

JU4H-UF40

INSTALLATION & OPERATION DATA (I&O Data)

USA Produced

Basic Engine Description

Engine Manufacturer	John Deere Co.
Ignition Type	Compression (Diesel)
Number of Cylinders	4
Bore and Stroke - in (mm)	4.19 (106) X 5 (127)
Displacement - in ³ (L)	275 (4.5)
Compression Ratio	17.0:1
Valves per cylinder	
Intake	1
Exhaust	1
Combustion System	Direct Injection
Engine Type	In-Line, 4 Stroke Cycle
Fuel Management Control	Mechanical, Rotary Pump
Firing Order (CW Rotation)	1-3-4-2
Aspiration	Turbocharged
Charge Air Cooling Type	None
Rotation, viewed from front of engine, Clockwise (CW)	Standard
Engine Crankcase Vent System	Open
Installation Drawing	D534
Weight - lb (kg)	935 (424)

Power Rating

	1760	2100	2350
Nameplate Power - HP (kW)	94 (70)	105 (78)	106 (79)

Cooling System - [C051128]

	1760	2100	2350
Engine Coolant Heat - Btu/sec (kW)	40 (42.2)	47 (49.6)	47 (49.6)
Engine Radiated Heat - Btu/sec (kW)	21 (22.2)	24 (25.3)	24 (25.3)
Heat Exchanger Minimum Flow			
60°F (15°C) Raw H ₂ O - gal/min (L/min)	8 (30.3)	10 (37.9)	10 (37.9)
95°F (35°C) Raw H ₂ O - gal/min (L/min)	10 (37.9)	11 (41.6)	11 (41.6)
Heat Exchanger Maximum Cooling Raw Water			
Inlet Pressure - psi (bar)	60 (4.1)		
Flow - gal/min (L/min)	40 (151)		
Typical Engine H ₂ O Operating Temp - °F (°C) ^[1]	180 (82.2) - 195 (90.6)		
Thermostat			
Start to Open - °F (°C)	187 (86.1)		
Fully Opened - °F (°C)	196 (91.1)		
Engine Coolant Capacity - qt (L)	14.79 (14)		
Coolant Pressure Cap - lb/in ² (kPa)	10 (68.9)		
Maximum Engine Coolant Temperature - °F (°C)	200 (93.3)		
Minimum Engine Coolant Temperature - °F (°C)	160 (71.1)		
High Coolant Temp Alarm Switch - °F (°C)	205 (96.1)		

Electric System - DC

	Standard		Optional	
System Voltage (Nominal)	12		24	
Battery Capacity for Ambients Above 32°F (0°C)				
Voltage (Nominal)	12	[C07633]	24	[C07633]
Qty. Per Battery Bank	1		2	
SAE size per J537	8D		8D	
CCA @ 0°F (-18°C)	1400		1400	
Reserve Capacity - Minutes	430		430	
Battery Cable Circuit, Max Resistance - ohm	0.0012		0.0012	
Battery Cable Minimum Size				
0-120 in. Circuit Length ^[2]	00		00	
121-160 in. Circuit Length ^[2]	000		000	
161-200 in. Circuit Length ^[2]	0000		0000	
Charging Alternator Maximum Output - Amp,	40	[C07639]	40	[C071048]
Starter Cranking Amps, Rolling - @60°F (15°C)	345	[RE59595/RE59589]	250	[C07819/C07820]

NOTE: This engine is intended for indoor installation or in a weatherproof enclosure. ¹Engine H₂O temperature is dependent on raw water temperature and flow. ²Positive and Negative Cables Combined Length.

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<u>Exhaust System</u>	<u>1760</u>	<u>2100</u>	<u>2350</u>
Exhaust Flow - ft. ³ /min (m ³ /min) -----	435 (12.3)	531 (15)	588 (16.7)
Exhaust Temperature - °F (°C) -----	911 (488)	868 (464)	823 (439)
Maximum Allowable Back Pressure - in H ₂ O (kPa) -----	30 (7.5)	30 (7.5)	30 (7.5)
Minimum Exhaust Pipe Dia. - in (mm) ^[3] -----	4 (102)	4 (102)	4 (102)
 <u>Fuel System</u>	 <u>1760</u>	 <u>2100</u>	 <u>2350</u>
Fuel Consumption - gal/hr (L/hr) -----	3 (11.4)	3.2 (12.1)	3.1 (11.7)
Fuel Return - gal/hr (L/hr) -----	7.9 (29.9)	8.5 (32.2)	9 (34.1)
Fuel Supply - gal/hr (L/hr) -----	10.9 (41.3)	11.7 (44.3)	12.1 (45.8)
Fuel Pressure - lb/in ² (kPa) -----	3 (20.7) - 6 (41.4)		
Minimum Line Size - Supply - in. -----	.50 Schedule 40 Steel Pipe		
Pipe Outer Diameter - in (mm) -----	0.848 (21.5)		
Minimum Line Size - Return - in. -----	.375 Schedule 40 Steel Pipe		
Pipe Outer Diameter - in (mm) -----	0.675 (17.1)		
Maximum Allowable Fuel Pump Suction Lift with clean Filter - in H ₂ O (mH ₂ O) -----	31 (0.8)		
Maximum Allowable Fuel Head above Fuel pump, Supply or Return - ft (m) -----	4.5 (1.4)		
Fuel Filter Micron Size -----	5		
 <u>Heater System</u>	 <u>Standard</u>		 <u>Optional</u>
Engine Coolant Heater			
Wattage (Nominal) -----	1000		1000
Voltage - AC, 1 Phase -----	115 (+5%, -10%)		230 (+5%, -10%)
Part Number -----	[C122188]		[C122192]
 <u>Air System</u>	 <u>1760</u>	 <u>2100</u>	 <u>2350</u>
Combustion Air Flow - ft. ³ /min (m ³ /min) -----	170 (4.8)	214 (6.1)	246 (7)
Air Cleaner	<u>Standard</u>		<u>Optional</u>
Part Number -----	[C03749]		[C03327]
Type -----	Indoor Service Only, with Shield		Canister, Single-Stage
Cleaning method -----	Washable		Disposable
Air Intake Restriction Maximum Limit			
Dirty Air Cleaner - in H ₂ O (kPa) -----	10 (2.5)		10 (2.5)
Clean Air Cleaner - in H ₂ O (kPa) -----	5 (1.2)		5 (1.2)
Maximum Allowable Temperature (Air To Engine Inlet) - °F (°C) ^[4] -----	130 (54.4)		
 <u>Lubrication System</u>			
Oil Pressure - normal - lb/in ² (kPa) -----	35 (241) - 50 (345)		
Low Oil Pressure Alarm Switch - lb/in ² (kPa) -----	20 (138)		
In Pan Oil Temperature - °F (°C) -----	220 (104) - 245 (118)		
Total Oil Capacity with Filter - qt (L) -----	15.5 (14.7)		
 <u>Lube Oil Heater</u>	 <u>Optional</u>		 <u>Optional</u>
Wattage (Nominal) -----	150		150
Voltage -----	120V (+5%, -10%)		240V (+5%, -10%)
Part Number -----	C04430		C04431
 <u>Performance</u>	 <u>1760</u>	 <u>2100</u>	 <u>2350</u>
BMEP - lb/in ² (kPa) -----	154 (1060)	144 (993)	130 (896)
Piston Speed - ft/min (m/min) -----	1467 (447)	1750 (533)	1958 (597)
Mechanical Noise - dB(A) @ 1m -----	C13910		
Power Curve -----	C13650		

³Based on Nominal System. Back pressure flow analysis must be done to assure maximum allowable back pressure is not exceeded. (Note: minimum exhaust Pipe diameter is based on: 15 feet of pipe, one 90° elbow, and a silencer pressure drop no greater than one half of the maximum allowable back pressure.) ⁴Review for horsepower derate if ambient air entering engine exceeds 77°F (25°C). [] indicates component reference part number.