DOWNTON ENGINEERING WORKS LTD.
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Downton's thrifty road-burner

AUSTIN MAXI 1750 STAGE 2

One firm stands out as the leader of the field in the tuning of BLMC engines: Downton Engineering of Downton, Wiltshire. They can look back on a relatively long and enviable history which has often proved them to be the foremost innovators of practical high performance conversions for Austin, Morris, and MG cars; and their research in this respect should hold them in good stead for several years to come. We have always found that their conversions provide all the extra performance that is required without introducing unpleasant side effects. The Downton Maxi 1750 Stage 2 conversion is no exception, for it promotes the car up into a similar performance bracket with more expensive models like the Wolseley Six, Renault 17TL, and Lancia 2000 Sedan, all of which leave the standard Maxi 1750 far behind in acceleration and top speed.

The Stage 2 kit, which costs £175.30, consists of a modified cylinder head, an extra carburetter, and new manifolding. A special air cleaner box is included in the kit to minimise intake roar, and the progressive throttle opening linkage is designed to aid smooth delivery of the power in congested traffic. Stage 2 Maxis must run on five-star fuel as the compression ratio is raised from 8.75 : 1 to 10 : 1. The ports are polished and modified for increased gas speed, bigger exhaust and inlet valves are fitted to the modified combustion chambers, and the new manifolds are matched to the head. Although our test car was fitted with two new HS6 SU carburetters, customers can save £15.15 on the Stage 2 kit provided their existing HS6 carb is in good condition: Downton will provide one new carburetter, paired with the original, for £25. Alternatively, two new HS4 carbs can be fitted: they cost £36.30 and Downton claim that the results are the same. The standard camshaft is retained.

Downton gave us a rev limit of 7000 rpm, rather high considering that the Maxi 1750 is a long-stroke engine (76.2 mm x 96.5 mm bore and stroke). We rarely took it up to this limit as maximum power, a claimed 105.7 bhp, is reached at 6000 rpm. This compares with 84 bhp at 5000 rpm for the standard car. Downton claim 113.2 lb ft torque at 4000 rpm as against the 105 lb ft at 3000 rpm of the ordinary 1750. As you will see, the improvement in performance gave us little reason to doubt the validity of these claims.

Our test car was further modified in that the flywheel had been slightly lightened and the bottom end, connecting rods, and pistons had been balanced. Non-standard pistons were also fitted (though they are no lighter than the standard variety) and Hepolite oil control rings had also been installed. We were told that the oil rings made a significant improvement to the oil consumption, and we can verify that not one pint needed to be added to the sump in 650 miles of arduous testing. Downton pointed out that they do not carry out any extra balancing on Stage 2 conversions as a rule as tests have proved it to be unnecessary. We have no means of confirming or denying this claim, and all we can say is that we have always found Downton to be scrupulously honest and accurate in all their claims in the past. This particular engine had to be stripped anyway before the conversion was caried out, and the balancing was undertaken out of interest to see if it helped. Apparently it made no discernible difference.

For those customers who would prefer to know that their Stage 2 Maxis have been carefully balanced, here is the breakdown of the extra cost:

Balancing crankshaft and flywheel assembly and lightening flywheel	13.50
Balancing and stress relieving con-rods	10.40
Balancing pistons	3.70
Labour charges for removing, stripping, reassembling and refitting engine	40.00
	£67.60

This makes the Stage 2 conversion rather expensive:

Stage 2 conversion parts	175.30
Fitting charge for Stage 2 parts	28.00
Balancing, etc, as above	67.60
	£270.90

It's just as well that the balancing is an unnecessary luxury, for the £203.30 charged for the Stage 2 conversion and its fitting as it is normally applied is still a fair outlay. Even so, the results justify the expense. Nearly 5 sec have been cut from the 0-60 mph time and the Stage 2 1750 is very nearly 10 mph faster than standard. Like the standard car, the Downton-tuned version is marginally faster flat out in fifth than fourth gear: we lapped MIRA at an average speed of 100.1 mph in fifth compared with 91.3 mph for the original road test car. The car showed no ill-effects at being belted flat out like this and was well within its stride cruising at 90 mph, corresponding to an indicated 4900 rpm in fifth gear.

The ideal technique for maximum acceleration from rest involved letting in the clutch sharply at about 6000 rpm, then lifting off a little to prevent excessive wheelspin and avoid over-revving. Revving to an indicated 7000 rpm in the intermediates, the converted engine was very smooth and did not sound as if it was being ill-treated. We were very impressed to find that we reached 60 mph in a mean 10.4 sec with so little apparent effort, for our road test car took 15.3 sec to do the same thing. And you can see from the performance comparison table that 14.1 sec was knocked off the 0-80 mph time!

If power is well up, it's certainly not at the expense of flexibility. Although maximum torque on the Stage 2 1750 is at 4000 rpm rather than 3000 rpm, the torque curve for the converted car must be commendably flat. We praised the excellent flexibility of the 1750 Maxi compared with the 1500 model, which is indicated by the 30-50 mph times in fifth for the two cars being 10.9 sec and 17.2 sec respectively. Here the converted 1750 might have been excused for lagging a little, but not a bit of it. Downton's tuning makes it quicker even at these very low revs and we recorded a 30-50 mph time of 10.4 sec. For this kind of driving, the ultra-smooth progressive throttle linkage made smooth driving very easy. Downton admit to a slight engine vibration at 1500 rpm, a characteristic of the standard car that they were unable to eliminate. Apart from this slight defect, which we do not list as a real fault as we never found ourselves driving at such extremely low revs, our only serious criticism of the conversion would have been levelled at a noticeable boom period between 3500 and 5000 rpm. Apparently we must withdraw even this mild reservation as Downton discovered a fault in the forward exhaust box after the car had returned to their keeping. Until the defective part had been located and replaced, Downton were mystified by this boom which had never been noticed on other Stage 2 converted cars, they told us.

Our final seal of approval for this conversion kit arises from the fact that there is no loss in economy despite the dramatic increase in performance. The standard car achieved an overall fuel consumption of 27 mpg, and the Stage 2 machine was effectively the same at 27.2 mpg. When cruised fast the converted car is better than standard in this respect, though the figures show that if you are driving for absolute economy, the ordinary 1750 is much less thirsty below 50 mph. Don't be deceived by the touring fuel consumption figures: the Downton car only seems worse here because this calculated figure is related to maximum speed and there's a big difference between the cars in that respect.

The car supplied for the test was by no means new, being "J" registered, and the ride from the Hydrolastic suspension was too bouncy for our liking (it was begging for the Border Garage supplementary damper kit tested in Motoring Plus a few weeks ago). Nor did we like the excessive understeer to which the car was prone, especially on slippery surfaces. But these things could easily be cured, making the Downton Maxi 1750 Stage 2 a very desirable, versatile, and civilised Q-car for town, country or motorway.

Car: Austin Maxi 1750
Conversion by: Downton Engineering Works Ltd, Downton, Salisbury, Wilts
Tel: Downton 20351 and 20312

Conversion: Stage 2 engine conversion, comprising:	£
Modified cylinder head (exchange)	65.00
Inlet/Exhaust manifold	35.00
Exhaust system	13.75
Two new HS6 carburetters (SU)	40.15
Progressive throttle linkage	2.00
Air cleaner box and air cleaner element	15.00
New gaskets	3.10
Sparking plugs	1.30
Total cost of parts	**£175.30**
Fitting charge	28.00
Total cost of conversion	**£203.30**

Maximum speed	Standard 1750 mph	Downton 1750 mph
Lap	91.3	100.1
Best ¼ mile	93.9	103.4

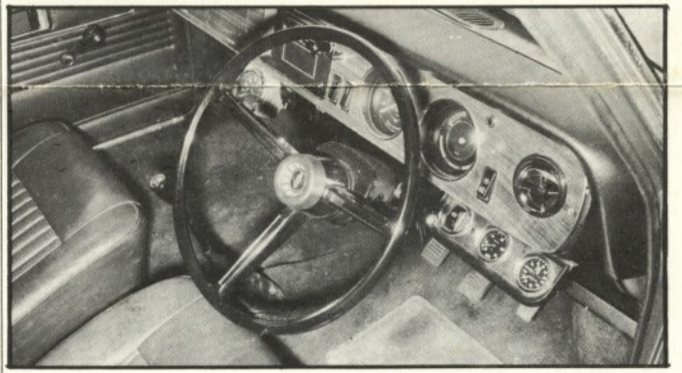
Acceleration	sec	sec
0-30	4.1	3.4
0-40	6.8	5.3
0-50	10.1	7.2
0-60	15.3	10.4
0-70	22.3	13.9
0-80	33.4	19.3
0-90	—	28.3
Standing ¼ mile	20.0	17.7
Standing Km	37.8	33.1

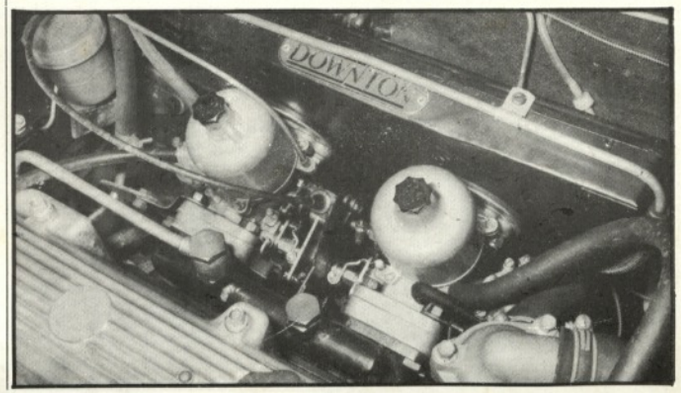
	Top sec	Fourth sec	Top sec	Fourth sec
20-40	11.0	8.6	11.2	8.3
30-50	10.9	8.9	10.4	7.8
40-60	12.5	10.0	10.1	7.6
50-70	15.6	12.3	11.6	8.5
60-80	21.6	17.6	13.8	10.4
70-90	—	—	19.4	14.0

In third	sec	sec
10-30	6.3	5.8
20-40	6.2	5.3
30-50	6.7	5.2
40-60	8.0	5.2
50-70	11.5	6.7
60-80	—	10.5

Fuel consumption Steady mph	Fourth mpg	Fourth mpg
30	45.2	39.6
40	43.0	37.2
50	38.0	34.9
60	32.5	32.0
70	27.2	28.3
80	21.8	24.3
90	16.0	19.3
Overall	27.0	27.2
Touring	30.4	28.7

Nothing to give it away as a Q-car, above, and little inside, except for oil pressure and temperature gauges, and a water temperature gauge. Twin SU HS6 carbs nestle beneath the bonnet





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