CARS I HAVE OWNED

— F. C. MILLAR

I noticed in the August issue that you would still like details under the heading "Cars I have Owned", and under "Letters to the Editor" some very kind remarks from Wing Cmdr. W. Gardiner, followed by a somewhat sinister remark from your good self: "Well, Mr Millar, what about it ?"

Dating back to 1926, I have owned a 3-litre Bentley, Delage, Alvis Silver Eagle, 3-litre Sunbeam, 30/98 Vauxhall, San Sebastion Salmson, Type 37 Bugatti, Austin Atlantic and several others, but the ones mentioned stand out in my memory for one reason or another.

At this stage I am not going to write any more about cars I have owned, but about one car in particular, my Jensen 541. It is just possible that I am the only original owner of a 541 and a black one at that, Jensens were not at all anxious to produce a black one, the reason presumably being that black shows every imperfection. However, after waiting for nearly a year, I finally got it.

Having burnt my boats and ordered it, I was then assailed with doubts and was convinced that I had made a mistake. I had bought a car with my eyes and without common sense. A new model, a fibreglass body that would fall to pieces, and as you may imagine, my friends never let a chance go by for over a year to ask me if it was still in one piece. Happily we all know now that my fears were unfounded.

It has proved to be the most rewarding car that I have owned, still completely original as far as the appearance is concerned, and I think those of you who saw it at Beaulieu and Woburn will agree. It is not however original mechanically. I must at this point tell you that I am a little way around the bend. Never at any time have I been able to leave a car alone, it has to be made to produce more and still more horse power.

You will note that reference was made to an Austin A90 Atlantic. This formed the basis of the long, expensive, and often heart-breaking experiments carried out. About this time the same engine, a 4-cylinder of 2666 cc was used in an Austin Healey 100 Sports 2-seater, a year or two later a tune-up kit for the Healey became available. These same modifications I carried out on the Atlantic, and raised the horse power from 88 to 120, which gave, with a higher axle ratio, 105 mph.

It then became apparent that while the bottom end was quite different, the bore and stroke of the 4-litre engine in the Jensen were the same. So what could be done to the 4-cylinder could also be done to the Jensen, the cylinder head configuration being the same. This consisted of raising the com-

pression ratio to 7.9, opening up the inlet and exhaust ports, and fitting a camshaft with higher lift and wider timing and 1¾" SU's.

At this point I would mention that I bought the car without an overdrive with, according to Jensens, an axle ratio of 2.93, but Salisburys told me there never was an axle 2.93 but 2.88. At that time with roads as they were then, I couldn't see the reason for an overdrive for an additional £120, anyway, in the light of after events several years later, I was proved wrong, for with the foregoing modifications, the horse power was raised to around 175 BHP.

To continue, finally with a further enlargement of the inlet port, scrapping the dreadful cast-iron manifold, fabricating pipes to give free sweeping flow for the exhaust, straight induction pipes in the place of the curved down draughts, forward facing air cleaner with a different air box of better shape, the horse power was raised to about 200 at 4200 rpm. Although it would rev on to 4800 before the engine really started to come out of the chassis, there was really no point in taking it on up to these revolutions through the gears. Siamese ports and the long stroke just make it impossible and you tend to lose out rather than gain.

The most painstaking experiments were with compression ratios. You can take a standard engine with the 6.8 ratio, put it up to 9 : 1, and you will get an improvement. Get the engine to really breathe and you cannot take the compression ratio over 7.9 : 1. This is the absolute maximum for my engine.

At one stage of the experiments, Iwas stupid enough to go to 9 : 1, the result was astonishing. It would exceed 100 mph on half-throttle but that was all, more throttle only produced really threatening and potentially expensive noises. What misled me were some experiments I carried out in the mid-1950's on MG 1500's, getting away with compression ratios of 9 : 1. What I forgot was with the smaller bore and stroke of the MG engine the pistons could do over 1,000 rpm more, which dropped the practical ratio of the Jensen quite a lot.

As you all know, the pistons have saucer-like depressions in the crowns. Taking my memory back many years, I think the standard pistons held 35 cc in the dishing. The Healey tune-up kit pistons held 26 cc which raised the ratio to 7.8, but when larger valves were fitted, it brought the valve edges much closer to the heart-shaped head.

It was then necessary to cut back the wall to give the same clearance as there was originally, resulting in a drop in compression ratio back to almost the 6.8 you started with. I then managed to obtain some pistons holding 16 cc, but when I fitted still larger valves with a further cut back [illegible], I

was back to only a little over 7 : 1. Finally, I got some flat top pistons and turned a slight dishing, holding only 8 cc, which gave the 7.9.

The only other way out to raise the compression ratio would be to reduce the depth of the head. Milling being more accurate than grinding, one can see that the compression ratio exercise was not only difficult but very costly. I even went to the expense of buying a new standard head and cutting it up on a power saw to see how far I dared go.

Other items included the usual balancing of crankshaft, connecting rods, clutch and flywheel. These all proved very worthwhile, putting the vibration period up from 4,500 to 4,800 Lightening the fly wheel slightly improved the acceleration, but it was not worth the trouble, and I wouldn't do it again.

It was finally decided that the car must have an overdrive. This however proved very difficult. The actual unit was easily obtained. I got one from Laycock's, but the gearbox extension (or adaptor as it is called) proved unobtainable. At last after months of searching and with the good officesof Len Jackson, he found one for me. Now for the astonishing part. With the 2.88 axle, the overdrive gives 2.1. The engine pulls it, returning a slightly higher speed than previously with the direct top of 2.88. This should mean that fitting a 3.1 direct top should improve even further the maximum, but with conditions as they are now on the road, I think I will call it a day, as on a little more than half throttle, the car will roll at 105 mph at 3,100 rpm in complete silence.

When you consider that the original design of this truck engine was to produce only 70 BHP at 2,700 rpm with a compression ratio of 6.15 : 1, it speaks volumes for the enormous reserve of strength and rigidity built into it. The Austin Sheerline gave 120 at 3,600 rpm, the Princess with three carburettors and 6.8 compression gave 140 at 4,000 rpm. For a long time I was fearful that the crankshaft would tangle up with my legs or the gearbox would break up with equally disastrous results, but when you see the size of the shaft and the gears you are no longer bothered.

Coming back to the question of horse power, to me this is a most irritating subject. You read statements of BHP at x revs in various ways, gross, nett, maximum, SAE DIN, and I am of the opinion that most of the statements have been written without checking properly with the manufacturer. I have before me the "Autocar" road test report on the Austin Princess merely stating 140 hp at 4,000 rpm without any comment. This is gross, taken from the engine on the test bed without fan, air cleaner, exhaust silencer, dynamo or water pump. Hang all these on and you come down to 120, and

when you get up to around 6,500 rpm the drop from gross to nett is staggering.

Other minor detail modifications undertaken were: twin electric fans, electronic rev counter, transistorised ignition, anti-roll bar, twin front dampers and an extension to the bonnet (call it a cowl, droop snoot or what you like) to improve the sweep of the wind up and over the bonnet. This makes about 1 mile an hour improvement at maximum speed, and incidentally loses me marks in the Concours, but I have no intention of taking it off.

It is not general knowledge that wind resistance with a car of such good shape as the Jensen, does not become of much importance until around 90 mph. Over that speed it becomes a serious force to be reckoned with. At about 120 mph a more destructive force comes in to effect, the scrub of the tyres on the road exceeds the retarding effect of the wind. Adding them both together you find for every mile an hour over 120 you need 5BHP, and at 130 you need 6 BHP for every mile an hour gained. This is assuming that the car is of about 28 cwt as the Jensen is.

Coming back again to minor details. Previously the car had a slightly up-tilted look, as though the back springs had flattened, but it still looked a little like this when new springs were fitted, so I lowered the front end by ¾". I do like a car to look level, the Jaguar XJ6 has the opposite appearance. It is quite definitely down in the front like a dog snuffling along the road.

Another modification I found very worthwhile was stiffening up the chassis at the front end with a bridge piece. This necessitated removing the fan, hence the twin electrics. I found that, on fast sweeping curves, a tendency for wheel wobble to set in, and when I saw the 1958 541R which has a front extension to the chassis with the obvious intention of increasing the rigidity, it gave me a clue. How we all pinch ideas from one another.

One more very small point: it has proved worth fitting an adjustable restrictor to the oil supply pipe to the rocker gear, this as standard floods the rocker gear with excess oil, at least mine did. I found that if you run the engine without the cover even at tick-over speeds ,that the oil pours down over the valve springs and gets sucked down the inlet valve guides, not only increased the oil consumption, but worse still, increased the coke-up in the cylinder head.

With petrol I get between 22 and 26 mpg, the most economical speed is around 75 mph if the roads allow you to keep around this speed. Last year on a 308 mile run to Cornwall, starting at 3.30 am, it returned 26 mpg at an average of 51 mph from door to door, which included two stops, one for petrol

and the other for a quick early breakfast snack of sandwiches and coffee. For 90% of the time it was in overdrive.

When I bought the car and found after all that it wasn't going to fall to pieces, I said to my friends that it would probably be the last decent car I would own, and this looks like coming true. Nothing would induce me to sell, especially as my wife says she will leave me if I do, although I must admit to casting sheep's eyes at the Aston Martin DBS V8, the carburettor version. You can keep your petrol injection.

Despite my unfortunately advancing years, I am still active in business, and there does not seem to be enough hours in the day, probably because I am myself slowing, and at the risk of sounding churlish, I must say I do not want to receive any letters asking how and why. I have endeavoured to explain the engine side, and let's face it, after all it is only very much bread and butter stuff as far as the tuning world is concerned. With regard to the chassis front end stiffening, this was not done to any working drawing, but just free-hand one off so to speak, and now the whole thing is more or less hidden behind the radiator.

What I am prepared to do is to take my car to any reasonable rendezvous, say the "Noggin and Natter" Meetings at the Hogs Back Hotel, or any other reasonable venue, or even at my address one Sunday morning when any of you are seriously interested can see for yourselves. There is enough visible to give the general idea.

I read the Editorial regarding the Concours, and it would seem that there was some dissatisfaction with the judging. I was not aware of any undercurrent, but then I left before the results were announced. I would like to suggest that in the future, windscreen stickers be sent out with the venue details and only those cars displaying the stickers should be eligible for judging. This should narrow the number down to about 40% of the total and save the overworked judges trouble. For to use an army expression, a lot of cars would not get past first base and the owners must surely know this.