CRAWLER EXCAVATOR

SERVICE MANUAL

HX900L

HYUNDAI

MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX900L

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 2-21
Group 3 Swing Device 2-46
Group 4 Travel Device 2-55
Group 5 RCV Lever 2-72
Group 6 RCV Pedal 2-79

SECTION 3 HYDRAULIC SYSTEM

Group 1 Hydraulic Circuit 3-1
Group 2 Main Circuit 3-2
Group 3 Pilot Circuit 3-5
Group 4 Single Operation 3-12
Group 5 Combined Operation 3-22

SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location 4-1
Group 2 Electric 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 System 5-9
Group 7 Engine Overheat Prevention System 5-10
Group 8 Variable power Control System 5-11
Group 9 Attachment Flow Control System 5-12

MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX9... Order the manual at mid-west-tech.com >

Group 10 Anti-restart System 5-13
Group 11 Self-Diagnostic System 5-14
Group 12 Engine Control System 5-74
Group 13 EPPR Valve 5-75
Group 14 Monitoring System 5-80
Group 15 Fuel Warmer System 5-116

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 7-37

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 8-31
Group 5 Swing Device 8-44
Group 6 Travel Device 8-76
Group 7 RCV Lever 8-121
Group 8 Turning Joint 8-135
Group 9 Boom, Arm and Bucket Cylinder 8-140
Group 10 Undercarriage 8-157
Group 11 Work Equipment 8-169

MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX9... Order the manual at mid-west-tech.com >

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15 cc/rev
Maximum pressure	40 kgf/cm² (570 psi)
Rated oil flow	27 ℓ /min (7.1 U.S. gpm/5.9 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	330 kgf/cm² (4690 psi) [360 kgf/cm² (5120 psi)]
Port relief valve pressure	380 kgf/cm² (5400 psi)

[ ] : Power boost

5) SWING MOTOR

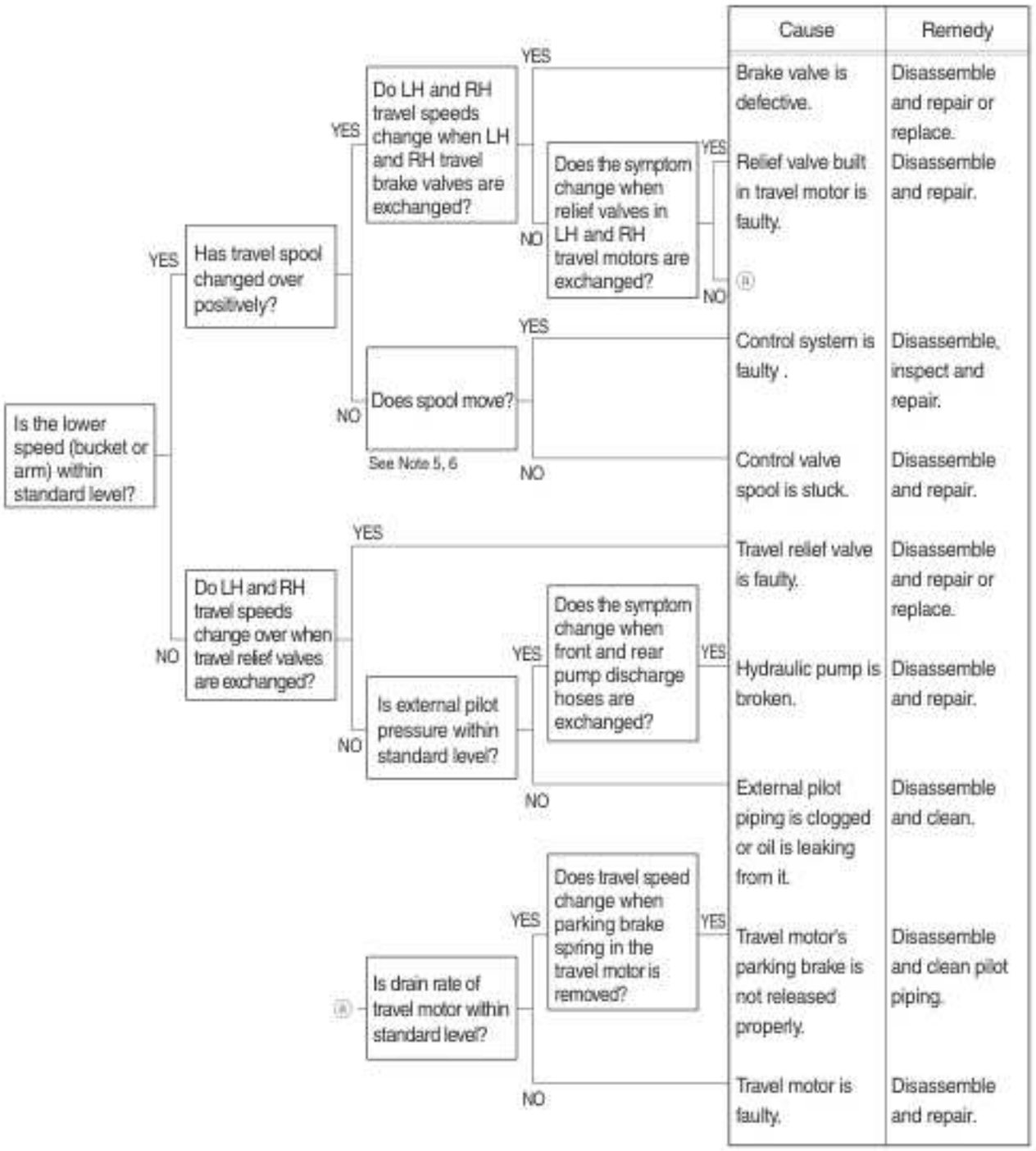
Item	Specification
Type	Fixed displacement axial piston motor
Capacity	250cc/rev
Relief pressure	300 kgf/cm² (3360 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	165.2 kgf · m (1195 lbf · ft) over
Brake release pressure	33.7–50 kgf/cm² (479–711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Axial piston motor
Relief pressure	350 kgf/cm² (4980 psi)
Capacity (max / min)	337.2/228.6 cc/rev
Reduction gear type	3-stage planetary
Braking system	Automatic, spring applied hydraulic released
Brake release pressure	18 kgf/cm² (256 psi) below
Braking torque	114 kgf · m (825 lbf · ft) over

MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX900L Order the manual at mid-west-tech.com >

2) SPEED ON ONE SIDE FALLS AND THE MACHINE CURVES



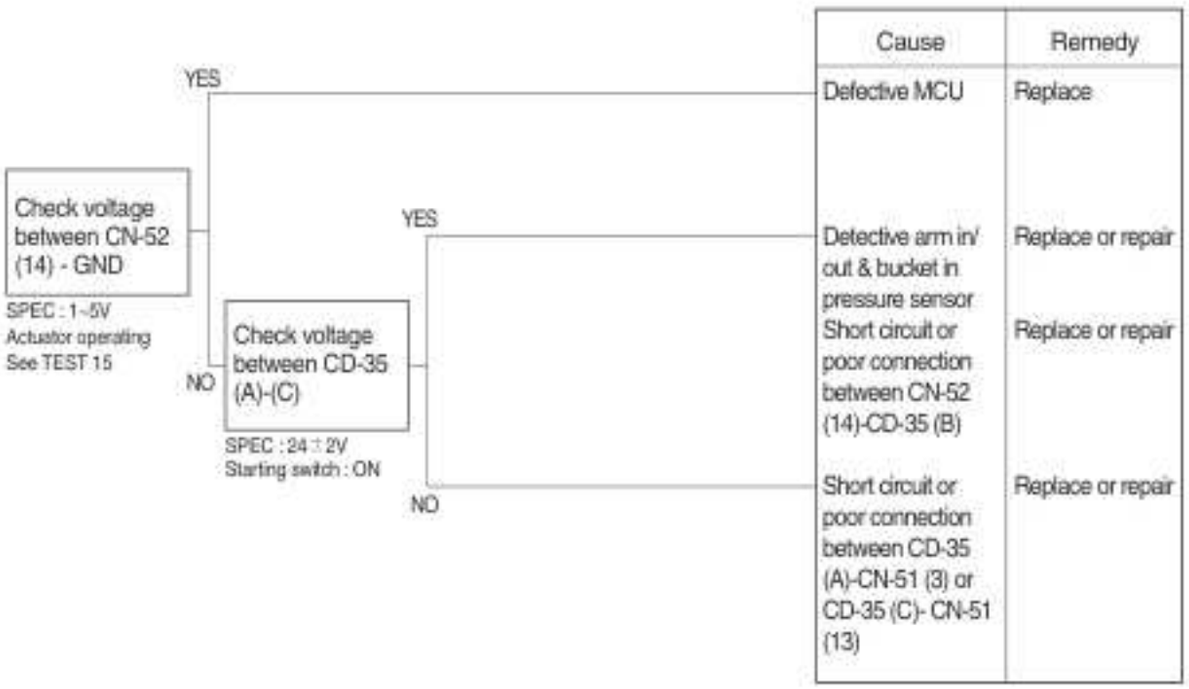
MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX900L
Order the manual at mid-west-tech.com >

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

- Fault code : HCESPN 133, FMI 0~4

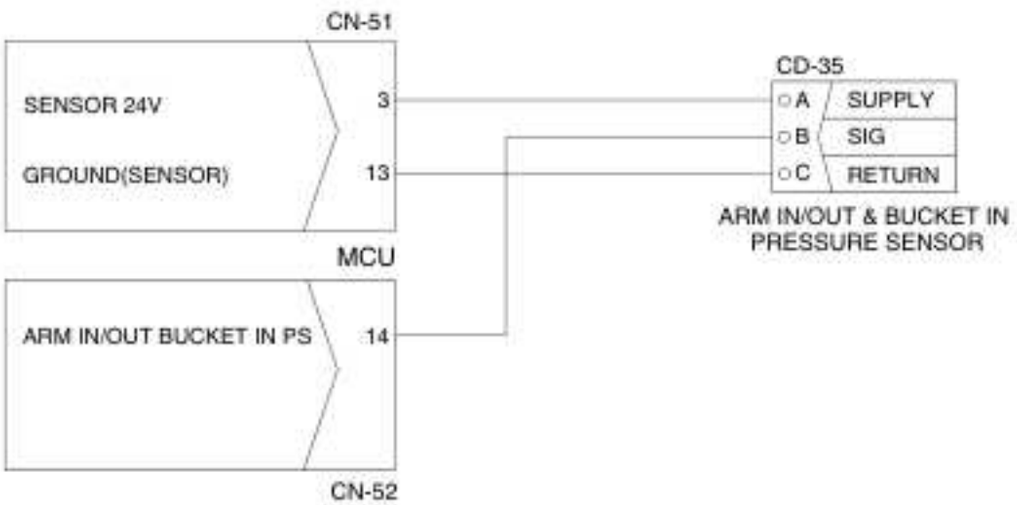
※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Cause	Remedy
Defective MCU	Replace
Detective arm in/ out & bucket in pressure sensor	Replace or repair
Short circuit or poor connection between CN-52 (14)-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



MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX900L Order the manual at mid-west-tech.com >

(36) Remove the spacer (24) from its seat in the flanged hub (27).



(37) By using pliers remove the circlip (25) from its seat in the flanged hub (27).



(38) By using a punch remove the discs retainer (26) from the flanged hub (27).



(39) By using a rubber hammer and a punch remove the bearing outer rings (21) from the gearbox housing (22).

※ The gearbox disassembly ends with the above operation. All the parts are now available for the necessary inspections.



MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX9... Order the manual at mid-west-tech.com >

(9) Reassembling of carrier No.2 assembly

① Set thrust washer (286)

② Insert planetary gear (203).



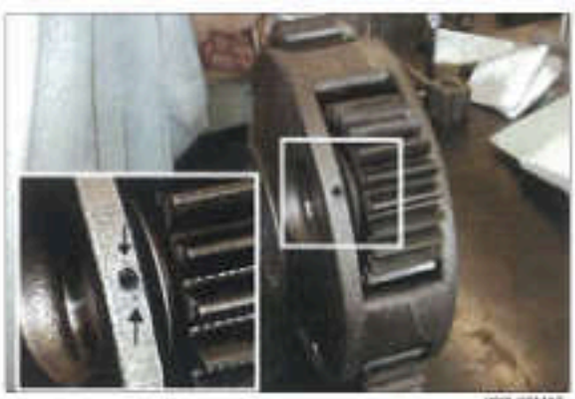
③ Insert pin No.2 (282) while tapping lightly with plastic hammer.



④ Insert spring pin (910) and caulk carrier No.2 (230) both sides of spring pin with punch.

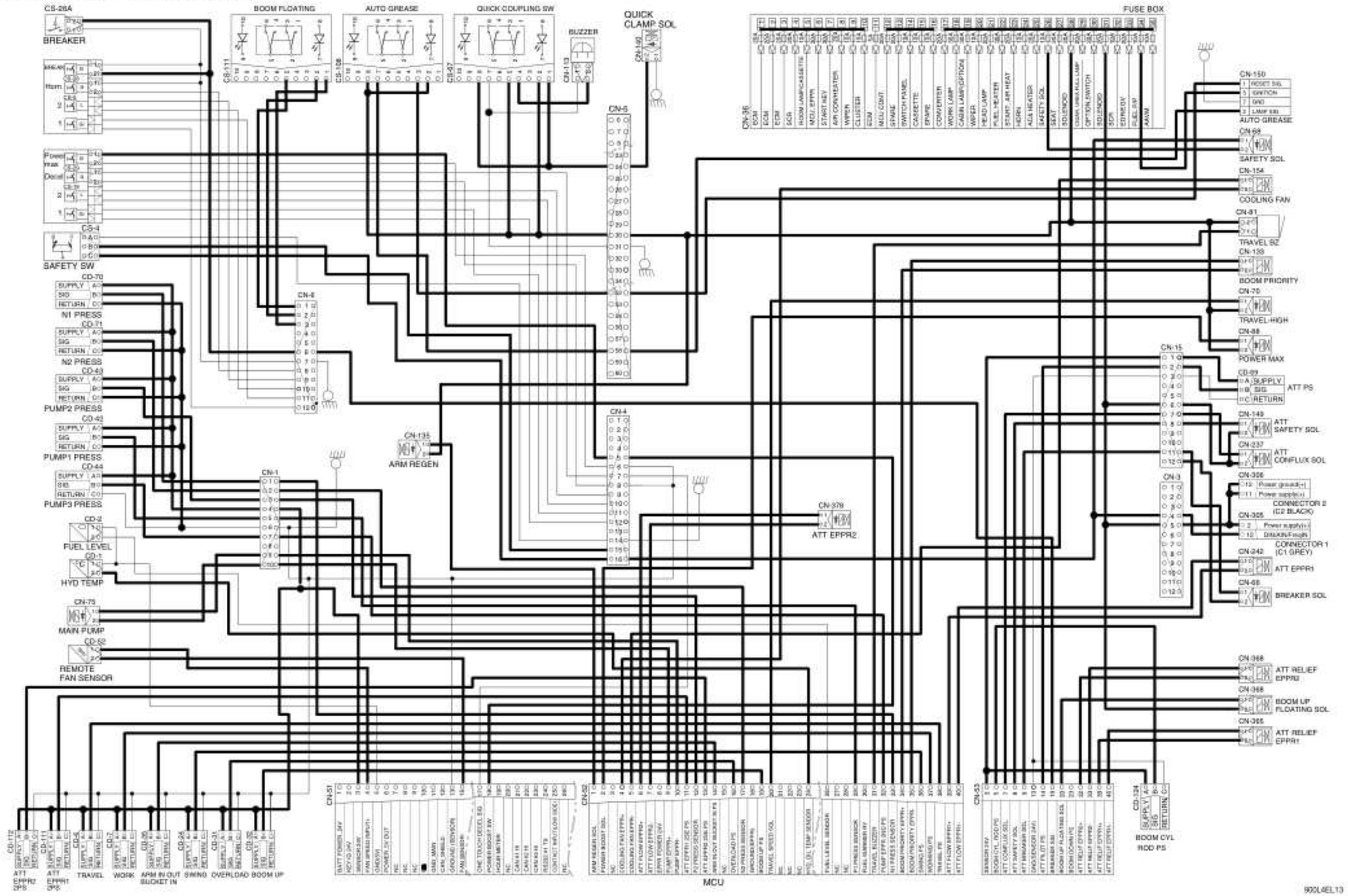


※ Refer to "installation dimension".



MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX9... Order the manual at mid-west-tech.com >

ELECTRIC CIRCUIT FOR HYDRAULIC



※ The circuit diagram may differ from the equipment, so please check before a repair.

MidWestTech | Hyundai HX900L Crawler Excavator Service Manual | Publication HX900L

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