

THE FIRST FERRARI



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Franco Cortese drives the first Ferrari at Piacenza, May, 1947.

Chapter Three

On March 12, 1947, the first bodyless car was wheeled out into the Maranello courtyard for a photograph session. There sits Enzo, proudly at the wheel of his new creation with some of his staff standing around.

Some of the characteristics of the first Ferrari engine could be seen: The vertical distributors, mounted at the front end of the camshafts, were notable. The valve covers were completely plain whereas only a short time later, engines would be produced with the name "Ferrari" cast upon these covers and there was a horizontal oil cooler located forward of and at the bottom of the radiator.

Aurelio Lampredi is not to be seen in the photographs taken of this memorable occasion; he had had enough of Ferrari for the present and had left the factory to return to work at Isotta Fraschini on March the 27th. Busso said later that: "Lampredi was not very enthusiastic about the prospects with me around". What is certain is that Lampredi found it impossible to work under Busso, a man for whom he had little respect. Lampredi: "That's when I had my first disagreements with Busso. I thought his solutions too precarious and too complicated to be carried out. I was deputy head of the department, (Technical design)". Lampredi obviously found his position untenable and handed in his notice to Enzo Ferrari who, at first, refused to accept it. The faithful Bazzi and Busso were left to carry on development of the new car. Lampredi then went to work at Isotta-Fraschini to re-design the engine of the 8-cylinder Monterosa but was disillusioned by the lack of finance at Isotta-Fraschini.

A body builder called Peiretti was called in, and directed sheet metal workers in bodying the first car, 01C, with a full width roadster style body in April whilst the second car, 02C, received a cycle fendered body built by Ansoloni, to a design by Busso. Ferrari named it the "tanker", in a reference to its squat looks. The original front-mounted distributors were changed to magnetos, probably because they were more reliable, again protruding through the bulkhead. This necessitated the making of new cam covers.

After hurried testing on the open road on May 8th and 9th, (the dates that the first two cars were completed, respectively), May 11, 1947 saw the appearance of the two cars, 01C to be driven by Franco Cortese on race number 128 and 02C by Nino Farina at a small race meeting at Piacenza. By a coincidence, one of Ferrari's 815's, 021, was also taking part.

Farina crashed his car twice in practice and in the race itself, Cortese retired with a defective fuel pump. Farina refused to start the race, claiming that 01C was a faster car

and that he should drive it. His request was refused and his services were promptly terminated. At the beginning of the race, the engine of Cortese's car would not reach its maximum performance due to an overfilled sump. He pulled into the pits and the mechanics took out the sump plug and drained the excess oil from the system. Cortese rejoined the race, this time going much faster but the engine started to misfire due to the diameter of the fuel piping being insufficient or the fuel pump beginning to fail. Ferdinando Righetti, driving an 1100cc Fiat, was the race winner.

In detail, the bodywork of 01C featured a three-slot semi-oval air intake above the radiator opening which itself had a grill frame with six horizontal bars and four-slot front brake cooling vents beneath the headlights. A small prancing horse badge sat behind the top radiator air intake and there were two small hood fasteners at the front of hood on either side. There were nine louvers on each of the front body sides on top of each front fender and the same number on each side of the hood. A hinged panel let into the scuttle allowed some fresh air into the driving compartment.

In the cockpit was a small oval mirror mounted upon the dashboard, slightly to the left of center. The twin magnetos, as mentioned before, protruded into the cockpit and there was a "fly-off" handbrake on the driver's side of the gearbox tunnel which had a raised and slotted gate for the rectangular-section gear lever which was surmounted by a round plastic/ivory knob; This raised gearbox gate was only used, incidentally, on the first four Ferraris built, 01C, 02C, 002C and 004C. In the initial drawings for the Tipo 125, it can be seen that a steering column shifter was intended which would account for this raised tower. This type of column shift was, in fact, never fitted. There appeared to be a supplementary tank under the dashboard on the passenger's side. There were three dials on the left of the dashboard: from left to right they were: an ammeter, the fuel contents gauge, marked, "Benzina", Next came a water temperature gauge marked "Acqua". The Ignition key was mounted next in this line and then came the oil pressure gauge, marked "Olio" with a mark at the "100" measurement and then a large Jaeger tachometer with the prancing horse badge just below the center reading to 8000 rpm with the telltale at 7000rpm. This Tachometer was mounted directly above the steering column, allowing the driver easy viewing of this vital instrument. At the extreme right was an oil temperature gauge, also marked "Olio". There was a hooded light over and in between the tachometer and oil temperature gauge. Along the bottom of the dashboard were three plastic/ivory knobs; two on either side of the water temperature gauge and one to the left of the oil pressure gauge. Directly beneath the ignition key sat an ignition light, above the ignition switch at the top dead center of the dashboard was a sideways-operating switch marked "A" at the left. The wood-rimmed steering wheel had no prancing horse badge, merely a plain aluminum center. In the driver's footwell was a drilled accelerator pedal beside the brake and clutch pedals and there was a board mounted at the right of the accelerator pedal to stop the driver's foot hitting the frail bodywork.

Franco Cortese, apart from being an inspector and test driver with Alfa Romeo from 1930 onward, had competed in many races including the Mille Miglia, although never being an official driver for the Scuderia Ferrari. He had become Ferrari's representative during the war and this closeness to Ferrari helped when Ferrari was looking for a good test and development driver for his new "125".

Cortese was invited to drive for the new 1100c Cisitalia Company, founded by Piero Dusio in 1945. Cortese raced the new car in Turin and at "a few other places". During the Egyptian Grand Prix, held in Cairo in 1946, Cortese beat Alberto Ascari who was then seen as the fastest of the Italian drivers. Ferrari had duly taken note of this performance and invited Cortese to drive the new 125 in 1947.

In hindsight, it can be seen that the 125's were rushed into entering a race too quickly and that the cars needed more development before they were truly race ready. Still, no amount of testing can make up for actual racing to show up deficiencies in a design and this is precisely what happened that day at Piacenza.

Franco Cortese avenged this retirement with victory next time out for the fledgling Company on May 25th at the Caracella Baths Circuit, (a street course used for the 9th Grand Prix of Rome), after some testing to cure the misfiring problem. At the start, Ferdinando Righetti had led initially in a Stanguelli of just 1100cc. Cortese took things steadily to begin with, closed up on Righetti and forced him into running wide at a corner. Cortese then took his opportunity, passed Righetti on the inside and motored off into the distance for Ferrari's very first victory.

Just a week later Cortese won again, this time at the Circuito delle Terme di Vercelli on June 1st with 01C. There were six entries in the 1500 cc Sports car class and Cortese had an easy victory. The factory had only entered 01C for these last two races, seeing their concentration pay off. The race number was 22.

The Mille Miglia was next on June 21st and Cortese, this time paired with a mechanic, Adelmo Marchetti, left Brescia at 2.39 A.M. wearing the race number of 143. Near Fano, on the Adriatic coast, 01C's engine was switched off by Cortese when a cylinder head gasket failed and a valve spring broke.

There is a possibility that a new, ungated gearbox was fitted to 01C before its next race appearance at the Circuito di Parma on July 13th. Certainly the car benefitted from new, close ratios and although this gearbox may have helped Cortese, he was still forced into second place behind the re-appearing 02C which, driven by Nuvolari, triumphed to give Ferrari his first one-two finish. Wearing race number 78, 01C had no radiator grill, rectangular scuttle scoops and three-slot front brake cooling slots.

Ferdinando Righetti, having impressed Ferrari with the handling of his 1100cc engined

Ferrari was recruited, in the absence of Cortese, to drive 01C at the Cascine Circuit of Florence a week later, wearing race number 106. It must be said that, although he obviously needed time to get accustomed to the 125 Righetti still only finished third in class in a car, which should, by rights, have won.

Cortese described the driving of the new 125 thus: "It drove very easily. But it wasn't all that easy because in case of over-revving the engine would be damaged in no time. You had to drive with your head...and with an eye on the tachometer. (Rev-counter-Ed). If you exceeded the rev limit, 8,000 rpm, it would break. Just in a flash. It was even difficult to make out whether you were in fourth or fifth gear. It would pick up in no time. It was very different from the other cars of the period, therefore it required a special technique. The other cars were mainly Maseratis, (plus Cisitalias, Alfa Romeos, Lancias, BMW,-but nearly all of pre-war design-Ed). But we were superior, the Ferrari was a more modern car. Ferrari's success was linked to the twelve-cylinder engine: if he had built a four, six or eight-cylinder engine, he would never have had the success he eventually had."

Six weeks elapsed before 01C was racing again, this time at Montenero on the 24th August. It is reported that the Ferrari did not run well in practice, Cortese letting Nuvolari drive in the race itself. Just why Nuvolari would race a car that was not on top form is a mystery although it may have been that he had to start in order to collect start money for the factory. Whatever, after just three laps, Nuvolari abandoned the car in the pits, citing problems with the carburetors as the reason for retirement. This race saw the debut of the new, two liter Maserati A6GCS which Alberto Ascari drove to victory in an accident-shortened race.

There had been changes made to the engine of 02C as the new tipo 159 engine was fitted to this car as well as it having new, full-width bodywork after the style of 01C fitted. The ugly "Autobotte" (tanker) body was discarded, no-one, including Enzo Ferrari, having like its looks. This engine had the bore increased to 59 mm and the stroke increased to 58 mm to give a cylinder capacity of 158.57 cc and a total capacity of 1902.84 cc. Thus the Tipo 159S was to appear the 8th Grand Prix of Modena with 125 bhp claimed for it but Righetti crashed 01C in practice on September 21st at Stella di Ligorzano, the car not starting the race. 01C was raced no more in 1947.

Sadly, Luigi Bazzi had crashed 02C in August, sustaining a broken leg, which put him out of action until the end of November.

Incidentally, the very last race the Ferrari's participated in in 1947 was the Grand Prix of Turin on October 12th where Raymond Sommer took the third car built, 002C and defeated Alberto Ascari and Luigi Villorresi in their Maseratis, a most important victory for Ferrari which resulted in many enquiries from customers interested in purchasing cars: "like the one which won at Turin."

Ferrari's little cars had had a good season, the 125's scoring six first places before their engines were bored out to the new Tipo 159 specification.

Realizing his need for a good development engineer(s), and disappointed with Busso's lack of progress on the 125F1 car, Enzo Ferrari approached Gioachino Colombo again sometime during October or November. Ferrari also summoned Lampredi back. Perhaps Ferrari thought that if he approached both men, one would say yes. To his surprise, both wished to rejoin the "old man" and his racing project. To get around possible conflicts, Colombo was taken back on at Ferrari as a consultant again only this time as supervisor to Lampredi who Ferrari had also hired back.

In November, Lampredi returned, saying to Enzo: "I shall come back but I want to find the road free." Lampredi exerted his authority and Colombo was made head of GT cars whilst Lampredi was made head of racing car development. According to Lampredi, Ferrari told him: "I want you to come back, however you must know that I (also) want to keep Colombo as a consultant." Lampredi replied: "That is perfectly alright by me".

When Colombo returned, he announced that Busso's work: "was all wrong". Lampredi came back to find that Ferrari was now using "Thinwall" bearings via Guy Vandervell who, as we have seen, had been brought to Ferrari by Giulio Ramponi, an old Alfa-Romeo friend/mechanic from before the war. At last, the bearing problems were solved. Busso himself had overseen the testing of the new 166 engine on November 20th and noted that the performance was "greatly improved". Lampredi later said: "Busso did not accept Colombo's solution, and re-did all the upper work (of the 125 engine). As re-designed by Colombo, the engine: "could not possibly have worked well". Lampredi said, on viewing a future collaborating with Colombo: "I was very happy, I thought I should learn something from this arrangement." In fact: "It was a bit disappointing, because I became aware (that) he was a very intelligent person, but also a little eccentric, who improvised a lot. Maybe this was how things were done in the past in racing departments... but as far as I was concerned, the figures came first... I would carry out an in-depth study, I would calculate and check everything. As far as I could see, Colombo did not work along these lines, do you see what I mean? This solution does not work, then you look for another. How do you find another solution? You study the problem in depth. You must deal with the faults at the drawing-board stage. Then, if you locate one, you put it right... Colombo arrived in Modena on a Monday, he stayed there two days and then he went and was absent for a fortnight."

"I was greatly helped by the head of the test workshop, Luigi Bazzi. I tried to improve the lubrication, to reduce the wear on the camshafts, the brittleness of the valve springs, the problems with the piston rings. At first, the piston rings were thick axially and thin radially, the opposite of what they should have been. The wear of the cams was an embarrassment to such an extent that we finally adopted roller rocker arms at

the end of 1952”.

“Colombo had wanted to use the shock absorbers designed by himself; they were very small and complicated, they had to act both as dampers and as spring limit travellers. They should have done both these things but they never really worked and this was one of the causes of his disagreement , (author’s italics), with Ferrari. The 166’s were then equipped with Houdaille dampers, which were the only really efficient ones at the time. In the meantime, I had also added leaf springs with the correct flexibility, taking into account the comfort of the passengers. I also re-designed the gearbox with three shafts for the five speed and reverse gear arrangement. The gearbox originally had one single rod that acted both as selector and coupling for the gears. Very complicated and hardly reliable”. About Enzo Ferrari, Lampredi later said: “Ferrari is a man who instills enthusiasm in those around him, but he is no technician”.

It was only a very short time after this, over the winter of 1947-48 that the cylinders of the 159 engine(s) were bored out once again to 60 mm and the stroke increased to 78.8 mm, (a stroke that would remain in almost constant use up to 1964). This gave the Tipo 166S, (for Sport), its name and the capacity had now been increased to 1995.02 cc, allowing the cars to run in the newly introduced up-to-two liter Formula Two class. For the 166S, Ferrari claimed a power output of 150 bhp.

In “The Motor” (issue of November 26th, 1947) there appeared an article on the 166 which went into great detail on the new Ferrari, showing a cut away frontal aspect plus the table shown below

THE MOTOR, NOV 26, 1947 DATA & ENGINE DIMENSIONS:

166 Sport • 166 Racing

ENGINE DIMENSIONS

Cylinders V-Twelve

Bore 60mm

Stroke 58mm

Cubic capacity 1992cc

Piston Area 52.6 sq. in.

Valves Inclined, overhead

Compression Ratio 7.5:1 • 11.5:1

ENGINE PERFORMANCE

Maximum BHP 90 @ 6,000 rpm • 130 @ 7,000 rpm

BHP per sq. in. piston area 1.71 • 2.47

Peak piston speed, ft. per min 2,300 • 2,680

ENGINE DETAILS

Carburetor 3 downdraught

Ignition Coil • Magneto

Oil Filter Disc-type

CHASSIS

Brakes Hydraulic

Suspension, front Transverse leaf

DETAILS

Suspension, rear Semi-elliptic
 Shock absorbers Piston type hydraulic
 Wheel type Rudge-Whitworth
 Tire size 5.50 x 15 (5.0 x 15 F, 6.0 x 15 R)
 Steering gear Worm and wheel
 Fuel pump Mechanical
 Fuel capacity 16 gallons • 22 gallons
 Cooling system Pump
 Clutch Single plate
 Gears 5 speed, direct 4th, 3rd •

POWERTRAIN

5 speed, direct 4th, and 4th synchronized. 3rd and 4th synchronized
 Prop. shaft Open
 Final Drive Bevel

DIMENSIONS

Wheelbase 7 ft. 11 1/2 ins. • 7 ft. 6 1/2 ins.
 Track, front 4 ft. • 3 ft. 10 1/2 ins.
 Track, rear 4 ft. • 3 ft. 10 1/2 ins.
 Overall length 13 ft. • 12 ft.
 Ground clearance 6 ins. • 5 ins.
 Dry Weight 2-sr. Coupe: 14.8 cwt. •
 Single-seater: 9.5 cwt.
 Piston area per ton 71.2 sq. in. • 111 sq. in.

PERFORMANCE DATA

Top gear,
 mph per thousand rpm 16.7 • 20
 Direct gear,
 mph at 2,500 ft. per min. piston speed 100 • 131
 Liters per ton-mile, dry 4,800 • 6,300

As well as this table, the Turin GP winner, 002C with its all-enveloping body was illustrated, together with a drawing of a fixed head coupe which was the forthcoming Mille Miglia winner, 003S, down to the last detail. It may be that this car was, even then, in the last stages of completion.

During this period, Busso approached the electricity board in Modena to ask them to supply the piston company with a monthly supplement of kilowatt hours above the then current restrictions. Sommer's victory with 002C helped a great deal with the granting of this request.

Shortly thereafter, in December, Busso returned to Alfa Romeo at Satta's invitation to help in the design of the 1900. He was to stay there as overseer of design for the next thirty years. Oddly, Lampredi later also said of Busso that he was a: "very capable, a good engineer". (In reply to questions in an interview, Ferrari Tipo 166). It must be obvious that between Busso and Lampredi there were differences of opinion, which could not have been

bridged. Busso was also frustrated by not being able to progress with his own four camshaft Grand Prix V12.

Lampredi further said: “When Busso left and I was on my own, I immediately strengthened the technical department; I called in two boys who were with me at Reggiane’s where I had taken them on when they were still wearing short pants, because at that time, there were not many people around. I took on Rocchi and Salvarini at Ferrari. Rocchi, I groomed for engines. Salvarini, I put onto gearboxes, then I got him making chassis because in the meantime, a certain Valerio Colotti arrived at Ferrari who hardly knew how to draw two lines but who was an intelligent boy... I made him join me in the technical department, where I taught him to draw, to calculate, to verify. I had noticed that he was mad about gearboxes. Then I passed all the work with gearboxes to Colotti...”

During this time, the remnants of 01C’s original, full width body were stripped off the car and a “Spyder Corsa” cycle fender body, following closely that of the Turin-winning car was substituted. The original bolster tank was kept, this having no provision for a spare wheel but today, one can still see where the brackets which supported the original body were cut off the chassis.

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