

## **1974 Alfa Montreal Engine Conversion**

The capacity increased to 3 litres leaving existing stroke of 64.5mm and increasing the bore size to 86mm giving a capacity of a nominal 2998cc.

Cylinder block liner location bored from 86mm to 92mm to take the new cast iron cylinder liners.

Because the use of the engine was mainly to be for road use and not to be raced, other than the occasional sprint, the existing connecting rods were retained, crack detected, shot peened, aligned, matched and balanced.

Forged pistons were manufactured specially with the crown height increased and the valve cut-outs enlarged from the existing cast pistons to give a compression ratio of 9.25 – 1. The weight of the enlarged pistons ending up only one gram heavier than the originals.

Standard cylinder head gaskets were used with the bore diameter enlarged. Cylinder head modifications are as follows: - new lead free valve seat inserts of a larger diameter to take the increased sized inlet (39.5mm) and exhaust (34.5mm) valves were fitted. The inlet and exhaust ports were enlarged for increased flow, the valve stems were decreased in size and new bronze guides made and fitted to suit.

The valve gear was modified by a higher rate set of valve springs and the camshafts reprofiled with an extra 1mm of lift over the originals and the duration increased to 282 .

Other modifications were the introduction of an electronic management system for the fuel injection and ignition. The system chosen was the DTA fully programmable unit, ([www.dtafast.co.uk](http://www.dtafast.co.uk)) obviating the need for distributor etc. The original injection unit was replaced with 8 x 40mm Jenvey throttle bodies, ([www.jenvey.co.uk](http://www.jenvey.co.uk))

The flywheel was lightened by 1 \_ lbs.

Various ancillaries were either removed or modified.

The unit was overhauled with new bearings, hardware etc. The depth of the sump was decreased by approximately 2” for improved ground clearance.

## **Dynamometer Test Data**

Date 08/05/00 Time 15:30:48 Operator John Middleton  
Engine description: Alfa Romeo 3 litre DTA Managed  
Test Description: Run & Test

Standard Corrected Data for 29.92 inches Hg, 60 F dry air 45lbs fuel pressure Test #5

Speed RPM	CBtrq 1h-Ft	CBPwr HP
4000	209.4	159.5
4500	208.3	178.5
5000	217.9	207.4
5500	226.7	237.4
6000	223.8	255.7
6500	215.7	267.0
7000	205.7	274.2
7500	197.6	282.2
8000	190.2	289.7