

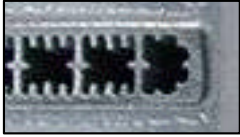
## Engine Specifications



	Fuel Type :	<b>Petrol</b>	
	Cycle Type :	<b>4-Stroke</b>	
		<b>Metric</b>	<b>Imperial</b>
Engine Displacement :	<b>2.000</b>	L	122 cu.inch
Maximum Engine Speed (revs @ max. hp) :	<b>8500</b>	rpm	

Engine Air Flow Data			
Engine Free Airflow at Atmospheric Pressure :	<b>0.142</b>	m <sup>3</sup> /sec	<b>300</b> cfm
Peak Boost Pressure :	<b>124.106</b>	kPa	<b>18</b> psi
Engine Free Airflow at Peak Boost Pressure :	<b>0.315</b>	m <sup>3</sup> /sec	<b>668</b> cfm

**Air to Dry Ice Intercooler Structure Design** 

Tube Data			
	Tube Width :	109.0	mm
	Tube Depth :	8.0	mm
	Tube Cross-sectional Area :	529.2	mm <sup>2</sup>
	Tube Surface Area per Lineal Metre :	723400	mm <sup>2</sup>
	Tube Spacing :	8.0	mm

Side Band Data		
Side Band Thickness :	3.0	mm
Number of Side Bands :	2	

Intercooler Structure Size		
Intercooler Core Height :	278	mm
Intercooler Core Length :	500	mm
Number of Tubes per Core :	17	

Total Cross-sectional Area for Engine Airflow :	0.008996	m <sup>2</sup>
Equivalent Diameter :	107.0	mm

Total Tube Surface Area for Engine Airflow Contact :	6.148900	m <sup>2</sup>
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## Minimum Turbo Lag at Selected Load Case



Time taken for a charge air molecule to travel Inlet tract:

Intercooler Plumbing - Turbo to Intercooler Information		
Diameter :	48.0	mm
Length :	1600.0	mm
Calculated Volume :	2.895	litres

Intercooler Inlet Tank Information		
Measured Volume :	2.100	litres

Intercooler Core Information		
Calculated Volume :	4.498	litres

Intercooler Outlet Tank Information		
Measured Volume :	2.100	litres

Intercooler Plumbing - Intercooler to Plenum Information		
Diameter :	61.0	mm
Length :	1600.0	mm
Calculated Volume :	4.676	litres

Plenum Information		
Plenum Shape (Round or Rectangular) :	Round	
Diameter :	100.0	mm
Length :	300.0	mm
Calculated Volume :	2.356	litres

Intake Runner Information		
Number of Intake Runners :	4	
Runner Shape (Round or Rectangular) :	Round	
Diameter :	42.5	mm
Length :	150.0	mm
Calculated Volume :	0.851	litres

Load Case A		
Engine Speed :	850	rpm
Calculated Turbo Lag :	1.22660	sec

Load Case B		
Engine Speed :	2500	rpm
Calculated Turbo Lag :	0.41704	sec

Load Case C		
Engine Speed :	4500	rpm
Calculated Turbo Lag :	0.23169	sec

Load Case D		
Engine Speed :	6500	rpm
Calculated Turbo Lag :	0.16040	sec

Load Case E		
Engine Speed :	8500	rpm
Calculated Turbo Lag :	0.12266	sec

Est. System Volume :	19.477	litres
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