

Autodelta Montreal Engine No. 0226

The engine was acquired in a huge job lot from Autodelta when they closed down operations with mountains of 33 parts. As a consequence it remained unused until I purchased it in early 2001. I have seen two similar engines to this type of spec, and given the high torque characteristics I imagine they were prepared for the Autodelta rallying program of 1975 with the Alfetta. Interestingly output for the rally car was quoted as 320bhp @ 8000 rpm, which agrees with the output I measured and is some 70bhp more than the contemporary Lancia Stratos.

The block is a standard Montreal one in all respects, with the Autodelta logo and number 0226 stamped on the it. As with much of the Autodelta kit everything was painted their blue!

The engine would not fit in a Montreal because of the height of the induction trumpets on the slide throttles. Presumably this is why the Alfetta had such a high air box on the bonnet.

Points of interest

Crankshaft changed from 2 plane to single plane (using same size counter balance webs), in steel. Rear flywheel flange and bolt threads unchanged from standard.

The nose of the shaft has the standard dimensions but incorporates an auxiliary roller bearing fitted in a steel housing along with the oil seal into the front cover. The auxiliary bearing number is NU 1007.

Connecting rod standard Montreal, weight 530 gm.

Pistons 86mm forged slipper section. Weight 433 gm, with pin and rings. Overall height 72mm. Single compression ring 1mm, oil control ring 4.5mm.

Cast iron Montreal cylinder liner for use with "cooper" sealing ring. Cylinder block overbored to take o/s liner with 45 deg chamfer lead 3mm wide. Liner push-in hand fit.

Cylinder head combustion chamber concave, nominal 86mm dia. 14.5mm deep with slow taper for the first 8mm, 2mm deep.

The inlet valve seat breaks out of chamber on head face, the exhaust just flush.

Front and rear head face water holes are plugged.

Exhaust port dia 30mm all through, valve seat tapered out to 32mm with 2mm valve seat width.

Inlet ports 40mm at entry tapered to 30mm over a length of 45mm. At exit it expands to 36.5mm from valve guide to inlet seat insert, which further tapers to 39mm. Valve seat width 2mm.

The original injection holes plugged with ali plugs.

Camshafts of different firing order to standard with higher lift and duration. Cam timing set at 105 deg in the fully open position. Tappet clearance inlet 0.46mm, exhaust 0.61mm. Autodelta max lift 11.916, (standard 9.554).

Inlet throttles are slide type. (Identical T33-2 Daytona)

Cooling system thermostat removed.

Bore 86mm stroke 64.4 mm.

Compression ratio 11.25 - 1.

After the strip down and removal of Castrol R, the engine was rebuilt and dyno'd with electronic management and fuel injectors with slide throttle and 4/1 free flow bespoke exhaust, with the following results:

rpm	torque	bhp
5500	245.3	256.9
6000	250.7	286.4
6500	246.6	305.2
7000	239.9	319.7
7500	228.3	326.0
8000	219.1	333.7
8500	207.5	335.8