

SECTION 1

INTRODUCTION

The Lotus Seven was originally launched to the public at the Earls Court Motor Show in 1957 as a successor to the highly successful, though relatively low volume, Lotus 6 which ceased production in 1955.

The original Series 1 Seven was produced with a Ford sidevalve engine and a 3-speed gearbox although later models were available with the Coventry Climax IO97cc engine or the BMC 948cc engine from the Austin A35, with the 4-speed BMC gearbox.

In 1960 after around 240 Series 1s were completed, the Series 2 was introduced. This had a lighter spaceframe, clamshell front wings were fitted for the first time, and a revised fibreglass nosecone, which remains outwardly unchanged to this day.

Engine options followed on from the Series 1 although the IOOE engine was soon phased out in favour of better BMC engines from the Austin Healey Sprite and the Ford 997cc IO5E engine as fitted to the newly introduced Anglia.

Further options included the Ford Classic IO9E 1340cc engine from 1961, and later the 1498cc 116E engine from the Cortina followed in 1962. These later models were known as Super Sevens and in Cosworth tuned form made shatteringly fast road/club race cars for their day.

The Series 2 introduced the 'A' frame rear suspension which is still in production today and were made in considerably greater numbers than other Lotus Seven models, a total of some 1310 being built.

It was not until 1968 that the Series 3 Seven was launched and in appearance looked similar to the Series 2 except for wider wings to accommodate wider wheels and tyres. The chassis frame, however, was considerably stiffer and the 1600cc Ford 2265E crossflow engine and Ford Escort rear axle became the basic specification. This axle, incidentally, replaced that from the Standard 10 dating back to the early fifties which somehow Lotus had continued to use in the Series 2 right until the end. Axle failures were not uncommon!

The Super Seven was now available with the Lotus Twin-Cam for the first time and this, especially in 125 BHP Holbay form, became the fastest production Seven yet. Around 265 Series 3s were made.

By 1970 it was felt that the Seven, after 12 years, had become very dated and a successor, intended to reach the fast growing Beach Buggy market as well as that currently accommodated, was launched. This, of course, was the Seven Series 4.

Although intended to retain the character of the Seven, it was very different in appearance, having a simpler steel ladder frame chassis with stressed steel side panels enclosed by a fibreglass body. Engine options were carried over from the Series 3, and around 600 cars were built by 1973.

Colin Chapman had for many years wanted to phase out the Seven from an increasingly upmarket range and indeed, without the efforts of Graham Nearn, it would probably have been dropped as early as 1966.

Seven production had continued erratically for some years, firstly at Lotus Components and then at Lotus Racing, which closed in 1971.

Series 4s were manufactured in a corner of the main factory for a while, alongside Elans and Europas, before the impending launch of the new Elite, and increasing financial difficulties at Hethel finally spelt the end of the car.

In May 1973 Graham Nearn's Caterham Cars took over all the remaining Seven parts, jigs, moulds and, most importantly, the manufacturing rights from Lotus. Subsequently about 40 series 4 Caterham Sevens were sold until it was phased out largely due to problems with component suppliers in 1974.

Much interest continued to be expressed in the classic Series 3 Seven, however, which enthusiasts had always preferred over the heavier and less agile Series 4. As a result, Caterham introduced an improved version of the Series 3 with a considerably strengthened chassis and numerous detailed modifications to upgrade the car in every way whilst preserving its appearance and character.

The Caterham Seven has therefore continued outwardly unchanged. Its specification has changed notably in respect of its engines and transmissions, as suppliers and motor manufacturers have updated their products.

Initially Caterham Sevens were fitted with Ford Escort axles, but supplies of this axle dried up in 1981 with the introduction of the FWD Mk III Escort. The replacement Morris Marina/Ital axle was fitted to approximately 500 Caterham Seven Series 3's between 1981 and 1986 when it too ceased to be available. Seeing that the writing was on the wall for small beam axles, Caterham then designed their own De Dion rear suspension, based on Ford Sierra parts, which was introduced in 1986. This in turn has seen further improvement with the fitment of rear disc brakes in 1989 along with a sealed pedal box and adjustable pedals.

For 1991 the De Dion chassis was revised incorporating a double wishbone front suspension and revised rear suspension derived from the Vauxhall engined race series cars to further improve handling. Provision was also made to accommodate inertia reel safety belts and, in redesigning the rear of the car, more boot space was achieved.

The De Dion chassis was again revised for 1994 to further improve chassis performance, ease of build, and serviceability. Removable upper engine bay diagonals improve access to the engine bay, and at the same time the length and width of the pedalbox was increased, improving comfort.

By the mid eighties, supplies of Ford Escort Sport semi-close ratio gearboxes also dried up so the chassis was re-engineered to accept the 5-speed gearbox from the V6 Sierra. Caterham have designed and manufactured their own special bellhousings to mate this gearbox, in close ratio form, to both the Rover and Vauxhall 16 valve engines.

Caterham have now engineered a close ratio six speed gearbox for the Seven, with ratios chosen specifically to suit the character of the Seven and the engines used in it. The gearbox is a direct replacement for the Ford five speed gearbox and can be retro-fitted in cars fitted with the five speed box.

When Lotus Twin-Cam engines ceased to be manufactured, Caterham first turned to Vegantune who were making their own version of this unit. Around 40 Sevens were fitted with this VTA engine of which 30 were exported.

Demand for an engine developing more power than the standard Ford 1600GT led Caterham to introduce their 'Sprint' specification, basically the 1600GT with twin Weber 40 DCOE carburettors and a mild performance camshaft. In 1984, the 'Supersprint' version of the same Ford engine was launched, this time bored out to 1690cc with larger valves and a high lift camshaft to produce some 135 BHP with minimal loss of tractability.

However the public continued to demand even more power and in addition sophistication, so the Ford Cosworth BDR with double overhead camshafts and 16 valves became available in 1985 followed by the even faster 'HPC' specification in late 1986. This engine has now been replaced by the 2 litre 16 valve Vauxhall engine which provides even more power and, along with the Rover K Series unit, enables the Seven to meet emissions legislation.

In turn, the Rover engine has been improved in conjunction with Rover to produce the "Supersport" specification which means that performance from the 16 valve 1400cc unit is now very similar to the Ford powered "Supersprint" cars which continue to be available.

In 1993 the 'Classic' live axle car was introduced as a low cost entry level Seven. Using a single carburettor Ford crossflow engine and a reconditioned 4 speed gearbox and Ital axle, this represents excellent value for money.

In its earliest days, the Seven was sold in kit form to avoid purchase tax which in the late 1950's was about 40%! This practise continued throughout the car's long production history, although the imposition of Value Added Tax meant that the savings

were no longer so great, and the level to which a car had to be disassembled to become a kit rather than a car were the subject of constant negotiation with Customs and Exise.

Completed cars were and are offered for overseas markets, but Caterham have traditionally sold cars in Component form, and latterly in Kit form also, for those customers wishing to save money or enjoy building the whole car themselves and by using new or used parts of their choice.

With current EEC legislation it is now possible to sell certain Caterham models fully built in the United Kingdom and in Europe, though the majority of engine specifications available do not satisfy noise and emission regulations and therefore remain available in kit or virtually built Component form.

This assembly guide has therefore been produced to give the non-expert near comprehensive instruction as to how a car can be built to the same standards as those produced by Caterham Cars. For more experienced builders, this guide may be somewhat elementary in its detail. However, no doubt some sections will be helpful and we wish all our customers many hours of pleasure building a car that both they, and we at Caterham cars, can be proud of.