CRAWLER EXCAVATOR

SERVICE MANUAL

HX225SL

HYUNDAI

MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX225SL

Order the manual at mid-west-tech.com >

CONTENTS

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 2-23
Group 3 Swing Device 2-59
Group 4 Travel Device 2-70
Group 5 RCV Lever 2-84
Group 6 RCV Pedal 2-91

SECTION 3 HYDRAULIC SYSTEM

Group 1 Hydraulic Circuit 3-1
Group 2 Main Circuit 3-3
Group 3 Pilot Circuit 3-6
Group 4 Single Operation 3-14
Group 5 Combined Operation 3-24

SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location 4-1
Group 2 Electrical Circuit 4-3
Group 3 Electrical Component Specification 4-22
Group 4 Connectors 4-31

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
Group 6 Automatic Warming Up Function 5-9
Group 7 Engine Overheat Prevention Function 5-10
Group 8 Variable Power Control System 5-11

MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

Group 9 Attachment Flow Control System 5-12
Group 10 Intelligent Power Control System 5-13
Group 11 Anti-Restart System 5-15
Group 12 Self-Diagnostic System 5-16
Group 13 Engine Control System 5-40
Group 14 EPPR (Electro Proportional Pressure Reducing) Valve 5-41
Group 15 Monitoring System 5-46
Group 16 Fuel Warmer System 5-80

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 7-21
Group 3 Track and Work Equipment 7-30

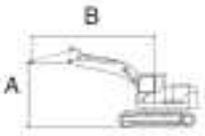
SECTION 8 DISASSEMBLY AND ASSEMBLY

Group 1 Precaution 8-1
Group 2 Tightening Torque 8-4
Group 3 Pump Device 8-7
Group 4 Main Control Valve 8-36
Group 5 Swing Device 8-50
Group 6 Travel Device 8-81
Group 7 RCV Lever 8-113
Group 8 Turning Joint 8-127
Group 9 Boom, Arm and Bucket Cylinder 8-132
Group 10 Undercarriage 8-151
Group 11 Work Equipment 8-164

MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

Model	Type	Boom	Arm	Counterweight	Shoe	Wheel	Dozer		Outrigger	
HX225S L	MONO BOOM	Length [mm]	Length [mm]	weight [kg]	width [mm]	width [mm]	Front	Rear	Front	Rear
		5700	3500	3800	600	-	-	-	-	-

· : Rating over-front · : Rating over-side or 360 degree



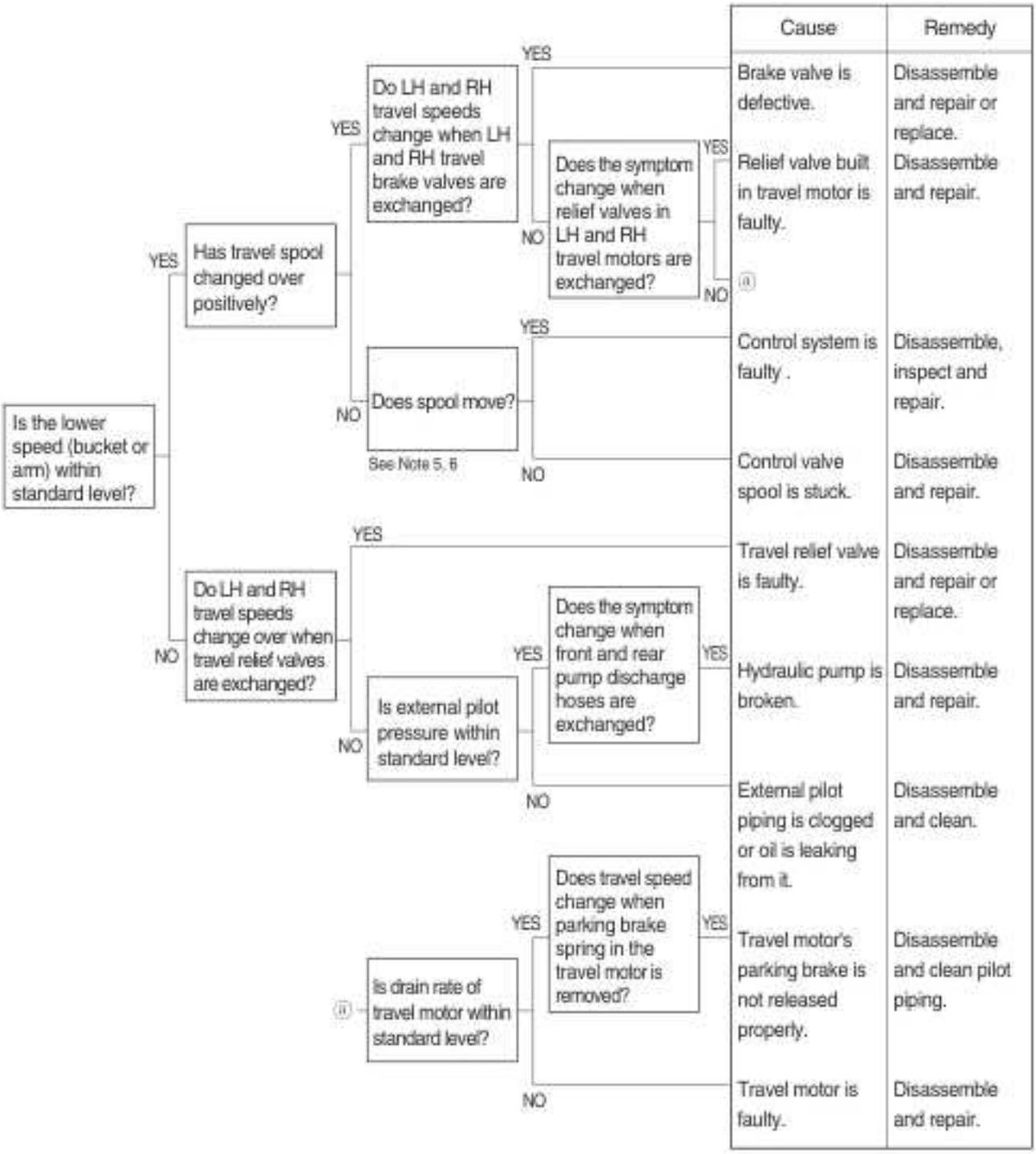
Lift-point height (A)		Lift-point radius (B)										At max. reach		
		1.5 m (4.9 ft)		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		Capacity		Reach
														m (ft)
7.5 m (24.6 ft)	kg											*3630	*3630	6.89
	lb											*8000	*8000	(22.6)
6.0 m (19.7 ft)	kg									*4310	3650	*3420	3310	7.91
	lb									*9500	8050	*7540	7300	(26.0)
4.5 m (14.8 ft)	kg							*4750	*4750	*4490	3580	*3390	2840	8.56
	lb							*10470	*10470	*9900	7890	*7470	6260	(28.1)
3.0 m (9.8 ft)	kg			*10620	*10620	*6980	*6980	*5590	4870	*4890	3450	*3480	2600	8.90
	lb			*23410	*23410	*15390	*15390	*12320	10740	*10780	7610	*7670	5730	(29.2)
1.5 m (4.9 ft)	kg					*8770	6940	*6490	4580	5180	3300	*3710	2500	8.98
	lb					*19330	15300	*14310	10100	11420	7280	*8180	5510	(29.5)
0.0 m (0.0 ft)	kg			*6220	*6220	*9930	6550	7050	4360	5050	3180	4000	2530	8.80
	lb			*13710	*13710	*21890	14440	15540	9610	11130	7010	8820	5580	(28.9)
-1.5 m (-4.9 ft)	kg	*5440	*5440	*9200	*9200	*10290	6400	6920	4240	4980	3120	4290	2700	8.35
	lb	*11990	*11990	*20280	*20280	*22690	14110	15260	9350	10980	6880	9460	5950	(27.4)
-3.0 m (-9.8 ft)	kg	*9040	*9040	*13720	12500	*9900	6410	6910	4240	5010	3150	4950	3110	7.57
	lb	*19930	*19930	*30250	27560	*21830	14130	15230	9350	11050	6940	10910	6860	(24.8)
-4.5 m (-14.8 ft)	kg			*12180	*12180	*8570	6560	*6170	4360			*5640	4060	6.34
	lb			*26850	*26850	*18890	14460	*13600	9610			*12430	8950	(20.8)

Note 1. Lifting capacity are based on ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The Lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *Indicates load limited by hydraulic capacity.

※ Lifting capacities are based upon a standard machine conditions.
Lifting capacities will vary with different work tools, ground conditions and attachments.
The difference between the weight of a work tool attachment must be subtracted.
Consult your HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.
Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessory for non-standard configurations.

MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

2) SPEED ON ONE SIDE FALLS AND THE MACHINE CURVES



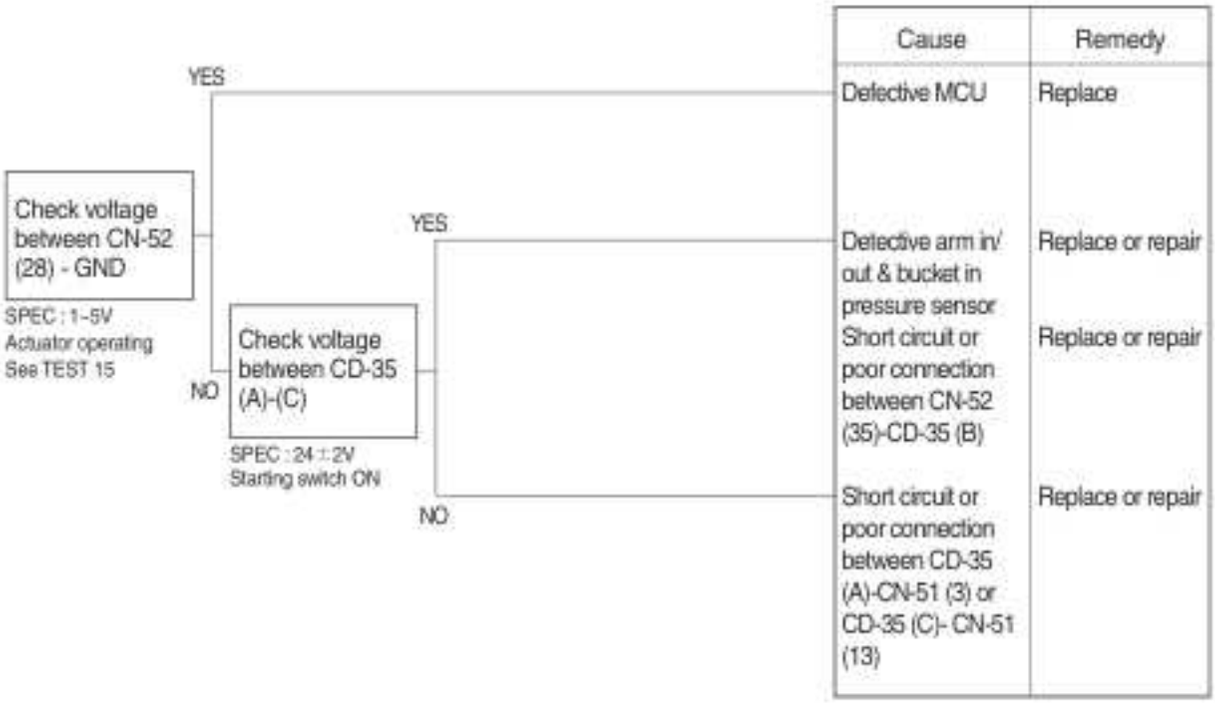
MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

11. MALFUNCTION OF ARM IN/OUT & BUCKET IN PRESSURE SENSOR

· Fault code : HCESPN 133, FMI 0~4

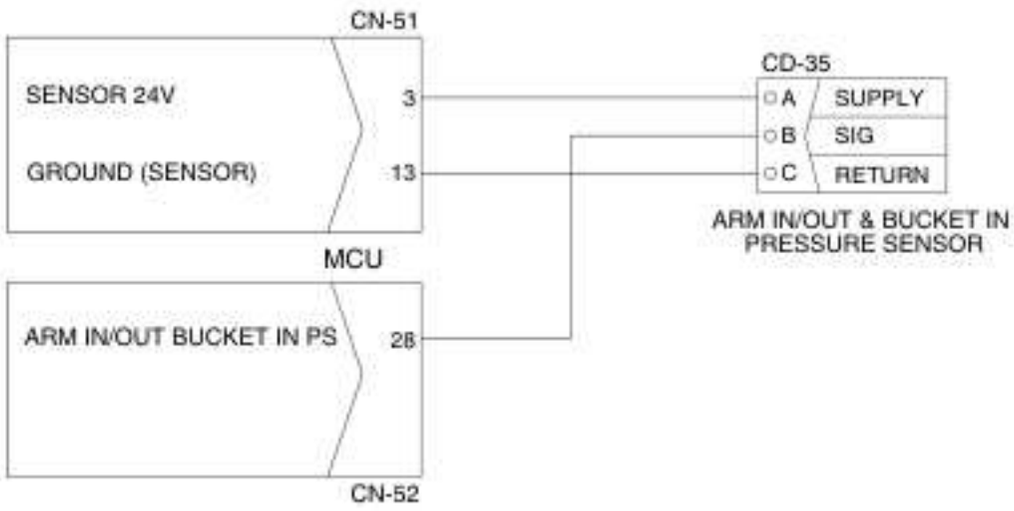
※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Cause	Remedy
Defective MCU	Replace
Defective arm in/ out & bucket in pressure sensor	Replace or repair
Short circuit or poor connection between CN-52 (35)-CD-35 (B)	Replace or repair
Short circuit or poor connection between CD-35 (A)-CN-51 (3) or CD-35 (C)- CN-51 (13)	Replace or repair

Wiring diagram



220S6MS17

MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

3) ASSEMBLING PINION GEAR SUB ASSY

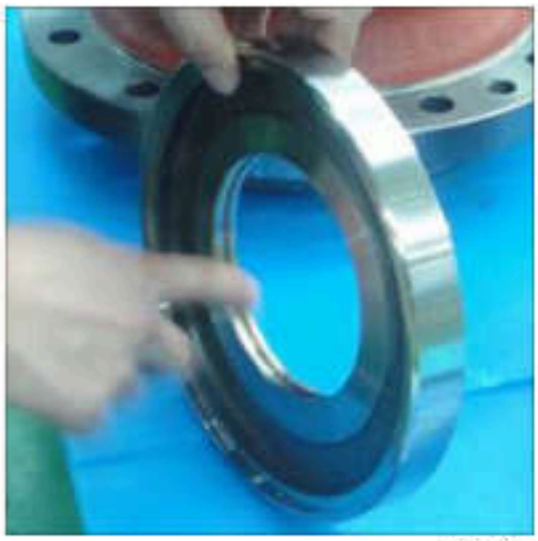
(1) Prepare drive shaft pinion gear vertical with ground.



(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.



MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

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.

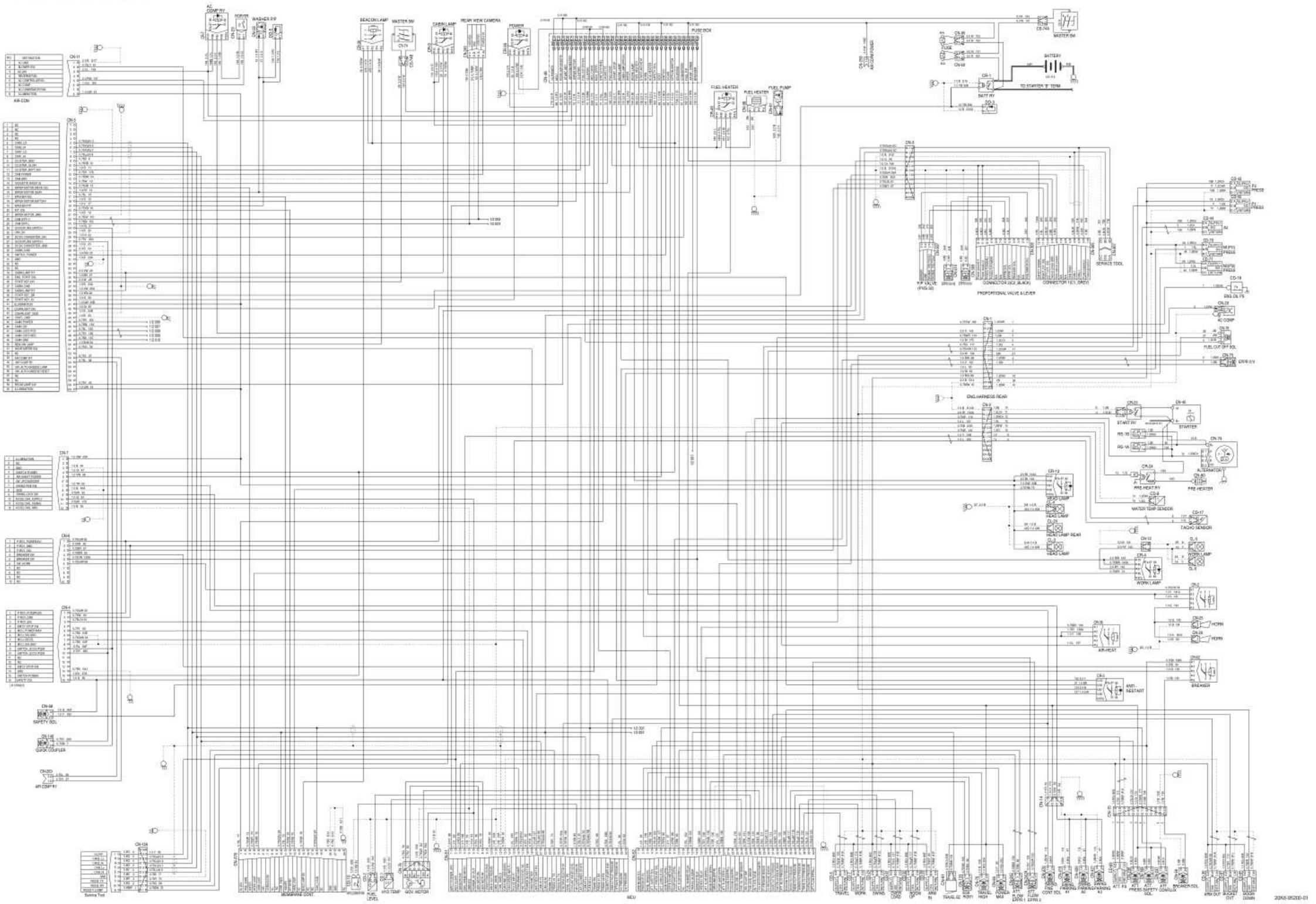


- When the worker or pedestrian go inside of red line (radius 3 m), an internal danger area of equipping on the cluster screen, the warning buzzer sounds and it displays the red rectangular box for the recognition of the worker and pedestrian.
  At this time, the operator should stop work immediately, 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.

MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

ELECTRICAL CIRCUIT (1/2)



MidWestTech | Hyundai HX225SL Crawler Excavator Service Manual | Publication HX225SL

Order the manual at mid-west-tech.com >