

Right: The Type 46's gearbox located in the rear axle may have created more problems than it solved.

Below: Bugatti's ingenious method of preventing self-servo action of the brakes caused by axle rotation under braking.

type numbers 59, 64 and, finally, 101.

It was a straight eight engine once more, typically Bugatti in appearance and finish but totally different in design, having little in common with previous models.

The main changes concerned the timing gears, which were situated at the rear of the engine, close to the flywheel, thus cushioned from crankshaft torsional vibrations - a good point - whilst the twin camshafts actuated the valves by way of an oscillating finger between each valve and cam lobe. A scheme inferior to the previous, direct-acting 'bucket' tappet of Types 50 and 51.

We can, perhaps, discount a further generation of engines conceived during and shortly after the Second World War. None were to enter production, were undeveloped at the time of Ettore's death and did not seem to possess any particular points of merit.

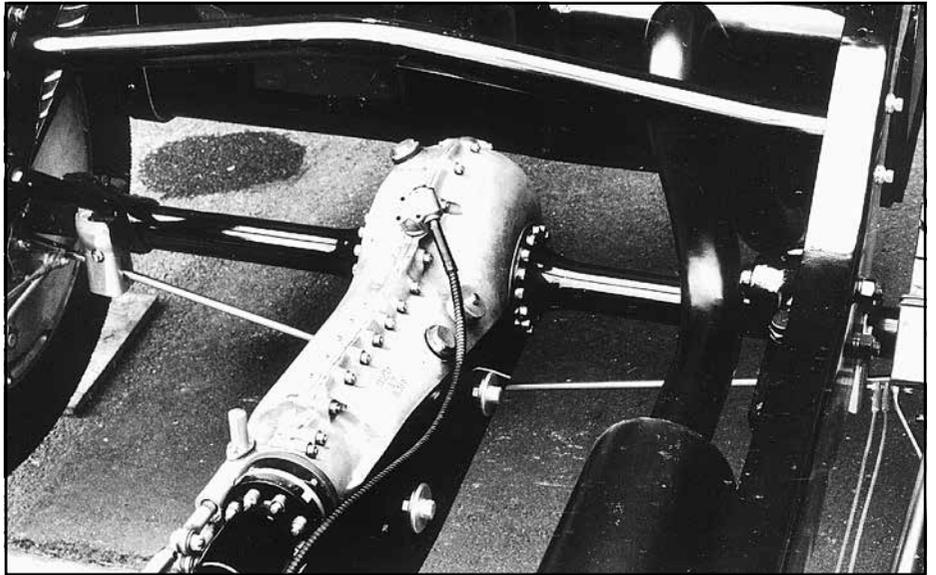
The magic has disappeared!

TYPE 46

Bugatti decided to bridge the gap between the excellent 3-litre Type 44 touring car and the gigantic Royale with a 5-litre luxury car designated Type 46.

The first production drawing (camshaft) is dated January 28 1929 and production began towards the end of that year. The car was launched at the Paris show in October, while the first delivery to a private customer appears to be chassis 46121 on November 16 1929. However, the factory records for the Type 46 are scanty and further research is needed.

The layout of the Type 46 did,



in fact, follow very closely that of the Type 41, including the transmission arrangements aforementioned, incorporating a three-speed gearbox in the rear axle. Rudge wire wheels were specified in place of the magnificent aluminium type designed for the Royale, although another elegant wheel was conceived for the later Type 50 which became available as an option for the Type 46. Several earlier cars were retrospectively converted.

Considerable thought was given to the brake cable layout in order to neutralise the self-servo action of the

front brakes caused by axle twist and always exaggerated with large diameter drums. A cable route passing over the kingpin centre and then turning at right angles to a further right-angle on the chassis was utilised, a scheme first seen on the Royale and again in the second series Type 57.

A further novel feature concerned a flexible mounting for the flywheel, a detail rarely - if ever - seen before or since and no doubt of assistance in breaking up torsional vibrations.

The engine dimensions were 81mm bore x 130mm stroke (5360cc)

Borrowing from Miller design philosophy, the new Bugatti twin cam design with supercharger was a superb power unit for the new T50.

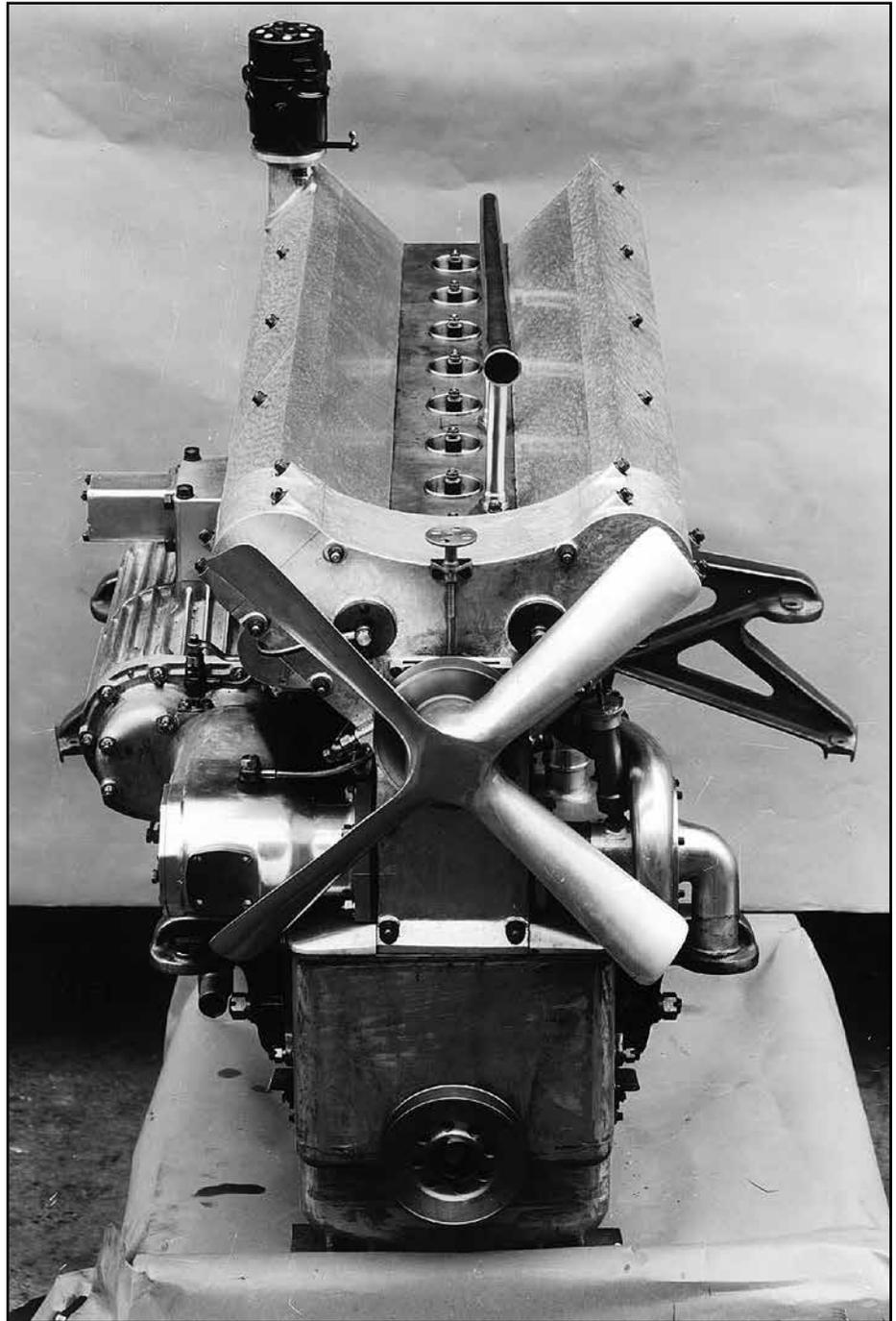
and a single, five-jet Smith-Bariquand carburettor was specified. It is interesting to note that Bugatti built his own carburettor for the Royale, presumably because of the impossibility of finding a proprietary unit with chokes large enough for the 12.75-litre engine.

A small supercharger was added at a later date (models so equipped being designated Type 46S) which added to the engine's already impressive torque. There is no doubt that the Type 46 offered a standard of performance, ride and handling superior to its competitors, although the D8 Delage which followed shortly afterwards was to offer serious competition and did, in fact, sell in much greater numbers: over 2000 examples between 1930 and 1934 and the majority between 1930 and 1931. The Delage was, however, somewhat cheaper at £700 compared with the Bugatti at £1400.

TYPE 50

The next development of the one-piece engine theme was a conversion to a hemispherical combustion chamber, twin camshaft, two-valve cylinder head which was copied from the Miller racing cars that Bugatti bought to study. The new engine was designed prior to a similar conversion of the racing Type 35B which became Type 51. The first drawing, for a tappet bucket, is dated July 31 1930.

The Type 50 engine dimensions were changed, compared with the Type 46, at 86mm bore x 107mm stroke, thus squarer and smaller at 4972cc. This bore/stroke ratio would assist in reaching higher rpm and all Type

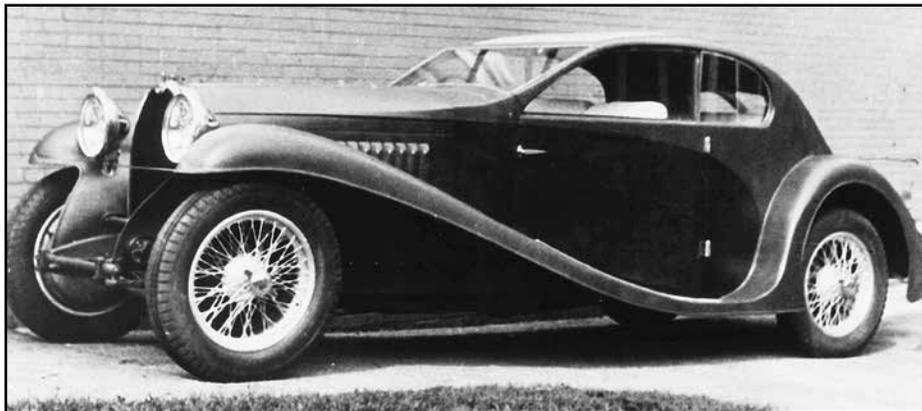


50 engines were supercharged with a large Roots-type instrument of typical Bugatti design.

200bhp was claimed at 4000rpm; indeed, it could hardly be less, bearing in mind the efficient design, good thermodynamics and fairly high compression. Certainly no other production luxury car in 1930

had such an advanced 'racing car' specification, except the Duesenberg SJ from America.

The only other design change concerned the elegant aluminium wheels mentioned already, together with a shorter chassis at 3.1 metres wheelbase, compared with the 3.5 metres of the Type 46. Later, the longer



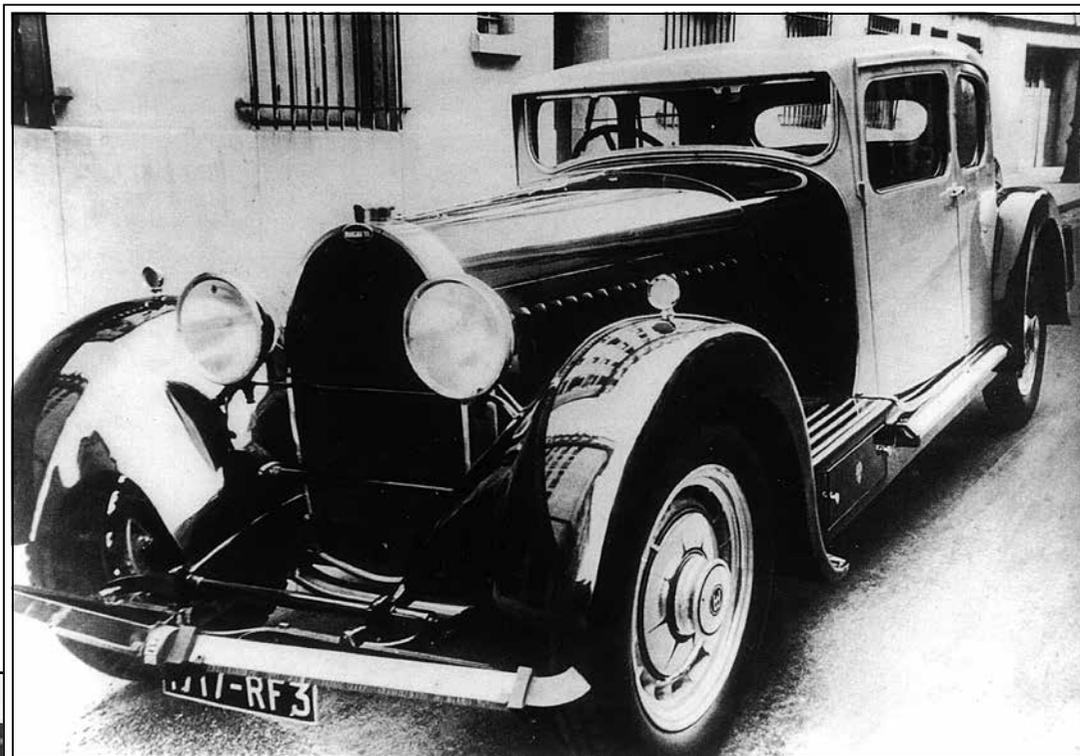
Left and centre left: Type 46. Rebodyed in Coach Profilée style by Andy Rheault in the USA. Now converted to alloy wheels and in the Schlumpf Museum. Chassis no. 46482.



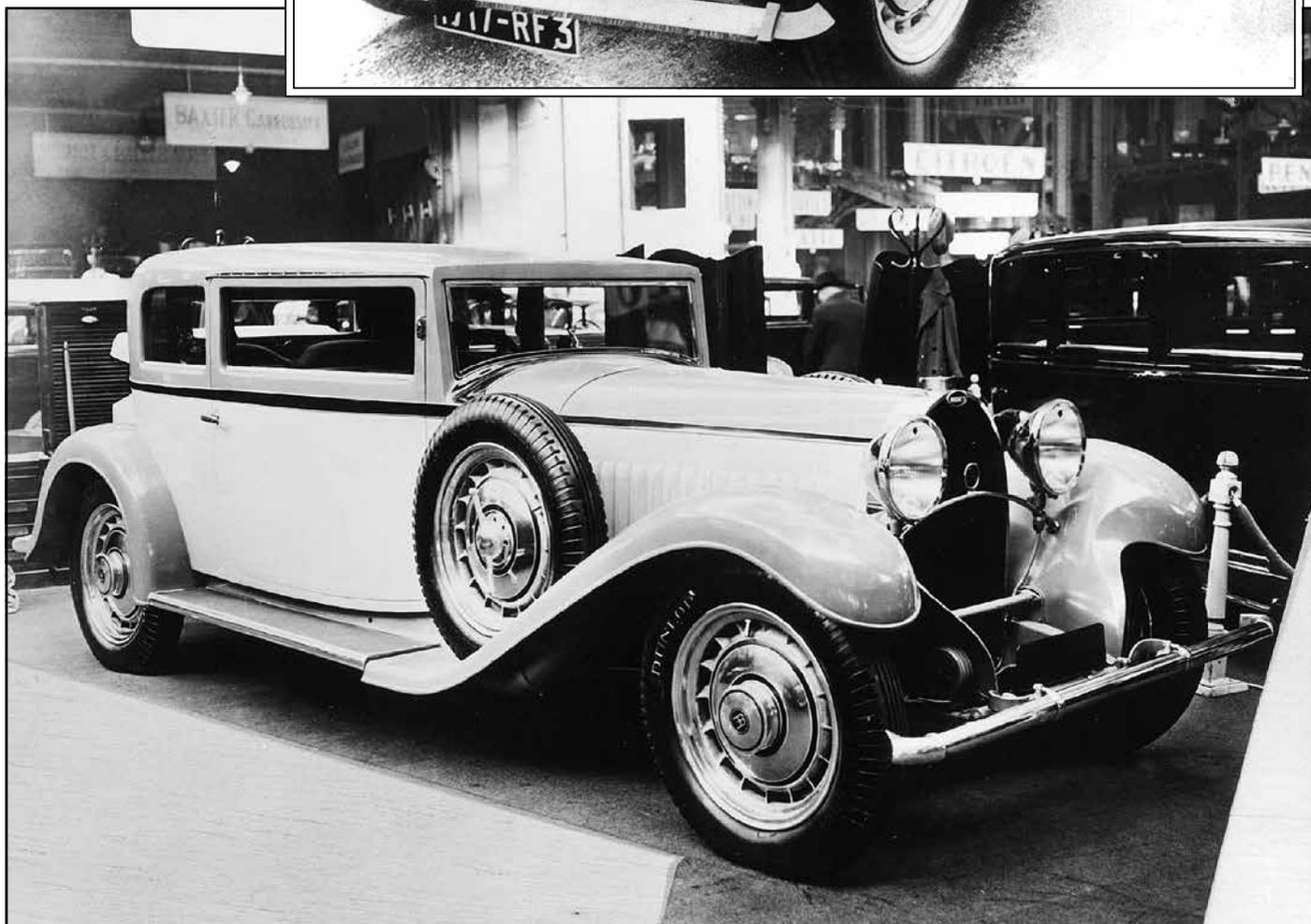
Above & below: Type 50, chassis no. 50117. This 3-passenger Coupé by Million Guiet, owned by Ken Purdy, was 1st prize and blue ribbon winner in the Classic category at the 1961 New York Auto show.



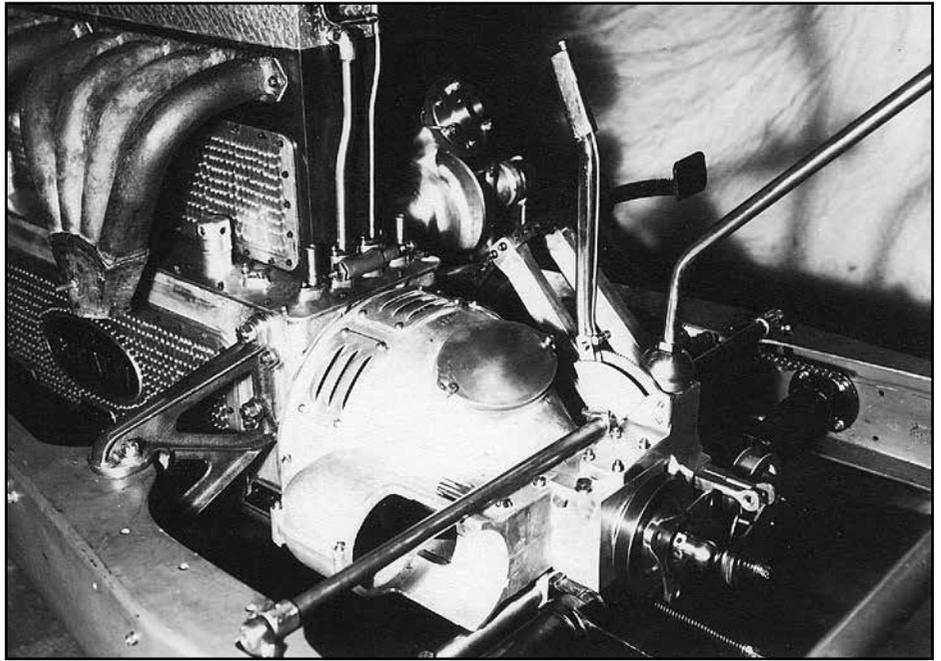
Type 50. Short chassis, 2-door Saloon by Million-Guiet. This body was heavily modified in the forties, but is now being restored to original state.



Type 50. A Gangloff 2-door Coach at the 1931 Paris Salon.



T46 clutch housing and exhaust manifolding in close-up detail.



An original factory photograph of the first car, chassis no. 46120, showing front brake operation. Note Royale chassis in the background, perhaps indicating a small shop for special project assembly and experimental work.

