CRAWLER EXCAVATOR

SERVICE MANUAL

HX300LL

HYUNDAI

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX300LL

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

Table of Contents

1 Safety	1	Forestry Machine Maintenance Safety
2 Specifications	1	Specifications
3 General Maintenance	1	General Maintenance Instructions
	2	Standard Torques
4 Engine	1	Engine
	2	Engine Coolant Heater (Option)
5 Upper Structure	1	Cabin
	2	Counterweight
	3	Oil Tank
	4	Fuel Tank
	5	Main Pump
	6	Drive Coupling (Main Pump)
	7	Main Control Valve
	8	Swing Device
	9	Fan Pump for Oil Cooler
	10	Fan Motor for Oil Cooler
	11	Joystick Valve (Work Lever)
	12	Travel Control Valve (with Damper)
	13	Solenoid Valve
	14	Accumulator
	15	Gear Pump (Rotation) Two Pump
	16	One Spool Valve
6 Lower Structure and Chassis	1	Swing Bearing
	2	Center Joint
	3	Travel Device
	4	Track Assembly

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

7 Front

1 Boom and Stick
2 Cylinders

8 Hydraulic System

1 Hydraulic System
2 Hydraulic System Testing and Adjustment
3 Hydraulic System Troubleshooting

9 Electrical System

1 Electrical System

11 Schematic

1 Hydraulic Schematic/Electrical Schematic

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

Table of Contents

Forestry Machine Maintenance Safety

Safety Instructions 1-1-5
Safety Messages 1-1-5
General 1-1-6
Transportation 1-1-16
Operation 1-1-18
Maintenance 1-1-35
Environment and Circumstances 1-1-51

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

B. Drain hydraulic fluid using drain plug (without oil pump) (Figure 11).

- Tool: 27 mm ( )
- Torque: 93.1 N.m (9.5 kg.m, 68.7 ft lb)
- Hydraulic oil tank volume: about 280 L (74 U.S. gal)

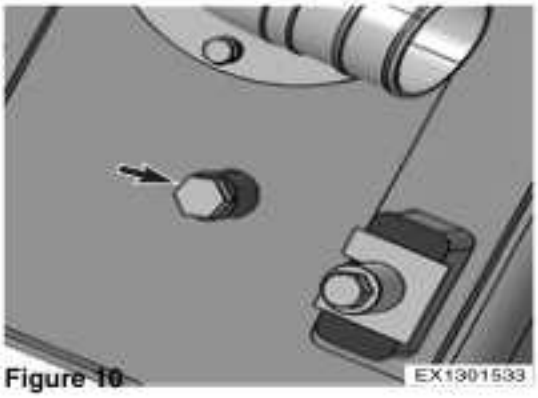


Figure 10

15. Remove bolts and washers (1, Figure 12) (8 ea) with the guardrail (2) (1 ea).

    Remove bolts and washers (3, Figure 12) (4 ea) with cover of control valve (4).

    - Tool: 19 mm ( )
    - Torque: 107.9 N.m (11 kg.m, 79.6 ft lb)
    - Control valve cover weight: 18 kg (39.7 lb)
    - Guardrail weight: 10 kg (22 lb)

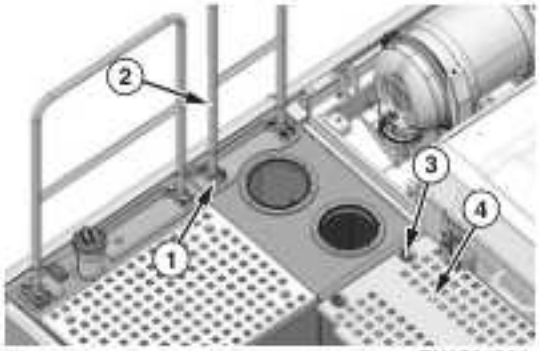


Figure 11

16. Install eyebolts (2 ea) on the oil tank.

    And tie the rope to the bolts to lift oil tank.

    - Thread of hole: M10 x 1.5

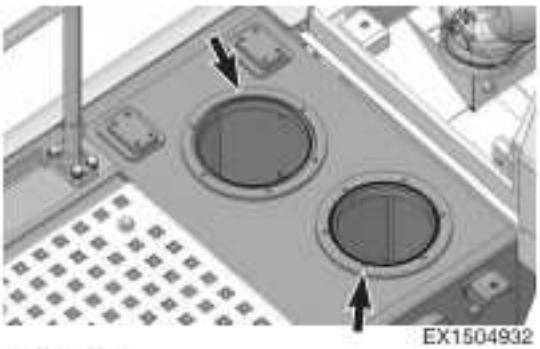


Figure 12

17. Remove bolts (1, Figure 14) (4 ea) with the tank front cover (2) from fuel tank.

    - Tool: 19 mm ( )
    - Torque: 107.9 N.m (11 kg.m, 79.6 ft lb)
    - Front cover weight: 5 kg (11 lb)

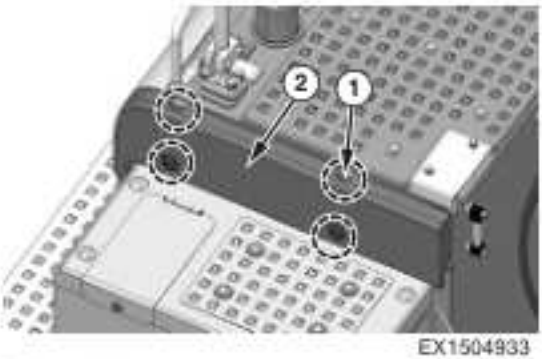


Figure 13

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

3. Rotating speed fails to reach setting value.

Symptom	Possible Cause	Corrective Action
Rotating speed fails to reach setting value	1. Insufficient incoming flow.	1. Check pump discharge rate, circuit to the motor.
	2. Temperature is too high and oil leaks too much.	2. Reduce the oil temperature.
	3. Wear of damaged of sliding parts	3. Replace the damaged part.

4. Insufficient brake torque

Symptom	Possible Cause	Corrective Action
Insufficient brake torque	1. Friction plate is worn.	1. Disassemble and check. Replace the part if excessively worn.
	2. Brake piston is sticking	2. Disassemble and check
	3. Brake release pressure cannot be removed.	3. 1) Check/repair the circuit. 2) Check the brake switching valve.
	4. The spline of the friction plate is damaged.	4. Disassemble and check Replace the damaged part

5. Hydraulic motor slips excessively

Check the drain quantity of the motor.

Normal drain rate is 500 cc/min.

Symptom	Possible Cause	Corrective Action
Excessive slip when external torque to drive the hydraulic motor is applied.	1. Relief valve malfunction. Same as subclause 1).	1. Same as subclause 1).
	2. Bad plunger seat	2. Replace the damaged part.

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

ELECTRICAL SUPPLY SYSTEM

The electric power circuit supplies electric current to each electric component. It consists of a battery, battery relay, starter switch, circuit breaker and fuse box.

The negative terminal of the battery is grounded to the machine body.

Even when the starter switch (5) is in the "OFF" position, electric current is supplied to the following components through battery (1) → master switch (11) → circuit breaker 1 (3) → fuse box (6).

1. Terminal "5" of stereo.
2. Terminal "B" of starter switch.
3. Hour meter.
4. Engine controller. (ECU + SCU)
5. Terminal "2" of fuel auto shutoff controller.
6. Terminal "6" of wiper motor.
7. Terminal "13" of wiper controller.
8. Terminal "CN7-5, CN7-6" of instrument panel controller.
9. Terminal "CN9-6" of air conditioner panel.
10. Cabin light
11. Terminal "3" of diesel heater timer.
12. Terminal "3" of diesel heater.
13. Terminal "1" of TMS controller.
14. Terminal "2" of ETP switch.
15. Terminal "9", "10" of AVM monitor. (Optional)
16. Terminal "1" of AVM ECU. (Optional)

When the starter switch (5) is in the "ON" or "START" positions, the current flows from the battery (1) → master switch (11) → circuit breaker 1 (3) → fuse box (6) → "B" terminal of starter switch (5) → "BR" terminal of starter switch (5) → "BR" terminal of battery relay (2) which activates the coil of the battery relay and the electric supply system is energized.

When the battery relay's contacts are connected, all electric devices can be operated.

While the engine is not running, the electric power for all electric devices are supplied by the battery. Once the engine is started the power is supplied from the alternator (7).

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

25. Remove hoses and adapters (Figure 21) from the oil tank.

NOTE: *Attach identification tags to the removed hoses for reassembly.disconnect hoses from the bottom to the of tank, After disconnecting houses plug them to prevent dirt or dust from entering.*

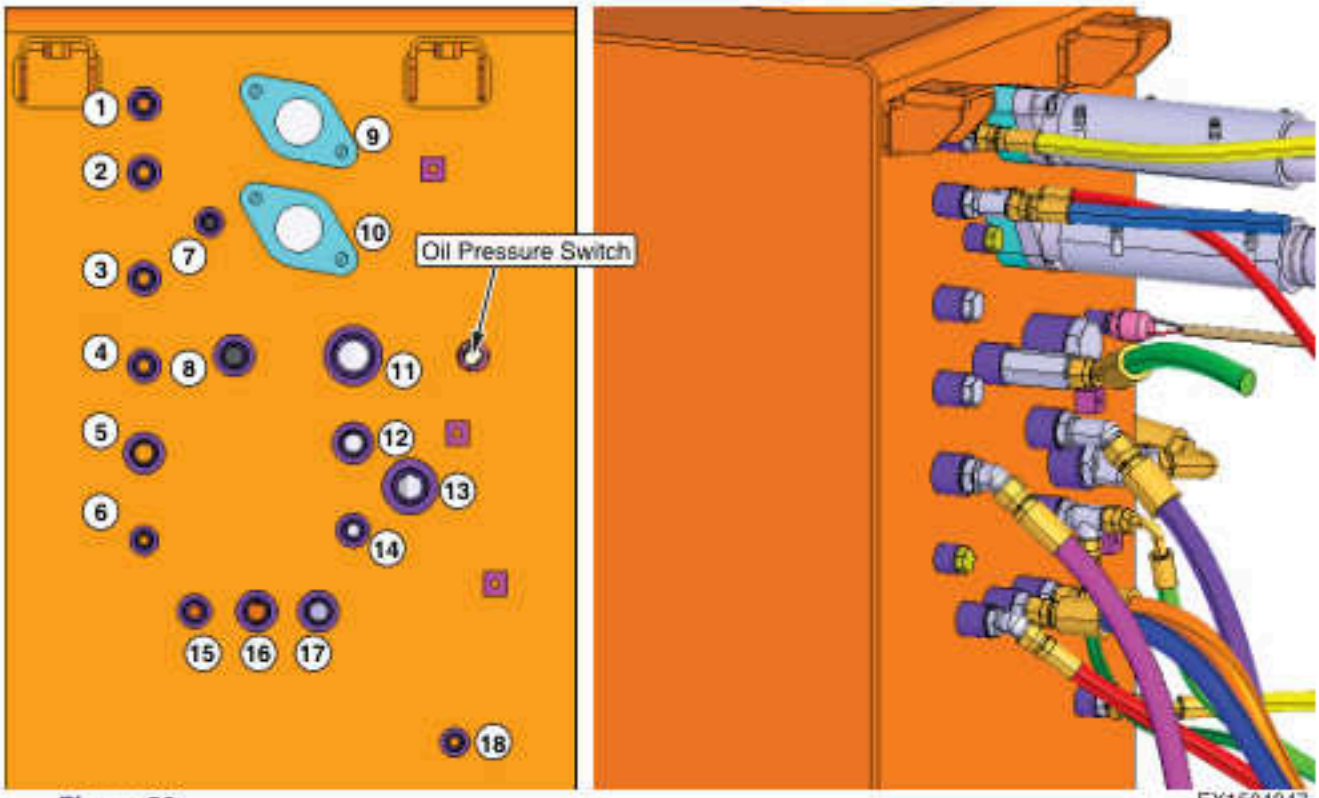


Figure 20

- Hoses and plugs ports

Port	Name	Plug/Flange Size (Hose)	(mm)	Torque		
				N.m	kg.m	ft lb
1	from Control Valve "DR2"	UNF 11/16"-16-2B	21	38.2	3.9	28.2
2	from Control Valve "DR1"	UNF 11/16"-16-2B	21	38.2	3.9	28.2
	from Control Valve "DR4"	UNF 9/16"-18-2B	17	28.4	2.9	20.9
5	from Control Valve for Grapple "T"	UNF 13/16"-16-2B	24	55.9	5.7	41.2
8	from Swing Motor "M"	UNF 13/16"-16-2B	24	55.9	5.7	41.2
9	from Radiator	Hole Distance 85 mm		107.9	11	79.6
10	from Control Valve "T1"	Hole Distance 85 mm		107.9	11	79.6
12	from Main Pump "Dr3"	UNF 13/16"-16-2B	24	55.9	5.7	41.2
13	from PTO Pump	UNF 1 3/16"-12-2B	36	124.5	12.7	91.8
14	from Fan Pump "L1"	UNF 11/16"-16-2B	21	38.2	3.9	28.2
	from Fan Motor "D"	UNF 9/16"-18-2B	17	25.5	2.6	18.8
15	from Solenoid Valve "T"	UNF 11/16"-16-2B	21	38.2	3.9	28.2
16	from Joint Sub Assembly "B19"	UNF 13/16"-16-2B	24	55.9	5.7	41.2
17	from Joint Sub Assembly "B20"	UNF 13/16"-16-2B	24	55.9	5.7	41.2
18	from Stop Valve "T"	UNF 11/16"-16-2B	22	38.2	3.9	28.2

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Release any pressure in the hydraulic oil tank before doing any work.

9. Loosen the oil tank air breather slowly to release the pressure inside the hydraulic oil tank.
Pulling the breather cap upward, the check valve (0.45 bar) opens, and the air is discharged to the atmosphere from the top of the hydraulic oil tank.

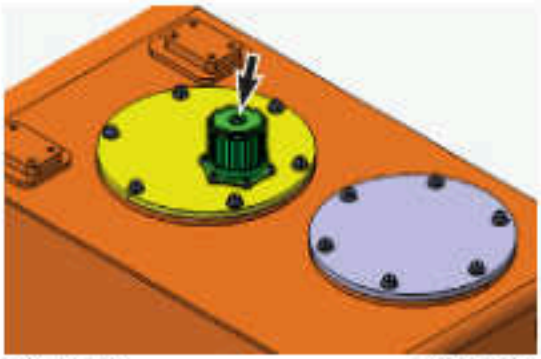


Figure 40 EX1403168

10. Oil drain method

    A. Remove cover on oil tank (bolt: 6 ea) drain hydraulic oil using oil pump.

    - Tool: 14 mm ( )
    - Torque: 63.7 N.m (6.5 kg.m, 47 ft lb)

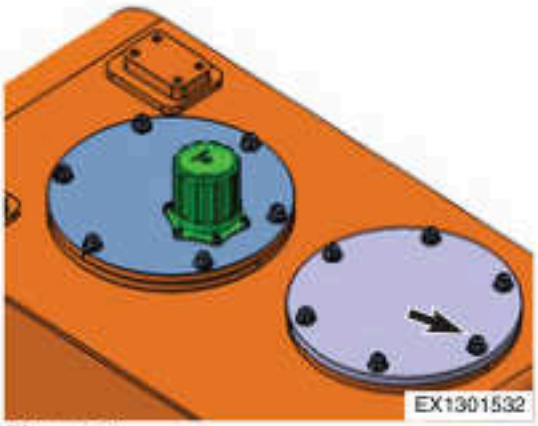


Figure 41

    B. Drain hydraulic fluid using drain plug. (without oil pump)

    - Tool: 27 mm ( )
    - Hydraulic oil tank capacity: approximately 280 L
    - Torque: 93.2 N.m (9.5 kg.m, 68.7 ft lb)

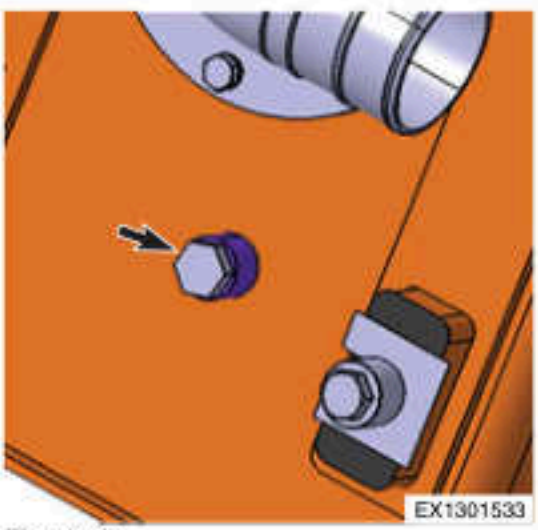
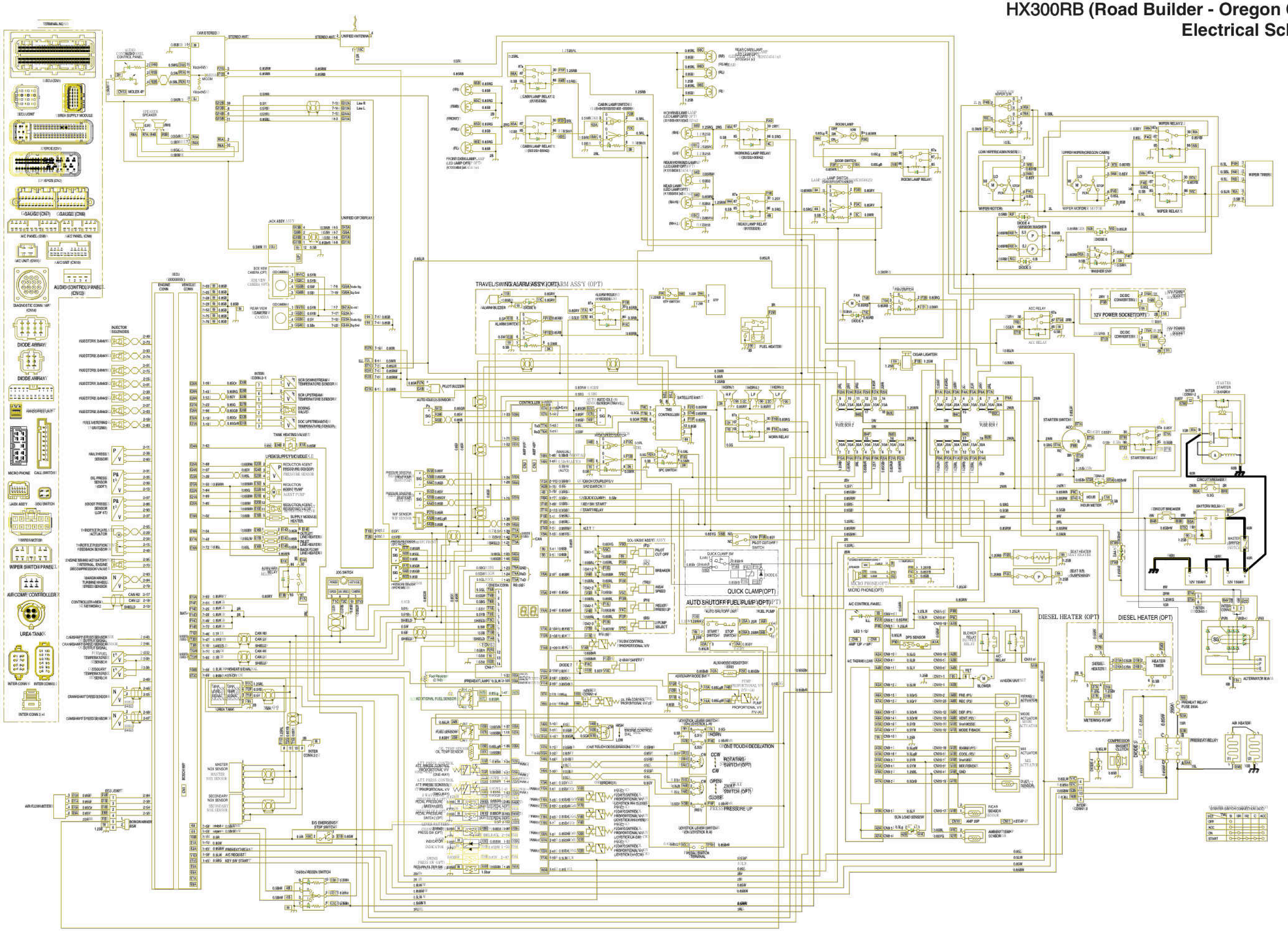


Figure 42

MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX... Order the manual at mid-west-tech.com >

HX300RB (Road Builder - Oregon Cabin)
Electrical Schematic



MidWestTech | Hyundai HX300LL Crawler Excavator Service Manual | Publication HX300LL
Order the manual at mid-west-tech.com >