





O.S.C.A. Background

The name Maserati was well established in Grand Prix racing within a few short years following the formation in 1926 of the company in Bologna, Italy. The brothers Maserati soon developed a reputation for top-quality fabrication and fast reliable cars that quickly set the standard for craftsmanship. By the mid-1930s new forces were on the scene in the form of the German nationally-funded teams of Mercedes-Benz and Auto-Union, both of which soon overpowered their rivals with larger-displacement engines. This factor, together with failing business conditions in Italy and most of Europe, led to the sale of the Maserati company in late 1937 to Adolfo and Omer Orsi, who moved the works to Modena. The brothers Ernesto, Bindo and Ettore were retained on a ten-year employment contract which carried them through the war years into December 1947. With the contract terms fulfilled, they returned to their native Bologna to open a small specialized business of building racing cars for private customers, in a section of their original pre-1938 workshop. The brothers divided their responsibilities as follows: engine design was handled by Ernesto,

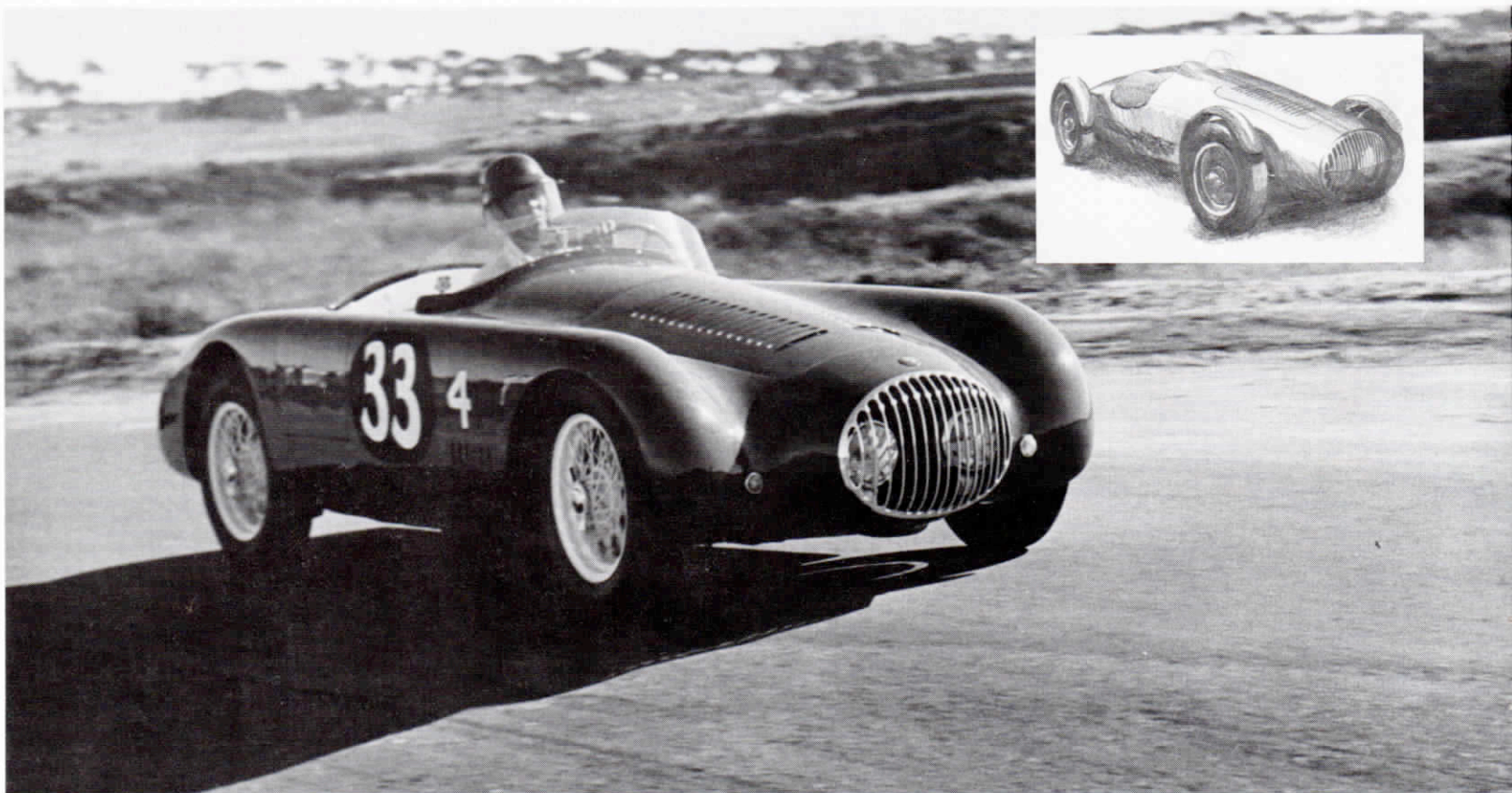
with his older brothers running the administration and supervising the construction of the cars. The name of this new company was O.S.C.A., the initials of which are the abbreviation for **O**fficina **S**pecializzata **C**ostruzioni **A**utomobili-Fratelli Maserati (Office [or factory] Specializing in the Construction of Automobiles). Initial interest centered in the 1,100 cc sports racing class with a single overhead cam head fitted to a Fiat block, designated the MT-4 for Maserati Type four-cylinder. Under the sale contract with Orsi, the Fratelli Maserati were not to use their name commercially, as it now belonged to the Orsi family in Modena. Major success came in this new design's second competition outing. In the Formula II race at the Grand Prix of Naples held in 1948 Villorosi scored a decisive victory over Sommer in a Ferrari, Ascari in a Maserati and numerous other established drivers and mounts. This success was followed by other minor victories until the 1950 Mille Miglia where Luigi Fagioli drove a 1,092 cc O.S.C.A. to first in the 1,100 cc International Sports Category over the prior champions of the class: Fiat, Stanguellini and Cisitalia. Other name drivers of the day were attracted to O.S.C.A. until the Maserati brothers

had a long list of competent drivers anxious to be included in the new marque's record of accomplishments.

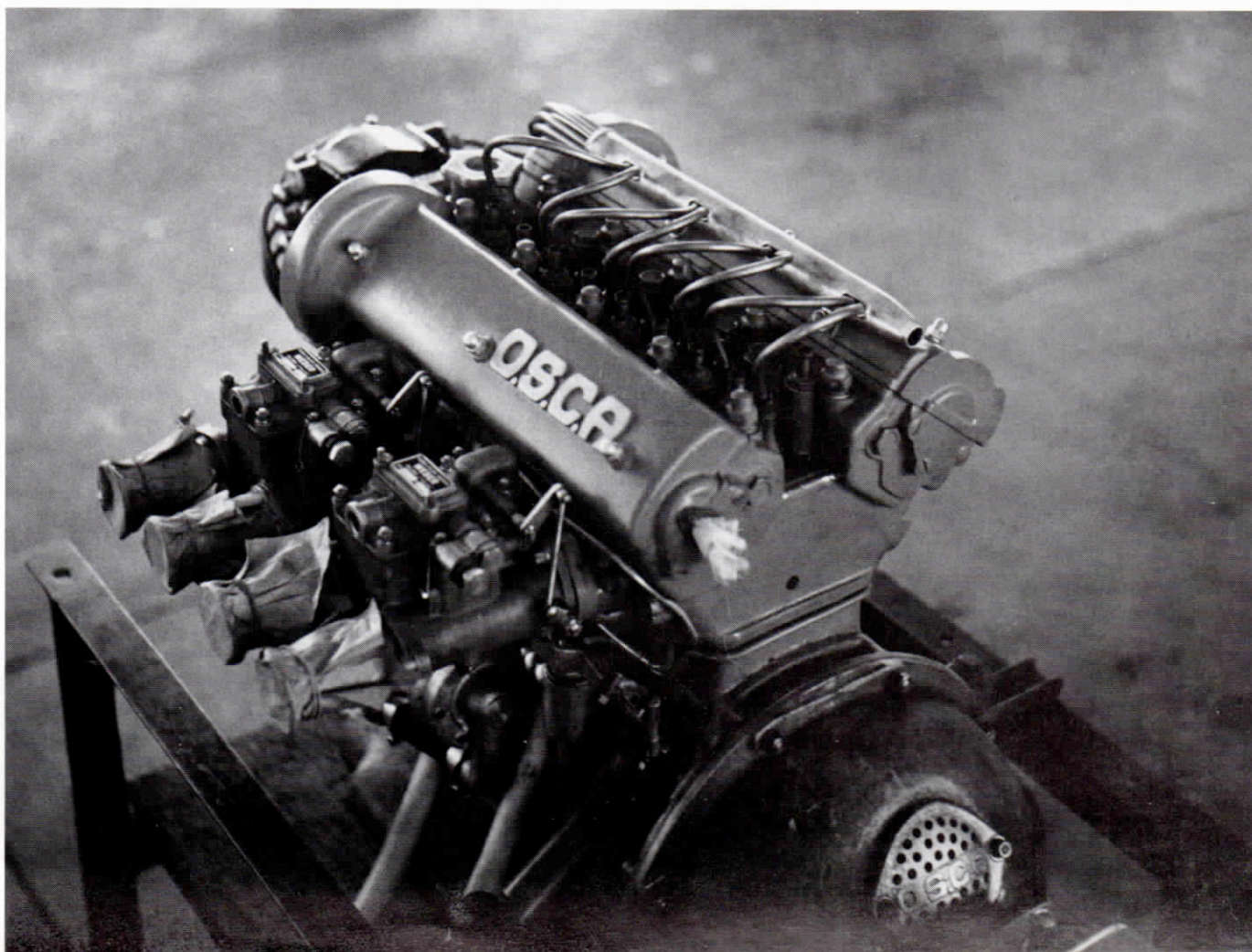
Following the first single overhead cam MT-4 engine, Ernesto created a complete "in-house" engine design for the 1,100 cc class that immediately became king of the class in Europe for the period of 1950 to 1953.

O.S.C.A. Design

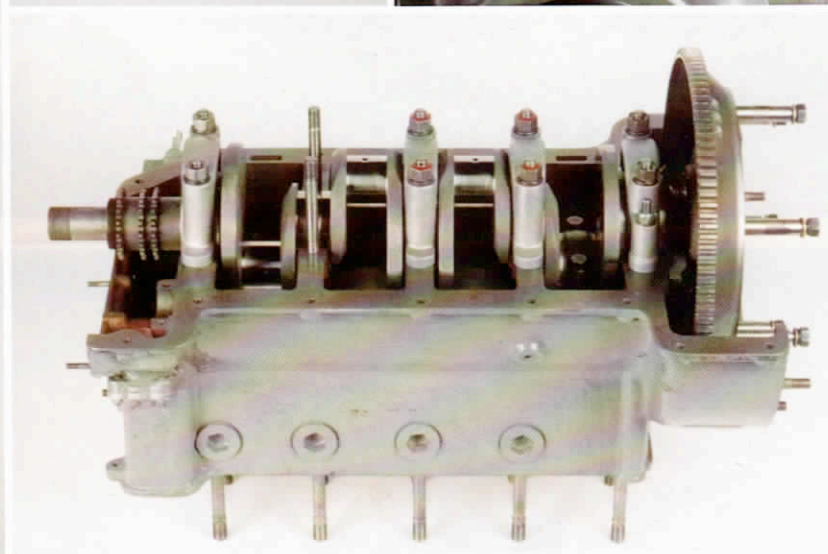
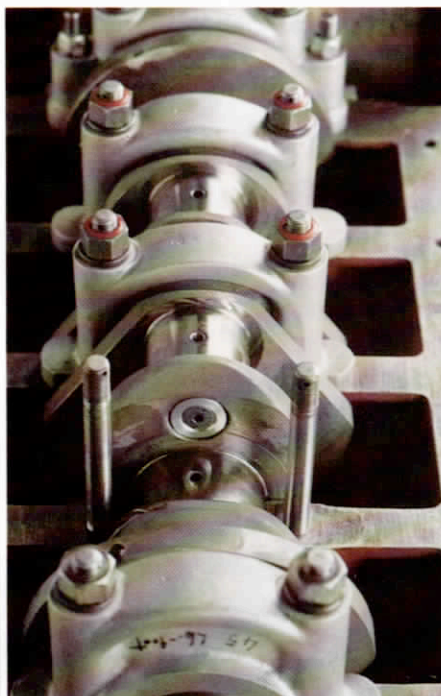
Based on their prior experience in engine size and displacement, we can assume that the Maserati brothers started with a clean sheet of paper for their chassis and power requirements during the period following the war when materials, tools and talent had to be scarce. High quality standards were the mode for these three artisans, who pooled their combined experience and knowledge to produce a conventional ladder-type tube frame with Fiat components attached; up-front unequal-length A arm and coil springs, and quarter or half elliptical leaf springs below a radius arm located live axle at the rear. Tubular shock absorbers were employed both front and rear. The initial twin cam engines of 1,092 cc displacement were slightly under square at 70x71 mm. It was not until 1953 and



Clockwise from below: The assembly shop at the factory. A new 1491 TN engine ready for installation (Sitz). Randy MacDougall in the second O.S.C.A. in America and (inset) the first was Rees Mankin's cycle-fendered car.



The engine of chassis number 1164 during restoration (Allen Rosenberg). I'm going to assume that if you are reading this magazine I need not name the parts.



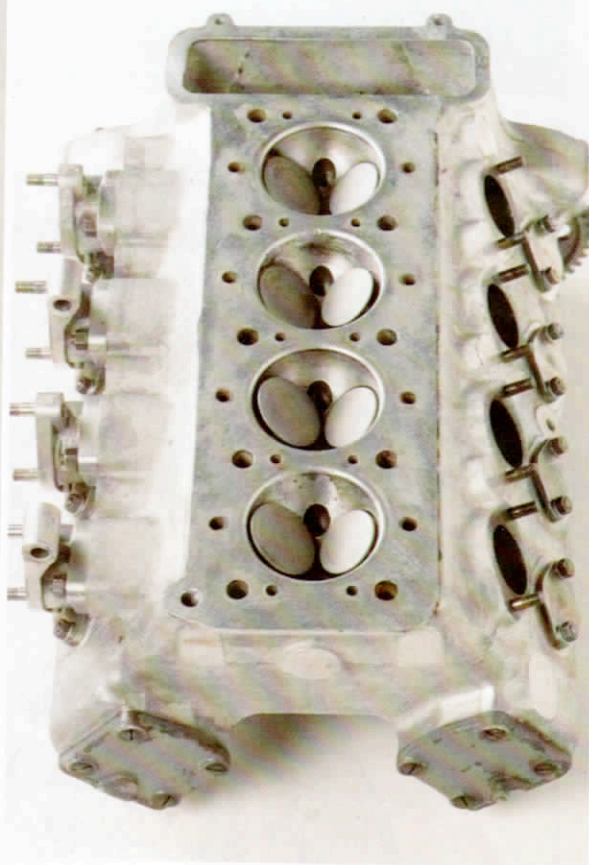
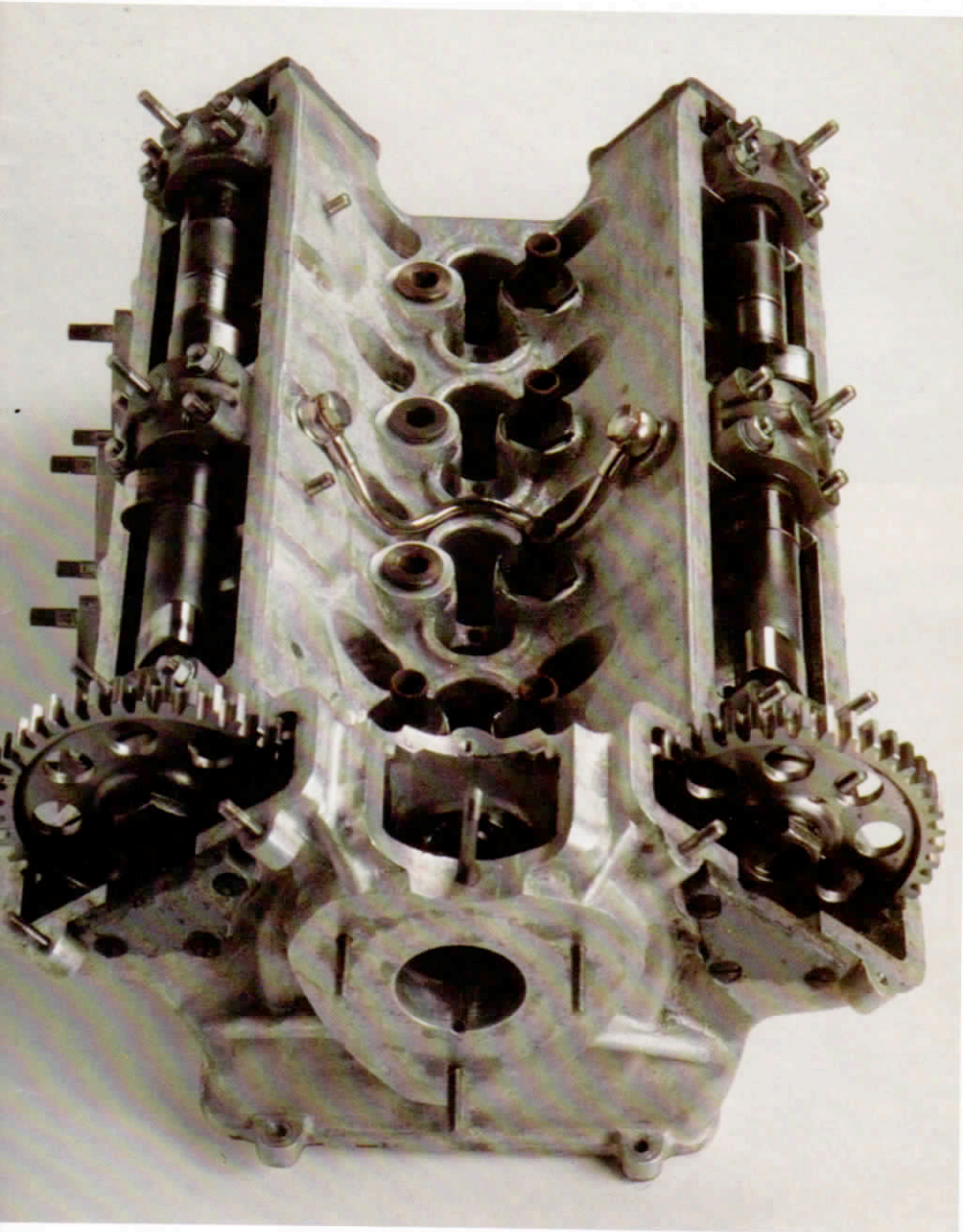
the development of the 1,453 cc engine with an over square 78x76 mm design that more concern was given to piston travel in terms of the displacement ratio. We find in the 1,491 cc model the favorite ratio of the Maseratis: a square module of 78x78 mm later used in the 4500G Grand Prix engine for 1951-2, but in a V12 configuration. With the 1,491 cc engine, which developed a healthy 125-135 hp, twin ignition was employed to further explore efficiency of combustion for power output. The final derivation of the 1,491 cc engine was the 1500 TN with a roller bearing fitted to the rear main journal to dampen crank vibrations that are typical of inline four-cylinder engines. On all of the early

O.S.C.A. engines, circa 1947 to 1956, the 1100 to 1500 series dual twin-choke side-draft Weber carburetors were fitted to the right side of the block with the exhaust to the left. Later in the decade, 1957 to 1960, with the advent of the extremely successful 750 cc four-cylinder O.S.C.A.s, the porting for the exhausts and carburetion were reversed, which caused some problems with the angle of the steering column as it passed the carburetor venturis.

Poured babbit bearings were employed for the main and rod big end bearings. These surfaces were usually good for a normal season of racing, providing proper care was taken between races to change the oil and inspect the

condition of each bearing. These twin overhead cam engines featured finger cam followers to open the valve. This system has also been used at Maserati to reduce side loading on valve stems and facilitate lash adjustment. Here is where excessive wear could be detected should the centering or alignment of the followers not be properly set. Routinely, after each race, the cam covers were removed to inspect the cams and finger followers for condition.

It is interesting to note that today many of the O.S.C.A.s running in vintage race events carry the crank and big rod ends in insert shell bearings with a brass sleeve to take up the difference in tolerance.



O.S.C.A. SERIES 1947-56 MT-4*

Years	Series	Cylinders	Displacement (cc)	Bore/Stroke (mm)	Tipo	Horsepower
48-50	1100**	4	1092	70/71	273	65
50-52	1100	4	1092	70/71	273	80
52-53	1300	4	1342	75/76	335	90
53-54	1400	4	1453	78/76	364	110
55	1500	4	1491	78/78	372	125
56	1500TN	4	1491	78/78	372	125-35

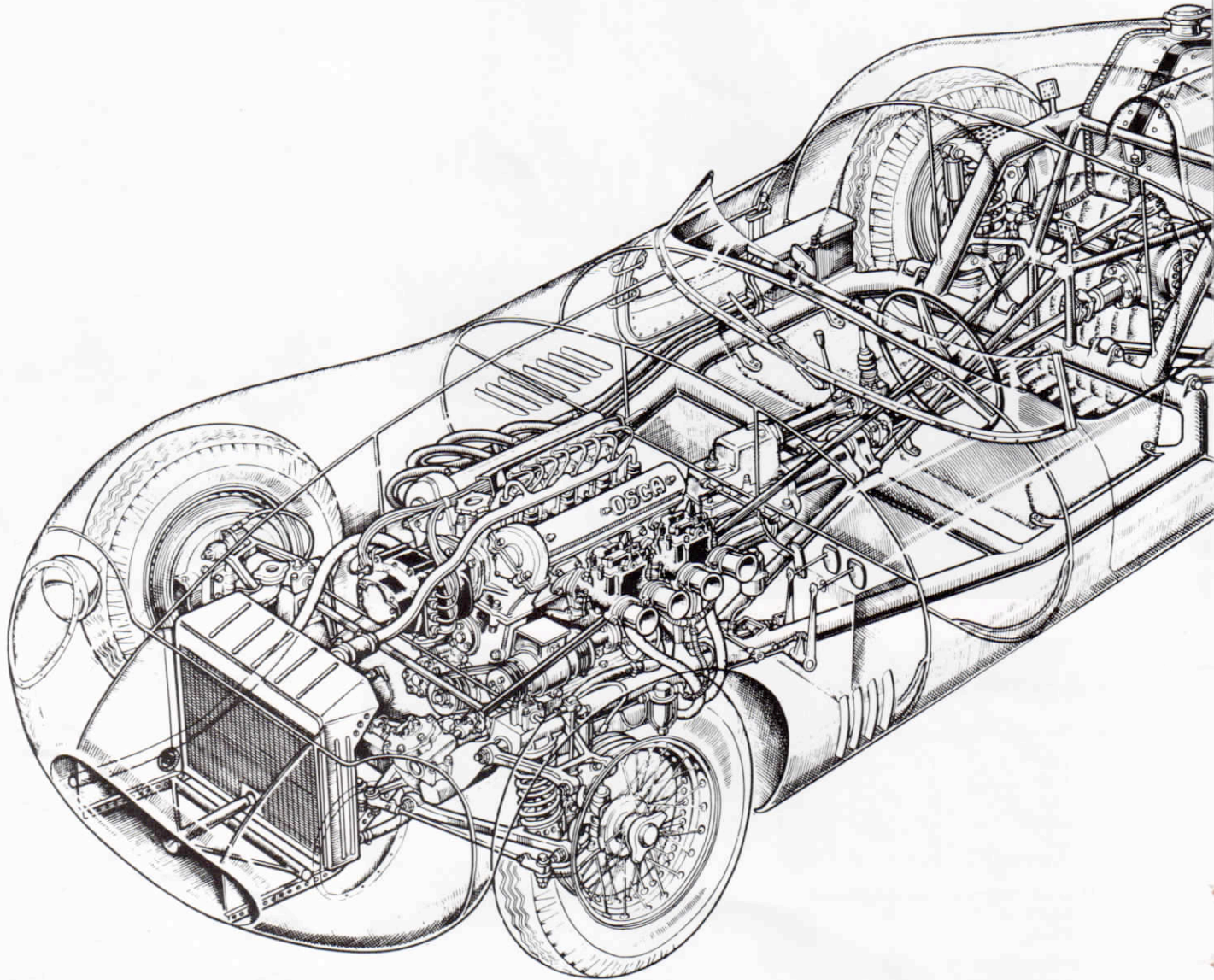
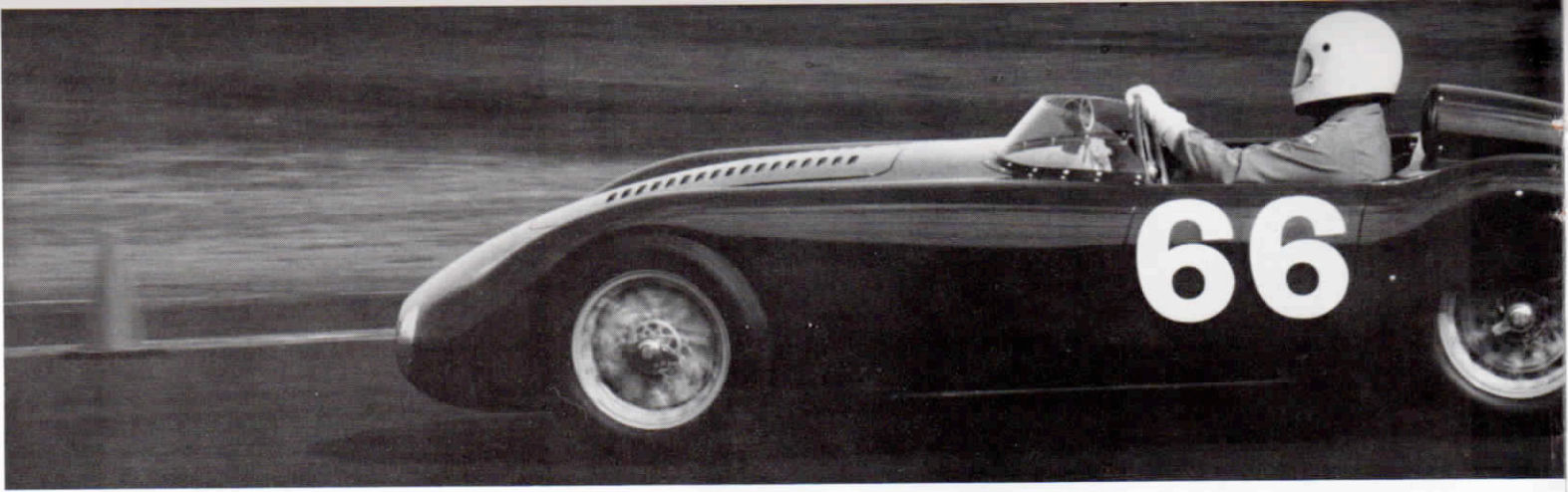
Other O.S.C.A. engines from the period

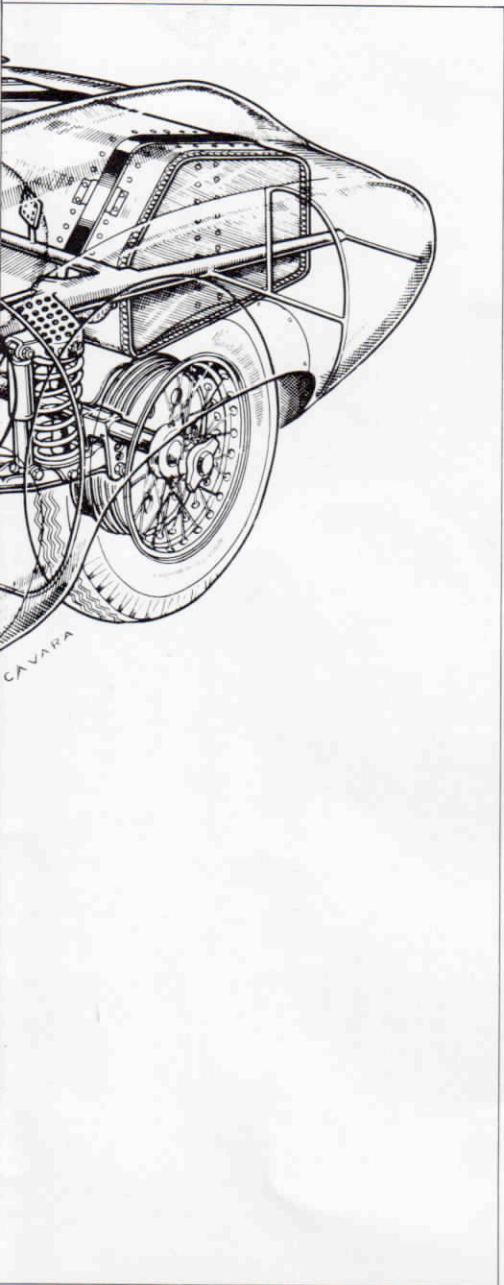
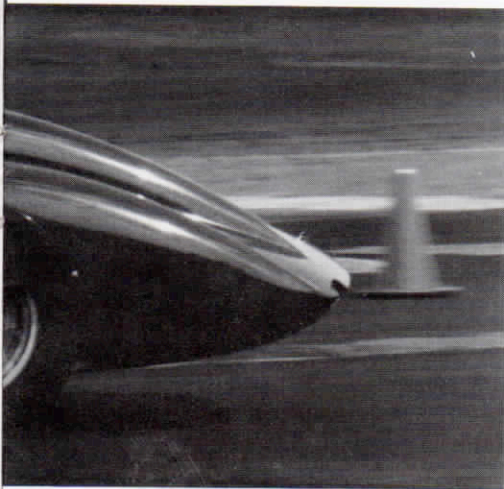
52-53	2000S	6	1995	76/73	332	165
51	4500G	12	4472	78/78	372	295+

*Maserati Type-Four
**Single overhead cam

*Finger Tappet Cam Follower
Drawing by Al Coppel*





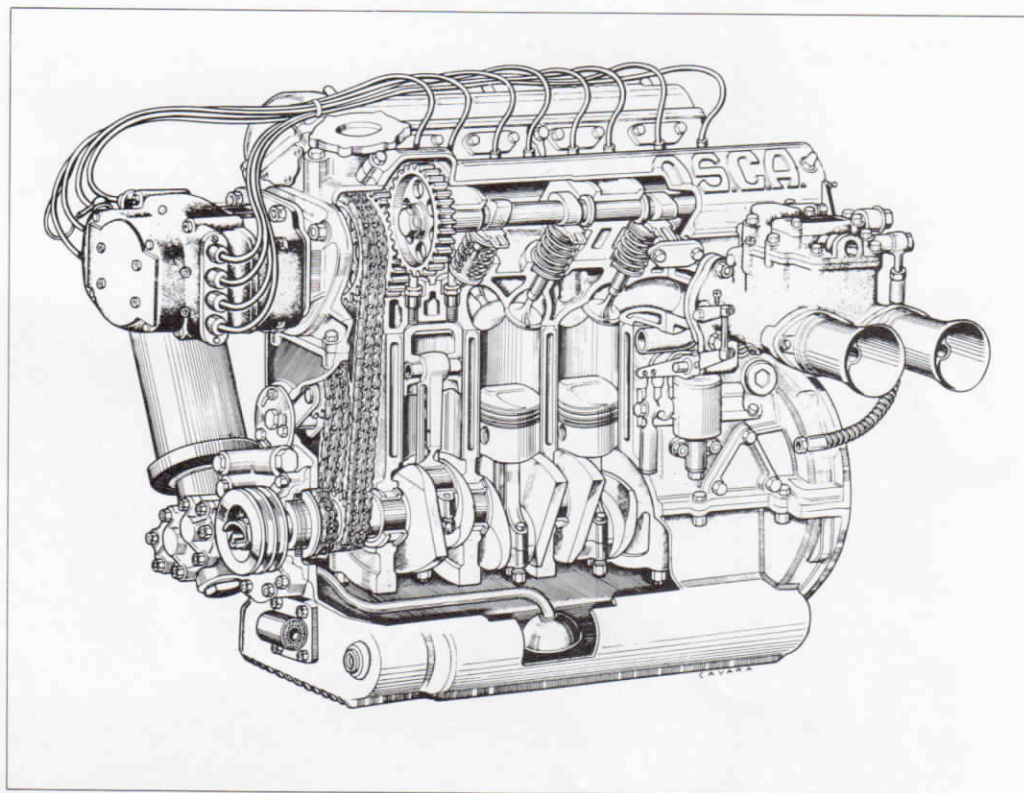


Behind the Wheel

The configuration of all of the O.S.C.A.s was similar—left-hand drive with most of the early cars having a single door on the passenger side; no one used the doors anyway. Normally a four-spoke steering wheel of wood-over-metal composition greeted the driver along with a stark metal interior with smooth steel pedals, well spaced for heel and toe work. Instruments included a large 8-inch tach along with smaller gauges for oil pressure and water temperature. Early 1,092 cc and 1,342 cc versions had a long gear shift lever that had a relatively short throw through the traditional H pattern of the forward

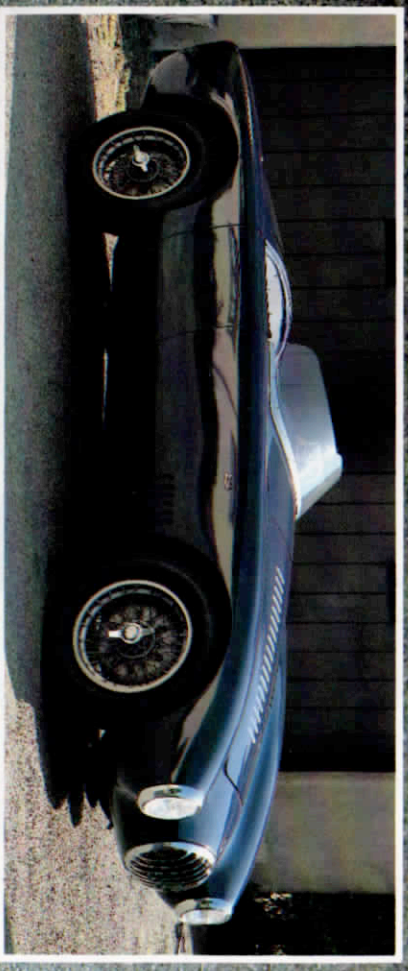
gears. The four-speed gearbox featured synchro on the upper two gears, with the drivers always double-clutching the single-plate reworked Fiat clutch. Later the 1,453 cc and subsequent models had shift levers mounted in a remote selector nearer the steering wheel.

Under racing conditions, these docile little twin-cam fours were happy being revved up to 7,000 rpm with occasional bursts to 7,500 rpm allowable. The six-cylinder 1,955 cc engine that powered Bill David's third O.S.C.A. (#2003) maintained a 6,500 rpm maximum rev limit. Through the use of well-spaced gears, the power range was kept to a useful 1,500 to 2,000 rpm spread. The



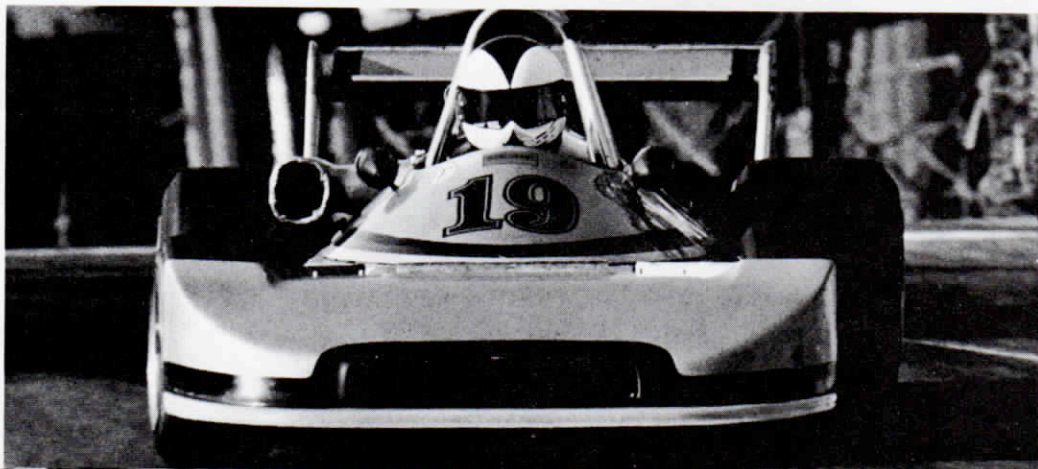
Two drawings by Giovanni Cavara of the 1491cc engine and the chassis of a 1500TN O.S.C.A. Upper left is the TN presently being driven in vintage races by Susan Foreman.





1952 MG Midget number 1164 owned and photographed by Allen Rosenberg

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THE RIGHT OIL Castrol R versus Shell Products

One rather interesting note that came up in my interviews with various owners-drivers, both then and now, was the subject of engine wear/longevity as an analysis by geographic area in the United States. A central theme to this discussion was the use of proper oil lubricants in these high-performance little four-cylinder engines. In mid-1952 the first O.S.C.A. to be imported was Rees Mankin's cycle-fendered car, with the second car imported a few months later by Randy MacDougall. Following these first two cars, both of which were 1,092 cc powered, came a good number of 1,342 cc and 1,453 cc cars and later a handful of 1,491 cc cars, with as many as 15 to 18 O.S.C.A.s over the four-year period from 1953 to 1956. The importer was Alfred Momo of Long Island, New York, who brought in the majority of the O.S.C.A.s, other than direct imports by individuals who had their own private contacts in Europe.

From the beginning, O.S.C.A. had specified Shell Oil as their official lubricant, endorsed by the factory (like Fer-

rari in the same time period). The Shell Oil products were petroleum-based products that performed well in European endurance-type racing requiring a product that would hold up at sustained high temperatures and engine speeds. As a consequence, all of the east coast O.S.C.A.s in the period from 1952 to 1956 ran Shell products. Out west they were different. It wasn't so much that they didn't subscribe to the effete look of mesh-back racing gloves, Pirelli driving suits and Herbert Johnson helmets complete with visors, but that there were those who believed racing cars should put out proper racing smells too. What could be better than feeding your little giant killer a sump-full of Castrol R, a vegetable-based oil? Well, that is just what a number of well-meaning souls did and, much to their chagrin, the engine wear and reliability were down considerably from the norm in the east. Yes, they changed the oil after each race weekend and inspected the top end for cam and cam follower wear, but they did not drain or change the oil after every race event in a given weekend that

might include a number of practice sessions set apart by time intervals, as well as short five- to ten-lap preliminary races prior to the under 1,500 cc modified main event. Also, it was common practice to allow the first three finishers of the under 1,500 cc modified race to start at the rear of the grid of the over 1,500 cc modified race. Castor bean oil is very slow to warm up and was supposed to be used only once and then drained from the engine prior to cooling off. When it was allowed to cool off, the vegetable-based oil tended to "gum up" and was unsuitable for high-performance use following one warm engine cycle. Out west these oils were used throughout an entire race weekend, and some old-time racers feel today that this was a major negative on engine wear and reliability. I share this point with you only in that the fad of Castrol R use by weekend racers was firmly established by the mid-1950s. I leave it to the reader and the pros whether there is fact or fiction to the extent that R affected the performance and engine life under the above described circumstances. (Hmmm. Ed.)

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bottom end of these MT-4 engines carries the crank in five main bearings with recommended high-grade oil of 50 weight to produce oil pressure of 50 to 60 psi when hot. The four-cylinder O.S.C.A.s tended to run cold with a good-sized water radiator and oval grill supplying more than adequate air flow. No fans were employed, and with the 1,453 cc and later engine installations an adjustable screen was used to partially cover or limit the air flow through the radiator and allow the engine to reach operating temperature in lower ambient temperatures.

Photographed at Pebble Beach by the author in 1955 are clockwise from top left: 1122 owned by Al Coppel, 1129 owned by I.W. Stephenson, 1127 owned by Chick Leson and 1135 owned by Bill David.

Carrozzeria

Coach work application was unique to O.S.C.A. right from the beginning. Although there was little doubt that the form was Italian, there was a statement that this car was different—commencing with the form of the circular-vertical bar grill and continuing through the crispness of the fender line.

In early post-war Italy only Cisitalia and Stanguellini were producing small-bore all-out race cars mostly based upon Fiat components. The others—Ferrari, Lancia and Maserati—had, by and large, built chassis to accommodate engines of 2-liter or greater displacement for sports racing. The scale of the 1,092 to 1,491 cc



O.S.C.A.s fit a design module that they helped establish and the smaller, less well-known Carrozzeria such as Frua and Morelli turned out superleggera-like bodies that were more pleasing to the eye while being highly functional. There is something to the balance and form of the fender line that begins with the position of the headlights and rises slightly to allow for a hood plane that is lower than the fender peak—typical Italian design circa 1947 to 1956 via the great trend-setting Cisitalia 202.

The little four-cylinder engines carried a low profile with the side-draft Weber carburetors. The wheel arches

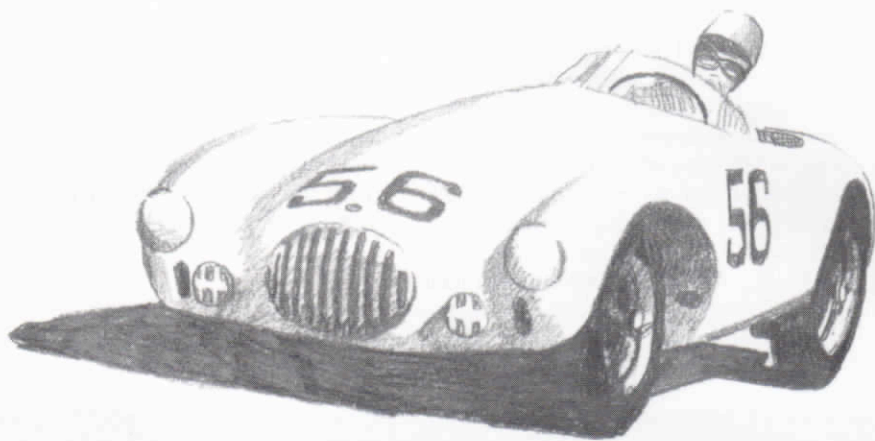
and front and rear overhangs were in scale and proportion to the overall mass of the body shell. The simple tail-end statements were later to be copied by all, both Italian and non-Italian. In the best of high aesthetic tradition, these body designs manifest the epitome of the "form follows function" equation sought after in modern art forms. I would only add the words "pure and tight" to describe the refined body forms that projected O.S.C.A.'s image in the 1950s.

While pre-1951 bodies were produced at O.S.C.A. and in certain cases were one-off statements, by 1952 Frua of Turin, later to become part of Ghia, was the

supplier of body shells to the 1,342 cc and 1,453 cc series of automobiles well into 1954. When flared and covered headlights, head rests and greater streamlining came into being in 1954, it was Morelli of Ferrara who did the O.S.C.A. bodywork which included both flat oval and circular vertical bar grill openings. Later, from 1956 through 1966, with the 750 cc and Fiat-based GTs coming into production, various

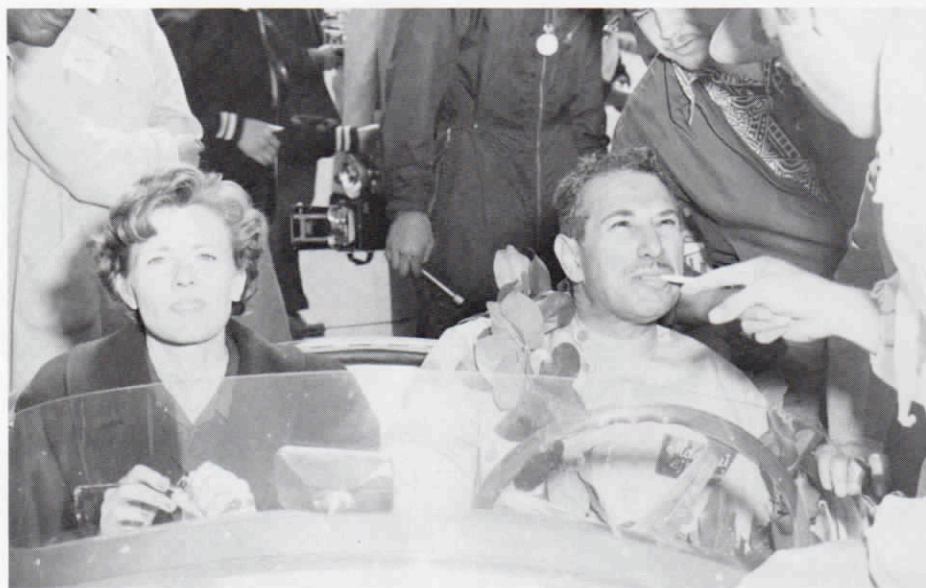
Ernie McAfee driving the 1500TN number 1169 at Pebble Beach 1956 [Sitz].





SEBRING 1954

The Bill Lloyd-Stirling Moss drive in the Cunningham-owned 1,452 cc O.S.C.A. at the 1954 Sebring 12-hour race was a top example of "drive your own race and outlast the competition." The competition of Lancia, Ferrari, Aston Martin and Cunningham faded away owing to various mechanical conditions as well as poor race strategy. Certain team drivers went out and drove the enduro like it was some sort of 200-mile sprint race — "catch the hare" — with the negative results normally associated with this type of approach to endurance racing. The Lloyd-Moss car finished not only first on Index of Performance, but also first overall.



Top to bottom: Stirling Moss in the Cunningham MT-4 he shared with Bill Lloyd to win Sebring in 1954. Bill David in 1127 leading a new British lightweight (Miles' R-1) at Golden Gate Park 1953 (Meacham). Bill David after winning the under-1500cc modified race at Golden Gate Park 1954 (Pat Corner). David in 1135 leading another British lightweight (Harry Banta's Cooper) at Pebble Beach in 1956 (Austin Chaney, Jr.).

Carrozzeria including Touring, Zagato, Michelotti, Fissore, Boneschi, Ghia and Vignale produced the bodies.

The Doors Are Closed

The brothers Maserati continued to produce winning small-bore 750 to 1,600 cc race and GT cars through 1963 when O.S.C.A. was sold to Count Agusta, manufacturer of the MV Agusta motorcycles. Some four years later in 1967 the doors to the little O.S.C.A. shop were finally closed and the era of the Maserati brothers came to an official end. Today, only Alfieri Maserati of Turin, son of Ernesto Maserati, remains actively interested in the substantial records and history of O.S.C.A., the little giant killers. I am told that the second plant O.S.C.A. moved into in 1954, just outside Bologna, is now occupied by

the great Italian bicycle assessor and automotive wheel manufacturer, Campagnolo. In northern Italy high-quality hand-craftsmanship continues to live in a tradition that has been passed down from one generation to another.

Today, in the San Francisco Bay area, two MT-4s that competed on the local scene in mid-1950 are owned by proud devotees to vintage racing. Chassis number 1164, a 1,491 cc example, is completely restored and now owned by talented photographer Allen Rosenberg and is the ex-Chapman Road and Track Test Car (8/55), later raced by Leson and Stephenson. The other chassis number 1135, a 1,453 cc model now owned by veteran racer Don Wasserman, is the ex-Bill David car which finished third in the national points standing in 1954 winning, among other races, the

final Golden Gate Park small-bore race. Wasserman is contemplating a major restoration on this O.S.C.A. with its strong local history. He anxiously awaits its completion and the car's return to rule the roads as it did in 1954 some 29 years ago. 🏎️

THE PRICE OF THEIR TOYS

The price on an O.S.C.A. back in 1953 was \$7,000, a fairly hefty pill to swallow just to go racing. Some have said that for \$7,000, or a little more, you could have owned a ready-to-race Ferrari. This may have been true in the period from 1952 to 1956; however, my contention is that O.S.C.A. represented the same quality package as Ferrari, an essentially hand-made race car that was ready to win.



