

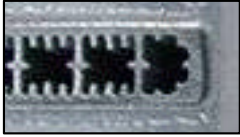
Engine Specifications



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

Engine Air Flow Data			
Engine Free Airflow at Atmospheric Pressure :	0.142	m³/sec	300 cfm
Peak Boost Pressure :	124.106	kPa	18 psi
Engine Free Airflow at Peak Boost Pressure :	0.315	m³/sec	668 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 ²
	Tube Surface Area per Lineal Metre :	723400	mm ²
	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 :	380	mm
Intercooler Core Length :	150	mm
Number of Tubes per Core :	23	

Total Cross-sectional Area for Engine Airflow :	0.012172	m ²
Equivalent Diameter :	124.5	mm

Total Tube Surface Area for Engine Airflow Contact :	2.495730	m ²
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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 :	400.0	mm
Calculated Volume :	0.724	litres

Intercooler Inlet Tank Information		
Measured Volume :	2.800	litres

Intercooler Core Information		
Calculated Volume :	1.826	litres

Intercooler Outlet Tank Information		
Measured Volume :	1.600	litres

Intercooler Plumbing - Intercooler to Plenum Information		
Diameter :	70.0	mm
Length :	140.0	mm
Calculated Volume :	0.539	litres

Plenum Information		
Plenum Shape (Round or Rectangular) :	Round	
Diameter :	62.0	mm
Length :	150.0	mm
Calculated Volume :	0.453	litres

Intake Runner Information		
Number of Intake Runners :	4	
Runner Shape (Round or Rectangular) :	Round	
Diameter :	42.5	mm
Length :	280.0	mm
Calculated Volume :	1.589	litres

Load Case A		
Engine Speed :	850	rpm
Calculated Turbo Lag :	0.51742	sec

Load Case B		
Engine Speed :	2500	rpm
Calculated Turbo Lag :	0.17592	sec

Load Case C		
Engine Speed :	4500	rpm
Calculated Turbo Lag :	0.09773	sec

Load Case D		
Engine Speed :	6500	rpm
Calculated Turbo Lag :	0.06766	sec

Load Case E		
Engine Speed :	8500	rpm
Calculated Turbo Lag :	0.05174	sec

Est. System Volume :	9.530	litres
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