OVERALL DIMENSIONS

One - Piece Boom

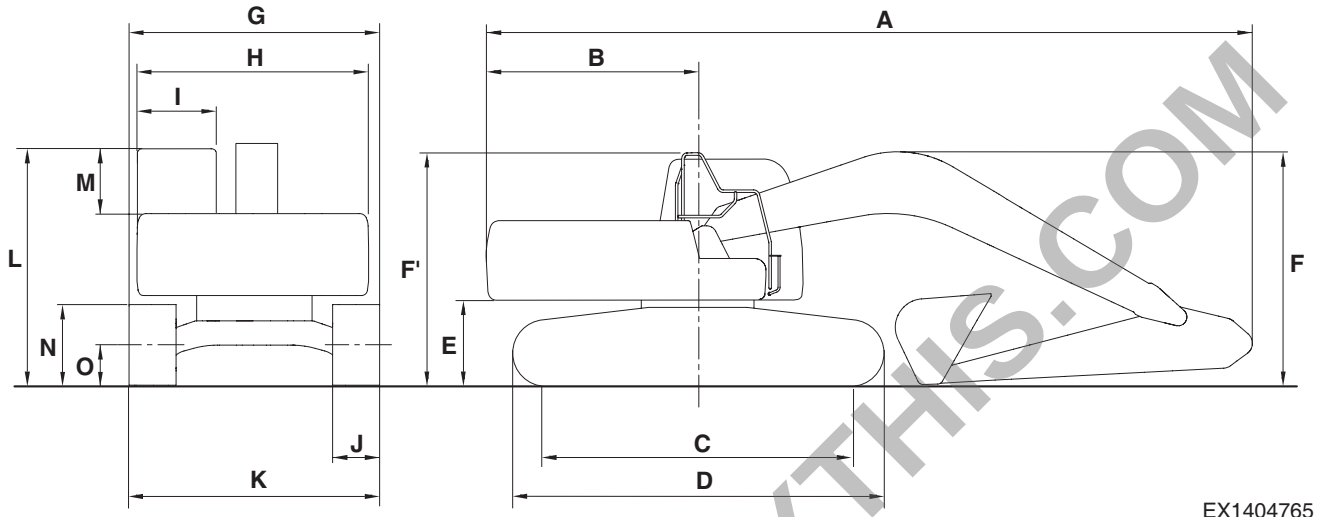


Figure 5

Dimension		4.6 m (15' 1") Boom		
		3.0 m (9' 10") Arm	**2.1 m (6' 11") Arm**	**2.5 m (8' 2") Arm**
A	Shipping Length	7,640 mm (25' 1")	7,690 mm (25' 3")	7,685 mm (25' 3")
B	Tail Swing Radius	2,205 mm (7' 3")		
C	Tumbler Distance	3,035 mm (9' 11")		
D	Track Length	3,755 mm (12' 4")		
E	Counterweight Clearance	895 mm (2' 11")		
F (Boom)	Shipping Height	3,065 mm (10' 1")	2,480 mm (8' 2")	2,635 mm (8' 8")
F (Hose)	Shipping Height	3,180 mm (10' 5")	2,640 mm (8' 8")	2,820 mm (9' 3")
F' (Handrail)	Shipping Height	3,035 mm (9' 11")		
G	Shipping Width	2,590 mm (8' 6")		
H	House Width	2,540 mm (8' 4")		
I	Cabin Width	1,010 mm (3' 4")		
J	Shoe Width	600 mm (2')		
K	Undercarriage Width	2,590 mm (8' 6")		
L	Height Over Cabin	2,785 mm (9' 2")		
M	Cabin Height Above House	840 mm (2' 9")		
N	Track Height	795 mm (2' 7")		
O	Car Body Clearance	410 mm (1' 4")		

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ENGINE SPECIFICATION

General Specification

Items		Specification
Engine	Type	4 cycle Water Cooled, Waste Gate Turbocharger, Common Rail, Direct Injection, Exhaust Gas Recirculation
	Emission	US EPA Tier 4 Final (EU Stage IV)
	Model	PERKINS 1204F
	Injection System	Extra High-pressure Fuel Injection System
	Rated Net Power	81.6 kW (109 HP, 111 PS) @ 2,000 rpm (SAE J1349)
Valve Clearance	Intake Valve	0.05 mm
	Exhaust valve	0.075 mm
Number of Cylinders and Configuration		4, Straight
Rotating Direction (from Flywheel)		Counterclockwise
Oil Pressure	Minimum Oil Pressure at Maximum Engine Speed	2.8 bar (2.9 kg/cm^2, 41 psi)
Using Lubrication Oil		API CJ-4 or Higher
Oil Filter		Paper Filter
Interval Between Oil Changes		500 h
Working Principle		4 Stoke Engine
Cylinder Diameter		105 mm
Piston Stroke		127 mm
Displacement		4,400 cc
Compression Ratio		16.5 : 1
Low Idle Speed		950 ±10 rpm
Max. Full Load Speed		2,060 ±25 rpm
Weight, without Coolant and Oil		500 kg (1,102 lb)
Cooling System	Volume, Excluding Radiator	10,600 cc
	Coolant	90 ~ 950°C (194 ~ 2030°F)
	Number of Water Temperature Regulator	1
	Water Temperature Regulator, Opening Temperature	80 ~ 840°C (176 ~ 1830°F)
Electrical System	Type	1-pin, 24 V, DC
	Starter Motor (Standard Equipment)	1-pin, 24 V, 4.5 kW
	Alternator (Standard Equipment)	1-pin, 24 V, 85 A

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SAFETY INSTRUCTIONS

⚠ WARNING

AVOID DEATH OR SERIOUS INJURY

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments repairs or service. Untrained operators and failure to follow instructions can cause death or serious injury.

GENERAL

Specification

Control Method		Negative Control
Rated Flow		114 L/min (30 L/min in neutral)
Main Relief Pressure	High	343 bar (350 kg/cm^2, 4,978 psi) at 90 L/min
	Low	323 bar (330 kg/cm^2, 4,684 psi) at 90 L/min
Overload Relief Pressure		358 bar (365 kg/cm^2, 5,192 psi) at 20 L/min
Permitted Back Pressure		Max. Pressure of 1.5 MPa or Less
		Used Pressure of 0.5 MPa or Less
Permitted Use of Oil Temperature		Normally -20 ~ +80°C
		Highest 100°C
		(Use of the Rubber for NBR)
Weight	Arti and Dozer	160 kg (353 lb)
	Arti (Dozer)	146 kg (322 lb)
	STD	133 kg (293 lb)

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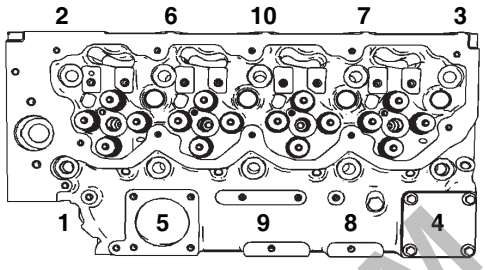
Cylinder Head - Specification

Lubricate the threads and the underside of the head bolts with clean engine oil.

1. Tighten the bolts in the sequence that is shown in Figure 20 to the following torque.
   - Torque: 50 N.m (5 kg.m, 36.9 ft lb)
2. Tighten the bolts again to the following torque.
   - Torque: 100 N.m (10 kg.m, 73.8 ft lb)
3. Tighten the head bolts to the additional amount: 225 degrees
4. Minimum thickness of cylinder head.
   - Thickness: 150.8 mm (5.93700 inch)

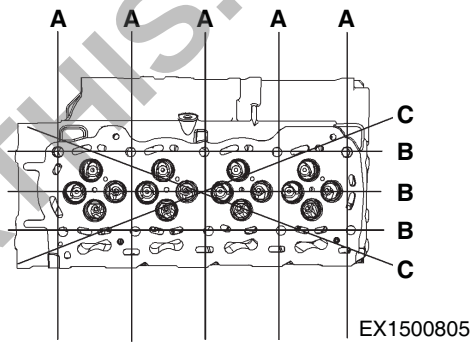
   NOTE: *The maximum distortion of the bottom face of the cylinder head is given in table.*

Dimension	Maximum Permissible Distortion
Width (A)	0.08 mm (0.0032 inch)
Length (B)	0.08 mm (0.0032 inch)
Diagonal Line (C)	0.08 mm (0.0032 inch)



EX1500804

Figure 20



EX1500805

Figure 21

(D) Valve guide height from the top of the valve guide to the valve spring seat.

– 10.85 ~ 11.15 mm (0.42716 ~ 0.43898 inch)

(E) Outside diameter of the valve guides

– 11.029 ~ 11.040 mm (0.43421 ~ 0.43464 inch)

(F) Length of the valve guides

– 43.75 ~ 44.25 mm (1.72244 ~ 1.74212 inch)

(G) Internal diameter of the valve guides

– 7.007 ~ 7.020 mm (0.27587 ~ 0.27638 inch)

(H) Valve depths Inlet

– 0.905 ~ 1.163 mm (0.0356 ~ 0.0458 inch)

The service limit for the depth of the inlet valve

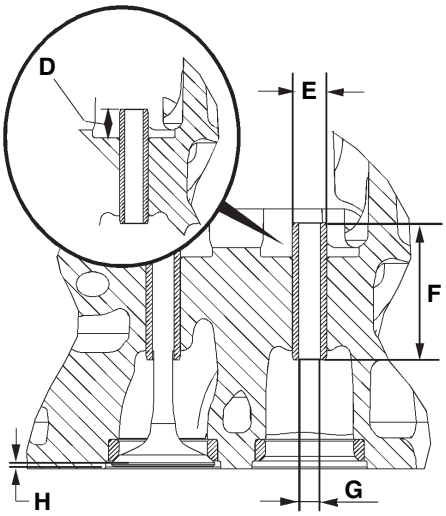
– 1.41 mm (0.0555 inch)

Exhaust

– 0.876 ~ 1.131 mm (0.0345 ~ 0.0445 inch)

The service limit for the exhaust valve depth

– 1.38 mm (0.0543 inch)



EX1500806

Figure 22

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Failure Code at Engine Side

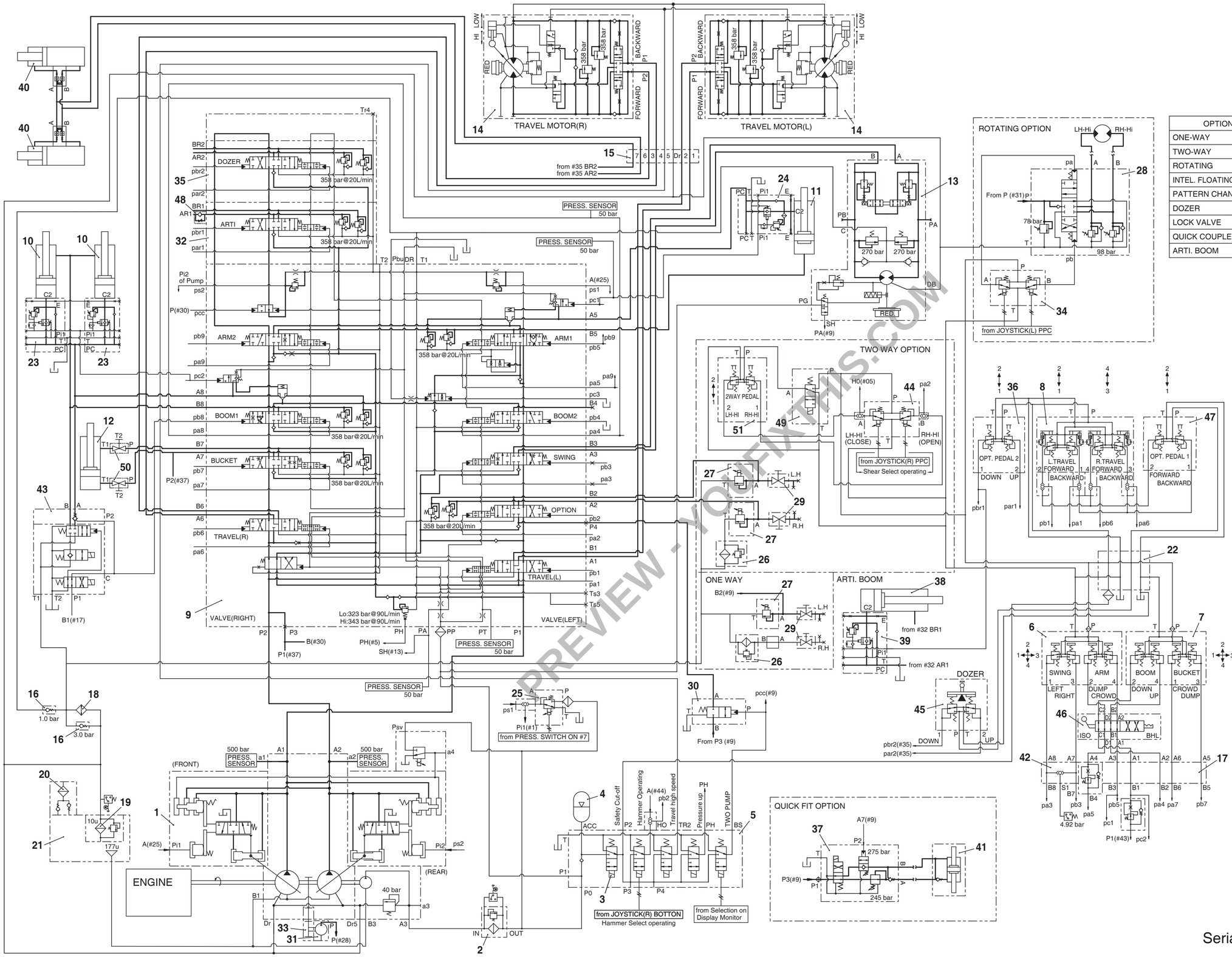
GP (Graphic Panel): Code displays on Panel Gauge
FMI (Failure Mode Identifier): Code displays on DMS
DTC (Diagnostic Trouble Code): Code displays on Diagnostic tool
HEX: Hexadecimal, DEC: Decimal number

GP Display Code	Index (from EPOS to GP)	Index (Hex)	DTC Code		FMI	GP Display Description	Severity	Remarks
			HEX	DEC				
E000027-03	100	64	1B	27	3	EGR #1 Valve Position: Voltage Above Normal	3	
E000027-04	100	64	1B	27	4	EGR #1 Valve Position: Voltage Below Normal	3	
E000029-02	101	65	1D	29	2	Accelerator Pedal Position 2: Erratic, Intermittent or Incorrect	2	
E000029-03	101	65	1D	29	3	Accelerator Pedal Position 2: Voltage Above Normal	2	
E000029-04	101	65	1D	29	4	Accelerator Pedal Position 2: Voltage Below Normal	2	
E000029-08	101	65	1D	29	8	Accelerator Pedal Position 2: Abnormal Frequency, Pulse Width or Period	2	
E000091-02	102	66	5B	91	2	Accelerator Pedal Position 1: Erratic, Intermittent or Incorrect	2	
E000091-03	102	66	5B	91	3	Accelerator Pedal Position 1: Voltage Above Normal	2	
E000091-04	102	66	5B	91	4	Accelerator Pedal Position 1: Voltage Below Normal	2	
E000091-08	102	66	5B	91	8	Accelerator Pedal Position 1: Abnormal Frequency, Pulse Width or Period	2	
E000097-15	103	67	61	97	15	Water in fuel Indicator	2	
E000100-01	104	68	64	100	1	Engine Oil Pressure: Low - Most Severe (3)	4	
E000100-03	104	68	64	100	3	Engine Oil Pressure: Voltage Above Normal	2	
E000100-04	104	68	64	100	4	Engine Oil Pressure: Voltage Below Normal	2	
E000100-17	104	68	64	100	17	Engine Oil Pressure: Low - Least Severe (1)	3	
E000102-16	105	69	66	102	16	Engine Intake Manifold #1 Pressure: High - Moderate Severity (2)	2	
E000102-18	105	69	66	102	18	Engine Intake Manifold #1 Pressure: Low - Moderate Severity (2)	2	
E000105-00	106	6A	69	105	0	Engine Intake Manifold #1 Temperature: High - Most Severe (3)	4	
E000105-03	106	6A	69	105	3	Engine Intake Manifold #1 Temperature: Voltage Above Normal	2	
E000105-04	106	6A	69	105	4	Engine Intake Manifold #1 Temperature: Voltage Below Normal	2	
E000105-15	106	6A	69	105	15	Engine Intake Manifold #1 Temperature: High - Least Severe (1)	2	
E000105-16	106	6A	69	105	16	Engine Intake Manifold #1 Temperature: High - Moderate Severity (2)	3	
E000108-03	107	6B	6C	108	3	Barometric Pressure: Voltage Above Normal	2	
E000108-04	107	6B	6C	108	4	Barometric Pressure: Voltage Below Normal	2	
E000110-00	108	6C	6E	110	0	Engine Coolant Temperature: High - Most Severe (3)	4	
E000110-03	108	6C	6E	110	3	Engine Coolant Temperature: Voltage Above Normal	2	

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DX140LC-5
Hydraulic Schematic



OPTION	APPLIED PART			
ONE-WAY	㉕ ㉖ ㉗ ㉙		TWO PUMP	FILTER
TWO-WAY	㉕ ㉖ ㉗ ㉙ ㊹	PEDAL ㊾ ㊿	㉚	㉖
ROTATING	㉘ ㉛ ㉝ ㉞			
INTEL. FLOATING BOOM	㊸			
PATTERN CHANGE	㊻			
DOZER	㉟ ㊵ ㊺			
LOCK VALVE	㉓ ㉔ ㊴	CLAMSHELL	㊿	
QUICK COUPLER	㊲ ㊶	SWING ALARM	㊷	
ARTI. BOOM	㉜ ㊱ ㊳ ㊴ ㊽	STRAIGHT TRAVEL	㊼	

STANDARD

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. TRAVEL PEDAL VALVE
9. CONTROL VALVE
10. BOOM CYLINDER
11. ARM CYLINDER
12. BUCKET CYLINDER
13. SWING DEVICE
14. TRAVEL DEVICE
15. CENTER JOINT
16. RESTRICTION VALVE
17. PILOT JOINT BRACKET
18. OIL COOLER
19. FULL FLOW FILTER
20. AIR BREATHER
21. HYDRAULIC TANK
22. PT BLOCK

OPTION

23. BOOM LOCK VALVE
24. ARM LOCK VALVE
25. EPPR VALVE FOR 1 OR 2 WAY
26. HIGH PRESS. RETURN FILTER
27. PROPORTIONAL RELIEF VALVE
28. ROTATING VALVE
29. STOP VALVE
30. TWO PUMP FLOW VALVE
31. ROTATING GEAR PUMP
32. CON. BLOCK; ARTI VALVE
33. PTO
34. PROPORTIONAL V/V for ROTATING
35. CON. BLOCK; DOZER VALVE
36. ARTI OPT. PEDAL VALVE
37. QUICK CLAMP VALVE
38. ARTI. BOOM CYLINDER
39. ARTI. BOOM LOCK VALVE
40. DOZER CYLINDER
41. QUICK CLAMP
42. SHUTTLE VALVE FOR SWING ALARM
43. INTEL. FLOATING BOOM VALVE
44. PROPORTIONAL VALVE for 2 WAY
45. DOZER REMOTE CONTROL
46. PATTERN CHANGE VALVE
47. STRAIGHT TRAVEL PEDAL VALVE
48. SLOW RETURN VALVE for ARTI.
49. TWO WAY PEDAL SAFETY VALVE
50. SWITCH VALVE(for CLAMSHELL)
51. OPTION PEDAL VALVE(FOR 2WAY)

Serial Number 1001 and Up

EX1500356

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DX140LC-5
Electrical Schematic

TERMINAL NO.

ECU

EPOS (CN1)

EPOS (CN2)

GAUGE (CN7) GAUGE (CN6)

A/C PANEL (CN9) A/C PANEL (CN8)

A/C UNIT (CN11)

A/C UNIT (CN10)

AUDIO CONTROL PANEL (CN13)

DIAGNOSTIC CONN. 14P (CN14)

DIODE ARRAY

DIODE ARRAY

HANDSFREE UNIT

MICRO PHONE CALL SWITCH

JACK ASS'Y JOG SWITCH

WIPER SWITCH PANEL

AIR COMP. CONTROLLER

Tenneco Xnox DCU

ECU

Serial Number 1001 and Up

EX1500357

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