

The Ferrari Tipo 340 & 375 Sports Cars



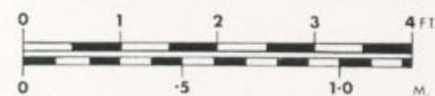
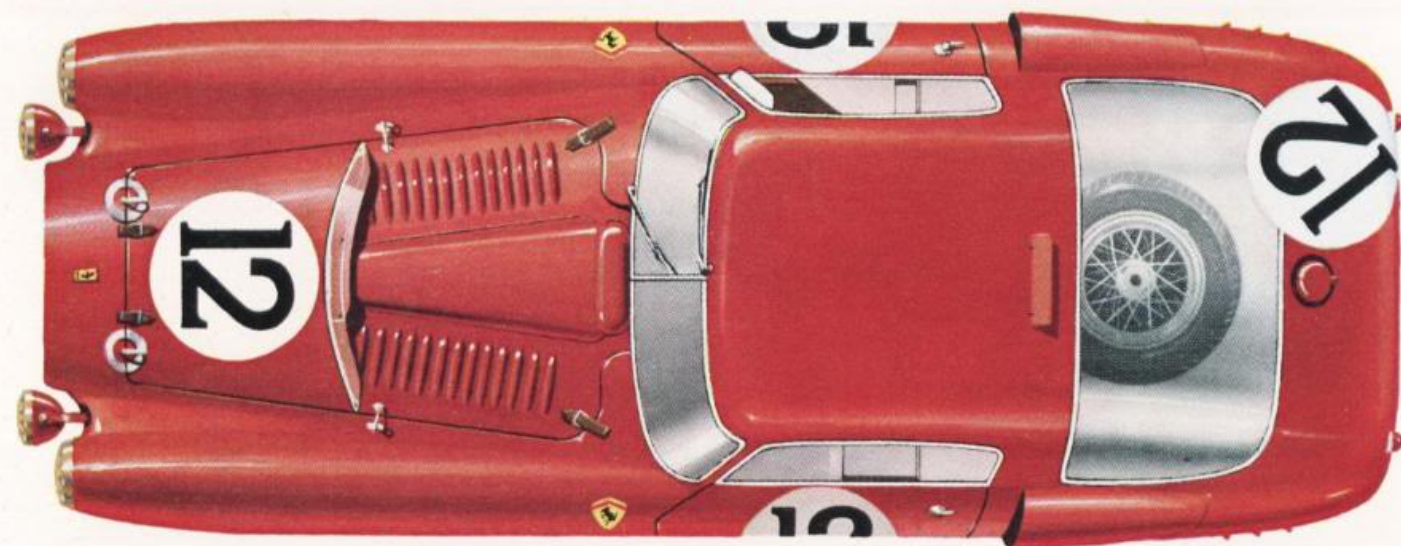
NUMBER 84

RETAIL PRICE

UNITED KINGDOM TWO SHILLINGS

UNITED STATES & CANADA 50 CENTS

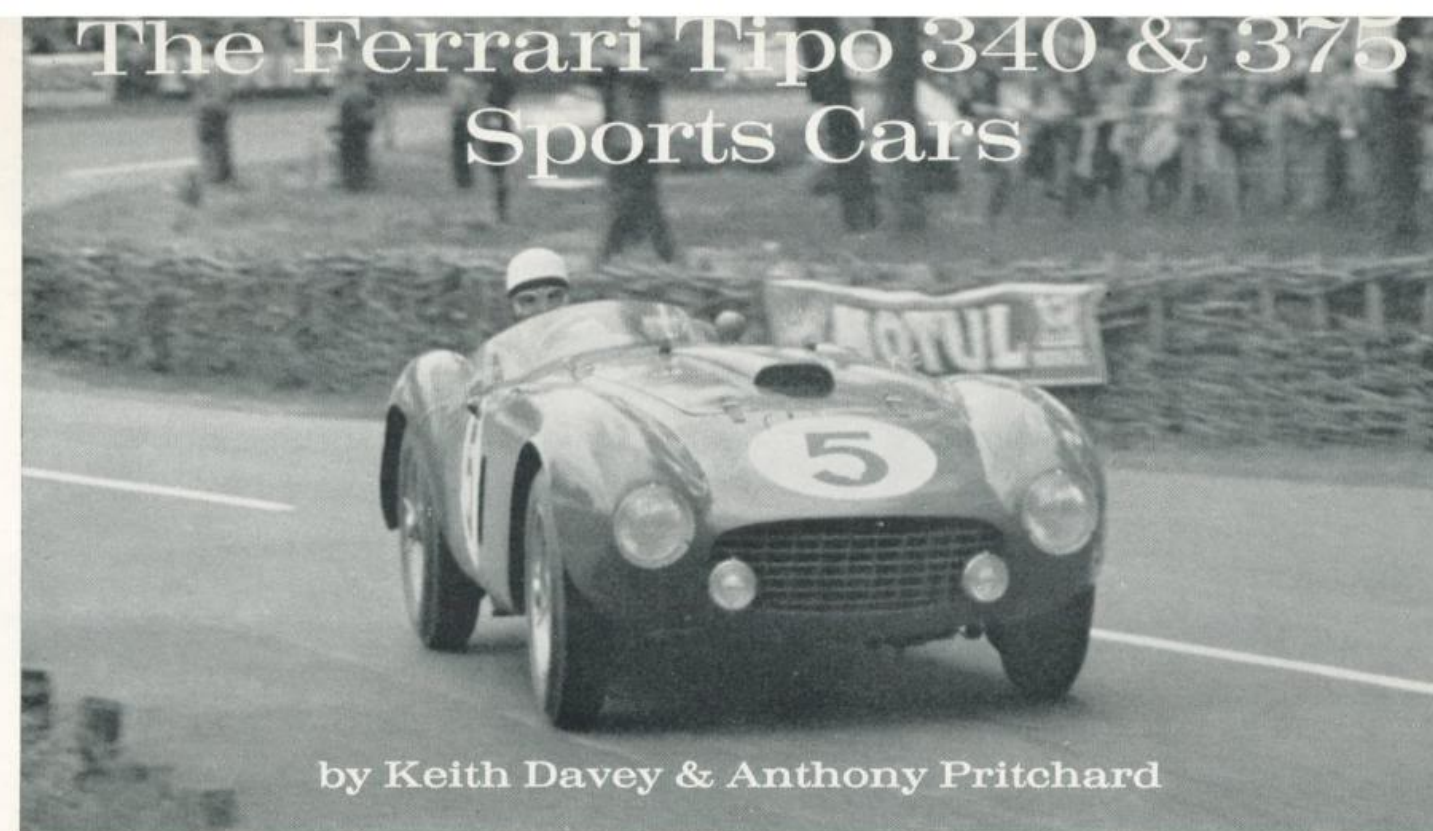
PROFILE PUBLICATIONS



THE 4.5-LITRE FERRARI TIPO 375MM, with Pinin Farina coachwork, driven by Alberto Ascari and Luigi Villoresi at Le Mans in 1953. It held second place for much of the race but retired with clutch trouble.



The Ferrari Tipo 340 & 375 Sports Cars



by Keith Davey & Anthony Pritchard

Through the Esses goes the Rosier/Manzon 4.9-litre 375 Plus in the 1954 Le Mans race. It was the slowest of the three works Ferraris along the Mulsanne Straight and retired with a broken gearbox. (Photo: Geoffrey Goddard)

In 1938, after nearly twenty years' association with Alfa Romeo, and having managed the Company's competition activities under the 'Scuderia Ferrari' banner since 1930, Enzo Ferrari became a manufacturer in his own right. His first car, the Tipo 815, was designed by Alberto Massimino and was based, as have been the products of almost every small Italian manufacturer since the war, on Fiat components. Alberto Ascari and Lotario Rangoni drove two of these cars in the 1940 Brescia Grand Prix and, although both led the race at times, neither finished. This first design, however, a straight-eight with a capacity of 1½-litres, had nothing in common with the cars that Ferrari announced in 1946 as the first to bear his own name.

At the end of 1946 Ferrari announced three models, all of them powered by a new V-12 engine designed by Gioacchino Colombo. These were the Tipo 125 'Sport', 'Competizione' and 'Gran Premio', of which the first two successfully began their racing career in 1947. The choice of Colombo as designer was a wise one, for he had already designed the Alfa Romeo 158 engine which was unbeaten for five racing seasons, and was later to do design work on the six-cylinder Maserati unit which powered the most consistently successful 2½-litre Formula car between 1954 and 1957.

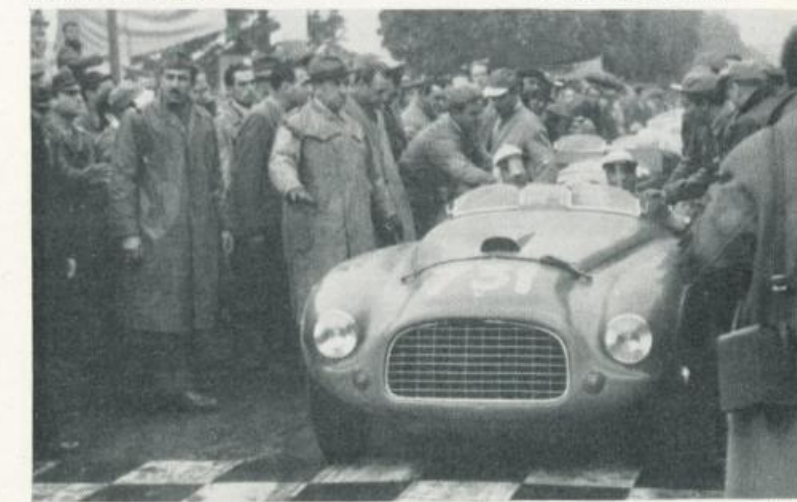
The sports car engine was gradually developed over the next three years, being increased first to 2 litres (in which form it powered the highly successful 166 Mille Miglia), then to 2.3, 2.5 and finally 2.7 litres by 1950. At about this time, Ferrari became aware of the large market for sports cars in the United States, which was being exploited by Sydney Allard with his large-capacity American-engined cars. Furthermore, he was beginning to realise the advantages of a large unsupercharged engine in a Grand Prix car, a view prompted partly by the race performances of the French Lago-Talbots which needed to make no pit stops for fuel. Accordingly, the V-12 engine was redesigned by Aurelio Lampredi

and underwent a jump in size from 2.7 to 3.3 litres. Within a couple of months it had appeared in both sports and Grand Prix forms, the former in the Mille Miglia and the latter in the Belgian Grand Prix.

THE 3.3 AND EARLY 4.1 CARS

The cars entered for Ascari and Villoresi to drive in the 1950 Mille Miglia used the chassis from the Tipo 225 (the 2.7-litre model introduced that year), with independent front suspension by wishbones and a transverse leaf spring and a rigid axle at the rear supporting semi-elliptic leaf springs. The redesigned engine was considerably heavier than its Colombo-designed counterpart, but retained many of its features. A seven main (Vandervell) bearing crankshaft was used, and the angle of the vee was still 60 degrees. The wet cylinder liners were screwed into the heads, which were of light alloy. Ignition was single-plug and there were two valves per cylinder inclined at an angle of 60 degrees, each closed by

One of the 3.3-litre cars at the start of the 1950 Mille Miglia. These early cars had 'Barchetta'-style bodywork by Superleggera Touring. (Photo: Autocar)





Two examples of the 4.1-litre 340 Mille Miglia model in the Production Sports Car race at the 1953 Daily Express Trophy Meeting at Silverstone; Hawthorn's Carrozzeria Touring-bodied works car (No. 38) which won and Tom Cole's Vignale-bodied car which took second place. Shortly afterwards Cole was killed driving this car at Le Mans. (Photos: Geoffrey Goddard and Motor Sport)



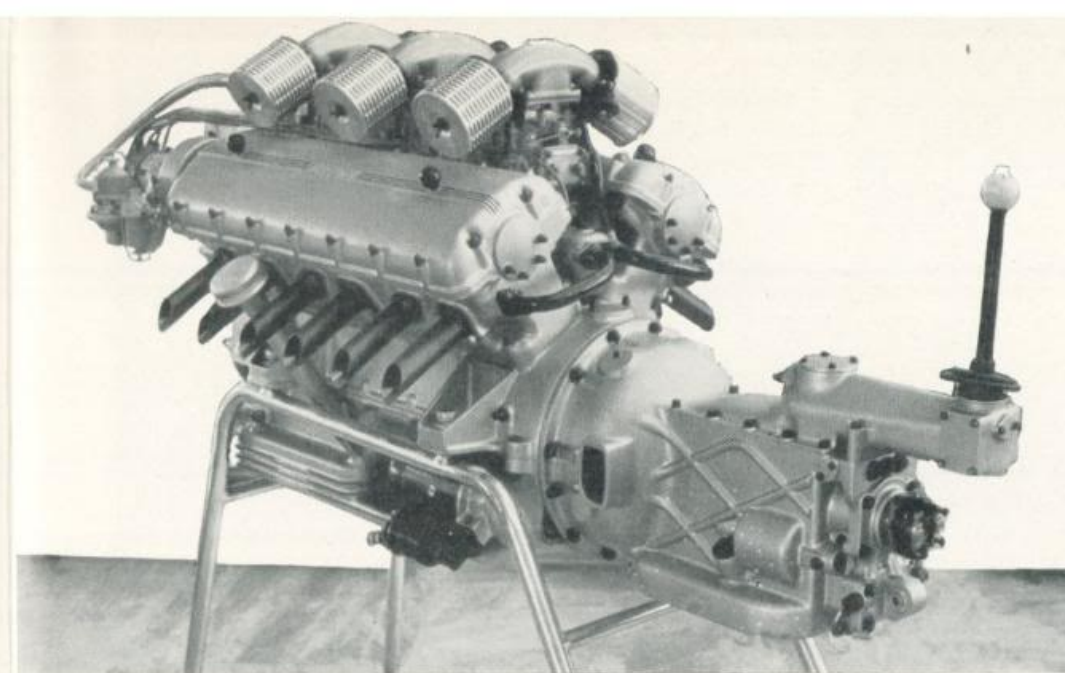
twin hairpin springs. Vandervell bearings were again used for the big ends, and H-section connecting rods carried Borgo light alloy pistons. Three Weber twin-choke carburettors (type 40 DCF) were mounted in the vee of the engine, and with the steeply-domed pistons giving a compression ratio of 11:1, the power output was an encouraging 270 b.h.p. at 7,000 r.p.m. compared with 330 b.h.p. for the version which powered the single-seater at Spa. Both a mechanical and an electrical fuel pump were fitted, and air was fed to the carburettors through a scoop in the bonnet. Lubrication of the engine was on the wet sump principle, and the oil was circulated by a gear-type pump mounted at the nose of the crankshaft. An oil cooler was fitted, but access to it was thermostatically controlled so that it was only called into action when the oil had reached a certain temperature.

Development of the engine was so rapid that it had not been possible, with Ferrari's many other commitments, to design an adequate chassis or transmission system for the sports car, and as a result both cars retired with gearbox trouble, after

Ascari's had been showing a tendency to shed tyre treads at speed.

Although development of the Grand Prix engine went on through 1950, culminating in the appearance of a 4.5-litre car in the Italian Grand Prix, the experience gained from this did not bear fruit as far as the sports car was concerned until 1951. The next step up in engine capacity was to 4.1 litres, this being achieved by increasing the bore to 80 millimetres, and this was set in a sturdier frame constructed from elliptical-section steel tubing. Suspension was by the then current Ferrari medium of wishbones and a transverse leaf spring at the front with a rigid axle and semi-elliptic leaf springs at the rear. The gearbox, as on the 3.3-litre cars, was a five-speed affair, and was used in conjunction with a single dry-plate clutch. As with all the Ferrari sports cars up to this time, the gearbox was in unit with the engine—it was not until the introduction of the 4.9 model, the 375 Plus, that it was moved to the back of the car.

It was with the 4.1 car that Villoresi won the 1951 Mille Miglia at 75.52 m.p.h. from the Lancia of Bracco and Maglioli, and it was used as a basis



The 4.1-litre engine in its 1951 form. (Photo: Motor)

THE 340 AND 375 MILLE MIGLIA

The 1953 Tour of Sicily saw the appearance of a much revised version of the 4.1-litre car which became known as the 340 Mille Miglia. The principle changes were an increase in the power output to 300 b.h.p. and the adoption of a four-speed gearbox instead of the five-speed of the Mexico. This was the only single plug model in this series to be fitted with four-choke carburettors, Weber 40 IFC/4, and these made plug changes particularly difficult—on the later

both for the first large capacity production Ferrari, the 342 America which had appeared at that year's Belgian Show, and the coupés which took part in the Carrera Panamericana Mexico in November. At Le Mans, the Ferraris were outclassed by Jaguar, Talbot and Aston Martin, and Chinetti/Lucas could manage only eighth place. In July, de Oliveira drove a 4.1 in the Sports Car Portuguese Grand Prix over 217 miles, and won with over three minutes to spare from Marzotto's 2.7-litre car. Hall and Palmieri, two private entrants with newly acquired 342 America models, ran in the Tourist Trophy in October but both retired, Hall after crashing on the first lap. The 342 America, as is implied by its name, was intended to compete for sales in the U.S.A. with the Chrysler and Cadillac-engined Allards, but with a power output of only 200 b.h.p. was not really competitive enough to achieve this object successfully.

Coupé versions of this model were built for the Carrera Panamericana Mexico of 1951, as the race regulations specified closed bodywork, and these were subsequently typed the 340 Mexico. Power output was now a respectable 280 b.h.p. at 6,600 r.p.m. and the two cars entered for Taruffi/Chinetti and Ascari/Villoresi took the first two places against opposition which consisted (at the finish) of one Chrysler, two Packards, a Hudson and a Nash in the next five places.

During 1952, Ferrari's energies were taken up with development of the 250 series of sports cars which were based on the original Colombo-designed Tipo 125 engine, as well as the four-cylinder Formula Two cars and the Indianapolis entries, and the works did not race the 4.1 cars at all. Luigi Chinetti, American distributor and now responsible for the North American Racing Team Ferraris which do so well at Le Mans, entered Simon and Vincent in the 24-hour race at Le Mans, where they took fifth place, but this was the only notable performance during the year.

The Farina/Hawthorn 340 Mille Miglia with coupé bodywork by Pinin Farina before the start of the 1953 Le Mans race. It was disqualified for taking on brake fluid before the permitted time.

(Photo: Louis Klemantaski)

375 Plus the same difficulty was provided by the air intake box over the carburettors! Other changes were the fitting of a much-needed limited-slip differential, a reduction in wheelbase and an increase in track to give greater stability, and wider wheels. Villoresi had a comparatively easy win in Sicily from Valenzano's Lancia Aurelia. Five 4.1-litre cars were entered in the Mille Miglia; the private (but works-supported) cars of American Tom Cole and Giannino Marzotto were fitted with Vignale bodywork, while the 'proper' works cars of Villoresi, Farina and Giulio Cabianca had bodywork by Superleggera Touring. Strong opposition was met with from the new 2.9-litre Lancia coupés and the 3.5-litre Alfa Romeo coupés. Fangio led with his Alfa until steering trouble intervened, but he continued, one wheel responding to the steering, the other wobbling uncontrollably. The Alfa's reduction in speed enabled Marzotto to overhaul it over the Apennine passes and by Bologna he had a lead of 3 min. 13 sec. Here, Ferrari himself was at the control point to urge Marzotto on. Over the fast stretch to Cremona the 4.1 was at times reaching a speed of close to 170 m.p.h. and Marzotto won, after a drive of 10½ hours, by twelve minutes. Cole drove a steady race to finish fourth and Cabianca was classified ninth. Villoresi retired with rear axle trouble and Farina crashed. Two weeks later the British public had their first opportunity of seeing two of the Mille Miglia cars when they ran in the rather odd Produc-





The 375 Mille Miglia driven to victory by Farina and Hawthorn in the 1953 Spa 24-hour race. Note the frontal treatment which had been revised since Le Mans. (Photo: Autocar)

tion Sports Car race at the *Daily Express* Silverstone meeting, and among the so-called production cars running were a works J2R Allard and the prototype coupé Frazer Nash. Hawthorn with a works Superleggera Touring-bodied car was an easy winner and Cole was second. Two of the works 4.1-litre cars were then sold to Bobby Baird and the French driver Pagnibon, but both were later killed at the wheel of their cars.

For the Le Mans race Ferrari produced the 375 Mille Miglia, with a chassis identical to that of the 340 apart from a slightly lengthened wheelbase and the engine increased in capacity to 4,522 c.c. (84 x 68 mm.) and developing 340 b.h.p. at 7,000 r.p.m. Also entered were two 340s, but they too had the lengthened wheelbase. All three cars had magnificently-styled coupé bodies by Pinin Farina—they were certainly the most potent-looking cars in the race, and the 4.5 driven by Ascari and Villoresi, set a new lap record of 4 min. 27.4 sec. (112.63 m.p.h.). It also had greater acceleration than any other car present, but its speed along the Mulsanne straight, 150.2 m.p.h., was slower than the works C-type Jaguars and slower even than the private Ferrari of Cole and Chinetti, which suggests that it was rather under-geared. For much of the race Ascari and Villoresi battled with the works Jaguars for the lead, but the car was finally withdrawn on Sunday morning with clutch trouble. Of the 4.1s, the Hawthorn/Farina car was disqualified for taking on extra brake fluid

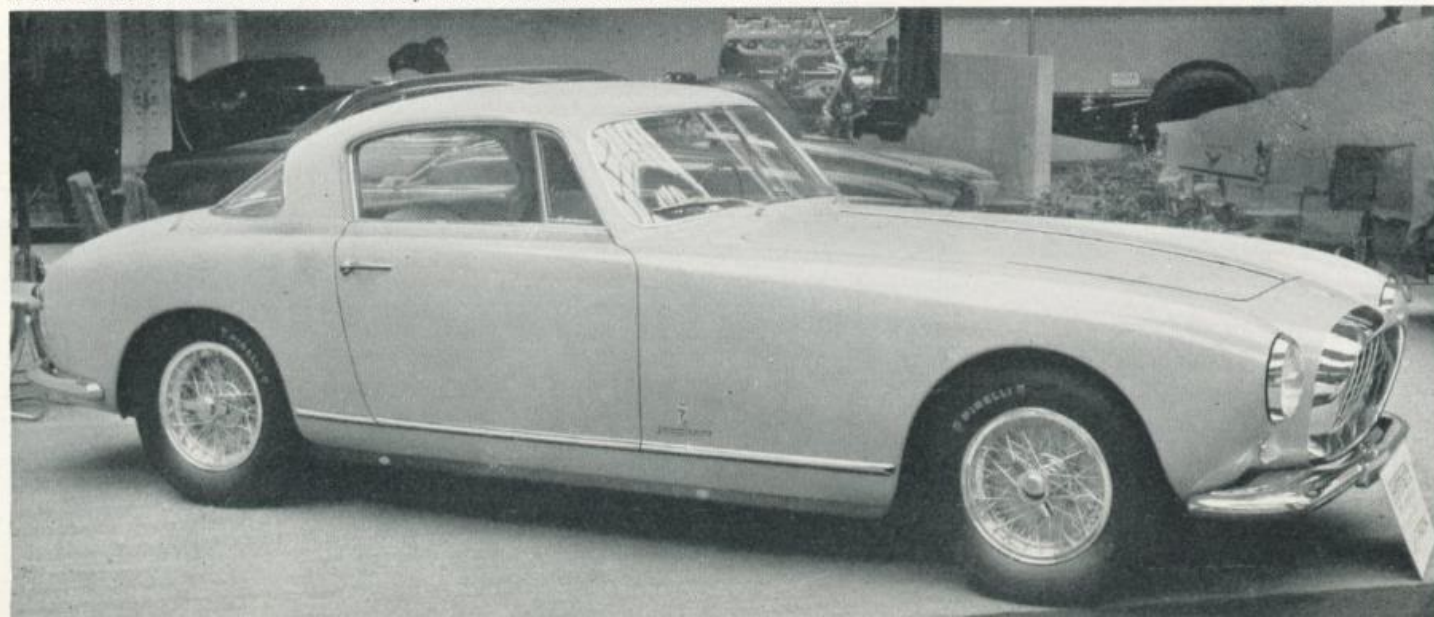
before the necessary 28 laps had been covered, and the Marzotto brothers took fifth position, a little over 80 miles behind the winning Jaguar. Tom Cole, alas, crashed the blue-and-white Ferrari at White House early on the Sunday morning, with fatal results.

Four days after the Le Mans race Hans Ruesch, driver of a Maserati 8CM-3000 and an 8C-308 Alfa Romeo in pre-war days, ran his 4.1 with Superleggera Touring bodywork in the class handicap British Empire Trophy in the Isle of Man and took third place to Parnell's Aston Martin DB3S and Wharton's Frazer Nash. The next appearance of a works car, however, was in the Rheims 12-hour race, where a single works 375 MM coupé was entered for Maglioli and Carini together with the private open 4.1 of Chinetti and Hill. Despite the entry of a works C-type Jaguar for Moss and Whitehead, the 4.5 Ferrari ran away with the race, which started at midnight, but after a 'warning' because the car had its lights switched off at 4.30 a.m. whereas the regulations said that they should be on until 5 a.m., it was finally disqualified for receiving a push start. Team Manager Ugolini argued that it had only been pushed clear of petrol spilt during refuelling, and although the car was later started on the motor by Carini, it is probable that the car had dynamo failure and that Ugolini was hoping it would last out until the finish on the battery. The 4.1 Ferrari retired and the race was won by the works Jaguar.

At the end of July Ferrari entered three 375 coupés

A 375 America with Pinin Farina bodywork exhibited at the 1953 Paris Salon.

(Photo: Autocar)



in the Spa 24-hour race for Ascari/Villoresi, Farina/Hawthorn and Maglioli/Carini, but the only serious opposition came from the 3½-litre Alfa Romeo of Fangio and Sanesi and three privately-entered Jaguar XK120Cs. The Alfa spun off while overtaking a slower car when in third place, and was too badly damaged to continue; this left the Ferraris comfortably in the first three positions. However, Maglioli and Carini retired with clutch failure and Ascari and Villoresi were eliminated by a broken rear axle. Despite these troubles, the surviving car of Farina and Hawthorn won by 18 laps from the Ecurie Ecosse Jaguar of Sir James Scott-Douglas and Guy Gale.

The month of August saw three further victories gained by the 375 MM. Marzotto and Carini took first and third places in the Circuit of Senigallia on 9th August and the following week two cars were fielded in the Coppa Acerbo at Pescara, run that year as a 12-hour sports car event. The car shared by Villoresi and Paolo Marzotto led at half-distance but retired with rear axle failure, and the race was won by the similar coupé of Hawthorn and Maglioli. Two of the 4.5-litre cars were again entered in the first Nürburgring 1,000 Km. race, a Farina coupé for Hawthorn and Villoresi and a Vignale open-bodied car for Ascari and Farina. The Ecurie Ecosse Jaguars counted as production cars and won their class, but provided no serious opposition for the Ferraris. However, Ferrari's approach to this race was haphazard indeed, for the cars arrived late for practice, put in very few training laps, and he then scratched both the coupé and a four-cylinder 3-litre car also entered, without giving any reason. After the retirement of all three works Lancias, which were faster than the Ferraris in practice and in the race, Ascari and Farina had an easy victory and there were no other finishers in their class. Ferrari did not run in any more sports car races during 1953, but with wins in three events counting towards the Sports Car Championship (Spa, Mille Miglia and the Nürburgring) won the Championship with 27 points as against Jaguars' 24.

In addition to the 4.1-litre cars already mentioned, quite a number of 375 Mille Miglias were sold to private owners, the majority having Pinin Farina coupé or open two-seater bodywork. The year 1953 also saw the appearance of the 'touring' version, known as the 375 America with a power output of 300 b.h.p. at 6,300 r.p.m., a four-speed all-synchromesh gearbox and a longer wheelbase than the competition cars. Both these models sold in satisfactory numbers in the U.S.A. In the Carrera Panamericana Mexico held in November 1953, and dominated by the works Lancias, five 375s were entered by Franco Cornacchia of the Scuderia Guastalla. Of these, Mancini and Maglioli took fourth and sixth places. Maglioli had taken over from Ricci when his own car lost a wheel. Of the other two cars, Chinetti was eliminated when he failed to cover one of the stages of this eight-stage race within the time-limit and Stagnoli, often seen at the wheel of works sports Ferraris, was killed when his car left the road at high speed because of a burst tyre. 375s were regularly raced in the United States by Bill Spear and Jim Kimberly.

The last appearance of the 375 on behalf of the works was in the first Buenos Aires 1,000-kilometre race held at the end of January, 1954, where a single open Pinin Farina-bodied car was entered for Farina



Marzotto on his way to winning the 1953 Mille Miglia at 88.45 m.p.h. (Photo: Motor)



A mechanic warms up Gonzalez' 4.9 before the start of the Sports Car Race at the 1954 Daily Express Silverstone meeting. (Photo: T. C. March)

In wet conditions Gonzalez won the race at 83.08 m.p.h. from George Abecassis' H.W.M.-Jaguar. (Photo: Geoffrey Goddard)



and Maglioli. This worked its way through the field to win from the 3-litre V-12 Ferrari of Schell and de Portago and neither the Ecurie Ecosse Jaguars nor the works Aston Martin DB3S's were able to provide serious opposition. Another 4.5 in this race was the rebuilt Formula One car of Louis Rosier which he shared with Maurice Trintignant to take 7th place. The winning car was subsequently sold to Masten Gregory, who enjoyed with it a season of racing in Europe.

THE 375 PLUS

Specifically for the 1954 Mille Miglia and Le Mans races, Ferrari produced the fantastically powerful, noisy and, alas, rather unwieldy 4.9-litre Tipo 375

Plus. This was a direct derivative of the 4.5-litre cars, but with capacity increased to 4,954 c.c. (84 × 74.5 mm.) which gave a power output of 344 b.h.p. at 6,500 r.p.m. The general layout of the chassis was similar to the 1953 cars, but with two important developments—the four-speed gearbox was now in unit with the final drive and there was a de Dion instead of a rigid rear axle. The gearbox and final drive unit were split along the centre line to facilitate ratio changes. The de Dion tube had a mounting on the front side which ran in a slot on the gearbox/differential casing, while on the rear side a roller engaged with a slot mounted on a tubular arch running between the rear ends of the frame side-members. Rear suspension was by a single transverse leaf spring and there were twin pairs of radius arms, for engine torque and braking loads, mounted one above the other. Braking was by twin leading shoe brakes, with separate master cylinders front and rear, and vented and heavily ribbed brake drums. The body was an open two-seater by Pinin Farina.

Although Ferrari was aiming at having these cars ready in time for the Mille Miglia at the beginning of May, the model was so well advanced that one ran, and won, with Farina at the wheel, in the 75-mile race through the streets of Agadir at the end of February. The next appearance of the car was in the Tour of Sicily following the coastline of the island, which was a much more difficult proposition, and Maglioli had to face not only an arduous ten-hour drive, but stiff opposition from Taruffi's Lancia and Musso's 2-litre Maserati, both of which had much better handling characteristics. After leading from Palermo to Enna, Maglioli overturned the big Ferrari, but without injury either to himself or his passenger.

The 1954 Mille Miglia was the first event of the series in which drivers were allowed to compete without a passenger. Two of the 4.9 cars, in the words of one reporter 'more reminiscent of a London bus than of a svelte 1954 model from Italy,' were entered for Farina and Maglioli (the only driver of a big Ferrari to run solo), while Giannino and Paolo Marzotto had 4.5-litre cars, as did Piero Scotti. Despite the vast power advantage of the Ferraris over their rivals, the 3.3-litre Lancias—344 b.h.p. as against 240 b.h.p.—there was very little difference in the power-to-weight ratio, this being 3.7 Kg/b.h.p. for the Lancia and 4 Kg/b.h.p. for the Ferrari. Furthermore, the Lancia driven by Taruffi in the Tour of Sicily had shown itself to have vastly superior



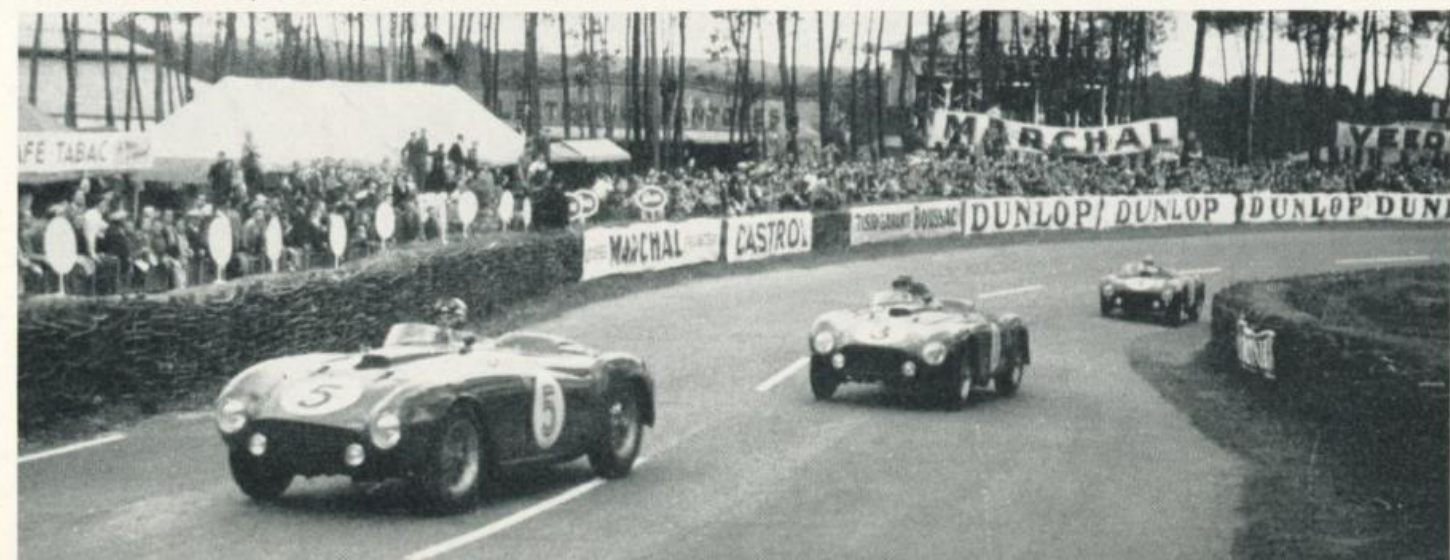
At the Maranello works Hawthorn is about to test a 4.9 on the public roads. Standing behind the car are his father Leslie (right) with Reg Parnell next to him and Dino Ferrari (second from left). (Photo: Motor Racing)

roadholding. Clearly the Ferraris had a very tough race ahead of them, and the Lancias soon proved this assumption to be well-founded by holding first, second and fourth positions with Maglioli third. Farina crashed badly, Paolo Marzotto moved up to second place after the retirement of Taruffi's Lancia and then himself retired with a broken gearbox, while Maglioli and Scotti both ran out of road between Florence and Bologna. Giannino Marzotto withdrew after 400 kilometres, admitting that the car was more than he could cope with. Certainly the 1954 Mille Miglia was a tremendous debacle for Ferrari and a tremendous victory for Ascari and the sole remaining Lancia.

As in 1953, Ferrari sent a single sports car to the *Daily Express* meeting at Silverstone in May; this was a 4.9 which ran with a two-panel windscreen in practice, the driver looking through the gap between the panels. In wet conditions Gonzalez had a very easy win from George Abecassis' H.W.M.-Jaguar.

Just as the Mille Miglia saw a tremendous duel between the brute power of the Ferraris and the superb handling of the Lancias, so Le Mans saw an equally exciting duel between the scientifically-developed D-type Jaguars and the Ferraris, with the rivet-lines showing on the bodywork, the large number of louvres and the enormous bulge on the tail panels concealing the fuel tank of the Italian cars contrasting sharply with the sleek, and almost fragile, lines of the Jaguars. The Italian team entered three cars which differed in detail from each other and were driven

Nose-to-tail through the Esses come the three 4.9 Ferraris which dominated the opening laps of the 1954 Le Mans race. The cars are seen here driven by Manzoni, Marzotto and Gonzalez. (Photo: Motor Sport)



The Maglioli/Marzotto 4.9 leads the Moss/Walker D-type out of Tertre Rouge. Embedded in the sandbank is the Baggio/Rubirosa 375 Mille Miglia with Baggio obviously making an energetic attempt to dig it out. (Photo: Geoffrey Goddard)

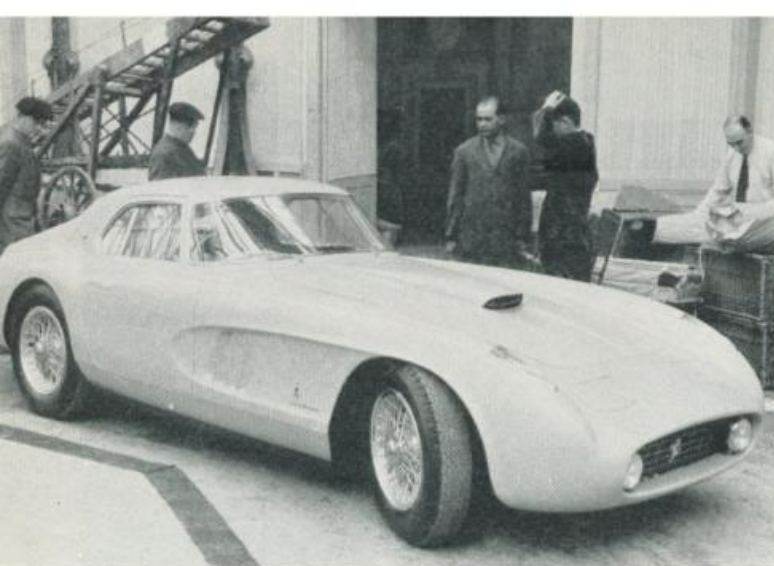
by Paolo Marzotto/Maglioli (this was the car raced at Silverstone and the only one of the three to be fitted with a headrest), Gonzalez/Trintignant and Louis Rosier/Robert Manzon; in addition to these cars, a 375 MM coupé was driven by Baggio and Rubirosa, while Briggs Cunningham had entered a rather special 4½-litre Ferrari as well as the Chrysler-engined cars of his own design. The Cunningham Ferrari had started life as a 342 America, but had been fitted with a 4½-litre engine, a redesigned body and liquid-cooled brakes. These brakes were of the normal Ferrari-type, but with two pumps driven from the engine pumping a glycol-based liquid through piping to specially made shoes and with cooling by two radiators shaped as headlamp cowlings. In the opening laps of the race, the pace was set by the three works Ferraris, with the Jaguars of Moss and Rolt playing a waiting game. It was not long before Baggio had stuffed the coupé Ferrari into a sandbank, and after long delays to remove a broken rocker arm so that the car could continue on eleven cylinders, the Cunningham Ferrari retired with back axle failure early on Sunday morning. Of the works cars, Maglioli retired at midnight with gearbox trouble and six hours later the Manzon/Rosier car was withdrawn with the gearbox stuck in second gear. By this time Jaguar had only one car left as well, but the red was leading the green by one lap. At ten o'clock Rolt hit the bank at Arnage with the Jaguar while avoiding a slower car and had to stop to straighten the panelling—this cost the Jaguar another lap. The Ferrari, however,

was becoming increasingly difficult to start because of loss of compression and wet electrics and it would not re-start after its final pit stop, which permitted the Jaguar to regain a lap. During this pit stop so many people were surrounding the Ferrari that the officials could not really see what was happening, but several rules were broken, including mechanics working on the car while the engine was running. No official action was taken and despite valiant efforts by Hamilton in the closing laps, Gonzalez brought the Ferrari to victory by a mere 2.55 miles after twenty-four hours of the most intensive racing. The distance covered was 2,523.64 miles. In the 1954 race, the Ferraris again had greater acceleration than the Jaguars, and, in the early stages, their hydraulic brakes proved more effective than the Jaguar discs. On the Mulsanne straight, however, the fastest Ferrari was timed at 160.13 m.p.h. compared with 172.87 m.p.h. for the D-type. Gonzalez set a new lap record of 118.53 m.p.h.

Realising only too well that the ponderous 4.9 was suited only to the fastest circuits, Ferrari raced his 3-litre V-12 and four-cylinder cars for the remainder of the season, but in November, Maglioli, ostensibly a private entrant, won the Carrera Panamericana Mexico, with Phil Hill's 4.5 in second place. Hill's car was a Vignale-bodied 375 MM to which a tail fin, reminiscent of a D-type Jaguar, had been added. With this victory, Ferrari scored 32 points, the maximum, and easily won the Sports Car Championship from Lancia (20 points) and Jaguar (10 points).

Gonzalez, co-winner of the 1954 Le Mans race, about to lap the Blanc/Nersessian Lago-Talbot at White House. (Photo: Geoffrey Goddard)





The Pinin Farina coupé on the 375 Plus chassis which was exhibited at the 1954 Paris Salon. (Photo: Motor)

Minor successes gained during 1954 by 375 MMs included second place by Masten Gregory in the Coupe du Salon at Montlhéry and fourth place with Biondetti in the Rheims 12-hour race. Piero Scotti also took second place in the Syracuse Grand Prix in October.

LATER DEVELOPMENTS

During 1955 Ferrari concentrated on his four-cylinder sports cars and the new six-cylinder 3,747 and 4,412 c.c. designs by Lampredi, but the 375 America was superseded by the 410 Superamerica with an enlarged engine of 4,961 c.c. (88 × 68 mm.) and coil spring instead of transverse leaf front suspension. Power output was 340 b.h.p. at 6,000 r.p.m. and there was also produced later a lightweight version with a short, 8ft. 8½ in. wheelbase. This model was in production for several years, becoming available with disc brakes in 1959, and was eventually developed into the 500 'Superfast'. The 1954 works cars were sold to private owners and one of these in the hands of Valiente and Ibanez scored a victory in the 1955 Buenos Aires 1,000-Kilometre race. Minor successes gained by the older cars during 1955 included third place by de Portago (375 MM) in the Coupe de Paris at Montlhéry.

The continual failure of the six-cylinder cars during 1955 led Ferrari to enter two revised 4.9-litre cars in the 1956 Buenos Aires 1,000-Kilometre race. These were known as the 410 Plus and had a general layout similar to that of the 375 Plus, but with the wheelbase shortened to 7 ft. 8½ in. The engine, which had the cylinder dimensions of the 410 Superamerica, was fitted with a twin plug cylinder head similar to that used on the 1951 Formula One cars. 380 b.h.p. was developed at 6,800 r.p.m. In the Argentine, the cars were driven by Musso/Collins and Fangio/Castellotti. Castellotti bent a wheel when in the lead, the necessary pit stop dropping him to fifth place, and Musso retired, when leading, with that familiar Ferrari malady, a broken rear axle. The Castellotti/Fangio entry soon followed with the same trouble and the 'old' 4.9 of Valiente and Ibanez retired after hitting a kerb.

Peter Collins at the wheel of a 4.9-litre Plus in the 1956 Buenos Aires Race. The car retired with rear axle failure.



This was the last works appearance of the larger capacity V-12 cars, whose unashamedly brutal power and whose shrill exhaust note which at high revs. could stun the ears, has been unmatched by any sports/racing car before or since. Their close affinity to the Ferrari Grand Prix cars lent weight to the argument that sports car racing was a farce and their bad handling worried the most intrepid drivers, but they were among the stars of a great racing era. At the 1956 Mille Miglia there appeared yet another model which was to start a fresh chapter in the history of the Ferrari V-12 engine.

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GENERAL SPECIFICATION

ENGINE

No. of cylinders: twelve in vee formation at an angle of 60 degrees.

Valves: two per cylinder inclined at an included angle of 60 degrees.

Valve actuation: single overhead camshaft for each bank of cylinders driven by a roller chain from the front of the crankshaft.

Pistons: Borgo light alloy, steeply domed.

Connecting rods: H-section.

Crankshaft: running in seven Vandervell Thin-wall bearings.

Cylinder block: combined Siluminum light alloy block and crankcase split on centre-line of crankshaft.

Cylinder heads: two light alloy heads into which the cylinder liners screwed.

Firing Order: 1, 7, 5, 11, 3, 9, 6, 12, 2, 8, 4, 10.

Ignition: single plug per cylinder and twin Marelli distributors on 3.3-litre, 342 America and 340 Mexico, single plug per cylinder and twin Marelli magnetos on 340 MM, 375 MM and America, twin plugs per cylinder and twin Marelli magnetos on 410 Plus.

Lubrication: wet sump with capacity of 16 pints.

Fuel supply: Fimac mechanical pump driven from right-hand camshaft and Autoflux electric pump.

TRANSMISSION

Clutch: single dry-plate on 342 America and 340 Mexico, dry multi-plate on all subsequent versions.

Gearbox: 342 and 375 America: four-speed all-synchromesh with ratios of 2.536, 1.701, 1.256 and 1.00:1. 340 Mexico: five-speed with ratios of 3.157, 1.946, 1.403, 1.00 and 0.914:1. 340 MM: four-speed with ratios of 2.424, 1.722, 1.235 and 1.00:1. 375 MM: four-speed with ratios of 2.54, 1.7, 1.255 and 1.00:1. 375 Plus and 410 Plus: four speed in unit with the final drive and with ratios of 2.20, 1.753, 1.252 and 1.00:1. (The same ratios were used on the 410 Superamerica, but the gearbox was in unit with the engine).

Final drive: incorporating a ZF limited slip differential on the 340 MM and subsequent competition models.

CHASSIS

Frame: multi-tubular type constructed from elliptical-section steel tubes.

Front suspension: wishbones, transverse leaf spring, rubber blocks and Houdaille dampers (coil springs on the 410 Plus and later versions of the 410 Superamerica).

Rear suspension: rigid axle, semi-elliptic leaf springs and Houdaille dampers, with location by twin pairs of radius rods on all models except 375 Plus and 410 Plus. These cars had a de Dion axle, transverse leaf spring and Houdaille dampers.

Brakes: two-leading shoe hydraulic with twin master cylinders.

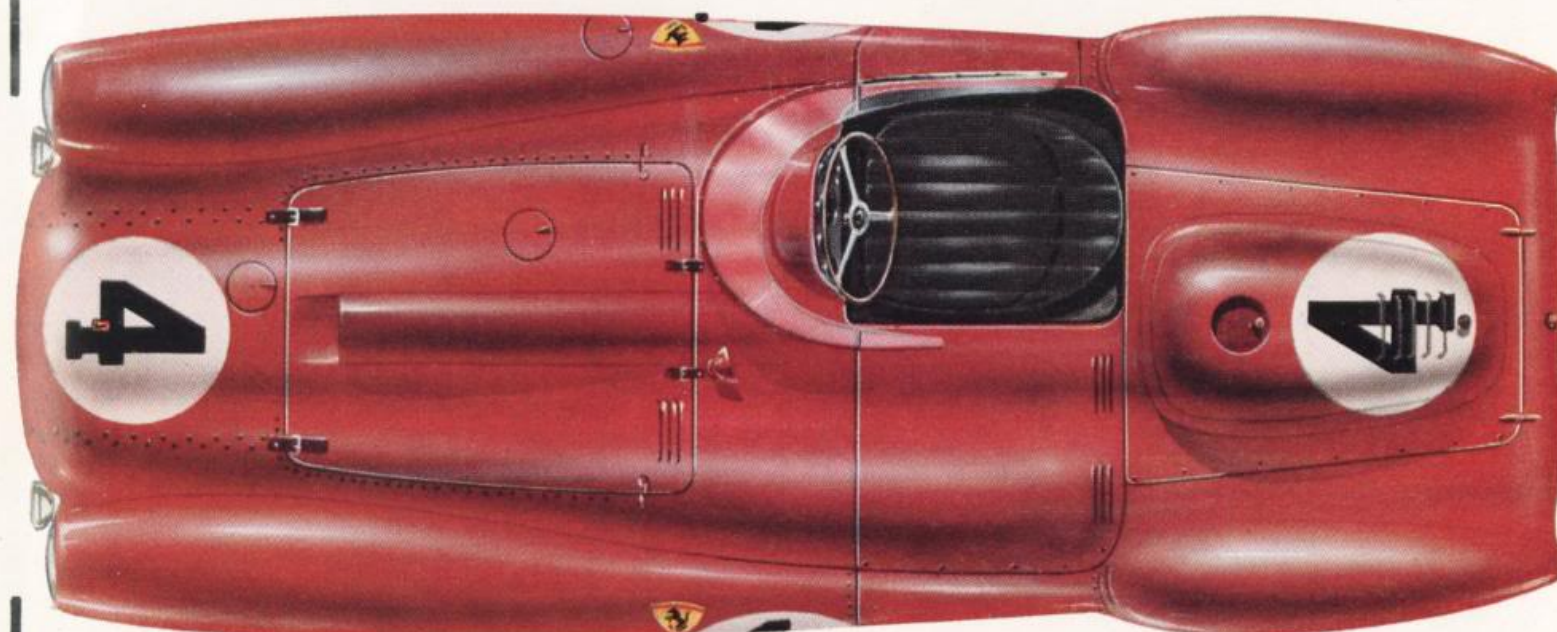
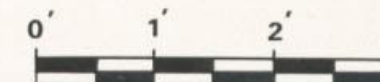
Wheels: 342 America: 4.50 × 15. 340 Mexico: 4.50 × 16. 340 MM: 5.00 × 16 (front) and 5.50 × 16 (rear). 375 MM: 5.00 × 16. 375 America: 5.00 × 15. 375 Plus and 410 Superamerica: 5.50 × 16.

Tyre size: 342 America: 6.40 × 15. 340 Mexico: 6.00 × 16 (front) and 6.50 × 16 (rear). 340 MM: 6.00 × 16 (front) and 7.50 × 16 (rear). 375 MM: 6.00 × 16 (front) and 7.00 × 16 (rear). 375 America: 7.10 × 15. 375 Plus: 6.50 × 16 (front) and 7.50 × 16 (rear). 410 Superamerica: 6.50 × 16.

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THE 4.9-LITRE FERRARI TIPO 375 PLUS, which won the 1954 Le Mans race, driven by Froilan Gonzalez and Maurice Trintignant. It covered 2521.97 miles at an average speed of 105.09 m.p.h





The Pinin Farina-bodied 375 Mille Miglia with which the works won the 1954 Buenos Aires 1,000 Kilometres race, was sold to Masten Gregory. In September he ran at the International Prescott meeting, where the car proved a tremendous handful. (Photo: Charles Dunn)

COMPETITION SUCCESSES

1951

Mille Miglia, 29th April, 972 miles	1st	L. Villoresi, passengered by Cassani (4-1) prototype), 75.52 m.p.h.
Portuguese, G.P., 17th June, 217 miles	1st	C. de Oliveira (4-1 America) 78.21 m.p.h.
Carrera Panamericana Mexico, 20th-25th November, 1,932 miles	1st	L. Chinetti and P. Taruffi (340 Mexico), 88.07 m.p.h.
	2nd	A. Ascari and L. Villoresi (340 Mexico).

1953

Tour of Sicily, 12th April, 671 miles	1st	L. Villoresi (340 MM), 61.1 m.p.h.
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Mille Miglia, 26th April, 992 miles	1st	G. Marzotto (340 MM), 88.45 m.p.h.
Production Sports Car Race, Silverstone, 9th May, 50 miles	4th	T. Cole (340 MM).
British Empire Trophy, Douglas, 18th June, 62 miles	1st	J. M. Hawthorn (340 MM), 88.55 m.p.h.
Belgian Touring Car G.P., Spa, 25th-26th July, 24 hours	2nd	T. Cole (340 MM).
Circuit of Senigallia, 9th August, 87 miles	3rd	H. Ruesch (340 MM).
Pescara 12-hours sports car race, 15th-16th August	1st	G. Farina and J. M. Hawthorn (375 MM), 94.84 m.p.h.
Nurburgring 1,000 Kilometres race, 30th August, 624 miles	1st	G. Marzotto (375 MM), 99.3 m.p.h.
	3rd	P. Carini (375 MM).
	1st	J. M. Hawthorn and U. Maglioli (375 MM), 79.83 m.p.h.
	1st	A. Ascari and G. Farina (375 MM), 74.75 m.p.h.

1954

Buenos Aires 1,000 Kilometres race, 24th January, 624 miles	1st	G. Farina and U. Maglioli (375 MM), 92.78 m.p.h.
Circuit of Agadir, 28th February, 76 miles	1st	G. Farina (375 Plus), 61.99 m.p.h.
Sports Car Race, Silverstone, 15th May, 73 miles	1st	J. F. Gonzalez (375 Plus), 83.08 m.p.h.
Le Mans 24-hour race, June 12th-13th	1st	J. F. Gonzalez and M. Trintignant (375 Plus), 105.85 m.p.h.
Carrera Panamericana Mexico, 19th-23rd November, 1,908 miles	1st	U. Maglioli (375 Plus), 107.93 m.p.h.
	2nd	P. Hill (375 MM).

1955

Buenos Aires 1,000 Kilometre race, 23rd January, 617 miles	1st	E. S. Valiente and J. M. Ibanez (375 Plus), 93.75 m.p.h.
	2nd	C. Najurieta and O. Ribera (375 MM).

MODEL IDENTIFICATION TABLE

Model	275 S	342 Amer.	340 Mex.	340 MM	375 MM	375 Amer.	375 Plus	410 Plus	410 SA
Date Introd.	1950	1951	1951	1953	1953	1953	1954	1956	1955
Capacity	3,322	4,101	4,101	4,101	4,522	4,522	4,954	4,961	4,961
Bore and Stroke	72 × 68 mm.	80 × 68 mm.	80 × 68 mm.	80 × 68 mm.	84 × 68 mm.	84 × 68 mm.	84 × 74.5 mm.	88 × 68 mm.	88 × 68 mm.
Compression ratio	8:1	8:1	8:1	8:1	9:1	8:1	9.25:1	9:1	8.5:1
Power Output	270	200	280	300	340	300	344	380	340
R.P.M.	7,000	5,000	6,600	6,600	7,000	6,300	6,500	7,000	6,000
Triple Carbs.	40 DCF	40 DCF	40 DCF	40 IFC	40 IFC/4	40 DCZ	40 DCF	42 DCZ/4	40 DCF
Wheelbase	8 ft. 1½ in.	8 ft. 9 in.	8 ft. 6½ in.	8 ft. 1½ in.	8 ft. 6½ in.	9 ft. 2¾ in.	8 ft. 6½ in.	7 ft. 8½ in.	9 ft. 2¾ in.
Front Track	4 ft. 4¼ in.	4 ft. 4¼ in.	4 ft. 2 in.	4 ft. 2 in.	4 ft. 2 in.	4 ft. 2 in.	4 ft. 2 in.	4 ft. 3¾ in.	4 ft. 8¾ in.
Rear Track	4 ft. 3 in.	4 ft. 3 in.	4 ft. 1½ in.	4 ft. 3 in.	4 ft. 3 in.	4 ft. 3 in.	4 ft. 2½ in.	4 ft. 2½ in.	4 ft. 8½ in.
Weight (lb.)	—	2,645	1,984	1,984	1,984	2,204	2,204	—	2,424

Note: the weights given above are typical examples and vary slightly from car to car.