

14.6L



ENERGY

[Stoic.]
56100040 Rev: 2

General Engine Data ³														
Type	V-type 4 cycle					Flywheel housing			SAE No.1					
Number of cylinders	8					Flywheel			No. 14					
Aspiration	Turbo Charge Air Cooled					Dry Weight (Fan to Flywheel)			lb	kg	3144	1429		
Firing Order	1-5-7-2-6-3-4-8					Wet Weight (Fan to Flywheel)			lb	kg	3245	1475		
Rotation Viewed from Flywheel	Counter Clockwise					CG From Flywheel Housing Rear Face			in	mm	17.7	449		
Bore	in	mm	5.0	128		CG Above Crank Centerline			in	mm	6.3	159		
Stroke	in	mm	5.6	142		Max Bending Moment @ Rear of Block			lb/ft	N m	8130.08	6000		
Displacement	in ³	L	891	14.6		Oil Specification			SAE 15W-40 Low Ash Gas engine oil (.25%.5% by wt), API CD/CF or higher					
Compression Ratio	10.5					Engine Oil Capacity ⁸			Min	qts	L	26.5	25.0	
Exhaust Manifold Type	Water Cooled Manifold								Max	qts	L	32.9	31.0	
Turbo Exhaust Outlet Pipe Size	in	mm	2.5	65		ECU Oil Pressure Warning ⁶			psi	kPa	30	207		
Catalyst Inlet Size	in	mm	3.5	89		ECU Oil Pressure Shut Down ⁶			psi	kPa	25	172		
Catalyst Dp	in-H ₂ O	kPa	20.5	5.1		Oil Pressure at 1000 rpm (Idle)			Min	psi	kPa	13	90	
Maximum Allowable Exhaust Back Pressure	in-Hg	kPa	3.0	10.2					Max	psi	kPa	44	300	
Maximum Fuel System Pressure	psi	kPag	1.0	6.9		Max Allowable Oil Temperature			°F	°C	249.8	121		
Maximum Operating pressure to EPR	in-H ₂ O	kPa	10.9	2.7		Coolant Capacity (Engine only)			gal	L	9.5	36		
Minimum Operating pressure to EPR	in-H ₂ O	kPa	6.8	1.7		Coolant Capacity (Radiator only)			gal	L	22.1	84		
Minimum Gas Supply Pipe Size ⁵	2 x 1-1/4" NPT					Radiator Weight (Dry)			lb	kg	1296	589		
Maximum Pressure Drop Across CAC	psi	kPa	1.5	10.5		Thermostat Operating Temperature Range ⁹			Cracking	°F	°C	159.8	71	
Maximum Allowable Intake Restriction	Clean Air Filter	in-H ₂ O	kPa	5.0	1.2				Full Open	°F	°C	185	85	
	Dirty Air Filter	in-H ₂ O	kPa	15.0	3.7	ECU Coolant Temp Warning			°F	°C	219.2	104		
Spark Plug Part Number	IFR7F-4D					ECU Coolant Temp Shutdown			°F	°C	230	110		
Standard Spark Plug Gap ¹⁰	in	mm	0.015	0.38		Maximum Radiator Cooling Air Temp			°F	°C	140	60		
Spark Plug Coil - Primary Resistance	Ohms 0.59Ω ± 10%					Max External Coolant Friction Head			psi	kPa	5.8	40		
Battery Voltage	Volts 24					CAC Rise Above Ambient Specified			°F	°C	16.2	9		
Starter Motor Power	HP	kW	9.4	7.0										
Performance Data 60Hz ^{3,5}						Performance Data 50Hz ^{3,5}								
Nominal Engine Speed	RPM 1800					Nominal Engine Speed					RPM 1500			
Mean Piston Speed	ft/min	m/s	1677	8.5		Mean Piston Speed					ft/min	m/s	1397	7
RPM Range (Min-Max) ISO 8528-5 G1	RPM 1778 - 1823					RPM Range (Min-Max) ISO 8528-5 G1					RPM 1477 - 1519			
Charging Alternator Voltage	Volts 24					Charging Alternator Voltage					Volts 24			
Charging Alternator Current	Amps 45					Charging Alternator Current					Amps 45			
Total Engine Coolant Flow	gal/min	L/min	139	525		Total Engine Coolant Flow					gal/min	L/min	116	439
Cooling Fan Power ¹¹	HP	kW	22	16		Cooling Fan Power ¹¹					HP	kW	13	10
Cooling Fan Speed	RPM 1440					Cooling Fan Speed					RPM 1200			
Cooling Fan Air Flow ¹¹	SCFM	m ³ /min	29970	849		Cooling Fan Air Flow ¹¹					SCFM	m ³ /min	25698	728
Standby			NG 60Hz HO		NG 60Hz		NG 50Hz		LP 60Hz		LP 50Hz			
Power Rating ^{1,2,3,4} Per ISO 3046	HP	kWm	536	400	456	340	369	275	322	240	228	170		
MEP (@ rated Load on NG)	psi	bar	265	18.3	225	15.5	219	15.1	159	11.0	135	9.3		
Fuel Consumption ^{3,4,7}	lb/hr	kg/hr	185	84	159	72	123	56	125	57	86	39		
BSFC	lb/(hp-hr)	g/(kW-hr)	0.345	210	0.349	213	0.334	204	0.389	237	0.377	230		
Turbine Outlet Temperature	°F	°C	1030	554	1005	541	990	532	1015	546	989	532		
Exhaust Mass Flow (entire engine)	lb/hr	kg/hr	3252	1478	2803	1274	2154	979	1945	884	1279	581		
Exhaust Flow at Turbine Outlet Conditions	ACFM	m ³ /min	2038	58	1731	49	1319	37	1208	34	783	22		
Air Induction System ⁵														
Combustion Air required (entire engine)	lb/hr	kg/hr	3067	1394	2644	1202	2031	923	1945	884	1287	585		
	ACFM	m ³ /min	635	18	547	16	420	12	403	11	266	8		
Compressor Outlet Temperature ²	°F	°C	300	149	267	131	224	107	216	102	172	78		
Thermal Balance ⁵														
Total Fuel	BTU/min	kW	64064	1126.5	55146	969.7								
Mechanical Power	BTU/min	kW	22748	400	19335	340								
Heat Rejected to Cooling Water at Rated Load	BTU/min	kW	18877	332	16099	283.1								
Heat Rejection CAC at Rated Power	BTU/min	kW	2654	46.7	2006	35.3								
Heat Rejection to Exhaust (LHV to 150C)	BTU/min	kW	15873	279.1	13567	238.6								
Engine Radiated Heat	BTU/min	kW	3912	68.8	4139	72.8								

¹ Standby and overload ratings based on ISO 3046 gross flywheel power.

² Technical data based on ISO 3046-1 standards of 77°F(25°C), absolute pressure 14.5Psi(100kPa) and 30% relative humidity.

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 All fuel and thermal calculations unless otherwise noted are done at ISO 3046 rated load using LHV for NG of 48.17 MJ/kg.

⁵ All values in the following section are provided for informational purpose only and are non-binding.

⁶ >1400RPM.

⁷ See PSI Energy Technical Spec. 56300019 - Fuel Standard.

⁸ Standard Sump Capacity.

⁹ ± 2 degrees Celsius.

¹⁰ ± 0.002" or 0.05mm.

¹¹ At 0.5" H₂O package restriction and 125F @ radiator