

Turbocharger Calculations

28/09/2009

Engine Capacity	980 cc
Ambient Pressure	1000 mBara
Ambient Temperature	25 deg C
Intercooler Efficiency	80 %
Compressor Efficiency	78 %
Engine Volumetric Efficiency	95 %
AFR	12.50
BSFC	0.50 Lb/hp/hr
HP per Lb/min Airflow	9.60 hp/lb/min

Max

Boost Pressure	1400 mBarg
Rpm	8000 rpm
Pressure Loss thro Air Filter	50 mBarg
Compressor Inlet Pressure	950 mBara
Compressor Inlet Temp Abs	298 Deg K
Compressor Outlet Pressure Abs	2400 mBara
Compressor Outlet Temp	139.6 Deg C
Compressor Pressure Ratio	2.526
Density Ratio	1.825
Theo Engine Air Flow	138 CFM
Actual Engine Air Flow nat asp	132 CFM
	9.1 Lbs/Min
Compressor Air Flow Turboed	240 CFM
	16.6 Lbs/Min

Intercooler	
Intercooler Inlet Temp	140 Deg C
Intercooler Outlet Temp	48 Deg C
Intercooler Pressure Loss	75 mBar
Intercooler Density Ratio	1.245

Comp Air Flow Turboed & Int Cooled	299 CFM
	20.62 Lbs/Min

Approx.Power	198 hp
	145 kW
Approx.Torque	130 FtLbs