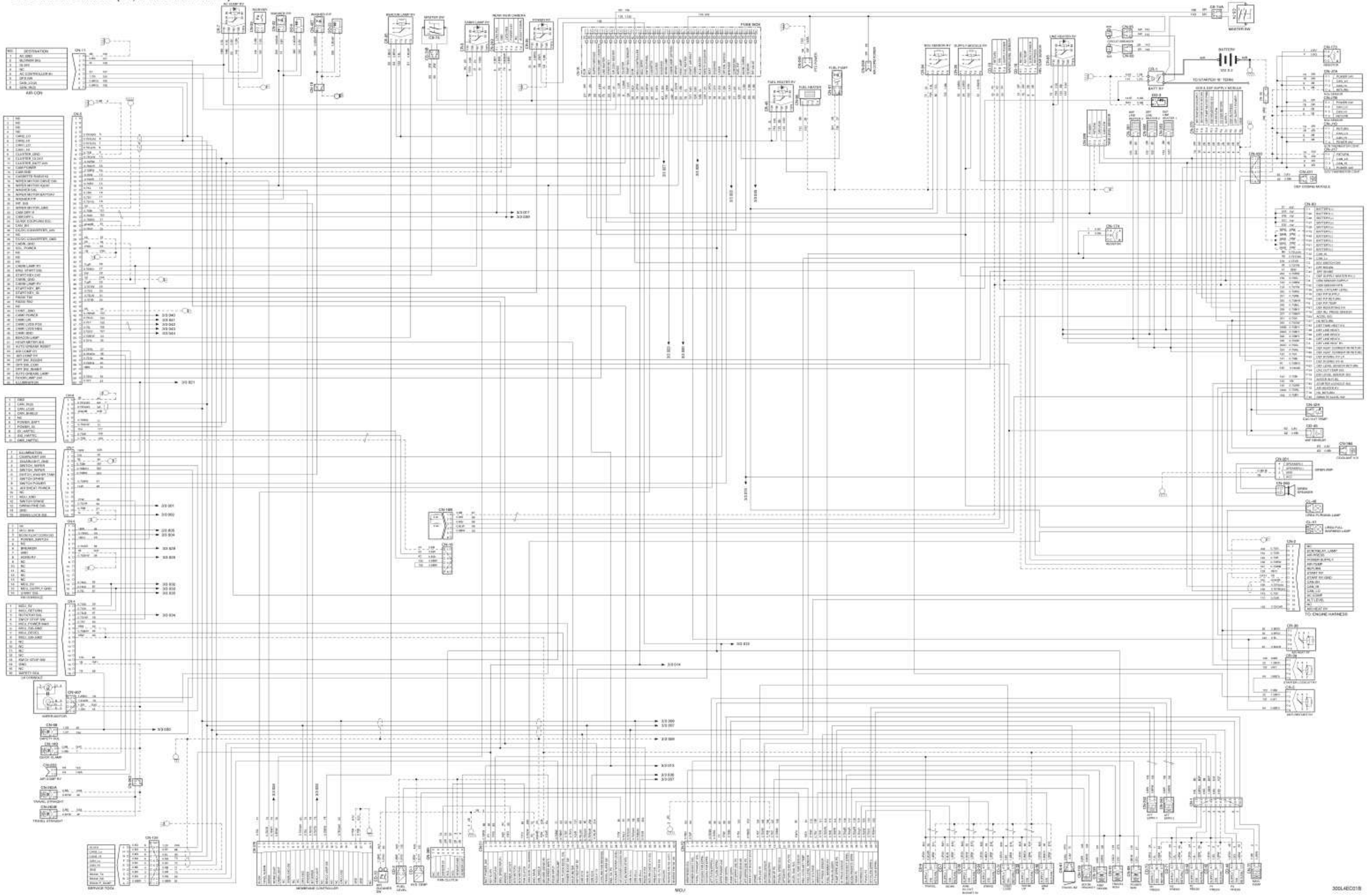


(8) Separate sph. roller bearing (4) from casing (9) by using the press machine.



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· ELECTRICAL CIRCUIT (1/6, SERIAL NO. : -#0785)



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