CRAWLER EXCAVATOR

SERVICE MANUAL

HX220L (India)

HYUNDAI

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8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins B5.9
Type	4-cycle turbocharged, charger 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	102x120 mm (4"x4.7")
Piston displacement	5900 cc (360 cu in)
Compression ratio	17.3 : 1
Rated net horse power (SAE J1349)	147 Hp at 1950 rpm (110 kW at 1950 rpm)
Rated gross horse power (SAE J1995)	150 Hp at 1950 rpm (112 kW at 1950 rpm)
Maximum torque at 1500 rpm	62.6 kgf · m (450 lbf · ft)
Engine oil quantity	21.1 ℓ (5.57 U.S. gal)
Wet weight	432 kg (953 lb)
High idling speed	2200 ± 50 rpm
Low idling speed	1050 ± 100 rpm
Min. fuel consumption	155 g/Hp · hr at 1500 rpm
Starting motor	Nippon denso (24 V-4.5 kW)
Alternator	Valeo (24 V-95 A)
Battery	2 × 12 V × 100 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 130 cc/rev
Maximum pressure	350 kgf/cm² (4980 psi) [380 kgf/cm² (5400 psi)]
Rated oil flow	2 × 247 ℓ/min (65.2 U.S. gpm/ 54.3 U.K. gpm)
Rated speed	1900 rpm

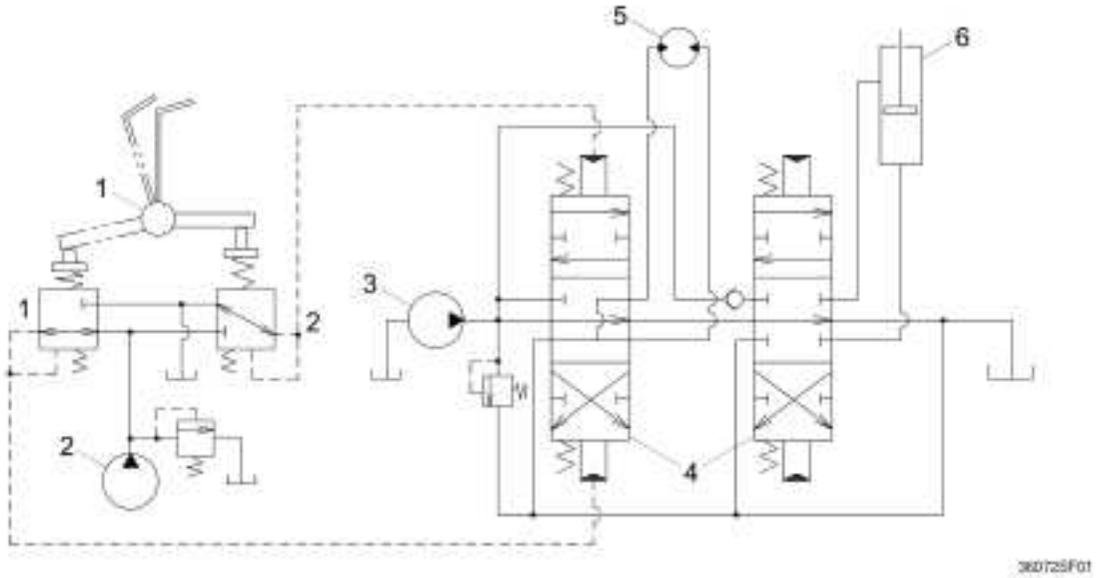
[ ] : Power boost

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3) OPERATION

The operation of the pilot valve will be described on the basis of the hydraulic circuit diagram shown below and the attached operation explanation drawing.

The diagram shown below is the typical application example of the pilot valve.



1	Pilot valve	3	Main pump	5	Hydraulic motor
2	Pilot pump	4	Main control valve	6	Hydraulic cylinder

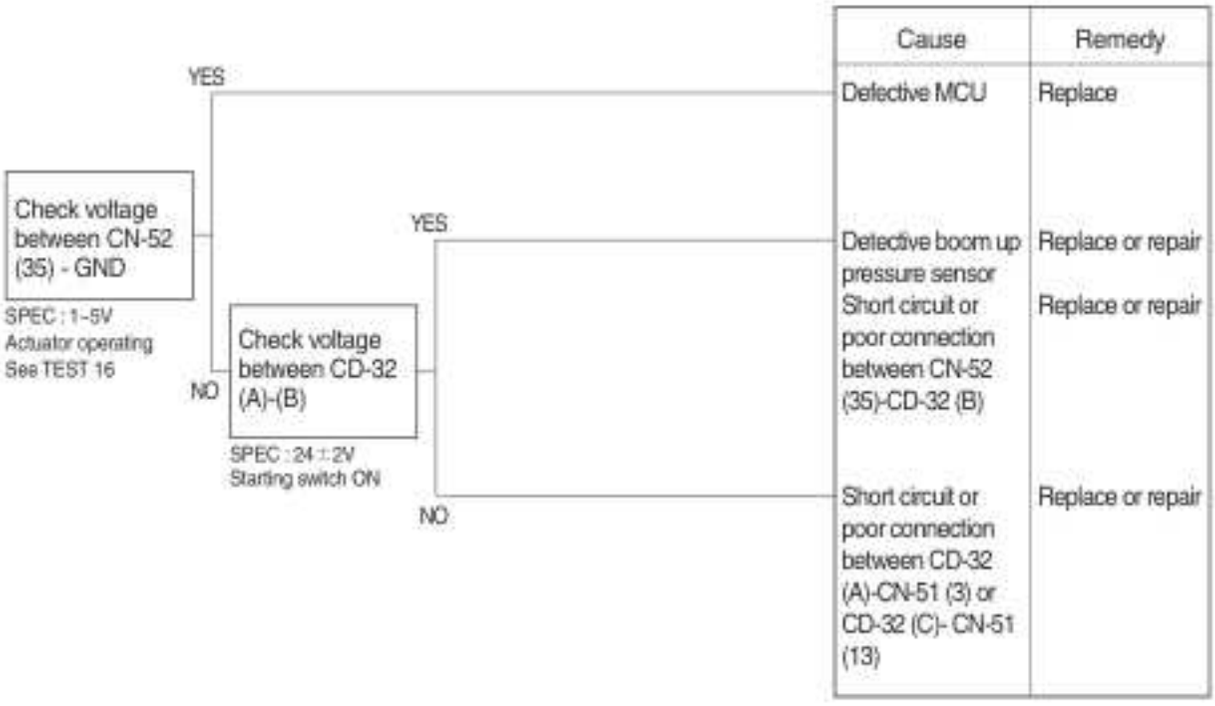
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12. MALFUNCTION OF BOOM UP PRESSURE SENSOR

· Fault code : HCESPN 127, FMI 0~4

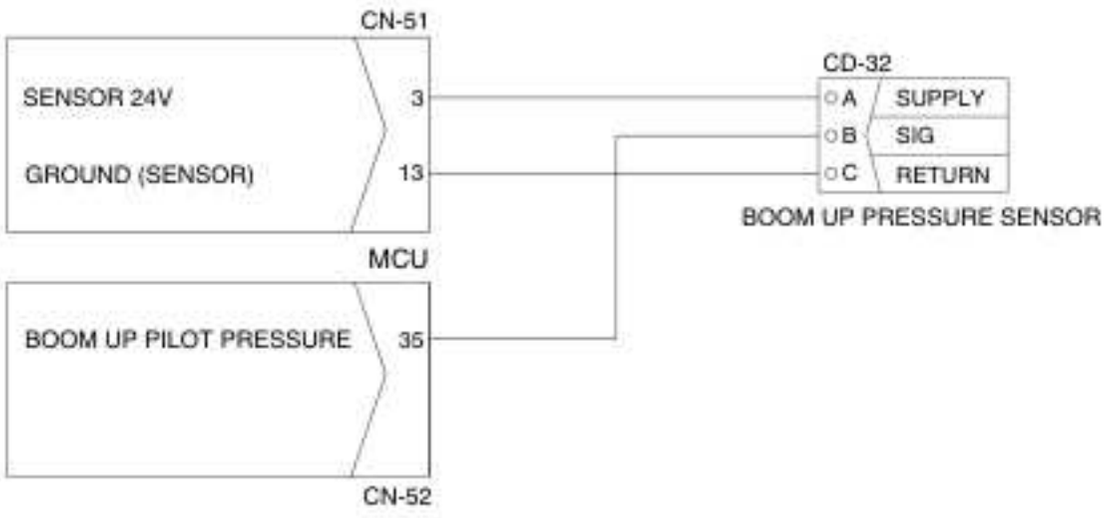
※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Cause	Remedy
Defective MCU	Replace
Defective boom up pressure sensor	Replace or repair
Short circuit or poor connection between CN-52 (35)-CD-32 (B)	Replace or repair
Short circuit or poor connection between CD-32 (A)-CN-51 (3) or CD-32 (C)- CN-51 (13)	Replace or repair

Wiring diagram



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3) ASSEMBLING PINION GEAR SUB ASSY

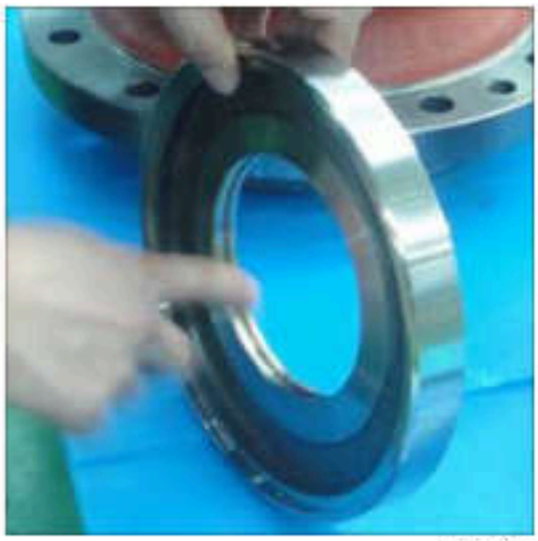
(1) Prepare drive shaft pinion gear vertical with ground.



(2) Fully apply grease (albania EP02) to O-ring groove of sleeve.

※ Be sure to maintain it vertical with ground when assembling it.

(3) Put O-ring into O-ring groove of sleeve. Fully apply grease on O-ring.



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



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④ **AAVM** (All Around View Monitoring, premium type, opt)

- The AAVM buttons of the cluster consist of ESC/CAM and AUTO IDLE/Buzzer stop.



- **Escape button**
- It will enter into the AAVM mode from the beginning screen if the AAVM is installed.
- While in the AAVM mode, select the ESC button to return to the beginning screen.



The beginning screen



AAVM mode

- **Buzzer stop button**
- In AAVM mode, it detects surrounding pedestrians or objects and the warning buzzer sounds.
- User can turn OFF the warning sound by pressing buzzer stop button.



- When the worker or pedestrian go to the blue line (radius 5 m), an external danger area of equipping on the cluster screen, the warning buzzer sounds and it displays the blue rectangular box for the recognition of the worker and pedestrian.
  At this time, the operator should stop work immediately, and stop the buzzer by pressing the buzzer stop button. And then, please work after you check whether the danger factors are solved.

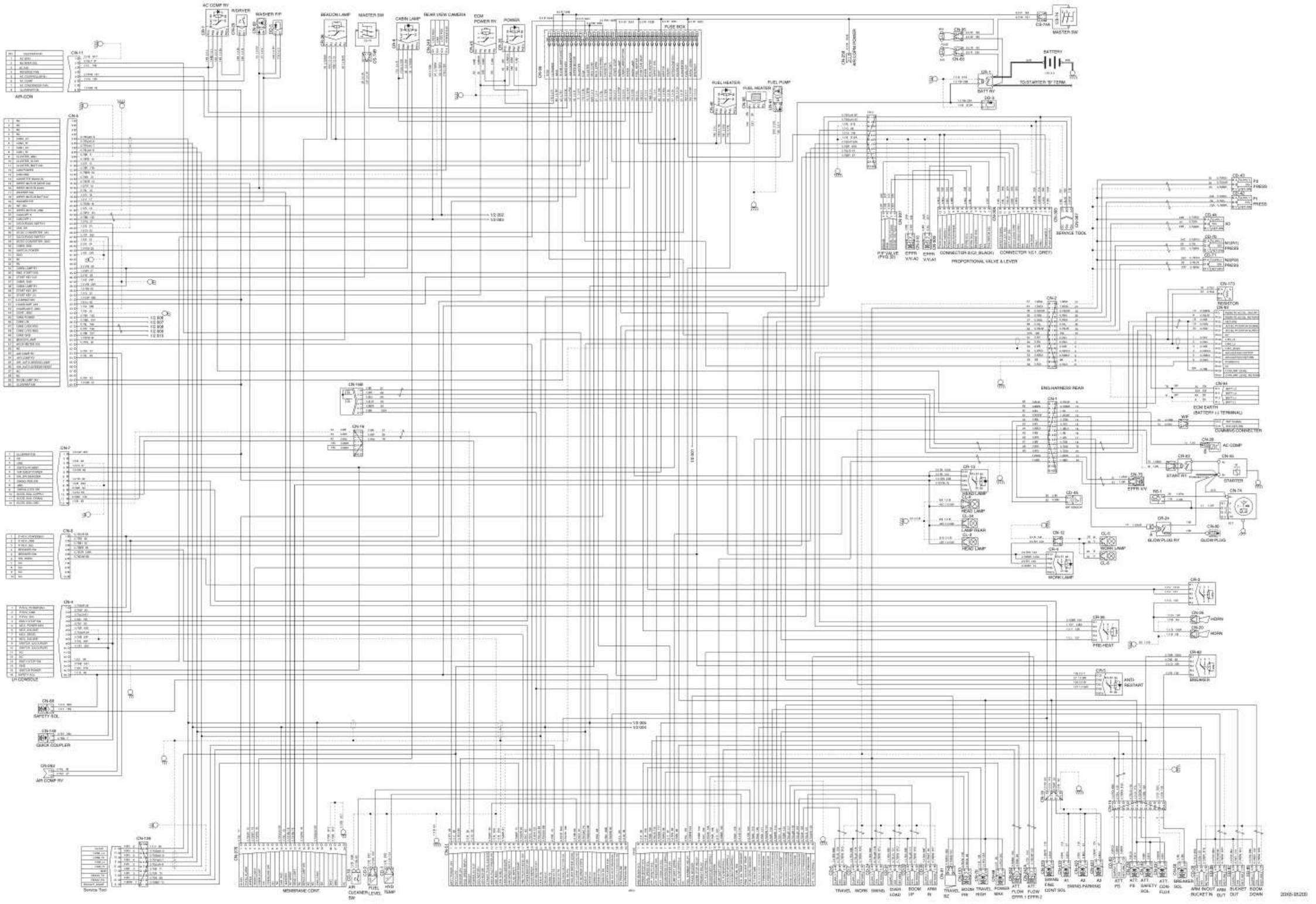


- When the worker or pedestrian go inside of red line (radius 3 m), an internal danger area of equipping on the cluster screen, the warning buzzer sounds and it displays the red rectangular box for the recognition of the worker and pedestrian.
  At this time, the operator should stop work immediately, and stop the buzzer by pressing the buzzer stop button. And then, please work after you check whether the danger factors are solved.

※ In AAVM mode, a touch screen of the LCD is available only. The multimodal dial of the haptic controller is not available.

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ELECTRICAL CIRCUIT (1/2)



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