PSI HEAVY-DUTY

11.1L

	Rev:	C				
	Units		11.1L			
	Std	Metric	1500		1800	
General Engine Data						
Type	N/A		In-Line 4 cycle			
Number of cylinders	N/A		6			
Aspiration	N/A		Turbo Charge Air Cooled			
Bore	in	mm	4.84	123	4.84	123
Stroke	in	mm	6.1	155	6.1	155
Displacement	in^3	L	673	11.1	673	11.1
Compression Ratio	N/A		10.5			
Mean Piston Speed	ft/min	m/s	1525	7.75	1830	9.3
Gross Standby Power Rating[1,2,3] Per ISO 3046 at the Flywheel						
NG	Hp	kW	268	200	315	235
LP	Hp	kW	180	134	208	155
MEP (@ rated Load on NG)	psi	bar	210	14	206	14
MEP (@ rated Load on LP)	psi	bar	141	10	136	9
Gross Prime Power Rating[1,2,3] Per ISO 3046 at the Flywheel						
NG	Hp	kW	241	180	268	200
LP	Hp	kW	162	121	177	132
MEP (@ rated Load on NG)	psi	bar	189	13	175	12
MEP (@ rated Load on LP)	psi	bar	127	8.7	115	8.0
RPM Range (Min-Max)	RPM		1500-2000			
Rotation Viewed from Flywheel	N/A		Counter Clockwise			
Firing Order	N/A		1-5-3-6-2-4			
Dry Weight						
Fan to Flywheel	lb	kg	2600	1179	2600	1179
Rad to Flywheel	lb	kg	3125	1417	3125	1417
Wet Weight						
Fan to Flywheel	lb	kg	2695	1206	2695	2627
Rad to Flywheel	lb	kg	3377	1530	3377	1530
CG						
Distance from FW housing	in	mm	24	605	24	605
Distance above center of crankshaft	in	mm	6	160	6	160
Engine Mounting						
Maximum Allowable Bending Moment at Rear of Block	lb ft	N m	4425	6000	4425	6000
Moment of Inertia About Roll Axis	lb ft^2	kg m^2				
Flywheel housing	N/A		SAE No.1			
Flywheel	N/A		No. 14			
Number of Flywheel Teeth	N/A		152			
Exhaust System						
Type			Water Cooled Manifold			
Maximum allowable Back pressure	in HG	kPa	3	10.2	3	10.2
Standard Catalyst Back pressure	in HG	kPa	1.5	5.1	1.5	5.1
Exhaust Outlet Pipe Size						
Maximum Turbine Inlet Temperature	F	C	1382	750	1382	750
Exhaust Flow at Rated Power	lb/hr	kg/hr	1654	750	1869	848
Exhaust Flow at Rated Power @1350F	cfm	m^3/min	1261.13	35.7	1425	40.3
Air Induction System						
Maximum allowable Intake Air Restriction with Air Cleaner						
Clean	inH2O	kPa	5	1.24	5	1.24
Dirty	inH2O	kPa	15	3.74	15	3.74
Combustion Air required (entire engine)	lb/hr	kg/hr	1561	708	1764	800
Combustion Air required (entire engine)	cfm	m^3/min	396	11	448	13

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	Std	Metric	1500		1800	
Electrical System						
Minimum Recommended Battery Capacity	AH		150			
Cold Cranking Current						
Engine only	CCA		900			
Engine with Drive train	CCA		900			
Maximum Allowable Resistance of Starting Circuit	Ohms		0.002			
Starting Motor Power	HP	kW	9.4	7	9.4	7
Battery Charging Alternator						
Voltage	Volts		24			
Current	Amps		45			
Coil primary Resistance	Ohms		0.59Ω ± 10%			
Spark Plug p/n			IFR7F-4D			
Spark plug gap	inches	mm	.015" (-0/+.008") .38mm (-0/+.2mm)			
Cooling System						
Coolant Capacity						
Engine only	gal	L	5.5	25.0	5.5	25.0
Engine with Radiator	gal	L	23	105	23	105
Engine Coolant Flow	gal/min	L/min	69	260	82	310
Water Pump Speed	RPM		1862		2235	
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	9285	39	11071	46.5
Maximum Intake Air Temperature (IAT)	F	C	155	68	155	68
ECU IAT Warning	F	C	140	60	140	60
ECU IAT Shutdown	F	C	155	69	155	69
Maximum Coolant Friction Head External to the engine	psi	bar	5.8	0.4	5.8	0.4
Maximum Air Restriction Across a Radiator	inH2O	mmH2O	0.5	12.8	0.5	12.8
Standard Thermostat Range						
Cracking Temperature	F	C	160	71	160	71
Full Open Temperature	F	C	185	85	185	85
Maximum Allowable Pressure Cap	psi	bar	14.7	1	14.7	1
Ambient Clearance Open Genset (water) (Air-to-Boil)						
Specified	F	C	142	61	142	61
Acutal	F	C			150	66
Ambient Clearance (Oil)						
Specified	F	C	142	61	142	61
Acutal	F	C			139	59
CAC Rise over Ambient (Charge)						
Specified	F	C	15	9	15	9
Acutal	F	C			4	2
Maximum Allowable Top Tank Temperature	F	C	230	110	230	110
ECU Warning	F	C	220	104	220	104
ECU Shutdown	F	C	230	110	230	110
Fan Power	HP	kW	5	4.0	9	6.7
Fan Diameter, including blades	in	mm	38	965	38	965
Fan Speed	RPM		1500		1800	
Cooling Fan Air Flow @ 1" Static H2O Pressure and 125F @ radiator	CFM	m^3/min	15,429	437	18,000	510
Charge Air Cooler						
Compressor Outlet Temperature	F	C	235	114	255	125
Compressor Flow Rate per CAC	lb/hr	kg/hr	1654	750	1869	848
Heat Rejection per CAC	btu/min	kW	TBD		1460	25.7

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Lubrication System						
Oil Specification			SAE 15W-40 Low Ash Gas engine oil (.25-.5% by wt), API CD/CF or higher			
Oil Pressure						
Idle						
Min	Psi	Bar	11	0.8	11	0.8
Max	Psi	Bar	20.3	1.4	20.3	1.4
Rated Speed						
Min	Psi	Bar	20.3	1.4	20.3	1.4
Max	Psi	Bar	70	4.8	70	4.8
Maximum Allowable Oil Temperature	F	C	250	121	250	121
Engine Oil Capacity						
Min	Qts	L	20	19	20	19
Max	Qts	L	26.5	25	26.5	25
Oil Filter Capacity	Qts	L	3.75	3.5	3.75	3.5
ECU Oil Pressure Warning[5]	psi		30			
ECU Oil Pressure Shut Down[5]	psi		25			
Fuel System						
Fuel Consumption[6]						
NG	Ft^3/hr	kg/hr	1890	43	2115	48
LP	Ft^3/hr	kg/hr	593	32	704	38
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9
Maximum Running pressure to Electronic Pressure Regulator (EPR)	inH2O	kPa	11.0	2.7	11.0	2.7
Minimum Running pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7
Minimum Gas Supply Pipe Size			2" NPT			
Maximum EPR Rated Pressure	psi	kPa	1.0	6.9	1.0	6.9
Maximum Running Pressure to EPR	inH2O	kPa	11.0	2.7	11.0	2.7
Minimum Running Pressure to EPR	inH2O	kPa	7.0	1.7	7.0	1.7
Minimum LPG Supply Pipe Size[4]			2" NPT			

[1]Standby and overload ratings based on ISO3046.

[2] All ratings are gross flywheel horsepower corrected to 77^oF at an altitude of 328feet with no cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

[3] Production tolerances in engines and installed components can account for power variations of +/- 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations.

[4] The preceeding pipe sizes are only suggestions and piping sizes may vary with temperature, pressure, distance from supply and application of local codes. Gas must be available at adequate volume and pressure for engine at the EPR.

[5] >1400RPM

[6] See PSI HD Technical Spec. 56300002 - Fuel Specification