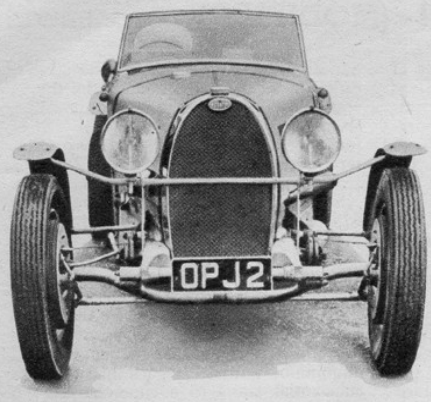


TALKING OF SPORTS CARS . . . No. 343

TYPE 57 BUGATTI (MODIFIED)

MUCH LIGHTENED AND DEVELOPED

MANY Bugattis have been described in this series in the past, but that was before the birth of the XK120 Jaguar. Can they still be described now and bear direct comparison with modern Jaguars as unsupercharged sports cars? The answer is, of course, yes! Obviously a pre-war Type 57 S (3.3-litre unsupercharged sports model), properly prepared with a lightweight body such as that gracing R. C. Symondson's car, can and does give standard XK120s plenty to think about. But this type is a very rare animal, there being only four in the country, and as such is apt to be surprisingly expensive. This state of affairs therefore, whilst being fairly satisfactory to Symondson, hardly helps would-be Bugatti owners to find the answer to the Jaguar problem.

There is, however, a much cheaper solution. I spent a long time looking and finally decided: (a) There really was not all that difference between a touring Type 57 Bugatti and a 57 S, at double the price, if one could steel oneself to the ruthless use of a hacksaw; (b) It would be a nice change and very comfortable to race a touring Bugatti as a sports car—I had previously competed in that flexible class with a Type 51 supercharged Grand Prix model! And (c) I could not afford a Type 57 S in any case.

Out Hacksaws

The result was much thought, many measurements, about one hundred sketches and a visit to Molsheim. The visit, in these times of austerity, was not essential, but having made up one's mind exactly what one was going to do it was quite pleasant to be told by the factory, "Why ever not? The engines are basically similar. Why waste money on a 57 S?" It was also worth while in that I came back with the moral courage necessary for the drastic use of my hacksaw on one of the last of *Le Patron's* models and with catalogues showing the Type 57 S with one, two and four carburettors, all shapes of radiator, many sized wheels and all types of body. At least the child of my creation could not fail to become a standard production car to all but the most pernickety race organizer.

The next step was to find a Type 57 touring car which looked and sounded sufficiently tired for my purse. One, a drophead coupé, was eventually found that surpassed all expectations; it most certainly looked the part and did not even sound at all! May the soul of the last owner rest in peace undisturbed by reprimands from Ettore for driving a "modern" Bugatti to, and in, such a condition. The last journeys must have been nightmares.

This does not take long to write but the subsequent work really took quite a while. It was all remarkably simple—every nut and bolt had to come apart; the body and all unnecessary fittings had to be sold or, if unsaleable, thrown away, and the chassis had to be cut, plated, welded and built up, or rather down, to the appropriate 57 S specification I cheated only once, and that was on wheelbase, which I could not resist shortening to one inch less than the factory dimension. (If the need ever arises I will hold one end of the tape measure or, alternatively, will discuss at length the effects of relative humidity on the lengths of tape measures!)

The chameleon process continued throughout the building of the car, replacement parts being purchased or made wherever the original parts were worn or differed from sports specification. Even more important, nothing was replaced which seemed unduly heavy or unnecessary. Many miles were covered obtaining the desired parts, which were either new, cannibalized from crashed Bugattis or spares left behind by long-departed Bugatti owners. One reason for the name of the car, "Phantom," is only too obvious from the pedigree of some of the components; e.g.:

The Brooklands silencer and exhaust . . . removed from the burnt 3.3 G.P. after the Duke of Grafton's fatal crash: the cylinder block . . . "reinforced" by Heath for Abecassis and later removed from the wrecked 3.3 G.P. after K. W. Bear's fatal accident: rear wheels . . . ex-P. R. Monkhouse (Talbot-Darracq): the arm rest . . . salvaged from Sir Malcolm Campbell's possessions at the recent auction sale: the 57 S articulated axle . . . origin unknown.

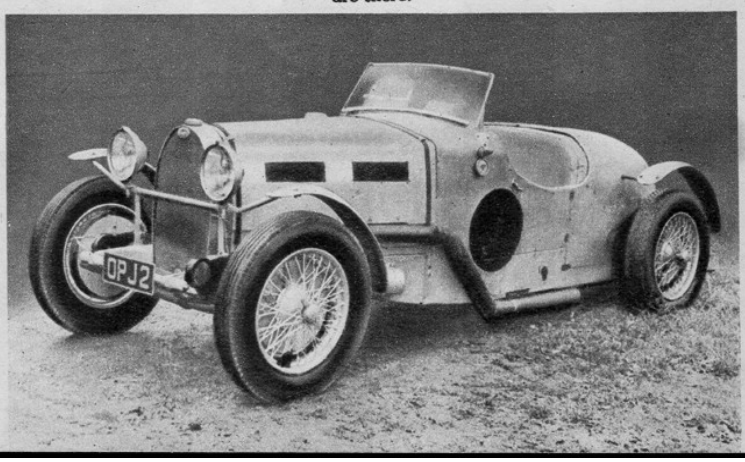
Charlie Martin, Lemon Burton, Arthur Baron, R. O. Shuttleworth—nearly all the famous old Bugatti names are represented by some part in Phantom; not to speak of valuable contributions from post-war Molsheim and from almost as many accessory firms as have assisted the B.R.M.! Thank you for all your help.

The detail modification work was most interesting and taught me a lot about brakes, carburation, induction systems, compression ratios and suspension. The intention was less weight, more power, smaller frontal area, passenger comfort, ease of driving and maximum utilization of the power available. The results even on the first test run in chassis form were a revelation; the car did not seem particularly fast but it possessed the most outstanding road holding properties and brakes I have ever encountered—all the virtues of classic Bugatti road holding and steering without the vice. Apparently, alteration of the weight distribution, castor angle, rear springs and tyre sections had fortunately eliminated the reprehensible desire most Bugattis have to traverse right-hand corners on left-hand steering lock and vice versa.

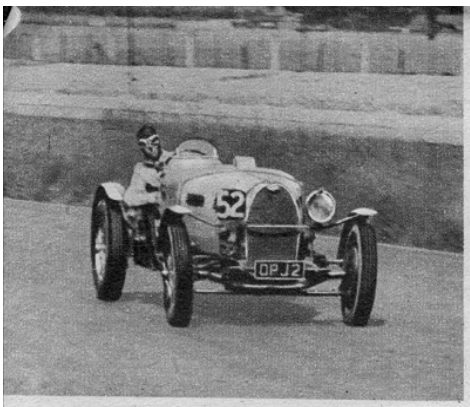
The car merely gently slid all four wheels together, without a trace of oversteer and without any skill being required from the driver—definitely a safer and faster method of negotiating bends. I am writing this on a wooden desk or I would not dare mention that after seventeen months work the car went to Goodwood for first speed tests and came back with only one modification required—incorporation of the arm rest to enable the driver to take right-hand corners from the driving seat instead of the passenger's!

The 1951 season was already far advanced, so the decision was made to race the car as it was, as far as my business and finances permitted, without an undershield, without oil cooling and with the four carburettors feeding from warm air; the finishing touches could wait for the winter. I was influenced in this decision by a number of circumstances, not the

Road equipment is rudimentary, particularly round the wheels, but the essentials are there.



TYPE 57 BUGATTI (MODIFIED) : continued



There is now a little understeer.

least being the pleasure of driving the car which, like my old 2.3 Bugattis, proved to be an infallible starter, completely reliable and immune from any form of plug trouble (Champion R11 sparking plugs are used for all purposes).

The measurable performance of the car in this state must have been rather queer, as it had a feeling of excellent power-weight ratio in spite of a tendency to be overgeared on 6.50-19in tyres, but it showed no desire to rev, let alone travel fast on top gear. Withal, it was still capable of covering the ground remarkably quickly owing, apparently, to the road holding and surprising grip of the rear wheels—they even gripped passably on wet surfaces, a phenomenon I have never encountered in any of my previous Bugattis.

Still, the desire was to race against Jaguars so, scorning the temptation of a Bugatti Owners' Club Silverstone meeting, we decided one hundred per cent reliability justified a first crusade against the XK120 at Goodwood. Practice immediately indicated that, whilst most competing Jaguars were probably standard for handicap purposes, quite a number of owners had obviously taken advantage of some, or all, of the factory modifications available (high-lift camshafts, high-compression pistons, dual exhausts, undershields and special ignition heads). These made the souped-up XKs totally different cars from the standard models which the 57 *modifié* had little difficulty in holding on the straight and passing when necessary, usually during acceleration out of corners.

Two races which followed confirmed my impressions that the 57 had something, even if its speed on the straight was only 95 m.p.h. In the first, a scratch race, we "scored" three XKs and two J2 Allards in finishing eighth, which was not too bad from the back row of the starting grid. The second, a handicap race, resulted in a rather easy win without my having to use more than 4,700 r.p.m. on the gears. It was all remarkably effortless, very comfortable and most promising, even if the best lap time was no better than 1 min 53 sec (76 m.p.h.).

Ill Matched

Business commitments abroad unfortunately prevented me from carrying out modifications to make the Bugatti really motor before the next round, but I found time to fit smaller rear wheels (6.00—18in) and different shaped needles to the carburettors in order to maintain the mixture strengths low down but weakening them at full throttle at speed. This helped a lot, and 5,300 r.p.m. seemed the most natural speed at which to run the engine in the car's next two races at Goodwood, but the lap speed improved by only about a second in spite of an extra 5 m.p.h. on the straight. The culprits appeared to be two new rear tyres of a hard-wearing but slippery pattern, which, infuriatingly, rather upset the perfect balance of the 57 and made it handle like a Bugatti with a strong tendency to rear-wheel instead of four-wheel slide—I must fit the new pattern tyre to the front as well! Still, the score in the scratch race went up to five XKs out of eight plus the genuine Type 57S, though the latter had a bad grid position at the start and apparently got more than a little hemmed in.

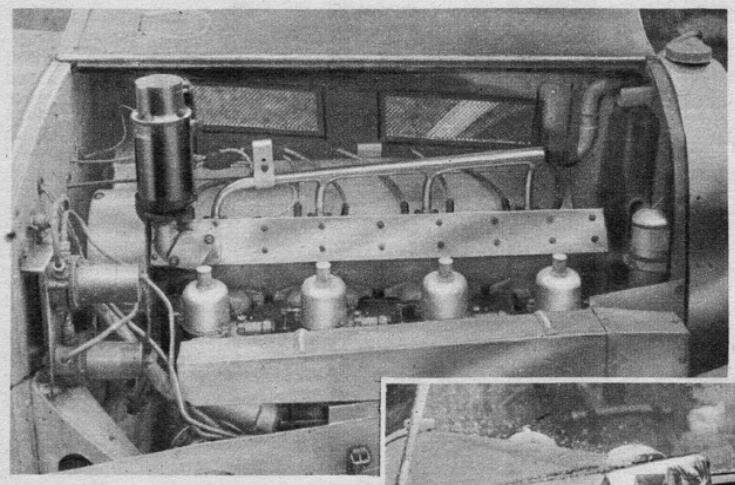
The handicap race produced no real success, as handicappers, once bitten, are apparently at very least twice shy. We noted with mild but unsurprised disapproval that our unsupercharged polished aluminium touring Bugatti had to give substantial starts to a supercharged 2.6 Alfa Romeo, supercharged 2.3 Monza Alfa Romeo, the works DB2 Aston Martin, and others. Still, it was all grand fun and a couple of laps in measurable proximity to Tony Rolt on Walker's DB2 Aston Martin provided me with a quiet comparison of performances that I needed, which the closely contested opening laps of scratch races had made impossible. The indication was that, whilst the Bugatti had considerably greater acceleration from rest, the Aston, for reasons which were not apparent, could walk away above about 85-90 m.p.h. The answer to this lack of high-speed acceleration *had* to be found.

A quite normal superficial error in my design proved easy to locate, but rectification was by no means so simple and necessitated an amount of experimental work. Sufficient to say, as many competition sports cars have the same apparent error in design, Phantom now seems to accelerate as fast on top gear as on third and has quite a high maximum speed. The curious can always study Bernoulli's and other similar laws.

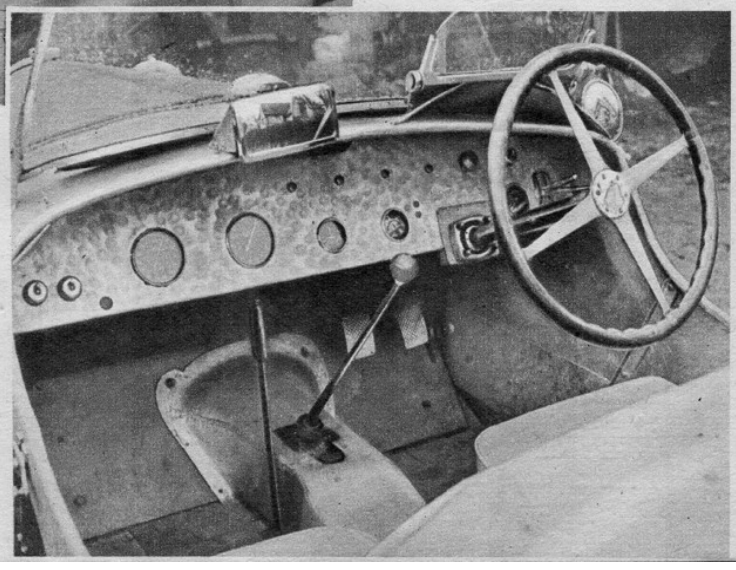
I shall carry on quietly motoring and racing the safest car that I have ever driven, which, incidentally, is easy to drive, extraordinarily comfortable and averages 16 m.p.g. when driven in the Continental manner. If any reader wished to beat all XK120s of any compression ratio, cam contour or number of exhausts he has only to fit eight carburettors and high-lift camshafts to a 57 in addition. As, unfortunately, I have not the time and, more important, the money to do this, I trust someone else will—it is perfectly practical. Don't mention the XK120C, that's up to Molsheim to enlarge the engine of the Type 101 to 4½ litres!

Vive le Bugatti!

A. C. WHINCOP.



Twin petrol pumps, a magneto driven from the rear of a camshaft, and cool air ducting for the four carburettors appear in the under-bonnet scene. Note the separate riser pipes to the radiator header tank.



Right: Austere, even for a vintage facia. On the right of the steering column are the hand throttle and ignition control levers.