

Purchase advice

Fiat Dino Spider and Fiat Dino Coupe 2.0 and 2.4

The Fiat Dinosaurs are the last independent series production sports cars to have been built by Fiat. With the Ferrari V6, they have an excellent engine, were beautifully and timelessly designed by the stars of Italian car design, and make the heart of any lover of Italian sports cars beat faster.

With its curved styling and its sharply cut rear section that was designed by Pininfarina, the Spider has an aggressively masculine look. The Coupe is more understated and one often only recognises the elegance of the design by Bertone on the second glance.

Unfortunately, Fiat failed to achieve the sales success it had hoped for with the Dino and despite the excellent construction of the car, production of it was ended within less than 6 years. Luckily, car lovers all over the world failed to share the opinion of Fiat, and roughly 50% of all Spiders built and 30% of the Coupes have survived. Such a survival high rate can be traced back to the considerable enthusiasm for the earlier 'Dino scene'. At a time when Fiat didn't want to know about the Dino any more, dedicated fans took things in hand and secured the survival of the Dino. You find out the reason for this fascination – at the latest – if you sit behind the gently inclined steering wheel and start the engine.

And that's exactly what we're doing now. The starting procedure is a ritual: turn the key a little bit above the running position and the electrical fuel pump quickly kicks in, filling the float chamber of the 3 twin Weber carburetors. Once this is done, you let go of the key, pump 3 to 5 times on the accelerator pedal and turn the key to start. A well maintained Dino will start up immediately and comfortably idle after a few revs.

Step on the clutch, get into gear and off we go. Even if the engine quickly stutters with too much petrol when cold, you can tell what it is capable of through its sound. But too much petrol is bad news to any cold engine, and at a maximum 3500 revs/min we warm up the Dino. The amazing dashboard, equipped with 7 instruments, tells us all about the state of the heart of our vehicle and about 15 minutes later, when the oil temperature has reached 90 degrees, the Dino is ready for its outing.

Depending on the situation and your mood, you can now do everything with the vehicle that's fun. We start by taking things easy up to 60 km/h before seriously stepping on the accelerator in 2nd gear. The engine immediately roars into action, and it is only on glancing absentmindedly at the rev counter at about 100 km/h that one is reminded to change up to 3rd, only to experience the same thing once more. The gear change is easy and precise, and taking the Dino out over winding country roads is a particular pleasure. This is where she is in her element. The brakes grip effectively before curves, the lateral inclination, especially with the Spider, is low, it is only the indirect construction of the steering that one sometimes wishes to be a little more accurate. But you really have to push the car to its limits to get to this level and drivers who don't go over the top and get to know the Dino carefully will see that the Dino, especially the Spider, also remains controllable at such a level.

Despite its relatively rigidly and sportily designed chassis tuning, the Spider is comfortable. This is more the case with the Coupe, which on account of its longer wheel base is particularly at home touring on the motorway as Gran Turismo.

A few remarks on the engine – 'the temple of force generation' as it might be lovingly described. With the 2.0 Dinosaurs, the engine was a direct descendant from the racing of the then Formula 2. Its complete light alloy aluminium and magnesium construction speaks for itself. But all of its other ingredients also make the tongues of racing enthusiasts click: 160 HP from 2 litres produced a litre performance of 80 HP at a maximum permitted number of revs of 8000/min, which meant that the Dino achieved the kind of results otherwise only considered normal in the league of super sports cars, such as a Miura or a 250 GT. In accordance with the sports car concept of its day, the engine was installed at the front in order to power the rear wheels.

But what were the secrets of this masterpiece which was drawn from Formula 2? The development of the engine – in this case meaning making a racing engine suitable for use in series production – was completed by a former Ferrari Engineer, Aurelio Lampredi, meaning that the components kept their racing sport features: light alloy engine block and cylinder heads, wet cylinder liners; crankshaft, connecting rod and pistons all finely forged and finely balanced. A 4 x supported crankshaft, with every connecting rod having its own crank pins, 4 concave camshafts situated above, doubled valve springs, sodium cooled exhaust valves, forged bronze valve seats and valve guides. 3 Weber dual carburetors, manifolds. Sump, valve cap, oil pump casing, rims and additional components made out of magnesium, and available from formula 1 from 1968 onwards: A high performance capacitor ignition. FIAT therefore presented its customers with a racing engine packaged for regular drivers.

This is something which is still noticeable today – on the one hand through the driving enjoyment that this car provides, and on the other side of the coin, however, through the astronomical repair and maintenance costs that result from the racing technology, which might literally drive the unprepared Dino owner to despair. Exactly the same thing can be said of the 2.4 Dino models, even if these prove a little more suited to day to day driving.

The Fiat Dino is particularly good fun if you use it as your mood takes you and you don't drive it on an every day basis. This might be an enjoyable drive over land, a speedy trip over a mountain pass, or cruising along the Riviera. It is up to each individual to seek out their possibilities depending on their disposition.

Fiat Dinos are to be found in racing rather rarely – something which is true of both today and yesterday. The participation of a Spider at the 24 Hours Le Mans was its only notable racing outing. In historical racing sports, however, a 2.4 Fiat Dino Spider from Austria proved able to win several events. Lets hope that imitators can be found.

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Technical Data: Fiat Dino 2.0:

Engine:

Type: 135 B.000, six cylinders in V arrangement with wet cylinder liners. 65° cylinder angle. Fitted lengthwise at front. Bore x stroke: 86mm x 57mm, capacity 1,987 cc, compaction 9:1, performance (DIN) 160 HP or 119kW at 7,200 revs/min, maximum torque 17.5 kgm at 6,000 revs/min, 3 Weber downdraft 40 DCN 14 twin carburettors, later 40 DCNF in different versions.

Power transmission:

Rear wheel drive, hydraulically operated single disc dry clutch, five-speed FIAT gear box. 135 AC 100, self-locking differential with 25% blocking action.

Body / chassis:

Self-supporting steel body, aluminium boot lid (Spider), front independent suspension on traverse links with radius arms on the lower guide frames, anti roll bar, rear rigid axle with leaf springs, flexible pivot mounting to the axle, front hydraulic telescopic shock absorbers, rear 2 hydraulic telescope shock absorbers on each side. Rack and pinion steering, 4 internally ventilated disc brakes, Electron alloy 6.5 J x 14 rims, 185 HR 14 tyres, 205/70 HR 14 also possible.

Dimensions / weight:

Spider: Wheel base 2280mm, length 4109mm, width 1710mm, height 1270 mm, front track front toe 1385mm, rear 1350mm, unloaded weight 1150kg, weight distribution 50/50

Coupe: Wheel base 2,550mm, length 4,507mm, width 1,696mm, height 1,287mm, front toe 1,378mm, rear 1,362mm, unloaded weight 1,280kg, weight distribution 47/53

Performance: (AMS1967/68)

Spider: Acceleration: 0-100km/h in 8.8s, maximum speed 203.5 km/h

Coupe: Acceleration: 0-100km/h in 9.4s, maximum speed 198.0 km/h

Fiat Dino 2.4:

Engine:

Type: 135 C.000, six cylinders in V arrangement with cast iron block. 65° cylinder angle. Fitted lengthwise at front. Bore x stroke: 92.5mm x 60mm, capacity 2,418 cc, compaction 9:1, performance (DIN) 180 HP or 132kW at 6,600 revs/min, maximum torque 22 kgm at 4,600 revs/min, 3 Weber downdraft 40 DCNF twin carburettors in different versions.

Power transmission:

Rear wheel drive, cable operated single disc dry clutch, five-speed ZF gear box type S5-18/3, self-locking differential with 25% blocking action.

Body / chassis:

Self-supporting steel body, aluminium boot lid (Spider), front independent suspension on traverse links with radius arms on the lower guide frames, anti roll bar, rear independent suspension on semi trailing arm axles, wheel guidance through cross beams, anti-roll bar, hydraulic telescopic shock absorbers front and rear. Rack and pinion steering, 4 internally ventilated disc brakes, Electron alloy 6.5 J x 14 rims, 205/70 VR 14 tyres.

Dimensions / weight:

Spider: Wheel base 2,280mm, length 4,134mm, width 1,710mm, height 1,270 mm, front toe 1,383mm, rear 1,381mm, unloaded weight 1,240kg, weight distribution 50/50

Coupe: Wheel base 2,550mm, length 4,507mm, width 1,696mm, height 1,315mm, front toe 1,390mm, rear 1,381mm, unloaded weight 1,320kg, weight distribution 47/53

Performance: (FIAT media information April 1970)

Spider: Acceleration: 0-100km/h in 8.5s, maximum speed 210 km/h

Coupe: Acceleration: 0-100km/h in 9.0s, maximum speed 205 km/h

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Type history and chassis numbers

Fiat Dino Spider and Coupe 2.0 and 2.4

| Type | Series | Chassis number | Year of manufacture | Number of units |
|------------|--------|-------------------|---------------------|-----------------|
| 2.0 Spider | 1 | AS000026 - 000525 | 1967 | 500 |
| 2.0 Spider | 2 | AS000526 - 001158 | 1967/68 | 633 |
| 2.0 Coupe | | AC000026 - 003654 | 1967/68 | 3,629 |
| 2.4 Spider | | BS001159 - 001583 | 1969/72 | 425 |
| 2.4 Coupe | | BC003655 - 006068 | 1969/72 | 2,414 |
| | | | | In total: 7,601 |

1965 Fiat decides to equip its top of the range model with a Ferrari engine. Manufacturing is to be limited to 500 cabriolets. No limit was intended with the Coupe.

1966 Presentation of a Fiat Dino Spider at the 48th Turin Motor Show.
Start of production of the Fiat Dino Spider on the 8.10.1966.

1967 Presentation of the Coupe at the Geneva Motor Show in March 1967.
Start of sales for the Spider from March. The first coupes are delivered in April.
Start of production of the Coupe: January 1967.
Start of production of the Series 2 Spider roughly from September 1967, for which the interior is completely redesigned. Spider available with wheel bolts on request.
Presentation of the hard top version at the 1967 Paris Motor Show.

1968 Series production of high performance ignition from Spring '68 onwards. Changed cylinder heads with flat base tappets with adjusting shims. It was also possible to install seat belts on the rear seat of the Coupe. Production of both models is brought to a close in December 1968.

1969 November 1969 presentation of the new Fiat Dino 2.4 model in Turin. Grey cast engine block, ZF gearbox, independent suspension for all four wheels, slightly modified body. Bumper with rubber lagging on the Spider.

1970 Introduction of the new Dinoplex AEC 103 ignition system.

1971 During the entire manufacturing period of the 2.4 models, no notable changes are made to the cars.

1972 Production of both models of the Dino Spider and Coupe comes to an end.

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Body

The weak point on both cars is the body. Even though the Coupés manufactured at Bertone underwent an extensive immersion bath procedure to protect against rusting, it wasn't much use.

Despite the minimal attention paid to rust protection by Pininfarina, having predominantly been used as 'good weather cars', the Spiders are generally in better condition.

For this reason it is possible to find un-welded versions, but far more regularly with the Spider than with the Coupé.

If the Dinos were welded in the past, then unfortunately this is not always done with the degree of care that car lovers expect today. The fit of the repair sheet used is also often shocking. It is possible to find a welded and rust free Dino, but you must also be in the position of being able to effectively assess the quality of the completed work.

There are a large number of problem areas:

Spider: A column, sill, lower edges of doors, front and rear bottom plates, bonnet edges, wheel arches, pointed sections – especially under the battery, front skirting, front longitudinal beam, all sections around the chassis supports and windscreen frame.

Coupe: The same areas apply, in addition to the following: front and rear windscreen frames, cross bar under the rear windscreen and tailgate (made out of steel plate) headlight area and area around the air boxes behind the front wheels. A professional should determine what is original, what and how it was done and where possible need for action exists.

Particular attention should be paid to all rubber seals. These are often hardened and fissured, the water runs into unprotected cavities and ruins the bodywork from inside without being seen.

The availability of bumpers and indicators is problematical with both models.

The windscreen frame of the Spider is generally repairable, such repair work can be very expensive, however, as the frame must be chrome plated again.

Original body sections can only be got hold of with a lot of luck. The post processing of body sections by professionals is possible but often not much more expensive than original parts which are hard to come by.

There aren't any spare parts for the interior any more, only new production or switching to other materials is possible.

It is not possible to get hold of missing cover mechanisms for the Spider.

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Technology

In its handbooks, Fiat stated that the engines had a lifespan of 50,000– 80,000 km. If the cars are used for day to day driving, this guideline can be viewed as being accurate today. If, on the other hand, a Dino is used as a recreational car and for longer tours only, and appropriately maintained, the engine is able to reach 120,000 - 150,000 km without any problem.

A complete engine overhaul totals just as with the Ferrari Dino 15,000 Euros.

For the engine, as a rule, the same thing applies about what has been said about the Ferrari Dino.

Lets move on to the gearbox. The Fiat gearbox is lighter and more exact, but the situation as regards spare parts is poor. Synchronising rings and seals are no longer available in stock. In this sense, a used gearbox is the only help, in the hope that the required component is still intact. The situation appears somewhat better with ZF gearboxes, but many parts have not been available for some time here either. ZF does offer maintenance and overhauls at its workshop though.

Looking for replacement parts for the friction-type differential is likely to meet with failure. Apart from the ball bearings and retaining rings, nothing is available. Again, the only thing one can hope to find in desperate need is a complete used differential.

The same thing applies to the steering gear by Gemmer – you can't even find the required ball bearings for this. To make matters worse, there's also the fact that you can only asses the state of repair if the steering gear is disassembled.

There are a number of different shortages with the brake system: The containers for the fluid, which are no longer available, become brittle and break over time. The rear brake callipers on the Dino 2.0 have a complex mechanism for the hand brake. If this mechanism is worn out there's no replacement. The brake calliper must be reconditioned. Brake servos are no longer available. Rubber bushes and shock absorbers for the chassis overhaul are widely available.

There is no replacement or the Dinoplex AEC 101 shock absorber and the required BZR 205 A ignition coil – in this case it is necessary to switch over to a modern ignition system.

But most of the technical components can be reconditioned by competent chassis workshops.

The general comments can be made about the Dino:

A well maintained and intact Dino starts up without difficulty, has a stable engine idle and accelerates neatly and without jerking to the limiting speed. The gearbox functions smoothly and without noise, the brakes decelerate very well and the car does not clatter on poor roads. The rear suspension functions free of noise! Anything else isn't normal and points to advanced wear.

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Price: Status, January 2007

| Type | State of repair 2: | price in € | State of repair 4: | price in € |
|------------|--------------------|------------|--------------------|------------|
| 2.0 Spider | | 40,000 | | 12,000 |
| 2.0 Coupe | | 16,000 | | 6,000 |
| 2.4 Spider | | 45,000 | | 15,000 |
| 2.4 Coupe | | 18,000 | | 7,000 |

Spare parts

For technical parts, the availability of spare parts is relatively good. Unless special components such as oil pumps or similar are being searched for, then it is possible to find the corresponding spare parts through retailers, specialists and clubs.

Exhaust systems are continually available, even if there are shortages sometimes. Stainless steel systems are also offered. The stainless steel manifolds are not available.

This also applies to the interior – original steering wheels, seats or dashboards are almost impossible to find.

It is only possible to find the panelling in the interior, the dashboard, the centre console and the sun visors used and often in a poor condition.

Steel sheet pieces have to be prepared by the panel beater according to draft. Many parts were originally used in other Fiats before and after the Dinos. It is therefore possible to determine which common parts are from other models with the help of the spare parts catalogue.

The prices of all spare parts are clearly above the normal Fiat level.

Some examples: Rear or front bumper, Spider, approx. 1,500 Euros

Windscreen frame, Spider, 1,500 Euros

Overhauled gearbox, 2,500 Euros

Set of brake discs, 900 Euros

Steering wheel, approx. 500 Euros

Rev counter or speedometer (Spider) 400 Euros each

Complete exhaust system, 800 – 1,200 Euros

Front wing, Spider, 1,600 Euros

Complete indicators set, Spider, 500 Euros

Complete indicators set, rear, Coupe, 400 Euros

These prices are to be viewed as being general guidelines, clear upwards or downwards deviations may occur.

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Workshops for the Fiat Dino in alphabetical order

Autohaus Aumüller

Ampferbacher Str. 15, 96185 Schönbrunn
09546 268, www.autohaus-aumueller.com

DinoService

Bergstraße 41, 37276 Meinhard
Telephone 05651 337768 info@dinoservice.de

FormulaGT Sportwagenservice Munich

Riesenfelder Str. 87, 80809 Munich
Telephone 089 304350 www.formulagt.de

Lipps oHG Motorenbau

Kirchstr. 45 a, 79100 Freiburg
Telephone 0761 7070242 www.competizione.de

Total Performance Motorenbau

Kesselheimer Weg 6, 56070 Koblenz
0261 802030 totalperformance@surfeu.de

Spare parts:

All of the listed workshops can provide assistance in the procurement of spare parts; there are further dealers who specialise on Fiat and Dino, however.

- Del-priore www.del-priore.com
- DinoParts www.dinoparts.de
- LineaRossa www.linearossa.de
- Holtmann und Niedergerke www.fiatparts.de

Summary:

For the Fiat Dino, the following rule applies: the better car, even if it seems to be more expensive, is the cheaper solution.

Restoration projects are really only to be recommended to experienced car lovers. Even if overhauling the mechanics generally costs around 20,000 Euros, restoring the body on its own can cost just as much money, if not more. Although a Spider is then usually worth approximately the same amount of money that you spent on it, the same thing cannot be said of the Coupe. In this sense, a huge investment on a Spider might be viewed as being a 'financial disaster'. As offers of good cars are very few and far between, it is certainly worth being patient. Contacting clubs (www.fiat-dino.de) and enlisting the help of an expert can prevent you from buying the wrong car – and spare you from disaster.

If you then one day own a good Dino, with regular care and maintenance, it should bring you considerable motoring enjoyment.

Happy Dinoing!

Berlin, January 2007

Roland Hanke