

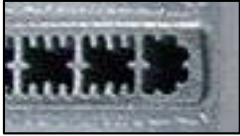
Engine Specifications



	Fuel Type :	Petrol	
	Cycle Type :	4-Stroke	
		Metric	Imperial
Engine Displacement :	3.100	L	189 cu.inch
Maximum Engine Speed (revs @ max. hp) :	8500	rpm	

Engine Air Flow Data			
Engine Free Airflow at Atmospheric Pressure :	0.220	m ³ /sec	465 cfm
Peak Boost Pressure :	158.579	kPa	23 psi
Engine Free Airflow at Peak Boost Pressure :	0.563	m ³ /sec	1193 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 :	278 mm
Intercooler Core Length :	610 mm
Number of Tubes per Core :	17

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

Total Tube Surface Area for Engine Airflow Contact :	7.501658 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 :	60.5	mm
Length :	1600.0	mm
Calculated Volume :	4.600	litres

Intercooler Inlet Tank Information		
Measured Volume :	3.150	litres

Intercooler Core Information		
Calculated Volume :	5.488	litres

Intercooler Outlet Tank Information		
Measured Volume :	3.150	litres

Intercooler Plumbing - Intercooler to Plenum Information		
Diameter :	76.0	mm
Length :	1600.0	mm
Calculated Volume :	7.258	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 :	1.07946	sec

Load Case B		
Engine Speed :	2500	rpm
Calculated Turbo Lag :	0.36702	sec

Load Case C		
Engine Speed :	4500	rpm
Calculated Turbo Lag :	0.20390	sec

Load Case D		
Engine Speed :	6500	rpm
Calculated Turbo Lag :	0.14116	sec

Load Case E		
Engine Speed :	8500	rpm
Calculated Turbo Lag :	0.10795	sec

Est. System Volume :	26.853	litres
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