



No:6H.SPEC.101.0.B  SHEET NO. : A/1	<b>BROAD SPECIFICATIONS</b>  <b>6R1080T ENGINE</b>  <b>Pump-Set Application</b>	<b>SECT.</b>  <b>A</b>	 Enriching Lives
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<b>PROVISIONAL BROAD SPECIFICATIONS OF ENGINE SUITABLE FOR OFF-HIGHWAY APPLICATION</b>			
<b>S. NO.</b>	<b>PARAMETER</b>	<b>UNIT</b>	<b>VALUE</b>
1.1	Engine Model	--	6R1080T
1.2	Emission compliance	--	Non-Emission
1.3	Engine cooling	--	Water cooled
1.4	Bore x Stroke	mm x mm	105 x 125
1.5	No. of cylinders	--	6
1.6	Total displacement	cc	6494
1.7	Valves per cylinder – intake/exhaust	--	1/1
1.8	Compression Ratio	--	17:1
1.9	Firing order (starting from flywheel end)	--	1-5-3-6-2-4
1.10	Combustion system	--	Direct Injection


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1.11	Aspiration	--	Turbocharged
1.12	Rated Power / Speed for the lead rating	hp / rpm	169 / 2300
1.13	<i>All intermediate &amp; lead rating engine performance Parameter mentioned in the following table.</i>		


Engine Performance Parameter				High Idle Speed Range		BMEP
RPM	Gross Power (HP)	Gross Torque (NM)	Gross BSFC (gm / hphr)	Min. RPM	Max. RPM	
2300	169	516	182.9	2484	2530	10.2
2200	165	527	177.4	2376	2420	10.4
2000	161	566	169.8	2160	2200	11.2
1800	148	578	164.3	1944	1980	11.4
1500	130	609	161.7	1620	1650	12.0

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S. NO.	PARAMETER	UNIT	VALUE
1.14	Max. Crank-Case pressure	mm of H <sub>2</sub> O (kPa)	15 (0.147)
1.15	Lubricating oil pressure	At low idle speed	1.5 Min.
		At rated speed and full load	3.5 Min.
1.16	Lubricating oil change period for K Oil Premium (* First oil change at 50 hrs.)	hours	500
1.17	Maximum oil temperature in sump	°C	75 above ambient
1.18	Lubricating oil consumption (As per KOEL std. test cycle and test procedure)	% of fuel consumption	0.3 Max.
1.19	Fuel Injection Pump	--	Mechanical Inline Pump
1.20	Main fuel filter	--	1.1 ltr duel fuel filter w/o overflow valve ( MICO no -F2 002 H20 114 )

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1.21	Maximum allowable back pressure of exhaust system at rated power (at exhaust manifold outlet)	mm of Hg	50
1.22	Maximum exhaust temperature	deg C	650
1.23	Maximum air inlet restriction - Clean air cleaner - Used air cleaner	mm H <sub>2</sub> O	200 500
1.24	Maximum inlet airflow	kg/hr	795
1.25	Maximum exhaust gas flow	kg/hr	825

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SHEET NO. : A/5

### BROAD SPECIFICATIONS

### 6R1080T ENGINE

### Pump-Set Application

SECT.

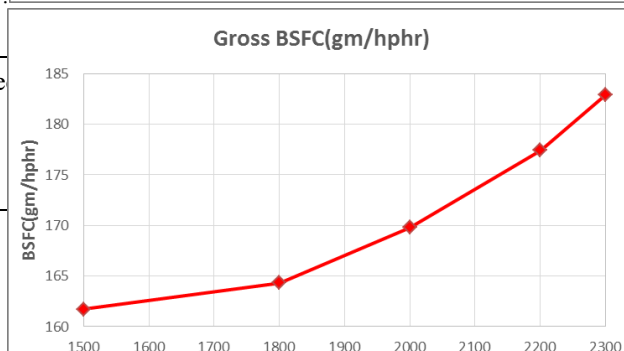
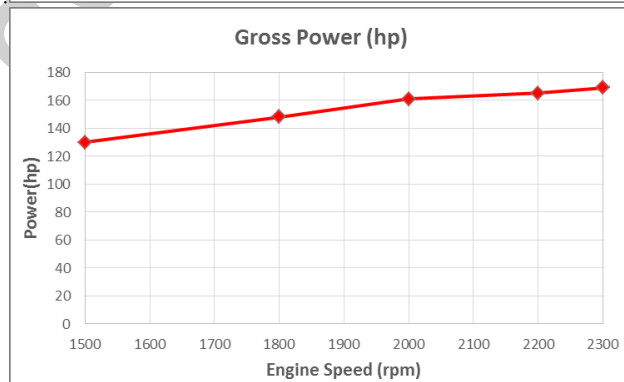
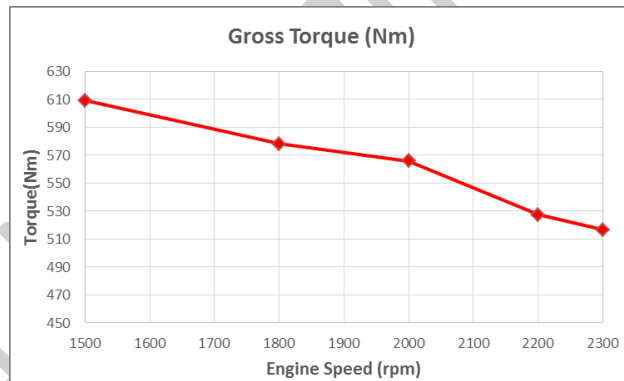
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### ENGINE PERFORMANCE CURVES

**Note:** Production Tolerance:  $\pm 5\%$  for Gross Torque, Gross Power and  $+5\%$  for Gross BSFC



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**Heat Balance Sheet:-**

**Note:** Heat balance is calculated at NTP conditions

Heat Balance Sheet:					
	169 HP@ 2300RPM	165 HP@ 2200RPM	161HP@ 2000RPM	148 HP@ 1800RPM	130 HP@ 1500RPM
Heat released by fuel (kW)	364.7	352.9	326.6	297.3	255.8
Brake Power (kW)	124.3	121.4	118.4	108.9	95.6
Heat lost to cooling water (kW)	98.5	95.3	88.2	80.3	69.1
Heat lost to exhaust (kW)	109.4	105.9	98.0	89.2	76.7
Unaccounted / Radiation losses (kW)	32.5	30.4	22.0	19.0	14.4

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Broad Specifications

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