



Alfa Romeo 8C 2300

Alfa Romeo have always been renowned for their twin-cam engines. The 8C 2300 was powered by one of the best, a 2.3-litre straight-eight that produced 142 bhp and went on to power cars that won the Le Mans 24 Hours and Mille Miglia.

There was an unusual common link between the winning cars in the 1931 Targa Florio road race and the Italian Grand Prix later that May. Both were driven by the great Tazio Nuvolari, but that wasn't it; it was not unusual for Nuvolari to win races. No, the distinction was that both the road race and the Grand Prix were won by the same model, Alfa Romeo's new eight-cylinder 8C 2300, one of Alfa's greatest pre-war designs.

It was created by Vittorio Jano who had joined Alfa Romeo in Milan in September 1923, at the age of 32, having been in the touring and racing design departments of Fiat in Turin since 1911, where latterly he had been chief of their racing department.

At that time Fiat were building the most successful Grand Prix cars in Europe, and Jano's first task at Alfa Romeo was to design a new Grand Prix Alfa Romeo. Inevitably this supercharged two-litre eight-cylinder car was along Fiat lines, as were the rival supercharged two-litre six-cylinder Sunbeams designed by Vincenzo Bertarione, also an ex-Fiat man. The new P2 Alfa Romeo, however, was unique in winning its very first Grand Prix, the GP of Europe at Lyons on 3 August 1924, and in winning the first World Championship for Makes in 1925.

Jano's next task was to design a road car for Alfa Romeo. Since their inception in 1910 Alfa Romeos had been the work of Giuseppe Merzoni, a man some 20 years older than Jano, and a fine designer. His era culminated in the powerful RL with a six-cylinder three-litre overhead-valve engine, which had won the 1923 Targa Florio and a number of Italian races up to 1924 in the hands of drivers such as Enzo Ferrari, Antonio Ascari, Count Giulio

Masetti and Giuseppe Campari.

With his road car, Jano went on a different tack; it was still a six-cylinder, but lighter and only 1½ litres, with a single overhead camshaft. Introduced in 1927 as a touring car, it had almost sports car performance, and before long it was joined by a true sports version with a twin-overhead-cam engine, which could also be bought supercharged, and which proceeded to win races like the 1928 Mille Miglia and the Belgian 24 Hours. For 1929 the 1½-litre was enlarged to 1750 cc and even more successes were achieved in sports car racing in 1929-30 with wins in virtually all the important European races, apart from Le Mans.

Below: This 8C 2300 has a fine competition pedigree, having once finished fifth at Le Mans. It was later driven by Mike Hawthorn, Formula 1 World Champion in 1953.



Above: The 8C 2300 was extremely successful at the Le Mans 24 Hours. This is Sir Henry Birkin (more famous as a Bentley driver) on his way to winning the 1931 event. Partnered by Earl Howe, Birkin won in the Alfa at an average speed of 78.13 mph.

1931 would appear to be hardly the ideal year in which to launch a new, expensive and technically advanced sports car with the repercussions of the 1929 market crash still in evidence and the failure of the original Bentley company as a daunting example. Nevertheless, towards the end of 1930 Jano was at work designing his new model, intended to be sold alongside the successful 1750, in itself not exactly an inexpensive car. The explanation was Alfa Romeo's, and Italy's, desire for sporting success and prestige, almost regardless of the cost.

Although the supercharged 8C 2300 had the same cylinder dimensions as the 1750, it was not just a 1750 with two more cylinders. The engine design was different, although it shared some components and the chassis kept some of the features of the 1750. It certainly resembled the 1750 more than it did the previous eight-cylinder Jano design, the P2 Grand Prix car.

Wins in virtually all the European races

Details of the new car were released to the British press in April 1931, and the world first saw it in the metal in the Mille Miglia on 11 April, in which two Zagato-bodied cars were driven by Nuvolari/Guidotti and Arcangeli/Bonini. Although each led the race at different stages ahead of the eventual winner - Caracciola's big seven-litre supercharged SSKL 39/250 Mercedes - both Alfas had problems, mainly with tyres. Both cars went off the road, Arcangeli hitting a wall near Verona, which ended his race, while Nuvolari and Guidotti

Inset far left: The laurel leaves around the Alfa Romeo badge commemorate the marque's great racing success.

Left: Earl Howe's Alfa 8C 2300 Corsa runs at Le Mans in 1932. Howe did not win but another 8C 2300, driven by Sommer and Chinetti, did, ahead of the Cortese/Guidotti Alfa Romeo and the Talbot of Lewis/Rose-Richards.

Below: When the minimum of bodywork was fitted, as on this Touring-bodied 8C, the battery was put in a box on the side of the car.



finished ninth, looking very tired, Nuvolari having a bandage over his mouth as a result of an off-the-road excursion.

Things were very different for the Targa Florio in Sicily on 10 May where two stripped 8C 2300s with bolster tanks, two bucket seats and two spare wheels on the back were entered for Nuvolari and Arcangeli. Jano suggested that front mudguards be fitted to the cars in case of bad weather. Nuvolari agreed, but Arcangeli refused, and when the rains came Nuvolari won after Varzi in his Type 51 Bugatti was nearly blinded by mud from Nuvolari's wheels, while Arcangeli had a stone injury to his eye and handed over his car to Zehender who finished in last place behind Nuvolari, Borzacchini's 1750, Varzi's Bugatti and two more 1750s.

Nuvolari's 8C 2300 won at 96.79 mph

The 10-hour Italian GP at Monza on 24 May saw the introduction of the Grand Prix version of the 8C 2300, the two cars entered doubtless being a development of the Targa Florio cars but with streamlined tails and a new cowl to cover the radiator. Campari and Nuvolari's 8C 2300 won the race at 96.79 mph from the similar car of Minoia/Borzacchini, their 4.9-litre Type 54 and 2.3-litre Type 51 Bugatti rivals finishing third and fourth. Campari broke the old lap record of 104.24 mph set as long ago as 1924 by Ascari's P2, recording 105.1 mph on his 24th lap. After the race, Grand-Prix-racing 8C 2300s were always known as Monza Alfas.

The standard 8C 2300 Alfa Romeos were produced in both long- and short-wheelbase forms, and for sports car racing there were two versions, the short-chassis Spider Corsa two-seater, as used in the Mille Miglia, and the long-chassis four-seater, called the Le Mans, while the Grand Prix Monza had an even shorter wheelbase than the Spider Corsa. The standard engine produced



142 bhp at 5,000 rpm, but with higher compressions the sports engines produced 155 bhp at 5,200 rpm in 1931 and from 165 to 180 bhp from 1932 to 1934, the latter figure also applying to the Monzas. Coupé and cabriolet bodywork was available from coach-

work firms such as Zagato, Touring and Castagna.

At the beginning of June 1931, Sir Henry Birkin won the big car race in the Irish GP meeting at Phoenix Park, Dublin, in his own long-chassis 8C 2300 from Campari's blown 2½-litre Maserati and





Above: The great Tazio Nuvolari is seen here winning the 1933 Mille Miglia. The Mille Miglia (Thousand Miles) was one of the classic road races round the heart of Italy and a real test for any car. Alfa 8C 2300s won in 1932 and 1933, while one of the Grand Prix Monza versions (fitted with road equipment) won again in 1934 when Achille Varzi just managed to beat Nuvolari in another 8C 2300.

an unblown three-litre 105 Talbot. Later in the month, at Le Mans, Birkin shared Earl Howe's own 8C 2300, and they won at record speed.

The 8C 2300's supremacy at Le Mans lasted until 1934, with a win in 1932 by Sommer/Chinetti from a similar Alfa driven by Cortese/Cuidotti and the Lewis/Rose-Richards 105 Talbot; and in 1933 by Nuvolari/Sommer by a mere 10 seconds from an 8C 2300 driven by Chinetti/Varent and a similar Alfa in the hands of Lewis/Rose-Richards. In 1934 Chinetti and Etancelin's 8C 2300 won from two Rileys. The Belgian 24 Hours at Spa had been won by 1500 and then 1750 Alfas for three consecutive years, 1928-30, and there were 8C 2300 wins in 1932 and 1933.

Various models of Alfa Romeo dominated the Mille Miglia practically throughout the 1930s, with wins for 8C 2300 Zagato-bodied Spider Corsas - in 1932 by Borzacchini/Bignami and in 1933 by Nuvolari/Compagnoni. In 1934 Varzi/Bignami won in a road-equipped Monza. Monza Alfas won seven first places, five seconds and three thirds in Grands Prix of varying importance in 1931.

Such a competition pedigree did not come cheap and in 1931 a red open four-seater 2.3 Alfa with a special light body was priced at £1,500 complete on the London Motor Show stand, while the 8C 2300 on the stand in 1933 was even more expensive at £1,675... the equivalent of £100,000 today....

Driving the 8C 2300: easy performance

The one thing the Alfa 8C 2300 was not short of was performance - the Grand Prix Monza was good for 140 mph while the sports racers could reach 130 mph, and even the standard short-chassis road car could manage 106 mph.

With variations in engine tune and supercharger boost (which could be varied from 5 to 10 psi), acceleration times varied, but a short-chassis car has been timed at 9.4 seconds to 60 mph. The driving position is more old-fashioned than the performance - you sit on, rather than in, the Alfa and a tall driver looks over the windscreen rather than through it. The

body is narrow, and the pedals are grouped close together with the throttle in the middle to make it easy heeling and toeing when changing gear.

The merest touch on the throttle sees the revs climb, so it takes skill to change down from high speed on the non-synchrom gearbox with its close ratios on all but bottom to second gear.

Beautifully balanced, the 8C 2300 is best at speed when the steering lightens and the car's natural tendency is to oversteer. The large brakes mean there's no trouble stopping the 8C, but the ride is sportingly hard on bumpy roads.

Below left: The 8C 2300 looked at its most elegant when fitted with full-length mudguards and running boards, as here. That body style would not be used for outright competition, as it was heavier than the cycle-wing style and the front mudguards would generate two unwanted features - aerodynamic drag and lift.

PERFORMANCE & SPECIFICATION COMPARISON	Engine	Displacement	Power	Torque (lb ft)	Max speed	0-60 mph	Length (in/mm)	Wheelbase (in/mm)	Track front/rear	Weight total (lb/kg)	Price
Alfa Romeo 8C 2300	Inline-eight, twin-cam, s/c	2336 cc	142 bhp 5200 rpm	N/A	106 mph 171 km/h	5.4 sec	156.0 in 3962 mm	108.0 in 2743 mm	54.0 in 1370 mm	2465 lb 1116 kg	£1,675 (1933)
Bentley 4½-litre supercharged	Inline-four, 16-valve, s/c	4396 cc	175 bhp 3600 rpm	N/A	125 mph 201 km/h	N/A	172.5 in 4382 mm	130.0 in 3302 mm	54.5 in 1383 mm	4236 lb 1921 kg	£1,720 (1930)
Bugatti Type 55	Inline-eight, twin-cam, s/c	2262 cc	136 bhp 5500 rpm	N/A	112 mph 180 km/h	13.0 sec	155.0 in 3937 mm	108.0 in 2743 mm	49.0 in 1245 mm	2622 lb 1194 kg	£1,350 (1932)
Invicta S Type	Inline-six, overhead-valve	4467 cc	140 bhp 3500 rpm	N/A	100 mph 161 km/h	N/A	177.0 in 4486 mm	126.0 in 3200 mm	56.0 in 1422 mm	2900 lb 1270 kg	N/A
Sunbeam 3-litre supercharged	Inline-six, twin-cam, s/c	2916 cc	130 bhp 3900 rpm	N/A	110 mph 177 km/h	N/A	188.0 in 4775 mm	130.5 in 3315 mm	55.0 in 1402 mm	3150 lb 1429 kg	£1,370 (1930)

Alfa Romeo 8C 2300 Data File

In 1930 Alfa Romeo needed something new to give the company a chance of staying competitive in international sports car racing and to provide a boost for the firm's image. That doesn't sound too tall an order, but Alfa's wish that, if at all possible, the new car should be capable of being modified to run in Grands Prix as well does seem like wishful thinking. Luckily, in Vittorio Jano, Alfa Romeo possessed one of the greatest of pre-war designers. Using some of the elements of his very successful 1750 straight-six twin-cam design he produced perhaps his greatest creation – the 8C 2300. It was not Alfa Romeo's first straight-eight twin-cam but it was the best and was characterised by its distinctive camshaft drive from the centre of the crankshaft, and by its smooth flexibility and power. From the outset in 1931 it was a total success and production continued until 1934, by which time 188 cars had been produced (a large number for such a car) and the 8C 2300 had fulfilled Alfa's demands in becoming a Grand Prix winner.



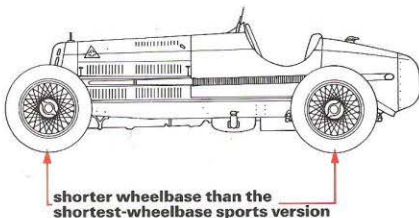
Above: This Zagato-bodied short-chassis car was built in 1931 and raced by the Scuderia Ferrari (who ran Alfa's competition department at the time), being driven by Enzo Ferrari himself to win the Bobbio-Penice race in 1931. The car was also used by Tazio Nuvolari to win the 1933 Mille Miglia. Zagato were one of the three main coachbuilders who clothed the Alfa 8C 2300 chassis, and their designs were the most striking.

Styling

In the 1930s the fashion was for up-market cars to be built as rolling chassis by the manufacturers and then bodied by specialist outside coachbuilders. That was the case with Alfa Romeo, and the 8C 2300s were bodied by some of Italy's most famous and best coachbuilders: Touring of Milan, Castagna and Zagato. The variation among their designs was considerable but it was Zagato who came up with what is the classic pre-war open sports car design, using the short-wheelbase chassis. To some extent Zagato were forced into that design, as the length of the straight-

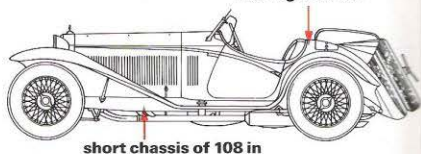
eight engine required a long bonnet to house it, and that helped the proportions immensely. One Touring design was very similar indeed to the Zagato design above but featured a more inclined radiator grille which actually came to a point at the base to make the shape even more rakish. In contrast, the Monza Grand Prix racer (below) was designed for function rather than form, and was stripped for high-speed action. The Monza GP car became even sleeker after 1932 when the regulations permitted single-seater (rather than two-seater) designs.

Alfa Romeo Monza



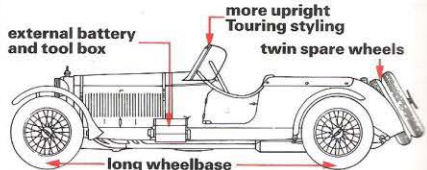
Alfa Romeo 8C 2300 Spider

typical body style by Touring of Milan



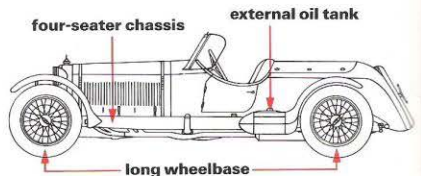
Above: There are considerable differences between 8C 2300s which at first glance seem to have the same body design. The line drawing (top) is a Touring of Milan-bodied 8C 2300 Spider built on the short chassis, while the car above is also a Touring design but with differences in the front wing treatment and the louvres. There are strong style similarities, however, such as the trim on the door leading to the door handle. The side view accentuates just how far back the driver sits in this design, behind the long bonnet housing the straight-eight twin-cam.

Alfa Romeo 8C 2300 Le Mans 1931



Above: This is a 1932 Touring-bodied Le Mans 8C 2300. It's built on the long-wheelbase chassis, which was some 14 inches longer than the short-chassis cars shown in the top line drawing and the cutaway (far right). The long-wheelbase cars were more stable and thus more suitable for the fast long straights on the French circuit.

Alfa Romeo 8C 2300 Le Mans 1932-34



Chassis

The frame was of channel-section steel with an upswing over the rear axle and three cross-members – one under the radiator, one just behind the rear axle and the third at the midway point along the chassis. Wheelbases were 122 in for the long chassis, 106 in for the short chassis and 104 in for the Monza. A total of 188 long- and short-chassis cars was produced from 1931 to 1934 plus 10 Monzas – six in 1931 and four in 1932 – for works racing, although a further dozen or so Monzas built for private owners must be included in the 188 total. The track on all the cars was 54 in, and the wheels carried 5.5- or 19-in tires.

Although the track was the same as on the still-current 1750 cars, only the long-chassis 6C and the single-cam 1750 Turismo had exactly the same wheelbase, but the springing was different, as the semi-elliptic springs on the 6C cars were outrigger from the chassis to bring them nearer the wheels instead of being beneath the chassis side members. Previously only the big luxury Grand Touring supercharged (GTC) 6C 1780 of 1931-32 and the three 1924 P2 Grand Prix cars rebuilt for 1930 racing had shared this particular feature. Also, whereas the normal 1750s had the springs actually passing through slots in the front axle, the outrigger 6C 2300 springs passed above the front axle, which was located by radius rods. The rear axle was also outrigger, Monza had shorter front springs to limit the wind-up effect and consequent shimmy that could occur under heavy braking from high speeds.

Obviously production costs on the 6C cars could be kept down by using as many 1750 parts as possible, and the 1750 braking system through rods and levers was used, with both foot and central handbrake operating on all four wheels and with compensation by balance beams in a compartment beneath the gearbox, integral with its casing. The 1750s had 320-mm (12½-in) diameter brake drums but the 6C 2300s, like the 1750 GTC, had bigger 400-mm (15½-in) drums, which were



Above: The Alfa had a four-speed manual gear change. As in later Ferraris, the gear lever moved through a metal gate. The handbrake operated on all four wheels via levers and rods.

finned. The early Monzas had the smaller drums at the back and the bigger ones at the front, but later Monzas had big drums all round.

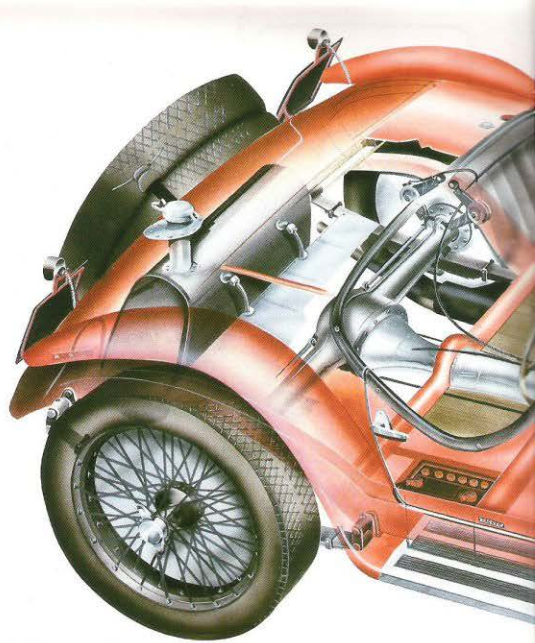
Friction shock absorbers were standard, the front ones outside the dumb irons. Early first-series cars had Siat single shock absorbers at the rear, double on later cars, and the rear Siatos could be adjusted from the driving seat by a system of screws, levers and Bowden cables.

The four-speed centre-change gearbox was also the same as on the 1750, in unit with the engine, as was the rigid rear axle with a pressed and welded steel casing, the propeller shaft being fully enclosed within a torque tube, which was also 1750 practice. The short chassis had a 4.25:1 final drive ratio as standard and the long chassis a 4.5:1 ratio. The dry multi-plate clutch was the large-diameter 160-mm (6¼-in) type introduced from the fifth-series Gran Sport and GTC 1700s in 1931 and continuing until the last, sixth-series, Gran Sport of 1933.

The right-hand worm-and-sector steering had a more robust box than in the 1750, but was otherwise the same. Just over two turns of the steering wheel were required from lock to lock.



Above: Front suspension on the 6C 2300 was very simple, and followed the standard design of the age with a solid beam axle and semi-elliptic leaf springs controlled by friction dampers. One area, however, where the Alfa scored over the opposition was in its brakes; the enormous finned drums took up most of the space within the wheel rim and provided excellent stopping power. This was almost as much of an advantage on the racetrack as the twin-cam's power.



Engine

The 6C 2300 was a straight-eight cylinder with a standard bore and stroke of 65 x 88 mm, giving 2336 cc, but a number of cars have since been bored out to 68 x 88 mm to give 2596 cc. Its most striking feature was the position of the timing gears, which were driven from the middle of the long crankshaft, so that the cylinders were in two blocks of four on each side of the gears. The 30-mm crankshaft was carried in 10 bronze-backed white metal bearings, and the big ends also had plain bearings, in contrast to the all-roller-bearing P2 engine. The crankshaft was made up of two halves with two helical gears of steel and bronze respectively; one gear drove the twin overhead camshafts through two intermediaries and the other the Roots supercharger, oil and water pumps mounted in tandem on the right-hand side of the engine, and the dynamo on the other side. Each of the two overhead camshafts (which were hollow for lightness) was in two parts bolted together with the timing gear, and ran in six bronze bearings. The cam bore directly onto hardened caps screwed onto the valve stems, as introduced on the 1500/1750 engines. These caps were part of the simple and rapid tappet adjustment mechanism, based on that originally devised by Marc Birkgirt on Hispano-Suiza engines.

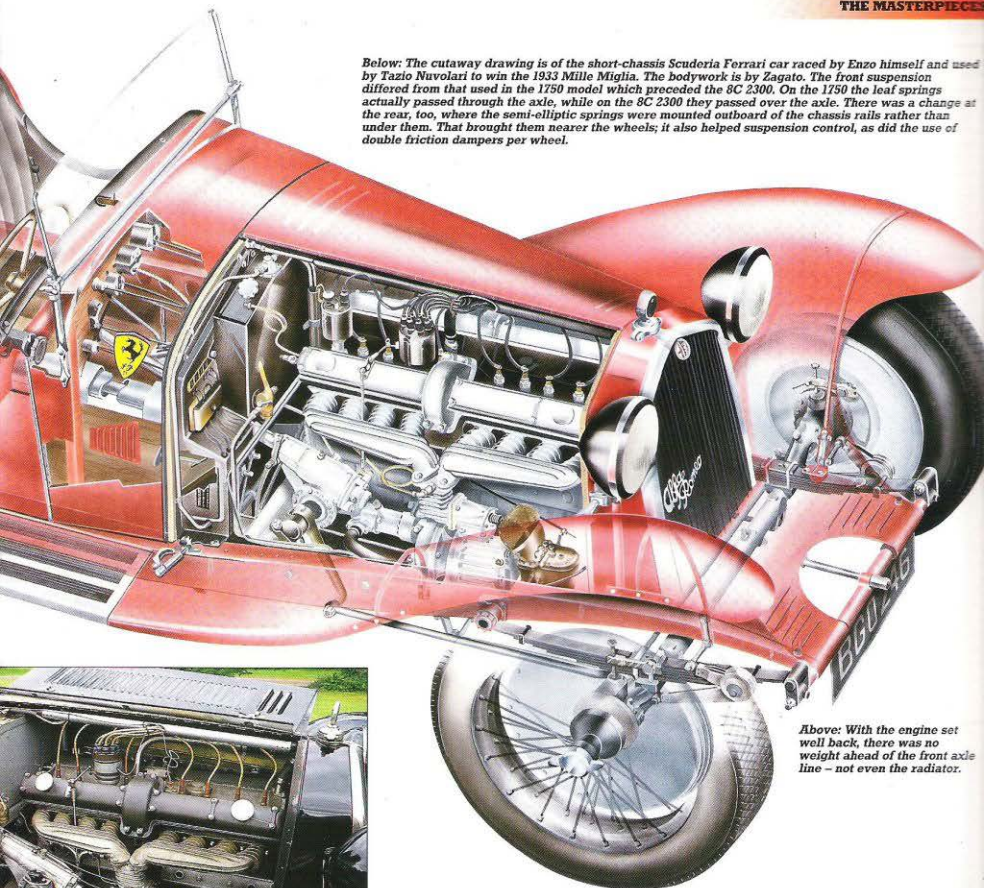
The cylinder blocks were originally of cast iron with alloy heads on the prototype cars, but alloy blocks and heads were soon standardised. Even so, Jano once described the Monzas as "too heavy".

Coil ignition with 18-mm spark plugs was standard on 6C 1500/1750 and 6C 2300 Alfa Romeos. The first Monza

racing cars in 1931 had coil ignition, but magnetos were fitted to subsequent Monzas, driven off the same gear as the dynamo on the sports engines. Crankcases could be of magnesium instead of aluminium, but magnesium gearbox casings were found only on Monzas and the sports racing cars.

Lubrication was by dry sump with the 4½-gallon tank between the front dumb irons on very early 1931 cars but below the passenger's seat in first- and second-series cars in 1932-33 and under the driver's seat in third-series models in 1934. Fuel was brought up to the Memini carburettor (Weber on Scuderia Ferrari cars) by a 24-gallon rear tank by two autovacs supplying a 2½-gallon header tank in the scuttle on the first 77 road cars built, after that, an electric pump was used to draw petrol to the engine.



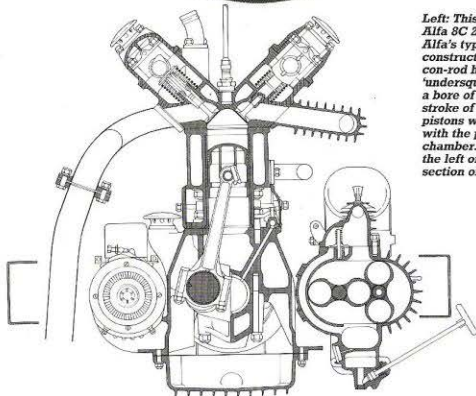


Below: The cutaway drawing is of the short-chassis Scuderia Ferrari car raced by Enzo himself and used by Tazio Nuvolari to win the 1933 Mille Miglia. The bodywork is by Zagato. The front suspension differed from that used in the 1750 model which preceded the 8C 2300. On the 1750 the leaf springs actually passed through the axle, while on the 8C 2300 they passed over the axle. There was a change at the rear, too, where the semi-elliptic springs were mounted outboard of the chassis rails rather than under them. That brought them nearer the wheels; it also helped suspension control, as did the use of double friction dampers per wheel.



Above: The intake side of the straight-eight engine shows the supercharger to the bottom right of the engine bay and the single updraught Memini carburettor, with the finned cast-alloy intake manifold leading from it to the engine. The raised section in the centre of the can cover is to accommodate the central gear drive to the camshafts.

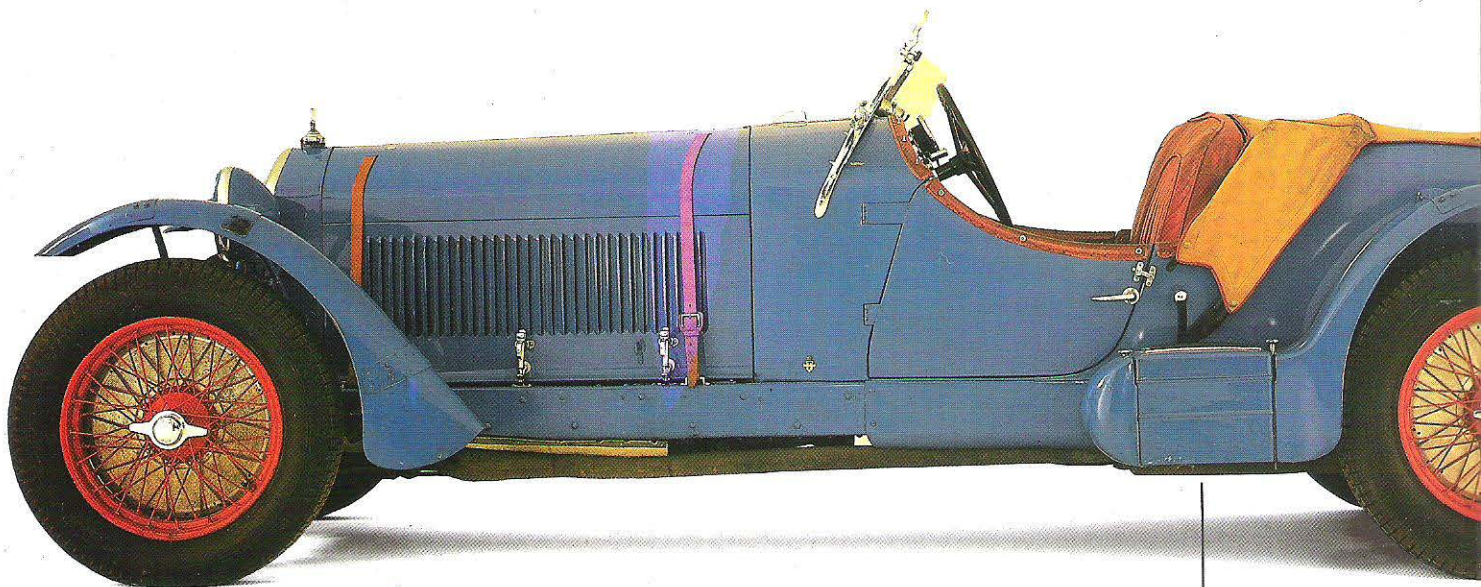
Left: The straight-eight engine can almost be regarded as two inline-fours joined together at the centre. The exhaust manifold arrangement goes along with that view as two four-into-one cast-iron manifolds are used. The long crankshaft and camshafts were mounted on 10 white metal bearings and six bronze bearings respectively.



Above: With the engine set well back, there was no weight ahead of the front axle line – not even the radiator.

Left: This cross-section of the Alfa 8C 2300 engine reveals Alfa's typically narrow construction, and the long con-rod hints at the engine's 'undersquare' dimensions with a bore of 65 mm and a longer stroke of 88 mm. Domed pistons were used to go along with the pent-roof combustion chamber. The finned pipe on the left of the drawing is a section of the intake manifold.

Left: The unit to the left of the engine is the Roots-type supercharger, which was driven from the centre of the crankshaft.

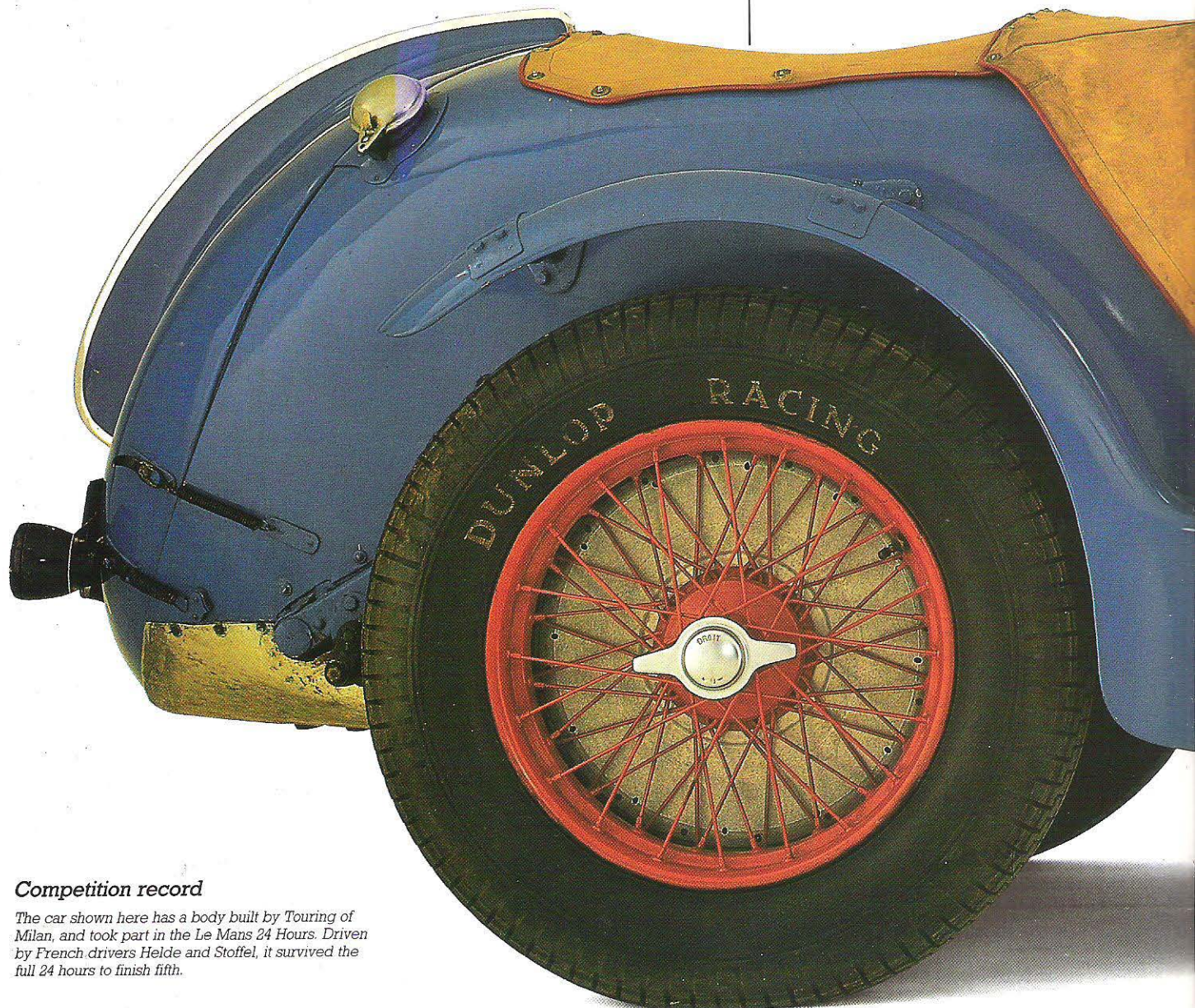


Tonneau cover

Like many classic sports cars, the 8C 2300 looks best with the hood down and was really designed to be driven open. However, there was a hood, but when it was folded down it could be covered with a tonneau, so that the car's smooth lines remained unbroken.

Tool box

Motoring in the 1930s was much more of a pioneering venture than it is today. The Allard box contained a good selection of spanners and other small tools that the driver would need for adjustments to the car or to carry out running repairs.



Competition record

The car shown here has a body built by Touring of Milan, and took part in the Le Mans 24 Hours. Driven by French drivers Helde and Stoffel, it survived the full 24 hours to finish fifth.

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Alfa Romeo 8C 2300

One of Alfa Romeo designer Vittorio Jano's true masterpieces, the 8C 2300 was introduced in 1931 and stayed in production until 1934. During that time, Alfa Romeo made several versions of the car. There were short- and long-chassis road cars with various body styles – four-seaters, two-seater roadsters, fixed-head coupés – and even a successful Grand Prix car. Leading coachbuilders such as Touring, Graber and Zagato built the bodies for the roadgoing cars. For many people, the 8C 2300 still epitomises the classic European sports car of the 1930s.

Cutaway doors

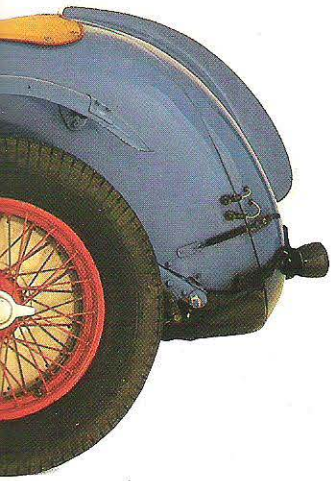
The classic driving position for sports and racing cars of the 1930s, with the driver sitting close to the big steering wheel, invited an 'elbows out' style with the driver's right arm overhanging the side of the car.

Fold-flat windscreen

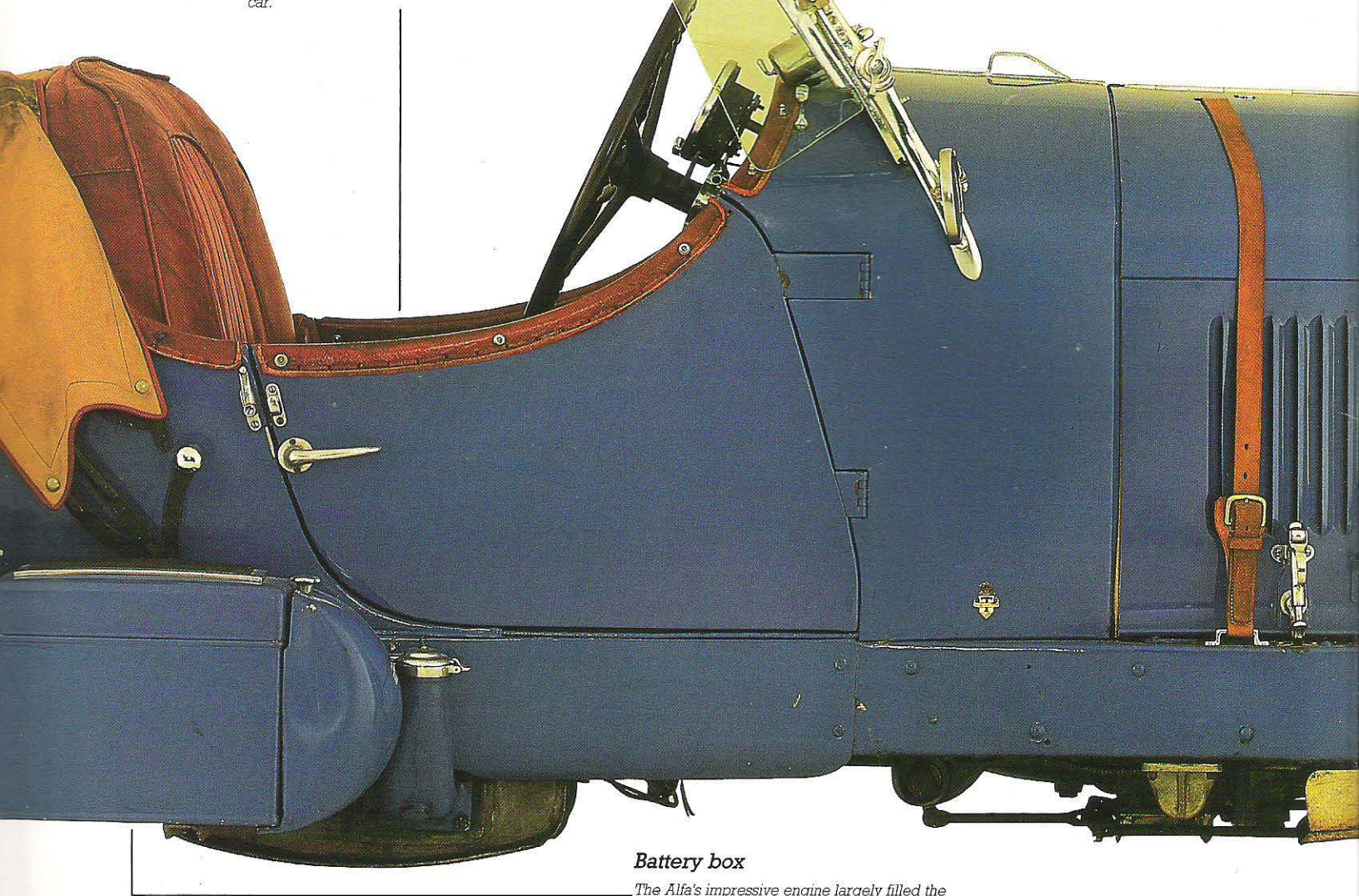
There was a hinge on each side of the windscreen frame. For racing, the driver could reduce the car's frontal area, and so gain a little extra speed, by folding the windscreen down flat.

Battery box

The Alfa's impressive engine largely filled the underbonnet space, and so the battery was housed in a separate box behind the driver's door.



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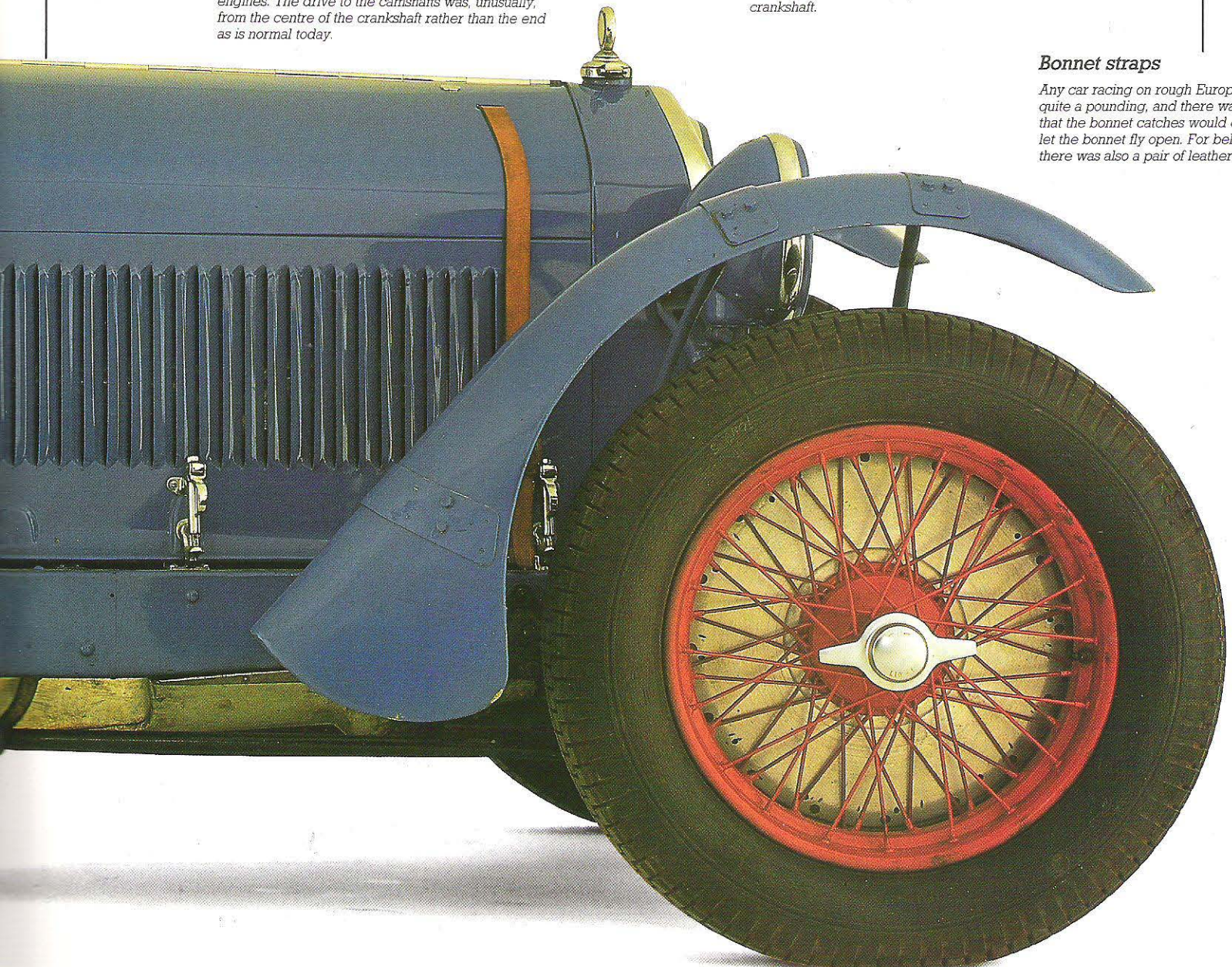
Twin-cam straight-eight

The 8C 2300's engine had twin overhead camshafts, like many present-day high-performance engines. The camshafts were driven by gears, rather than by a chain or a belt as used on most modern twin-cam engines. The drive to the camshafts was, unusually, from the centre of the crankshaft rather than the end as is normal today.



Starting-handle guide

Like most cars of its day, the 8C 2300 had to be started by means of a handle – this item was also useful for turning the engine over slowly when making adjustments. The handle slid through the guide tube and into engagement with the front of the crankshaft.



Bonnet straps

Any car racing on rough European roads was quite a pounding, and there was always the risk that the bonnet catches would come loose and let the bonnet fly open. For belt-and-brassers, there was also a pair of leather bonnet straps.



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Wire wheels

This style of wire wheel meant it was possible to change a wheel very quickly in the heat of a race. Once the car was jacked up, the central locking nut was loosened with a hammer and then unscrewed, allowing the wheel to slide off its splines and a new wheel to be fitted.

SPECIFICATION

Alfa Romeo 8C 2300

ENGINE

Type:	inline eight-cylinder, twin-cam
Construction:	two four-cylinder light-alloy blocks in line with light-alloy cylinder heads
Displacement:	2336 cc
Bore x stroke:	65 mm x 88 mm
Compression ratio:	5.75:1
Valve gear:	two valves per cylinder operated by twin overhead camshafts, gear-driven from centre of crankshaft
Fuel system:	Memini carburettor with Roots-type supercharger
Ignition:	mechanical by coil and distributor
Maximum power:	142 bhp at 5,200 rpm

TRANSMISSION

Type:	four-speed non-synchromesh gearbox
Ratios:	1st 3.65:1 2nd 2.03:1 3rd 1.39:1 4th 1.06:1
Final drive ratio:	4.25:1

BODY/CHASSIS

Type:	pressed-steel channel-section separate chassis with two outer longitudinal members and cross-members, two- or four-seat open sports bodywork by various coachbuilders
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RUNNING GEAR

Steering:	worm and wheel
Suspension:	front: non-independent with solid axle, semi-elliptic leaf springs and friction dampers rear: live axle with semi-elliptic leaf springs and friction dampers
Brakes:	15½-in diameter, finned alloy drums front and rear, rod-operated
Wheels:	wire-spoked
Tyres:	5.5-in x 19-in diameter front and rear

DIMENSIONS AND WEIGHT

Length:	166.0 in (3962 mm)
Width:	65.0 in (1651 mm)
Wheelbase:	108.0 in (2743 mm)
Track:	54.0 in (1372 mm) front and rear
Kerb weight:	2,465 lb (1118 kg)

PERFORMANCE

Acceleration:	0-60 mph 9.4 sec
Maximum speed:	106 mph (171 km/h)
Overall fuel consumption:	14 mpg
Price (1933):	£1,675 (chassis only)

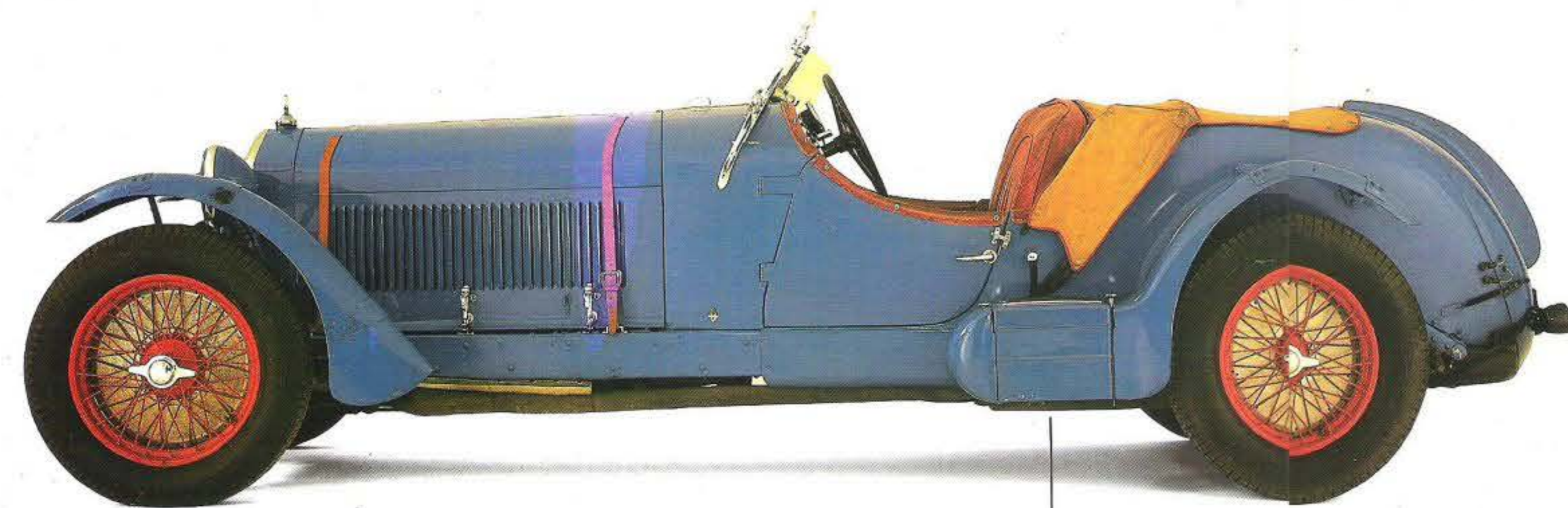
Alfa Romeo 8C 2300 kindly supplied by the National Motor Museum

Fuel filler

A car designed for road racing needed to have a large, easily accessible fuel filler. When the car pulled up for attention from the roadside mechanics, petrol was poured into the tank from a large churn.

Alfa Romeo 8C 2300

One of Alfa Romeo designer Vittorio Jano's true masterpieces, the 8C 2300 was introduced in 1931 and stayed in production until 1934. During that time, Alfa Romeo made several versions of the car. There were short- and long-chassis road cars with various body styles – four-seaters, two-seater roadsters, fixed-head coupés – and even a successful Grand Prix car. Leading coachbuilders such as Touring, Graber and Zagato built the bodies for the roadgoing cars. For many people, the 8C 2300 still epitomises the classic European sports car of the 1930s.



Tonneau cover

Like many classic sports cars, the 8C 2300 looks best with the hood down and was really designed to be driven open. However, there was a hood, but when it was folded down it could be covered with a tonneau, so that the car's smooth lines remained unbroken.

Tool box

Motoring in the 1930s was much more of a pioneering venture than it is today. The tool box contained a good selection of spanners, other small tools that the driver would need to make adjustments to the car or to carry out minor repairs.

Cutaway doors

The classic driving position for sports and racing cars of the 1930s, with the driver sitting close to the big steering wheel, invited an 'elbows out' style with the driver's right arm overhanging the side of the car.

Fold-flat windscreen

There was a hinge on each side of the windscreen frame. For racing, the driver could reduce the car's frontal area, and so gain a little extra speed, by folding the windscreen down flat.

Twin-cam straight-eight

The 8C 2300's engine had twin overhead camshafts, like many present-day high-performance engines. The camshafts were driven by gears, rather than by a chain or a belt as used on most modern twin-cam engines. The drive to the camshafts was, unusually, from the centre of the crankshaft rather than the end as is normal today.

Starting-handle guide

Like most cars of its day, the 8C 2300 had to be started by means of a handle – this item was also useful for turning the engine over slowly when making adjustments. The handle slid through the guide tube and into engagement with the front of the crankshaft.

Bonnet straps

Any car racing on rough European roads would get quite a pounding, and there was always a chance that the bonnet catches would come unstuck and let the bonnet fly open. For belt-and-braces security, there was also a pair of leather bonnet straps.

Battery box

The Alfa's impressive engine largely filled the underbonnet space, and so the battery was housed in a separate box behind the driver's door.



Wire wheels

This style of wire wheel meant it was possible to change a wheel very quickly in the heat of a race. Once the car was jacked up, the central locking nut was loosened with a hammer and then unscrewed, allowing the wheel to slide off its splines and a new wheel to be fitted.

SPECIFICATION

Alfa Romeo 8C 2300

ENGINE	
Type:	inline eight-cylinder, twin-cam
Construction:	two four-cylinder light-alloy blocks in line with light-alloy cylinder heads
Displacement:	2338 cc
Bore x stroke:	85 mm x 88 mm
Compression ratio:	5.75:1
Valve gear:	two valves per cylinder operated by twin overhead camshafts, gear-driven from centre of crankshaft
Fuel system:	Memini carburettor with Roots-type supercharger
Ignition:	mechanical by coil and distributor
Maximum power:	142 bhp at 5,200 rpm
TRANSMISSION	
Type:	four-speed non-synchromesh gearbox
Ratios:	1st 3.85:1 2nd 2.03:1 3rd 1.39:1 4th 1.06:1
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Competition record

The car shown here has a body built by Touring of Milan, and took part in the Le Mans 24 Hours. Driven by French drivers Heide and Stoffel, it survived the full 24 hours to finish fifth.