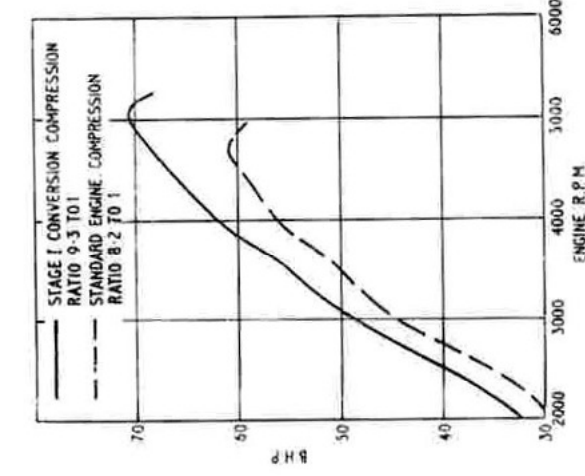


# Borgward Isabella T.S. Saloon

**T**HOSE who attend British race and sports meetings regularly are certain to have seen a fast Borgward T.S. competing in saloon car events. This car, driven and prepared by W. B. Blydenstein, in fact won the Cibié Cup for 1960.

Modifications made by the driver and J. A. Winter to this car—which produces 80 b.h.p. at the rear wheels as measured on a chassis dynamometer—were so successful that it was decided to offer engine conversions to other Isabella owners. These have been developed in three stages of tune, stages 2 and 3 being primarily for competition work. Stage 1, the subject of our test, is intended for normal road use. All are in accordance with F.I.A. regulations, Appendix J, Group 2.

Modifications carried out on the four-cylinder, 1,493 c.c. engine of a standard Isabella T.S. saloon (odometer reading 8,700 miles) submitted for test, consisted of reshaping the induction manifold passages and cylinder head ports to improve gas flow, machining the head joint face and fitting a special



*Blydenstein's own modified Isabella T.S. at the Brands Hatch October meeting last year, when he broke the short circuit lap record for 1,300 to 1,600 c.c. production saloons*

*Power at the rear wheels, measured on a chassis dynamometer, from the modified and unmodified Isabella T.S. engines*

gasket to raise the compression ratio from 8.2 to 9.3 to 1. Standard valve springs were retained, but fitted length was reduced 1mm by shims, to raise slightly the speed at which valve bounce occurs. A larger second stage main jet was fitted in the double choke Solex carburettor, and two of the four blades removed from the fan which, however, continued to give adequate cooling, even in heavy traffic.

Curves reproduced here show that power, measured at the rear wheels, is increased throughout the engine speed range above 2,000 r.p.m. Maximum output is 71 b.h.p. at 5,500 r.p.m. compared with 61 b.h.p. at 4,700 r.p.m. unmodified.

There was no reduction in engine flexibility as a result of these modifications and smoothness was not impaired. Starting was instantaneous from cold with little use of the choke. The only fault was that the second carburettor choke did not come in quickly enough as the throttle was opened fully, causing a flat spot to occur.

## Marked Improvement in Acceleration

As can be seen from the performance table, acceleration in top and the indirect gears is improved; this is more marked at higher road speeds. For example, the time to accelerate from 50-70 m.p.h. in top is reduced by 7.2sec. Standing start acceleration figures were affected adversely by some clutch slip.

The Borgward would cruise comfortably at a true 80 m.p.h. and achieved a mean maximum speed of 94.5 m.p.h., the best figure recorded being 97 m.p.h. In the high third gear, the maximum speed was raised from 69 to 80 m.p.h., equivalent to slightly under 6,200 r.p.m., at which valve bounce occurred. This is also the safe maximum crankshaft speed for the engine.

Performance figures were taken on super premium fuel, but the engine ran without pinking on ordinary premium. During the 496 miles of the test, fuel consumption was 28.1 m.p.g.—a figure which compares favourably with the consumption of 33 m.p.g. obtained during *The Autocar* road test of the standard Isabella T.S. in 1958. About 30 m.p.g. is obtained easily in more leisurely driving. Braking power was adequate for the extra performance provided.

A standard defect of this robust and well sprung model is the very long range of movement on the accelerator pedal, which requires a fully outstretched leg to operate it. This is a point which would repay attention when the conversion is made.

This conversion can be carried out on any of the Isabella models, and on the T.S. it costs £57, the cylinder head and inlet manifold being exchanged for modified components. It is obtainable through the sole concessionaires for Borgward in this country, Metcalfe and Mundy Ltd., 280, Old Brompton Road, London, S.W.5.

## PERFORMANCE

Acceleration from rest through gears to:	Blydenstein Stage 1 Conversion		Standard Isabella T.S.	
	sec	m.p.h.	sec	m.p.h.
0-30	6.1	..	5.4	..
0-40	8.2	..	8.5	..
0-50	11.7	..	13.8	..
0-60	18.0	..	19.7	..
0-70	24.5	..	31.6	..
0-80	36.1	..	—	..
Standing quarter-mile	20.6	..	21.7	..
20-40 m.p.h. in 2nd	5.4	..	5.5	..
30-50 m.p.h. in 3rd	8.9	..	11.5	..
40-60 m.p.h. in top	12.6	..	15.4	..
40-60 m.p.h. in 3rd	9.1	..	11.9	..
40-60 m.p.h. in top	13.1	..	17.8	..
50-70 m.p.h. in 3rd	11.9	..	—	..
50-70 m.p.h. in top	15.8	..	23.0	..
60-80 m.p.h. in top	20.0	..	—	..
Maximum speed:				
mean m.p.h.	94.5	..	87.5	..
best m.p.h.	97.0	..	91.0	..
Overall fuel consumption: m.p.g.	28.1	..	33.0	..