GENERAL SPECIFICATIONS

Shipping Weight	Standard Track	41,350 kg (91,161 lb)
	Narrow Track	41,150 kg (90,720 lb)
	Includes 10% fuel, 6,700 (22' 0") boom, 3,250 mm (10' 8") arm, 1,547 mm (5' 1") backhoe bucket and standard shoes	
Operating Weight	Add weight of full fuel tank and operator.	
Shipping Weights With Optional Track Shoes	Add 720 kg (1,590 lb) for 750 mm (30") shoes	
	Add 970 kg (2,140 lb) for 800 mm (32") shoes	
	Add 1,460 kg (3,220 lb) for 900 mm (36") shoes	
Major Component Weights	Standard Boom 3,098 kg (6,829 lb)	
	2,600 mm (8' 6") Arm 1,333 kg (2,939 lb)	
	2,950 mm (9' 8") Arm 1,386 kg (3,056 lb)	
	3,250 mm (10' 8") Arm 1,485 kg (3,274 lb)	
	3,950 mm (13' 0") Arm 1,720 kg (3,792 lb)	
	Boom Cylinders 370 kg (816 lb) each	
	Arm Cylinder 525 kg (1,157 lb)	
	Bucket Cylinder 335 kg (739 lb)	
	Counterweight 8,200 kg (18,078 lb)	
	Upper Turntable 9,715 kg (21,418 lb)	
	Lower - below Swing Bearing 15,050 kg (33,180 lb)	
Digging Forces (At Power Boost, ISO)		
Bucket Cylinder	266 KN or 27,100 kg (59,700 lb) with Standard Front + GP Bucket	
Arm Cylinder	193 KN or 19,700 kg (43,430 lb) with 3,250 mm (10' 8") standard arm	
Fuel Tank Capacity	640 liters (169 U.S. gal)	
Hydraulic System Capacity	500 liters (132 U.S. gal)	
Hydraulic Reservoir Capacity	265 liters (70 U.S. gal)	
Bucket Heaped Capacity Range	SAE 1.44 - 2.31 m^3 (1.88 - 3.02 yd^3)	
	NOTE: Refer to the Load Weight, Bucket and Arm Length Compatibility Table for information on which bucket sizes are approved with which arm length and workload material weights.	
Shoe Type	Triple Grouser	
Shoe Width and Optional Sizes	600 mm (24") - standard	
	750 mm (30") - optional	
	800 mm (32") - optional	
	900 mm (36") - optional	
Ground Pressure Ratings:		
Standard 600 mm (24") shoe	0.76 kg/cm^2 (10.8 psi)	
Optional 750 mm (30") shoe	0.62 kg/cm^2 (8.8 psi)	
Optional 800 mm (32") shoe	0.58 kg/cm^2 (8.3 psi)	
Optional 900 mm (36") shoe	0.53 kg/cm^2 (7.5 psi)	

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Primary Specifications

Engine Main Specifications

Item		Engine Model 6UZ1
Type		Diesel / 4-cycle / water-cooled, inline 6-cylinder OHC
Cylinder Bore x Stroke		120.0 mm (4.72 in) x 145.0 mm (5.71 in)
Displacement		9.839 L (600.38 cu•in)
Compression Ratio		17.5
Compression Pressure		2,750 kPa (28 kg/cm^2) / 200 r/min
Shape of the Combustion Chamber		Direct Injection Type
Cylinder Liner Type		Dry Liner or Tight Fit Type
Rated Output		270 ±5.4 kW (367.3 ps) / 2,000 r/min
Maximum Torque		1,435 ±72 Nm (146 kg•m) / 1,500 r/min
Dimensions Length x Width x Height		1,234.7 mm (48.61 in) x 1,180.4 mm (46.47 in) x 1,308 mm (51.50 in)
Dry Weight		960 kg (2,116 lb)
Fuel Injection Timing		2.5°
Fuel Injection Order		1, 5, 3, 6, 2, 4
Valve Clearance	Intake	0.2 mm (0.00787 in) While Cool
	Exhaust	0.3 mm (0.0118 in) While Cool
Opening / Closing Timing of Intake Valve	Open	22° BTDC
	Close	30° ABDC
Opening / Closing Timing of Exhaust Valve	Open	48° BBDC
	Close	23° ATDC
Ignition Type		Compression Ignition
Lubricating System		
Oil Pump Type		Gear Type
Oil Filter Type		Full Flow Paper Element (Spin-on Type), Remote Type
Engine Oil Level		30 - 41 L (8 - 11 US gal / 7 - 9 Imp.gal) Reference Value
Oil Pan Capacity		25 - 36 L (7 - 10 US gal / 5 - 8 Imp.gal)
Oil Cooling Type		Integrated Water Cooled, 6 Cores
Cooling System		
Cooling Type		Pressurized Water Forced Circulation Type
Volume of Coolant In Engine		22.5 L (6 US gal / 5 Imp.gal)
Water Pump Type		Impeller Type
Thermostat Type		Wax Type
Fuel system		
Injection Pump Type		Electronic Control Common Rail Type
Governor Type		Electronic Type
Timer Type		Electronic Type
Injection Nozzle Type		Porous Type 8 Holes, Inner Diameter ø0.14 mm
Turbocharger Type		RHG7V (IHI)

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DTC INFORMATION

DTC P0016 (Flash Code 16) Crankshaft Position - Camshaft Position Correlation

DTC P0016 Description of DTC

The CKP sensor generates a pulse when a tooth of the flywheel passes the sensor. The CMP sensor, in the same way as the CKP sensor, also generates a pulse when the sensing hole for signal detection, opened on the camshaft gear, passes the sensor. The ECM sets the DTC when the number of CKP sensor pulses and the number of CMP sensor pulses are normal, but their pulses are not synchronized with each other.

DTC P0016 Condition for Setting the DTC

DTCs P0335, P0336, P0340 and P0341 are not detected.

The starter switch is ON.

Signal pulses of the CKP sensor are detected.

Signal pulses of the CMP sensor are detected.

The ECM detects that CKP sensor signal pulses and CMP sensor signal pulses are not synchronized during engine is running.

DTC P0016 Action Taken When the DTC Sets

Failure is indicated in the monitor on the machine, or the diagnostic light is turned on.

NOTE: *Depending on the manufacturer of the machine, the failure indication may not be shown.*

DTC P0045 (Flash Code 33) Turbocharger Boost Control Solenoid Circuit

DTC P0045 Description of DTC

The opening angle of the variable nozzle on the turbocharger is controlled by the turbo control unit through operating the actuator responding to the signal received from the ECM based on the boost pressure. The turbo control unit is also detecting the opening angle of the variable nozzle with the position sensor built into the actuator. When the engine is free from load, the variable nozzle is opened and free from boost pressure. When the engine is under load, the actuator is controlled to close the variable nozzle. As a result the boost pressure increases. The ECM performs control that changes the boost pressure according to the load requirements for the engine. The ECM

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Starter Assembly Removal

1. Remove starter assembly from the flywheel housing.

   NOTE: *Remove collectively tightened starter ground cables together.*

Reference Number	Description
1	Earth Cable Collective Tightening Position

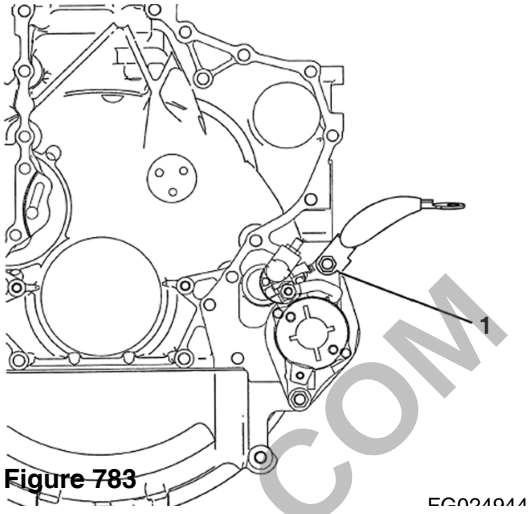


Figure 783

FG024944

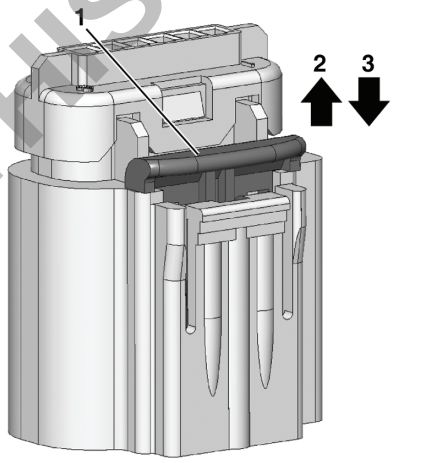
Engine Harness Removal

Disconnect the engine harness from the connector.

NOTE: *Before removing, place a mark with paint at the installation position of the harness clip.*

Disconnect the connectors from every sensor and device.

Reference Number	Description
EGR Motor	EGR Valve
CKP Sensor	Upper Left Side of the Flywheel Housing
Fuel Pressure Sensor	Common Rail
CMP Sensor	Fuel Supply Pump
Fuel Temperature Sensor	Fuel Supply Pump
PCV	Fuel Supply Pump
Boost Sensor	Inlet Duct
Boost Temperature Sensor	Inlet Duct
Solenoid Valve	Injector
Engine Coolant Temperature Sensor	Thermostat Housing
Oil Pressure Sensor	Left Side of the Cylinder Block
Intake Throttle Position Sensor	Between the Inlet Duct and the Intake Duct
VGS Actuator	Turbocharger
MAF Sensor	Inlet Duct



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Figure 784

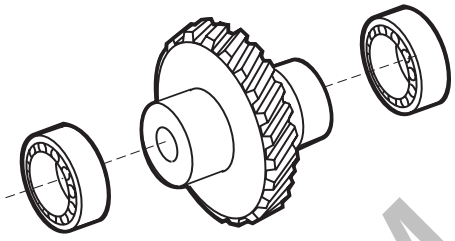
NOTE: *When disconnecting the harness connector from the intake throttle valve, pull the lock control section to release the lock.*

Reference Number	Description
1	Lock Control Section
2	Lock Release
3	Lock

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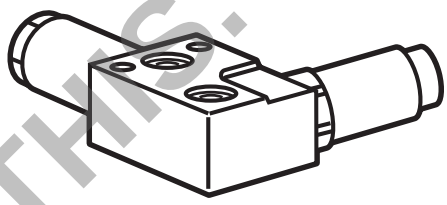
11. Auxiliary drive.



ASS0170L

Figure 18

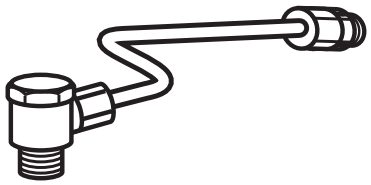
12. Valve plate with valves.



ASS0180L

Figure 19

13. Pipe, complete with fittings.



ASS0190L

Figure 20

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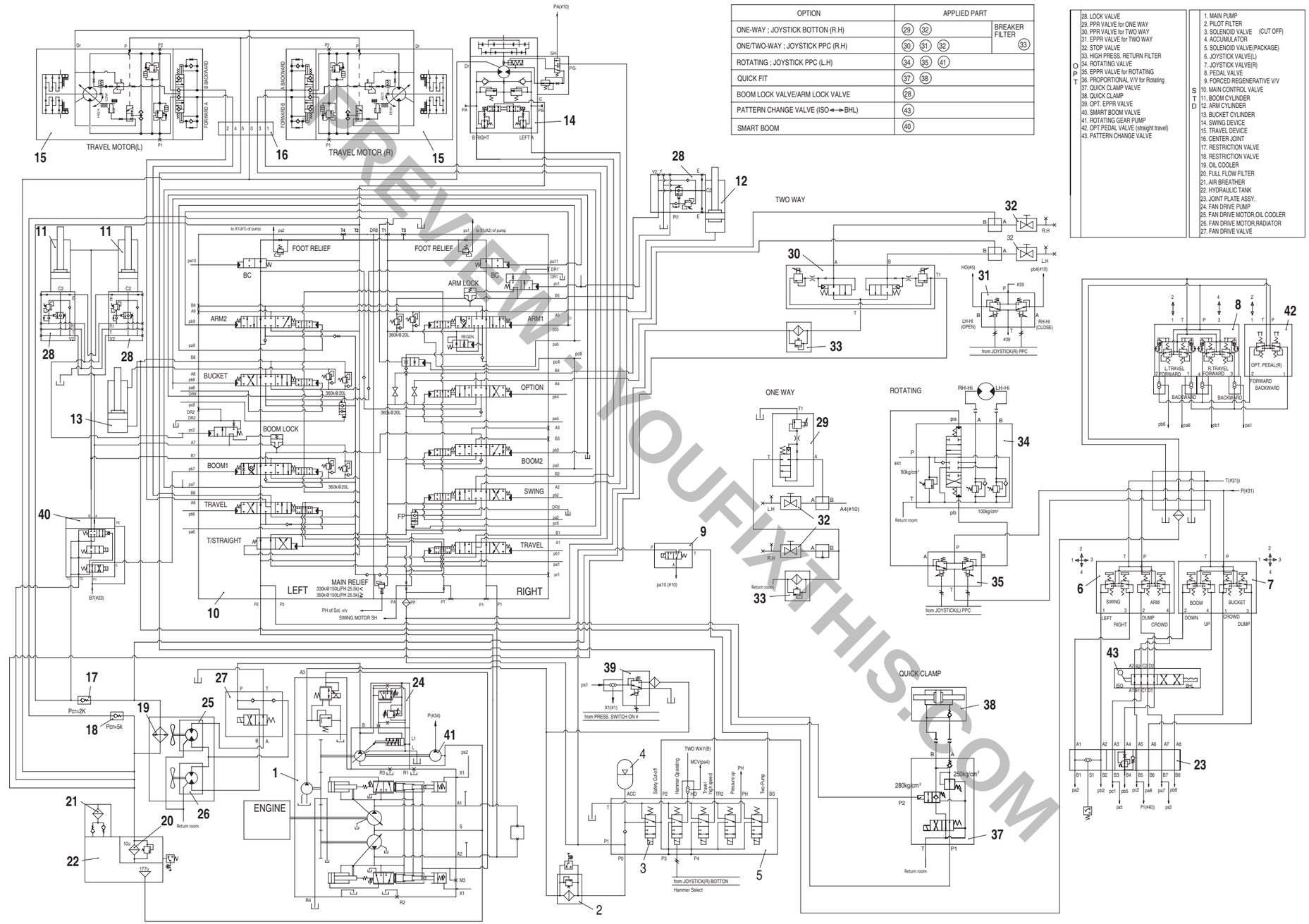
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OPTION	APPLIED PART	
ONE-WAY ; JOYSTICK BOTTON (R.H)	(29) (32)	BREAKER FILTER
ONE/TWO-WAY ; JOYSTICK PPC (R.H)	(30) (31) (32)	(33)
ROTATING ; JOYSTICK PPC (L.H)	(34) (35) (41)	
QUICK FIT	(37) (38)	
BOOM LOCK VALVE/ARM LOCK VALVE	(28)	
PATTERN CHANGE VALVE (ISO↔BHL)	(43)	
SMART BOOM	(40)	

OPT
28. LOCK VALVE
29. PPR VALVE for ONE WAY
30. PPR VALVE for TWO WAY
31. EPPR VALVE for TWO WAY
32. STOP VALVE
33. HIGH PRESS. RETURN FILTER
34. ROTATING VALVE
35. EPPR VALVE for ROTATING
36. PROPORTIONAL V/V for Rotating
37. QUICK CLAMP VALVE
38. QUICK CLAMP
39. OPT. EPPR VALVE
40. SMART BOOM VALVE
41. ROTATING GEAR PUMP
42. OPT.PEDAL VALVE (straight travel)
43. PATTERN CHANGE VALVE

STD
1. MAIN PUMP
2. PILOT FILTER
3. SOLENOID VALVE (CUT OFF)
4. ACCUMULATOR
5. SOLENOID VALVE(PACKAGE)
6. JOYSTICK VALVE(L)
7. JOYSTICK VALVE(R)
8. PEDAL VALVE
9. FORCED REGENERATIVE V/V
10. MAIN CONTROL VALVE
11. BOOM CYLINDER
12. ARM CYLINDER
13. BUCKET CYLINDER
14. SWING DEVICE
15. TRAVEL DEVICE
16. CENTER JOINT
17. RESTRICTION VALVE
18. RESTRICTION VALVE
19. OIL COOLER
20. FULL FLOW FILTER
21. AIR BREATHER
22. HYDRAULIC TANK
23. JOINT PLATE ASSY.
24. FAN DRIVE PUMP
25. FAN DRIVE MOTOR,OIL COOLER
26. FAN DRIVE MOTOR,RADIATOR
27. FAN DRIVE VALVE



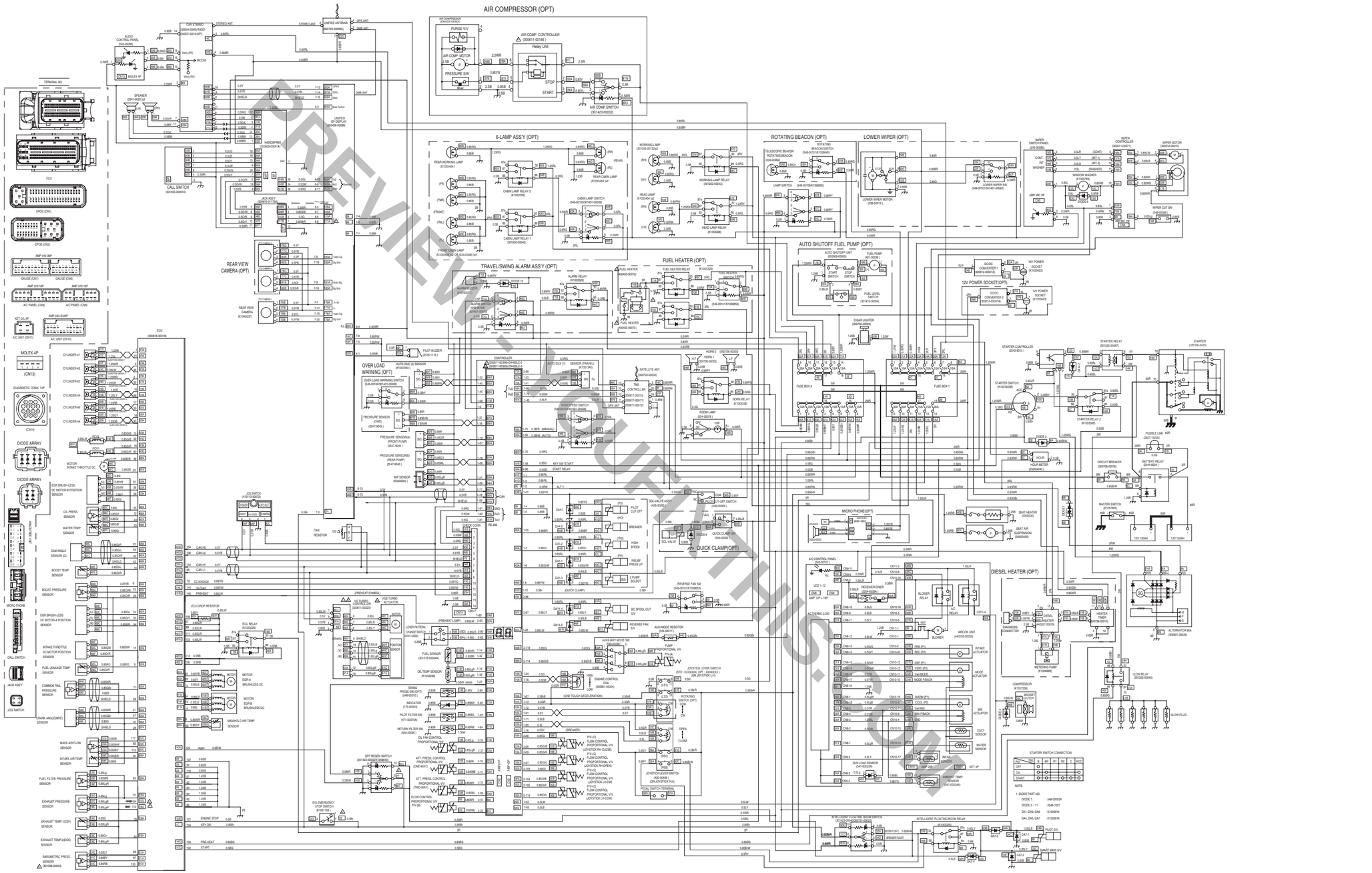
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Figure 1

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DX420LC-3/DX490LC-3/DX530LC-3



FG025218

Figure 1

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