

## **8.8L Naturally Aspirated Stationary**

Date: 10/28/2014 Rev: C



A167 Harden and Traffin and Annahaman A		С					
<b>EMERGENCY "STANDBY"</b>	Un	Units		8.8L NA			
EWERGENCT STANDET	Std	Std Metric		1500		1800	
eneral Engine Data							
Туре	N	N/A		PSI V-Type 4 Cycle			
Number of cylinders		N/A		8			
Aspiration	N	/A	Naturally Aspirated				
Bore	in	mm	4.35	110.5	4.35	110.5	
Stroke	in	mm	4.5	114.3	4.5	114.3	
Displacement	in^3	L	535	8.8	535	8.8	
Compression Ratio	N/A			10	1:1		
RPM Range (Min-Max)	RF	PM	1500-1800				
Rotation Viewed from Flywheel	N	N/A		Counter Clockwise			
Firing Order	N	N/A		1-8-7-2-6-5-4-3			
Dry Weight (long Block)	lb	kg	730	307	730	307	
oss Standby Power Rating 1,2,3 Per ISO 3046 at the Flywheel	ACTION OF THE PERSON		HP	KW	HP	KW	
LP			154.17	114.96	185.39	138.25	
Standby Rating Average Load Factor - LP			126.41	94.26	152.02	113.36	
NG			135.60	101.11	162.72	121.34	
Standby Rating Average Load Factor - NG			111.19	82.91	133.43	99.50	
Please ask a PSI sales representative for inf	ormation regarding	g prime pow	er operation				
xhaust System				The state of			
Туре			Air Cooled Manifold				
Emergency Standby Rating Catalyst Configuration for US Certified Product			Dual Substrate Dual Substra			ubstrate	
Maximum allowable Back pressure	in HG	kPa	•				
	111110	Kra	3	10.2	3	10.2	
Exhaust Volumetric Flow at Rated Power @ 1350 F	cfm	m^3/min	662.4	10.2 18.76	3 803.9	10.2 22.76	
Exhaust Volumetric Flow at Rated Power @ 1350 F							
r Induction System							
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner	cfm	m^3/min	662.4	18.76	803.9	22.76	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty	cfm inH2O	m^3/min	662.4	18.76	803.9	22.76	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)	inH2O	m^3/min kPa kPa	3 13	18.76 1.49 3.24	803.9 3 13	22.76 1.49 3.24	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  pooling System	inH2O	m^3/min kPa kPa	3 13	18.76 1.49 3.24	803.9 3 13	22.76 1.49 3.24	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  colling System  Coolant Capacity	inH2O inH2O cfm	m^3/min kPa kPa	3 13	18.76 1.49 3.24	803.9 3 13	22.76 1.49 3.24	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  coling System  Coolant Capacity  Engine only	inH2O	m^3/min kPa kPa m^3/min	3 13 205.1	18.76 1.49 3.24 5.81	3 13 248.9	22.76 1.49 3.24 7.05	
Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  coling System  Coolant Capacity  Engine only  Heat rejected to Cooling water at rated Load	inH2O inH2O cfm	m^3/min  kPa kPa m^3/min	3 13 205.1	18.76 1.49 3.24 5.81	3 13 248.9	22.76 1.49 3.24 7.05	
Maximum allowable Intake Air Restriction with Air Cleaner Clean Dirty Combustion Air required (volume) coling System Coolant Capacity Engine only Heat rejected to Cooling water at rated Load Cracking Temperature	inH2O inH2O cfm qts btu/min	m^3/min kPa kPa m^3/min L kcal/sec	3 13 205.1 14.5 2466	18.76 1.49 3.24 5.81 13.7 10.36	3 13 248.9 14.5 4184	1.49 3.24 7.05 13.7 17.58	
Maximum allowable Intake Air Restriction with Air Cleaner Clean Dirty Combustion Air required (volume) colling System Coolant Capacity Engine only Heat rejected to Cooling water at rated Load Cracking Temperature Full Open Temperature	inH2O inH2O cfm  qts btu/min	m^3/min  kPa kPa m^3/min  L kcal/sec C	3 13 205.1 14.5 2466 160	18.76 1.49 3.24 5.81 13.7 10.36 71	3 13 248.9 14.5 4184 160	1.49 3.24 7.05 13.7 17.58 71	
Maximum allowable Intake Air Restriction with Air Cleaner Clean Dirty Combustion Air required (volume) coling System Coolant Capacity Engine only Heat rejected to Cooling water at rated Load Cracking Temperature Full Open Temperature brication System	inH2O inH2O cfm  qts btu/min	m^3/min  kPa kPa m^3/min  L kcal/sec C	3 13 205.1 14.5 2466 160 185	18.76 1.49 3.24 5.81 13.7 10.36 71 85	3 13 248.9 14.5 4184 160	22.76 1.49 3.24 7.05 13.7 17.58 71 85	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  colling System  Coolant Capacity  Engine only  Heat rejected to Cooling water at rated Load  Cracking Temperature  Full Open Temperature  Ibrication System  Oil Specification	inH2O inH2O cfm  qts btu/min	m^3/min  kPa kPa m^3/min  L kcal/sec C	3 13 205.1 14.5 2466 160 185	18.76 1.49 3.24 5.81 13.7 10.36 71 85	3 13 248.9 14.5 4184 160 185	22.76 1.49 3.24 7.05 13.7 17.58 71 85	
r Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  cooling System  Coolant Capacity  Engine only  Heat rejected to Cooling water at rated Load  Cracking Temperature  Full Open Temperature  ibrication System  Oil Specification  Maximum Allowable Oil Temperature	inH2O inH2O cfm  qts btu/min F	m^3/min  kPa kPa m^3/min  L kcal/sec C C	3 13 205.1 14.5 2466 160 185	18.76 1.49 3.24 5.81 13.7 10.36 71 85 6W-30 API Ra	3 13 248.9 14.5 4184 160 185	22.76  1.49 3.24 7.05  13.7 17.58 71 85	
Ir Induction System  Maximum allowable Intake Air Restriction with Air Cleaner  Clean  Dirty  Combustion Air required (volume)  cooling System  Coolant Capacity  Engine only  Heat rejected to Cooling water at rated Load  Cracking Temperature  Full Open Temperature  ubrication System  Oil Specification	inH2O inH2O cfm  qts btu/min F	m^3/min  kPa kPa m^3/min  L kcal/sec C C	3 13 205.1 14.5 2466 160 185	18.76 1.49 3.24 5.81 13.7 10.36 71 85 6W-30 API Ra	3 13 248.9 14.5 4184 160 185	1.49 3.24 7.05 13.7 17.58 71 85	

lb/hr

lb/hr

psi

inH2O

inH2O

49.8

52.8

1.0

11.0

7.0

kg/hr

kg/hr

kPa

kPa

kPa

22.58

23.94

6.9

2.7

1.7

1-1/4" NPT

3/4"

62

65.5

1.0

11.0

7.0

28.12

29.71

6.9

2.7

1.7

For information not listed in this document, please contact you PSI sales representative

Recommended Maximum Running pressure to Electronic Pressure Regulator (EPR)

Fuel System

NG

Fuel Consumption @ Rated Load

Maximum EPR Rated Pressure

Minimum NG Supply Pipe Size

Minimum LPG Supply Pipe Size4

Recommended Minimum Running pressure to EPR

<sup>&</sup>lt;sup>1</sup> Standby and overload ratings based on ISO 3046. See PSI technical standard 3630000A for additional duty cycle and engine rating information

<sup>&</sup>lt;sup>2</sup> All ratings are gross flywheel horsepower corrected to 77°F at an altitude of 328feet with no cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

<sup>&</sup>lt;sup>3</sup> 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.

<sup>&</sup>lt;sup>4</sup>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.



## **8.8L Naturally Aspirated Stationary**

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28.12

29.71

6.9 2.7

1.7

62

65.5

1.0

11.0

7.0

49.8

52.8

1.0

11.0

7.0

kg/hr

kg/hr

kPa

kPa

kPa

lb/hr

lb/hr

psi

inH2O

inH2O

22.58

23.94

6.9

2.7

1.7

1-1/4" NPT

NON EMERGENCY "PRIME"	Rev.	C				
	Units		8.8L NA			
NON-EMERGENCY "PRIME"	Std	Metric	15	00	18	00
General Engine Data				Mark Control		201 155
Туре	N.		PSI V-Type 4 Cycle			
Number of cylinders	N.		8			
Aspiration	N.	'A	Naturally Aspirated			
Bore	in	mm	4.35	110.5	4.35	110.5
Stroke	in	mm	4.5	114.3	4.5	114.3
Displacement	in^3	L	535	8.8	535	8.8
Compression Ratio	N/A		10.1:1			
RPM Range (Min-Max)	RF	1000	1500-1800			
Rotation Viewed from Flywheel	N.	'A	Counter Clockwise			
Firing Order	N	'A	1-8-7-2-6-5-4-3			
Dry Weight (long Block)	lb	kg	730	307	730	307
Gross Prime Power Rating 1,2,3 Per ISO 3046 at the Flywheel	C. P. B. R. C. W.		HP	KW	HP	KW
LP			138.75	103.47	166.85	124.42
Prime Rating Average Load Factor - LP			104.06	77.60	125.13	93.31
NG			122.04	91.01	146.44	109.20
Prime Rating Average Load Factor - NG			91.53	68.25	109.83	81.90
Please ask a PSI sales representative for info	rmation regarding	standby por	wer operation	1		
xhaust System						RANGE
Туре			Air Cooled Manifold			
Non-Emergency Prime Rating Catalyst Configuration for US Certified Product			Dual Substrate Dual Substrate			ubstrate
Maximum allowable Back pressure	in HG	kPa	3	10.2	3	10.2
Exhaust Volumetric Flow at Rated Power @ 1350 F	cfm	m^3/min	662.4	18.76	803.9	22.76
ir Induction System		No. Alex				
Maximum allowable Intake Air Restriction with Air Cleaner					×	11.11.22
Clean	inH2O	kPa	3	1.49	3	1.49
Dirty	inH2O	kPa	13	3.24	13	3.24
Combustion Air required (volume)	cfm	m^3/min	205.1	5.81	248.9	7.05
cooling System					STANTAL STANTAL	
Coolant Capacity						
Engine only	qts	L	14.5	13.7	14.5	13.7
Heat rejected to Cooling water at rated Load	btu/min	kcal/sec	2466	10.36	4184	17.58
Cracking Temperature	F	С	160	71	160	71
Full Open Temperature	F	С	185	85	185	85
ubrication System	A STATE OF THE REAL PROPERTY.	TE ON YOU	N. Principal	All the House		-
Oil Specification			SAE 5W-30 API Rating of SM or Newer			
Maximum Allowable Oil Temperature	F	С	250	121	250	121
Engine Oil Capacity			,4,000,000	dia managan	Average .	Utto - Innoversity
Min	Qts	L	8	7.57	8	7.57
Max	Qts	L	8	7.57	8	7.57
IVIGA	Index Consumer to				**************************************	State II Lan

For Information not listed in this document, please contact you PSI sales representative

Recommended Maximum Running pressure to Electronic Pressure Regulator (EPR)

Fuel System

NG

LP

Fuel Consumption @ Rated Load

Maximum EPR Rated Pressure

Minimum NG Supply Pipe Size<sup>4</sup> Minimum LPG Supply Pipe Size<sup>6</sup>

Recommended Minimum Running pressure to EPR

<sup>1</sup> Standby and overload ratings based on ISO 3046. See PSI technical standard 3630000A for additional duty cycle and engine rating information

<sup>&</sup>lt;sup>2</sup> All ratings are gross flywheel horsepower corrected to 77°F at an altitude of 328feet with no cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

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<sup>&</sup>lt;sup>4</sup>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.



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## PSI Technical Standard 36300000A- Engine Rating Guidelines

Emergency Standby Power Rating: Applicable for supplying emergency power for the duration of utility power outage. There is no overload capability for the emergency standby rating. Any use of the generator above the emergency standby rating is prohibited. Any unit operating in parallel with a public utility is not considered emergency standby. Emergency standby engine is applicable to a variable load with a maximum average load factor of 82% and 200 hours of operation per year. Emergency standby rating should only be applied in emergency power outages.

<u>Prime Power Rating:</u> Applicable for supplying electrical power in lieu of commercially purchased power or providing guaranteed standby power. The prime power rating is applicable for variable loads with limited number of operating hours per year. The average power output shall not exceed 75% of the prime power rating. The total time at 100% Prime power shall not exceed 500 hours per year. A 110% overload rating is available one hour in every twelve hours with the total hours at 110% not to exceed 25 hours per year. Maximum number of hours per year is 2500.

<u>Continuous Power Rating:</u> The continuous power rating is applicable for variable loads with unlimited number of operating hours per year. The power output shall not exceed 75% of the prime power rating. There is no overload capability.