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Fiat *Spiders*

& Coupes: 124, 128 & *Dino*

COMPILED
BY TREVOR ALDER



The inside story of your car from leading UK motoring journals

Fiat 124 Spider Club e.V.

Fiat *Spiders*

& Coupes: 124, 128 & *Dino*

Compiled by Trevor Alder

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Fiat 124 Spider Club e.V.

Preface

It really is a shame that the 124 Spider never officially made it to these shores. It was one of Italy's best affordable sports cars, their MGB if you like, with cheap running costs, great looks and of course its evergreen charm. Likewise the Dino!

In this book, we chronicle the historical development of these vehicles, together with the 124 and 128 coupes that at least made their way here in the UK.

Many thanks to Haymarket Publishing, for their permission to draw upon their material once again.

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Trevor Alder

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Fiat 124 Spider Club e.V.

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Fiat 124 Spider Club e.V.

Autocar
ROAD TEST
NUMBER 2082



Fiat 850 Coupé and Bertone Spider

843 c.c.

AT A GLANCE: Two rapid rear-engined sports cars based on 850 saloon. Coupé more refined than Spider, but not quite as fast in ultimate top speed. Light, fade-free brakes with discs at front. Lively ride, good road-holding with few of the usual rear-engine characteristics. High standards of finish for small car.

MANUFACTURER:
Fiat S.p.A., Corso Marconi, Rurin, Italy.

U.K. CONCESSIONAIRES:
Fiat (England) Ltd., Northdale House, North Circular Road, London, N.W.10.

PRICES:

Basic	£702	0s	0d
Purchase Tax	£147	16s	3d
Total (in G.B.)	£849	16s	3d

EXTRAS (INC. P.T.)

Radiomobile	£40	1s	6d

PERFORMANCE SUMMARY

Mean maximum speed ..	87 m.p.h.
Standing start ¼-mile ..	21·0 sec.
0-60 m.p.h.	18·2 sec
30-70 m.p.h. (through gears)	21·4 sec
Overall fuel consumption	32·5 m.p.g.
Miles per tankful	215

WHEN the Italian economic recession hit their motor industry in 1964, it was hard to see how anything but trouble could come out of it. But at the Turin motor show that autumn the whole of the special coachwork hall appeared to be turned over to derivatives of the diminutive Fiat 850, as a gesture of encouragement to the general belt-tightening decreed by the government. Buyers were then able to see that little coupés could be as stylish as big ones and much, much cheaper.

The parent factory of Fiat (aptly dubbed "the mother of Italy") was the first to realize the potential of a small specialist car, so two diverse plans were laid down to cover both ends of a large potential market. For what the publicity and ad. men might call "the discerning masses," Fiat began to build the 850 Coupé in their own works; for those wanting something even more special, they backed a very pretty little open Spider designed by Bertone, marketing it through their usual dealers. These two cars made their public debut at the Geneva show in the spring of last year, and we visited Italy to drive them briefly just before their introduction.

By the end of last year right-hand-drive Coupés were being imported here at the remarkably low price of £850 including tax, duty and import surcharge, and the Spider was available in left-hand-drive form only, at the more "exclusive" price of £1,000. This test deals with both, because in addition to carrying out our full set of measurements on the Coupé and driving it for some 1,100 miles, we ran the Spider for 520 miles and timed its acceleration and top speed for comparison.

Mechanically the two cars are very little different, and both are substantially modified versions of the saloon. Power output of the 843 c.c. rear engine is raised from the saloon's 37 b.h.p. net at 5,100 to 47 at 6,200 for the Coupé and 49 (also at 6,200) for the Spider. To achieve this gain the compression ratio is increased from 8·8 to 9·3 to 1, a twin-choke Weber carburettor and four-branch exhaust manifold is substituted and a revised camshaft fitted. The gearing of both cars is not changed significantly; although bigger, 13in. wheels are needed to clear the front disc brakes, lower-profile tyres compensate.

Before the engine tuners got to work on the B.M.C. Mini, a high-performance saloon with an engine of only 843 c.c. was unheard of, and it is important to remember the tiny size of the engine when assessing the Fiat. Yet even so, both cars proved capable of 90 m.p.h. with brisk ▶

Fiat 124 Spider Club

Autocar Road Test 2082

MAKE: **FIAT**

TYPE: **850 Coupé and Bertone Spider**

WEIGHT

Kerb weight (with oil, water and half-full fuel tank):
14·4 cwt (1,607lb-732kg)
Front-rear distribution, per cent. F, 37·8; R, 62·2
Laden as tested .. 17·4 cwt (1,943lb-885kg)

TURNING CIRCLES

Between kerbs .. L, 31ft 6in.; R, 28ft 5in.
Between walls .. L, 33ft 5in.; R, 30ft. 5in
Steering wheel turns lock to lock .. 3·8

PERFORMANCE DATA

Top gear m.p.h. per 1,000 r.p.m. .. 14·0
Mean piston speed at max. power 2,580 ft/min
Engine revs at mean max. speed 6,200 r.p.m.
B.h.p. per ton laden 54

OIL CONSUMPTION

Miles per pint (SAE 30) 1,000

FUEL CONSUMPTION

At constant speeds

30 m.p.h.	48·8 m.p.g.	60 m.p.h.	38·5 m.p.g.
40 ,,	47·2 ,,	70 ,,	32·5 ,,
50 ,,	42·6 ,,	80 ,,	26·9 ,,

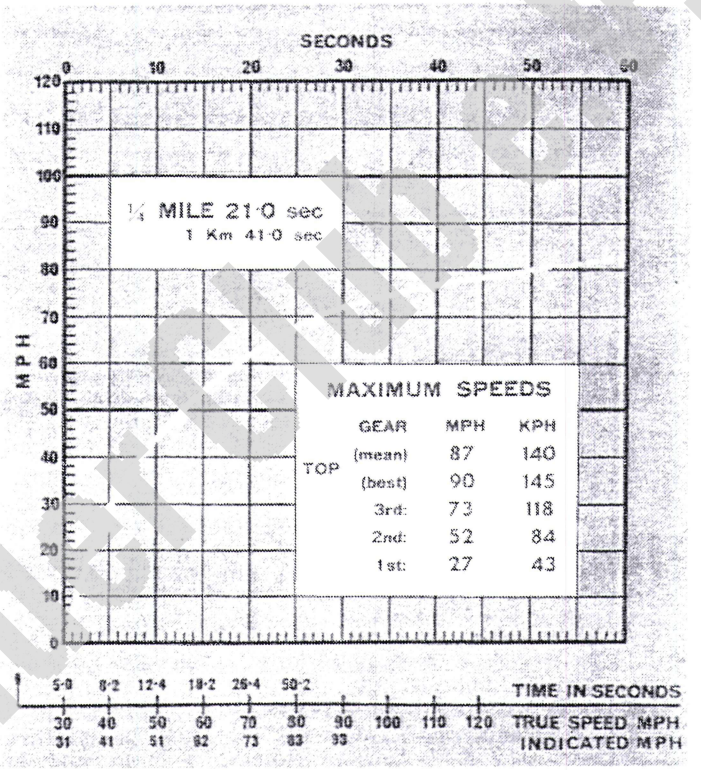
Overall m.p.g. 32·5 (8·7 litres/100km)
Normal range m.p.g. 28 to 38 (10·1-7·4 litres/100km)
Test distance (corrected) .. 1,106 miles
Estimated (DIN) m.p.g. 31·8 (8·9 litres/100km)
Grade .. .. Premium (96·2-98·6 RM)

TEST CONDITIONS

Weather Dry and sunny with 0-6 m.p.h. wind
Temperature .. .. 13 deg. C (55 deg. F)
Barometer .. .. .. 29·5in. Hg.
Surfaces .. .. Dry concrete and tarmac

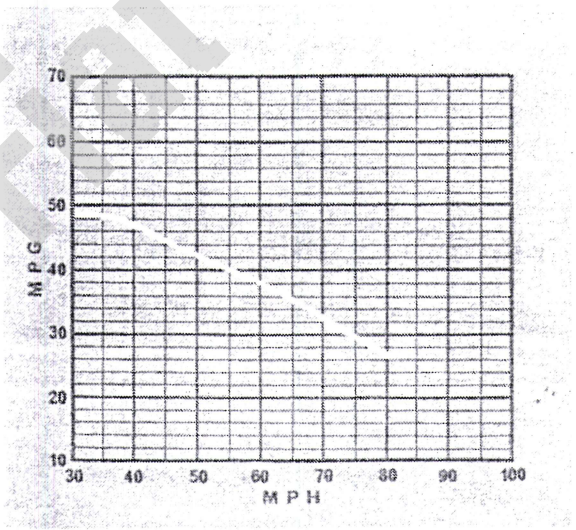
Speed range, gear ratios and time in seconds

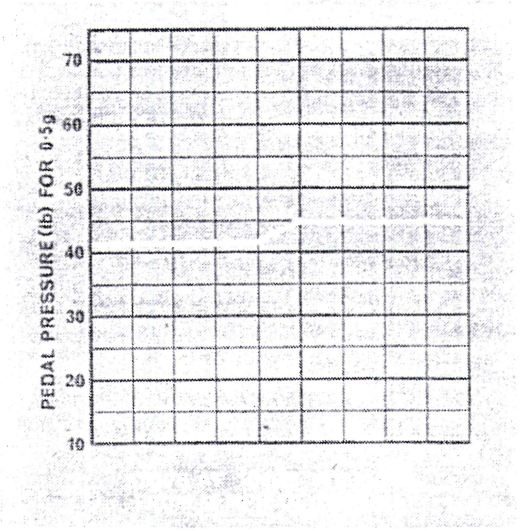
m.p.h.	Top (4·69)	Third (6·87)	Second (10·02)	First (17·72)
10—30	18·7	10·2	6·1	——
20—40	16·7	9·0	5·9	——
30—50	16·5	9·5	7·1	——
40—60	19·1	11·0	——	——
50—70	25·4	13·9	——	——
60—80	38·6	——	——	——



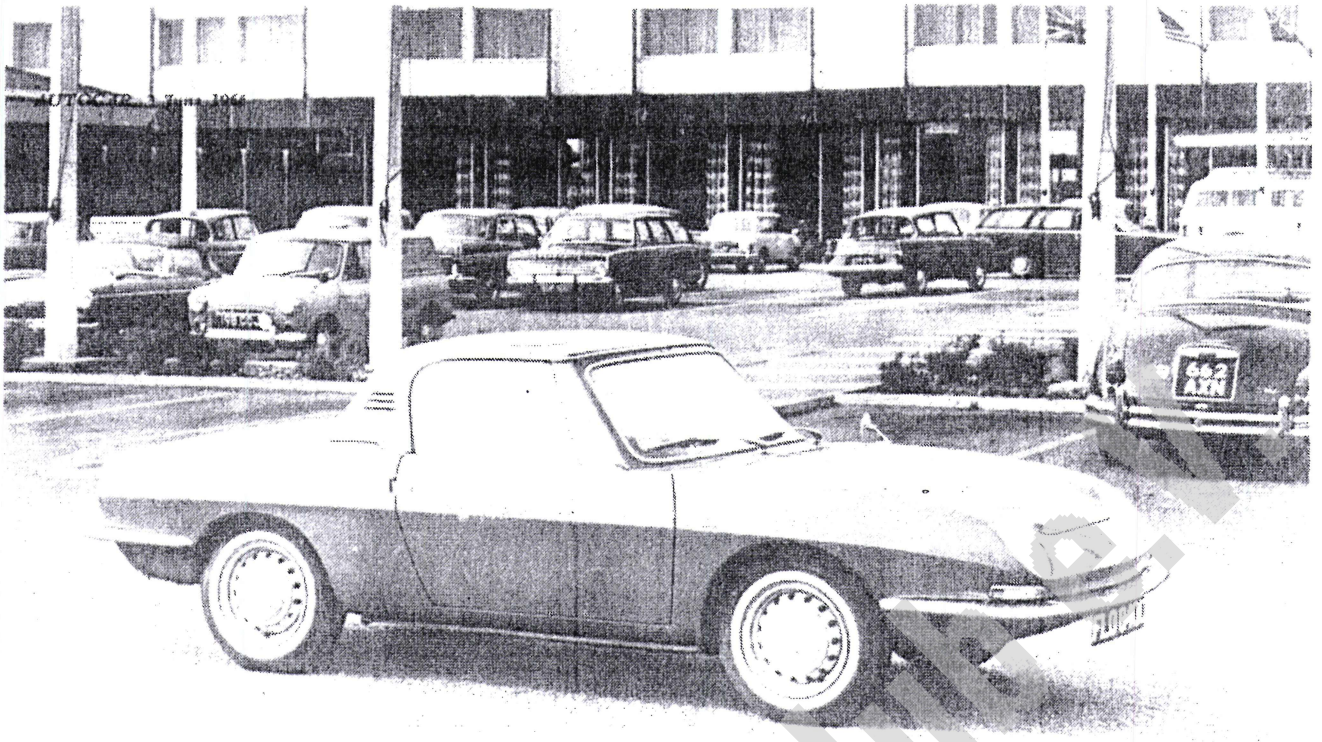
BRAKES	Pedal load	Retardation	Equiv. distance
(from 30 m.p.h. in neutral)	25lb	0·38g	120ft
	50lb	0·78g	39ft
	70lb	1·00g	30·1ft
Handbrake		0·42g	72ft

CLUTCH Pedal load and travel—20lb and 5in.





Fiat 124 Spider Group



The Bertone Spider can be specified with either a soft folding hood or a detachable hardtop, as shown here

acceleration and an incredible willingness to rev very highly indeed.

This Fiat engine is one of the most remarkable in recent times, for with only three main bearings and quite conventional pushrod valve gear it runs to 8,000 r.p.m. when really thrashed and feels as though it could go on and on for ever despite being abused in this way. It is smooth right through the range, except at its rather lumpy idling speed, when the body seems to pick up a resonance and to boom uncomfortably. Below about 3,000 r.p.m. there is very little bite to the performance, but from then on the torque comes (as one tester put it delightfully) scampering in like a bouncy puppy. Of course, such a willing engine needs a rev counter and Fiat provide an exceptionally clear and legible dial to match the speedometer with a steady pointer and red warning mark starting at peak power (6,200 r.p.m.).

When first taking the performance figures we tried using this mark as a limit, but later improved our standing-start times by 8sec to 80 m.p.h. by running well "into the red" to about 7,500. It is always satisfying to find that a designer has worked his sums out right (the Italians seem particularly good at this), and at maximum speed the little Coupé exactly reaches the peak of its power curve in top. The Spider, with less frontal area, is even faster, and reaches speeds well into the 90s (95 m.p.h. best, 92 mean) but our car began to lose oil pressure when held flat out on motorways for long periods.

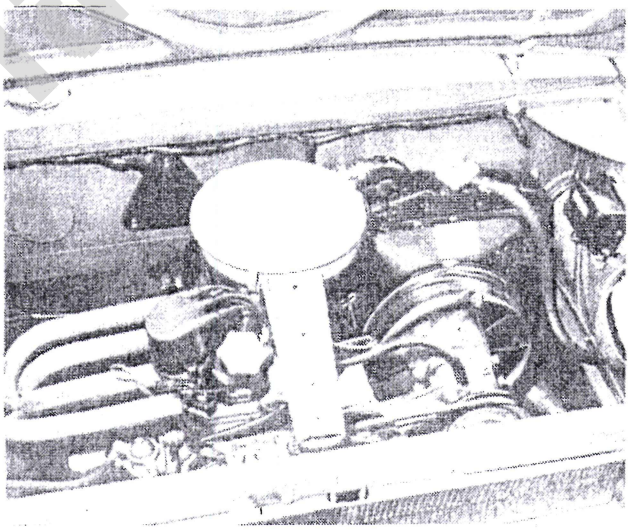
After the difficulties we had in getting full performance from the 500F because it was too new, Fiat made sure the Coupé was well run in and it came to us with nearly 10,000 miles behind it, 1,551 of them clocked up during a 24-hour endurance run at Snetterton last February. Despite what can only have been a hard life for any demonstrator, the little car felt taut and in the prime of condition with no rattles nor any signs of deterioration.

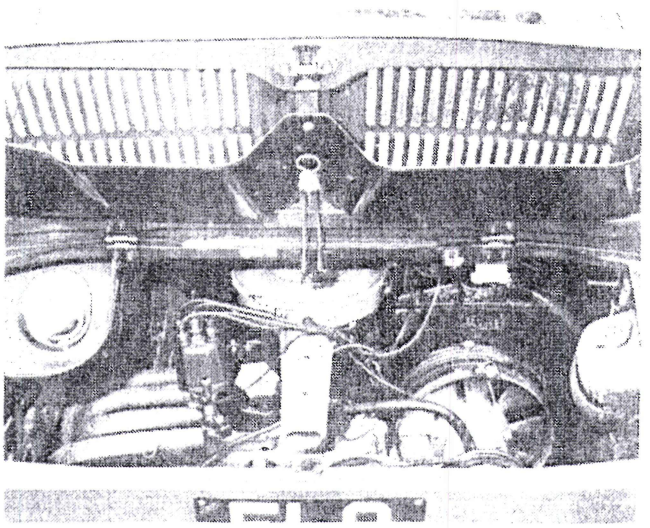
The Spider engine was not so loose, with only about 5,000 miles behind it, and could not quite match the acceleration times of the Coupé. Less attention appears to have been paid to sound deadening on the Spider and there was a kind of gravelly exhaust noise all the time; this open version never felt as refined as did the Coupé. Although the Spider has slightly more woodwork on its facia, we preferred the plain layout of the Coupé and considered it to be the better-finished car.

The gearbox is all-indirect, with synchromesh on all four. While the box itself works precisely there is some loss in feel introduced by "give" in the long linkage. At rest,

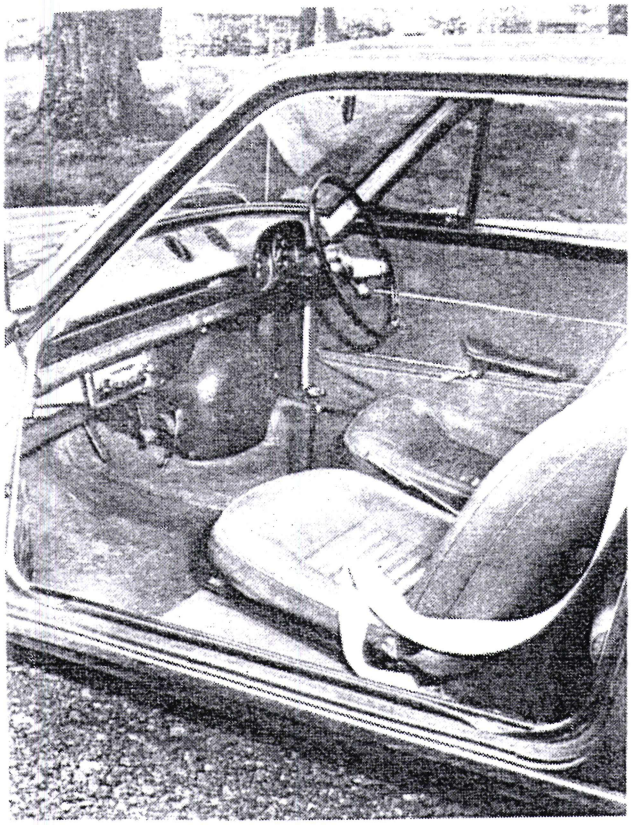
▶

There are very few differences between the engines of the Coupé (right) and Spider (left). Both have dipsticks so close to the manifold that they are too hot to touch. On the Coupé the fuel filler is under the rear bonnet, with a splash guard, whereas on the Spider it is on the tonneau deck outside





Fiat Owners Club





Standards of finish in the Coupé are excellent. The radio fills most of the parcels shelf and there is no glove locker. The back seat can take two adults, but legroom is restricted

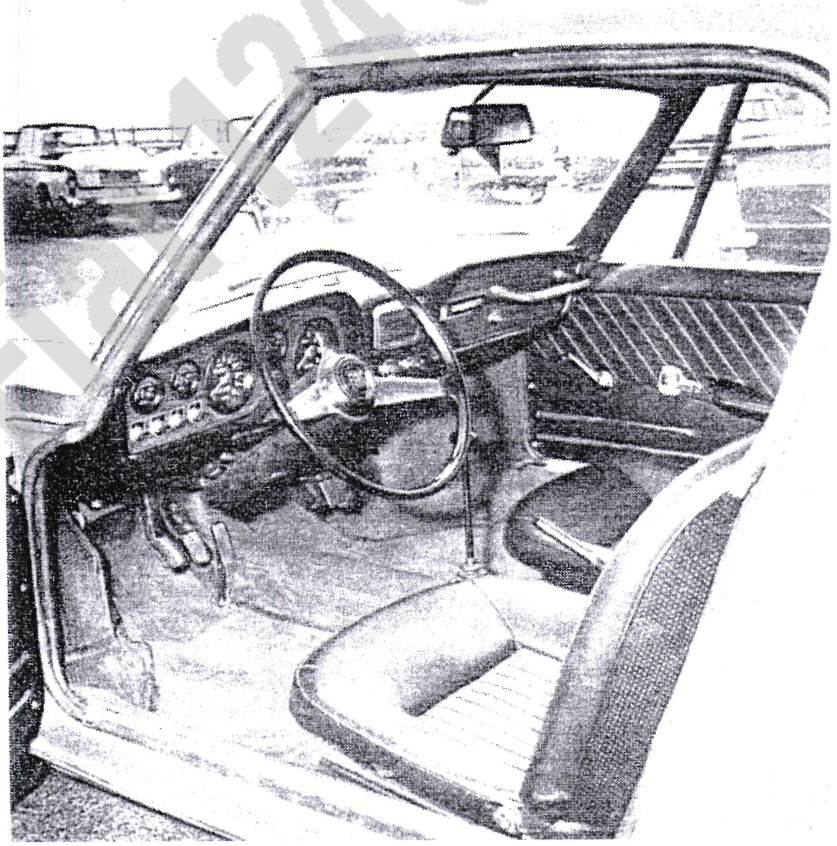
FIAT 850 COUPÉ AND BERTONE SPIDER ...

first gear often baulks unless one is rather brutal and stabs the clutch quickly, snatching the gear before the layshaft has stopped. There is quite strong spring-loading across the gate towards third and top which makes the second-to-third change easy and incredibly fast if one simply bangs the lever forwards without sideways pressure. At no time was there the faintest crunch from the synchromesh, not even when trying to gain every tenth of a second on our standing-start times.

First is rather low compared with the upper three, which make a close and well chosen set; but then the Coupé managed to restart on a 1-in-3 test hill without difficulty so there has most likely been a compromise. The handbrake, by the way, held easily with the car facing either way on this gradient.

The 850 saloon has drum brakes back and front, but on the Coupé and Spider, large diameter discs (the same as on the new 124, incidentally) are fitted to the front wheels, working on the new Bendix-Lockheed single-piston principle. They proved to be light and sensitive with practically no fade during our repeated stops from three-quarter maximum speed. When used lightly in traffic there is sometimes a scraping noise, but this disappears when the pedal is pushed harder and may only have been caused by a light coating of rust on the disc faces.

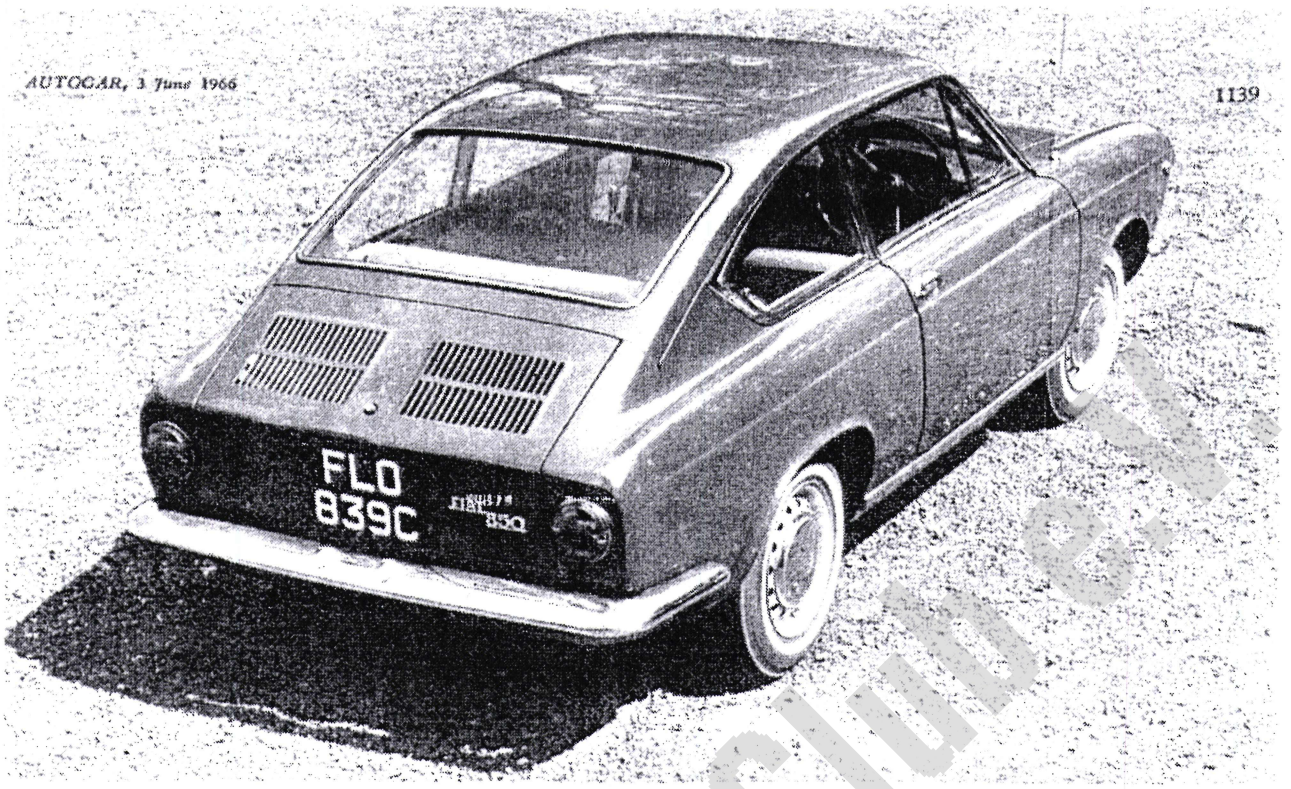
On the Bertone Spider there are more supplementary instruments, and a drop-down locker under the passenger's grab handle



HANDLING

The days of unstable, oversteering, rear-engined cars are over and the handling of the Fiat is a good example of the progress that has been made. Despite a rear weight bias of 62 per cent there is no noticeable oversteer on the road, quite the reverse in fact, with the car taking a naturally wide line that can easily be tightened by the steering as required. It feels best to judge the corner early and set the car up without changing one's mind, for it can become "untidy" if one decides to alter course half-way through. On the M.I.R.A. road circuit we explored the handling to adhesion limits and found there was a gradual and very controllable transition to oversteer which could be incited by "tweaking" the

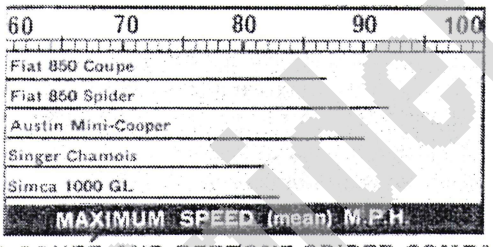
Fiat 124 Sport Club e.V.

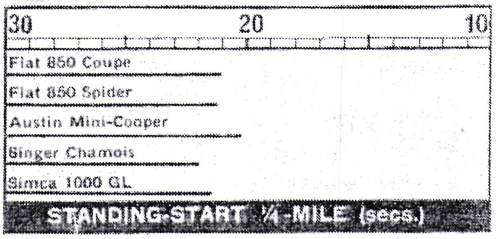


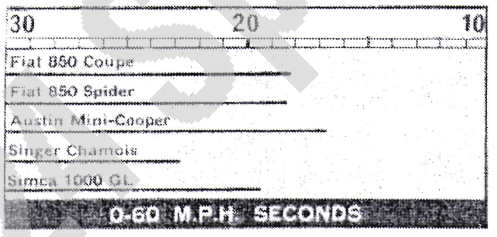
Fastback styling seems to suit rear-engined cars particularly well, and the Fiat is one of the prettiest of all

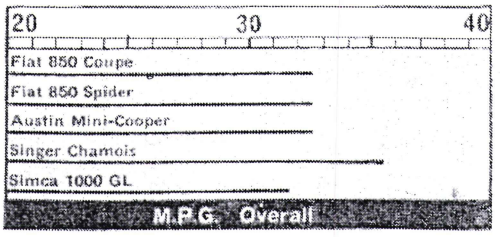
HOW THE FIAT 850 COUPÉ AND BERTONE SPIDER COMPARE:

TOTAL PRICE	£850 Fiat 850 Coupe
	£1,000 Fiat 850 Spider
	£590 Austin Mini-Cooper
	£590 Singer Chamois
	£640 Simca 1000 GL









steering wheel, as with a good rally car set up for quick response.

Often rear-engined cars become extraordinarily skittish on wet surfaces, but this Fiat maintains very well indeed its good manners and seems reluctant to wag its tail even when spinning the wheels on particularly greasy surfaces.

The steering, like all the controls, is very light and the car responds quickly. At speed it does not become oversensitive, and although one can feel the disturbances in cross winds they seem to be damped out immediately by the corrective influences built into the car.

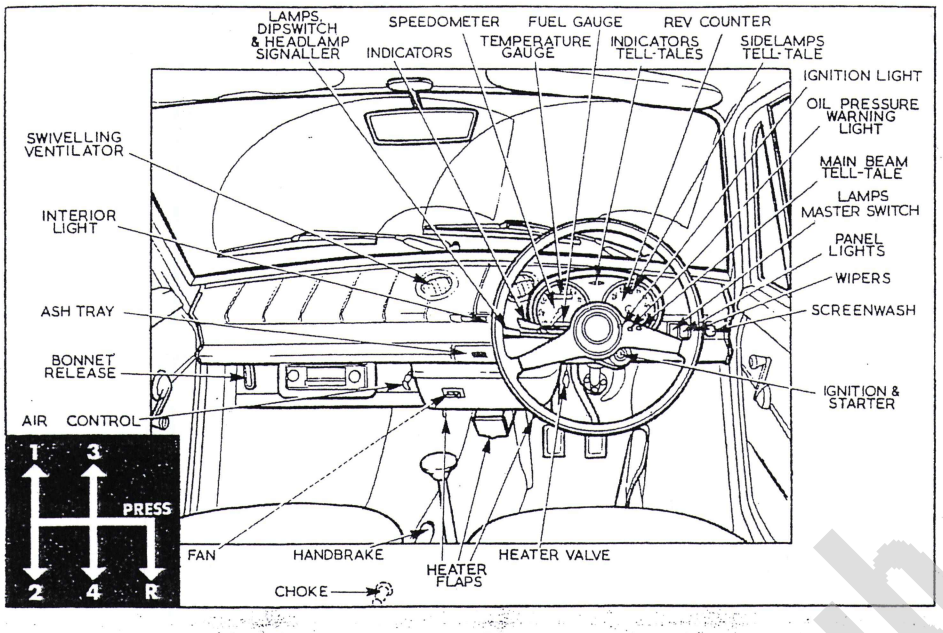
It is probably the very uneven weight balance that causes the ride to be distinctly choppy; in this respect the Coupé is considerably better than the Spider. This trait did not show up particularly on our close-set concrete waves at M.I.R.A., but on the road the front of the car seems to get bucked about on the small irregularities encountered everywhere. With luggage under the front lid the ride improves considerably, and the "dead" springing in the seats prevents the occupants from bouncing in sympathy, so the feeling is not unpleasant even if it can never be forgotten entirely.

SEATING

The firmness of the suspension helps to reduce body roll and the Fiat corners on a very level keel. Seat shaping also helps keep one in place, with almost a comfortable padded "well" to sit in, and good wrap-round backrests for shoulder support. On the Spider the angle can be adjusted over an adequate range by means of a thumb-screw stop at the base of the backrest, but on the Coupé it is fixed in what we found to be the right position, to accommodate the locks required as a safety feature under Italian law. For access to the rear compartment a button must be pressed to release the backrest.

In the front one sits rather skewed round to face the offset pedals. Rear-engined cars inevitably displace their passengers farther forward between the front wheel arches, and these intrude into the pedal and foot areas. On the left-hand-drive Spider we felt our feet slightly cramped, while on the right-hand-drive Coupé one's shoes ▶

First 124 Spider Club



FIAT 850 COUPÉ AND BERTONE SPIDER ...

must *overlap* to work two pedals at once. Actually Fiat have done a good job in converting the car for the British market, and the brake pedal pad is very slightly angled to tilt one's right foot over one's left when braking and declutching simultaneously. There is a narrow rest for one's foot beside the clutch, but any shoe size over a narrow No. 8 could find no way to reach it. In fact, none of our big-footed testers had trouble in getting at the pedals when they wanted them.

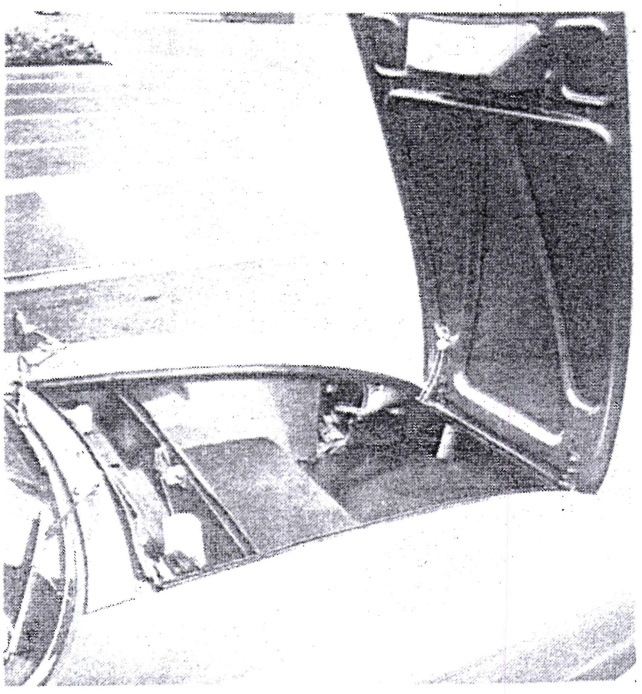
Both front seats have a long range of sliding travel, spring-loaded forwards and moving easily on well-greased runners. The steering wheel diameter is a compact 15in., and the polished spokes do not reflect in the screen at night. It is angled to a comfortable, semi-straight-arm position with the robust gear-lever near one's hand (left or right depending on the layout). Through the wheel on the Coupé the driver sees two big circular dials containing all gauges and warning lamps; on the Spider slightly smaller main instruments are supplemented by separate gauges set into a wooden facia panel.

A neat set of rocking switches carry symbolic labels, and twin levers on the steering column work the indicators and lamps (including main-beam flasher) with firm, precise movements. Fiat do not subscribe to the idea that a small car needs only a small horn and so on these two cars it sounds a deep, and rather rude, raspberry, with melodious overtones. The wipers sweep big arcs rapidly and on right-hand-drive cars they are offset to the correct side. The ignition switch is below the facia on the steering column, although on the Coupé there is no additional lock for the steering. A separate key is needed for the doors.

To get into the back of the Coupé one or other of the front seats must be slid forward and the backrest folded ▶

Luggage space is scarce on both cars. The Coupé is on the left and the Spider on the right. With the spare wheel horizontal under the floor there is really only room for a slim over-night bag in the Spider





Fiat 850 Sport Club e.v.

down. One extra adult can sit here half-sideways quite comfortably, but two children would fit in much better. The rear backrest does not fold forwards to make a platform for extra luggage, but then quite a big suitcase will fit in under the front lid; only the spare wheel lives here, the fuel tank being at the back.

After creating their neat little baby Coupés, Fiat trim them very smartly in the latest stretch p.v.c. that practically passes for pigskin. There is an air of luxury inside that one seldom sees in small cars unless they are given the expensive coachbuilders' treatment after delivery. A good deal of attention has been paid to sound deadening (much more in the Coupé than the Spider) and the little power unit only begins to buzz when the revs are wound well up the scale.

On a recent Continental trip we were surprised to see 850 Coupés all over Italy, Switzerland and even France and Germany. Now that we have tested one we can understand why such a model has become popular so quickly. It has chic looks, brisk performance with economy and a tasteful interior that changes remarks like "That's nice" to "Yes, it *is* nice" on closer acquaintance.

SPECIFICATION: FIAT 850 COUPÉ AND SPIDER, REAR ENGINE, REAR-WHEEL DRIVE

ENGINE

Cylinders	4, in-line
Cooling system	Water, sealed with pump, fan and thermostat
Bore	65mm (2·56in.)
Stroke	63·5mm (2·49in.)
Displacement	843 c.c. (51 cu. in.)
Valve gear	Overhead, pushrods and rockers
Compression ratio	9·3-to-1
Carburettor	Weber 30 DIC
Fuel pump	Weber mechanical
Oil filter	Fiat full-flow centrifugal
Max. power	47 b.h.p. (net) at 6,200 r.p.m.
Max. torque	44 lb. ft. (net) at 3,600 r.p.m.

TRANSMISSION

Clutch	Single dry plate, diaphragm spring, 6·3 in. dia.
Gearbox	4-speed, all-synchromesh
Gear ratios	Top 0·96; Third 1·41; Second 2·06; First 3·64; Reverse 3·62
Final drive	Hypoid bevel, 4·87 to 1

CHASSIS AND BODY

Construction	Integral with steel body

SUSPENSION

Front	Independent, transverse leaf spring, wishbones, telescopic dampers, anti-roll bar
Rear	Independent, semi-trailing arms, coil springs, telescopic dampers, anti-roll bar

STEERING

Type	Worm and roller
Wheel dia.	15in.

BRAKES

Make and type	Fiat-Bendix disc front, drum rear
Servo	None
Dimensions	F, 8·9in. dia.; R, 7·3in. dia. 1·18 in. wide shoes
Swept area	F, 136·4 sq.in.; R, 54 sq. in. Total 190·4 sq. in. (218 sq. in. per ton laden)

WHEELS

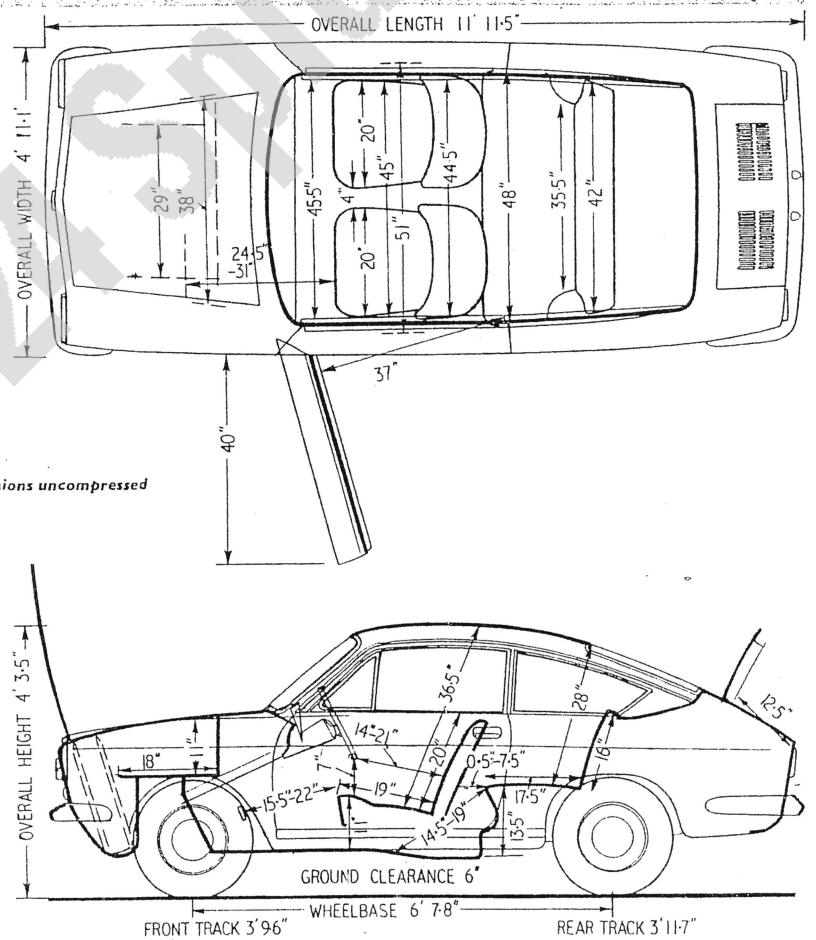
Type	Ventilated pressed steel disc, 4·5in. wide rim
Tyres	Pirelli Sempione tubed—size 5·20—13in.

EQUIPMENT

Battery	12-volt 48-amp. hr.
Generator	230 watts d.c.
Headlamps	Carello 45-40 watt
Reversing lamp	Extra
Electric fuses	8
Screen wipers	Single speed, self-parking
Screen washer	Standard, manual plunger
Interior heater	Standard, fresh air
Safety belts	Extra, anchorages built-in
Interior trim	P.v.c. seats, p.v.c. headlining
Floor covering	Moulded rubber
Starting handle	No provision
Jack	Screw-pillar
Jacking points	2 each side under sills
Other bodies	Spider, saloon

MAINTENANCE

Fuel tank	6·6 Imp. gallons (warning lamp) (30 litres)
Cooling system	13·2 pints (including heater) (7·5 litres)
Engine sump	5·6 pints (3·25 litres) SAE 30 Change oil every 6,000 miles; clean filter element at engine overhaul only
Gearbox and final drive	5·6 pints SAE 90EP. Change oil every 18,000 miles
Grease	2 points every 1,500 miles
Tyre pressures	F, 16; R, 26 p.s.i. (all conditions

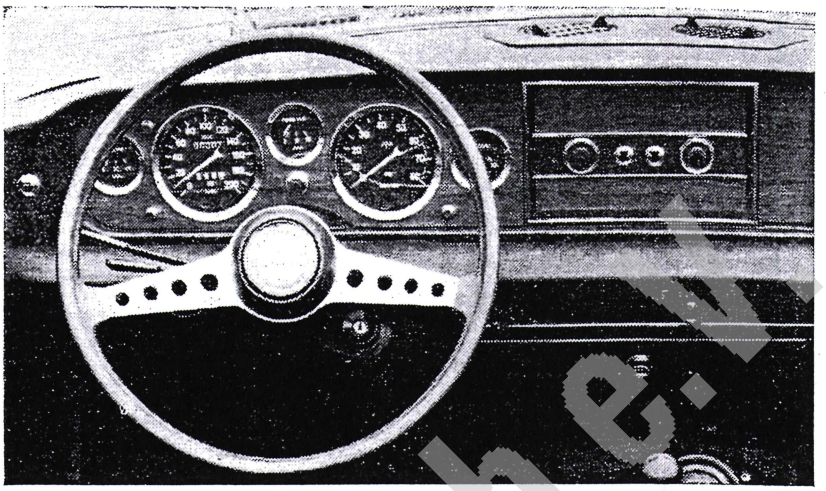


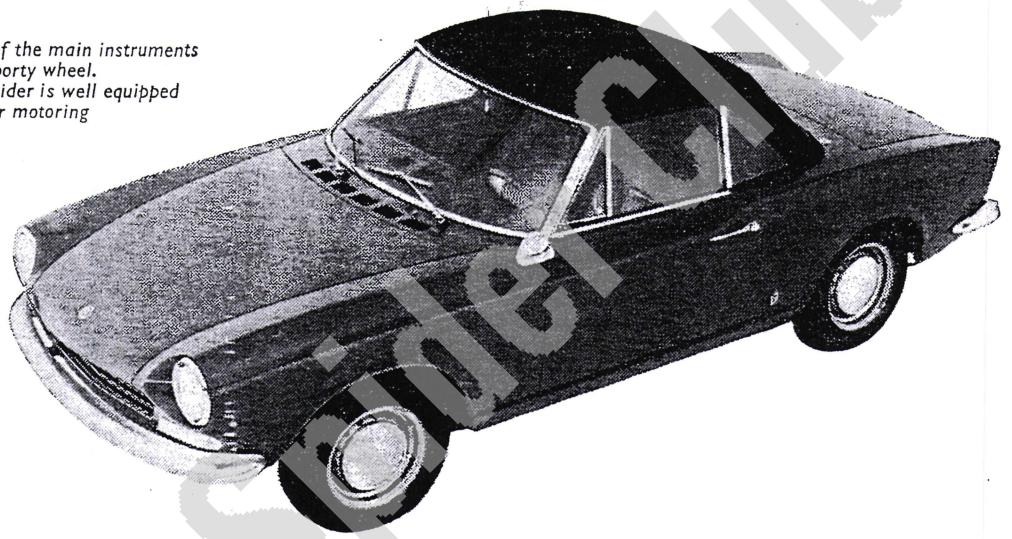
Scale 0·3in. to 1ft cushions uncompressed

Fiat 124 Spider Club U.K.

DRIVING IMPRESSIONS

FIAT 124 SPORTS SPIDER





A clear view of the main instruments through the sporty wheel. Below: The Spider is well equipped for all-weather motoring

DURING the Turin show, Fiat hurriedly staged some road tests for journalists to allow them to gain first impressions of the new 124 Sports Spider. On the *autostrada* to Ivrea, Fiat electronic recording and computing apparatus was set up to measure the acceleration from standstill to a first checkpoint at 400 metres and another one at 1,000 metres; instantaneous speed at 400, 1,000 and 4,000 metres from start was also recorded. The very bad weather spoiled the tests, so that it is to be hoped that more speed and better acceleration can be obtained in normal conditions, and braking tests on better surfaces will show a more favourable light in the apparently good brakes of this car.

My data sheet from the computer shows a time of 17·47 sec to cover the first 400 metres, roughly a quarter mile, at which moment a speed of 78·8 m.p.h. was reached; the standing kilometre was covered in 32·77 sec and the speed at the 1,000 metres mark was 95·3 m.p.h. Top speed at the 4 kilometres mark was slightly under 107 m.p.h. The test included a stretch of twisty road up the hill near Ivrea. Here, also, foul weather was against us, for in addition to having the road wet and with lots of fallen leaves, there was also thick fog with poor visibility which slowed us down.

Acceleration through the gears felt good, but of two cars tested one refused to go over 6,000 r.p.m. Fiat technicians said that it was due to a faulty electronic tachometer, but the second car was obviously a bomb, so that the first one must be suspect. On the second car the engine went steadily up to 7,000 r.p.m. and over, even in fourth gear, and in the first three gears 8,000 was reached without complaints. It is rather strange how the five speeds were selected, or rather how the ratio of fifth gear was selected. There are, in effect, two lines of thought about 5-speed gearboxes: one is to have the five ratios spaced to get the most out of them, with fifth direct to avoid power losses in the gearbox; the other is to have the first four gears in normal fashion and fifth as overdrive to reduce strain and engine noise when cruising.

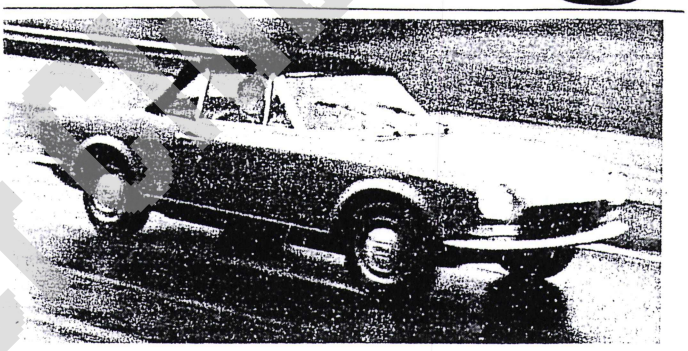
In the Fiat 124 gearbox, the latter system was adopted, but in my opinion fifth is still not high enough; in driving it was evident that the engine was turning too fast for comfort, and from Fiat data sheets this was confirmed, since the ratio of fifth gear is 0·91 to 1 when 0·9 or 0·88 is the more usual. Finally, this is how the engine of the 124 Sports and the one of the saloon compare. Stroke is the same, and so is design of the crankshaft, although the 124 S has a more carefully balanced unit, in view of the higher speed reached. To allow for the bore of 80mm against the 73mm of the saloon, the block of the 124 S is cast differently, with siamesed sleeves. The engine head is obviously very different with the twin overhead camshafts, but also the timing is different. For the saloon: intake opens 25 deg b.t.d.c. and closes 59 deg a.b.d.c.; exhaust opens 65 deg b.b.d.c. and closes 19 deg a.t.d.c. Overlap is thus 44 deg. The corresponding figures for the 124 Sports are 26-66-66-26, and overlap is 52 deg.

One of the lesser known points of the 124 S is that it has an hydraulic damper for the steering, mounted on the right side linkage support.

Driving impressions of a car are always very personal, when only one driver is concerned. This car has good overall behaviour, in the Fiat tradition; it is meant to be driven by almost anybody and so the steering is less direct than it might otherwise have been. There is ample room even for the tallest driver (provided nobody is in the back seat). The gearshift lever is of the inclined type whereas I prefer the vertical and shorter type (as on the Dino for instance.) **Gianni Rogliatti** ■

Fiat 124 Sport Spider Club e.V.

fiating



WHEN WE ARRIVED IN TURIN for the show (page 28) we fondly imagined we would be able to drive the new Fiat Dino at some time during our stay. However, Fiat had most uncharacteristically done things BMC fashion – announcing the car before they had made any – so that we had to be content with a go in the 124 Spider instead.

This is an all-Fiat sports car, and as the name suggests it is directly developed from the very successful 124 saloon. However, the 1197cc pushrod engine is replaced by a 1438cc twin cam – the camshaft drive being by glass fibre-reinforced cogged rubber belt – and the specification also includes a five speed gearbox. Power output sounds fairly modest at 90bhp, but the engine clearly has a lot of scope for further development; in any case 90bhp pushes this 2070lb car along quite smartly.

In order to provide journalists with really accurate performance data, Fiat had set up a lot of electronic equipment alongside the Turin-Ivrea autostrada. The press relations people had also built themselves a neat little pavilion where they could service the cars and dish out cups of coffee. (Just imagine this sort of thing on M1, or even one of the lesser motorways!) We were duly ferried there through pouring rain in a chauffeur-driven 2300 and presented with a smart red Spider, but just when we thought we were going to have it all to ourselves press officer Cecil Gavuzzi (he of the Cockney mum) jumped in and said he would come along to show us the way – ie, to make sure we didn't break it.

The plan was to run up the autostrada to the next intersection, down the other side and then back to base. We started off, like everybody else, by changing up from first to fourth, but subsequently we managed to find the right ratios without conscious effort – which is quite something on a five speed box with Alfa-type gate.

The only chance to assess roadholding came on the gentle curves of the autostrada intersection, and Gavuzzi's worried expression effectively dampened our ardour even there. (Well, it was very wet.) However, on this acquaintance we would say that the basic handling characteristic is slight understeer, which feels as if it would change pretty rapidly to final oversteer. Front and rear anti-roll bars keep things on a fairly level keel and the Pirelli Cinturatos give good grip at moderate cornering speeds. Pressed really hard the Fiat's live (albeit well-located) axle cannot be expected to behave as well as a good independent rear end.

We didn't have much opportunity to try the brakes, but the pedal felt rather spongy and had a long travel. Ditto the clutch. The steering was a little low geared and lacking in feel, but the car ran straight at speed.

For some reason the electronic timing equipment was not operating while we were on the autostrada – probably because some of the speeds recorded earlier in the morning had been somewhat below par. Nevertheless, our car held an indicated 7000rpm (and 180km/h) in fourth for several kilometres, which is rather more than Fiat claim and which caused Gavuzzi to point out that there was another gear. However, 5500rpm and 160km/h was about as much as we saw in fifth, so this ratio must be regarded purely as an overdrive – in which function we usually prefer it to the expensive and sometimes temperamental electrically-operated type.

The exhaust note sounded a little raucous on some of the test cars, but ours was quite bearable even at 7000rpm. Mechanical noise was very low – this was one of the reasons for going over to cogged belt drive for the twin overhead camshafts – and wind noise was no worse than on any other car with a convertible hood.

Interior appointments in the Spider verge on the luxurious for a mass-produced sports car. The seats have adjustable backrests and provide more than ample legroom, with a bit of space for kids in the back and a hood that drops back in the easy, one-handed fashion which is regarded as the norm outside Britain. Floor and transmission tunnel are carpeted and the heater puts out a real blast of warm air.

The driver, of course, gets a full range of instruments directly ahead of him, and a proper pull-up handbrake between the seats. The boot is much bigger than in most sports cars, and there's space for extra luggage instead of small children behind the seats. At less than £900 this is clearly going to be a good seller in Italy, and will be a real threat to the medium-size British sports cars in export markets even if its lines look a little uninspiring.

Returning to the show, we found Fiat surprisingly reluctant to talk about the Dino or even to let us look at its rear suspension. Rumour has it that Ferrari is not at all satisfied with the car's handling, and that the current live axle may well be thrown away before it goes into production. Be that as it may, it is quite something for Fiat to turn out a car with four overhead camshafts when BMC can't even manage *one*!

Of course, Fiat are only really making this car so Ferrari can use the engine for Formula Two next season and they can reap some of the glory. It wasn't really necessary for them to fit four camshafts, as Formula Two regulations merely require that the block shall be a production item, but the prestige will undoubtedly rub off on their less glamorous vehicles.

The styling of the Dino is something of a disappointment, too – largely because it doesn't look exciting enough for its cost. Next spring there will be a coupé version from Bertone, and it will be interesting to see how he goes about the problem of covering up the cams.

Over on the Ferrari stand the yellow mid-engined Dino coupé attracted a lot of attention – particularly for the way its one-piece engine cover and rear window hinge at the roofline. It has the same engine as the Fiat Dino but rather more advanced suspension, and is obviously intended to compete with the six-cylinder Porsche on both road and track – for which purpose either three or four valves per cylinder may be used to boost output from 180 to 250bhp. Multiple valve heads will also be used on the Formula Two engine, but it is a little too much to expect them to find their way into the Fiat Dino.

Fiat Owners Club

DINO DRIVE



Factory team run Fiat's new sports car out for testing

Fiat Dino Spider GTV

ROAD IMPRESSIONS

WHAT is a Dino? It's the latest sports car in the Fiat range with a vee-6 Ferrari engine and Pininfarina body. It's an international car with its French Michelin tyres, British Girling brakes working on American Kelsey-Hayes ventilated discs made in Germany, a five-speed gearbox with Porsche-type Simca and Fiat synchromesh, a Borg-Warner spin-resistant differential, Weber carburettors, and much more. It's a thoroughbred sports car even before you turn the key, with strains of all that's best in its pedigree.

It's a car you hear coming, not with a loud raucous exhaust crackle, but that smooth high-pitched whine of overhead camshaft chains and the beat of the air parting ahead of its snout. It's a crowd gatherer when stopped and an eye-catcher on the move. The Italians are a nation of car enthusiasts and every time I pulled up it was a fight to get through the crowd round the car. Whenever I squealed the tyres they clapped, in groups on street corners, and little boys came scampering to the roadside long before we got there. Yes, although production has hardly started and the price is not yet decided, 500 Italians have placed firm orders for an unknown package and the public know all about it.

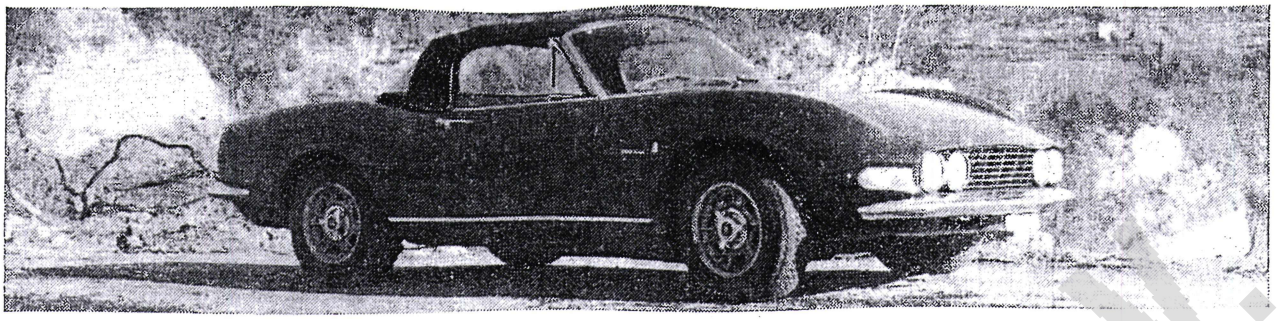
First, the engine is made by Fiat from drawings supplied by Ferrari and is a 65deg vee-6 with four overhead camshafts. It develops 160 b.h.p. net from 1,987 c.c. and with ultra-short stroke (86×57mm) runs easily to 8,000 r.p.m. The reason for the Fiat-Ferrari liaison is to qualify the engine for use in formula 2 racing by producing 500 units before the end of February. In this road car it runs on a 9-to-1 compression ratio (100-octane petrol is quite adequate) and is extremely tractable, with no temperament. The useful power range on the pilot-run cars I tried started at about 2,000 r.p.m. and ran to beyond 8,000, but later cars will probably pull better from even lower r.p.m. Dott. Ing. Montabone has a target of 500 r.p.m.

The rest of the car is conventional, with a live rear axle and half-elliptic, single leaf springs supplemented by leading radius arms, Panhard rod and twin telescopic dampers each side. The five-speed gearbox utilizes the cast-iron centre section of the box from the Fiat 2300, fitted out with new gears and new front and rear housings; the rear one contains an extra step-down indirect fifth and a pressure pump for all the indirect bearings. The axle again is the same size as that used on the 2300 but there is a Borg-Warner spin-resistant differential inside.

Maximum speeds in the gears are 38, 65, 90, 120 and just short of 130 m.p.h. I timed acceleration from rest to 400 metres (¼-mile) in a mean of 16·1sec on my own, and 0 to 100 m.p.h. takes just over 20sec. Maximum speed was an indicated 134 m.p.h. one way with a return reading of 130 m.p.h.; times for a measured kilometre on these runs gave true readings of 129 and 126 m.p.h., but the car in question had covered only about 1,400 miles from new, so more freeing off would certainly improve the performance.

Impressive Stability

Two things were outstanding during this testing on a section of as-yet uncompleted *autostrada* of which Fiat seem to have the exclusive use. First, the stability was truly supreme, with never the slightest deviation from dead true running and at maximum speed I was able to glance down at the watch and note the standing-quarter time. It was the least exciting 130 m.p.h. at which I have ever travelled. Second, for a soft-topped car the noise level was remarkably





Top: Although the term "Mini-Ferrari" is overworked it really does describe the nature of the Dino. Above: It was like this whenever the Dino was parked, evidence of Italian interest in a new model

DINO DRIVE . . .

low, there was no wind shriek or roar and normal conversation was no problem.

After several runs to measure performance, I was sent off with the car to go wherever I pleased, the only condition being that I must be back in Turin by 6.30 p.m. Sunshine, a sports car and a huge chunk of Italy at my disposal, which way to go? To the Mediterranean, of course, and by the cross-country route through the hills which might have been designed for this kind of car.

Ride Comfort

Ride comfort on all types of surface is superb, with long and easy wheel movements to absorb any unevenness. Suspension is soft, very soft, but firmly damped and there is no recurrent pitching at all. Many tyres were tried during the development programme and Michelin XAS came out way ahead on vertical comfort and grip. They have the added advantage of being suitable for sustained running at the maximum speed of the Dino with only 25 p.s.i. pressures.

Handling is likewise excellent, with immediate response to steering movements. Unexpectedly, and as an odd quirk of the rear suspension geometry, the tail of the car lifts slightly when power is put through the rear wheels and this effect, combined with the limited-slip differential, makes the cornering very sensitive to the throttle. With the engine pulling steadily there is some understeer, but as soon as the accelerator is opened any more the tail tends to swing round in response. Everything is very controllable and the steering takes care of all that is happening immediately, but on wet surfaces the driver might need a lot of skill to keep things in hand; it was dry, and rather dusty, during all my testing, and I must confess I like to hang the tail out and have this kind of fun when conditions are right.

Adhesion is quite remarkable and the big fat radials are quiet and progressive in their characteristics; rim width is no less than 6·5in. Although the gear ratios look uneven on paper they suit the engine perfectly, and with a useful range of over 6,000 r.p.m. in each gear the choice of which to use is as free as with some American vee-8 powered GT cars. Gear positions are in conventional H-pattern with 5th tacked on the end to the right opposite reverse, which is guarded by a press-down catch. There is light spring-loading towards the middle (3rd and 4th gear plane).

The brakes work with very powerful servo assistance which takes a while to get used to; first time I pushed the pedal only gently the car practically stood up on its nose. I would estimate less than 25lb is needed for quite hard braking from speed, which gives one a tremendous feeling of confidence in the stopping power. These characteristics never changed at all during my mountain driving, although I never really tried to fade the brakes away.

Lasting impressions of such a car are mixed but superlatively good. The engine is ultra smooth, with a feeling of real unburstable strength that is rare in a unit giving such high specific power. What little noise there is sets the blood tingling, and although the term "Mini-Ferrari" is already overworked it really does describe the nature of the Dino. Fiat seem rather diffident about the commercial success of the new car; it will not be sold outside Italy for some time, if at all. My blank cheque is in the post already, and if I have to go there each time to drive it I shan't mind that much, for the *autostrada* is free from limits and the people there know what a sports car's for.

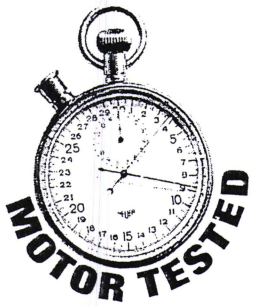
Geoffrey Howard ■

Fiat Spider Europa

MOTOR ROAD TEST No. 41/67 ● Fiat 124 Sport coupé



PUNCH HERE TO FILE



Multi-purpose sports car

Smooth, lively engine noisy at high revs; exceptional roadholding; precise steering heavy at low speeds; seats comfortable but lack leg room; well equipped and finished

ONE of the most logical steps in diversifying a range of quantity production cars is to produce sports or coupé versions. Few succeed as well as Fiat who now offer five sporting variants of popular saloons ranging in size from the 850 Spider and coupé up to the 2300S. Of these, three are currently available in the UK and the latest import is the middleweight model: the 124 Sport Coupé.

Unlike many saloon-based coupés, it offers much more than merely a pretty body and an extra carburetter on the standard model. Though it shares the basic efficiency and rugged vitality of the 124 saloon, it covers a range of qualities which would normally embrace two cars; it has an extremely well-equipped and finished interior with four seats and a reasonable boot, an advanced twin overhead camshaft engine, exceptional roadholding and, on the latest models, for an extra £30, a five-speed gearbox. It is a notable reflection on Fiat's production techniques that the car sells for under £1,300 in the UK, a figure which, were it not for import duty, would probably be nearer £1,000.

Some members of our staff had previously driven the coupé at Silverstone where it impressed as an outstanding circuit car. And in most respects it does not disappoint on the road. Its maximum speed of 100 m.p.h. and 0-50 time of 8.9 seconds are commonplace today—but not for a 1½-litre four-seater car weighing 18¼ cwt. The four-speed model we tried shows up the limitations of typical Italian gear ratios with a high top for autostrada cruising and the rest fairly low for scrambling up and down alps. And the tyre thump at low speeds, a typical radial characteristic, suggests that on this model at least roadholding may have taken precedence over road noise.

PRICE: £1,055 plus £243 9s 10d tax equals £1,298 9s 10d. Alloy wheels £61 9s 2d extra, total as tested £1,359 19s.

Despite these and other detail faults, the 124 Coupé impressed us as an appealing car and an important newcomer in a domestically neglected market with much to offer the enthusiast wanting a reasonably priced sporting car with four seats.

Performance and economy

The 124S series was introduced at the Turin Show last year, replacing the 1500/1600S series with its rather complicated Osca-built twin overhead camshaft engine. It marked the first acceptance by a major manufacturer of a cogged-tooth belt to drive twin overhead camshafts and though the cylinder head is completely new, accounting for a power output of 90 b.h.p. at 6,600 r.p.m., the block and five-bearing bottom end of the 124 remain basically unaltered except for an increase in bore enlarging the capacity from 1,194 c.c. to 1,438 c.c.

In the cold damp weather prevailing for most of our test the engine needed full choke to fire and sometimes several churns of the starter. It could then be driven off immediately, though a decreasing amount of choke is required to prevent stalling for the first five minutes or so and the gearbox is notably stiffer than when warm.

At normal running temperatures the engine has a fairly wide range of usable power extending from below 2,000 r.p.m. right up to 6,800, at which point the yellow sector on the rev counter meets the red. It would pull smoothly without judder, though initially not strongly, from well below 20 m.p.h. in top gear feeding the throttle in gradually until it was fully open at 2,000 r.p.m., after which the revs would build up steadily. In the intermediate ratios, the needle fairly whistles round the dial to the red sector though occasional resonant periods tend to mask some of the smoothness. The engine is by no means quiet, particularly at the top end of the scale, but the noise is not unpleasant with a certain refined urgency about it

Continued on the next page



Fiat 124 Sport coupé

continued



Simple lines are neat and elegant, not too flashy, and all corners are visible for parking

which some of our drivers considered an essential ingredient of the car's character.

Up to the legal limit, equivalent to a comfortable 4,320 r.p.m., the engine is in no way fussy, but thereafter the noise level rises, emphasising the need for the five-speed box which has direct fourth and the same 4.1:1 axle ratio, so fifth is strictly an overdrive for cruising, not for obtaining maximum speed. The gearing is obviously intended to give top speed at the peak of the power curve, but our speed runs were made in gusty conditions which kept the mean lap to just under 100 m.p.h. and peak revs were only reached on one stretch. It must also be borne in mind that the test car had under 2,000 miles on the clock.

The need to use the gearbox and plenty of revs takes its toll in fuel consumption. Our overall fuel consumption was a modest 20.9 m.p.g., confirmed by a 350-mile run taking in town work and motorway cruising which produced 21.2 m.p.g. Most owners would probably manage better than this once the engine had fully loosened up, as our touring consumption of 26.3 m.p.g. suggests. Even so the range with a ten-gallon tank is barely 200 miles. The engine prefers a diet of five-star fuel and tends to run-on with anything less.

Transmission

Most of our drivers agreed that, except for the disappointing ratios, the gearbox was one of the best we have tried. The action is positive, light and quick and all ratios have synchromesh which is virtually unbeatable yet unobstructive enough to allow finger-tip changes.

A low first gear ensures rapid getaway and would start the car on a 1-in-3 gradient without much difficulty. Second and third are quick, close changes but we soon developed the habit of taking the engine to its maximum in third on the open road to help bridge the gap between it and top. Similarly on the way down it was necessary to lose quite a bit of speed before dropping into third to avoid over-revving. The pedals are arranged conveniently for heel and toe which was useful as the change was usually delayed until

Performance

Performance tests carried out by *Motor's* staff at the Motor Industry Research Association proving ground, Lindley.

Test Data: World copyright reserved; no unauthorised reproduction in whole or in part.

Conditions

Weather: Dull with showers; gusty winds up to 20 m.p.h.
Temperature: 46°–50°F.
Barometer: 29.50 in. Hg.
Surface: Damp concrete and macadam.
Fuel: 101 octane (RM), 5 star rating.

Maximum speeds

	m.p.h.
Mean lap banked circuit	99.5
Best one-way ¼-mile	106.0
3rd gear }	73.0
2nd gear } 6,800 r.p.m.	48.0
1st gear }	29.0

"Maximile" speed: (Timed quarter mile after 1 mile accelerating from rest)

Mean	95.7
Best	97.8

Acceleration times

m.p.h.	sec.
0-30	3.7
0-40	6.1
0-50	8.9
0-60	12.8
0-70	16.7
0-80	24.7
0-90	37.8
Standing quarter mile	18.8

m.p.h.	Top sec.	3rd sec.
10-30	—	8.0
20-40	13.3	7.0
30-50	12.5	6.7
40-60	13.0	7.1
50-70	14.6	8.4
60-80	16.5	—

Brakes

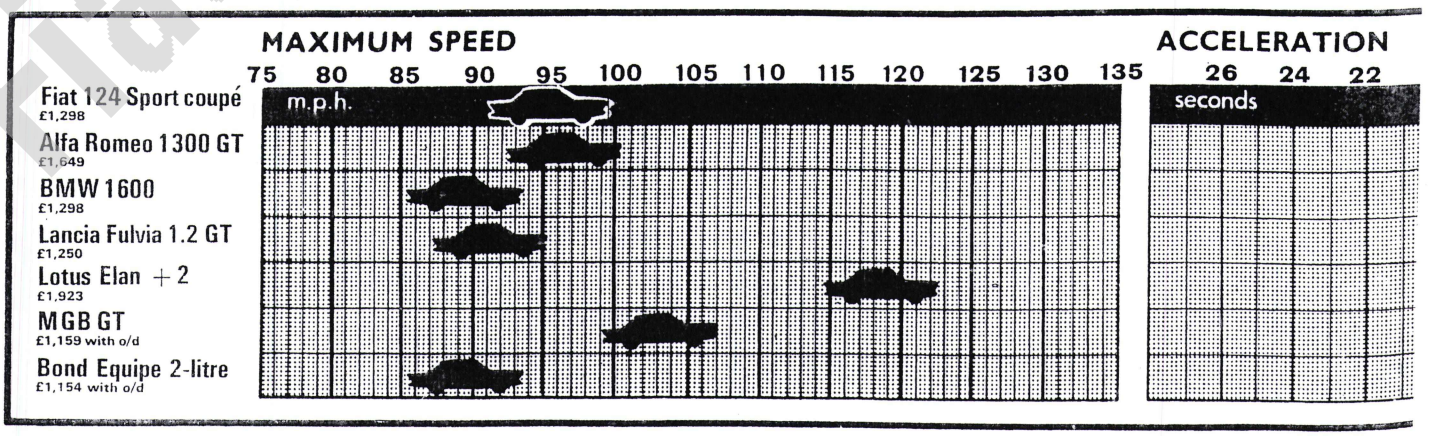
Pedal pressure, deceleration and equivalent stopping distance from 30 m.p.h.

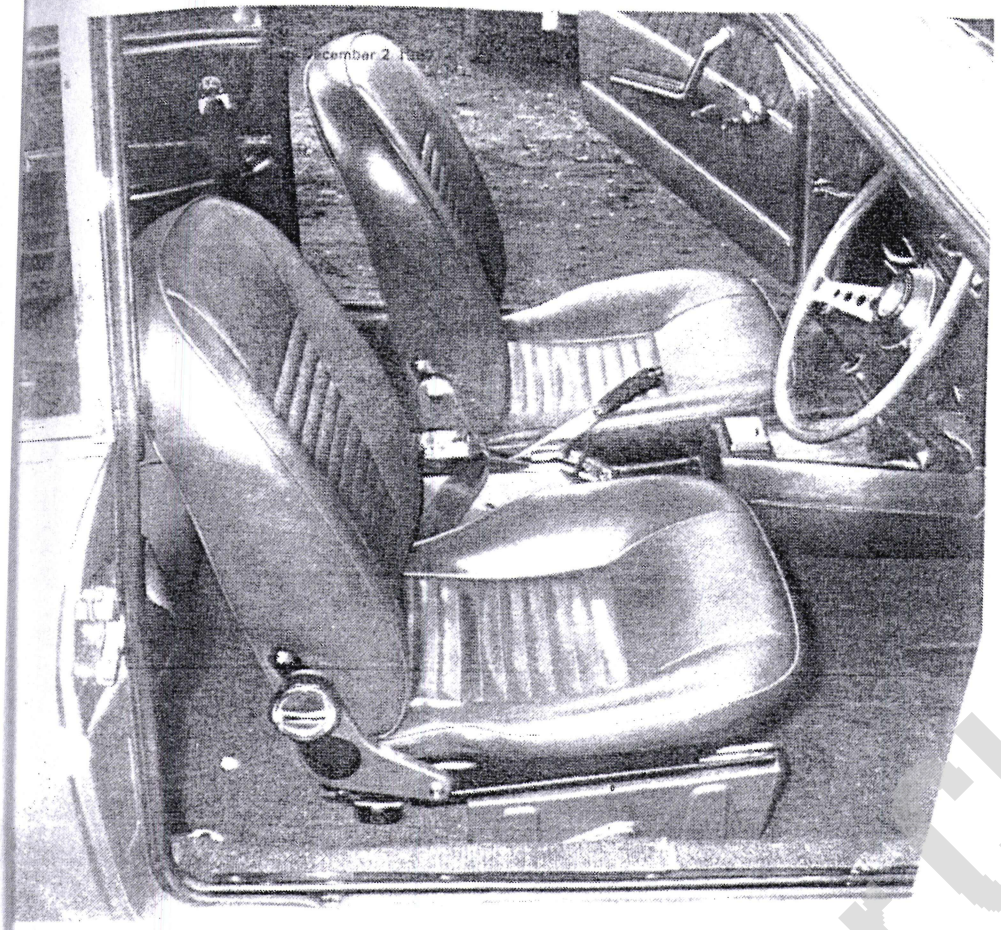
lb.	g	ft.
25	0.27	111
50	0.77	39
75	0.92	33
Handbrake	0.37	81

Fade test

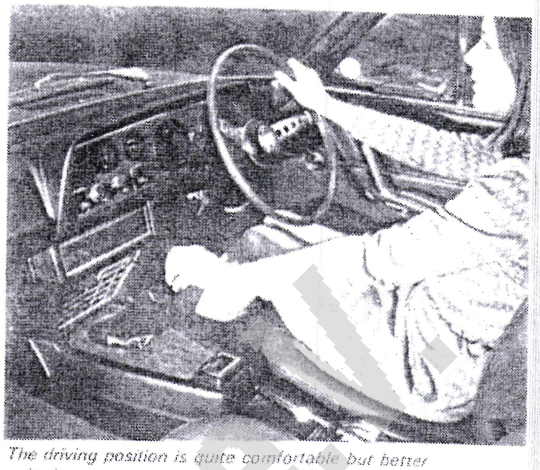
20 stops at ½g deceleration at 1 min. intervals from a speed midway between 30 m.p.h. and maximum speed (=65 m.p.h.).

	lb.
Pedal force at beginning	30
Pedal force at 10th stop	30
Pedal force at 20th stop	35





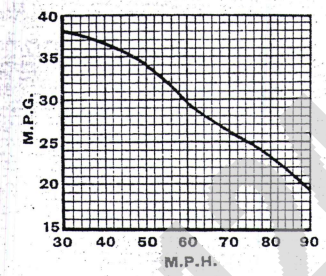
Deeply contoured comfortable seats have a useful range of free running adjustment and the passenger can greatly increase rear legroom without detracting from his own comfort. Only very short drivers would have any use for the forward adjustment on the driving seat



The driving position is quite comfortable but better suited to people with long arms and rather short legs. The metal spokes of the steering wheel have painfully sharp edges



Rear seats are well shaped and there is plenty of head-room but adults would find knee room rather limited



Fuel consumption

Touring (consumption midway between 30 m.p.h. and maximum less 5% allowance for acceleration) . . . . . 26.3 m.p.g.

Overall . . . . . 20.9 m.p.g. (=13.5 litres/100 km.)
Total test mileage . . . . . 1,276 miles
Tank capacity (maker's figure) . . . . . 10 gal.

Speedometer

True	10	20	30	40	50	60	70	80	90
Indicated	11	22	32	42	52	63	73	82	93

Distance recorder . . . . . 3% fast

Weight

Kerb weight (unladen with fuel for approximately 50 miles) . . . . . 18.25 cwt.
Front/rear distribution 55/45
Weight laden as tested . . . . . 22 cwt.

Steering

Turning circle between kerbs: ft.
Left 33.5
Right 32.3

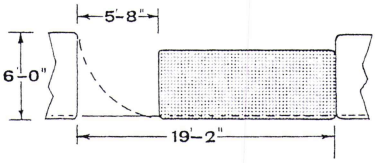
Turns of steering wheel lock to lock . . . 3
Steering wheel deflection for 50 ft. diameter circle . . . . . 1 turn

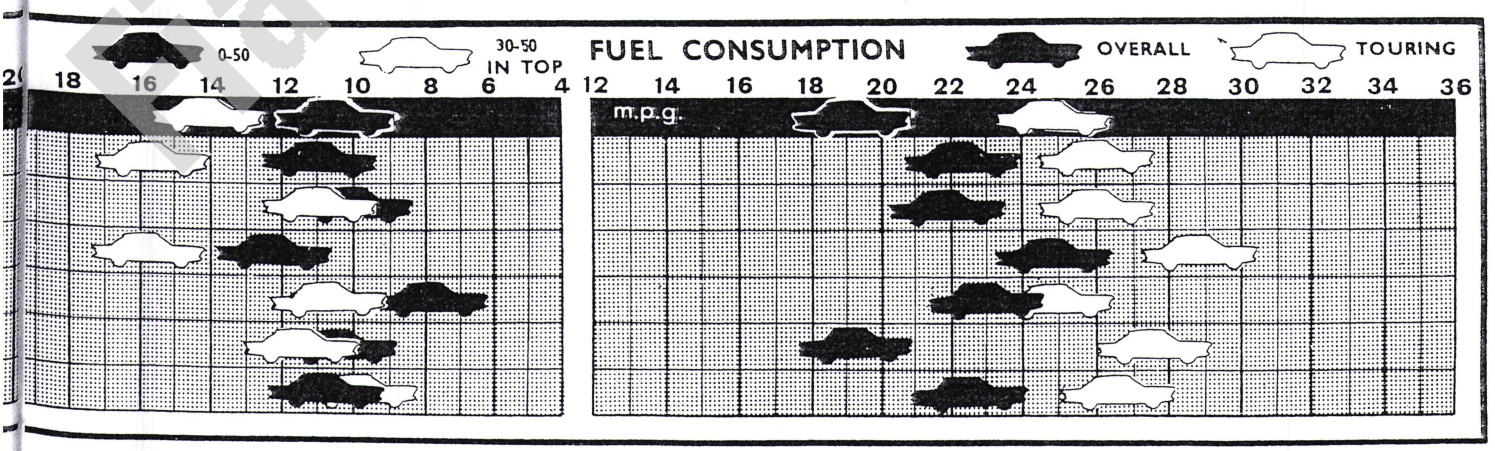
Clutch

Free pedal movement . . . . . = 1 in.
Additional movement to disengage clutch completely . . . . . =2.5 in.
Maximum pedal load . . . . . = 30 lb.

Parkability

Gap needed to clear a 6ft. wide obstruction parked in front: . . . . . .





Fiat 124 Sport Club

Fiat 124 Sport coupé

continued

well after the commencement of braking. Compensating this was the ability to pull strongly in third through corners slow enough to demand second gear on most other cars.

In common with many Italian cars, the lever is substantial and conveniently placed for the left hand. The gate is a normal H-pattern with spring loading towards the three/four plane and reverse requires a sharp push down to the right and back beside top. The gears are not noticeably noisy but there is an audible whine, probably emanating from the primary train since it disappears when the car is stationary with the clutch depressed. Some drivers thought they detected a slight axle moan on the test car.

With a maximum release pressure of 30 lb., the clutch is not particularly light but it shows that ease of operation depends more on pedal angle and position than actual pressure as nobody had any difficulty with it. Its action matches the smooth, positive movement of the gear lever and even the clumsiest driver would find it hard to muff a change.

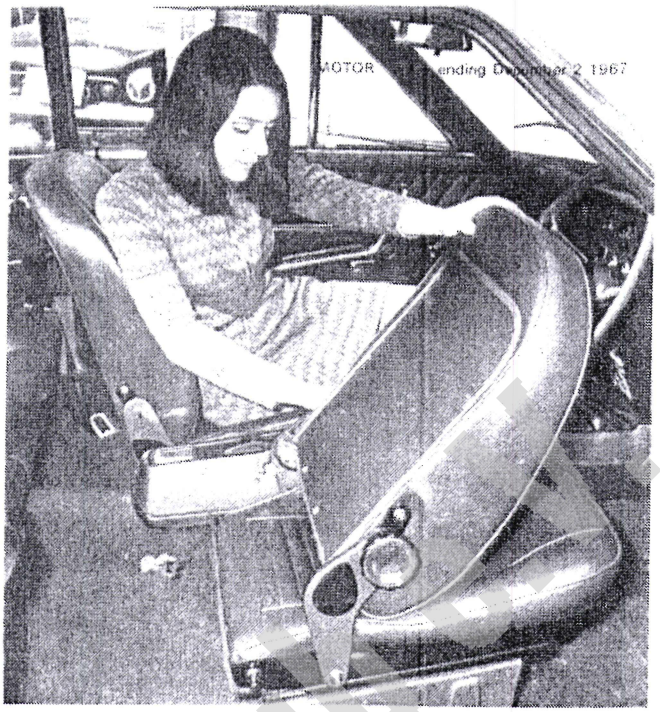
Handling and brakes

Considering the difference in handling characteristics, it is hard to believe that both saloon and coupé have basically the same suspension set-up, differing only in spring rates. Location at both ends is very positive with rear trailing links and a torque tube for fore-and-aft location and a Panhard rod acting laterally. The static roll centre will lie at the point where the Panhard rod intersects the centre-line of the car and in this case it is underslung to give a position very similar to leaf-spring layout. At the front there are conventional wishbones and coil springs with an anti-roll bar at each end, very short at the back but essential for operation of the brake pressure limiting valve.

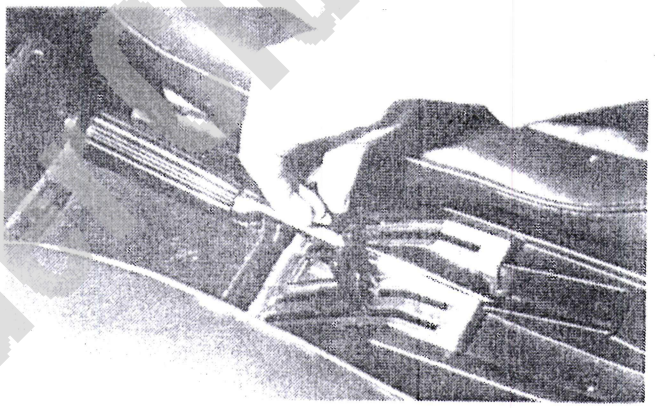
We described the roadholding of the 124 saloon, tested in July, as pretty good although it became rather untidy, with a fair amount of rock and lurch when cornered hard on secondary roads. Revised settings and a lower centre of gravity transform the coupé into a car with quite exceptional handling. On the other hand, whereas a change to Cinturato radial tyres on the 124 saloon made steering lighter and more sensitive without inducing

Safety check list

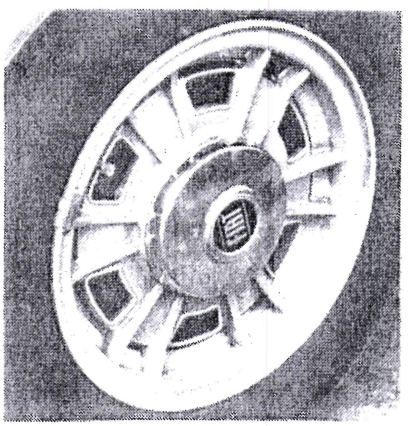
Steering assembly	
Steering box position	Behind engine
Steering column collapsible	No, but two universal joints
Steering wheel boss padded	No
Steering wheel dished	No
Instrument panel	
Projecting switches	Yes, rheostat controls
Sharp cowls	No
Padding	Above and below facia
Windscreen and visibility	
Screen type	Laminated or zone toughened
Pillars padded	Light covering
Standard driving mirrors	Interior only
Interior mirror framed	Yes
Interior mirror collapsible	No
Sun visors	Padded
Seats and harness	
Attachment to floor	Sliding runners
Do they tip forward?	Hinged with safety catch
Head rest attachment points	No
Back of front seats	Well padded rail
Safety harness	Lap and diagonal
Harness anchors at back	Yes
Doors	
Projecting handles	Door handles shielded; window winders project
Anti-burst latch	Yes
Child-proof locks	No—but only two doors



Seat recliners displace the lift catches to the inside where they are rather difficult to reach when entering the back seat



Siting the heater control slides in the centre console permits easy reach by a belted driver, but they require memory in the dark and lack of a gaiter for the handbrake leaves room to drop coins and small objects down inside. The forward switch is a two-speed fan



Cromodora cast alloy wheels are made specially for the car and are an optional extra costing £61 9s 2d

The boot has a flat carpeted floor and held 6.1 cu. ft. of our test luggage. Unfortunately it must be emptied to gain access to the spare wheel, jack and tools below.



Fiat 124 Sport Coupé

Specification

Engine

Cylinders	4
Bore and stroke	80 mm. x 71.5 mm.
Cubic capacity	1,438 c.c.
Valves	Twin overhead camshafts
Compression ratio	8.9:1
Carburetter	Weber 34DFH4
Fuel pump	Fiat mechanical
Oil filter	2 full flow and centrifugal by-pass
Max. power (net)	90 b.h.p. at 6,500 r.p.m.
Max. torque (net)	82.42 lb. ft. at 4,000 r.p.m.

Transmission

Clutch	7.8 in. s.d.p.
Top gear (s/m)	1.00
3rd gear (s/m)	1.49
2nd gear (s/m)	2.30
1st gear (s/m)	3.75
Reverse	3.87
Optional 5-speed gearbox	0.912; 1.00; 1.36; 2.1; 3.422; reverse 3.526
Final drive	hypoid bevel 4.1
M.p.h. at 1,000 r.p.m. in:—	
Top gear	16.2
3rd gear	10.9
2nd gear	7.1
1st gear	4.3

Chassis

Construction	Unitary

Brakes

Type	Hydraulic disc brakes all round—swinging caliper with single piston
Dimensions	8.95 in. dia.
Friction areas:	
Front	19.2 sq. in of lining operating on 135 sq. in of disc
Rear	19.2 sq. in of lining operating on 135 sq. in of disc

Suspension and steering

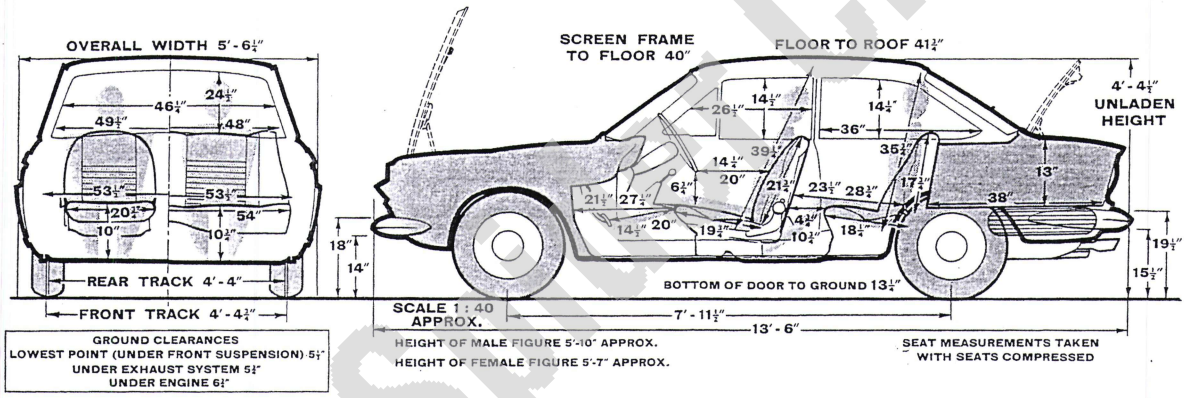
Front	Independent—double wishbones and anti-roll bar; coil springs
Rear	Live axle located by torque tube, radius arms and Panhard rod; coil springs and anti-roll bar
Shock absorbers:	
Front and rear	Fiat telescopic
Steering gear	Fiat worm and roller
Tyres	Pirelli Cinturato 165-13 radial ply
Rim size	5K

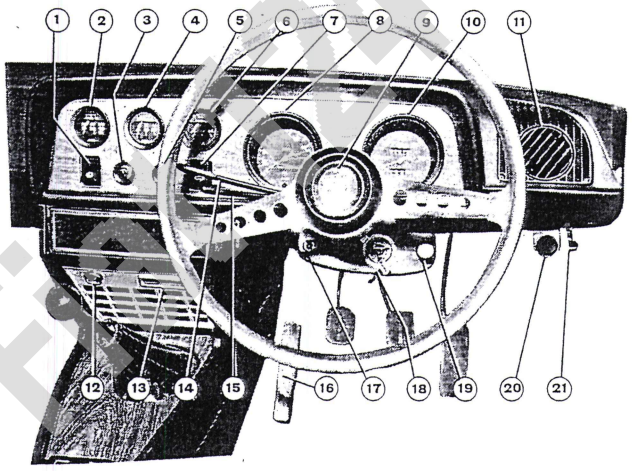
Coachwork and equipment

Starting handle	None
Jack	Screw pillar
Jacking points	One each side in front of rear wheels
Battery	12 volt, negative earth, 48 amp. hours capacity
Number of electrical fuses	10
Indicators	Self-cancelling flashers
Screen wipers	Electric with rheostat control
Screen washers	Manual plunger
Sun visors	2
Locks:	
With ignition key	Steering lock
With other keys	Front doors and boot
Interior heater	Fresh air type
Upholstery	Stretch vinyl
Floor covering	Carpet
Alternative body styles	Spyder

Maintenance

Sump	6.6 pints S.A.E. 20W40
Gearbox	2 pints S.A.E. W90M
Rear axle	1 pint S.A.E. W90M
Steering gear	W90M
Cooling system	13.2 pints (2 drain taps)
Chassis lubrication	None
Minimum service interval	6,000 miles
Ignition timing	10° b.t.d.c.
Contact breaker gap	0.016-0.018 in.
Sparking plug gap	0.019-0.023 in.
Sparking plug type	Champion N9Y or N6Y/ Marelli CW 8LB
Tappet clearances (cold)	Inlet 0.017 in.; Exhaust 0.019 in.
Valve timing:	
Inlet opens	26° b.t.d.c.
Inlet closes	66° a.b.d.c.
Exhaust opens	66° b.b.d.c.
Exhaust closes	26° a.t.d.c.
Front wheel toe-in	0.008-0.015 in.
Camber angle	0° 30′ ± 20
Castor angle	3° 30′ + 30
King pin inclination	6° — 10
Tyre pressures:	
Front/Rear	23/26 p.s.i.





1, panel lights. 2, water temperature. 3, panel illumination rheostat. 4, oil pressure with warning light. 5, screen wiper rate rheostat. 6, fuel gauge with warning light. 7, screen wipers. 8, rev. counter. 9, horn. 10, speedometer with trip and total mileage recorders (trip zero hidden by wheel boss). 11, air vent. 12, cigar lighter. 13, interior light. 14, main beam/dip/flasher. 15, indicators. 16, footrest. 17, lights. 18, ignition/starter/steering lock. 19, choke. 20, screen washer. 21, vent control.

excessive radial thump, we found that the coupé on the same tyres suffered very severely from harshness at low speeds. The effect is more heard than felt since the ride, though sportingly firm in the Italian idiom, was not unduly hard, but sharp irregularities reverberated around the car and, at certain speeds, running over cats-eye studs would excite an obscure structural vibration in the test car.

The steering feels higher geared than on the saloon and parking and low speed manoeuvring could be quite a strain. On the move it is medium-weight and very positive, transmitting plenty of feel without unnecessary kick-back.

The high-speed rubber mix is not needed and the standard radial tyres give remarkable results. Roadholding is superb in both wet and dry conditions and considerable provocation was required even on a greasy road before either end would unstick. On a smooth dry surface it was almost impossible to slide the tail; the most we could induce was a tendency to run wide at the front, an effect quickly neutralized by lifting off. Normally there is very little tyre squeal or body roll with only occasional hopping on rough surfaces to betray the presence of a live axle. The same was true on wet roads and there were occasions when we felt that the Fiat hung on after even an Elan would have gone. Rather sudden breakaway discourages experiment near the limit.

The brakes more adequately fulfil the promise of a full disc system with a load-sensitive pressure reducing valve than they do on the saloon where they felt a bit spongy. The coupé has a servo and, though there is no perceptible lag in application, the brakes

Continued on the next page

Fiat 124 Sport coupé

continued

have an anti-progressive feel with decreasing pressure necessary towards the end of travel to bring the car smoothly to a stop.

There was also a tendency for them to stick momentarily on release as if the servo was lagging slightly behind the pedal. Though our pressure tests produced only a 0.27g stop at 25 lb., retardation builds up rapidly thereafter and it is possible to exceed $\frac{1}{2}$g with 30 lb. The modest best stop of 0.92g was obtained with a 75-lb. pedal load. There was normally no sign of locking at either end and we concluded that the pressure limiting valve functioned as it should. Our fade test produced a barely perceptible increase in pedal pressure and the water splash required an increase to only 40 lb. to repeat $\frac{1}{2}$g. The handbrake would just lock the wheels after a mighty pull for a 0.36g stop and easily held the car on the 1-in-3 hill.

Comfort and controls

Most of our drivers praised the seats, which are firmly and deeply contoured so that your anatomy has to fit them for complete comfort. The upholstery clings well to clothing and assists in restraining the occupants under high cornering forces. Even with the seat right back taller drivers found that the pedals were too close—a common complaint in Italian cars—and that the distance between the steering wheel and pedals was too short. They were forced to sit with bent legs touching the wheel during heel-and-toe while those under 5ft. 8 in. had a rather long stretch to the wheel and would have appreciated an adjustable column. The seat would slide back beyond the last notch to ease matters but was likely to slide forward again under braking.

After releasing the front seat catches, access to the rear seats is quite good and they are well shaped, offering more than adequate room for children. There is headroom for adults up to 5ft. 10in. but restricted leg room limits the car's use as a full four seater to shorter journeys only.

Visibility from the driver's seat is good all round and the rear deck can be seen to aid parking. With the exception of the seat recliners, all controls are easily reached by a belted-in driver and the slides set in the console between the seats for the powerful heater are convenient if a little confusing at first, a situation not helped by Fiat's inability to provide an English handbook at the time of writing. Facia vents supply a rather weak stream at face level and there are no extractors to assist flow, opening the rear quarter lights being discouraged by wind noise. With all windows closed the wind noise level is low.

Fittings and furniture

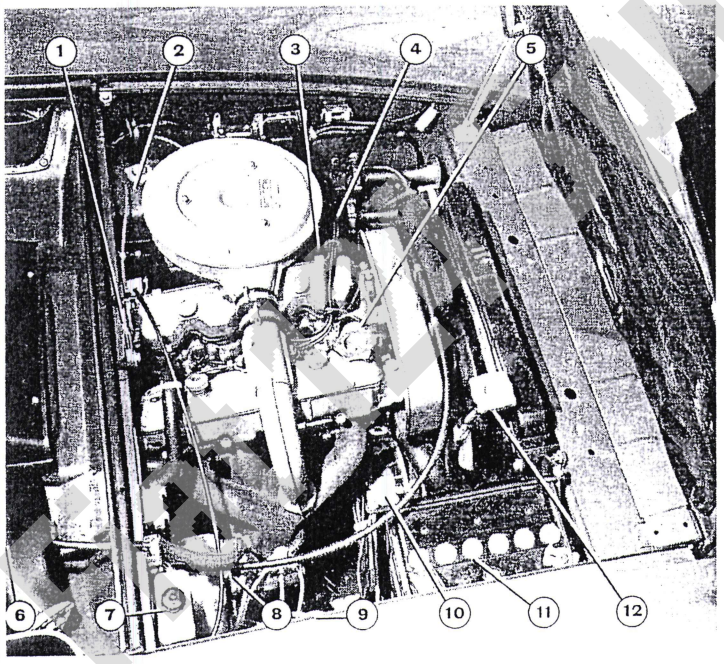
Simulated wood covers the shrouded instrument panel which has speedometer and electric rev-counter immediately in front of the driver and fuel, oil pressure and water temperature, the first two with low reading warning lights, ranged to the left. The sidelight switch is out of sight below on a separate panel with the choke and an infuriating ignition-cum-steering lock. Piano key switches on the facia operate panel lighting, which is completely separate from exterior lights, and the screen wipers. Each has an adjacent rheostat making little or no difference to panel light intensity but varying screen wiper strokes between 50 and an incredibly fast 100 c/min. A manual pump, rather remote from the wiper switch, operates the washers but did not function on the test car. Headlights are controlled by a left-hand steering column stalk with main beam reached through dipped beam and everyone was perplexed by having to raise the switch to lower the lights; there were several instances of selecting darkness just at the crucial moment. Door catches are recessed behind the armrests but the window winders project and Fiat still defy most of the world by winding clockwise to open. There is a useful sized pocket beside each foot well and an unlockable oddments tray drops down from the facia on the passenger's side. One small ashtray is provided on the transmission tunnel and two in the rear compartment. The boot is both long and deep and held 6.1 cu.ft. of our test luggage. A key is needed to release the lid which is counter-balanced.

Servicing and accessibility

Lifting the carpet lining the boot floor reveals the spare wheel and a separate well behind the wheel arch containing the scissor-screw jack. The jack is easily placed under a reinforced section of the door sill adjacent to the wheel to be raised and a hand-wheel assists in setting the pre-raise height. No special skill or strength is required to operate the jack with the ratchet lever which is secured against the base when the jack is retracted. A few essential tools and the wheelbrace are contained in a plastic tool box with separate divisions. Unfortunately, it is not possible to remove the spare wheel without unloading most of the luggage in the boot.

The forward hinged bonnet is released by a lever below the facia on the passenger's side and has simple ratchet stay. All parts requiring regular attention—fluid reservoir, battery, carburetter and distributor are reasonably accessible. The camshaft drive belt is outside the engine under a separate cover and requires no attention in service but is easily replaced without dismantling should it be damaged. This engine should be just as simple to maintain as a pushrod unit and tappet adjustment is by means of shims on top of the bucket tappets easily attended to without removal of the camshafts.

M



1, heater control valve. 2, sealed cooling system reservoir. 3, dipstick. 4, distributor. 5, oil filler. 6, screen wiper motor. 7, fluid reservoir. 8, brake servo. 9, washer bottle. 10, alternator. 11, battery. 12, radiator cap.

MAKE: Fiat. MODEL: 124 Sport. MAKERS: S.A. Fiat, Corso G. Agnelli 200, Turin, Italy. CONCESSIONAIRES: Fiat (England) Ltd., Northdale House, North Circular Road, London, N.W.10.

Maintenance summary

Every 6,000 miles: change engine oil and filter; check gearbox, back axle and steering box oil levels; oil distributor shaft; clean air filter and carb; check prop. shaft, fan belt, plugs, contact breaker gap and timing, battery terminals, camshaft belt tension, tappet clearances, brake pads; adjust handbrake; top-up fluid reservoir.

Every 12,000 miles: Check clutch pedal play; clean crankcase recirculation valve and flame-trap; clean carburetter jets and strainer; remove centrifugal oil filter cover and clean; check nuts holding mechanical units to body, headlamp adjustment; lubricate door hinges.

Every 18,000 miles: Change oil in gearbox and back axle, clean commutator and check brushes in dynamo and starter.

Every 36,000 miles: Lubricate and adjust front wheel bearings.

PUNCH HERE TO FILE



DINO DRIVE

BY GEOFFREY HOWARD

Fiat 124 Spider Club

10 days on the Continent with Fiat's mini Ferrari

ABOVE all she was a lady. Like a lady she arrived late, breathless, full of apologies and looking like a billion *lire*.

For almost half the morning we had been cluttering the marble lobby of the Parco dei Principi in Rome with our assorted test gear, roped-up holdalls, ski boots and clip-boards. After the first hour the doorman began looking at us sideways and whispering with the desk clerk. We assured them that our car would be there *subito*. Just as I was about to make the third phone call there was a yelp of tyres, a thrash of camshaft chains and the zoom-zoom of six Weber throats.

Blood red and gleaming in the winter sunshine our Dino arrived, complete with Italian driver *and mechanic*, who both leaped out and began explaining. Our rating with the hotel staff immediately rose 500 points.

We threw all the luggage in the back, scrambled in and roared away, swept up in all the excitement but not really in a hurry to go anywhere. I was there behind the wheel, arm-stretch and snug, everything to hand. In no time at all we had threaded through the suburbs north and were blasting up the *Autostrada del Sole* at a steady 120 mph.

She sounded like an orchestra. At the top were the treble chords of her four cams, whining and whirring up to 5,000 and screaming like a circular saw on to 7,500 or 8,000. From 2,000 she would pull like a lion with a deep throaty growl which hovered and burbled, then picked up to rise in a crescendo with all the other sounds—gearbox, wind and exhaust—joining in with a double *forte*.

Not that she was noisy, she just liked to sing. At 130 mph it was possible to talk with raised voices; and every note she sounded was the purist music, harmonious and always true to key.

I had met her sister, the Dino Spider, last year when the car was announced and fallen in love at first sight. That car had an open two-seater body by Pininfarina, this one was the 2 + 2 by Bertone, not quite as slim, not quite as curvaceous, but every bit as chic. Under the bonnet they both have a vee-6, 2-litre ohc engine designed by Ferrari and developing 160 bhp net at 7,200 rpm.

High speeds going North

It took us a while to work out the symbols for the row of switches across the centre console, but we found the out-of-town air horns and squeezed 100 miles into our first hour of *autostrada*. Strong winds were corkscrewing down some of the cuttings giving us a choppy ride and suddenly the high-speed kinks became bends. With a perfectly spaced five-speed gearbox it was possible to keep the engine right up in the meaty part of its range, whatever the conditions. We timed one flat-out kilometer at 131 mph and although we had all the gear with us to measure all the performance, we did have to be in Nice by the next afternoon and I for one did not want to stop driving. After all, I thought, this time we could take the performance on trust (it was certainly all there) and it would be wrong to insult the lady by putting a tape measure round her.

Our journey slowed as we crept round the arch of the Italian Riviera, bogged down by heavy traffic and distracted by a glorious red sunset across the bay towards Santa Margarita. The Hotel Regina Elena seemed pleased to see us, and when you arrive in a Dino the attendant even moves his own car out of the covered porch to give you pride of parking place. Obviously it raises the tone of the place and may tempt even a lone Maserati to stop.

Next morning we cruised to the frontier at Ventimiglia only to be delayed two hours, while the French customs returned from lunch, to clear our gear. It was then an exhilarating thrash along the *Grande Corniche* with stirring echoes off the rock face and the deep azure of the Med (yes, even in January) down to the left. Coincidence being what it is we arrived within minutes of *Flight's* Baron which had flown down from Gatwick with the bulk of our sporting team bound to cover the Monte Carlo Rally.

From Riviera to the Alps

By 10 a.m. the following day Martin Lewis had vacated the passenger seat to Neil Harrison (of *Flight*) who was joining me for a week's ski-ing in Switzerland, before flying the Baron back to England after the rally. We rushed over the Col de Tende, through the old railway tunnel, and down to Cuneo, watching carefully for the patches of *verglas* which at this time of year really do exist just beyond those familiar skidding car signs. Often loose grit was more of a hazard than the ice itself, but we survived without bumping the rocks and feeling like a team in the old Mille Miglia.

At 7,200 rpm the speedometer read the equivalent of 31, 62, 86, 104 and 130 mph in each of the five gears and there is spring loading towards the central, third and top plane with fifth round the corner forwards to the right. The lever is a stout vertical rod with a large ball-shaped knob which is ideally placed to be tossed between each position, and the throttle pedal has a great big pad that makes it natural to heel-and-toe as one changes down.

So I was up and down through the box the whole time, playing tunes on the engine as we burst up to each twist and hairpin, braking late and throwing the car round as it was built to be driven, fast and furious just for the fun of it all. Considering the rear suspension uses only a live axle on single leaf half-elliptics (plus radius arms), the way the power could be turned on in bottom out of tight bends was truly amazing. On gravel or even a dusty dry road the tail would twitch this way or that just to show it had some spirit of its own, but the wide Michelin XAS tyres never let this get out of hand. Slow turns called for a lot of steering effort, so it was often easier to steer with the throttle a bit.

Both of us were keen to get to the Alps, so we dispensed with lunch and kept going up the Aosta valley. Dry roads turned to packed snow when we emerged from the St. Bernard tunnel, but the Dino did not seem to mind. I took things steadily, going in the downhill non-priority direction and suddenly feeling the responsibility of manipulating £3,500 worth of somebody else's machinery.

Verbier is a Swiss resort designed purely for ski-ing and the motorist. There is an approach road which is always kept open, whatever the weather, parking places are provided free, and the slopes are open sun traps smothered in uphill lifts of every type. It is all very modern but extremely expensive, unless you know where to stay and where not to find your evening enter-

Fiat 124 Sport Club e.V.



DINO DRIVE . . .

tainment. Supertravel and Murison Small run chalets for fortnight packages, and hidden behind the children's school an English chef from the Intercontinental, Geneva, takes in casuals.

Four days later, sore round the ankles and bruised here and there, we headed back through Italy to Monte Carlo where the sun still shone and the rally had been won and lost on the mountain circuits.

At noon on a Saturday I watched the little twin-engined Beechcraft soar out of Nice, turn over the sea and head back to England. I began to feel the end of a beautiful friendship looming as I turned the Dino once again to Turin and headed for Savona and the tortuous *autostrada* to Fossano.

It was a lonely drive and I swear I treated her more gently than ever before. Together we had covered 1,300 miles and being possessive with my treasures no one else laid a hand on her leather steering wheel while she was in my charge. Apart from a touch of temperament when she would not start after a night in a blizzard, and the day she refused a climb in fresh snow, she had behaved perfectly. At only 17 mpg overall she had cost me a lot of money, but I could forgive her almost anything because of the way she ate up the *autostrada* and stormed the mountain passes.

Like a true lady, she was the best possible company a man could have. □

Above: On tight, slow hairpins it was often easy to steer with the throttle a bit

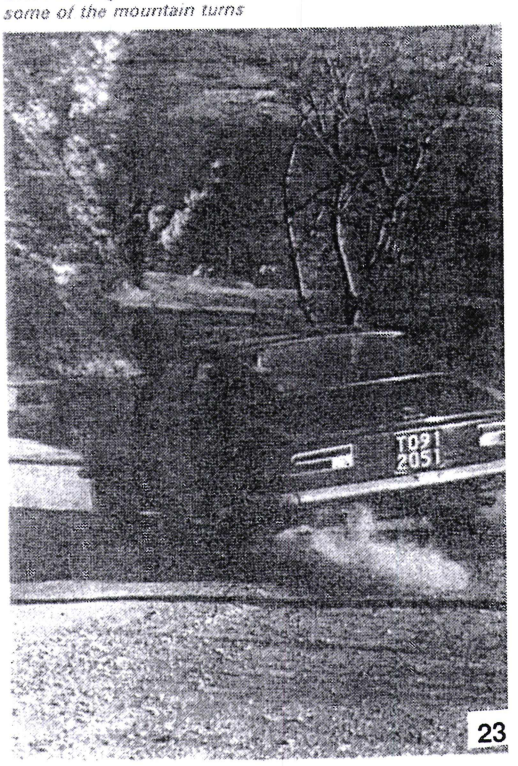


Above: It snowed in the night and we had some digging to do before we could drive on. Sub-zero temperatures and a weak battery gave us starting troubles

After 1,000 miles the deep red paintwork was looking travel stained. Even in January the Mediterranean (behind) is a deep azure blue



Often loose gravel was more of a hazard than ice on some of the mountain turns



124 Spider Club e.V.

FIAT ABARTH 1300

1,280 cc

BRIEF TEST

ITALY is the land of coachbuilders, and some of the bodies they produce are hard to fault, in line at least. Nowhere else do the specialists carve off the upper structure of an integral saloon with such aplomb, and nowhere else can a little coupé turn out to be so elegant. There would be something very wrong, therefore, if a GT from racing specialist Carlo Abarth were not beautiful; with the continuous curves spreading from the slightly gaping mouth to the fashionably kicked-up spoiler tail, the line flows as if it had been drawn with a single stroke of the pen.

Under the skin lives a very unlikely Simca 1000 chassis—or floor-pan structure at least up to the tops of the wheel-arches—complete with transverse-leaf front suspension and semi-trailing rear links locating double-jointed drive-shafts, with coil springs. On to this base is grafted the pretty aluminium coupé body, and into the tail goes a Fiat 850 trans-axle, mated to a modified Fiat 124 push-rod engine. Although the car looks like the Abarth-Simca 1300 and 2000 of 1963 vintage (one or two have appeared on the tracks in Britain in the hands of drivers such as Bob Burnard—see AUTOCAR 27 May 1966, for impressions), it has one basic difference: it is built up here in England by Radbourne Racing and uses far more bits and pieces from Fiat.

For a long time Radbourne have wanted to produce a little Fiat GT for road, rather than competition use. Being Fiat agents and having handled Abarth products in this country for some time past, they formed their plans around what was available either off their shelves or from their Italian contacts. In parallel with their Fiat 124 SS project (in which Fiat 125 engines are fitted into Fiat 124 saloons) the obvious power units were the displaced 124 engines, now with no home to go to. With Fiat approval they opened the bore from 73 to 75.5 mm and increased the compression ratio from 8.8 to 9.2 to 1. Capacity went up from 1,197 to 1,280 c.c. and maximum power from 60 to 75 bhp net.

Standard Fiat 850 gearbox ratios are retained, but the final drive ratio is increased from the 4.87 of the 850 coupé to 3.7 to 1. This gears the Abarth for a top speed at peak power of exactly 110 mph, which we reached easily in both directions. Body drag is so low that the car would probably go faster with higher gearing and no more power. At this speed, incidentally, the rev counter was over-reading by 300 rpm (5 per cent) and the speedometer by the same amount.

Brakes use 9.25in. dia. Girling discs at the front, with 9.5in. dia. Fiat drums at the rear, and the steering is the worm-and-roller system used by Fiat, not the Simca cam-and-peg set-up. Wheels have 5in. rims and on the test car were magnesium castings by Fergat; tyres are 155-13in. Pirelli Cinturatos.

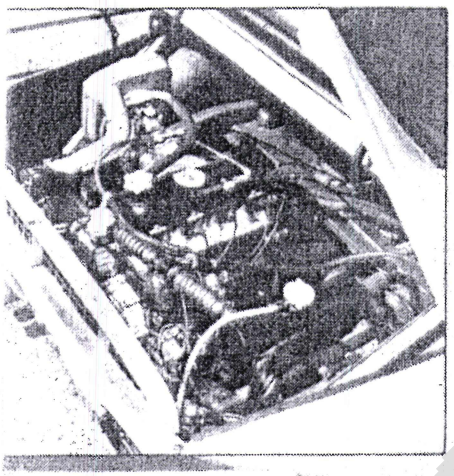
So much for the specification, which to put it politely is cosmopolitan or mongrel, to say the least. It would be very wrong to pre-judge the Abarth from its parentage; it lives up to its looks much more than its specification.

Door handles have a neat push-button which sends the main release lever springing out into the palm of one's hand, and with the door open one then bends over and folds up to climb in behind the wheel. The test car had been part modified to give legroom for six-footers with the result that the clutch was a full stretch while the accelerator was on a short reach. A broken right hip in childhood might have given us the correct offset, but without this misfortune we had to make do with screwing ourselves towards the centre of the car and tucking the right knee up under the steering wheel. In fairness we should add that pedals can be tailored to suit the customer, and in time we did come to terms with sitting aslant.

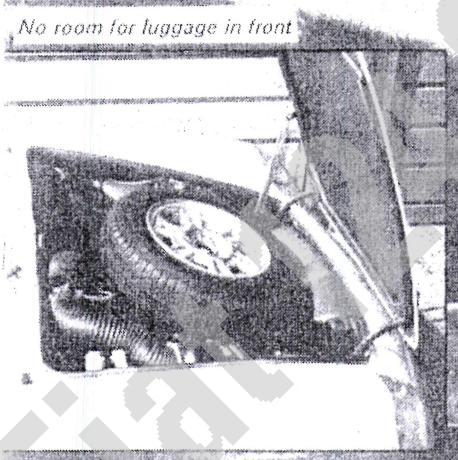
With such a short, fall-away bonnet the forward view is superb, and the flanks and rear are not nearly so obscured as in something like a Marcos. A little 13in. dia. steering wheel is almost dead vertical and nicely positioned for straight-arm driving. Seat padding is not generous, but presumably it can again be tailored to fit.

The engine starts with an eager throb, and revs crisply, even after a no-choke cold start. Being overhung behind the rear wheels, the engine is not nearly as noisy as expected, and

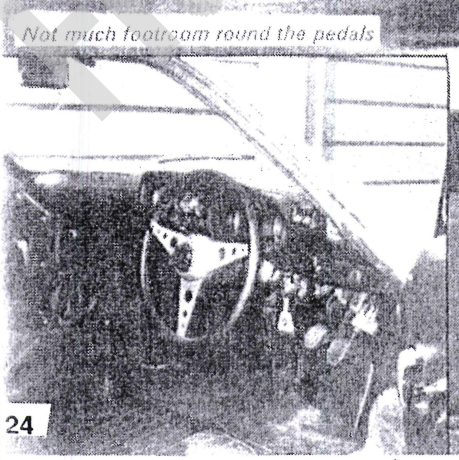
The engine overhangs the rear wheels

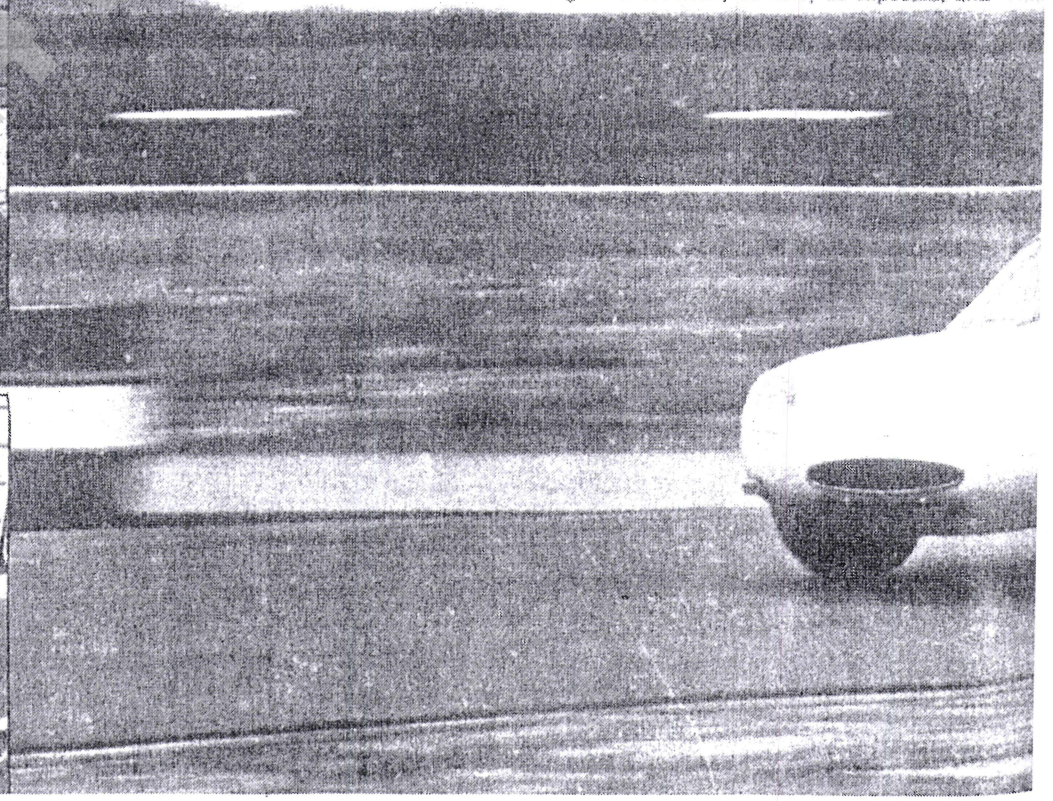


No room for luggage in front



Not much footroom round the pedals





Fiat Spirit

when we filled up the back shelf with luggage it became even quieter. In typical Fiat 850 fashion, the gearbox tended to be stiff unless the speeds were carefully synchronised to take the loads off the synchromesh. The clutch was set to need the last half inch of travel for full disengagement, and that bit called for an extra stretch, so we found ourselves often making semi-clutchless changes.

Despite not being rack-and-pinion, the steering felt very positive and extremely light, very like that of a Lotus Elan in many respects. This undoubtedly is the saving grace of the suspension and its effect on the handling, which at the limit of adhesion can best be described as confused. On public roads the Abarth can be tossed about almost with abandon, responding immediately when darting in and out of traffic and flying round corners and high-speed bends with tremendous grip in reserve.

On a track the story changes, and the driver is immediately aware of a conflict between suspension geometry designed to induce understeer for stability and a basic rear weight bias wanting to break the tail away. The overhung rear engine (an "outboard" installation we have heard it called) puts 60 per cent of the weight on the rear wheels, and although the battery and spare wheel are up front with the radiator, the fuel tank is behind. Two of our testers tried in turn for over half an hour to master the characteristics and either drift through the MIRA bends in a tail-out slide, or throw the car into the apex early and set up one of those point-it-at-the-apex attitudes. Neither technique seemed to work, and they both ended up as they began, skating through with sawing motions on the wheel to correct each quirk as it occurred. Yet on the road, there was no problem at all in cornering fast and tidily.

Sometimes on braking from high speed there was a kind of weaving instability, but this was only ever so slight and started when it was induced rather than of its own accord. The brakes in fact felt rather dead and heavy, but this largely stemmed from the difficult angle of attack on the pedal.

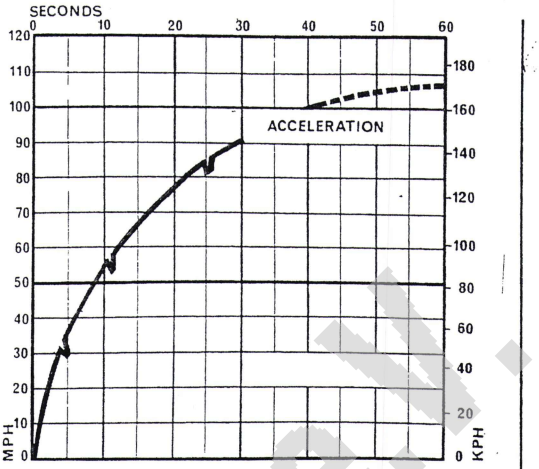
The modified engine revs up to 6,750 rpm and then hovers, just like a 124's. This was where we found it best to change gear. With more than enough traction, standing starts call for controlled clutch slip and lots of revs. Gear spacings are even, and the ratios themselves high with third going on easily to over 80 mph.

The test car was something of a prototype, so certain details of trim and wiring were excusable. When we took it back to Radbourne's we examined a later car which had a much better standard of workmanship. We understand that there will be an undertray fitted to shroud the engine from road dirt and there is the possibility of corner bumpers front and rear for parking protection.

When it appeared at the Earls Court motor show in 1963, the full-house racing Abarth-Simca 2000 was sold for almost £4,000. As a component kit, in which you have to fit the engine and suspensions only—the body is fully painted, wired, piped and trimmed—Radbourne charge £1,350 for their Abart-Fiat 1300. One of our more senior staff members, not usually given to spirited enthusiasm, started his comments: "Not for some time have I enjoyed a car so much. In traffic it is just like a little dodgem and on the open road, a completely impractical fun car." That just about sums it up.

G.P.H.

PERFORMANCE



MAXIMUM SPEEDS

Gear	mph	kph	rpm
Top (mean)	110	117	6,000
(best)	111	179	6,050
3rd	85	137	6,750
2nd	58	93	6,750
1st	33	53	6,750

Standing ¼-mile 17.8 sec 75 mph
Standing Kilometre 33.4 sec 94 mph

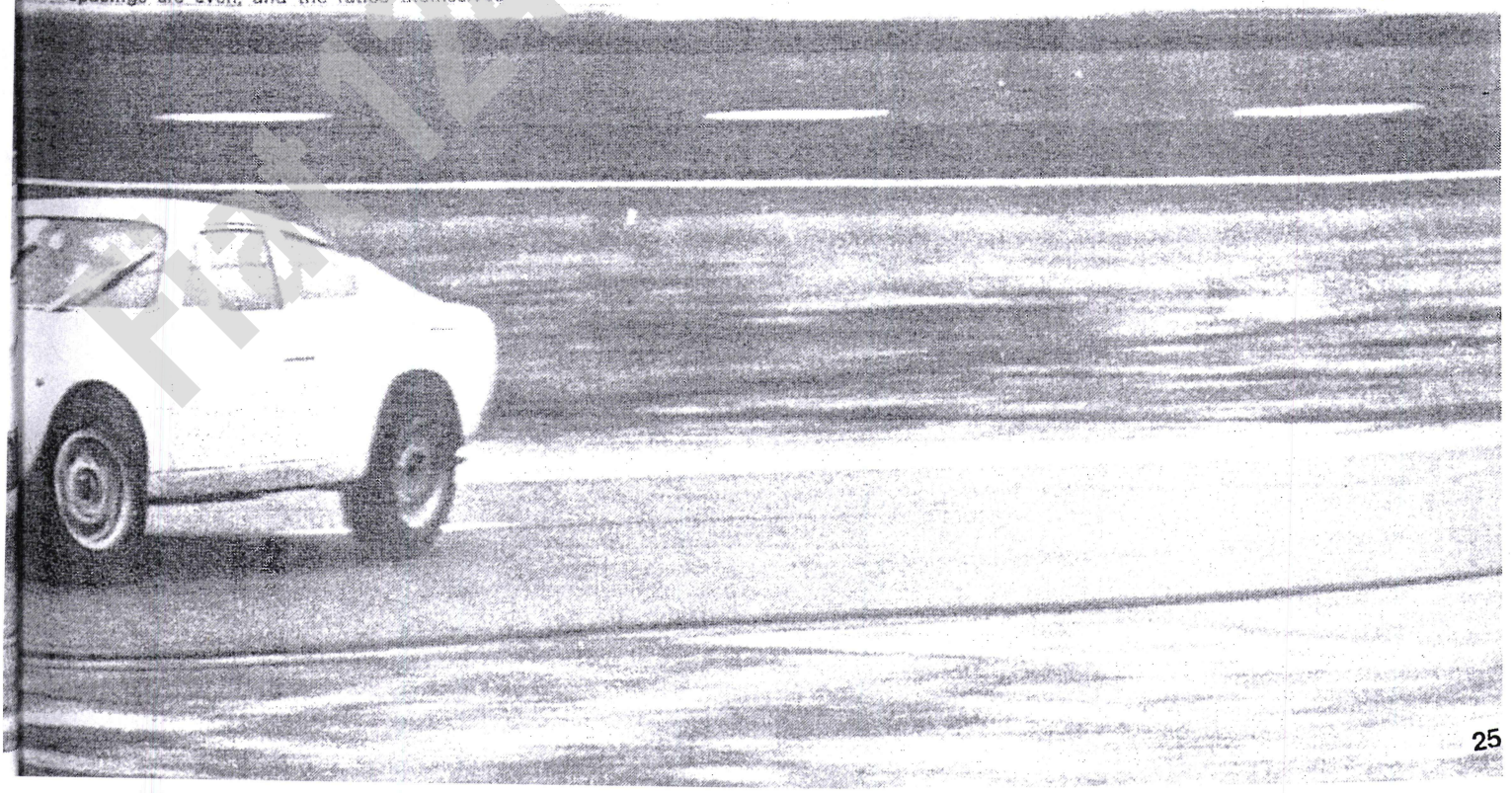
TIME IN SECONDS	0	3.6	5.6	8.1	11.6	15.2	21.3	28.4	39.0
TRUE SPEED MPH		30	40	50	60	70	80	90	100
INDICATED SPEED MPH		31	41	52	62	73	83	94	104

SPEED RANGE, GEAR RATIOS AND TIME IN SECONDS

mph	Top	3rd	2nd	1st
10-30	—	6.8	4.4	2.9
20-40	10.0	5.2	3.6	—
30-50	8.8	5.5	4.2	—
40-60	8.7	6.0	—	—
50-70	9.6	6.9	—	—
60-80	11.1	9.7	—	—
70-90	13.0	—	—	—
90-100	17.6	—	—	—

FUEL CONSUMPTION

Overall mpg 28.2 (10.0 litres/100km)



Fiat 124 Spider Club e.V.

Autotest

FIAT 124 SPORT COUPÉ **NUMBER 2205**



Fiat 124 Spider Club e.V.

MANUFACTURER:
Fiat Spa., Corso Marconi, Turin, Italy.

UK CONCESSIONAIRES:
Fiat (England) Ltd., Northdale House, North Circular Road, London, N.W.10.

PRICES:

Basic	£1,087	0s	0d
Purchase Tax	£304	0s	7d
Total (in GB)	£1,391	0s	7d

PERFORMANCE SUMMARY

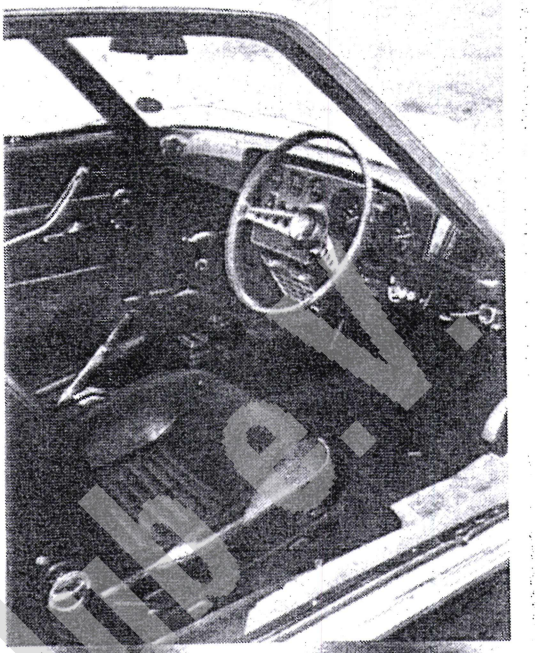
Mean maximum speed	102 mph
Standing start ¼-mile	18.8 sec
0-60 mph	12.6 sec
30-70 mph (through gears)	13.0 sec
Typical fuel consumption	24 mpg
Miles per tankful	235

AT A GLANCE: Delightful 2+2 coupé based on 124 saloon. Twin-cam engine lacking in bottom-end torque, but fairly smooth and quiet. Excellent five-speed gearbox optional, but fifth too close to fourth. Handling and roadholding set new standards for conventional suspension. Ride firm. Light progressive brakes. Competitive price.

SELDOM have the *Autocar* test staff been so unanimous in their praise of a car. Initial comments after a spell at the wheel ranged from "I wonder if they would sell it to me" to "No, you can't have the key—I'm keeping it!" Here is a bang up-to-date sports car, not from a specialist with a competition tradition, but from the world's fourth largest mass producer. By all that is sacred to the enthusiast this car has no right to be as good as it is. Yet judged absolutely and objectively, it is outstanding if not exceptional, not so much in what it does but in the way it does it.

Fiat are experts at the efficient approach. Any other manufacturer would have given the model an exotic name and let it stand on its own. Not Fiat, who emphasize that this is no more than a special body on a plain 124 floor pan, live rear axle and all. Second, it is a sports car, so a bore increase from 73 to 80 mm puts the capacity up from the 124 saloon's 1,197 c.c. to 1,438 c.c. and a twin-cam head (from the 125 saloon) gives 90 bhp net at 6,600 rpm. Standard 124 brakes (which are disc all round anyway) are

28 ☛



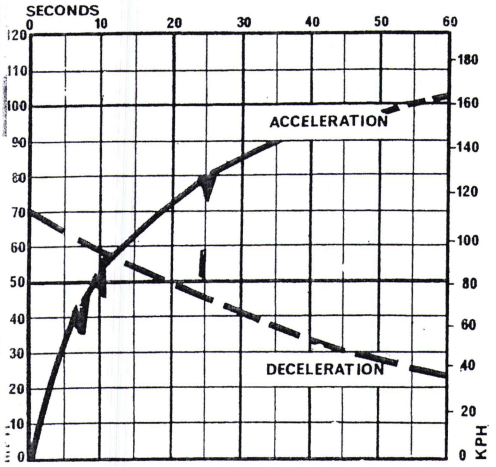
The interior is well planned with restrained use of wood panels and everything to hand

Fiat124 Spider Club U.K.

Fiat 124 Sport Coupé (1,438 c.c.)

Autotest Number 2205

PERFORMANCE



MAXIMUM SPEEDS

Gear	mph	kph	rpm
5th (mean)	100	161	5,720
(best)	102	164	5,830
4th (mean)	102	164	6,300
(best)	105	169	6,490
3rd	80	129	7,000
2nd	52	84	7,000
1st	42	68	7,000

Standing ¼-mile 18.8 sec 71 mph
Standing kilometre 34.9 sec 89 mph

MOTORWAY CRUISING

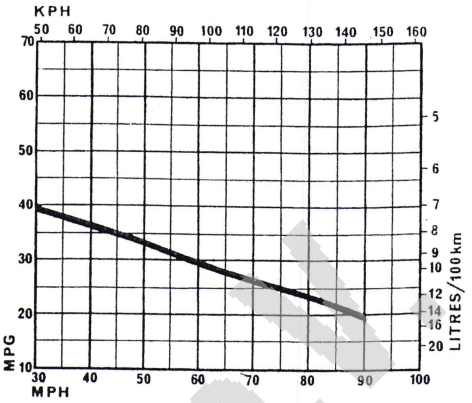
Error (ind. speed at 70 mph) 72 mph
Engine (rpm at 70 mph) 5th: 4,000 rpm
4th: 4,350 rpm
(mean piston speed) 5th: 1,875 ft/min
4th: 2,040 ft/min
Fuel (mpg at 70 mph) 5th: 25.4 mpg
4th: 26.2 mpg
Passing (50-70) . . . . 8.2 sec
Noise (per cent silent at 70 mph) 5th: 65 per cent
4th: 50 per cent

TIME IN SECONDS	4.2	6.2	9.0	12.6	17.2	24.2	36.9
TRUE SPEED MPH	0 30	40	50	60	70	80	90 100
INDICATED SPEED	31	41	51	61	72	82	93 105

SPEED RANGE, GEAR RATIOS AND TIME IN SECONDS

mph	5th (3.74)	4th (4.10)	3rd (5.78)	2nd (8.91)	1st (15.38)
10-30	—	—	9.0	5.1	3.3
20-40	14.6	12.4	7.4	4.0	—
30-50	14.4	11.5	7.2	4.9	—
40-60	14.7	11.8	7.2	—	—
50-70	16.0	12.8	8.3	—	—
60-80	19.9	15.1	11.1	—	—
70-90	28.8	21.4	—	—	—

CONSUMPTION



FUEL

(At constant speeds—mpg)	4th:
30 mph	38.5
40 mph	36.3
50 mph	33.9
60 mph	29.5
70 mph	26.2
80 mph	22.8
90 mph	19.1

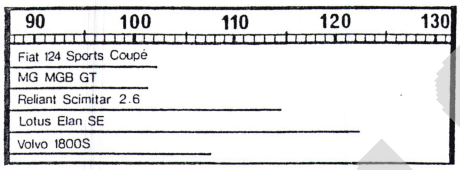
Typical mpg 24 (11.8 litres/100km)
Calculated (DIN) mpg . 23.8 (11.9 litres/100km)
Overall mpg. 22.2 (12.7 litres/100km)
Grade of fuel . . . . . 4-star premium

OIL

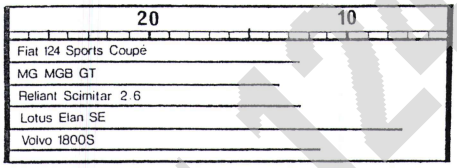
Miles per pint (SAE 20W/40) 1,000

HOW THE CAR COMPARES

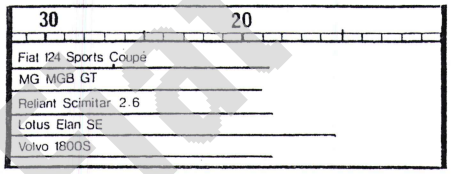
Maximum speed (mph)



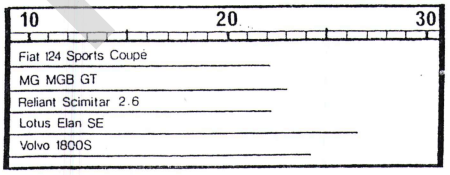
0-60 mph (sec)



Standing start ¼-mile (sec)



MPG Overall



PRICES

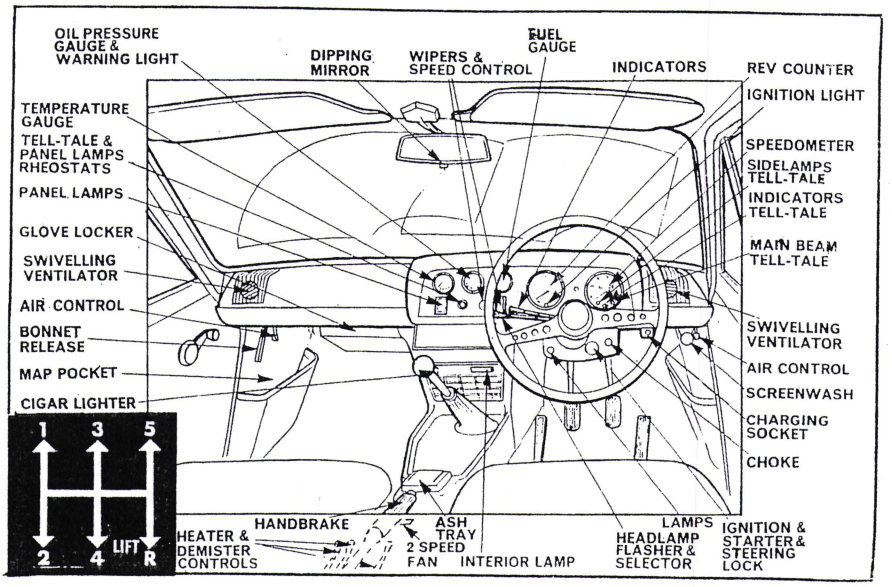
Fiat 124S Coupé	£1,391
MG MGB GT	£1,189
Reliant Scimitar 2.6 . . .	£1,450
Lotus Elan SE	£1,902
Volvo 1800S	£1,919

TEST CONDITIONS Weather: Fine and sunny. Wind: 5-10 mph. Temperature: 24 deg. C. (75 deg. F.). Barometer: 29.5 in. Hg. Humidity: 50 per cent; Surfaces: Dry concrete and asphalt.

WEIGHT Kerb weight: 18.6 cwt (2,074 lb.–941 kg.) (with oil, water and half-full fuel tank). Distribution, per cent: F.54; R.46. Laden as tested: 21.8 cwt (2,449 lb.–1,110 kg.).

TURNING CIRCLES

Between kerbs: L. 34ft 11in.; R. 36ft 7in.
Between walls: L. 36ft 8in.; R. 38ft 4in.
Steering wheel turns, lock to lock: 2.8.

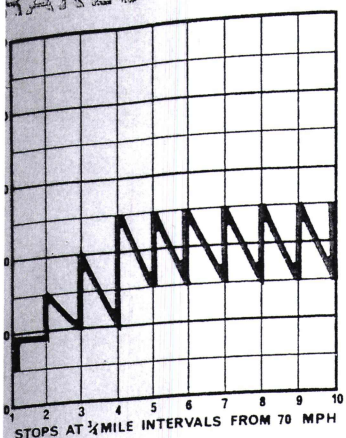


Fiat 124 Spider Club e.V.

iat 124 Sport Coupé (1,438 c.c.)

Autotest Number 2205

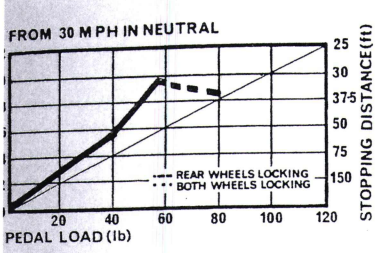
RAKES



ES (from 30 mph in neutral)

g	Distance
0.23	131 ft.
0.57	53 ft.
0.96	31.4 ft.
0.30	100 ft.

rake
Gradient: 1-in-3
pedal: 35 lb. and 5 in.



SPECIFICATION

FRONT ENGINE, REAR WHEEL DRIVE

ENGINE

Cylinders	4, in line
Main bearings	5
Cooling system	Water; pump, electro-magnetic fan, sealed system.
Bore	80mm (3.15in.)
Stroke	71.5mm (2.82in.)
Displacement	1,438 c.c. (87.5 cu.in.)
Valve gear	Twin overhead camshafts
Compression ratio	8.9 to 1: Min. octane rating: 97
Carburettor	Weber 34 DFH 4 two-stage
Fuel pump	BCD mechanical
Oil filter	Fram full flow
Max. power	90 bhp (net) at 6,500 rpm
Max. torque	80 lb.ft. (net) at 4,000 rpm

TRANSMISSION

Clutch	Diaphragm spring 7.87 in. dia.
Gearbox	4 or 5 speed, all-synchromesh
Gear ratios	Top 0.91 Fourth 1.0 Third 1.41 Second 2.18 First 3.80 Reverse 3.65
Final drive—	Hypoid bevel, 4.10 to 1

CHASSIS and BODY

Construction	Integral steel body

SUSPENSION

Front	Independent, coil springs and wishbones, telescopic dampers, anti-roll bar
Rear	Live axle, coil springs, parallel trailing arms, Panhard rod, telescopic dampers, anti-roll bar

STEERING

	Worm and roller
Wheel dia.	15in.

BRAKES

Make and type	Fiat-Bendix discs front and rear
Servo	Bonaldi vacuum type
Dimensions	F. 8.95in. dia. R. 8.95in. dia.
Swept area	F. 135 sq.in., R. 135 sq.in. Total 270 sq.in. (248 sq.in./ton laden)

WHEELS

Type	Pressed steel disc, 4 studs, 5in. wide rim
Tyres—make	Pirelli
—type	Cinturato radial ply tubed
—size	16.5-13

EQUIPMENT

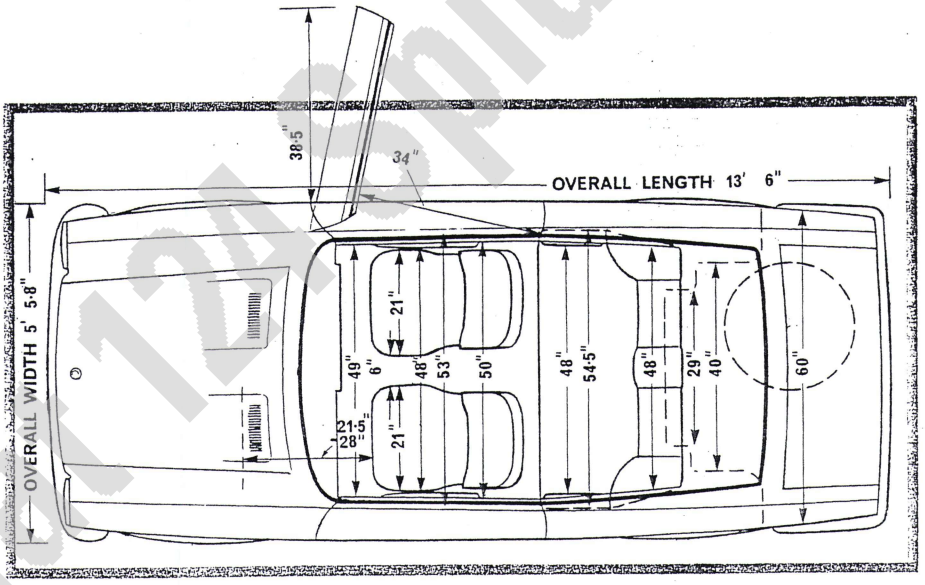
Battery	12 volt 48-Ah
Alternator	53 amp a.c.
Headlamps	Siem or Carello 90/80watt (total)
Reversing lamp	Standard
Electric fuses	10
Screen wipers	Variable speed, self parking
Screen washer	Standard
Interior heater	Standard fresh-air, water-valve control
Heated backlight	Not available
Safety belts	Extra
Interior trim	Stretch pvc seats, pvc headlining
Floor covering	carpet
Starting handle	No provision
Jack	Screw pillar
Jacking points	4 under sills
Windscreen	Laminated or toughened
Underbody protection	Bitumastic

MAINTENANCE

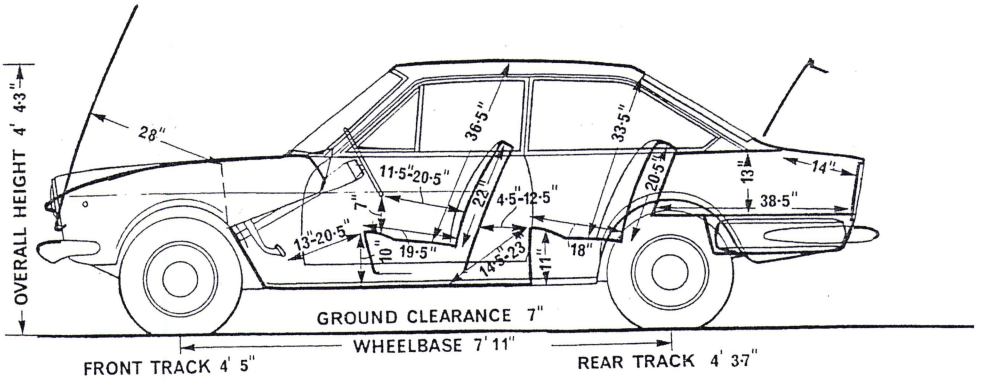
Fuel tank	9.8 Imp. gallons (low level warning light) (45 litres)
Cooling system	13.5 pints (including heater)
Engine sump	6.7 pints (3.75 litres) SAE 20W/40 Change oil every 6,000 miles. Change filter element every 6,000 miles.
Gearbox	3 pints. SAE 90EP. Change oil every 18,000 miles.
Final drive	2.7 pints. SAE 90EP. Change oil every 18,000 miles.
Grease	2 points every 24,000 miles
Tyre pressures	F. 23; R. 27 psi (normal driving)
Max. payload	706lb (320kg)

PERFORMANCE DATA

Top gear mph per 1,000 rpm	7.6(5th) 16.1(4th)
Mean piston speed at max. power	3,050 ft/min.
Bhp per ton laden	82.5



TANDARD GARAGE
ft x 8ft 6in.



CALE
3in. to 1ft
ushions uncompressed

Fiat 124 Spider Club e.V.

Autotest

FIAT 124 SPORT COUPÉ NUMBER 2205

backed up by harder linings and a vacuum servo. Rim size of the wheels goes up to 5in. and 165-13in. radial tyres are standard. There is the option of a five-speed gearbox and this was fitted to the test car. It adds just over £38 to the total price.

When carrying out the metamorphosis of the boxy 124 saloon into a coupé, Fiat stylists made no compromises. The standard wheelbase was retained (although the equivalent two-seater spider has this dimension reduced), and a neat low-line body designed from scratch. The result is a shape 3in. longer (mainly to carry the more sloping nose) 2½in. lower and nearly 2in. wider. It has four full-sized seats, an exceptionally low waistline and plenty of glass area above. Whereas the saloon is modern perpendicular and the Dino spider excitingly flared, the Sports Coupé is elegantly restrained with a similar rear aspect to the pretty little Lancia Fulvia coupé.

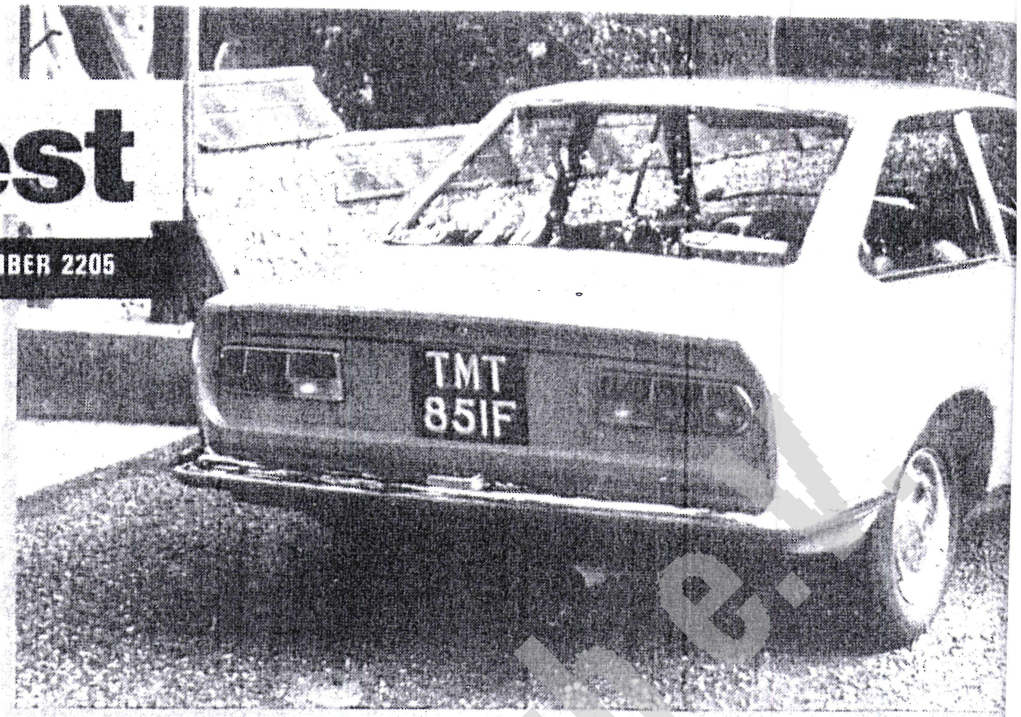
All the extra metal and better, more luxurious trim inside, add a couple of hundredweight compared with the saloon, so a good deal of the extra power is nullified. Even so, bearing in mind that the engine is *only* 1,438 c.c., acceleration is fair provided one makes frequent use of the gearbox. From rest to 60 mph takes 12.7 sec and the quarter-mile comes up in 18.8sec. Top speed is just over 100 mph, in fourth not fifth incidentally, the extra gear being intended mainly for cruising with less effort.

Five-speed gearbox

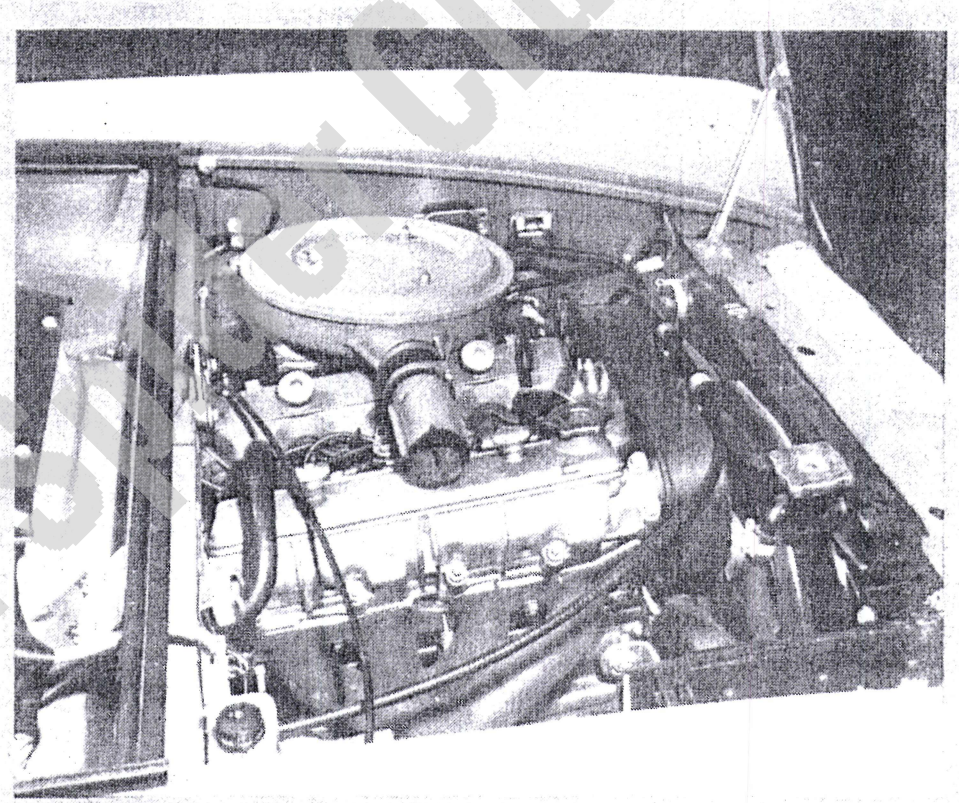
Originally when the two 124 sports models (spider and coupé) were introduced in November 1966, only the spider had the five-speed gearbox option. Fiat considered the coupé too heavy to pull a higher top gear satisfactorily. By public demand (presumably from buyers converted from five-speed Alfa coupés) the same option recently became available on this 124. The benefits are only marginal and to some extent incidental.

In its design, fifth gear is literally tacked on to the back end of the gearbox, with a pair of extra pinions overhung. Because of shaft centre distances and the size of teeth needed, the reduction ratio is only 0.913, which puts fifth so close to fourth as to make the difference barely noticeable except at high speed, and even then the rev counter only seems to drop 500 rpm at about 70 mph. To make the small gap between the top two ratios less obvious, the lower gears in the five-speed box are also closer than on the four-speed: Differences are only slight, but second goes from 2.30 (four-speed) to 2.17 (five-speed).

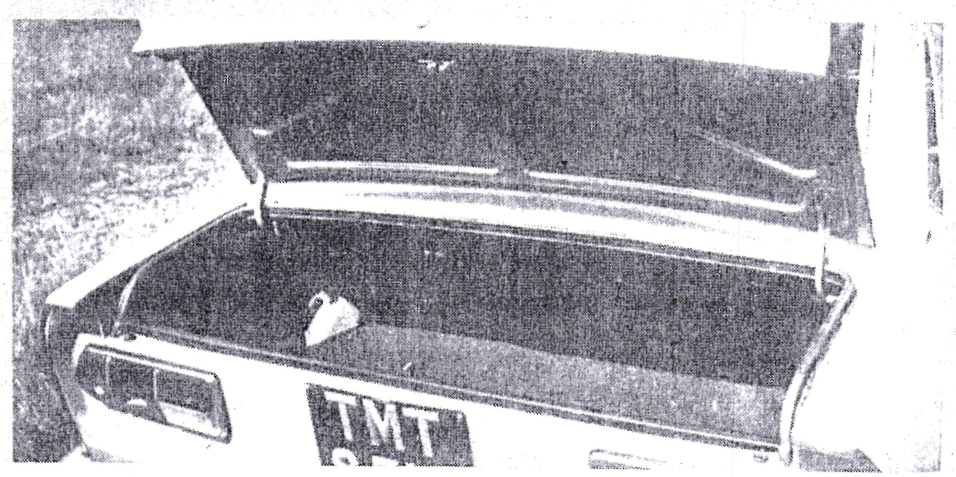
Fifth is too high to pull the coupé any faster than does direct fourth, and flat-out at MIRA our lap speed reduced from 102 to 100 mph by changing up. Fuel consumption is barely affected either (0.8 mpg better in fifth at 70 mph), so we took all our steady-speed figures in direct fourth, since a lot of buyers will not have, nor want, fifth. What it does do though, is shift the speed at which an annoying exhaust boom comes in, from just below 70 mph to just above, and with our motorway limit unfortunately set to correspond, many will consider the £38 well spent. By 4,500 rpm (73 mph in fourth, almost 80 mph in fifth) this resonance has practically died away.



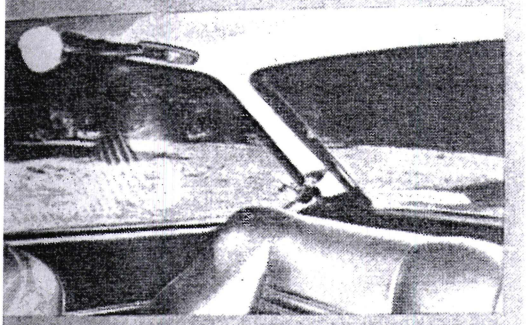
Above: Low waist and large areas of glass make the Fiat coupé particularly pleasant to travel in. From this view it is typically Italian, but not obviously recognizable as Fiat



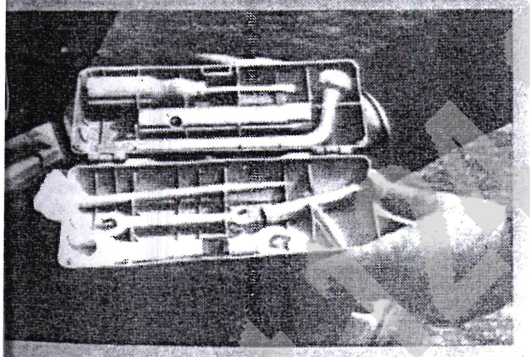
Above: The twin-cam engine is a tight fit under the fall-away bonnet. The cogged-belt camshaft drive is hidden under a plastic cover at the front. Below: Although the boot lid looks a narrow slot there is a good square space inside. The key must be used every time to open the lid







Above: Rear seat passengers have grab handles in the roof and little reading lamps. The large rear quarter windows open slightly for improved ventilation



Above: The standard Fiat tool kit comes in a moulded plastic case and contains enough spanners to fit almost every nut on the car. Below: Rear seat room is confined but adequate for an adult. Front seats are adjustable for rake and well shaped



Being a two-door on a four-door pan, the coupé has wide doors and is very easy to get in and out of. One seems to sit high, because the waistline is so low and the view out is superbly clear and uncluttered with pillars, scuttles or roof lines. Seats are comfortable and really hug the hips and back. There is a screw adjustment for rake, and the frame slides are on a ramp to ring the seat up as it comes forward. Long armrests on each door follow the same angle, so a woman sitting well forward is not too high for this auxiliary support.

A wide hooded panel shrouds instrument reflections from the extra deep screen and its matt black capping extends across the car as an integral moulding. Dials look very efficient with clear white markings on matt black faces with matching bezels. There is a large pair (speedometer and rev counter) sunk deeply in front of the driver, with the smaller auxiliaries to the left.

All controls and switches are easy to reach and there are a couple of novelties like variable-speed wipers and separate intensity rheostats for the instrument lighting and the sidelamps tell-tale. The steering wheel has a wood rim.

Twin-cam engine

Alongside the steering-lock ignition switch is the choke knob, and this is needed only for the first start of the day during summer. It can be pushed back almost immediately and the engine will then pick up cleanly without hesitation. Going by the marks on the rev counter, 7,000 rpm should be regarded as the maximum, with 6,200 as a more prudent limit. We found the best acceleration was recorded by changing at 7,000 and by 7,500 we were over the peak. Maximum power is quoted at 6,500 rpm and peak torque at 4,000.

This means the curve is decidedly "peaky" and the revs must be kept well up "on the cam" to get the best from the car. At the bottom end, performance feels flat, although the engine is tractable enough to pull from 20 mph in fifth without problems. Above about 3,500 rpm it gets its breath nicely towards full song, with a busy kind of subdued clatter and a pleasant mixture of induction hisses and throbs. Zestful is a much more apt description than strained, although one can never really forget the small engine capacity and about 200 c.c. more (why not the 125 1,608 c.c. unit?) would make all the difference.

Somehow, though, one does not mind this slight limitation when the gearchange is so good and the handling so near to perfection. Synchromesh is powerful on all ratios and the lever action is light and very precise. There is spring loading towards the middle plane (3rd and 4th) with fifth to the right and forwards opposite reverse.

Fantastic roadholding

It is very hard to find out why the coupé should have such out-of-this-world roadholding, but the fact remains that, so far as cornering goes, it has little to touch it. There is virtually no roll and always the horizon stays level. It seemed to make little difference if the roads were wet or dry, we never reached the limit of grip, even at MIRA. Going round the road circuit faster and faster became ridiculous, for even when we deliberately yanked the wheel at the apex, long after the car was "set up" and drifting hard, it simply turned in tighter. Only by doing this, and stamping hard on the throttle in second as we hit a patch of newly surfaced tarmac, could we get the tail to move more than an inch out of line, and then it came straight so quickly it was uncanny.

On public roads it seems no corner can be taken too fast and, for want of a better cliché, it really does feel as if the car is running on rails. Steering is quick enough to give immediate response, yet the load for parking is only moderately heavy. At about 35ft the turning circles are bulky, but not excessively so.

Obviously ride comfort has come second to roadholding in setting up the suspension, and movements are very firm over bad bumps. Some kinds of corrugated surface set up an unpleasant kind of joggly motion—enough to set one's jowls juddering—but the live rear axle is positively prevented from pattering all the time. Bump-thump from the radial tyres is loud, although in every other respect the ride is quiet. Good seat padding takes all the severity out of suspension jolts and on most British roads the ride is smooth and comfortable enough. The extra weight compared with the 124 saloon prevents the choppy motion which is characteristic of that model.

As one expects of an all-disc system, the brakes showed negligible fade and were light and very progressive. A 1-in-3 test gradient proved that the handbrake was well up to its job, and a restart was very easy.

The heater has its quadrant levers back beside the handbrake on the tunnel where they are easy to reach. The two-speed fan is fairly quiet when running slowly and temperature control is reasonable without being finely progressive. At each end of the facia are adjustable fresh-air nozzles and the large front quarter-lights also swivel open. At the rear the side windows hinge out about 2in., but only by tediously winding big knurled wheels which are out of reach from the front seats. Ventilation is much better with these cracked open, as there is no other means of extracting stale air.

Under the passenger's side of the facia is a drop-down glove box and beside each foot well is a useful stowage pocket, big enough for a hotel guide as well as maps. The shelf behind the rear seats is sunk well below the edge of the backrests to prevent anything shooting forward under heavy braking. All three passengers have roof mounted grab handles, those in the back incorporating a small reading lamp in their mountings.

Fiat are obviously good at market research, because the 124 Sports Coupé is every bit a sports car, yet it has a pair of full-sized seats in the back. It is the kind of car which is tailored for the enthusiastic family man for whom a two-seater would be impracticable.

Several people marvelled at how Fiat could bring the car into England at such a low price, and we ourselves thought there must be a misprint in our price list, to begin with. The popularity of the model both here and especially on the Continent, where it sells without tariffs in the same bracket as an MGB, reflects how good it is.

Such is the satisfaction and pleasure, mainly derived from the marvellous handling and the way it all feels "right", that one managing director we know of issued instructions that he wanted to be called on to do any odd chauffeuring jobs personally, just so he could drive his new Fiat coupé. □

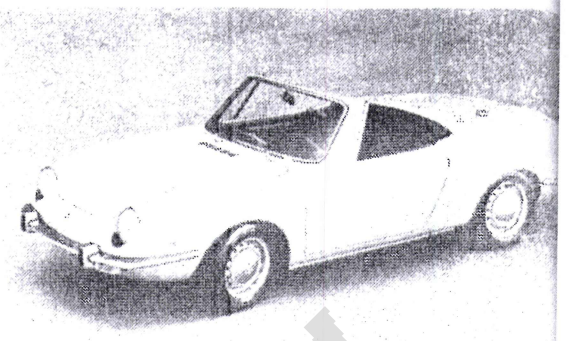
New Fiats available

850 Special and Sport Coupé now in Britain

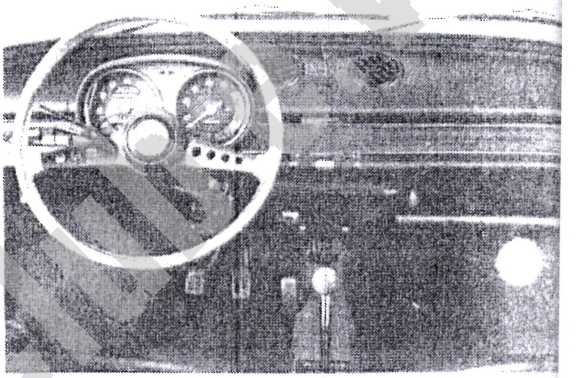
TWO of the three uprated Fiat 850s announced at the Geneva show, the 850 Special and Sport Coupé, become available in Britain this month—the Spider is available only to special order. The new Sport Coupé (test report on pages 30 to 32) has a larger, 903 c.c. engine and the previous 843 c.c. version now becomes the power unit for the 850 Special. The larger engine is obtained by increasing the stroke from 63.5 to 65 mm. With compression raised to 9.5:1, power goes up from 47 b.h.p. to 52 b.h.p. (net) at 6,500 r.p.m.; improved materials for exhaust valves and seats and a larger capacity oil pump in an aluminium sump help to maintain longevity. Higher performance is matched by an increase in rim width from $4\frac{1}{2}$ to 5in. and the fitting of radial ply tyres as standard.

Minor body alterations include a four headlamp system with the two additional lights recessed in a revised front panel with the indicator lights below the bumper, the latter now embellished with rubber faced overriders. A different rear roof line, with a spoiler rather reminiscent of the Dino coupé, provides a little more room for rear passengers; reversing lights and wood-rimmed steering wheel are standard. Price is £877 4s. 9d.

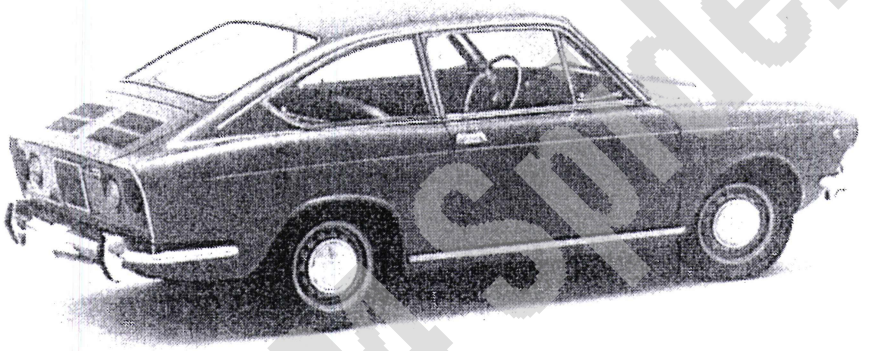
The fitting of the old 9.3:1 compression ratio 843 c.c. engine to the 850 Special boosts its power by 10 to 47 b.h.p. (net) at 6,400 r.p.m. thanks to the twin-choke Weber carburetter and revised inlet and exhaust manifolds. Top speed approaches 85 m.p.h. and the chassis is modified to match with longer suspension travel, stiffened anti-roll bar, 9-in. diameter disc brakes at the front and larger 145 x 13 tyres on new ventilated disc wheels. The exterior is distinguishable by a horizontal "grille" at the front and narrow polished moulding strips on the side panels and screen surrounds. Inside there is improved upholstery with more padding, dipping mirror, oddments box surrounding the gear lever, an improved rear seat and a wood-rimmed steering wheel. Price of the 850 Special is £658 17s. 3d; the standard saloon continues unchanged at £581 11s. 2d.

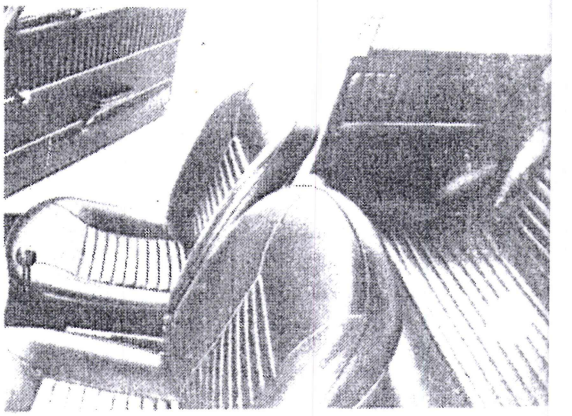


The special-order one—850 Sport Spider.

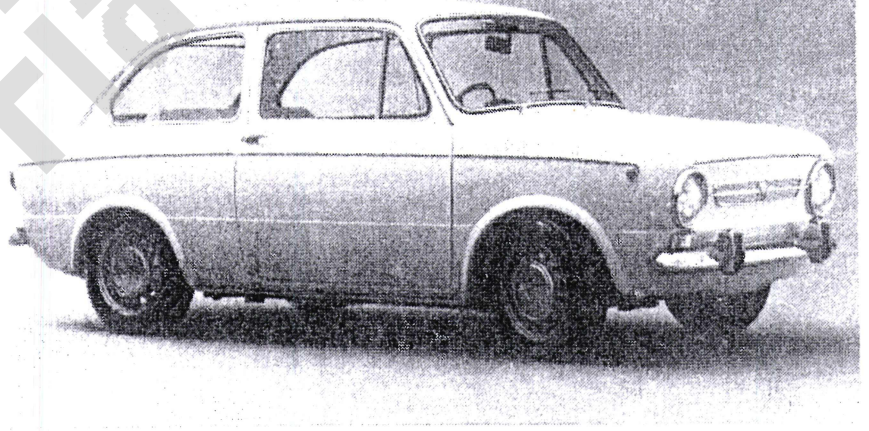


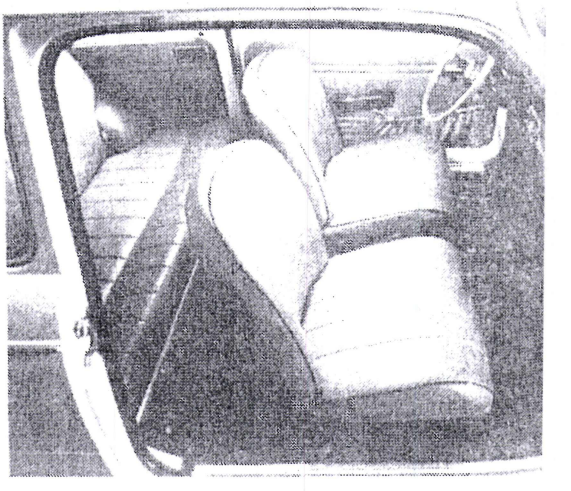
The Sport Coupé, on left with, above, its dashboard and, below, the seating arrangements.





Left and below: exterior and interior views of the 850 Special.





Fiat 124 Spider Info.

The Fiat 124 Twin-Cam Sport Coupe

An Appreciation



MY DICTIONARY says "appraisal" is putting a price on or fixing the value of something, a valuation by authority. So I suppose I appraise the cars I road-test. But in the case of the Fiat 124 Sport coupé I not only appraised it, I appreciated it (a rise in value) after very short acquaintance.

This Fiat personifies the Italian scene—it is fun, it is smart, it is sporting, modern and beautifully made. It provides quick transport for two or four persons, being more spacious than some so-called 2+2s, and it is competitive in price.

The Fiat 124S coupé does not make-do with the 1,100 push-rod engine from the 124 saloon, excellent as this is. Under the bonnet there is a purposeful Tipo 124AC twin-overhead-camshaft, 80 × 71½-mm. (1,438 c.c.) power unit with Weber 34DFH4 carburetter, which gives 96 b.h.p. on an 8.9-to-1 c.r.—not that this means much, as it is an S.A.E. rating. A toothed belt provides a quiet inexpensive drive for the camshafts and it is interesting that it also drives the distributor. I still find it hard not to think of belts as things which stretch, and while a slight change in valve timing may not be of much importance (Fiat quote theirs as inlet-opens, exhaust-closes at 26°; inlet-closes, exhaust-opens at 66°, with 0.018 in./0.020 in. clearances), ignition setting is more sensitive, surely? However, tensioned belts are obviously satisfactory if replaced at between 24,000 and 36,000-mile intervals; I note that the sprocket for the skew-gear-driven distributor/oil-pump shaft has 15 teeth in full contact with the belt. This is a sophisticated engine, with shim tappet-adjustment that does not involve removing the camshafts, pump cooling incorporating a thermostatic electromagnetic fan, full-flow and by-pass oil filters, and recirculatory crankcase emission control.

The car I tried had the five-speed gearbox, delightful to use and with a fifth speed which can be held down to quite modest road speeds, say 35 to 40 m.p.h. It provides 70-limit cruising at under 4,000 r.p.m. from an engine safe up to 6,600 r.p.m., where there is a clear yellow line on the tachometer—just as well, as this impressive crankshaft speed is attained very readily. Somewhat noisy in an eager sort of way, this engine gives a top speed of over 100 m.p.h. (Fiat claim 106 in 4th, 99 m.p.h. in 5th gear) and acceleration which isn't breathtaking but is more than a match for the smaller, least-expensive Alfa Romeo and Lancia Fulvia and Flavia models. Indeed, the Fiat 124 Sport coupé is a gentlemanly car. The interior is extremely tasteful, with unpolished veneer for facia and gear-lever surround (a useful tray) and black trim elsewhere, with notably high-grade fittings.

The front seats have hard shallow cushions but are shaped for full support and the reclining backs adjust up or down under fine knob control and return to the desired position after being released, for rear-seat access, by little levers on the inside edges of the cushions.

All controls, including central gear-lever and handbrake, are well placed, except that the washers' rubber button is divorced from the wipers' switch and the levers for the facia fresh-air vents are rather far forward. The Fiat 120-m.p.h. speedometer and matching electronic tachometer have clear calibrations and steady-reading needles. To the left of them are three small Veglia Borletti dials, oil gauge, fuel gauge (each with its warning light incorporated) and thermometer, calibrated in different colours for Continental and British readings—what could be neater? Oil pressure varied from approximately 20 to 40 lb./sq. in.; water heat was normally just over 90°C. The heater controls (cold and hot air levers and another which works an effective demister) are between the seats, with the tiny tumbler-switch for the two-speed heater fan behind the central parcels' tray. Thus if changes of speed or climate call for alteration of these controls it is only necessary to drop the left hand. Other refinements include knobs for varying screen-wiper speed over a considerable range and for dimming facia lighting and intensity of the turn-indicators' warning light. There are the usual Fiat twin stalk controls, and multi-switching for the lamps which the ignition key, as well as a switch, douses. A map-lamp shines above the parcels' tray, under courtesy action or its own neat switch, and there is a cigarette lighter beside it.

The steering wheel has a thin wood rim and two drilled spokes, with centre horn push, the facia is not broken by a cubby-hole, a drop-tray (not lockable) under it being substituted, with stowage wells on the facia walls, and there is an anti-dazzle mirror. The test car had Britax safety-belts.

The interior and layout of this Fiat coupé are really extremely neat. There are big quarter-lights, vent-type side windows, back shelf, coat-hooks, sill interior locks, steering lock, big door grabs, an unobstructed boot with a properly guttered lid, a screw-on fuel filler cap under a non-lockable flap on the n/s of the body, Carello single but effective head-lamps, and two-tone air-horns. Twin roof lamps, with switches, are provided for the rear compartment and the doors have good locks.

I certainly enjoyed driving this egg-yolk Italian motor car. It holds the road splendidly on 165 × 13 Pirelli Cinturatos and responds well to firm but not heavy steering, sensibly geared at just under three turns, lock-to-lock, with gentle castor return and no lost motion or kick-back. There could hardly be more neutral cornering characteristics under normal conditions and, whereas Fiat saloons leave a good deal to be desired so far as a level ride is concerned, I was most impressed with the non-pitch ride of the 124 coupé, which has conventional coil-springs but good location of a rigid back axle, that made its presence felt mildly very occasionally on rough roads. I have seen the ride described as harsh low down. A little body shake *is* promoted—but this is unimportant, as is the noise from the engine, for a car of such sporting demeanour. There is adequate ground clearance and exceptional all-round visibility, except that the o/s of the screen is not fully swept by the wipers.

No car is perfect but the faults in this Fiat are few, and minor. There is a faint reflection in the flat, inclined screen from the top of the polished-wood steering-wheel rim, the driver's or front passenger's coats can obstruct the otherwise well-placed heater controls, and coat-tails get trapped under the handbrake, and the front badge soon flew off and tumbled against the screen.

Otherwise, this is a great little car. The gear-change is lighter, I think, than that of Alfa Romeo's five-speed box and reverse is easily found by lifting the lever back and down behind the fifth-speed location; the gears are quiet. The all-disc, self-adjusting, compensated, servo brakes function extremely well. There are maxima in the lower gears, if you give the willing, responsive engine its head, of 28, 50, 78 and over 100 m.p.h. Without occupants, but ready to go, with a gallon of fuel, the weight was 18 cwt. 1 qtr. The Fiat is good looking without being flamboyant. It is genuinely good fun to drive.

It is nice that Turin has refrained from calling this twin-cam coupé a GT car, although this they might well do, for it *is* quite a miniature GT in many ways and as it gives around 26 to 28 m.p.g. of premium petrol and has a 9.8-gallon tank, the range is not too far short of this category. (I recorded nearly 27½ m.p.g. on a fast run over deserted Welsh roads and very little less in London, an overall consumption of 27.3 m.p.g. There was a drop of about a pint in the level of the sump oil, presumably Fiat's own brand, after 700 miles.)

I have seen this captivating Fiat described by another critic as "An attractive, entertaining blend of sports car and saloon for the small family". Personally, I do not consider this nearly appreciative enough. It is a car which should cause many discerning drivers with £1,478 to spend to crumple up their short-list and throw it away.—W.B.



MOTOR TESTED

Furissimo for four

Attractive four-seater sports car; outstanding handling and cornering powers; good performance even though down on power; heavy steering, spongy brakes and odd gear ratios; well finished and equipped; now rather expensive

The 124 Sport has left an endearing mark on several occasions in the past three years, especially on some group test runs when it invariably seems to excel. It is a car we have always admired not just for its entertainment value, which is very considerable, but also because it is one of the most attractive and well planned of the small, mass produced family sports cars.

Although it now has tougher opposition, notably from the Ford Capri and Opel Manta, than when it was introduced, it still epitomizes its breed and in conception and character, if not in certain details, has in our opinion yet to be surpassed by any upstart youngster.

Our assessment of the car as a modest classic is well founded. To start with it looks so good—opinion here is divided about the latest frontal treatment, but no one could question the excellence of the new lights. The car just passes as a four seater, rather than a 2+2, and the boot will take a fair mount of luggage if packed with care. Comfortable front seats, deep all-enveloping windows, and quite lavish interior appointments substantiate the family saloon role.

That the car succeeds here despite strong sporting aspirations is why we rate it so highly. The cornering powers are outstanding and the handling taut and responsive, though less so than before when there were two anti-roll bars. To say that we were disappointed with the performance of a 1600 that lapped the MIRA track at 105 mph may sound rather harsh. But compared with the 1400, which was almost as quick (see page 17), this 1600 did not live up to expectations and was certainly inferior in performance both to Fiat's claims and a contemporary's test figures.

Even though an on-song 1600 must be very nearly as potent as a Capri 3000, it is the presence of the much cheaper big Capri, highlighted by steep increases in the Fiat's price (£500 since our first test in 1967), that make the car less impressive now, even as a 1600. Moreover, even allowing for certain other detail improvements, some of the faults we criticized three years ago still remain. The driving position, for instance, is unsuitable for tall people; the steering is too heavy at low speed; the switchgear, despite some excellent detail features, is on the whole exasperating; and the gear ratios, never particularly good, are now bad on the 1600 even though it has a five-speed box.

Supplies of the 124 Sport to the UK have only recently been resumed after a starvation period caused by troubles at the Fiat plant in Turin. We don't regard the car as the bargain it once was, but it nevertheless remains a very attractive machine for which demand will no doubt continue to outstrip supply.

Price: £1375 plus £422 8s. 8d. purchase tax equals £1797 8s. 8d. Light alloy wheels £78 6s. 8d. with tax; metallic paint £84 17s. 3d. with tax; headrests £52 4s. 6d. with tax; tinted glass £39 3s. 4d. with tax. Total as tested £2052 0s. 5d.

Fiat 124 Sport Club

Performance and economy

Although neither the pushrod nor the twin cam Fiat engines are in any way temperamental, their performance—judging by various test cars we've sampled in the past few years—is inconsistent. No subsequent 124 saloon, for instance, has yet matched the speed of the first flyer we tested; and there was the case of our own staff 125 which never went quite as fast as it ought. Now it seems clear that this Sport 1600 was also down on power. A possible explanation for some of these inconsistencies is that Fiat engines, particularly the twin cams, are particularly sensitive to fine tuning and that without it there can be a mysterious deficiency of urge.

Assuming the 1400's mean lap at MIRA of 102.2 mph to be typical (which would imply that the first one we tested was not up to par with under 100 mph), then the 1600 should be capable of lapping at about 110 mph. Even in perfect conditions, our test car would have got nowhere near this mark, though it did nudge 110 mph with strong wind assistance over the fastest quarter.

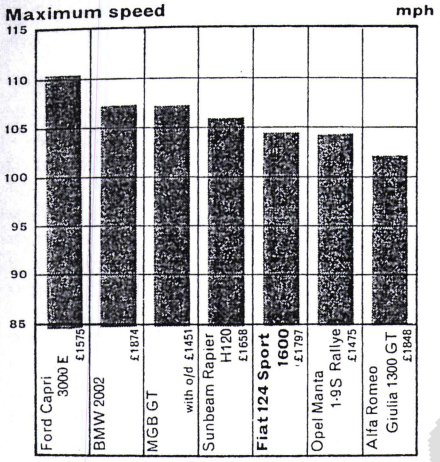
Comparisons apart, the car certainly didn't feel a sluggard. Subjectively, the only hint of any deficiency was a hesitancy—a definite flat spot at certain revs—between over-run and power and when changing gear. As another (faster) 1600 we know was similarly afflicted we assumed this fault to be inherent.

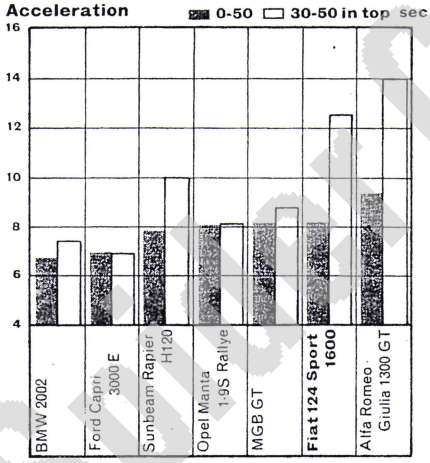
In every other respect the engine, a big carb version of that in the 125S, felt and sounded typical. It started promptly after a couple of throttle squirts to prime the Webers, but was then a bit hesitant for half a mile unless you could persuade the stiff choke out a little. Although the 1600 has more torque than the 1400, and pulls more strongly from low down (once over the flat spot), it is still not a slogger. The engine's smooth urgency and deep thrum, uncontaminated by whooshing noises from the fan (which is electric and thermostatically controlled), encourages high revs. During brisk driving the rev counter needle seldom strays from the 4000-6000 sector, the red line being at 6500 rpm which we observed during performance testing.

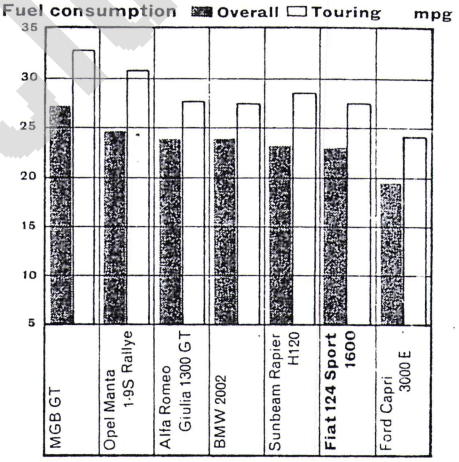
With more power and slightly longer legs, the 1600 scores over the 1400 on cruising: 100 mph can be maintained without stress on car or driver and with very little dishonesty from the speedometer. Up to 80 mph it was dead accurate and only became a little optimistic thereafter.

The ability to maintain high speeds on Continental motorways is to some extent frustrated by a rather puny 9.9-gallon fuel tank which, at 100 mph, would allow little more than 150 miles between fill-ups. So long-range tortoises might get there just as quickly. Not that the 1600 is heavy on fuel. Our test car returned 23.2 mpg overall which is actually better than we got from our first 1400 test car. The consumption curve in fifth is practically flat between 30 and 60 mph (see graph) and doesn't start to dip until 70 mph. We ran on 4-star fuel without any pinking.

PERFORMANCE







Performance tests carried out by *Motor's* staff at the Motor Industry Research Association proving ground, Lindley.

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Conditions

Weather: Damp and windy
Temperature: 42-47°F
Barometer 28.8 in. Hg.
Surface: Damp tarmacadam
Fuel: Premium, 98 octane (RM), 4 Star rating

Maximum Speeds

	mph	kph
Mean lap banked circuit	104.8	169
Best one-way ¼-mile	109.8	177
4th gear (at 6500 rpm)	101	163
3rd gear (at 6500 rpm)	73	117
2nd gear (at 6500 rpm)	48	77
1st gear (at 6500 rpm)	27	44

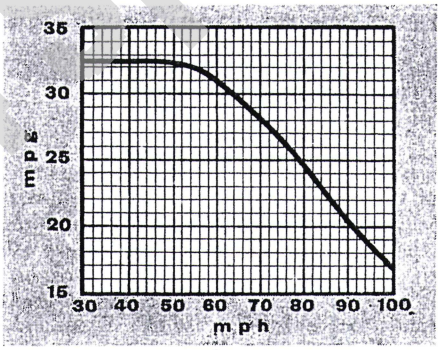
"Maximile" speed: (Timed quarter mile after 1 mile accelerating from rest)

Mean	97.8
Best	102.1

Acceleration Times

mph	sec.
0-30	3.1
0-40	5.8
0-50	8.3
0-60	11.6
0-70	15.6
0-80	21.2
0-90	28.4
0-100	43.7
Standing quarter mile	18.5
Standing kilometre	34.1

mph	Top sec.	4th sec.	3rd sec.
10-30	—	—	8.2
20-40	—	11.1	6.6
30-50	12.5	9.3	6.0



40-60	12.0	8.7	6.4
50-70	13.0	9.7	7.2
60-80	16.2	11.2	—
70-90	21.1	13.1	—

Fuel Consumption

Touring (consumption midway between 30mph and maximum less 5% allowance for acceleration) 27.5 mpg
Overall 23.2 mpg
(=12.2 litres/100km)
Total test distance 1220 miles

Brakes

Pedal pressure, deceleration and equivalent stopping distance from 30 mph

lb.	g.	ft.
25	0.53	57
50	0.72	42
75	0.96	31
Handbrake	0.29	100

Fade Test

20 stops at ½g deceleration at 1 min. intervals from a speed midway between 40 mph and maximum speed (=73 mph)

	lb.
Pedal force at beginning	25
Pedal force at 10th stop	25
Pedal force at 20th stop	25

Steering

Turning circle between kerbs:	ft.
Left	34
Right	33.75
Turns of steering wheel from lock to lock	2.9
Steering wheel deflection for 50 ft. diameter circle	1.0 turn

Clutch

Free pedal movement	=1.75 in.
Additional movement to disengage clutch completely	=2.75 in.
Maximum pedal load	=28 lb.

Speedometer

Indicated	20	30	40	50	60	70	80	90	100
True	20	30	40	50	60	70	79.5	88.5	97.5

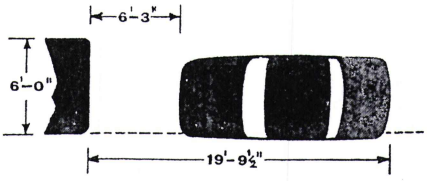
Distance recorder 2¼% slow

Weight

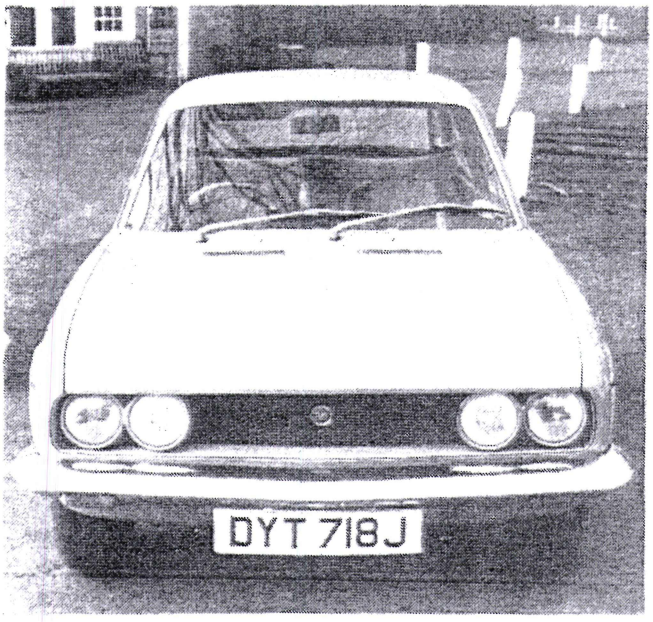
Kerb weight (unladen with fuel for approximately 50 miles) 19.8 cwt.
Front/rear distribution 56.5/43.5
Weight laden as tested 23.6 cwt.

Parkability

Gap needed to clear 6 ft. wide obstruction in front



Fiat124Sportclub.com





The new four-eyed front may not appeal to everyone, but the extra lighting gives much improved performance. At the rear the revised light cluster is the best way to spot the difference if you aren't close enough to read the 1600 badge

Transmission

The five-speed transmission that is optional on the 1400 is not quite like that fitted as standard to the 1600: neither the internal ratios nor the final drive are the same. Surprisingly—and inappropriately for use in this country—the 1600 has a lower axle ratio of 4.3:1 (against the 1400's 4.1:1) which, although the internal indirects are all higher, effectively lowers the overall gearing. The gap between fourth and fifth is wider than the scarcely worthwhile one of the five-speed 1400 because direct fourth is considerably lower.

We note these differences to emphasize that rationalization does not appear to be the reason for what seems to us a curious set of ratios. In our view only one gear, fourth, is right: those beneath are too low and too wide apart. At full bore in first you run out of revs in a scant $2\frac{1}{2}$ seconds at a mere 27 mph. Clearly, this sprint gearing gives tremendous getaway acceleration—if you can control the wheelspin—but diminishes the value of the lower gears for overtaking and cornering unless you're ready to scream the engine and constantly stir the gear lever. Second and third also have relatively low maxima of 48 and 73 mph and could usefully be closed up to fourth, which gives 101 mph at 6500 and seems about right.

The four/five gap, though wider than on the 1400, is still a little too close: 17.5 mph/1000 rpm can hardly be called long-legged for what we'd regard essentially as a cruising gear. Clearly Fiat see it differently. They've geared the car for maximum speed rather than optimum relaxation and fuel economy, witness how peak power revs coincide with their claimed top speed—6400 rpm x 17.5 mph/1000 = 112 mph. For British roads we can't help thinking that the higher 4.1 axle ratio would be much better.

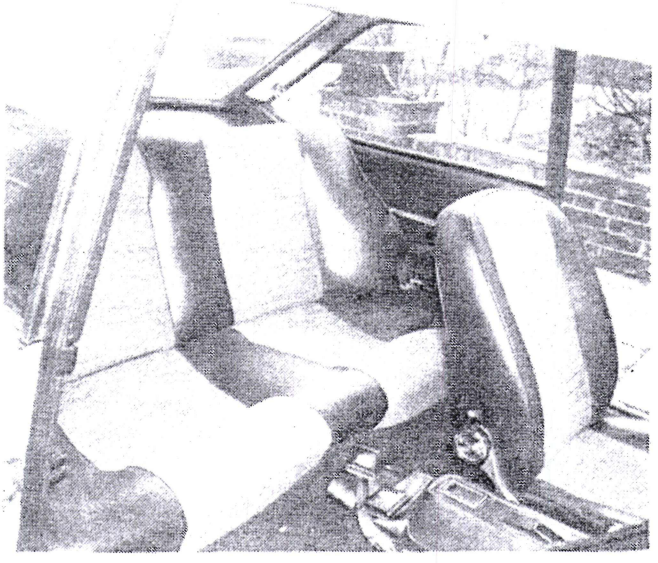
In fairness, despite the lowness of fifth, the car does not sound or feel fussy at speed, a good measure of the engine's spirited character and smoothness.

There is little that isn't praise to say about the gearchange itself. The short, stout lever, spring loaded in the three/four plane, can be sliced quickly and easily through a well defined gate in which fifth is in the far top right-hand corner. Just a diagonal push from fourth will find it. Reverse, protected by a step over which the lever must be lifted, is straight back from fifth. The synchromesh, though unbeatable, doesn't baulk the changes except when going down into second or first (and then not excessively). More often the lever needed a firmer push to disengage, though this slight obstruction would perhaps ease after further running in.

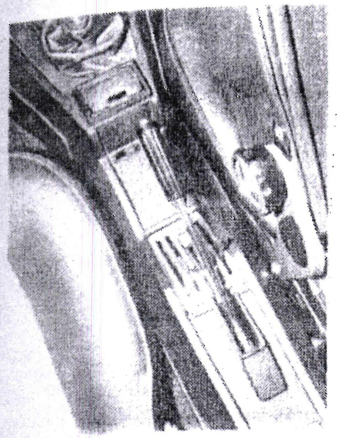
The clutch action is smooth and engagement reasonably progressive, but long and rather sticky free travel tended to mask the point of engagement and made the pedal stick out too far —a common Fiat fault.

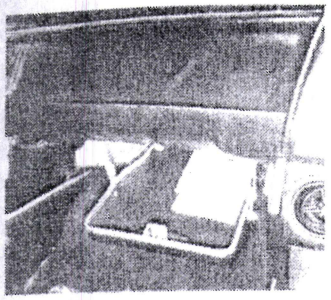
The bucket front seats are well shaped for side and lateral support but adjustment for reach is limited. The squab angle can be altered by turning the big knob on the inside edge. The catch on the outside releases the backrest for access to the shaped rear seat, where only leg room is restricted

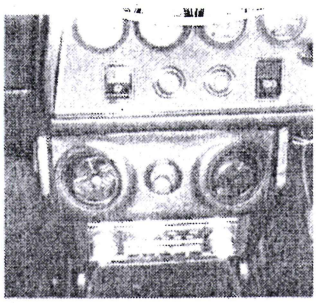




Fiat 128 Owners Club







The latest cars have two eyeball outlets on the centre console, below, which can be used either for heating or ventilation. There is a useful drop-down bin, below left, on the passenger side and map pockets in the foot wells. The facia cold air vents have volume and distribution control. The centre divide, left, contains two ashtrays, heater controls, the fan switch and the handbrake and gearlever

Handling and brakes

Two things have slightly changed—some drivers might say dulled—the car's renowned handling; extra power and, presumably in consequence, the removal of the rear anti-roll bar. Had it been left on, the impressively flat, almost competition car, cornering would have been retained, but no doubt at the expense of inside wheelspin when powering through a wet, low-gear corner. As it is, the Sport 1600 doesn't suffer unduly from this annoyance which afflicts certain Alfas and the more powerful Capris.

With less stiffness at the back, roll and understeer are more noticeable than before, though neither are sufficiently pronounced to spoil the sports car feel and excellent handling. The steering is unacceptably heavy at low speed, especially when parking, but it is also pleasantly responsive and remarkably informative at other times. Kickback has been almost eliminated by a steering damper but this does nothing to mask outstanding feel: it's so good that you can drive with confidence up to and beyond the threshold of breakaway and feel exactly what is happening through the steering.

On MIRA's high friction asphalt, no amount of provocation would prevent safe, consistent understeer. On the road, though, especially in the wet, the tail can be helped round under power in such a delightfully controllable way that the sporting driver will find it hard to resist exploiting the car's excellent balance. In fact the fat Pirelli radials grip well under braking and cornering in the wet so you don't have to be over cautious in adverse conditions.

In the dry, the cornering powers are exceptionally high and your line is unaffected by throttle opening or, within reason, an uneven surface, underlining the effectiveness of the very well located live back axle. To flick the car quickly along a winding country road is to enjoy the 124 Sport at its very best. It is also particularly stable right up to maximum speed and seems to be little affected by side winds.

We were not so happy about the brakes. They stop the car well enough but are over-servoed, too spongy and unprogressive, especially on release. The very sensitive touch needed to avoid jerky braking also made heel and toe changes difficult, even though the pedals are quite well arranged for simultaneous operation. The handbrake just held the car on a 1-in-3 slope.

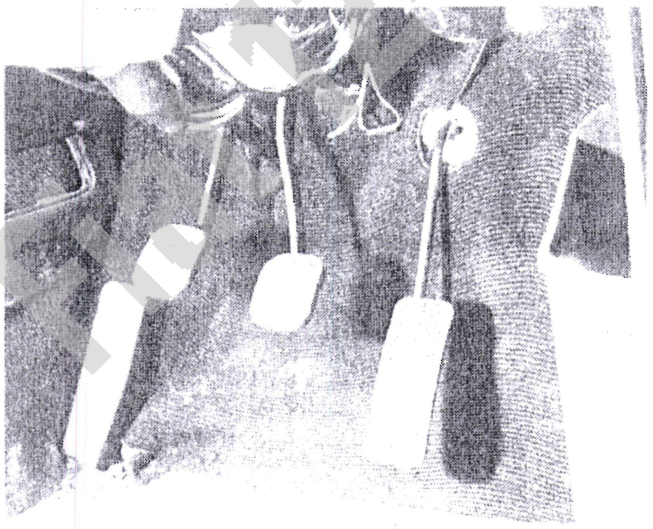
Comfort and control

Although the springing is firm, the ride is good for such a sporting car. It doesn't jolt or jar except on really bad gashes, and the amplitude of bouncing movement is not excessive. With a full load, though (only 700 lb.), the rear suspension is practically on the bump stops.

The front seats got high praise. They too are on the firm side but are well shaped for good lumbar and side support, cloth inserts providing additional location through friction. However, only drivers of average height or below are really relaxed and comfortable at the wheel. Tall people must sit knees-up to work the pedals which protrude too far, especially as the seat has limited rearward travel. So although the seat cushion has a bolstered forward edge, anyone with long legs gets little or no support under the thighs and your buttocks can ache in consequence. Although the seats don't recline, fine squab angle adjustment is possible by turning a large side knob. A lever releases the squab for access to the back which, despite the shaped seats, is a bit cramped for tall people. Again, you have to sit with your knees up, your toes tucked under the front seat.

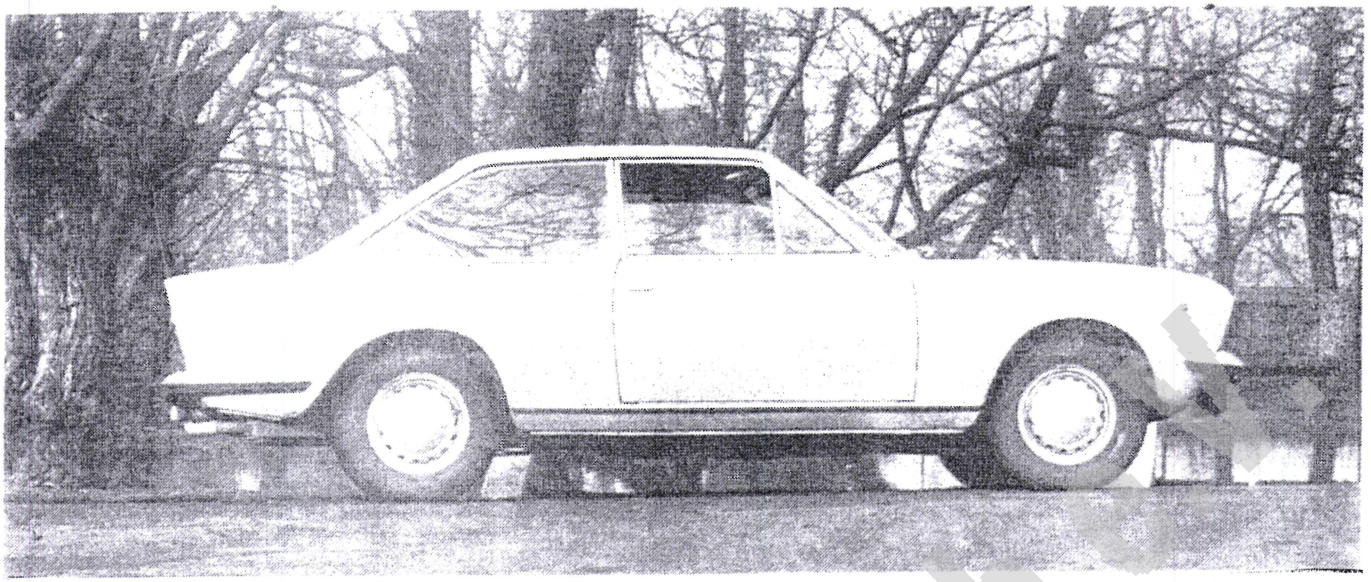
Most drivers criticized the steering wheel design and location. If you like to lean back it is too far forward and too high in relation to the pedals, and a thin slippery rim is not what you want in a car with heavy steering. An extra inch of seat movement and a dished wheel with a thick leather rim would transform the driving position for tall people.

The shiny mock wood wheel is reflected in the screen sometimes, especially in fog. However, big windows that practically meet at the four corners not only give an excellent all-round view but also help make the compact cockpit seem bigger and more airy than it is. The four quartz halogen lights are outstanding. They give an intense white light far into the distance on main beam,



The boot extends well forward but is rather shallow and you have to unload to reach the spare wheel. Including the soft bags, our luggage totals 7.2 cu.ft. here. It would help the driving position if the pedals were farther away, but they are well spaced in relation to each other





Not as sporting from this view as it looks from others, the 124 Coupe has well proportioned lines; apart from the new front end the new car is little different from this angle

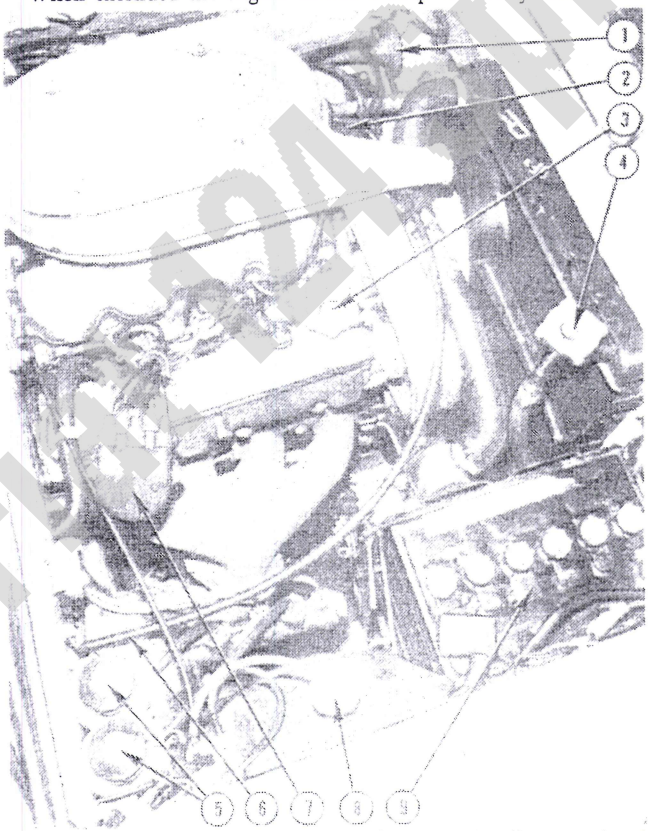
and an excellent short-range spread on dip. They make the lights of most other cars seem a dull yellow in contrast.

Although the wipers have been adapted for right-hand drive, the driver's blade on our car barely went beyond the vertical, so vision on right hand corners was seriously restricted. That to the rear is also frequently hampered by misting up unless the two new swivelling eyeball outlets on the centre console are concentrated aft with the fan on.

As there are no extractor vents a window must be open to relieve internal pressure and boost the throughput of air, otherwise rather meagre, for the heater or ram-fed ventilation grilles. Unfortunately an open window means additional wind noise.

The heater, controlled by three handy levers between the seats, has a good output—except that the driver's footwell outlet on the test car seemed to be starved. The two-speed booster fan is exceptionally noisy.

When extended the engine makes a deep and noisy roar which probably won't be objectionable to an enthusiast's ears; it is in any case a lot less obtrusive when cruising. Wind noise is moderate unless a window is open—particularly one of the rear front-hinged extractor windows. Road roar is generally subdued though the tyres make a harsh thump over cats eyes and a shrill whine on very smooth surfaces. The gearbox indirects are audible.



1 air horn, 2 coil, 3 oil filler, 4 radiator filler, 5 hydraulic reservoirs, 6 brake servo, 7 distributor, 8 screen washer reservoir, 9 battery

Fittings and furniture

The no-nonsense instruments are neat and clear, though your left hand tends to mask two of the smaller dials. We particularly like the fingertip wiper stalk which has settings for intermittent, and for continuous operation. A rheostat control on the facia adjusts the speed of the wipers from leisurely to frantic. The washer button, however, is tucked under the facia and along with the choke, ignition, hand throttle and ventilation lever, is difficult to reach when you're strapped in. The belts are quite comfortable to wear but the buckles tend to get lost between the seats and console.

On the left of the steering column are two other stalks, a small one for the indicators, a long one for the lights and flasher with the usual Fiat side, dip, main-beam sequence from top to bottom. As usual we detest it because a wrong move plunges the road into darkness. Both the sun visors twist sideways, though some people found them, and the screen toprail for that matter, too close to their forehead for comfort.

The black interior trim is quite lavish and well finished. Rubber inserts protect the carpet in the front footwells, each of which houses a map bin. There is also a let-down tray on the passenger's side, an oddments space around the gearlever, and a good shelf behind the rear seat. The boot extends well forward so it has quite a large floor area, but the spare wheel beneath makes it rather shallow.

Other equipment includes a clock, cigar lighter, dipping mirror (with a built-in interior light), two individually controlled rear compartment lights, not to mention a reversing light and illumination in the boot and engine compartment. There is also a rheostat control for the panel lights, a strident twin-trumpet air horn, grab handles with coat hooks and four armrests. So the car is very well equipped.

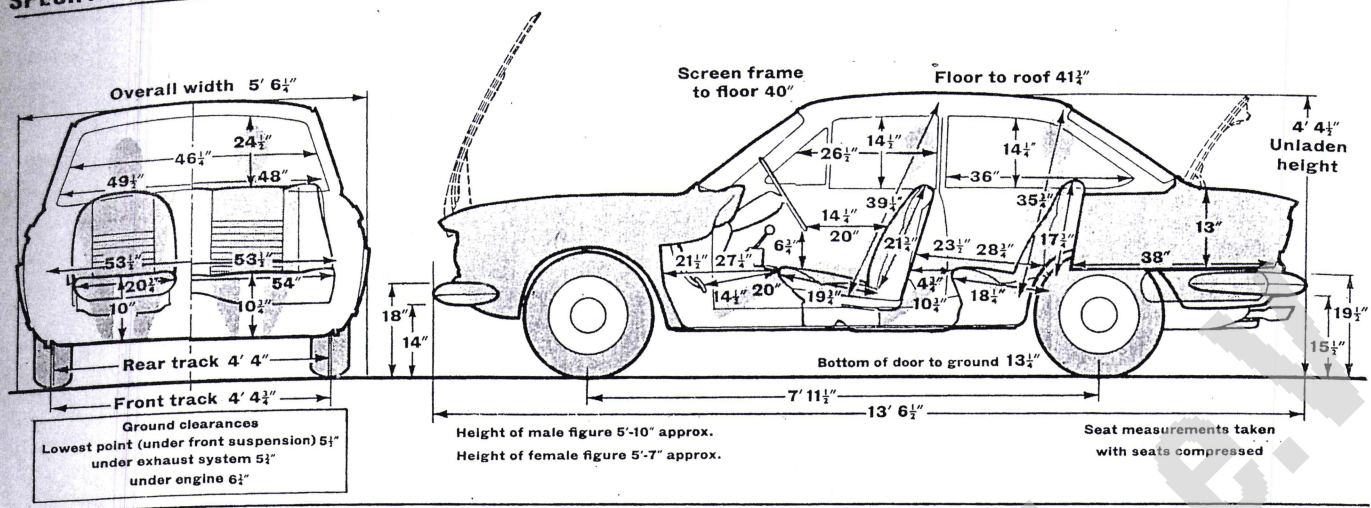
Servicing and accessibility

Servicing is needed every 6000 miles and there are no chassis lubrication points. The front-hinged bonnet, released by an under-facia catch on the passenger's side, is self supporting in two positions. We found it awkward to release the torsion bar spring when lowering the lid. Fitting our Petrometa showed that any work on the carburetters first means removing an incredibly complex air cleaner assembly; and dipping the sump at night confirms the necessity for an under-bonnet light as the dipstick hole is particularly inaccessible. Otherwise most of the ancillaries beneath the bonnet seemed within reasonable reach.

A small plastic case holds a small set of tools and the jack is a substantial pillar-screw assembly.

Fiat124SpiderClub.co.uk

SPECIFICATION



1600 cc twin ohc engine; five-speed gearbox; well located live back axle

Engine

Block material	Cast iron
Head material	Aluminium
Cylinders	4
Cooling system	Water
Bore and stroke	80 mm (3.15 in.) 80 mm (3.15 in.)
Cubic capacity	1608 cc (97.5 cu.in.)
Main bearings	5
Valves	Twin overhead camshafts, toothed belt drive
Compression ratio	9.8:1
Octane rating	98 (4-Star)
Carburettor	2 vertical twin-choke, 40 DIF13 Weber or C4P116 Solex
Fuel pump	Mechanical
Oil Filter	Full flow
Max. power (net)	110 bhp at 6400 rpm
Max. torque (net)	101 lb.ft. at 3800 rpm

Transmission

Clutch Single dry plate 7.87in. diameter, diaphragm spring

Internal gear box ratios

Top gear	0.88
4th gear	1.0
3rd gear	1.36
2nd gear	2.1
1st gear	3.67
Synchromesh	All forward gears
Final drive	Hypoid bevel 4.3:1

Mph at 1000 rpm in:

Top gear	17.5
4th gear	15.5
3rd gear	11.4
2nd gear	7.4
1st gear	4.2

Chassis and body

Construction Unitary body chassis

Brakes

Type	Fiat Bendix discs, front and back
Dimensions	8.95 in. diameter front and back
Friction areas:	
Front:	19.2 sq.in. of lining operating on 135 sq.in. of disc
Rear:	19.2 sq.in. of lining operating on 135 sq.in. of disc

Suspension and steering

Front	Independent by double wishbones and coil springs; anti-roll bar
Rear	Live axle located by trailing arms Panhard rod; coil springs
Shock absorbers	Telescopic
Steering type	Worm and roller
Tyres	Pirelli Cinturato 165 HR-13
Wheels	Steel disc. Rim size 5J

Coachwork and Equipment

Starting handle	No
Tool kit contents	2 spanners, 1 plug spanner, 1 wheel brace, 1 screwdriver, 1 tommy bar
Jack	Pillar screw
Jacking points	2 each side under sills
Battery	12 volt, negative earth 45 amp hrs capacity
Number of electrical fuses	9
Headlamps	4 quartz halogen with asymmetrical beam
Indicators	Self cancelling flashers
Reversing lamp	Yes
Screen wipers	Variable speed with intermittent setting
Screen washers	Push button electric
Sun visors	2
Locks:	
with ignition key	Ignition, doors
with other keys	Boot
Interior heater	Fresh air unit
Upholstery	Stretch plastic with cloth inserts
Floor covering	Rubber and carpet
Alternative body styles	Spider—not available in UK
Maximum load	705 lb.
Maximum roof rack load	Not known
Major extras available	Light alloy wheels, metallic paint, headrests, tinted glass

Maintenance

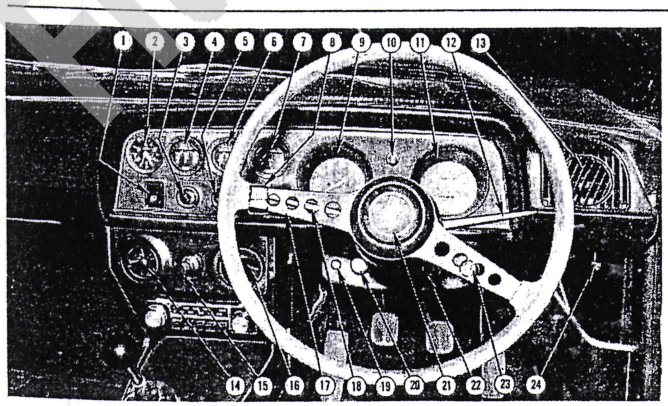
Fuel tank capacity	9.9 galls 45 litres
Sump	6.5 pints SAE 20W/40
Gearbox	2.5 pints SAE W90M
Rear axle	1.1 pints SAE W90M
Steering gear	W90M
Coolant	13.2 pints (2 drain taps)
Chassis lubrication	None
Minimum service interval	6000 miles
Ignition timing	10° btdc
Contact breaker gap	0.018 in.
Sparking plug gap	0.022 in.
Sparking plug type	Champion N6Y
Tappet clearance (cold)	inlet 0.018 in. Exhaust 0.020 in.
Valve timing:	
inlet opens	26°btdc
inlet closes	66°abdc
exhaust opens	66°bbdc
exhaust closes	26°atdc
Front wheel toe-in	3 mm ± 1 mm
Camber angle	0°30′ ± 20′
Castor angle	3°30′ ± 30′
King pin inclination	6°
Tyre pressures:	
Front	28 psi
Rear	28 psi

Full Address

Maker	Fiat S.p.A. Corso Marconi, Turin, Italy
Concessionaires	Fiat (England) Ltd., Great West Rd, Brentford, Middx.

Safety check list

Steering Assembly	
Steering box position	Good—behind engine
Steering column collapsible	No
Steering wheel boss padded	No
Steering wheel dished	Slightly
Instrument panel	
Projecting switches	Yes, rheostat switches
Sharp cowls	No
Padding	Whole of facia
Windscreen and visibility	
Screen type	Toughened
Pillars padded	Light covering
Standard driving mirrors	One interior
Interior mirror framed	Yes
Interior mirror collapsible	Yes
Sun visors	2
Seats and Harness	
Attachment to floor	By bolted down slides
Do they tip forward?	Only when safety catch released
Head rest attachment points	No
Back of front seats	Firm padding
Safety Harness	Lap and diagonal
Harness anchors at back	Yes
Doors	
Projecting handles	Yes
Anti-burst latches	Yes
Child-proof locks	No—but only two doors



1 Panel light. 2 clock. 3 panel light rheostat. 4 water temperature. 5 wiper speed control. 6 oil pressure. 7 fuel gauge. 8 lights switch. 9 rev counter. 10 trip zero. 11 speedometer and distance recorders. 12 wiper stalk. 13 air vent. 14 and 16 heater outlets. 15 cigar lighter. 17 indicators. 18 dip/flash. 19 screenwasher. 20 choke. 21 horn. 22 ignition/starter. 23 hand throttle. 24 air vent control

Fiat 124 Enthusiasts Club



The 1400: a reassessment

As a supplement to our full 1600 test, we also tried a five-speed 1400 in its latest guise. Far from being down on power, this car seemed to go particularly well.

Mechanically, the only difference between the two are the gear ratios, which we've already outlined; the carburation (the 1400 has a single twin choke unit); and the engine capacity. Both engines have the same bore of 80 mm but the 1438 cc unit has a shorter (71.5 mm) stroke which allows it to rev faster, up to 6800 rpm. This higher rev limit in part accounts for the 1400's better intermediate maxima.

We were also surprised to find that the 1400 no longer has a rear anti-roll bar, so its handling, like that of the 1600, is a little softer than before, and understeer a bit more pronounced. With less power and torque, though, it cannot be steered and controlled so well on the throttle. But then for the same reason, it is less likely to break away on a slippery road.

As the figures show, this 1400 was very nearly as quick as the 1600 we tried, both in top speed and acceleration through the gears. Its higher final drive makes direct fourth the quickest cog in the box, fifth being a genuine cruising gear, even though it is lower than that of the 1600. The 1600 appears to score most in fourth gear acceleration where the combination of lower gearing and more power give it a useful edge—a 3 second advantage, for instance, from 50 to 70 mph.

As well as being quicker than our original (four-speed) test car, this 1400 was also more economical with a respectable overall consumption of exactly 25 mpg, again on 4-star fuel.

The 1600 costs over £100 more than the five-speed 1400. On the basis of the figures in these two tests, it is hardly worth the extra. But until we try a better 1600—better, that is, in performance and free from a number of irritating faults that were evident on our test car—it is difficult to compare the two fairly.

PERFORMANCE AND SPECIFICATION

Performance tests carried out by *Motor's* staff at the Motor Industry Research Association proving ground, Lindley.

Test Data: World copyright reserved; no unauthorised reproduction in whole or in part.

Conditions

Weather: Fine, 5-15 mph wind
Temperature: 44°F
Barometer 30.0 in. Hg.
Surface: Dry asphalt
Fuel: 98 octane (RM), 4-Star rating

Maximum Speeds

	mph	kph
Mean lap banked circuit (4th gear—of five)	102.2	165
Best one-way ¼-mile	104.9	169
3rd gear }	78	126
2nd gear } at 6800 rpm	51	82
1st gear }	29	47
"Maximile" speed: (Timed quarter mile after accelerating from rest)	1 mile	
Mean		97.8
Best		99.0

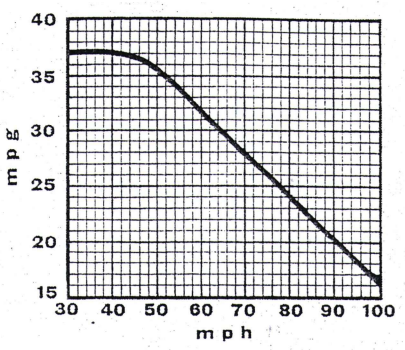
Acceleration Times

mph	sec.
0-30	4.2
0-40	6.3
0-50	8.6
0-60	12.4
0-70	16.8
0-80	22.9
0-90	32.7
Standing quarter mile	18.8
Standing kilometre	34.5

mph	5th sec.	4th sec.	3rd sec.
10-30	—	—	8.3
20-40	15.5	12.3	7.3
30-50	14.1	11.2	7.2
40-60	13.1	11.0	7.2
50-70	15.5	12.8	7.6
60-80	19.2	14.5	—

Fuel Consumption

Touring (consumption midway between 30 mph and maximum less 5% allowance for acceleration) 27.8 mpg
Overall 25.0 mpg
(= 13.0 litres/100km)
Total test distance 1200 miles



Engine

Block material	Cast iron
Head material	Aluminium
Cylinders	4 in line
Cooling system	Water
Bore and stroke	80 mm (3.15in.) x 71.5 mm (2.82in.)
Cubic capacity	1438 cc
Main bearings	5
Valves	Twin overhead camshafts with toothed belt drive
Compression ratio	8.9:1
Octane rating	98
Carburetter	Single Weber twin choke 34DHS 10
Fuel pump	Mechnical
Oil Filter	Full flow
Max. power (net)	90 bhp at 6,500 rpm
Max. torque (net)	80 lb.ft. at 3,600 rpm

Transmission

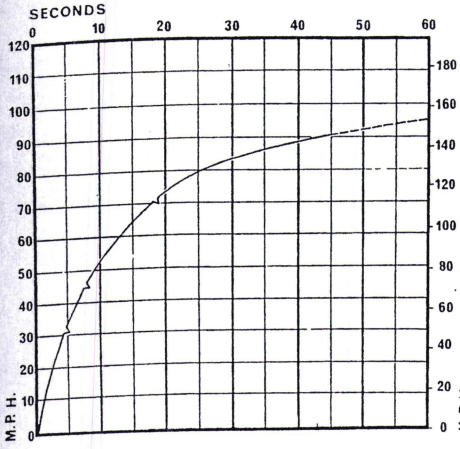
Clutch Single dry plate 7.87 in. daimeter, diaphragm spring
Internal gear box ratios

Top gear	0.913:1
4th gear	1.0:1
3rd gear	1.41:1
2nd gear	2.18:1
1st gear	3.80:1
Reverse	3.652:1
Synchromesh	All forward gears
Final drive	Hypoid bevel 4.1:1
Mph at 1000 rpm in:—	
Top gear	17.8
4th gear	16.2
3rd gear	11.5
2nd gear	7.5
1st gear	4.3

First 1275 Single Club

FIAT 128 COUPE 1300, (1,290cc)

ACCELERATION



SPEED MPH TRUE	INDICATED	TIME IN SECS
30	32	4.2
40	43	6.3
50	53	8.9
60	63	13.1
70	73	17.5
80	83	25.4
90	94	44.0
100	104	—

GEAR RATIOS AND TIME IN SEC

mph	Top (4.24)	3rd (5.91)	2nd (9.13)
10-30	—	8.9	4.6
20-40	12.7	7.1	4.3
30-50	10.7	6.6	—
40-60	10.5	7.0	—
50-70	11.9	8.4	—
60-80	14.5	—	—
70-90	21.3	—	—

Standing ¼-mile
18.8 sec 72 mph
Standing Kilometre
35.2 sec 86 mph
Test distance
1,104 miles
Mileage recorder
2 per cent over-reading

PERFORMANCE

MAXIMUM SPEEDS

Gear	mph	kph	rpm
Top (mean)	99	159	6,600
(best)	101	163	6,750
3rd	73	118	6,800
2nd	47	76	6,800
1st	30	48	6,800

BRAKES

FADE
(from 70 mph in neutral)
Pedal load for 0.5g stops in lb

1	30-25	6	35-40
2	30-35	7	35-40
3	35	8	40
4	35-42	9	40
5	35-42	10	40

RESPONSE (from 30 mph in neutral)

Load	g	Distance
20lb	0.30	100ft
30lb	0.57	53ft
40lb	0.80	38ft
50lb	0.94	32ft
55lb	1.02	29.5ft
Handbrake	0.32	94ft
Max. Gradient	1 in 3.	

CLUTCH

Pedal 25lb and 6¼in.

COMPARISONS

MAXIMUM SPEED MPH

Vauxhall Firenza Sport	(£1,299)	103
Fiat 128 Coupé 1300	**(£1,398)**	**99**
Simca 1100 Special	(£1,116)	96
Austin 1300GT	(£1,069)	95
Toyota Corolla Coupé 1200SL	(£1,198)	95

0-60 MPH, SEC

Vauxhall Firenza Sport	11.4
Fiat 128 Coupé 1300	**13.1**
Simca 1100 Special	13.2
Toyota Corolla Coupé	14.3
Austin 1300GT	14.8

STANDING ¼-MILE, SEC

Vauxhall Firenza Sport	18.0
Fiat 128 Coupé 1300	**18.8**
Simca 1100 Special	18.9
Toyota Corolla Coupé	19.7
Austin 1300GT	19.8

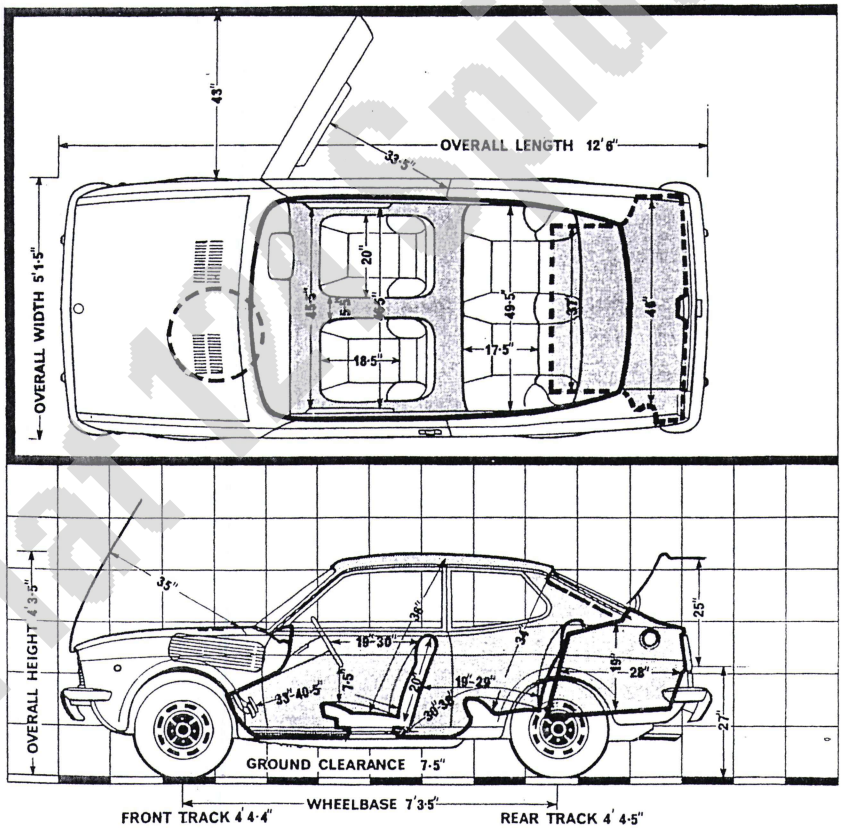
OVERALL MPG

Toyota Corolla Coupé	30.4
Fiat 128 Coupé 1300	**28.5**
Austin 1300GT	25.8
Simca 1100 Special	24.3
Vauxhall Firenza Sport	22.2

GEARING

(with 145 SR13in. tyres)

Top	15.0 mph per 1,000 rpm
3rd	10.75 mph per 1,000 rpm
2nd	6.95 mph per 1,000 rpm
1st	4.35 mph per 1,000 rpm



STANDARD GARAGE 16ft x 8ft 6in.

CONSUMPTION

FUEL
(At constant speed — mpg)

30 mph	47.2
40 mph	46.1
50 mph	41.8
60 mph	37.3
70 mph	33.2
80 mph	27.9
90 mph	22.5

Typical mpg . . . 32 (8.8 litres/100km)
Calculated (DIN) mpg 30.2 (9.4 litres/100km)
Overall mpg . . . 28.5 (9.9 litres/100km)
Grade of fuel Premium, 4-star (min. 97 RM)

OIL
Consumption (SAE 10W/40) . . negligible

TEST CONDITIONS:
Weather: Overcast Wind: 0-8 mph.
Temperature: 21 deg. C. (70 deg. F).
Barometer: 30.0in. hg. Humidity: 60 per cent.
Surfaces: Dry concrete and asphalt.

WEIGHT:
Kerb Weight 16.0 cwt (1,797lb-815 kg). (with oil, water and half full fuel tank). Distribution, per cent F, 62.3; R, 37.7. Laden as tested: 20.1cwt (2,255lb-1,022kg).

TURNING CIRCLES:
Between kerbs L, 30 ft 11 in.; R, 33 ft 8 in. Between walls L, 32 ft 9 in.: R, 35 ft 3 in. Steering wheel turns, lock to lock 3.4. Figures taken at 3,700 miles by our own staff at the Motor Industry Research Association proving ground at Nuneaton.

Fiat 128 Spider Club

AUTO TEST

FIAT 128 COUPE 1300

Style on a small scale

AT-A-GLANCE: Nimble and quick coupé version of well-established front drive saloon. Remarkably refined despite low overall gearing, though noisy at very high speeds. Excellent handling and good fuel consumption, well finished but apparently rather expensive.

THE Fiat 128 Coupé has just been made available in Britain. Of the four versions introduced at the Turin show last year, only the better-equipped SL models are being imported. There is a choice of two engine sizes, 1100 and 1300, but if past experience is anything to go by, the 1300 will be much the more popular (just as the 124 Coupé 1600 vastly outsold the 1400), and our test was run on the bigger-engined version.

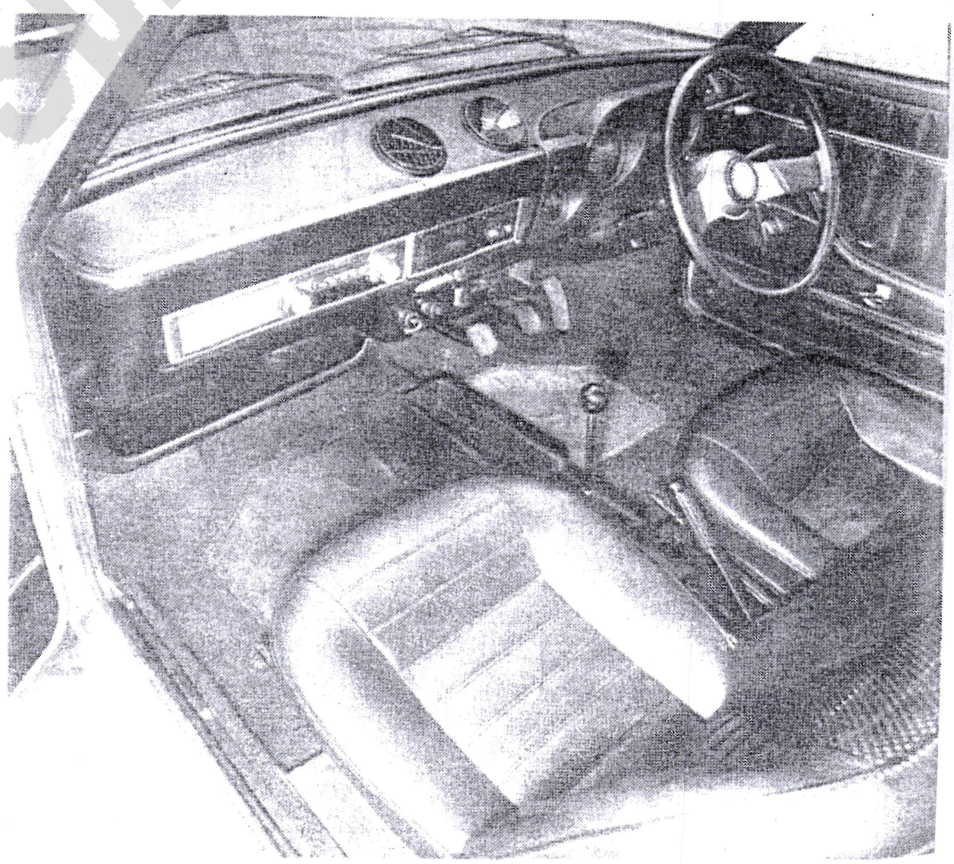
The 128 Coupé 1300 sells for £1,398, which on the face of it is a lot of money for a relatively small car; but Fiat have always charged a good deal more for their coupés than for the equivalent saloons, without ever seeing the demand slacken. When all is said and done, the important thing is what the coupé has to offer.

Unlike the 124 Coupé, in which the saloon floorpan and running gear was used more or less as it stood, the 128 has a shorter wheelbase than the saloon equivalent. The actual difference — nine inches — is quite large, inevitably reducing the amount of interior space but promising better handling.

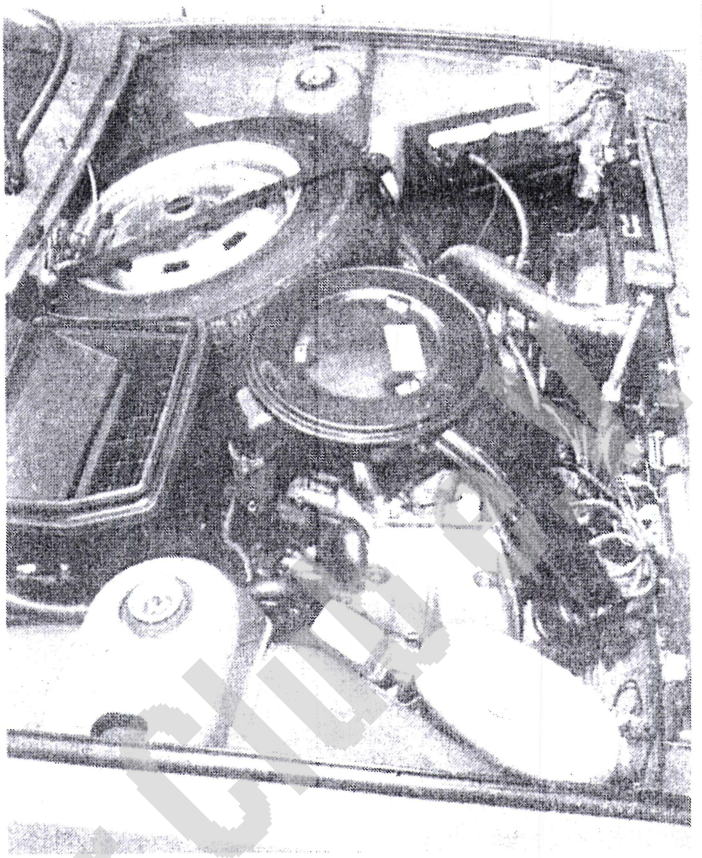
Despite the shorter wheelbase, the 128 Coupé is not much smaller than the saloon. Its overhang, especially at the front, has been increased as part of the styling which has so successfully disguised its front-drive mechanical layout. The only dimension which has greatly changed is the overall height, which is reduced by 4.5in., cutting down the frontal area.

The coupé engines are to all intents and purposes the same as those used in the 128 and 128 Rallye saloons. The 1100 power unit has a different carburettor, and both have a twin-branch exhaust system which gives a substantial power benefit. Compared with the 1100, the 1300 unit is simply bored out from 80 to 86mm, giving a capacity of 1,290 c.c.; the camshaft has a good deal more overlap, adding to the zest of an already sporting engine.



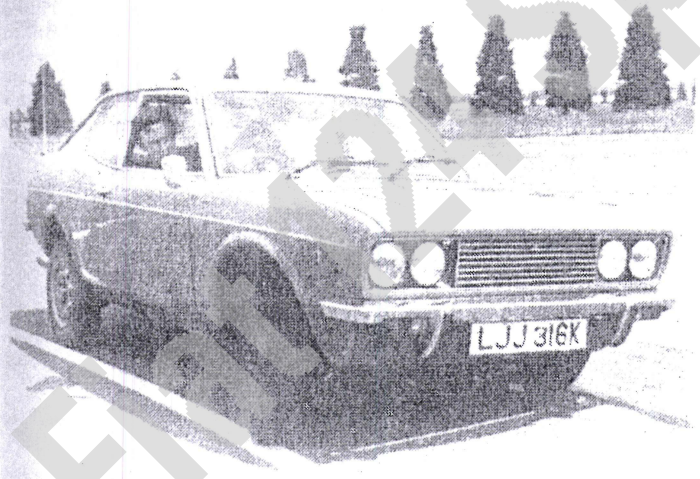


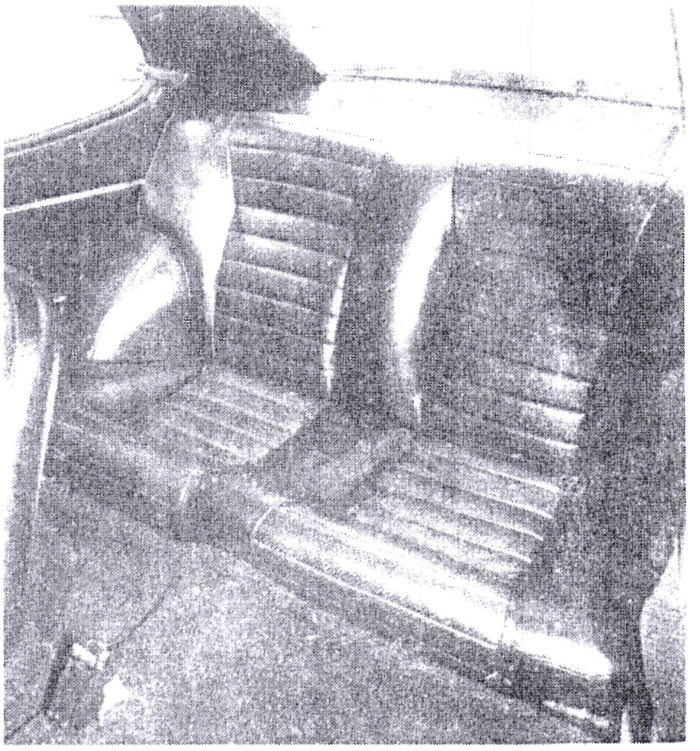




Above: Under-bonnet accessibility is reasonable although some items, like the oil filter, are not so easy to reach
Right: Rear aspect of 128 Coupé is perhaps slightly less attractive
Below: Back seats are moulded into two nicely individual places, but there is little legroom







Top: Cornering with a sideways force of about 0.7g on a 50ft radius circle, the 128 Coupe shows moderate understeer, with outside rear wheel taking a share of the strain. Seat belt anchorage point is below shoulder level, so belt does less than it should to hold driver against sideways force. Above: From the inside of the turn, the inner front wheel can be seen still in contact with the ground despite the body roll.
Left: Well-shaped seats, good armrests and high standard of interior finish are pleasant features, but pedals are too close to wheel

Fiat 124 Sport Club

SPECIFICATION

FRONT ENGINE, FRONT-WHEEL DRIVE

ENGINE

Cylinders	4, in line, transversely mounted
Main bearings	5
Cooling system	Water, pump, electric fan and thermostat
Bore	86.0mm (3.38in.)
Stroke	55.5mm (2.19in.)
Displacement	1,290 c.c. (78.7 cu.in.)
Valve gear	Single overhead camshaft, belt-driven, direct-acting
Compression ratio	8.9-to-1 Min. octane rating: 97RM
Carburettor	Weber 32DTMR
Fuel pump	Fispa mechanical
Oil filter	Full-flow, replaceable cartridge type
Max. power	75 bhp (DIN) at 6,600 rpm
Max. torque	68 lb.ft (DIN) at 3,600 rpm

TRANSMISSION

Clutch	Diaphragm-spring, 7.1in. dia.
Gearbox	4-speed, all-synchromesh
Gear ratios	Top 1.04 Third 1.45 Second 2.24 First 3.58 Reverse 3.71
Final drive	Helical spur, ratio 4.08-to-1

CHASSIS and BODY

Construction	Integral, with steel body

SUSPENSION

Front	Independent: MacPherson struts, lower links, coil springs, telescopic dampers
Rear	Independent: MacPherson struts, lower links, transverse leaf spring, telescopic dampers

STEERING

Type	Rack and pinion
Wheel dia.	14½in.

BRAKES

Make and type	Disc front, drum rear, split-circuit
Servo	Vacuum
Dimensions	F 8.9in. dia R 7.3in. dia. 1.2in. wide shoes
Swept area	F 135sq. in. R 54sq. in. Total 189sq. in. (188sq. in/ton laden)

WHEELS

Type	Ventilated pressed steel disc, 4-bolt fixing, 4.5in. wide rim
Tyres—make	Pirelli (on test car)
—type	Cinturato radial ply tubed
—size	145-13in.

EQUIPMENT

Battery	12 Volt 45 Ah.
Alternator	Bosch 33 amp. a.c.
Headlamps	Carello 4-lamp halogen, 110/220 watt (total)
Reversing lamp	Standard
Electric fuses	9
Screen wipers	Two-speed, with intermittent wipe
Screen washer	Standard, manual plunger
Interior heater	Standard, air blending type
Heated backlight	Standard
Safety belts	Extra, mounting points standard
Interior trim	Pvc seats and headlining
Floor covering	Carpet
Jack	Screw pillar type
Jacking points	1 each side under body
Windscreen	Toughened
Underbody protection	Phosphor treatment prior to painting

MAINTENANCE

Fuel tank	11 Imp. gallons (50 litres)
Cooling system	11.5 pints (including heater)
Engine sump	7.5 pints (4.25 litres) SAE 10W/40 Change oil every 6,000 miles. Change filter element every 6,000 miles
Gearbox and final drive	2.75 pints SAE 90EP. Change oil every 18,000 miles
Grease	No points
Tyre pressures	F 26: R 24 psi
Max. payload	716 lb (325 kg)

PERFORMANCE DATA

Top gear mph per 1,000 rpm	15.0
Mean piston speed at max. power	2,420 ft/min.
Bhp per ton laden	74.7 (DIN)

AUTOTEST FIAT 128 COUPE . . .

Performance and economy

The greater power and lower frontal area both promise better performance in the coupé, but the car is no lighter than the saloon, so more benefit is gained at the top end of the speed range. The maximum speed of 99 mph, obtained in good conditions on the MIRA high-speed circuit, probably makes the 1300 coupé a genuine 100 mph car on the level. This is only slightly over the 6,600 rpm power peak, but the red line on the rev counter sets an ultimate limit of 6,800. Our speed on the fastest leg (101 mph) actually edged the needle into the red, although the rev counter was almost accurate.

The gearbox is the same as that used in the saloons. Its wide ratios, and the low overall gearing, restrict the speeds which can be reached in the intermediate gears. We have in the past taken the basic 128 engine beyond 8,000 rpm without apparently straining it, but red lines are there to be observed and the result is that first gear barely takes the 1300 coupé to 30mph, and second gear falls short of 50 mph. Third gear is rather better, going beyond 70 mph, but this also serves to heighten the impression of a gap between second and third.

As in most front-drive cars, a certain amount of care and experiment was needed to find the best way of getting away from rest. In the end it was found better to accept a little wheelspin; any attempt to avoid it resulted in the engine "falling off the cam". Compared with what might be achieved with a rear-drive car, the time of 4.2sec to 30 mph reflects what it lost in those first few yards when the car is scrabbling for traction. It was noticeable, though, that there was little fight-back through the steering in such wheel-spinning starts. Once under way, the 128 Coupé goes very well. In looking at the time of 13.1sec to 60 mph, one must remember the relatively slow start and the intrusion of two gear changes.

Acceleration is well maintained up to 80 mph, after which it starts to tail off in top gear. With its low overall gearing one would expect the car to be quite flexible — and Fiat make the point that a high torque value is maintained all the way from 2,600 to 5,000 rpm — but it will not pull top gear from 10 mph, even if the power is eased in by degrees. The high torque peak shows up clearly in the acceleration times in each gear. For instance, the shortest 20 mph increment in third gear is the one from 30 to 50 mph, while in top gear, 40 to 60 mph is the smallest interval. Such figures emphasize that while the 128 Coupé *can* be trundled around at low speed in a high gear, it will not give of its best without frequent use of the gearbox.

Considering the low gearing, the car is remarkably economical. Our steady-speed figures showed a slight flattening-off of the curve at low speeds, presumably due to slight over-choking; it was almost as economical to cruise at 40 as at 30 mph. From 40 mph onwards, there is an almost straight-line relationship between speed and fuel consumption, with no one point where the car suddenly becomes thirstier. In absolute terms, something over 33 mpg at a steady 70 mph is good, while a figure of 19 mpg was recorded for a flat-out (99 mph) lap.

In everyday use, the 128 Coupé proved remarkably indifferent to its driving conditions. Many cars give a wide spread of brim-to-brim figures, suffering badly during commuter work, but the worst we ever saw in this case was 27.3 mpg, while the best was 31.1 mpg. The overall figure worked out at 28.5 mpg for something over 1,000 miles, which is good by our current standards for a car with this sort of performance, though most private owners should better this consumption by a fair margin, as the calculated touring consumption of 30.2 mpg indicates.

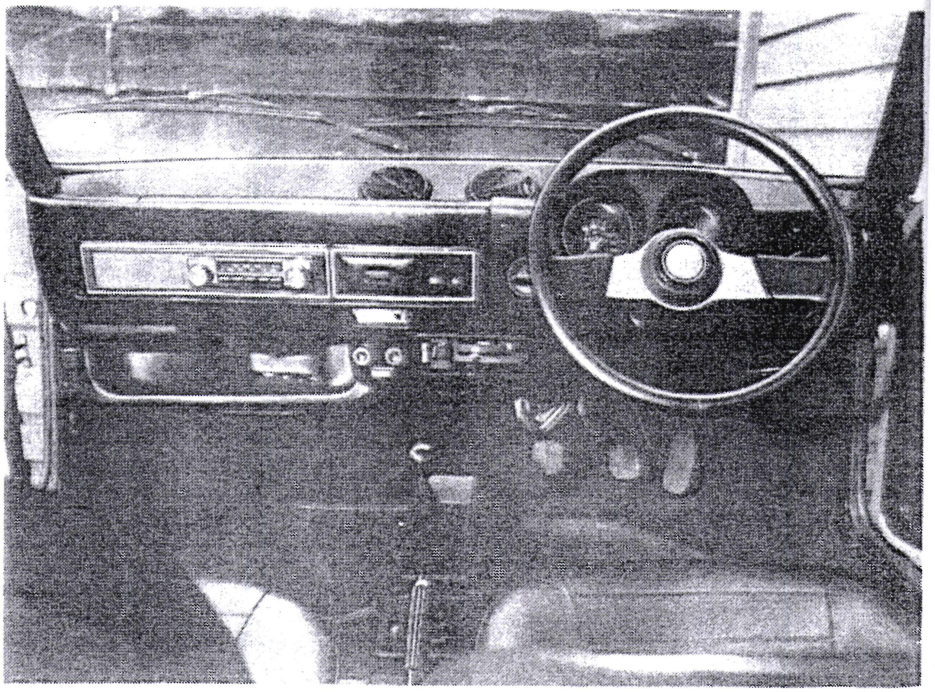
Handling and brakes

Apart from its shorter wheelbase, one other notable feature of the 128 Coupé is its revised front suspension. Instead of the drag links of the MacPherson strut layout being formed by the ends of anti-roll bar (as in the older Fords), a separate link is provided and the anti-roll bar eliminated.

This change has improved the precision of the handling — only the inboard ends of the lower links are fitted with rubber bushes for road noise suppression — and there is little danger of the roll angle getting out of hand.

8 ☛

Facia and control layout is generally good, with very nice, clear instruments. There is a hand throttle as well as a choke; electrically-heated rear window is standard equipment



Fiat 124 Spider Europa

AUTOTEST FIAT 128 COUPE . . .

With a MacPherson strut system the roll centre is fairly high anyway, and in any front-drive car the nose-heavy weight distribution gives plenty of natural understeer without the need to reinforce it with an anti-roll bar.

As our pictures show, the 128 Coupé does roll to some extent in hard cornering, but not to excess, while the angles are more or less the same at both ends of the car. There are two associated advantages, both noticeable to any driver familiar with the basic 128 saloon: the amount of understeer is reduced, and there is less tendency for the inside front wheel to lift and spin.

The reduced understeer has played a large part in making the 128 Coupé feel like a genuine sports car — not an easy job with front-wheel drive. While the 128 saloon and most of its front-drive contemporaries would eventually arrive at a stage where the understeer simply took charge, so that further movement of the steering wheel failed to tighten the turn, the 128 Coupé only reaches such a limit in very slow, tight bends. On long, open curves it is even possible to get the tail well out and hold it there. One has more of an impression of the power trying to pull the car in the direction in which the front wheels are pointing, rather than away at a tangent to the chosen line.

The steering is also improved by the changes. The reduced understeer means that the car is more willing to respond to small movements of the wheel. As a result, the steering never becomes too heavy even when the car is being powered round a tight corner, nor is so much wheel movement needed down a twisting road. At the same time, in the interests of easy parking, the steering is quite low geared with 3.4 turns of the wheel from lock to lock. Thanks to the shorter wheelbase, the turning circle is tighter than the saloon's, at about 32ft between kerbs.

In the dry, the roadholding of the Pirelli tyres fitted was good, though such was the margin of control that the car *could* be set up slithering sideways at high cornering speeds. In the wet the grip was less satisfactory, though control was never a problem: the main snag when it was raining was the difficulty of finding enough grip when moving off from rest.

The 128 Coupé brakes are essentially the same as those used in the saloons, with fair-sized discs (considering the light weight) at the front and relatively small drums at the rear, with a height-sensitive valve to prevent premature locking.

The 128 saloon makes do without a servo, but the 128 Coupé has one and the brake loads are very light — too light for the taste of some of our drivers. A 55lb shove was enough to produce a stop of slightly more than 1g, with the front wheels on the point of locking. Further efforts simply locked the front wheels, the car sliding straight ahead in a very stable manner.

During our fade test, some smell of hot linings emerged at an early stage and there was an initial rise in the effort needed, but it soon stabilized nicely. The handbrake was effective but the rear wheels dragged down the 1-in-3 test hill. A restart was possible facing up this hill, though some wheelspin was needed to get going.

Comfort and convenience

The 128 Coupé is not a full four-seater in the accepted sense. The back seat looks nicely shaped and is indeed quite comfortable to sit in, but the fact remains that an average driver must make something of a sacrifice if anybody with legs wants to sit behind him.

The front seats are reminiscent of those in the 124 Coupé, but on a smaller scale; with a sculptured shape affording good support for the thighs and sideways location for cornering. Their pvc covering tended to become sticky in hot weather, and the backrest angle was adjustable but not fully reclining.

For the driver, the major snag was the poor relationship of wheel to pedals, so that when close enough to the wheel he was forced to adopt a bent-legged stance. A dished wheel might help (though the present small, leather-covered wheel is, in itself, very pleasant) but the wheel position would then be too high. The pedals themselves — with the accelerator shaped to help heel-and-toe changes — are offset to the centre of the car but caused no complaints.

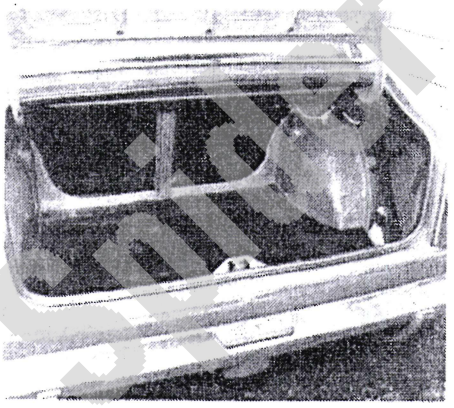
The gearchange feels rather better than in the 128 saloon, less rubbery and obstructive. Even so, we experienced some baulking into first gear, and care had to be taken to avoid missing a quick change from second to third. Most of the minor controls are column-mounted stalks, and caused no complaint, but we were sad to find the old Fiat squeezy-button screen washer control in the 128 Coupé.

For a car with such a short wheelbase, the 128 Coupé rides well, with little sign of pitching. The ride is generally better in the front than the back, and at high rather than low speed. Up to 30 mph or so, an underlying harshness suggests over-damping, but at normal cruising speeds the car rides very smoothly with the suspension being caught only by severe single bumps.

Despite its high-revving engine, the car is quiet enough up to 80 mph or so. Some road noise is present at almost any speed, and in our car the wind noise (which tends to vary somewhat from car to car) built up from 50 mph onwards. Mechanical noise only became a problem at 80 mph and above, thanks in part to Fiat's use of an electric fan.

Unique and attractive

Clearly, the 128 Coupé is more than a simple adaptation of a saloon. It is a genuine attempt to produce a modern sports car in the small-medium class, and it succeeds remarkably well. It would, perhaps, benefit from an adjustable steering column, and some customers might avail themselves of higher gearing if it was a listed option (as others might of a close-ratio, or even a five-speed gearbox). But there can be no quarrelling with the way the job has been done. In its thoroughness, it has made the end product without a direct rival, and this alone must justify the relatively high price in some ways. □



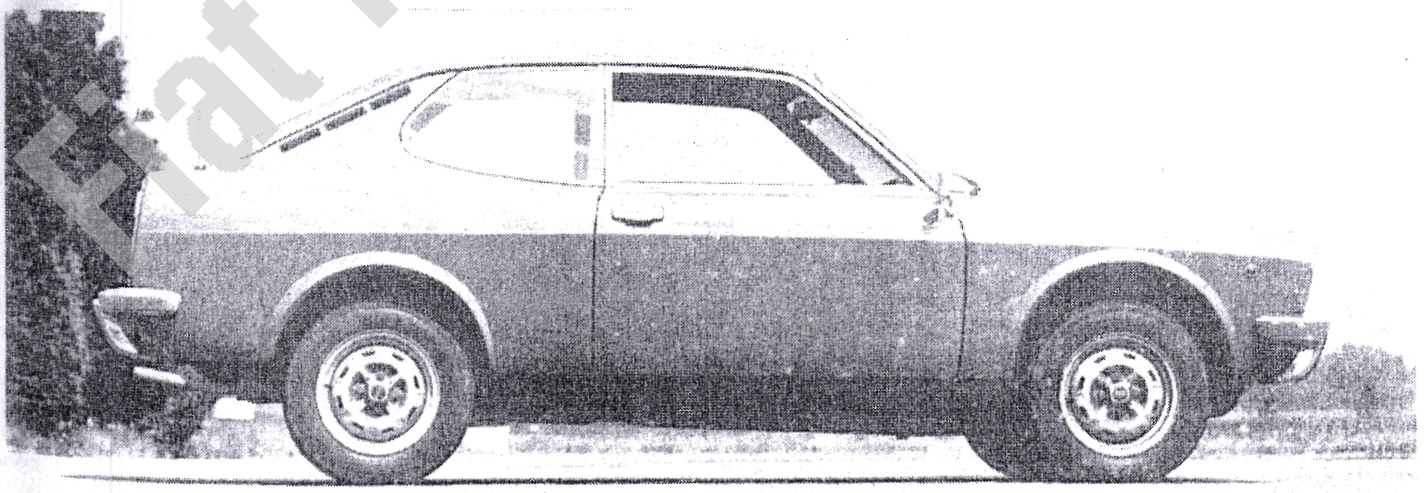
Above: Boot space is claimed to better that of 128 saloon, helped by good shape and low sill. Generous 11-gallon tank lives beneath, filled via screw cap in left rear wing. Below: Despite shorter wheelbase, 128 Coupe is as long as saloon because styling uses greater front and rear overhangs. Rear quarter panels do not seriously obstruct vision

MANUFACTURER: Fiat SpA, Corso Marconi, Turin, Italy

UK CONCESSIONAIRES: Fiat (England) Ltd., Great West Road, Brentford, Middlesex

PRICES

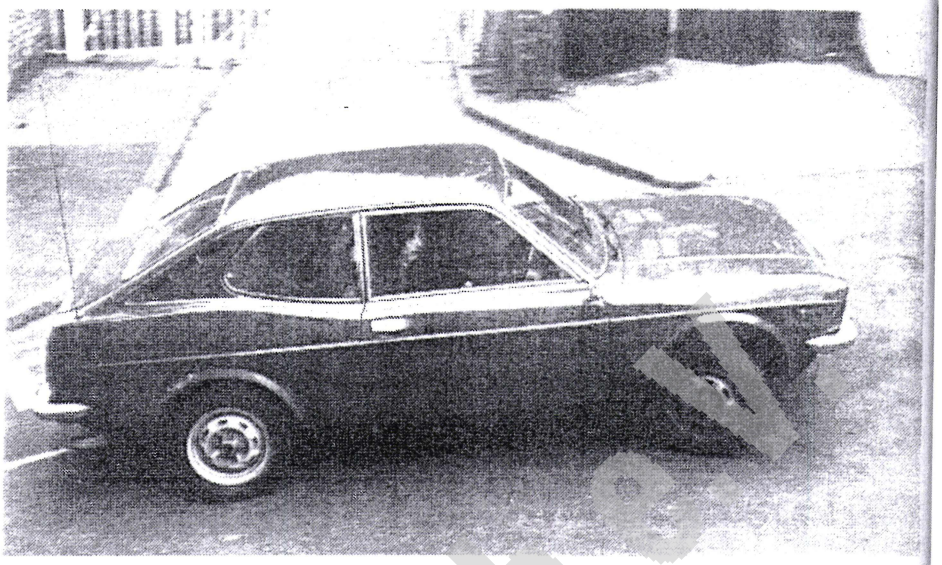
Basic	£1,156.00
Purchase Tax	£242.40
Seat belts (approx.)	£12.00
Total (in G.B.)	£1,410.40
PRICE AS TESTED	£1,410.40



Fiat 128 Sport Coupe

ROAD TEST

FIAT 128 SPORT COUPE



FOR *Stylish and comfortable for small car; excellent performance from 1300cc; good roadholding and handling; low wind and road noise*

AGAINST *Fussy and noisy when cruising fast; first gear difficult to engage; indifferent ventilation; poor seat belts*

The Fiat 128 started out in life as an ordinary but very practical and neatly designed little car, offering good accommodation and reasonable performance for its size. The standard 1100 saloon is still going strong and is currently selling at £919 in 2-door form. The body design is plain and the interior, with its rubber mat floor covering, is rather spartan and lacking in sound insulation. But as different versions of the basic car are added to the range the 128 is rapidly becoming all things to all men. In addition to the two-door model, you can choose from the four door, an estate, and the very enjoyable and sporty Rally 1300.

Now a Coupe has joined the ranks: despite a shorter wheelbase (cut by eight inches) and bodywork that has been completely re-designed the 128 character is unquestionably retained yet the Coupe shape is anything but undistinguished, which we have called the saloon on occasions in the past. The upswept tail is neat and gives the car a dart-like appearance while the steeper rake of the screen and new front wings — the waist line ridge meets the flared wheel arches on the Coupe but there is a large gap on the saloon — give the latest 128 a new sleek look though it can't match the 124 Coupe for elegance. The 128 Coupe will be imported into the UK only in "L" pack form, which includes neatly fitted carpets. Customers can choose between the 1100 at £1358 and the 99 mph Sport Coupe LS 1300 at £1398 as tested by us.

Our only major criticism is of the car's rather low overall gearing and that may fairly be considered a small snag in speed-limited Britain. The performance is competitive with many larger, costlier cars but the low gearing spoils its cruising potential. We were impressed by the Coupe's air of greatly improved refinement: the comparative improvements in sound deadening are remarkable, most of the remaining significant noises being generated by the engine whenever high revs are employed. And apart from the lack of an independent face-level fresh air ventilation system, a feature of the standard car that has been lost in the new design, Coupe owners can justifiably feel that for the extra money spent they have bought a very superior and luxurious form of 128.

Performance and economy

A couple of stabs on the throttle before turning the key invariably produced a clean start from cold and the Sport Coupe was quick to warm up and pull smoothly. According to the concessionaires, the only difference between the 128 Rally engine and that of the Sport Coupe lies in the exhaust system, yet a surprising jump from 67 bhp (DIN) to 75 bhp (DIN) has been achieved simply by means of the Coupe's superior two-into-two manifold and less restrictive silencing arrangement. In this form, the very oversquare in-line four-cylinder 1290cc engine feels more willing than ever. The 1300 version of the coupe is a much faster car than the Rally, lapping MIRA at 99 mph and putting in a best one-way quarter mile at 102.2 mph. The Rally trails by comparison at 91.0 mph and 92.9 mph in this test, suggesting that the sleeker appearance of the Coupe is more than a mere styling exercise. Although the Sport Coupe is capable of cruising near its maximum it feels uncomfortably close to its maximum revs at high speeds — at 90 mph it is spinning away at almost 6000 rpm and the yellow sector on the tachometer begins at 6500 rpm, the red at 6570 rpm. It is certainly more at home on our 70 mph roads than it would be on its native autostradas.

Not just a styling exercise. The pictures here show off the completely new 128 Coupe body. The wheelbase is eight inches shorter than that of the saloon



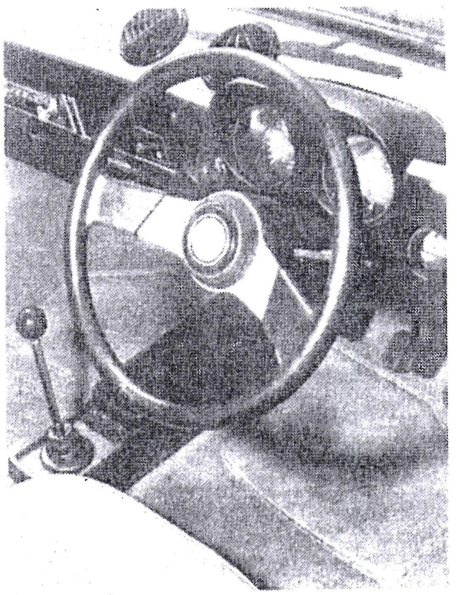


Above, upswept rear body styling gives a dart-like appearance to the Coupe. Some thought the lack of ornamentation made the car too plain, others liked the practical design. Below, luxury and comfort are strong points in the Coupe's favour

Up to 40 mph from a standing start there's not much in it between the Rally and the Sport Coupe. From that speed on however, the Sport Coupe is significantly faster, reaching 60 mph in 11.3sec. and 80 mph in 22.4sec., remarkable figures for a 1300 — compared with the Rally's 12.9sec. and 30.6sec.

Torque has been improved by the better exhaust system too, the new car pulling from 30-50 mph in 9.2sec. where the Rally could only manage 10.8, though that is respectable enough in itself.

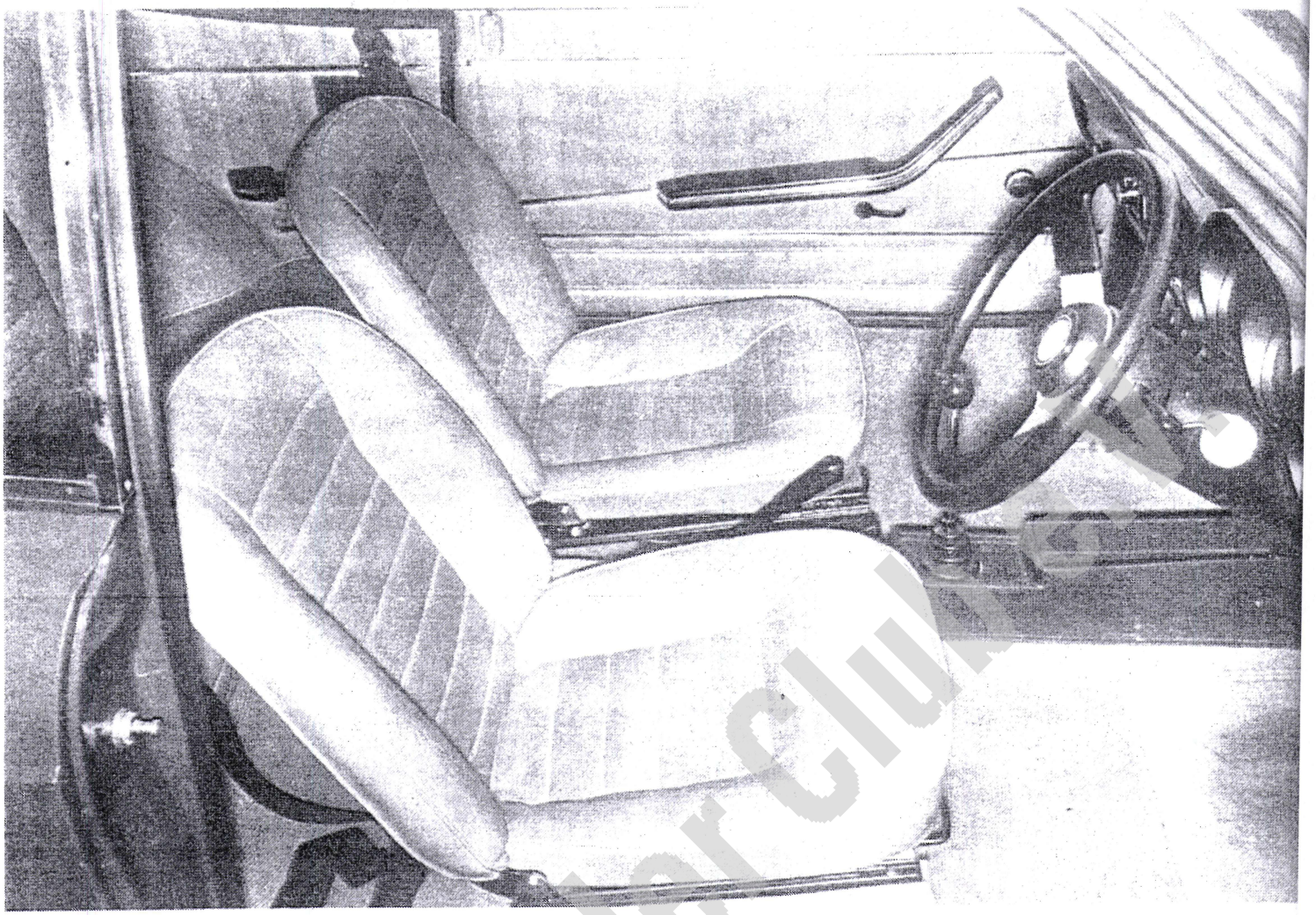
Although the car felt under-geared, it had to put up with plenty of hard use in our 1300 mile road test and we frequently used 6500 rpm in the intermediate gears. It never missed a beat but the fuel consumption must have suffered from our enthusiastic approach. Our overall fuel consumption figure of 26.7 mpg could easily be bettered without dawdling along: at a steady 70 mph, for example, it does 34.5 mpg and our



touring fuel consumption figure of 35.8 mpg is the best we have ever recorded for a 128, including the standard 1100 which has a top speed of only 85 mph. While it may be fussy to run at high revs in top gear, the coupe obviously has been designed with long journeys in mind: the 11 gallon fuel tank is big for a car of this size and offers a range of at least 300 miles. Oil consumption was negligible.

Transmission

Once the engine is warm the gearchange is delightful to use, the 1-2 and 3-4 planes being quite close but unmistakeable. Changes from second to third and vice versa are as easy as straightforward third to top movements. The lever can be flicked smartly from gear to gear with no danger of beating the synchromesh. Not so easy is the selection of first gear from rest and this is especially hard when the gearbox is cold. More often than not several attempts are needed before



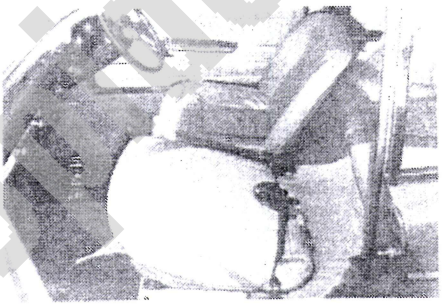
first gear is obtained and the gearchange mechanism feels very "rubbery" whenever this resistance is met.

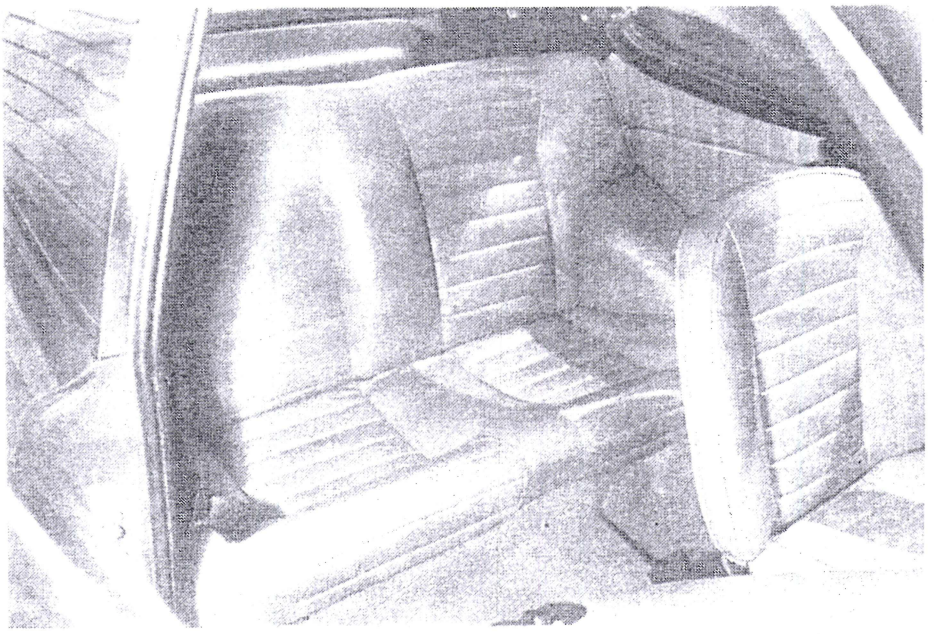
All four gears are indirect and gear whine is just noticeable in each ratio, although it fades to a negligible level at cruising speeds in top. The maximum speeds in each gear at 6750 rpm are 30 mph, 47 mph and 73 mph and although the low torque of the engine demands frequent gearchanging whenever good performance is needed, there are no awkward gaps between these ratios. It seems very odd that Fiat have not raised the overall gearing of the Coupe 1300: even the much less powerful 1100 saloon is identically geared . With more power and less body drag the Coupe could well afford higher gearing.

Front wheel drive is no aid to easy hill starting, of course, but the Sport Coupe completed the 1-in-3 test hill start without excessive clutch slip or wheelspin. Harsh use of the clutch and throttle, however, naturally produced excessive wheelspin and little movement.

Handling and brakes

The Coupe's front suspension has been modified to reduce understeer and improve directional stability. There is no anti-roll bar, stiffer springs and dampers have been fitted, and brake torque trailing links have been added. The 128, in all its various forms, is one of the safest cars on the road from a handling point of view, and, as its name and image suggest, the Sport Coupe is also one of the most enjoyable for fast cornering. The Michelin XAS tyres gripped well on dry and wet roads, though excessive use of the throttle when pulling away or taking sharp street corners in the wet could get the front wheels spinning. It was only under such





Above: well-fitted carpets and reclining seats are standard fittings on the Coupe as L-pack equipped cars only will be imported to the UK. Left: even with the passenger's seat back released, access to the rear seats is slightly hampered as the seat itself does not tip forward. Wide doors overcome the problem to some extent but with tall people in the front, rear legroom is restricted. Below: the rear seats are well shaped and comfortable

Fiat Register Club

violent and undesirable conditions that strong self-aligning torque made itself felt in the steering. Normally, the feel in the small wheel is very good: and while light enough at parking speeds, it is reassuringly responsive at or near the cornering limit.

The harder the car is thrown around the more fun it is to drive. Body roll is not excessive and the Coupe can be flicked through awkward 'S' bends with no danger of an unpredictable loss of control. It tends towards mild understeer though under very slippery conditions this trait is exaggerated. A near neutral attitude can be induced by turning into corners on a trailing throttle and even when taken to extremes we never found ourselves faced with alarming sudden oversteer. In fact, all 128s show just how good the handling of a front wheel drive layout can be, and the Coupe is no exception. As a structure the Coupe feels exceptionally rigid and in fact, the shorter floor pan has been stiffened with this object in view.

We have commented on the over-strong servo-assistance of the brakes on 128s in the past and this characteristic is still noticeable in the Sport Coupe. The problem is that when attempting to pull up gently the brakes come on harder in the last few feet which tends to provoke a slight jerk on halting. At higher speeds there is plenty of feel to the dual circuit disc/drum brakes and they can be applied hard with complete confidence. A 1g stop from 30 mph was achieved at the relatively low pedal pressure of 65lb. and the brakes were virtually unaffected by the fade test and the watersplash. With only 37 per cent of the overall weight over the back wheels the hand brake provided only a 0.29g retardation and although the car held firm when facing down the 1-in-4 test hill, the rear wheels just locked up and slid down the 1-in-3.

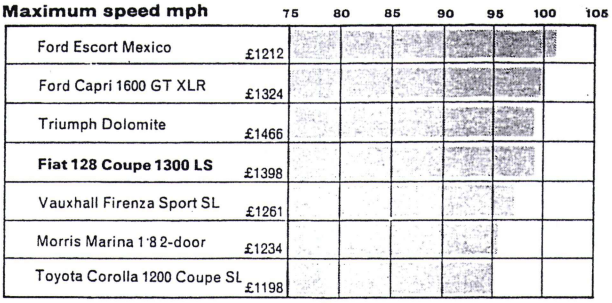
Comfort and controls

For a small car with such sporting characteristics the 128 Coupe has a surprisingly comfortable ride. While firm, it is under most conditions completely free from neck-jarring jerks and even under braking the heavier front end is never badly caught out by bumps and potholes. Perhaps the good shape of the seats made the car's ride seem better: although quite hard and smooth with their plastic imitation leather covering they gave reasonable support in the right places. Small to average size drivers all found the driving position excellent and even the tallest drivers were able to fit themselves into the diminutive 128 Coupe, their only complaint being that with the seat pushed right back the wheel and the gearlever were a little too far away for comfort. The reclining backrests to the front seats prevented this problem from being insurmountable although some found such an upright driving position unsatisfactory.

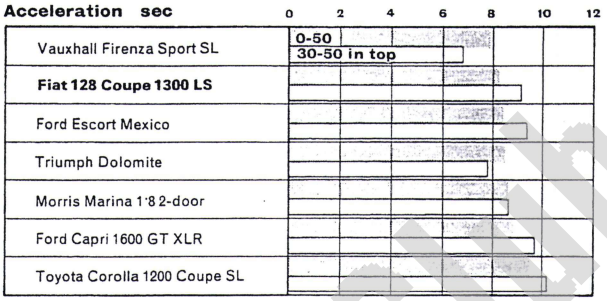
The Coupe's pedals are well-designed in so far as their height from the floor and their angles of movement are concerned. The clutch and brake pedals are a little small however and despite the curved shape of the throttle pedal heel-and-toe gearchanges were not that easy to perform for drivers with small feet. But we liked the excellent layout of the steering column stalk controls. The lighting circuit is activated by a rocker

Motor Road Test No 42/72 Fiat 128 Sport Coupe LS

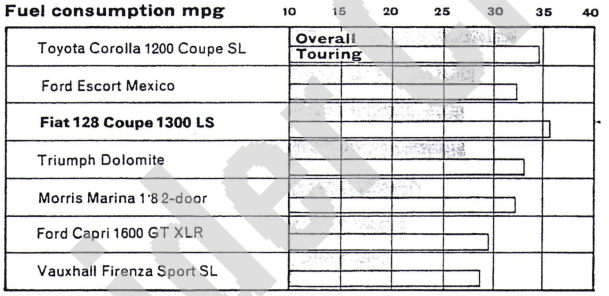
Maximum speed mph



Acceleration sec



Fuel consumption mpg



Make: Fiat
Model: 128 Sport Coupe 1300 LS
Makers: Fiat SpA, Corso Gugleilmo Marconi 10, Turin 65-65, Italy
Concessionaires: Fiat (England) Ltd, Great West Road, Brentford, Middx
Price: £1156.00 plus £242.40 purchase tax equals £1398.40. Plus £41 for radio makes total as tested £1439.40.

Conditions

Weather: Wind 9-15 mph
Temperature: 60-66°F
Barometer: 29.5in. Hg.
Humidity: 82.51%
Surface: Dry
Fuel: 98 octane (RM)
4 Star rating

Maximum Speeds

	mph	kph
Mean lap banked circuit	99.0	158.4
Best one-way ¼-mile	102.2	164.0
3rd gear	73	117
2nd gear at 6,750 rpm	47	75
1st gear	30	50

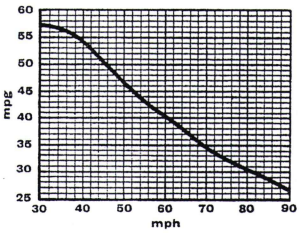
"Maximile" speed: (Timed quarter mile after 1 mile accelerating from rest)

Mean	97.9
Best	100.0

Acceleration Times

mph	sec
0-30	3.6
0-40	5.6
0-50	8.1
0-60	11.3
0-70	15.6
0-80	22.4
0-90	35.3
Standing quarter mile	18.3
Standing Kilometre	34.5

mph	Top sec.	3rd sec.
10-30	—	7.2
20-40	10.3	6.0
30-50	9.2	5.9
40-60	9.4	6.0
50-70	10.6	6.9
60-80	12.9	—
70-90	18.2	—



Fuel Consumption

Touring (consumption midway between 30 mph and maximum less 5 per cent allowance for acceleration) . . . . 35.8 mpg
Overall . . . . . 26.7 mpg
Fuel tank capacity . . 11 gallons (=10.7 litres/100km)
Total test distance . 1295 miles

Brakes

Pedal pressure, deceleration and equivalent stopping distance from 30 mph

lb.	g	ft.
25	0.44	68
50	0.82	37
65	100	30
Handbrake	0.29	103.5

Fade test

20 stops at ½g deceleration at 1 min intervals from a speed midway between 40 mph and maximum speed (=70 mph)

	lb.
Pedal force at beginning	32
Pedal force at 10th stop	35
Pedal force at 20th stop	35

Steering

Turning circle between kerbs: ft.
Left 28¼
Right 32
Turns of steering wheel from lock to lock 3.3
Steering wheel deflection for 50ft. diameter circle . . . 1.0 turn

Clutch

Free pedal movement . =1½ in.
Additional movement to disengage clutch completely . . . =3 in.
Maximum pedal load . =30 lb.

Speedometer

Indicated	30	40	50	60
True	27.5	37.5	47.5	57.5
Indicated		70	80	90
True		67.5	77.5	87.5

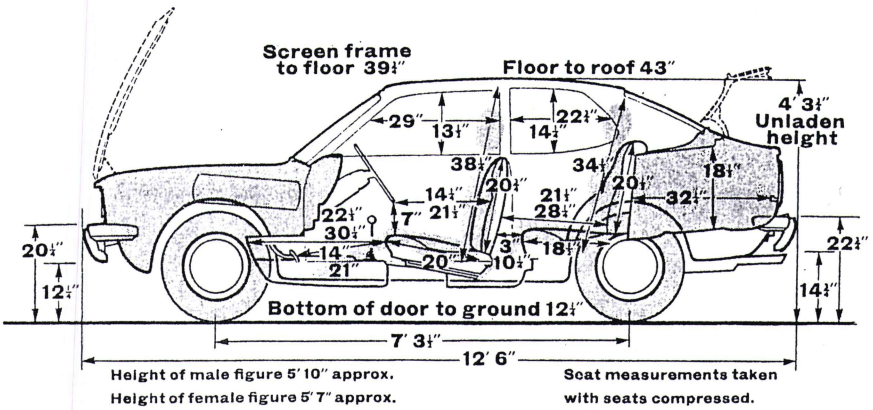
Distance recorder . . 2.5% fast

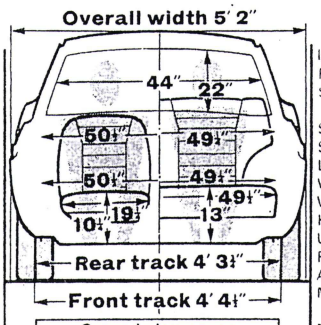
Weight

Kerb weight (unladen with fuel for approximately 50 miles) 15.8 cwt
Front/rear distribution . . 63/37
Weight laden as tested 19.5 cwt

Performance tests carried out by *Motor's* staff at the Motor Industry Research Association proving ground, Lindley.

Test Data: World copyright reserved; no unauthorised reproduction in whole or in part.





Engine

Block material	Cast iron
Head material	Light alloy
Cylinders	4 in line
Cooling system	Water, pump, thermostatically controlled electric fan
Bore and stroke	86.0 mm. (3.3 in.) 55.5 mm. (2.2 in.)
Cubic capacity	1290 cc. (78.8 cu. in.)
Main bearings	5
Valves	o.h.c.
Compression ratio	8.9:1
Carburetter	1 Weber 32 DMTR
Fuel pump	Mechanical
Oil filter	Full-flow cartridge type
Max. power (DIN)	75 bhp at 6,600 rpm
Max. torque (DIN)	68 lb. ft. at 3,600 rpm

Transmission

Clutch	sdp, mechanically operated
Internal gearbox ratios:	
Top	1.04:1
Third	1.45:1
Second	2.23:1
First	3.58:1
Reverse	3.71:1
Final drive	4.077:1
Mph at 1000 rpm in:	
Top	15.10
Third	10.90
Second	7.03
First	4.40

Chassis and body

Construction	All steel unitary

Brakes

Type	Servo-assisted dual circuit disc/drum system
Dimensions	Front 8.94 in. dia. discs. Rear 7.29 in. dia. drums

Ground clearances
Lowest point:—
(under front suspension 6¼")
under engine 6¼"
under exhaust system 7½"

Suspension and steering

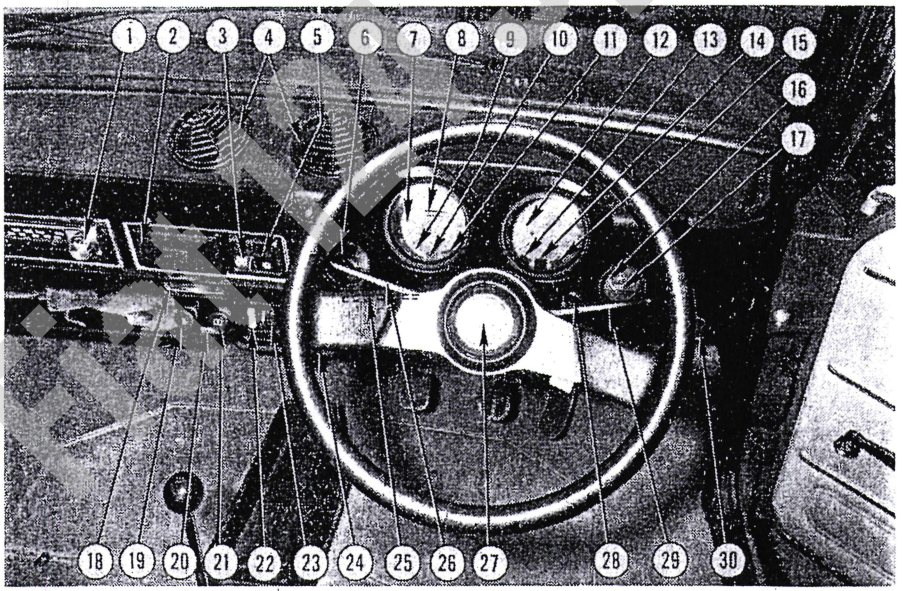
Front	Independent with swinging arms, struts, coil springs and anti-roll bar
Rear	Independent with swinging transverse arms, struts, and transverse leaf spring
Shock absorbers	
Front	Hydraulic telescopic
Rear	Hydraulic telescopic
Steering type	Rack and pinion
Tyres	145x13, radial ply, Michelin XAS
Wheels	Steel disc
Rim size	4½J

Coachwork and equipment

Toolkit contents	Plug spanner, two-blade screwdriver, wheelbrace, drift, two double-ended spanners
Jack	Yes
Jacking points	2 at sides
Battery	12 volt, negative earth 45 amp hrs capacity
Number of fuses	10
Headlamps	4
Indicators	6 self-cancelling flashers
Reversing lamp	Yes
Screen wipers	Self- parking with intermittent operation
Screen washers	Manually operated
Sun visors	Yes
Locks:	
With ign. key	Ignition switch
With others	Doors and boot
Heater type	Fresh air system
Upholstery	Plastic imitation leather
Floor covering	Carpet
Alternative body styles	Saloon
Maximum load	4 persons plus 88 lb. (40 kg)
Major extras available	None

Maintenance

Fuel tank capacity	11 galls
Sump	7¾ pints SAE 20W/40
Gearbox	5¾ pints SAE 90
Rear axle	Not applicable
Steering gear	4½ oz SAE 90EP
Coolant	11½ pints water (2 drain taps)
Chassis lubrication	Not required
Maximum service interval	6000 miles
Ignition timing	10° btdc
Contact breaker gap	0.014-0.017 in.
Spark plug gap	0.020-0.024 in.
Spark plug type	Champion N7Y
Tappet clearance (cold):	Inlet 0.016 in. Exhaust 0.018 in.
Valve timing	inlet opens 24° btdc inlet closes 68° bbdc exhaust opens 64° bbdc exhaust closes 28° atdc
Rear wheel toe-in	3 to 7 mm
Front wheel toe-in	−1 to +1 mm
Camber angle	1° ± 20′
Castor angle	2° 15′ ± 15′
King pin inclination	Not applicable
Tyre pressures:	
Front	26psi
Rear	24psi



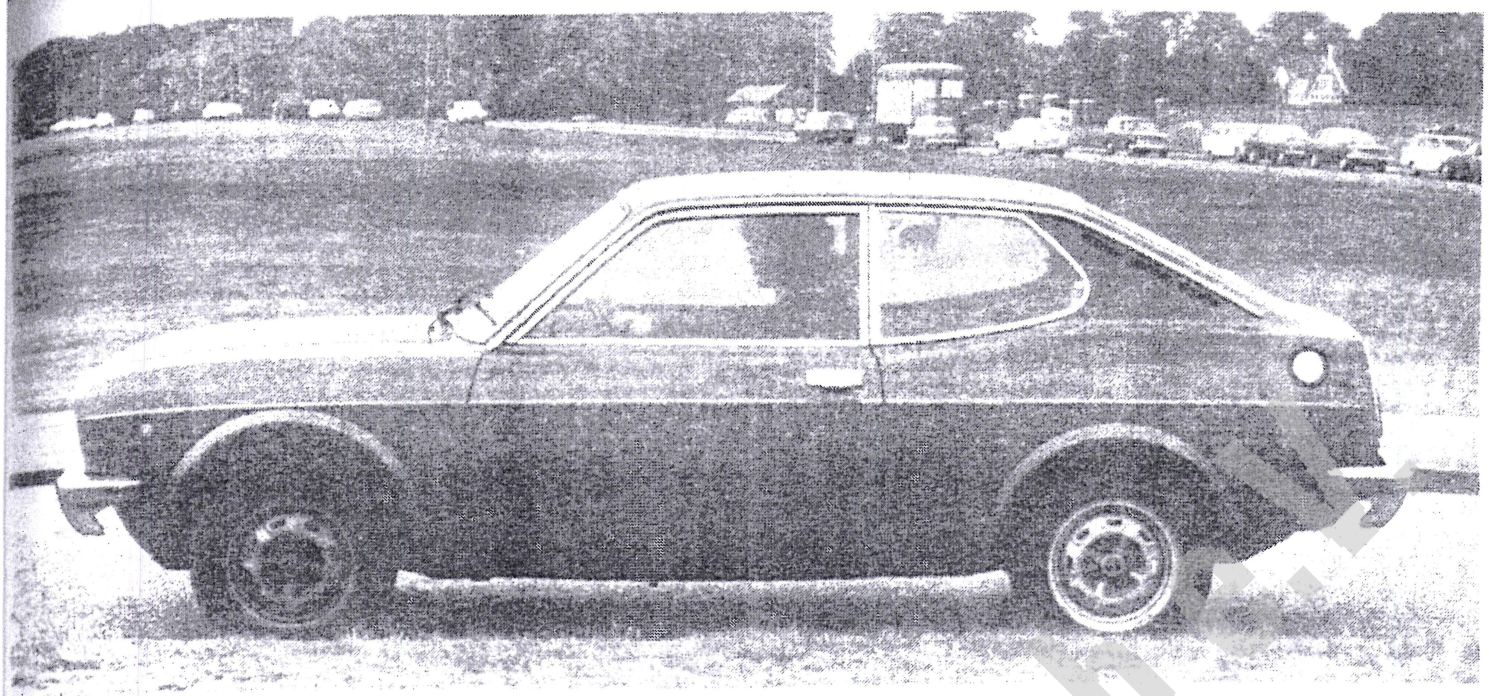
1 radio **2** ashtray **3** light switch **4** heating and ventilation outlets **5** panel lights switch **6** temperature gauge **7** speedometer **8** odometer **9** main beam warning light **10** indicators warning light **11** sidelights warning light **12** tachometer **13** ignition warning light **14** brake warning light **15** oil pressure warning light **16** fuel level warning light **17** fuel gauge **18** courtesy light and switch **19** choke knob **20** heated rear window switch and warning light **21** hand throttle knob **22** two-speed heater fan switch **23** heating and ventilation controls **24** footwell heater outlet flap **25** indicator stalk **26** headlight control stalk **27** horn button **28** ignition switch/steering lock **29** wiper stalk **30** manual screen washer control

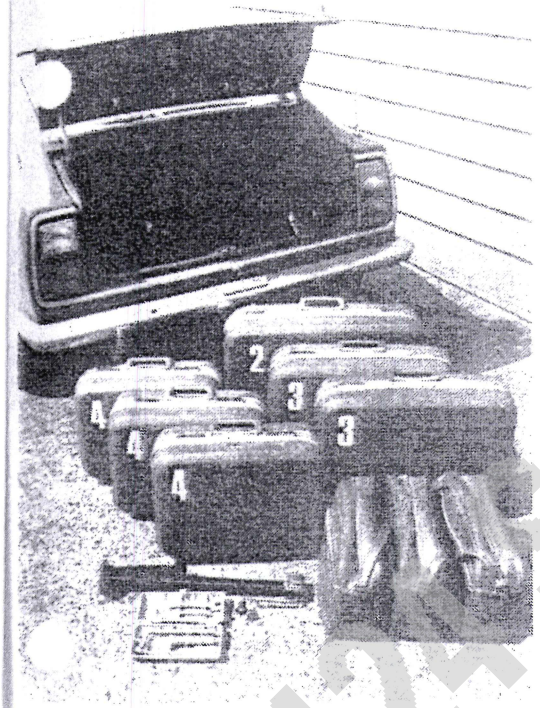
switch on the dash next to an identical panel light switch: dipped or mainbeams are selected by means of a stalk on the left of the steering column while the wiper stalk is on the other side of the column. There are three positions: off, intermittent delay action, and normal running. Although the wiper stalk is marked "wash/wipe" the wash control is in fact manually operated in the usual Fiat manner with a rather awkwardly placed rubber push button on the right hand side of the dash. Girls with long fingernails must choose between a dirty screen or broken nails. A third and shorter stalk controls the indicators and is placed on the left of the column in front of the lighting stalk. Such is the design of these stalks that instant fingertip control is possible though it's easy to extinguish the lights altogether with the dip switch. In the centre of the wheel, where it is easily found in a hurry, is the horn button.

The wipers, which are painted in non-reflective matt black, clear the screen well even at high speeds and forward visibility in all conditions is good. A supplementary exterior mirror, in addition to the dipping interior mirror, undoubtedly helped, as without it rear three-quarter vision with the highsided Coupe bodywork would not have been good. At night the main beam from the four headlight system is very bright and gives a very good range and spread of light. The dipped beam is very well controlled with a sharp cut off to prevent dazzling oncoming drivers and a leftward bias that keeps the kerbside in view.

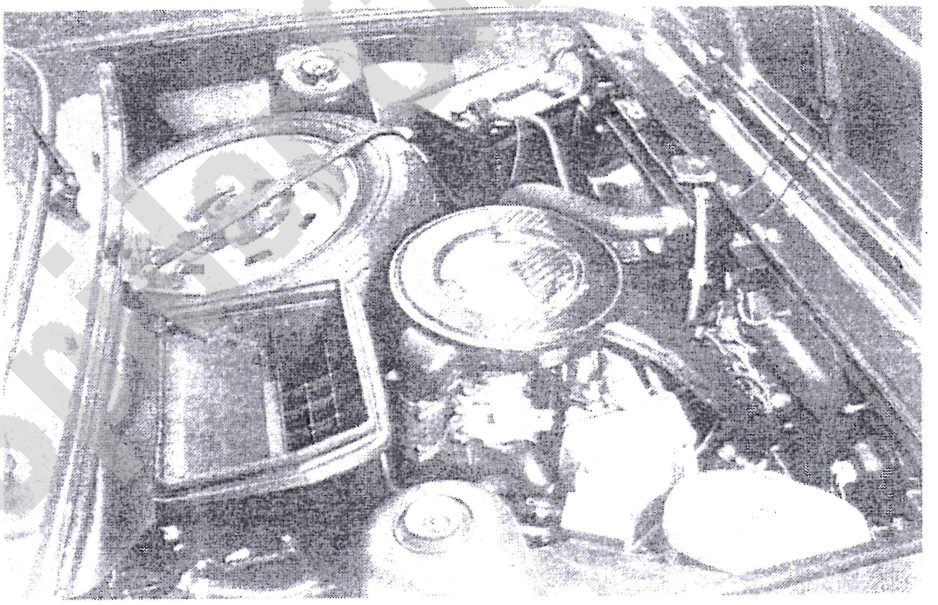
Although a small car, the Coupe, like other 128s, can seat four people in reasonable comfort provided the front seats are not pushed right back. To enter the rear seats the front seat backs are released by buttons at the centre of their bases. The doors are quite wide and access is not badly restricted by the front seats; rear headroom is quite good but knee room is somewhat restricted. With these wide doors however, which have pulls rather too near the hinges, an awkward effort is required to close them. The driver's door on our test car was especially bad and it took a very heavy slam to close it: the fact that rather more wind noise emanated from this side compared with the nearside suggested a poor fit. Even so, wind noise was not obtrusive; road noise was also kept to a reasonably low level and we were only occasionally conscious of a distant roar from the Michelin XAS tyres on some road surfaces. The obtrusive noises in fact came from the engine: gear whine is noticeable in every gear but is drowned even at normal speeds by an engine buzz, probably from the air cleaner box. At higher engine rpm however, mechanical noise was high and at 90 mph and above there is an irritating engine-excited body boom which is especially loud on the overrun.

Considering that the Coupe is intended to head the 128 range it seems a pity that it lacks the eyeball ventilation outlets on the facia as fitted on other 128s. The concessionaires suggested that the sharper rake of the screen of this model precluded the fitting of an independent ventilation system so one has to rely on the heater ducts alone. These work very well, providing a good distribution of hot or cold air. A cut-off flap is fitted beneath the facia for use





Above: in profile the sleeker lines of the 128 Coupe are readily apparent. It is a completely new body design. Left: we fitted 9 cu. ft of Revelation luggage into the boot — but access is slightly hampered by the bootlid. The jack and toolkit are neatly stowed at the side of the boot. Below: tightly packed engine compartment — even the spare wheel is up front but access to routine service points is quite easy.



when demisting only is required and the upper vents can be turned round to face the front seat passengers. But without an independent system it is impossible to direct cold air to one's face and warm air below.

Fittings and furniture

The instruments are better than ever. Set deep in recessed cowls the tachometer and speedometer are very clearly marked and particularly easy to read. Drivers of below average height found that the oil pressure and water temperature gauges were hidden from view by the two steering wheel spokes, however. A comprehensive array of warning lights is contained within the two major instrument faces, as our annotated facia photograph shows. Oddly enough, even the Coupe, of all 128s, has no trip mileometer and even the overall distance recorder does not register tenths. These improved instruments have a more tasteful appearance than those of the Coupe's lesser brothers, and well-fitted carpets contribute to this more luxurious impression.

Our test car was fitted with a heated rear window, reversing lights and three grab handles, but there was no cigarette lighter. Lap and diagonal seat belts were fitted but even medium-sized drivers found there was not enough adjustment to pull the belts tight. Coat hangers are provided in the rear grab handles, there is a moulded parcel shelf behind the rear seats and another smaller shelf below the left of the facia. There is no glove box. A handy oddments tray, about 2in. deep is provided in the small console ahead of the gear lever. Three ashtrays are provided, one in each rear door and another in the facia. Nine cu. ft of Revelation luggage can be fitted into the boot which has no lip for the cases to be lifted over. The counterbalanced bootlid however does not rise sufficiently clear of the boot opening for very easy loading.

Although one of the chromium plated interior door handle embellishments fell off our test car, it seemed in general to have been very well put together to a high standard of finish. In character, the Coupe's interior appointments certainly matched the stylish good looks of the body design.

Servicing and accessibility

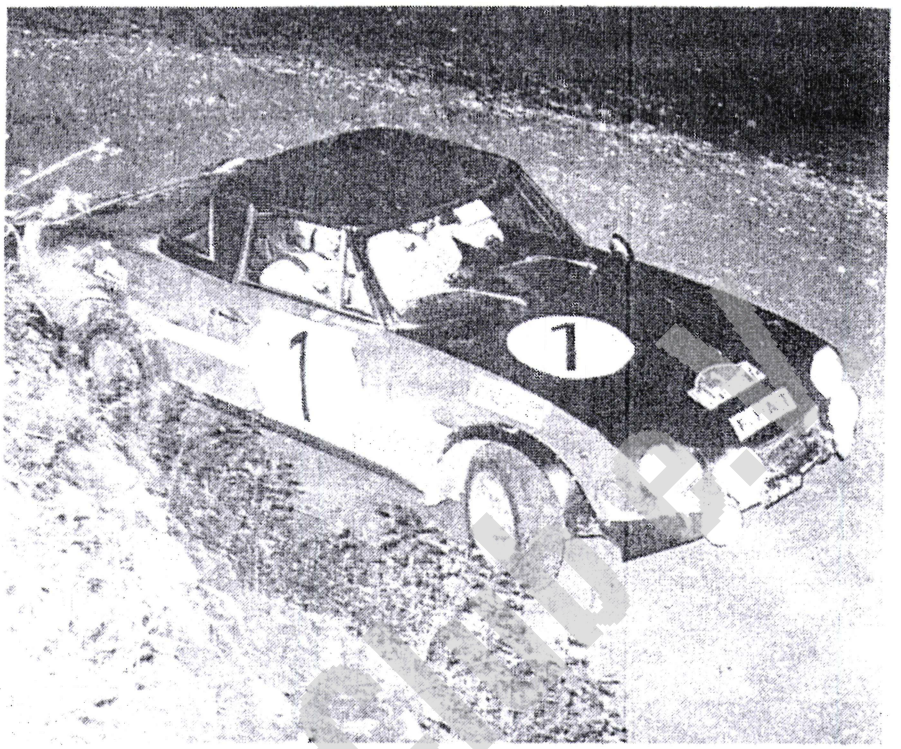
Routine service points are easy to get at, and with no chassis greasing required the maximum service interval is 6000 miles. The fuse box is located under the left hand side of the facia and while it is easy to get at, one must refer to the manual to identify each fuse as the box is unlabelled. The spare wheel is mounted under the bonnet and the pillar type jack and neatly packaged toolkit are stowed to one side of the boot so luggage need not be removed in the event of a puncture. The handbook is worth mentioning as it is better written and laid out than most foreign car owner manuals and quick reference to important sections on wheel changing, fuses, tyre pressures and the like is particularly easy.

There are just over 400 Fiat dealers in Britain.

Fiat128Spider.com

In a rally of heavy retirements and several changes of the lead, Hakan Lindberg and Helmuth Eisendle, the Swedish/Italian crew that won the Acropolis Rally a few months ago, held on to take the lead with their Fiat 124 Spyder only two stages from the end to put Fiat in with a real chance of winning the Manufacturers' Championship this year.

Throughout the event cruel fate robbed first one team and then another of their chance of winning. Stig Blomqvist/Arne Hertz lost the brakes and crashed their works Saab V4 on the second stage while the actual leader, Achim Warmbold/Willy Pitz rolled their BMW 2002Ti on stage five. Simo Lampinen/Solve Andreasson then took the first place with their Lancia Fulvia and held it to within a few hours of the finish when their oil filter mounting split and they were forced to retire. Nearly all the foreign works crews retired for one reason and another, and second overall were Gunther Janger/Harald Gottlieb in a VW 1302S entered by Porsche Salzburg. However, Per Eklund/Bo Reinicke took third place for Saab in a car owned by Eklund but entered by the works.



Hakan Lindberg/Helmuth Eisendle took their Fiat 124 Spyder to victory in the Alps of Austria.

AUSTRIAN ALPINE RALLY

Fiat close the gap with Lindberg win

By JOHN DAVENPORT

The rally was one of the best Austrian Alpenfahrts for several years as the organisers, the OAMTC, had abandoned their date in early May and chosen one when the mountain roads are free of snow. They had relaxed the pace a little during the daytime compared with the previous year's rally but the effect of running during the tourist season had drawn the police from their comfortable lairs and they made their presence felt with a few radar traps. As last year, the rally took as its headquarters the casino town of Baden-bei-Wien, just outside Vienna, and here they set up the most marvellous rally office with adjoining TV studios, press rooms and teleprinter results service which was an example to almost any other rally.

There was an entry of just over 70 cars of which the vast majority were Austrian. Three crews came up from Greece under the aegis of their national automobile club, Elpa, but generally foreign participation was low. The reasons for this can be seen in the calendar for the Italians had their championship rally in San Martino di Castrozza three days before while the French had the Ronde Cevenole with the Tour de France in the very near future. It was predictable that BMW would participate after so nearly winning the rally last year with Tony Fall/Mike Wood and they had entered three 2002Tis in Group 2 for the British crew plus Achim Warmbold/Willy Pitz and Rauno Aaltonen/John Davenport. Ron Crellin was down to drive with Warmbold as he had done on last year's RAC Rally but at the last moment the German driver grew chary of using English notes with so little time for practice.

Matched against them were three Lancia Fulvia 1600s driven by Simo Lampinen/Solve Andreasson, Harry Källstrom/Gunnar Haggbom and Sergio Barbasio/Piero Sodano. They were in the position of having a comfortable lead in the championship and were extra confident in that Sandro Munari had won the San Martino against the Fiats only three days earlier. Both Barbasio and Källstrom had brand new cars while Lampinen's was Källstrom's car from the Swedish Rally. Fiat were represented by two crews, Lindberg/Eisendle and Alcide Paganelli/Nini Russo, both driving the Group 4 124 Spyders that are now so familiar on the rally scene. Saab had come down from Sweden with one official factory V4 for Stig Blomqvist/Arne Hertz and a privately owned, works-entered car for Per Eklund/Bo Reinicke. Both crews were a bit low on recceing as Blomqvist/Hertz had done the stages and then flown home for the Jämt Rally from where Hertz had gone down to the Total Rally in South Africa while Blomqvist had completed the recce with Reinicke. Also from Sweden was Gunnar Blomqvist though on this occasion he was not with his charming wife but in a locally prepared Opel Ascona 1.9 Group 2 with a local co-driver, Ing Joseph Kalnay. Arnaldo Cavallari, from Italy, who was entered in a Jolly Club Lancia Fulvia, non-started after getting a bad result in San Martino though he did set a new world record by recceing the Austrian event in almost less time than it takes to drive it on the rally.

Of the local drivers, the only works team was of VW 1302Ss from Porsche Salzburg who had their regular drivers Gunther Janger, Dr Gernot Fischer and Georg Fischer, plus Edgar Herrmann from East Africa who was driving with Reinhard Knoll. Herrmann had had an accident in to the back of a lorry during the recce and had to go to hospital for quite a lot of stitches in chin and face, but seemed fully recovered for the rally. The cars are beautifully prepared with twin-downdraught carburetters, five-speed gearboxes and limited slip differentials, but only give about 130 bhp with an all-up weight of some 900 kg. Perhaps most favoured of the local drivers were Klaus Russling/Wolfgang Weiss in their own Renault Alpine 1600, while in the rough conditions there was also hope for the unlucky Z-team Citroëns of Richard Bochnicek, Walter Lux and Franz Mann.

In all, 58 cars came under the starter's flag in the Kurpark outside the permanence on Wednesday night and were seen off by a brass band, all the dignitaries of the OAMTC and a clutch of team managers, including Mme Cotton of Citroën, who had turned up to see how things were going. The rally started quietly enough with some easy road sections over the hills to Semmering and by midnight, it had reached the first special stage. The majority of this was on tarmac but Stig Blomqvist was the only one to use racing tyres with a narrow wet mix Dunlop fitted on to Saab's new Norwegian alloy wheels. BMW opted for Pirelli CN36, while both Lancia and Fiat were on Pirelli MS35. Fastest time went to Warmbold but Blomqvist's choice of tyres paid off and he was only 3 s slower than the BMW driver. Lampinen was third fastest with the private BMW 2002Ti of Georg Koltay just ahead of the similar car of Rauno Aaltonen. Hakan Lindberg spun at the turn hairpin left on to asphalt halfway through the test and was only seventh fastest almost 30 s behind Warmbold. At the same junction, the rally lost Edgar Herrmann/Reinhard Knoll when they plunged straight on down another track as that was the one they had recceed. Herrmann said that he thought it strange that people should be standing across the road and had to blow his horn to get them out of the way. Naturally they did not find the end of the test and after asking the way and retracing their steps, they were out of time and had to retire.

Equally deep in trouble were Tony Fall/Mike Wood who coasted to a halt in the middle of the test with a broken rotor arm. Normally this would not have taken long to change, but they were "helped" by a bunch of tipsy spectators and not all the old bits got taken out. They drove on, only stopping just after the test to tell Richard Bochnicek that his car was on fire but then stopped again when the arm broke a second time. The BMW mechanics went back for them and changed the distributor but they lost almost 20 m on the road section with the delay and in their haste to press on, ran short of fuel and finally had to give up. Bochnicek put out the fire in his Citroën which had been started by over-hot inboard disc brakes but in another few hours he was to retire with no clutch. Also poor Walter Lux/Kurt Nestinger had trouble with overheating brakes on their Citroën DS21 and stopped it against the back of a lorry on the main road after the fourth test with the result that the car was 2.90 metres long instead of about 4.60 metres. They retired but neither was hurt as they were both wearing belts.

The second test was at Kaltwiesen as the test up by Kirchschlag had to be cancelled because one policeman objected in the face of local opinion which was favourable to the rally. Again, Warmbold set fastest time by a clear margin to Aaltonen and Lampinen. Paganelli hit a rock and had a puncture which he stopped and changed, just leaving the spent wheel and tyre in the middle of the road. The Alpine of Russling had lost fourth gear on the first test and was now finding that just three gears were not adequate for stages as fifth was far too high. Unluckiest man was Stig Blomqvist whose brakes didn't stand up to all the hard pressure downhill and on the penultimate bend of the test he left the road and did the car considerable damage even though he did not actually roll. Neither he nor Arne Hertz were hurt though his wristwatch was torn off and lost during the impact. He created something of a sensation by driving the car back to Baden after the accident with only three wheels which caused some strange looks from people he passed on the Autobahn! Per Eklund had lack of brakes as well but he just lost time by going straight on at a hairpin and having to reverse off.

Warmbold led the rally by a margin of a minute to Lampinen with Aaltonen just 1 s behind in third place but on the third stage which followed a tight road section over to Turnau, Aaltonen had a contretemps with a level-crossing and lost 20 s backing out. The weather had so far been quite good with just a little rain to damp any dust but on the fourth stage before Maria Lankowitz which was 90 per cent downhill on dirt, the first of the morning fog started to make itself felt. Gunther Janger had already had trouble with a broken rocker arm on the first stage which had been rapidly diagnosed and changed by the Porsche Salzburg mechanics and now he had problems with the gear selection which refused to find first gear, but again this was very soon corrected after the test even though it was quite a difficult road section. The next road section was one of the most difficult and finished at Rein where Paganelli came in on a flat rear tyre having had yet another puncture. He made the control with 3 s to spare having driven 10 kms on the flat tyre. All the effort was in vain, however, as two road sections later his engine broke and he was out.

Tractor hazard

The road section where he broke down was in broad daylight at just the time when all the farmers were going to work and most of the early crews got tied up with their tractors and lorries to the annoyance of both parties. When on the subsequent main road section, the police were operating a radar trap in an unmarked village purely for the harassment of the rally drivers, tempers were not improved. Most of those stopped only just made it to the start of the next test in time.

So far, Warmbold had made fastest time on every test but now he was to roll his BMW in full view of the Austrian TV crews while negotiating a fast hairpin right. He and Pitz got it going again after hammering out the roof with their feet, but it had no front or side windows and they decided to retire. Still, a BMW was fastest on the test with Aaltonen going 13 s quicker than Lampinen to close with him for the lead. But then, going up a steep hill on the next road section, the differential failed and the original flying Finn was out. In fact, before the rally BMW had tested their three cars and had the axles fail in all of them probably due to an incorrect metal specification and they had recalled their axle specialist who was watching the football at the Olympic Games just round the corner and he had rebuilt the Olympia Rally axles for these cars. With Warmbold, Blomqvist and Aaltonen gone, Lampinen now had the rally in his command and though Lindberg took 24 s off him on the sixth stage, Lampinen redressed the balance on the next. Janger had a puncture on the first kilometre of stage six and was passed by Eklund while he changed it which dropped him well back as he had also been delayed when Warmbold rolled. The private Saab of Kjell Ivarsson retired with a broken crankshaft while Dr Fischer broke the torsion bar on his rear suspension and was the first of the Porsche Salzburg VWs to drop out.

Harry Källstrom had not been going with his usual speed despite a successful night at the casino some days before the rally and he and Gunnar Haggbom retired at the end of stage eight when the inner joint on one of their Lancia's driveshafts collapsed. They walked to the end and there found one of the portable wireless telex outfits used by the organisers and operated by the army to send in the results. By use of it, they were able to order a taxi plus a lorry to take their stricken rally car away.

One more stage and the rally was up to its first halt which was in a couple of hours of the early evening. Lampinen led from Lindberg by a mere 28 s with Eklund completing the Scandinavian domination in third place ahead of Russling's Alpine. Young Georg Fischer was sixth in the leading VW over a minute and a half behind Barbasio's Lancia while poor Janger with all his trouble lay ninth. Lampinen now started to make a real effort and succeeded in increasing his lead on every stage. Less fortunate were Eklund/Reinicke who wrong-slotted on the return run through Schaumboden, earlier test eight but now a road section, and lost 8 m going back and picking up the passage control. This is one problem with not doing a full recce, but Gunnar Blomqvist in the Anessi-tuned Ascona also lost time here as he had not done any recce and was relying on his Austrian co-driver and the organiser's road book. He had problems in other places to find his way and lost a total of 12 m on the road.

Radar trap

On the Sirnitz road section, Lindberg found a gate closed and had to open it but lost no time while both he and Lampinen were caught in the second police radar trap after the section. Lindberg's biggest problem, however, came on Gaal—stage 12—where he had a puncture not long after the start and drove the test on a flat tyre losing almost 2 m to Lampinen. The second Lancia driven by Barbasio was now going well and by the time the rally reached the breakfast halt in Semmering, he was lying third ahead of Russling whose Alpine had started to lose the front of its bodywork and had a large rope keeping the cracks in the wings closed. Lampinen led Lindberg by just over 3 m while the gap to Barbasio was another four. Janger had made good progress to lie fifth ahead of Eklund and now there were only 15 cars still in the hunt. What faced them was a day's work with just four special stages and nothing impossible in the way of road sections. However, one stage—Pretul—was used twice and possessed by far the worst surface of any stage in the rally.

Predictably, Lampinen took it easy on the first passage over Pretul from Honigsberg to Ratten but even he was a bit surprised how easy he had taken it for he was seventh fastest and more than 2 m slower than Lindberg who was now the magic 59 s behind the Lancia. However, on the second test over Kaltwiesen he pulled 32 s back and was prepared to do a more realistic time over the second Pretul when on the road section preceding it, the adaptor for mounting the oil filter broke and he lost all the oil from the engine. He had only left a service point 14 km before, but before returning to them he spent valuable time trying the filter off two spectator's cars to see if they had a similar adaptor. By the time he got back to the service point, the mechanics had packed and left and taken his victory with them. Now Lancia's hopes rested with Barbasio who had taken 16 s off Lindberg in the two tests since Semmering, but on the first corner of Pretul 2, a connecting rod broke in his engine and he too was out.

Lindberg now held a comfortable lead and drove accordingly to finish with a car that was so immaculate under the bonnet that the scrutineers at first thought he must have changed the engine until they checked their own mark on it. The rally was still to lose two more crews, for the gallant Russling lost first and second gear on Pretul 2 leaving him with third and fifth only, and on the very steep and difficult road section through Reisalpe he was unable to pass and burnt out his clutch trying. Then Georg Fischer had a rocker arm break in his VW 1302S and was unable to get to a service point in time to have it replaced. Just nine cars came to the finish in Baden where a subdued crowd welcomed the survivors of what had turned out to be a hard rally for the cars, if not for the drivers. Only eight of these were classified as finishers as Doppelreiter's VW 1302S had exceeded the 30 m lateness at one point during the rally.

So Lindberg and Eisendle won their second championship event for Fiat which makes the struggle for the championship between the two Turin firms with just three events to go.

43rd International Austrian Alpine Rally

1, H. Lindberg/H. Eisendle (Fiat 124 Spyder), 15,425.0 points; 2, G. Janger/H. Gottlieb (VW 1302S), 15,905.5; 3, P. Eklund/B. Reinicke (Saab V4), 16,337.5; 4, H. Grünsteidl/G. Hopf (VW 1302S), 16,520.7; 5, E. Haberl/J. Fritz (Porsche 911S), 16,914.7; 6, G. Blomqvist/Ing Kalnay (Opel Ascona 1.9), 17,025.4; 7, V. Dietmayer/O. Schureck (BMW 2002Ti), 20,083.4; 8, W. Löffelmann/P. Wizner (Alfa Romeo Giulia), 22,557.9.

Group 1: 1, Dietmayer (BMW), 2, Löffelmann (Alfa Romeo). Group 2: 1, Janger (VW); 2, Eklund (Saab); 3, Grunsteidl (VW). Groups 3/4: 1, Lindberg (Fiat); 2, Haberl (Porsche).

SS1. — **Eselberg-Hassbach, 10 km**: 1, Warmbold/Pitz (BMW 2002 Ti), 393.7; 2, Blomqvist/Hertz (Saab V4), 396.3; 3, Lampinen/Andreasson (Lancia Fulvia HF), 401.6; 4, Koltay/Böhs (BMW 2002 Ti), 411.4; 5, Aaltonen/Davenport (BMW 2002 TI), 412.6; 6, Paganelli/Russo (Fiat 124 Spyder), 417.7.

SS2. — **Mönichwald-Waldbach, 20 km**: 1, Warmbold/Pitz (BMW 2002 Ti), 869.5; 2, Aaltonen/Davenport (BMW 2002 Ti), 911.1; 3, Lampinen/Andreasson (Lancia Fulvia HF), 920.8; 4, Lindberg/Eisendle (Fiat 124 Spyder), 924.2; 5, Barbasio/Sodano (Lancia Fulvia HF), 938.9; 6, Janger/Gottlieb (VW 1302S), 950.8.

SS3—**Turnau-Wappenstein, 7.5 km**: 1, Warmbold/Pitz (BMW 2002 Ti), 248.9; 2, Lampinen/Andreasson (Lancia Fulvia HF), 258.5; 3, Lindberg/Eisendle (Fiat 124 Spyder), 263.1; 4, Janger/Gottlieb (VW 1302S), 269.4; 5, Fischer/Siebert (VW 1302S), 272.9; 6, Dr Fischer/Tazl (VW 1302S), 275.4.

SS4. — **Gaberl-Maria Lankowitz, 15 km**: 1, Warmbold/Pitz (BMW 2002 Ti), 656.0; 2, Lampinen/Andreasson (Lancia Fulvia HF), 671.1; 3, Lindberg/Eisendle (Fiat 124 Spyder), 688.7; 4, Paganelli/Russo (Fiat 124 Spyder), 696.4; 5, Aaltonen/Davenport (BMW 2002 Ti), 702.4; 6, Grunsteidl/Hopf (VW 1302S), 713.3.

SS5. — **St Gertraud-Schwanberg, 36 km**: 1, Aaltonen/Davenport (BMW 2002 Ti), 1,665.9; 2, Lampinen/Andreasson (Lancia Fulvia HF), 1,678.7; 3, Lindberg/Eisendle (Fiat 124 Spyder), 1,686.2; 4, Eklund/Reinicke (Saab V4), 1,702.9; 5, Källström/Häggbom (Lancia Fulvia HF), 1,714.8; 6, G. Fischer/Ing Siebert (VW 1302S), 1,718.9.

SS6. — **Hirschegg-Rein-Kleinfeistritz, 22 km**: 1, Lindberg/Eisendle (Fiat 124 Spyder), 1,053.3; 2, Lampinen/Andreasson (Lancia Fulvia HF), 1,087.6; 3, Källström/Häggbom (Lancia Fulvia HF), 1,087.7; 4, Grunsteidl/Hopf (VW 1302S), 1,095.8; 5, Dietmayer/Schurek (BMW 2002 Ti), 1,097.0; 6, Eklund/Reinicke (Saab V4), 1,097.6

SS7. — **Weissenbach-Lölling, 21 km**: 1, Lampinen/Andreasson (Lancia Fulvia HF), 965.6; 2, Lindberg/Eisendle (Fiat 124 Spyder), 987.4; 3, Barbasio/Sodano (Lancia Fulvia HF), 990.0; 4, Russling/Weiss (Renault Alpine), 1,000.5; 5, Källström/Häggbom (Lancia Fulvia HF), 1,000.7; 6, Eklund/Reinicke (Saab V4), 1,002.3.

SS8. — **Obermühlbach-Gradenegg, 33 km**: 1, Barbasio/Sodano (Lancia Fulvia HF), 1,379.1; 2, Lindberg/Eisendle (Fiat 124 Spyder), 1,380.2; 3, Eklund/Reinicke (Saab V4), 1,384.4; 4, Russling/Weiss (Renault Alpine), 1,389.2; 5, Lampinen/Andreasson (Lancia Fulvia HF), 1,391.4; 6, Blomqvist/Ing Kalnay (Opel Ascona), 1,412.0.

SS9. — **Wöbring-Lassnitz, 14 km**: 1, Lampinen/Andreasson (Lancia Fulvia HF), 518.6; 2, Lindberg/Eisendle (Fiat 124 Spyder), 522.6; 3, Russling/Weiss (Renault Alpine), 535.8; 4, Eklund/Reinicke (Saab V4), 540.4; 5, Barbasio/Sodano (Lancia Fulvia HF), 551.3; 6, Janger/Gottlieb (VW 1302S), 557.9.

SS10. — **Lassnitz-Wöbring, 14 km**: 1, Lampinen/Andreasson (Lancia Fulvia HF), 526.7; 2, Lindberg/Eisendle (Fiat 124 Spyder), 534.4; 3, Janger/Gottlieb (VW 1302S), 549.5; 4, Barbasio/Sodano (Lancia Fulvia HF), 561.1; 5, Eklund/Reinicke (Saab V4), 565.7; 6, Russling/Weiss (Renault Alpine), 575.4.

SS11.—**Lölling-Bad Weissenbach, 22 km**: 1, Lampinen/Andreasson (Lancia Fulvia HF), 10,005.1; 2, Lindberg/Eisendle (Fiat 124 Spyder), 10,034.7; 3, Barbasio/Sodano (Lancia Fulvia HF), 10,040.3; 4, Janger/Gottlieb (VW 1302S), 10,048.3; 5, Russling/Weiss (Renault Alpine), 10,059.5; 6, Haberl/Fritz (Porsche 911S), 10,076.6.

SS12. — **St Oswald-Gaal, 14 km**: 1, Janger/Gottlieb (VW 1302S), 724.67; 2, Barbasio/Sodano (Lancia Fulvia HF), 728.9; 3, Lampinen/Andreasson (Lancia Fulvia HF), 741.1; 4, Eklund/Reinicke (Saab V4), 764.75; 5, Haberl/Fritz (Porsche 911S), 771.43; 6, Russling/Weiss (Renault Alpine), 777.58.

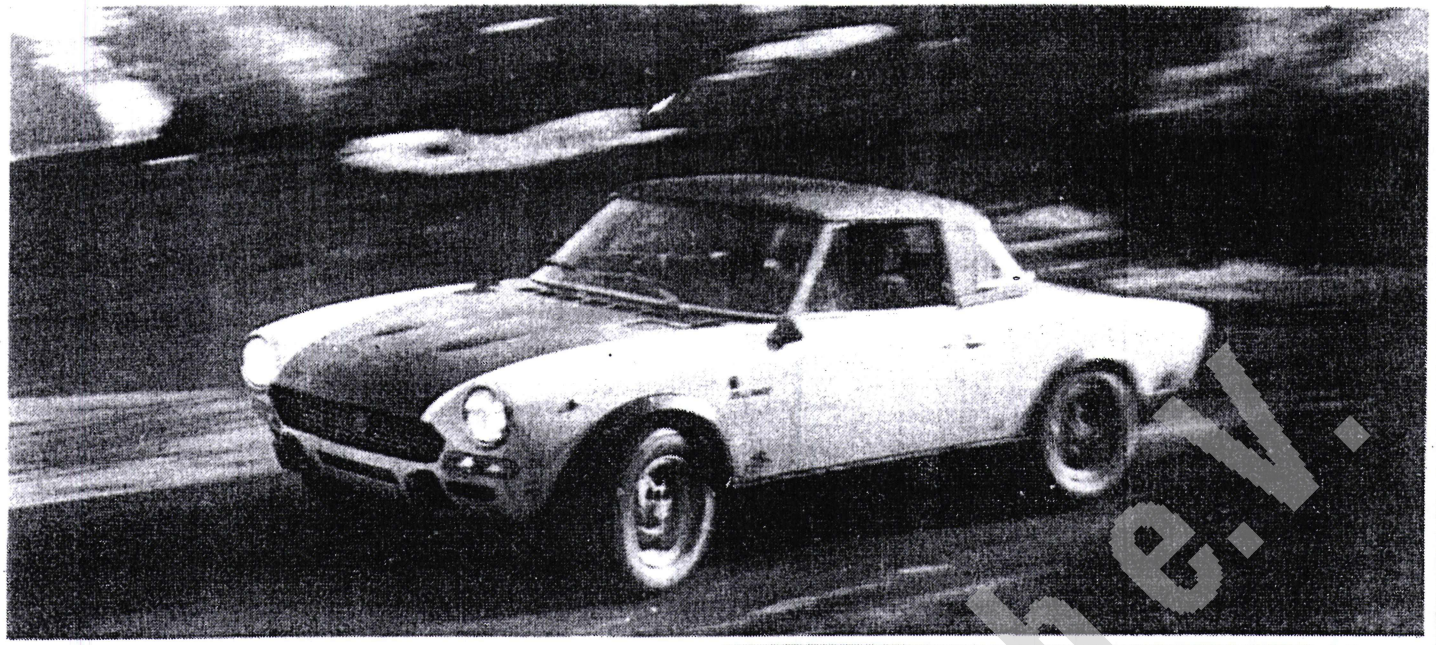
SS13. — **Kleinfeistritz-Hirschegg-Rein, 22 km**: 1, Lampinen/Andreasson (Lancia Fulvia HF), 1,111.5; 2, Lindberg/Eisendle (Fiat 124 Spyder), 1,122.7; 3, Janger/Gottlieb (VW 1302S), 1,135.1; 4, Eklund/Reinicke (Saab V4), 1,141.2; 5, Barbasio/Sodano (Lancia Fulvia HF), 1,156.3; 6, Russling/Weiss (Renault Alpine), 1,156.7.

SS14.—**Honigsberg-Ratten, 20 km**: 1, Janger/Gottlieb (VW 1302S), 1,046.1; 2, Barbasio/Sodano (Lancia Fulvia HF), 1,061.4; 3, Lindberg/Eisendle (Fiat 124 Spyder), 1,061.8; 4, Eklund/Reinicke (Saab V4), 1,111.2; 5, G. Blomqvist/Ing Kalnay (Opel Ascona), 1,136.9; 6, Russling/Weiss (Renault Alpine), 1,167.4.

SS15. — **Waldbach-Monichwald, 20 km**: 1, Lampinen/Andreasson (Lancia Fulvia HF), 714.43; 2, Barbasio/Sodano (Lancia Fulvia HF), 730.63; 3, Grunsteidl/Hopf (VW 1302S), 737.39; 4, Janger/Gottlieb (VW 1302S), 738.90; 5, Lindberg/Eisendle (Fiat 124 Spyder), 746.45 6, Blomqvist/Ing Kalnay (Opel Ascona), 751.56.

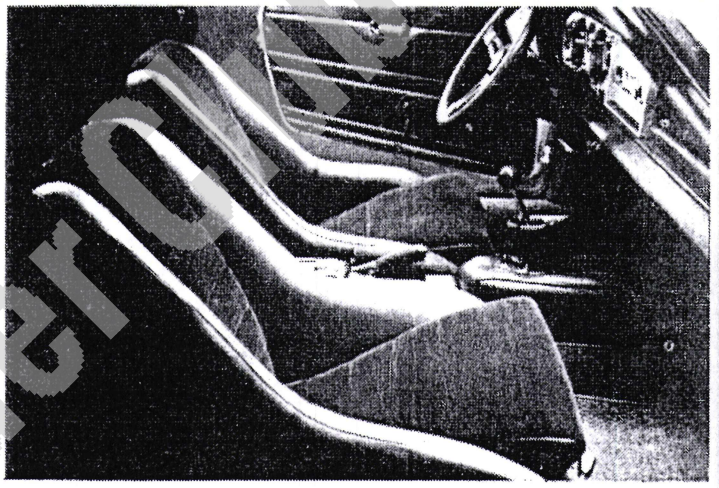
SS16.—**Ratten-Honigsberg, 20 km**: 1, Janger/Gottlieb (VW 1302S), 1,070.8; 2, Eklund/Reinicke (Saab V4) 1,104.1; 3, Grunsteidl/Hopf (VW 1302S), 1,112.9; 4, G Blomqvist/Ing Kalnay (Opel Ascona), 1,126.9; 5, Lindberg/Eisendle (Fiat 124 Spyder), 1,207.5; 6, Haberl Fritz (Porsche 911S), 1,237.3.

SS17. — **Hölle-Ramsau, 19 km**: 1, Eklund/Reinicke (Saa V4), 1,057.7; 2, G. Blomqvist/Ing Kalnay (Opel Ascona) 1,065.4; 3, Janger/Gottlieb (VW 1302S), 1,073.7; 4 Lindberg/Eisendle (Fiat 124 Spyder), 1,074.3; 5, Grünsteidl/Hopf (VW 1302S), 1,108.8; 6, Haberl/Fritz (Porsch 911S), 1,168.4



FIAT ABARTH 124 RALLY

A larger-engined 124 Spyder with independent rear suspension which could improve Fiat's chances in rallying. Michael Bowler reports



Fiat's competition department may not exist in name but the organisation responsible for Fiats in competition has suddenly become an effective force in the rallying world; in 1972 they came 2nd to Lancia in the Rally Championship of Makes and Raphaele Pinto won the Drivers' Championship and the Mitropa (Middle Europe) Cup, both in the 124 Sport Spyder 1600.

But it started as far back as 1965 when Fiat supplied servicing facilities for vintage Fiats taking part in rallies and touring events. This was diverted to helping Fiat private entrants in modern rallies, until this had grown by 1969 to providing a chosen team with works prepared cars and financial help. A works team was formed in 1970 with Alcide Paganelli and Pirelli engineer Hakan Lindberg using the 124 Sport Spyder and the 125S. This continued in 1971, the year of Fiat's complete acquisition of Abarth. This year has seen Pinto, Lindberg and Paganelli competing regularly in international rallies and Maurizio Verini in local events, all with 124 Spyders using the 1600 cc unit.

The man behind the Fiat end of things is Ing. Sgvazini who somehow finds time to direct operations as well as control Fiat's production lines. But the development of the latest version has been carried out by Abarth engineers in conjunction with the men from Fiat. With the enlargement of the 124 Sports engine to 1800 cc, Fiat decided to produce a special Abarth version to make the car even more competitive in rallying.

Adding power as well as reducing weight is the accepted way of modifying production cars for competition, but for rallying you have to be rather more careful with the weight paring as strength is all important. The fact that the 124 Sport 1600 won the Acropolis with team-mates 4th and 7th underlines its basic strength. In addition Fiat have improved the roadholding with the help of a new independent rear suspension.

Power starts at 118 bhp for the standard 1800; Abarth add a couple of downdraught Webers on a special manifold, new cams and a fabricated exhaust manifold to get 128 bhp. It isn't a breath-taking increase but provides the basis for getting about 160-170 bhp in Group 4 form.

The gearbox starts as a four-speed with the five-speed box as an option on the Spyder. Fifth is very close to fourth at 0.88 : 1 and on the 4.3:1 final drive gives 17.2 mph/1000 rpm. Initially Fiat's fifth gear was contained in a separate housing bolted to the back of the four speed box but it is now an integral one; for rallies dog-clutch engagement will replace the synchromesh.

The rear suspension starts as a live axle with radius arms and a Panhard rod. Abarth have made a chassis mounted alloy differential casing which is three point mounted through rubber blocks, one on the rear and one at each end of a carrier bolted transversely across the nose. The drive shafts are fitted with twin universal joints, incorporating plunge. The independent rear suspension now used is a variation on the Macpherson strut theme as used on the Fiat 130. A spring/damper strut is bolted to the top of the upright, while the lower link is an inverted wishbone with its sharp end on a bracket behind the differential casing. Fore and aft control is exercised by a torque arm running from the outer end of the wishbone to one of the pick-up points for the standard system, both ends being rubber bushed.

And the body started as a unitary steel structure with a hard-top. The structural part is still the same but the boot, bonnet and roof are made of glass-fibre, and the doors and scuttle are skinned in aluminium. A four-point roll cage is bolted in as standard which probably helps with stiffness. Although this sounds quite a lot of lightening, the actual final gain is only 48lb. for a total weight of 18½ cwt.

The method of assembly is rather long winded as Abarth do the non-standard bits. Fiat send engines transmissions to Abarth; he modifies the engines and sends them back to Fiat together with rear suspensions. The body arrives at Fiat from Farina. Fiat bolt it all together, take it to Abarth for individual testing, and it then returns to Fiat for sale at a bit over £2000 in Italy. The standard Spyder 1800 costs about £1400. An application for homologation in Group 4 has been filed and should be agreed from January; the appropriate build of 500 is already under way.

DRIVING IMPRESSIONS

I had driven both the previous 124 Spyders, the 1438 cc and the 1608 cc versions, both with the five speed box. They were nice modern sports cars, comfortable and practical with 0-60 mph taking around 9½ sec. and maxima of 106, and 112 mph respectively. So I felt fairly well at home in the 1800 Abarth with

Fiat Enthusiasts Club

its nice comfortable thigh-gripping seats, a small leather covered steering wheel whose rim hides the water temperature and fuel gauges—I don't share colleagues' enthusiasms for oversmall wheels—and good all round visibility for my size.

The important instruments, rev counter, oil pressure and speedo are straight ahead through the wheel top and the smooth engine fairly thrashes up to the yellow line at 6200 rpm. It is noisy as there isn't much sound deadening but torquey and it feels unburstable. A quick check on a 0-100 km time on a damp surface gave 9.2 sec. with a lot of wheelspin and a squeaky twitch on the first two gearchanges; 60 mph came up in third. Under better conditions with our normal test loading it should take around 8.9 sec. to 60 mph. The quoted maximum speed is 118 mph which means 6800 rpm; it certainly went up to the start of the red sector at 6500 very easily and held 7000 rpm on the flat, so it should manage 120 mph.

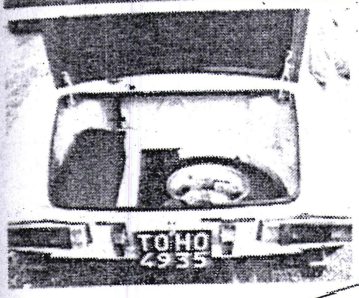
The gearbox ratios aren't brilliant as there is quite a gap between second and third, and fifth is very close to fourth—only a 700 rpm rev drop from 6500. It's a nice change though, with the Alfa pattern gate. The box was quiet but the axle growled on part throttle when maintaining speeds up to about 85 mph, at which point the back end vibrated, but you were through this very quickly.

The springing is set to be pretty firm so that for normal main road motoring it feels fairly similar to the standard softer live axle ride, but at least on the bumpy Bracco Pass in Italy, where we tried the car, the wheels stayed on the ground. It was fairly easy to get the inner rear wheel spinning on the damp surface but the car was nicely balanced with understeer on trailing or steady throttle which could be overcome by power. The steering kept you informed of front end grip. The tyres fitted were Pirelli 185/70—13 with the blocky CN36 pattern which is a good compromise rally tyre.

There was some wind noise around the side windows but the hardtop seems to fit well and the car is quite practicable as normal road transport, especially in Italy. There is space behind the seats—I used one of the earlier cars as a three seater—and a reasonable boot. The roof comes off with four clips, and if you want to go sprinting the windscreen comes out with four bolts and you can fit an aero screen. The matt black bonnet is held down by rubber clamps—it flaps, so these are essential—and the car certainly looks the part.

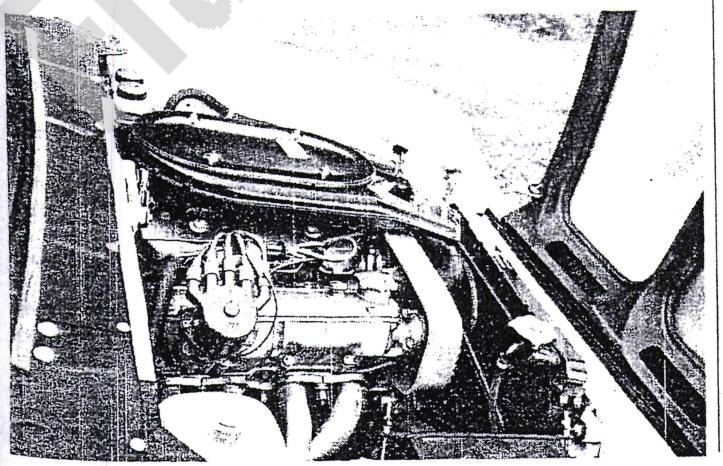
Its predecessor which was just a modified production car earned a good solid reputation. With a more carefully conceived version, designed with rallies in mind, Fiat stand a good chance of bettering even this year's record.





Matt black panels and alloy wheels distinguish the Abarth 1800 Rally from the normal Spider. The spare wheel fills the usual hole leaving a useful boot

New rear suspension and roll cage are visible in the cutaway; downdraught Webers dictate a pancake filter, below



GENERAL SPECIFICATION

Engine	
Cylinders	Four in line
Capacity	1756 cc (438.9 cu. in.)
Bore/stroke	84 x 79.2 mm (3.31 x 3.12 in.)
Cooling	Water with thermostatic fan
Block	Cast iron
Head	Light alloy
Valves	Belt driven dohc
Valve timing	
inlet opens	15 btdc
inlet closes	55 abdc
ex. opens	55 bbdc
ex. closes	15 atdc
Compression	9.8:1
Carburetters	Two Weber 44 IDF
Bearings	five main
Fuel pump	Electric
Max. power	128 bhp (DIN) at 6200 rpm
Max. torque	117 lb ft (DIN) at 5200 rpm
Transmission	
Type	5 speed synchromesh
Clutch	7.9 in. dia. sdp diaphragm
Internal ratios	and mph/1000 rpm
Top	0.88/17.2
4th	1.00/15.2
3rd	1.36/11.2
2nd	2.10/7.2
1st	3.66/4.1
Rev	3.53/-
Final drive	Hypoid bevel 4.3:1
Suspension	
Front	Independent with double wishbones, coils, anti-roll bar
Rear	Independent with struts with lower link and radius rod with coils and anti-roll bar
Steering	
Type	Worm and roller
Assistance	
Toe-in	0.08 in.
Camber	¼° negative
Castor	4¼°
King pin	13° 40'
Rear toe-in	1½° negative
Brakes	
Type	8.9 in. dia. discs all round
Servo	Yes
Circuit	Twin
Rear valve	No
Wheels	
Type	Alloy 5½J x 13 in.
Tyres	Pirelli CN36 185/70 VR 13
Pressures	24F, 27R

Fiat Spider Club

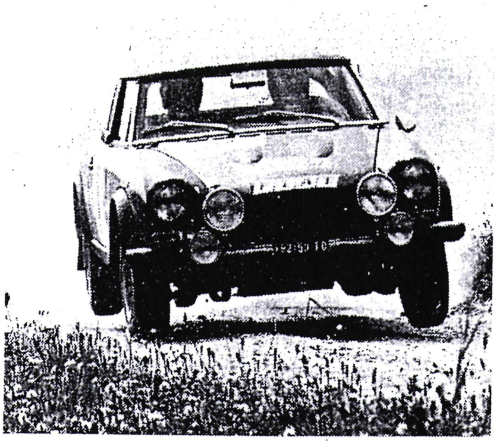
Fiat Abarth 124 Rally

Lightweight spider from Fiat — with Abarth-tuned engine and independent rear suspension — has been built to meet the rally rules but is now on general sale in Italy. **Ray Hutton** *drives it, and describes the background to its production*

N competition terms the Fiat Abarth 124 Rally is a "homologation special". That suggests that somehow it is a cheat — hich it isn't. The fact that a major anufacturer is prepared to go to the trouble id expense of building however many cars the gulations for his chosen class of competition mand is an indication of how serious they e about it. A limited production run of ncompromising race or rally cars can provide e factory with something more competitive an the higher volume "standard" model, gives e enthusiast a chance to buy an exciting id unusual road car — and can often ntribute to the eventual improvement of the r's less sophisticated relatives. If you doubt at, look at the various sporting Escorts and e Porsche Carrera RS.

In Fiat's case they had come almost to the nd of the useful development of the 1600cc 24 Spider which could be accomplished ithin the Group 4 Special Grand Touring ar rules. They had initially chosen the 124 pider for their rally effort because its ower-to-weight ratio was better than any of he other models in the cheaper end of their ange. What the car needed, said the drivers, vas independent rear suspension, less weight nd more horsepower. The latter was partially atisfied by the arrival of the 1800cc engine as tted to the 130 saloon, which could be quite xtensively modified under Group 4 rules. But ince 1971 lightweight body panels have not een allowed as homologated options for a car vhich normally has steel panels, and although eople like Ford get away with some pretty ophisticated suspension modifications for roup 2, a fundamental change from live axle o an independent arrangement isn't on.

After a couple of seasons finding their eet in rallying the Fiat factory team gained ignificant international success in 1972. In heir first year — 1970 — they had won the talian Championship. At that time they were sing the 125S saloon for the rougher events nd the Spider for the faster ones. By last ear the sports car had shown itself to be tough nough for the worst that European rallying an provide — and Hakan Lindberg, a Pirelli ngineer from Sweden, won the Acropolis and Austrian Alpine Rallies to prove it. Both of these were rounds of the premier International Championship for Makes, and with two rounds to go Fiat were still in with a chance of pipping their Lancia cousins for the championship title. In addition, Raffaele Pinto and Gino Macaluso won the complicated 24-round European Drivers' Championship as well as the Mitropa Cup, held over six events in Austria, Germany and Italy.



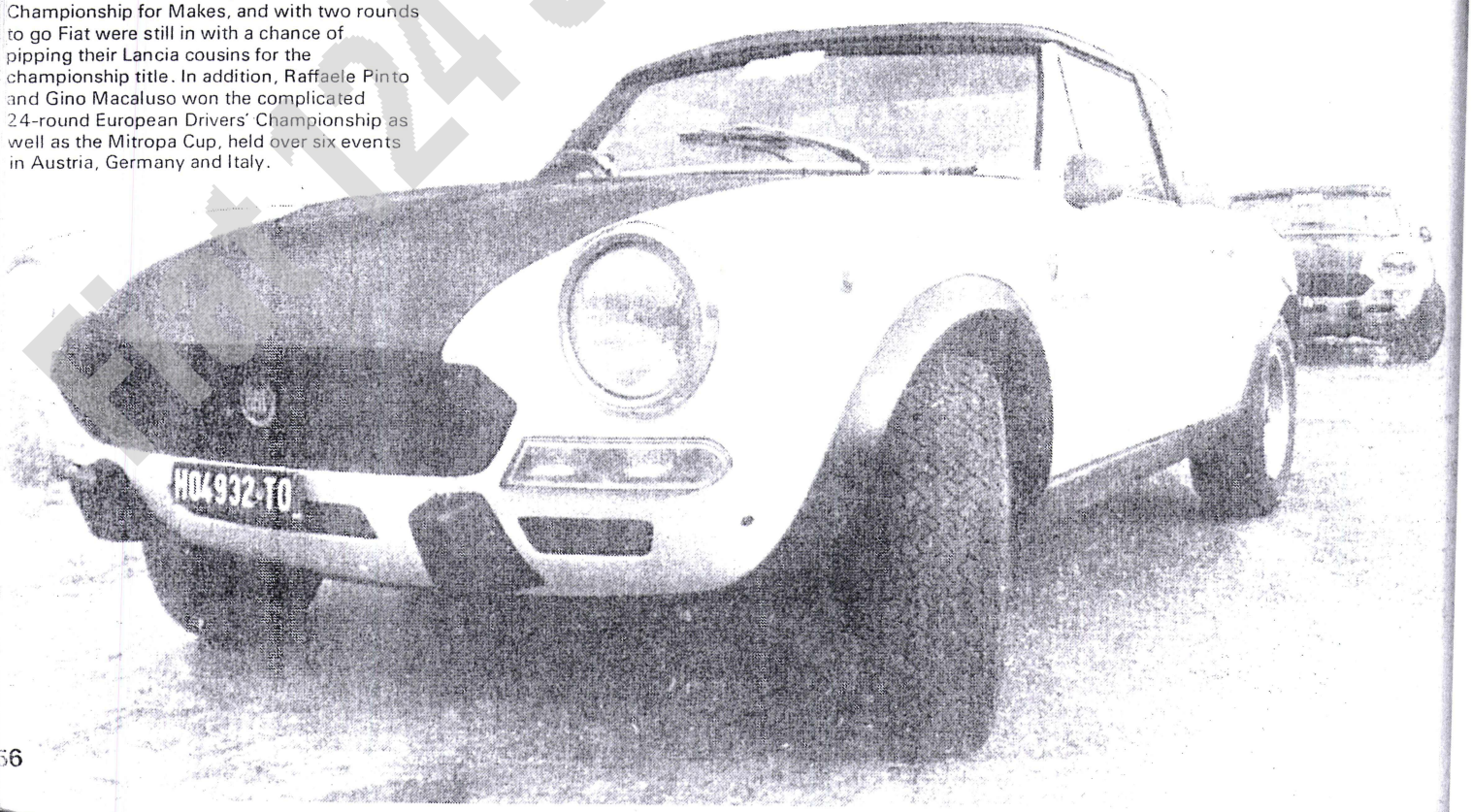
The works 1600cc Fiat 124 Spider on its way to victory in the 1972 Austrian Alpine Rally — inspiration for the new model

The decision to build a minimum of 500 special 124 Spiders to qualify as an additional model under Group 4, came at a convenient time. Fiat had recently completed a total takeover of Abarth, the Torinese tuning firm who had produced modified versions of Fiats for many years as well as running a lucrative business in exhaust systems. Ing. Gianfranco Sgvazzini, technical director of Fiat's automobile division and the man behind their entry into rallying, was also put in charge of Abarth.

The rally team was moved to a workshop adjacent to the Abarth factory where the special parts for the 124 Rally are produced — the cylinder head, transmission and rear suspension. There are no car assembly facilities there, so the parts are transported the 8 km to Fiat's Lingotto plant to meet up with the body-chassis unit from Pininfarina. The cars are built on a special production line and then sent back to Abarth for tuning and final preparation.

Abarth's modifications have been devised in collaboration with Fiat's engineering department. The 1756cc twin-cam engine is now at its maximum bore. In the standard 124 Spider 1800 it gives 118 bhp at 6000 rpm (10 bhp more than the old 1600). Bigger valves, new camshafts with greater overlap, twin downdraught 44 IDF Weber carburettors and a fabricated steel-tube exhaust manifold bring a modest increase to 128 bhp for the 124 Rally, but with plenty of tuning potential — the works team cars have 165-170 bhp. The Rally has the five-speed gearbox, which is optional on the standard car; this gives an overdrive top gear of 0.88 to 1,

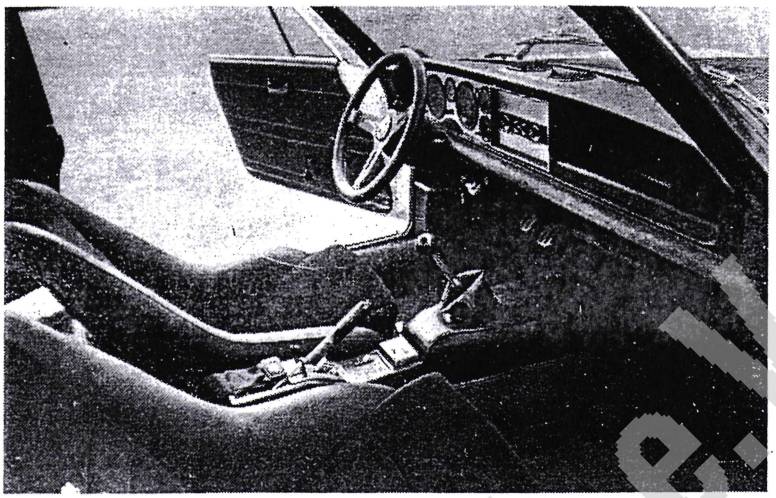
A form of MacPherson strut system has been adopted for the rear suspension (front suspension is unchanged). The rear coil spring / damper units are mounted on the top of the wheel uprights with inverted lower wishbones and trailing arms to ensure accurate location. A rear anti-roll bar is fitted. The differential alloy casing is mounted to the chassis at three points by rubber bushes — two on supporting struts where it joins the two-piece propellor shaft and one behind the crown wheel and pinion. The drive shafts each have two constant-velocity type ball joints. As on other cars in the 124 range, rear disc brakes are



Easily recognizable by the black bonnet, hardtop, boot lid, and wing extensions, the 124 Rally has a lighter body than the standard model. The usual bumpers are replaced by rather impractical rubber blocks

standard. Cromodora alloy wheels, 5½J and 13in. diameter shod with 185/70 VR Pirelli CN36 tyres are the standard wear.

The bodywork follows the outward appearance of the works rally cars closely. The black glass-fibre hardtop, an option of the standard car, is part of the Rally's equipment and conceals a hefty braced roll-over bar. The hardtop is in fact still removable, but there is no provision for a hood and Fiat clearly intend this to be a closed car. Plastic wheel spats contain the wider wheels and the bumpers have gone — to be replaced by four simple rubber blocks. There are a couple more air intakes at the bumper line for brake cooling. A reduction in kerb weight of a little less than ½cwt (to 18.5cwt) has been achieved by substituting well-fitting glass-fibre panels for the bonnet and boot lid and replacing the steel scuttle and outer skins of the doors with light alloy. This means that the structural strength of the integral body/chassis is unchanged, that the doors close as they should —even if they are outwardly vulnerable. The interior has been simplified, the console and glove box omitted and a simple central switch panel is easily removed to give room for extra rally equipment. It is plain and functional — with more room inside than the average sports car. A clear view of the instrument binnacle is somewhat obscured by the small, thick leather-rimmed wheel. Standard seats are high-backed bucket-type; the car we tried had optional Recaro competition type seats with high gripping sides and corduroy centre panels.



Plain but sensible cockpit has plenty of space and a dashboard designed to incorporate extra equipment. The seats are special ones of the competition variety and very comfortable

.We tried the 124 Rally over a 100-mile route in Northern Italy including the Bracco Pass, sometime part of the Mille Miglia route. It is clearly designed to appeal to the young Italians' boy-racer instincts, with its black roof, bonnet and boot contrasting with a light pastel-shade body. It's noisy and rorty to match. The accommodation, however, is thoroughly practical, the competition seats providing a good, slightly reclining driving position. Visibility all round is excellent.

The suspension is firm, to the detriment of ride, which doesn't matter much for a car of this type. It was rather disappointing to find that it was quite badly put off line over bumps which could set up a head-jerking resonance.

It was short on tyre grip too; at least it seemed to be on roads which, admittedly, alternated between dry and damp. On the other hand it felt very nicely balanced and could be powered round smooth mountain corners in a most satisfying way. The steering is precise; the brakes, effective, if a little over-servoed.

The engine is a very willing unit in this tuned form. Though it is noisy — both mechanically and in its fruity exhaust — it feels strong and rushes up to the 6500 rpm red line in every gear with no trouble at all. On the Genoa-Le Spezia *autostrada* it wound round to 7000 rpm in top, corresponding to a maximum speed of just on 120 mph. We would estimate its 0-60 mph acceleration time to be in the region of 9 seconds.

The five speeds in the gearbox are arranged Alfa-pattern with fifth to the right and up, opposite reverse. It is a good gearchange, once one learns not to fight it. Spring loading brings the lever gently into the 3rd/4th slot. The snatch change from third to second is a delight. The stubby gear lever falls conveniently to hand. Fourth and fifth gear ratios are not really far enough apart to make 4th a useful driving gear.

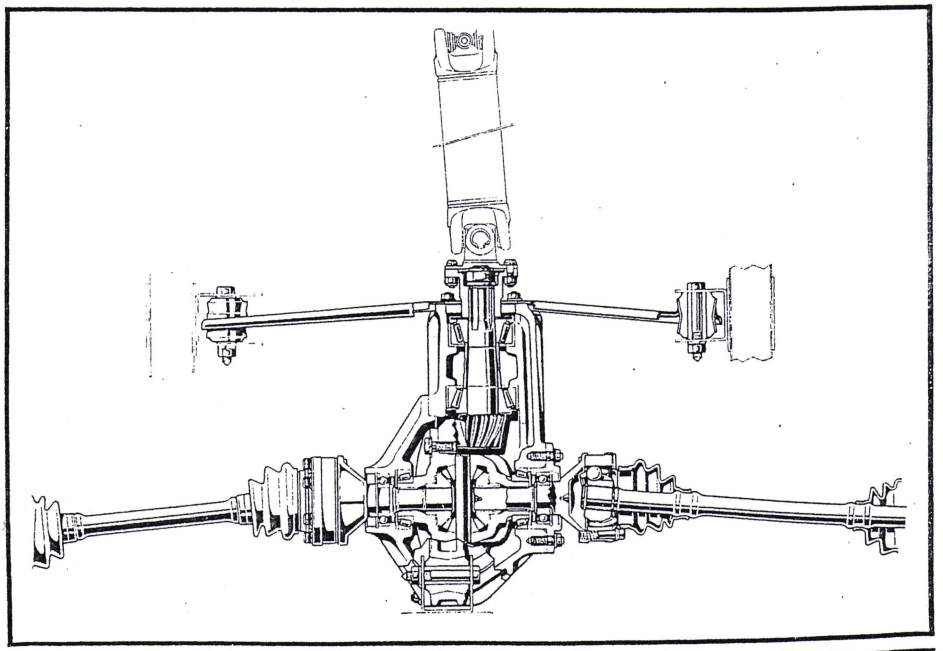
So that is Fiat's "homologation special". The works rally cars with 40 more bhp and other modifications are probably something else again. But if you live in Italy you can buy a 124 Rally that looks like the works cars, and goes and handles better than the normal 124 Spider for around £2250, compared to £1540 for the ordinary open 124. But just as there has never been a right-hand-drive 124 Spider, neither are there any plans to sell the Abarth 124 in England.

Four works Abarth 124s started the Monte Carlo Rally and the team will contend most of the remaining European events in the newly instituted World Rally Championship. The prototype 124 Rally took part in last year's Portuguese TAP Rally. Clearly it was a true prototype, a precursor of a production reality, and not simply a racer taking advantage of the free Group 5 rules. Sgvazzini doesn't believe in those: "It is a question of philosophy. We think that we have to use cars like our normal production models. Otherwise we would put on the road monsters, with no reference at all to the cars we sell".

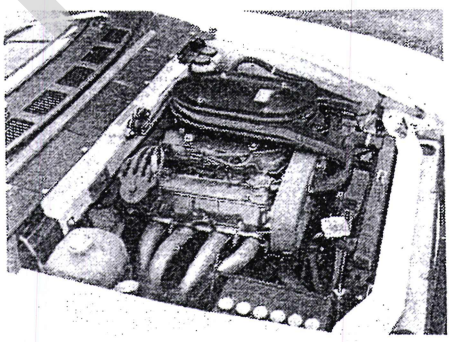


Above: Bonnet and boot lid are well made in glass-fibre. Bonnet is double skinned at the edges, retained by rubber straps — and flaps at speed. Spare wheel fits in regular boot space

Right: Cut-away of differential unit, drive-shafts and mountings. The alloy casing is supported on struts at the front and directly on to the casing at the rear



Below: 1800cc twin-cam engine is outwardly similar to ordinary 124 Spider. Twin Weber carburettors have pancake air cleaner



Fiat 124 Sport Coupe

FIAT: RALLYING FOR PRESTIGE



Karl Ludvigsen

In recent years Fiat cars have leapt into prominence in international rallying. Karl Ludvigsen went to Turin to interview Ing. Giovanni Sguazzini, director of the technical department of Fiat's Passenger Car Group and the man mainly responsible for Fiat's rally participation. Ing. Sguazzini also speaks as the managing director of Abarth, which is now wholly owned by Fiat.

Ludvigsen: I think congratulations are owed to Fiat for its rally programme because it makes the scene much more interesting than it has been in recent years. Fiat is a new power in the land of rallying, a very exciting one. How long have you had an active programme?

Sguazzini: We grew gradually, starting from 1970 until today. The first time we won the Italian Championship with Fiat was 1970. Then we tried to improve our performance, and in 1972 we won the European Rally Championship; we won the Mitropa Cup, and we were placed 2nd after Lancia in the International Rally Championship. So really we have achieved a number of good results which repay us for all that we've invested during these years in this field.

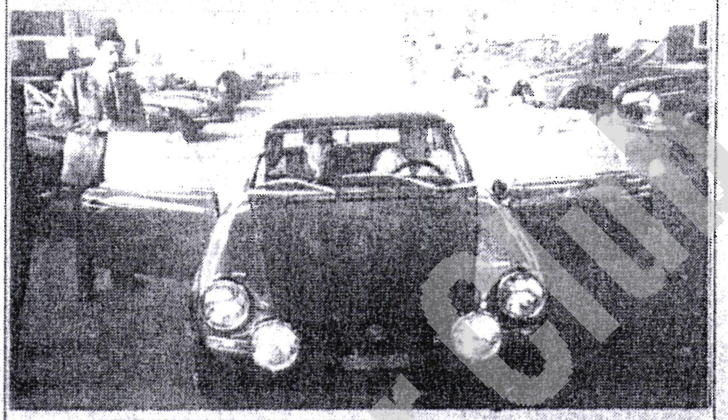
KL: In what events is the European Rally Championship determined?

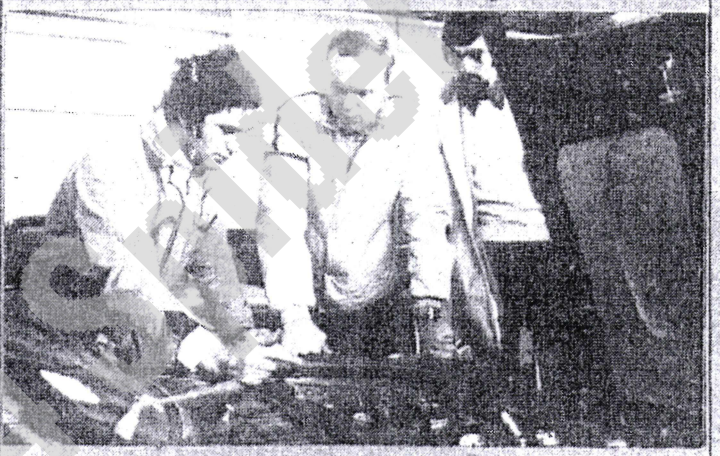
GS: It is the result of the best performances in six rallies in Europe. They are separate events from those of the International Championship. We had five victories and a 2nd place in 1972, and in all Fiat recorded 10 overall wins and five places during that season.

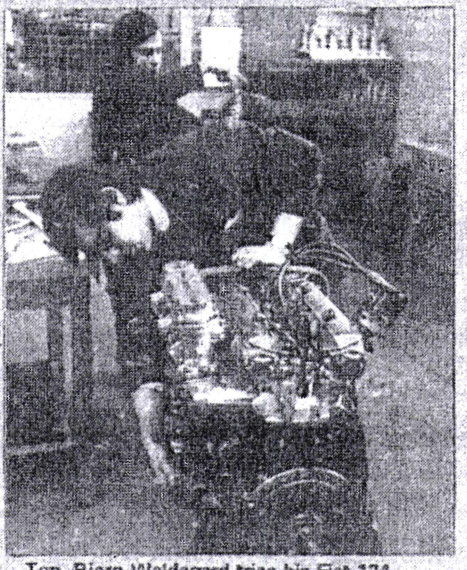
KL: You mentioned that you were beaten by Lancia in the International Championship , but Lancia is also owned by Fiat, as is Citroën, partially. How are policies among you determined?

GS: Lancia is completely independent as far as its sports programme is concerned. So Lancia fixes its own programme as does Fiat. Naturally we are members of the same group, and on an occasion when we can assist each other against somebody else, we will shake hands. But on all other occasions we will fight to the death!

KL: How about Citroën?







Top, Bjorn Waldegard tries his Fiat 124 Spyder for size. Centre, a mechanic explains the details to Waldegard and co-driver Hans Thorszelius. Above, engine preparation at Abarth



Giovanni Sguazzini

GS: Oh, there is no connection with Citroën in this field. They do whatever they want, independently.

KL: And what about racing as opposed to rallying?

GS: That is a separate business. You see, in the Fiat Group the sports activities are divided this way: Ferrari competes in Formula 1 and the sports-prototype 3-litre class. Abarth competes in the sports-prototype 2-litre class. Fiat and Lancia compete in rallies.

KL: How many people are involved today in the Fiat rallying activity?

GS: It's a small group independent of other departments, a total of approximately 40 people, with a workshop where the cars are tuned before a rally and overhauled afterwards. Naturally we work closely with Abarth, a company fully owned by Fiat. Abarth collaborates with the Fiat rally team to prepare engines, for example, to design improvements for the car and to manufacture and assemble mechanical components. We hope we will have a better chance in rallies this year with the new Fiat Abarth 124 Rally, which has some modifications made by Abarth. Rear suspension is now independent, instead of the rigid axle which we were using in 1972. The car has an 1800 cc engine, against 1600 last year, and there are several other modifications to track, gearbox, and so on. If you'll allow me to use a European expression, we think the car will be more "aggressive." We have to produce at least 500 units in order to homologate it to run in the same class as before, Group 4, and this is what we have done at Abarth.

KL: All this work takes place today in the original Abarth factory buildings?

GS: Actually the Fiat rally team rents a workshop near the Abarth factory.

KL: The Abarth 124 Rally is based on the 124 Sport roadster which has been your most prominent rally car so far. How did you choose this model for this purpose?

GS: We chose it because in our opinion it was structurally strong enough, offered scope for an improvement in horsepower and had roadholding qualities

Classic Car Studio

good enough for this kind of competition. But this is not the only car we have used because, as you know, in rallies you have various Groups. You have Group 1, for standard saloons, in which we have won the Italian Championship four years running with the 125 model. Last year we won the Touring Cup with the 128 Coupe, and this year we will compete in Group 1 with the 124 saloon. We try to diversify the models because we think rallying is good advertising for the quality of our products. If a car finishes a rally—even if it doesn't win—that proves it is a good car, a strong car, because they are really put under stresses far beyond those the customer can apply.

KL: Who actually supervises the Fiat rally effort?

GS: An engineer, Ing. Russo, oversees the whole activity. We also have a workshop manager, and another technician who follows the service team when we compete.

KL: How is the team's overall strategy determined?

GS: That is done here (at Fiat) by Ing. Russo and myself. Together we decide what to do and how to do it. He follows the rallies personally. When I have some time to go I like to, but unfortunately I can follow only the most important ones.

KL: Have you done some rallying yourself in the past?

GS: No, I was not a rally driver . . . but I find it very interesting. I would like to have had the chance to do it, but now its too late!

KL: And yet the Fiat sports programme is one of your many responsibilities. . . .

GS: Fiat entered rallying through the service door. Let me explain what I mean. Going back to 1969, even 1968, we had noticed that a certain number of Fiat customers were entering rallies with their private cars with no assistance during the events. At that time I was the manager of the Fiat central service department. Seeing this interest, Fiat decided to offer service help to these owners, and from this we learned something. We learned what a rally was, and what we would need to do to get better results. And so from time to time we chose certain drivers and involved ourselves in tuning and servicing the cars, training the drivers, and so on, finally with the results I mentioned.

KL: Do you get the support you need from the higher levels of Fiat for this activity?

GS: Yes. You see, it would really have been impossible to obtain these results without support from various parts of the factory, from technical departments and the proving ground. Everybody has helped us a lot.

KL: Could you offer similar assistance in other countries to Fiat customers who are active in rallying?

GS: For the time being, I would say no. This is a task which is handled centrally, and we have no plans to decentralise it. But there are some Fiat branch operations which are active in this field. For example a Fiat won the Portuguese Rally Championship last year, its private owners supported with proper service and assistance by the local Fiat branch.

KL: What are your main objectives for 1973?

GS: We will compete in the International Championship, in the European Championship and in the Italian Championship.

KL: Do you hope to do better in the International Championship?

GS: You always have hope! Without hope it would really be impossible to enter a sports event. Last year we were 2nd; fortunately enough Lancia was 1st. It will be a hard fight this year, because I know other makes will also have improved models. Competition will really be close.

KL: How are you approaching the question of drivers this year?

GS: You know, to have good results in rallies you need at least three things: first, a good car; second, a good driver; and third, a good service organisation. If you miss one of the three it is dangerous. For 1973 we think—at least we hope—to have improved the quality of the drivers. We have selected Italian drivers whenever possible and added—when we cannot find them on the home market—foreign drivers. We have made agreements for a certain number of rallies with the Swedish drivers Hakan Lindberg and Björn Waldegard. Waldegard has been driving for Porsche, and Lindberg started with Saab before coming with us. In the Monte Carlo Rally we entered Waldegard and three Italian drivers: Paganelli, Barbasio and the European Champion, Pinto.

KL: Does it fall in your area to consider the question of how much rallying is helping to sell Fiat cars, in Europe and around the world?

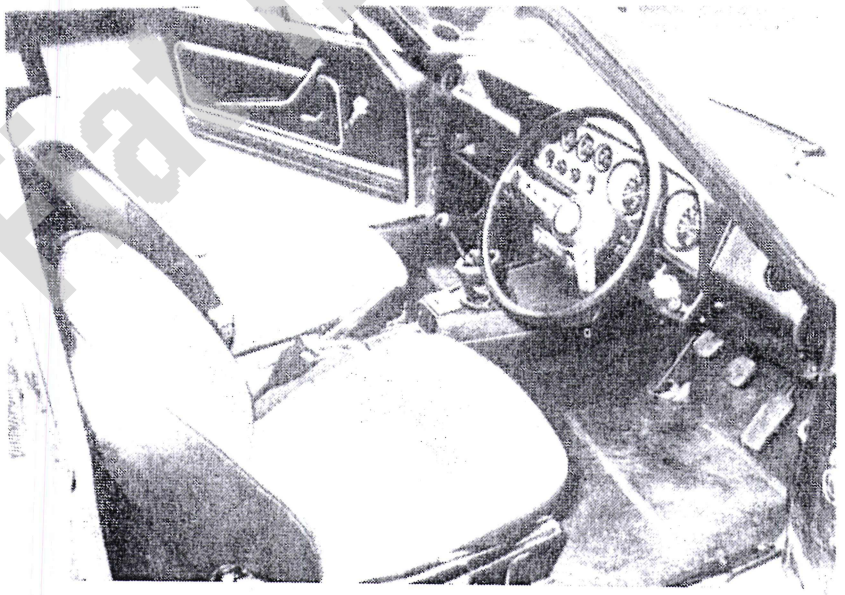
GS: Well, it is not strictly my area, because the commercial department has more to do with that, but I feel that our aim is to demonstrate to a large number of customers that Fiat is producing strong cars of high quality. That is primary. Second is to give to Fiat cars an image that is youthful—which is the image of these times—in front of young customers, in front of the public, and to show the world a firm which is marching forward with the years, not standing still.

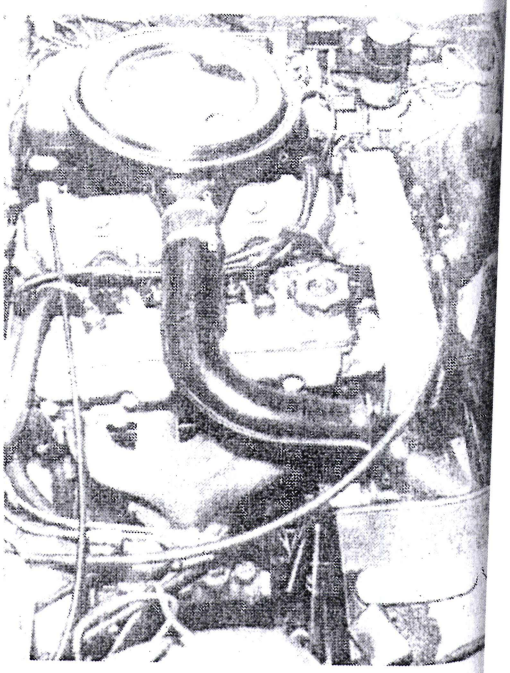
Pinto/Macaluso on their way to winning last year's Yugoslav Rally



Fiat 124 Spider Forum.it

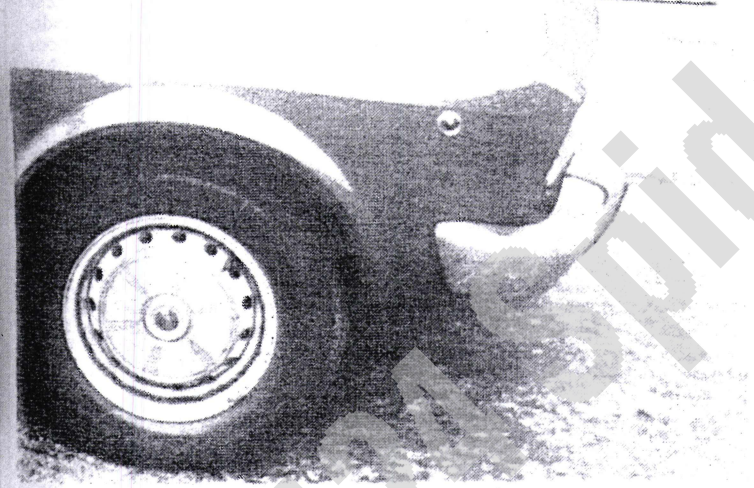
Above : new styling—but we like the original version best. Below left : comfortable seats but a poor driving position. Below centre : 118 bhp from the twin ohc engine, now stretched to 1756cc. Below right : the twin headlights are excellent





Fiat 124 Sport Club e.V.







BRIEF TEST

FOR : well finished and equipped ; comfortable front seats ; fairly quiet

AGAINST : poor ratios in five-speed box ; uncomfortable driving position ; poor wet weather handling ; very inaccurate speedometer and tachometer

FIAT 124 COUPE 1800

We were enchanted by the Fiat 124 Sport Coupe when we firs' tested it in 1967. Its lively performance, competitive price, its pretty and practical body, its tau responsive handling and excellen roadholding impressed us deeply. Fiat have updated the car twice since then, introducing the twin headlamp 1400/1600 models in 1970 and restyling again for 1972 to create this latest model which is available either with the 1600 or with the 1800 versions of the twin-cam in-line four as fitted to the 132. Ours was an 1800, and like all cars imported to Britain, had the five-speed gearbox — in Italy it's still an option.

Had each of the changes made the 124 Coupe significantly better, it would be truly outstanding now, but we are bound to say that the car has not been improved over the years as much as it should. All of us here, for example, consider the Mk II and Mk III versions to be successively less attractive than the original, though to be fair, the latest body change does give better access to the boot. Though the cornering power remains good, a gradual increase in understeer has made the car much less responsive than it used to be, the gap between fourth and fifth is still too small and the overall gearing remains very low. This last criticism, however, should be answered in the latest versions of the car which have a 4.1 : 1 final drive ratio in place of the 4.3 : 1 of the car we tested. But, as before, not only are the pedals located far too close to the driver's seat, but the difficulties in achieving smooth control that this layout imposes on tall drivers are compounded by excessive servo assistance for the brakes. On top of all this the car is not as competitive in price as it used to be and it is now challenged by newer models like the Opel Manta, the Ford Capri and the Triumph Dolomite Sprint.

The Coupe 1800 is powered by the latest 1756 cc version of the Fiat in-line four-cylinder twin ohc engine, and in this form develops 118 bhp (DIN) at 6000 rpm. Although our experience leads us to expect increases in engine capacity to cause a loss of engine smoothness, the new unit is an exception to this rule : it runs smoothly up to the red line at 6500 rpm and the buzzing noise it makes at the top end of the rev range is by no means obtrusive.

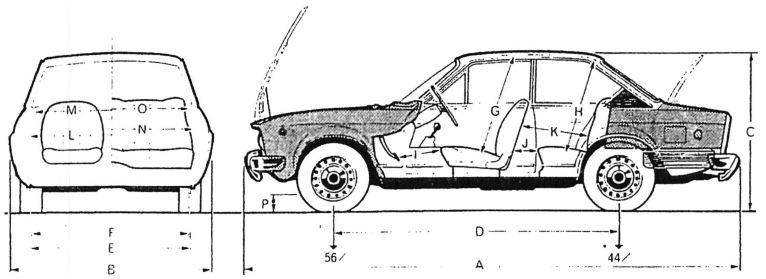
The 0-60 mph acceleration time of 9.2 s is not bad — and a considerable improvement on the 11.6 s achieved by the previous 1600 car we tested — but, more important, the larger engine has better torque as the 30-50 mph times show : 10.9 s in fifth and 7.8 s in fourth compare well with times of 12.5 s and 9.2 s for the old Coupe 1600. These differences are very noticeable on the road too.

At first a very inaccurate tachometer led us to believe that the car could achieve maximum revs in fifth gear in any direction. After correcting this error —500 rpm at 650 rpm—we found that the car just pulled full revs in one direction. The mean maximum was a respectable 110.8 mph, but this is largely a matter of academic importance as the overall gearing of our test car was so low as to limit severely the car's high-speed cruising capabilities.

At a true 100 mph, for example — 108 mph on the optimistic speedometer — the engine is running at a very fussy 5700 rpm in fifth when it should be spinning at less than 5000 rpm. Even the 4.1 : 1 final drive ratio of the very latest cars will still give only 18.4 mph/1000 rpm in top, not much more than the 18.0 mph of a standard Dolomite with its four speed box and lower performance. Moreover, fourth and fifth gears remain much too close together, the difference between them being a mere 660 rpm at 90 mph. The gearchange is good, however, and although the tunnel-mounted lever felt a bit sticky at times, the gate is well defined.

Fiat Spider B.V.

MOTOR ROAD TEST NO 45/73 • FIAT 124 SPORT COUPE 1800



		ft	in	cm
A	overall length	13	7	410.0
B	overall width	5	6	167.8
C	unladen height	4	5	134.6
D	wheelbase	7	11½	242.5
E	front track	4	5	134.8
F	rear track	4	4	132.1
G	com seat to roof front	3	3½	99.7
H	com seat to roof rear	2	11¾	90.9
I	pedal to seat max	1	8	50.8
	pedal to seat min	1	2½	36.8
J	kneeroom max		10¾	27.3
	kneeroom min		4¾	12.1
K	front to back seat max	2	4¾	73.0
	front to back seat min	1	11½	59.7
L	front elbow width	4	5½	136.0
M	front shoulder width	4	1½	125.8
N	rear elbow width	4	5½	136.0
O	rear shoulder width	4	0	122.0
P	min ground clearance		5½	14.0
Q	boot capacity	7.2	cu ft	

PERFORMANCE

CONDITIONS

Weather	Fine wind 5-10 mph
Temperature	60-66° F
Barometer	29.8 in. Hg
Surface	Dry

MAXIMUM SPEEDS

	mph	kph
Mean	110.9	178.2
Best one way	113.7	182.8
Terminal speeds :		
at ¼ mile	81	130
at kilometre	100	161
at mile	103	166
Speed in gears (at 6500 rpm) :		
1st	27	43
2nd	48	77
3rd	74	120
4th	101	163

ACCELERATION FROM REST

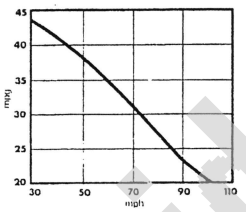
mph	sec	kph	sec
0-30	2.8	0-40	2.0
0-40	4.3	0-60	3.9
0-50	6.5	0-80	6.4
0-60	9.2	0-100	9.5
0-70	12.4	0-120	14.3
0-80	16.5	0-140	20.2
0-90	22.1	0-160	32.9
0-100	33.3		
Stand'g ¼	17.0	Stand'g km	32.0

ACCELERATION IN TOP

mph	sec	kph	sec
20-40	12.0	40-60	7.0
30-50	10.9	60-80	6.3
40-60	9.8	80-100	6.4
50-70	9.8	100-120	6.4
60-80	10.8	120-140	7.6
70-90	12.3	140-160	10.9
80-100	16.1		

ACCELERATION IN 4TH

mph	sec	kph	sec
20-40	8.4	40-60	5.4
30-50	7.8	60-80	4.7
40-60	7.6	80-100	4.6
50-70	7.5	100-120	5.2
60-80	8.2	120-140	6.0
70-90	9.7		



FUEL CONSUMPTION

Touring*	31.3 mpg 9.0 litres/100 km
Overall	23.0 mpg 12.3 litres/100 km
Fuel grade	101 octane (RM) 5 star rating
Tank capacity	9.9 galls 45 litres
Max range	310 miles 499 km
Test distance	960 miles 1545 km

* Consumption midway between 30 mph and maximum less 5 per cent for acceleration.

SPEEDOMETER (mph)

Speedo	30	40	50	60	70	80	90	100
True	28.5	38	47	56	65	74	83	92

Distance recorder : 3.5 per cent fast.

WEIGHT

	cwt	kg
Unladen weight*	19.8	1006
Weight as tested	23.5	1194

* With fuel for approx 50 miles.

Performance tests carried out by Motor's staff at the Motor Industry Research Association proving ground, Lindley.

GENERAL SPECIFICATION

ENGINE

Cylinders	4 in line
Capacity	1756 cc (107.1 cu in.)
Bore/stroke	84.0/79.2 mm (3.31/3.12 in.)
Cooling	Water
Block	Cast iron
Head	Light alloy
Valves	Twin ohc belt driven
Valve timing	
inlet opens	15° btdc
inlet closes	55° abdc
ex opens	55° bbdc
ex closes	15° atdc
Compression	9.8 : 1
Carburetter	Weber 34 DMS
Bearings	5 main
Fuel pump	Mechanical
Max power	118 bhp (DIN) at 6000 rpm
Max torque	113 lb ft (DIN) at 4000 rpm

TRANSMISSION

Type	5-speed manual
Clutch	8.4 in., sdp, diaphragm spring
Internal ratios and mph/1000 rpm	
Top	0.88 : 1/17.5
4th	1.00 : 1/15.5
3rd	1.36 : 1/11.4
2nd	2.10 : 1/7.4
1st	3.67 : 1/4.2
Rev	2.53 : 1
Final drive	Hypoid 4.3 : 1

BODY/CHASSIS

Construction	Unitary all steel
Protection	Electrophoretic and primer coats, PVC based underbody and sill finish

SUSPENSION

Front	Independent by wishbones, coil springs, and telescopic dampers
Rear	Live axle with four link location, Panhard rod, coil springs and telescopic dampers

STEERING

Type	Worm and roller
Assistance	None
Toe-in	1-5 mm
Camber	0-6 mm
Castor	3° 30′ ± 20′
King pin	6°

BRAKES

Type	8.9 in. discs all round
Servo	Yes
Circuit	Twin
Rear valve	Yes
Adjustment	Self-adjusting

WHEELS

Type	Pressed steel 5J-13
Tyres	165HR13 radial ply
Pressures	28 psi

ELECTRICAL

Battery	12V, 45 ah
Polarity	Negative
Generator	Alternator
Fuses	9
Headlights	55/55W QI

COMPARISONS

	Capacity cc	Price £	Max mph	0-60 sec	30-50* sec	Overall mpg	Touring mpg	Length ft in	Width ft in	Weight cwt	Boot cu ft
Fiat 124 Coupe 1800	1756	2017	110.9	9.2	10.9	23.0	31.3	13 7.0	5 6.0	19.8	7.2
Triumph Dolomite Sprint	1998	1811‡	112.7	8.4	8.0	23.0	26.1	13 6.0	5 2.3	19.8	9.4
BMW 2002	1990	2399	107.4	9.2	7.4	24.0	27.5	13 10.5	5 1.5	20.2	10.8
Ford Capri 3000 GT	2994	1651	119.5	8.6	7.7	19.4	24.7	13 11.8	5 4.8	21.1	7.8†
Alfa Romeo Giulia Super	1570	1950	107.6	11.0	12.8	22.9	26.8	13 7.0	5 2.0	20.8	—
Mazda RX-4 Coupe	2292	2050	104.8	10.7	10.2	14.3	20.3	14 2.0	5 6.0	20.7	9.5
Opel Manta Rallye	1897	1741	104.7	11.4	8.1	24.9	30.9	14 2.8	5 4.5	18.2	9.9

*in top (fifth for Fiat and Alfa) †measured with boxes ‡£1740 without overdrive

Make : Fiat.
Model : 124 Sport Coupe 1800.
Concessionaires : Fiat (England) Ltd., Great West Road, Brentford, Middx.
Price : £1693 plus £141.08 car tax plus £183.41 VAT equals £2017.49.

A higher fifth gear would also help to improve fuel economy above the 23.0 mpg overall consumption that we achieved — almost exactly the same as for the older 1600 model and equivalent to a range of 230 miles on the 10-gallon tank. But the 1800 was more thrifty at constant speeds and so achieved a better 29.7 mpg touring consumption value.

The earliest 124 Coupes were taut little cars, well balanced and very responsive. Later models were faster but the rear anti-roll bar was dropped, we assume for the sake of better traction on tight corners, and the cars began to understeer a little too much for our liking. While the ultimate roadholding limits of the Coupe 1800 are quite high, it tends to understeer even more than ever on dry roads, making the steering feel very low geared. On wet roads it's a different story, and the Coupe 1800 is just a little too ready to swing its tail out under power, requiring very rapid applications of opposite lock.

Fiat still insist on providing the all-disc system of the 124 Coupe with far too much servo assistance which makes it very difficult to use the brakes smoothly all the time. They stopped the car well, however, and did not fade. While the driving position is poor — all our drivers complained that the pedals were too near the seat, while the steering wheel was rather too far away and too upright for some — the seat provides good lateral location and the front passenger was invariably comfortable. The pedals are reasonably well aligned with one another, even if they are in the wrong place, and the other main controls are well situated. Three stalks govern lighting, the indicators and the washers and wipers.

The 124 Coupe provides fair accommodation for four adults and is not quite the cramped two plus two which its appearance might suggest. There is a fair amount of oddments space within the car, too, and the restyled rear end, whatever you think of it from an aesthetic point of view, certainly makes boot-loading an easier task. Instead of being just a flat lid, the boot cover now wraps round the back to make a much lower loading ledge.

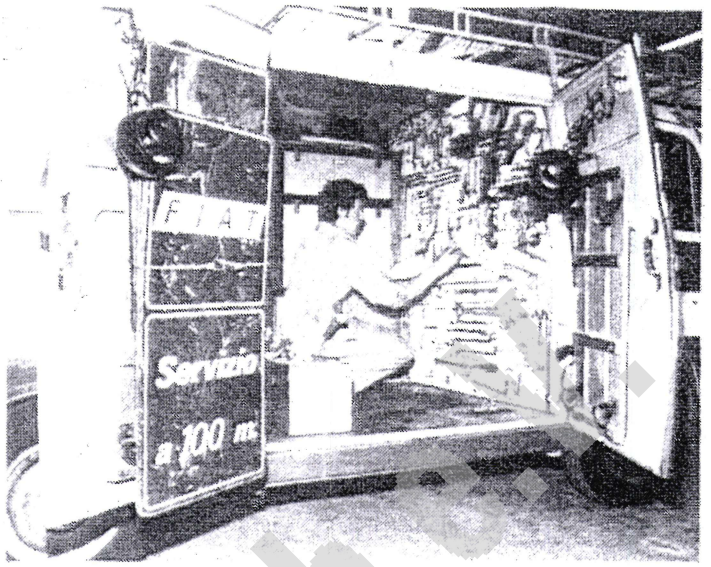
The body feels well insulated from road noise, engine noise, and wind noise at all speeds and the ride is firm but generally good. The front end feels a bit underdamped on some surfaces but this fault is not serious. Occasionally a sharp jolt to the rear seat passengers betrayed lack of resilience in the rear suspension.

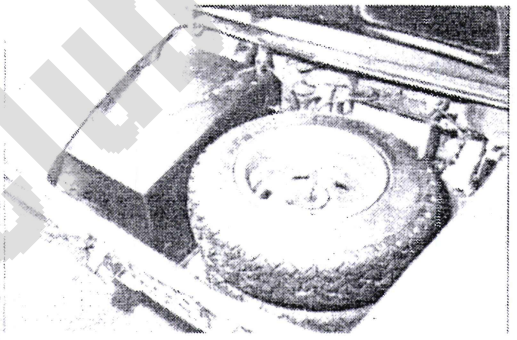
The latest models have an improved air extractor system which takes a little of the rear side window space without affecting the good visibility from the driver's seat. However, the ventilation outlets are rather small and their throughput too modest to keep the interior comfortable in hot weather.

Fiat124Sport.com

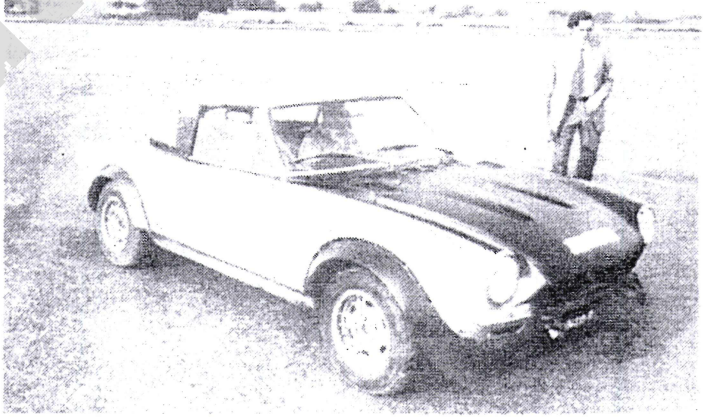
FIAT GOES RALLYING

Too heavy, not enough power . . . the critics were wrong. Fiat and Abarth developed the 124 Spider into a formidable rally weapon





Above : the works team have two of these magnificently equipped support vans, plus four 125 saloons as service cars. Right : a works Abarth 124 Rally Below : a test driver demonstrates the handling and performance of a works rally car



When Fiat went Grand Prix racing, they did so with cars that were technically so advanced that the opposition was continually tempting away their chief engineers to design rival machines. In rallying, however, they have concentrated on the development season by season of a very good but orthodox production car, the 124 Spider, into one capable of taking on the rear-engined Alpine and Porsche and the front-engined front-wheel drive Lancia.

They began rallying the Fiat 124 Sport Spider in 1970, choosing this model because of its rugged contruction. Even so, experience showed that the hull could do with some strengthening at various points, and all these modifications were later incorporated in the Fiat Abarth 124 Rally which went into production at the end of 1972. In addition to the strengthened hull, the Abarth 124 Rally is powered by a 1756cc engine in place of the 1600cc engine with which the normal Spider had been fitted, and with independent rear suspension, specially developed by Abarth for the car. Fiat bought control of Abarth two years ago, and since then the Fiat competition department has been housed in a special section of the Abarth works.

After two seasons of development, the Fiat rally team really made its mark in 1972, winning the European Drivers' Championship with Pinto and Macaluso, and finishing 2nd to Lancia and ahead of Porsche in the International Manufacturers' Rally Championship. All of which was achieved with the normal 1600cc 124 Spiders. With the advent of the rally-developed Abarth 124 Rally for the works team in 1973, Fiat were justified in hoping for even better results.

The works cars are further developments of the production Abarth Rally. No changes are made to the hull which now that it has the additional strengthening and such rally-developed features as a flat bottomed fuel tank, is rugged enough for the job. So rugged, in fact, that the team use the same cars throughout the entire season—unless something drastic should happen to them. For instance, one car needed replacing after the Portuguese TAP Rally last March during which Waldegard went off the road and 180 yards down the side of a mountain where the car rests to this day.

Minor modifications include transferring the battery to a shelf in the boot on the rear bulkhead and mounting the electric fuel pump alongside. The switches, too, are grouped on a single panel in the cockpit. The engines are specially prepared by Abarth and in 1800 form are developing around 171-176 bhp. Fiat now also have an 1850cc engine with bigger valves and Kugelfischer indirect fuel injection from which they are hoping to get 190 bhp. The works cars also have an oil cooler incorporated in the bottom of the radiator block and a separate tank into which oil vapour is fed. The worm and roller steering box, too, is modified to provide a ratio of 12:1 instead of 16.4:1.

No major changes are made to the suspension, but constant development takes place, mainly in trying various spring rates and damper settings. The road holding is now very good, but chief engineer Fernando Russo who has taken over the running of the team from engineer Giovanni Sguazzini says they do not believe they have yet achieved the best that is possible in this direction. Engineer Sguazzini is director of the technical department of Fiat's passenger car group and his increasing responsibilities have left him with insufficient time to run the rally team as well. But that he should have been doing so emphasises the very close liaison between the competition department and the production engineers who make considerable use of the rally cars for testing and development. As a result, the lessons learned in rallying have proved most useful and have been applied to production cars.

Before he took over complete control of the team, engineer Russo had been Sguazzini's chief aide, overseeing the preparation of the cars and then running the team in action. He told me they start the season with 28 cars, 14 for recceing and 14 for competing. These are all works entries, for the department does not prepare cars for private entrants, but in addition to the Group 2 and Group 4 cars for international rallies, Fiat also run Group 1 cars in the Italian Rally Championship which they have won four years in succession.

The cars are prepared by 34 skilled mechanics, and there are four separate departments for the preparation of the engines, electrics, mechanical items and the body, each in the charge of its own foreman.

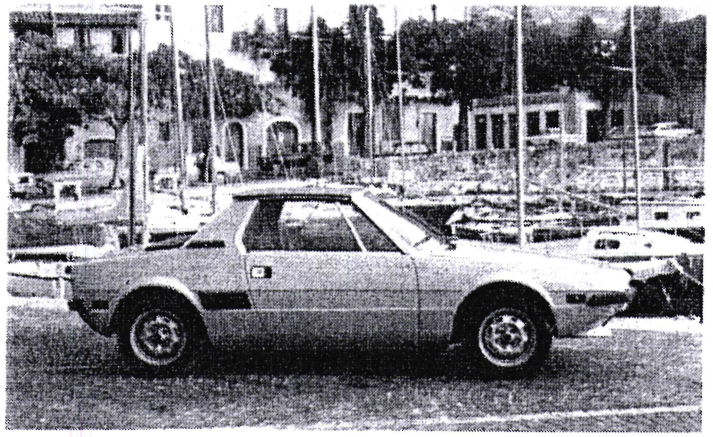
At the time of our visit most of the team cars were away competing in the San Remo Rally, in which they finished 2nd, 4th, 5th and 6th. The chief tester took me for a run in one of the cars that had been left behind, however, and demonstrated its performance by violent acceleration up and down one of the runways of the airport adjacent to the Abarth factory which Fiat use for testing. He then demonstrated the road holding in spectacular fashion by a series of high speed swerves from side to side of the runway followed by some spin turns. From all of which I emerged impressed by the rugged stability of the car as well as by its vivid performance.

Talking of future plans engineer Russo said they were against prototypes in rallying, and although the use of Groups 2 and 4 cars was okay, they would be very happy if international rallying was in future restricted to Group 1 cars. He did not think Fiat would enter for the 1974 World Cup Rally, but they were considering running some 124 Abarth Rallies in the next East African Safari.

Fiat Abarth Club U.K.

Take a pair of sparkling cars

In the Dolomites with a Fiat X1/9 and a Fiat Abarth Rally





Ever since the late 1950s when I used to pursue the Liege—Rome—Liege Rally over the Gavia, Stelvio, Giaur and other passes, I have been in love with the Dolomites which provide the finest mountain motoring I know. Where better, then, to try two of Fiat's most advanced sports cars during the course of a recent week in Turin? About midday on a fine but somewhat hazy Wednesday, I settled behind the wheel of a lime green X1/9 outside Turin's principal hotel, the Excelsior Principe di Piemonte, Maurice Rowe belted himself in alongside and we eased out into the traffic stream and headed for the Milan-Brescia autostrada.

First impressions were of the ample leg room, of sitting deep down in the car with the merest trace of vibration from the engine immediately behind one's back, and of the very live and responsive steering. Add a very willing and responsive engine and a slick gear-change, and the result was deep, deep pleasure. We sang down the autostrada past Milan with the rev counter needle hovering around the 5500 rpm mark at which speed the car seemed to settle happily and feel as though it would run for ever. A harder pressure on the throttle sent the revs round to 6000.

We decided to drive up the right bank of Lake Garda, so turned off the autostrada at Peschiera and headed north. The road ran inland for a while but then swooped down to the shore of the lake just before Torri del Benaco where we stopped on the quay by the moored yachts under the shadow of a 14th century castle. Then on to Riva at the head of the lake as dusk was falling, there to spend the night.

Fiat had arranged with what seemed like almost magical improvisation that a Fiat Abarth 124 Rally complete with driver would be waiting for us at our hotel at 8 am the following morning, having come from the Bolzano Fiat agency, and at 8 am or just before there was the pale blue car with its matt black bonnet top and there was Copelleto Neiro, the local test driver. He spoke no English, but was immensely helpful as we went into a huddle over the large scale map of the Dolomites spread out on the hotel reception counter.

Above: the tranquil beauty of our tea stop at Torri del Benaco on the east shore of Lake Garda. It was the end of the season, but the harbour was still full of moored pleasure craft

Above right: the pop-up headlamps light up the dusk as we pause at the top of Lake Garda

Right: much of the Dolomite country is more Austrian than Italian in spite of forming part of Italy. Corvara's church, however, is Italian rather than Tyrolean in style



Taking his advice, we sped up the autostrada to Ora, about 10 miles before Bolzano, then headed into the mountains. We went steadily upwards with the 124 leading, first through the trees then out into more open country.

Soon, the mountains came into view, sharp and jagged in characteristic Dolomite fashion. We had climbed above the early morning haze down by Lake Garda and were now motoring in warm sunshine under a cloudless blue sky. So we came to the Pordoi, one of the highest of the Dolomite passes for it climbs up to 7347 feet, winding its way up lacet after lacet. I thoroughly enjoyed myself with the X1/9, on both the climb and the downward plunge afterwards, for surely there is no greater contrast with motorway motoring than this supreme form of mountain motoring which demands that the car should be kept alive the whole time with a nice co-ordination between throttle, steering and brakes, with just the correct placing on the approach to a climbing hairpin so that it can be swung round and up without losing momentum. The beautifully balanced X1/9 with its light steering and excellent handling was sheer joy to drive in such conditions; rarely have I enjoyed my motoring more.

We paused for photography just below the summit of the pass, with the massive bulk of the towering Sasso Pordoi forming a most impressive background. After lunch in Corvara at a typical Tyrolean style inn, we took the top off the X1/9, a simple operation involving only the releasing of two catches above the windscreen. The light glassfibre roof can then be slid out of its lugs in the sturdy anti-roll bar at the rear and then housed in the front luggage compartment above the luggage. Maurice had been worried lest his vast light alloy case containing his cameras took up the entire luggage space on the X1/9 but in fact there is much more room under the "bonnet" than we had expected.

We found the rear luggage compartment behind the engine would also take many odds and ends, but

Fiat 124 Sport Club G.B.



Standing by a works Fiat Abarth 124 Rally in a courtyard in the centre of the Fiat Competitions is the head of the department, Ing. Fernando Russo

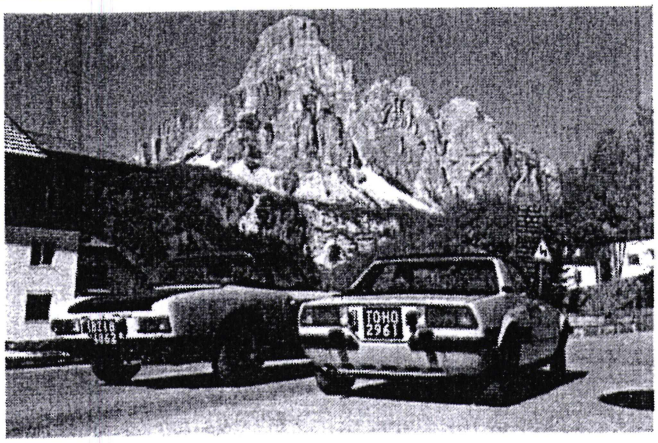


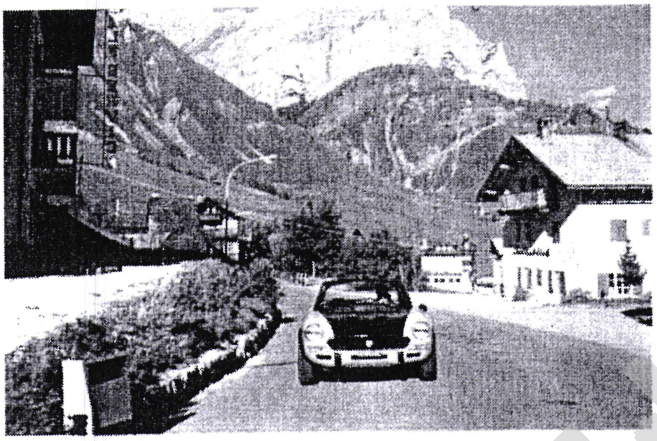
Normally, both sides of this long shop are lined with Abarth Rallys being prepared for next event; at the time of our visit most of them were competing in the San Remo Rally



A Fiat Abarth 124 Rally driven by the works crew of Barbasio and Macaluso in action in the 1973 Elba Rally

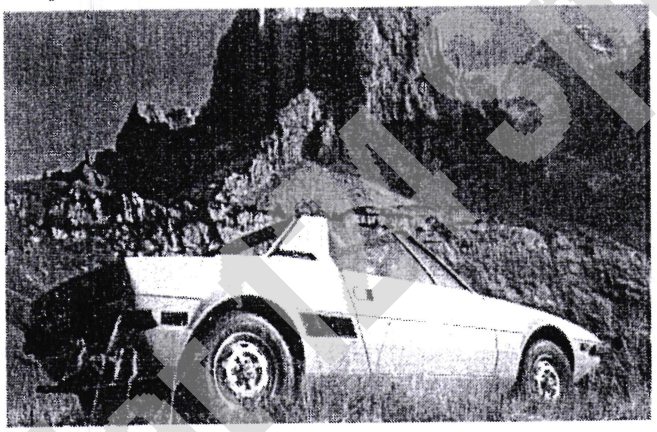
Fiat 124 Spider Store e.V.





Top: the pair of Fiats wait for us under the shadow of a typical Dolomite mountain

Above: the Fiat 124 Abarth Rally with Turner at the wheel pursues the X1/9 through a Tyrolean-style village





Left: behind the Fiat 124 Abarth Rally tourer, three jagged pinnacles of that special Dolomite limestone from which the mountains take their name

Far left: the sun gleams on the wedge shape of the X1/9 which owes its design as much to the wind tunnel as the styling studio

Below: a final stop en route to Bolzano to replace the X1/9's roof



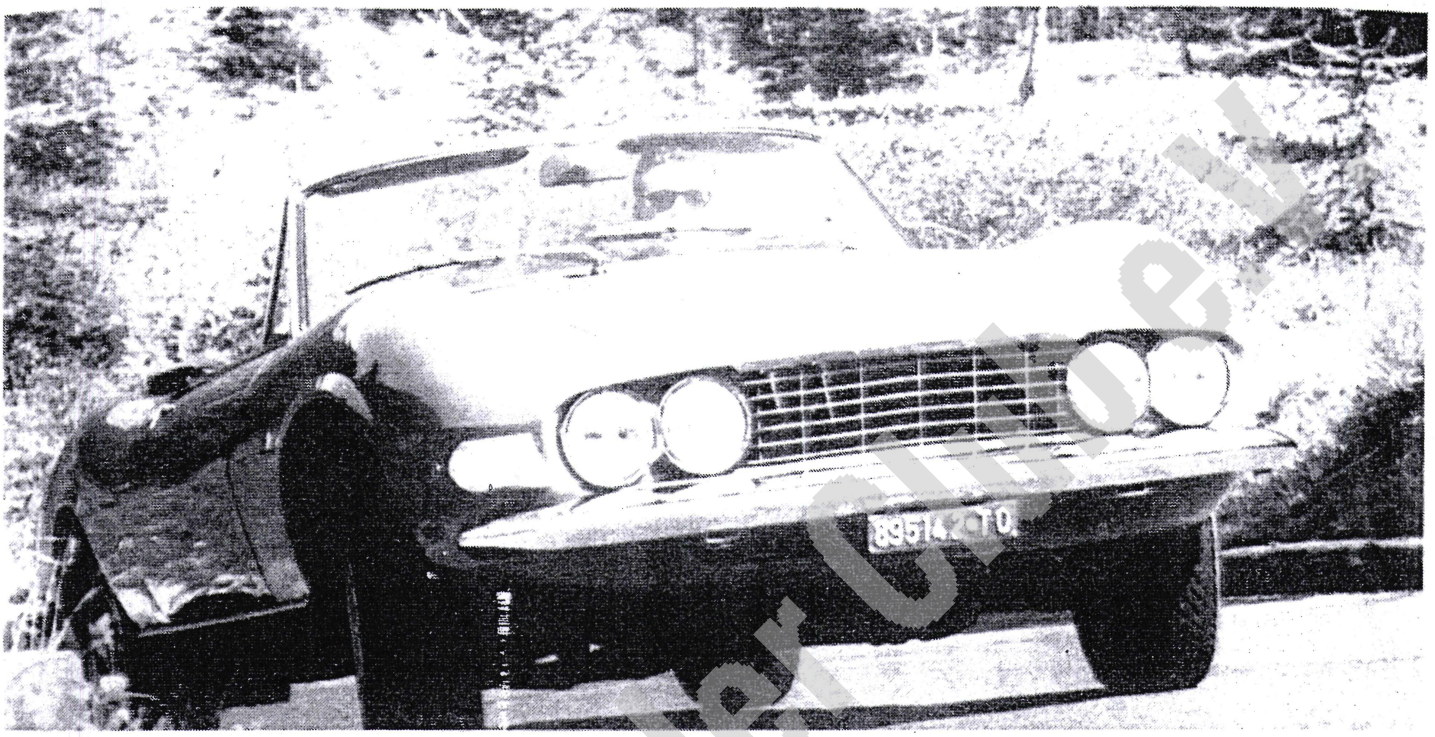
you have to be careful what you put inside for the com- partment gets very hot.

The 124 Abarth Rally is a complete contrast to the X1/9 and feels very much what it is, a very rugged somewhat spartan competition car which will still be going strong after a thousand miles of hard rallying. Whereas the X1/9 has very close affinities with modern mid-engined competition cars, the 124 is a close relation of the rugged works Austin Healeys. A rather firm ride, a noisy transmission and steering that calls for the use of arm muscles and not just slight flexing of the wrists and fingers all put it into a familair and well-loved category. For there is ample power under your foot and if taken firmly in hand it can be swirled round corners at a surprising rate as I found when I followed the X1/9 up and down the Gardena and Sella passes. On the run back to Bolzano we stopped to replace the roof of the X1/9, then Niero led us on to the autostrada at Bolzano and we waved him good-bye at about 6.30 pm with some 250 miles of motoring ahead of us back to our Turin hotel in time for dinner.

We made it with five minutes to spare before the restaurant closed at 10 pm in spite of drifting fog on the autostrada on the last stage during which we came upon a full-scale pile-up with three separate clumps of crumpled cars and their occupants still standing in the road arguing the toss. The sheer comfort of the car was much appreciated at the end of what had been a long, hard, but most enjoyable day.

fiatprinter.nl e.v.

What Car? secondhand exotic/Fiat Dino



The marriage of Fiat and Ferrari

Think of Fiat and you think of nippy little saloons buzzing through the crowded streets of Italian towns. (Apologies to the Fiat 130 which is the exception that proves the rule!) Think of Ferrari and you think of powerful, elegant, high performance sports cars. Never the twain shall meet.

But they did meet, and with great success, in the Fiat Dino, a pure high performance sports car built by Fiat around an engine of Ferrari's. The story of this unusual marriage started in 1965 when Ferrari needed a 2-litre production engine cylinder block to enter the 1967 Formula 2 racing season.

The Ferrari V6 engine was at that time already very successful, having been produced in various sizes for nearly 10 years and used in sports car and hillclimb racing. Type-named the Dino after Enzo Ferrari's dead son, it was the ideal basis for a Formula 2 engine, but Ferrari were not in a position to produce the number needed for the engine to be considered as a production unit.

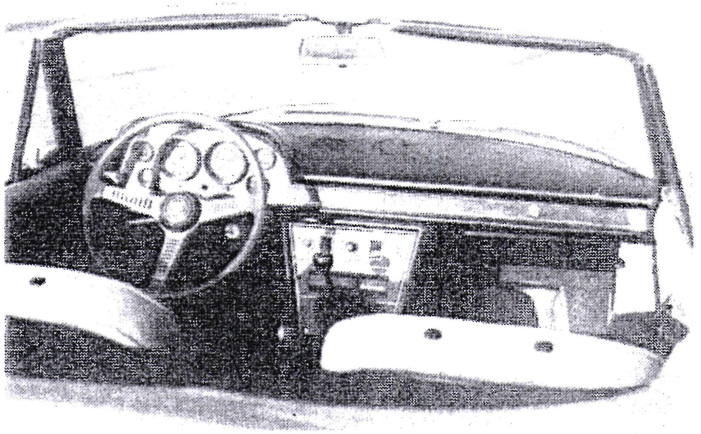
So Ferrari gave Fiat an engine and asked for their help. Fiat engineers redesigned the engine for mass production and set about producing a car to go round it. Pininfarina was called in to style the body and the result was the very beautiful and extremely potent Fiat Dino Spider.

The first Dinos were 2-litre cars with the six-cylinder four overhead camshaft vee layout engine front mounted and driving through a five-speed gearbox. Disc brakes with servo assistance were, of course, fitted all round as the Dino was a 125 mph performer. The superb engine would run up to 8000 rpm without problems and Fiat excelled themselves in giving the car a suspension system that allowed it to have roadholding matching its straight line speed.

In 1969 the 246 version was announced with several major revisions. The engine was enlarged to 2418 cc with a cast iron block replacing the previous alloy one and independent rear suspension was fitted for the first time. The larger engine capacity meant that maximum power was produced at lower revs and the unit was much more flexible. Maximum power for the 246 was 180 bhp at 6600 rpm and 0-100 mph acceleration time was around the 22 secs mark, making it a very quick car.

The live rear axle of the early Dinos was quite a sophisticated affair, as proved by the car's fine cornering. But the independent system, with coil springs, radius arms and semi trailing links as well as the limited slip differential from the previous model, improved even on that.

Altogether, both the early and the 246 Dinos were highly sophisticated cars: carburation was by three Weber 40 DCN F6 carburettors, ignition system was transistorised and a brake pressure regulator allowed the balance between front and rear brakes to be adjusted.



The Dino cockpit is neat and functional, full instrumentation is perfectly placed

The Spider was strictly a sports car, although it did have two small seats behind the front pair. Complementing the open sports convertible Spider was a Bertone styled four seater coupe, longer and heavier, but of similar mechanical specification.

The Fiat Dino was never sold in Britain, only individual examples being brought across by enthusiasts in left-hand drive form. Pininfarina bodywork has the dateless air that only the leading Italian designers seem to be able to effect.

Engine noise rises rapidly when driven fast, but to the true enthusiast the sound is pure music, since it is the sound of a Ferrari engine doing the job it was built to do.

The Fiat Dino is no longer made, production having ceased in December 1972, but the magnificent engine lives on in Ferrari's own sports car, the Ferrari Dino — a mid engined two seater sports coupe that has a more powerful version of the engine.

Since the Fiat Dino was never marketed in England it had no British list price, and there are very, very few on the secondhand market. The price of those that do come up for sale is likely to be high — around the £3000 plus region for the Dino Spider 246, £2500 for the early live axle Dino Spider.

But it must rank as one of the best looking, front-engined sports cars ever made, and since open sports car seem, sadly, to be on the way out, it will probably be one of the last classics of its kind.

PAUL FRERE'S DIARY





Driving the Fiat 124 Abarth Rally

Though some two or three miles of bridges are still to be built between the Brenner Pass and Bolzano, a provisional road has been made to by-pass the section still to be completed so that the drive from Stuttgart to Turin is now all motorway, via Munich, Innsbruck, Bolzano, Verona, Brescia and Milan or, alternatively, Brescia and Piacenza. So with no speed limit on German "Autobahnen" and those in Italy being *very* liberally interpreted by everyone, the Carrera 3 litre which was the object of my previous Diary made light work of leaving Stuttgart after lunch and getting me to Turin in time for an admittedly rather late supper.

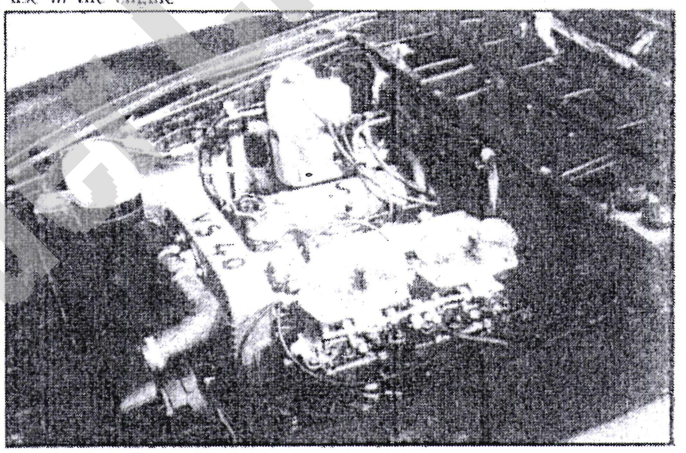
One of the reasons for my visit to Turin was to find out why the Fiat 124 Abarth Rally was such a successful rally car. Earlier this year, I wrote a Diary about the impressive Abarth-based Fiat competitions department, and this time Ing. Russo who heads the department had a fully prepared car ready for me to drive, its 1800 cc engine still fitted with the two-valves-per-cylinder head.

The car is, of course, based on the special Rally version derived from the standard Pininfarina-bodied 124 Spyder and marketed as the "Fiat 124 Abarth Rally." It differs from the more current version by having a lightened body with a firmly screwed-in hard top—still the work of Pininfarina—a twin two-choke carburettor version of the 1800 cc engine, independent rear suspension, modified front suspension, wider alloy wheels and a wider track, as well as other less important modifications. In this form, what originally used to be no more than a "nice little sporty car" (remember it started life with a 1438 cc engine) becomes quite a potent machine, good for 0 to 60 mph in just over 8 seconds and a standing kilometer in the higher 29 seconds bracket. The reason why this car exists at all is not really to provide fun for a handful of enthusiasts, but rather to provide the Fiat competitions department with a car from which a really potent rally machine can be developed within the framework of the existing rules.

This involves raising the power to over 180 bhp—and soon to some 205 bhp with the four-valve head—using different, very close ratio gear trains with dog clutches rather than synchromesh in the gearbox, lowering the final drive gearing, normal wear being 8/39 giving 13.6 mph at 1000 rpm in fifth, fitting a limited slip differential, replacing all rubber bushes in the suspension by Unibal spherical bearings, using wheels with 7 inch rather than 6 inch wide rims and 60 series Pirelli CN 36 tyres, fitting ventilated brake discs and alloy racing calipers all round and replacing the steering box with a higher geared one. One also notes a completely special instrument panel without a speedometer (is that legal?), but including a "Trip Master" and a host of switches for auxiliary lamps (there are six headlights serving various purposes), auxiliary fuel pumps, etc. The spare wheel is moved from the rear boot to behind the seats, where a huge fire extinguisher keeps it company, in order to make room for the special aluminium fuel tank and attendant filters and pumps.

As we were going to drive the car through Turin it had been fitted with what, in Italy, they call a "silencer," "But," said Ing. Russo, "it won't reduce the power by more than four or five bhp." I am quite prepared to believe this, as it did not seem to reduce the noise by any noticeable amount either! In fact, the noise in the cockpit was infernal, but not only due to the exhaust: the four unsilenced intake pipes seemed to be just as noisy, while the gearbox played an important part in this cacophony, definitely in Major because of the lack of any mats and sound proofing material. The absence of the latter two also helps the cockpit in quickly becoming an oven, heat coming in from everywhere, neither does the harsh suspension help the occupants to feel comfortable.

Business end of the Fiat 124 Abarth Rally car and (below) its 1800 cc twin cam 180 bhp engine. The VS 40 is merely the grade of oil Fiat use in the engine



Equally embarrassing is the fact that, in town traffic, the flashy, racy-looking machine you drive gets in everyone's way: at traffic lights and in the irregular flow of traffic, the Fiat 500s were zooming away from me, but there was nothing I could do, unless I made racing starts and made quite sure the revs would never drop below 5000 rpm and the decibels below, I suppose, somewhere near the same figure! In addition you had to be jolly careful not to get too close to the car in front as, push as you might, with the servo removed in the interest of more delicacy in modulating the braking, and with racing pads fitted, the car just wouldn't stop from city speeds.

Having at last reached the outskirts of Turin, we got on to the Autostrada to Ivrea, which was nearly as infuriating. Here, on a base marked out by Fiat, we timed the car over a quarter mile from a standing start, getting down to 16 seconds dead which could probably have been fractionally improved on. This is very creditable for an 1800 cc car weighing around a ton . . . and fitted with a "silencer." But that's about as far as it goes: when you reach the quarter mile mark, you are already in fifth and 100 yards later, the rev counter shows 7000: you are doing 95 mph and it's high time you lifted your foot. And as the engine certainly doesn't like being driven for miles on end at full revs and about quarter throttle, it is wise to lift your foot even more and cruise at 80 mph with the engine spinning at about 6000 rpm with next to nothing to pull, occasionally grasping the gear lever to try and find the non-existent sixth gear slot.

In Turin, we had been fined 5000 Lire for parking in the wrong place—the only place where you can park anyway. In Ivrea, the police stopped us: "Fair enough," I thought, "you can't get away for ever with raising such a hell



The roadgoing version of the 124 Rally (top) while below Verini and Torriani put the rally version through its paces on last year's San Remo



of a noise." The man was very polite and asked to see my driving licence. Then, spotting the receipt for the highway tax on the rear window, he apologised for stopping me, "but you should keep the receipt on the windscreen, where it is more visible," he said. Noise ? Who cares in Italy !

At last, we had reached the Alps and their sloping, winding and narrow roads. These are the roads for which the Fiat-Abarth Rally has been tailored. Suddenly we forgot about all the miseries we had gone through. We didn't feel the blasting heat any more and even the noise passed unnoticed—perhaps because on those deserted roads, it wasn't embarrassing any more. Even the suspension which had seemed non-existent when crossing tram lines in Turin showed up more favourably and actually absorbed the shocks when the car was driven fast enough. The quick steering, with only two turns from lock to lock is ideally suited to those winding roads with sharp bends and hairpins, specially as, despite the wide tyres, it isn't by any means heavy. But it is not solely responsible for the car's magnificent agility. The rally car's most impressive feature is the honesty of its road behaviour. Gone was the slight tendency of the standard Abarth-Rally to oversteer in fast curves. This remains as near neutral as can be imagined, whatever the cornering speed, though accelerating or lifting off at the right moment can influence the car's attitude and help save time by easing the tail around. But most impressive of all is probably the car's dynamic behaviour: driving it into a corner at speed is just a matter of chosing the desired line and steering accordingly: except if you go over the very high limit, the car will just keep on the chosen line without any need for the slightest correction.

The brakes always require a strong pressure, but they are up to the hardest task and you must be a real idiot to lock them. On those typical "special stage" roads where you hardly ever reach 90 mph, the quick, close ratio gearbox is, of course, just the thing. Thanks to the dog clutch engagement, the lever travel is very short and the engagement could hardly be quicker. A silent down change requires just a caricature of double-declutching (you just ease the clutch while accelerating and shift the lever into the required position), while up-changes are practically straight through: even a brutal change produces no more than a slight "clonk," as when changing up on a BMW motorcycle. Needless to say, the pedal arrangement is ideally suited to heel-and-toeing.

Bearing in mind the behaviour of the engine in city traffic, it is obviously essential to keep it revving in the 5000 to 7000 rpm bracket. There is little power below 5000 and below 2500 the engine will only just about pull first gear! Clearly, due to the considerable weight of the car, every ounce of power has been squeezed out of the engine, at the expense of middle range performance, which must keep the driver unusually busy on difficult special stage going. On the other hand, the sheer strength of the Fiat has more than once been an important asset in keeping it going where others fell to pieces.

Fiat 124 Spider Club e.V.



BRIEF TEST

FIAT 128 3P

A quick, economical and entertaining 1300 with a tailgate that adds greatly to its appeal and versatility. Faces stiff opposition from roomier, quieter cars costing less

Since the Fiat 128 was launched in March, 1969, no fewer than 2,400,000 versions have been manufactured and sold worldwide. Over 2 million of those have been sold in Italy alone. It is built under licence or assembled in 13 other countries. The present range of 128 models includes two- and four-door 1100 saloons, a 1300 saloon plus Special versions of each with deluxe interior trim as well as 1100 and 1300 estate car versions and a coupe. Previously called the Sport Coupe, this has now been replaced by the 3P.

It may seem strange that Fiat should have chosen the relatively low volume coupe as the version to revise first. The answer lies in the addition of a lift-up tailgate. Fiat believe that small and large cars have "traditional" customers while the medium and lower medium categories are appealing to more and more people with ever more diversifying demands. Adding a tailgate to the coupe was the obvious way of broadening the 128's appeal.

Although the new sleek bodywork makes the 3P (3 Porte or 3 door) look very different from the Sport Coupe it replaces, the cars share many common body parts. To keep costs down, Fiat have retained the same shortened and stiffened 128 saloon floorpan, the same scuttles, bulkheads and doors. Only the front and rear skin panels and the roof have been altered.

The back seat folds forward as in an estate, and Fiat have provided more room in the rear. They have also fitted more heavily contoured seats — both front and rear —though the interior is still recognisably 128. The facia is unchanged apart from the addition of a cigar lighter and the incorporation of an electric wash switch in one of the three fingertip stalks grouped around the steering wheel. A sad omission is a proper fresh air ventilation system; in the 3P you have to rely on air from the heater demister outlets.

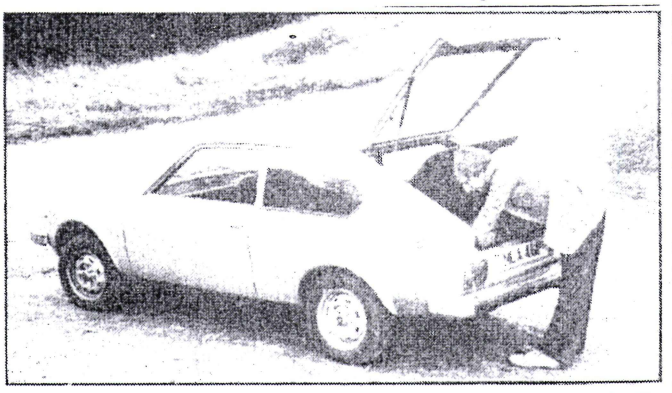
The similarities continue mechanically. The 3P's suspension (McPherson struts all round with coil springs at the front, a transverse leaf spring at the rear) remains unchanged. In order to reduce mechanical noise, the engine torque reaction arm now extends forward to the structure supporting the radiator rather than backwards to the passenger compartment bulkhead.

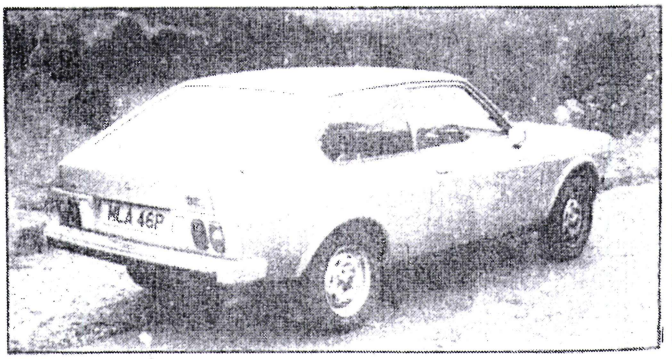
At £2145 the 128 3P is not cheap. But a spokesman for the concessionaires was anxious to point out that it is Fiat's intention to keep this price unchanged for some time, certainly past the next round of price increases. In which case, the 128 3P will, perhaps, look better value against such British cars as the Hillman Avenger GT 1600 (not yet tested but currently costing £1925) and the faster but less economical Ford Capri 2000 GL (£2158).

Our main criticisms are of the low overall gearing (high speed cruising is unnecessarily fussy) and the high noise levels within the car. The engine is obtrusive when revved hard and we were disappointed with rattles and squeaks from the rear of the car over bumpy surfaces.

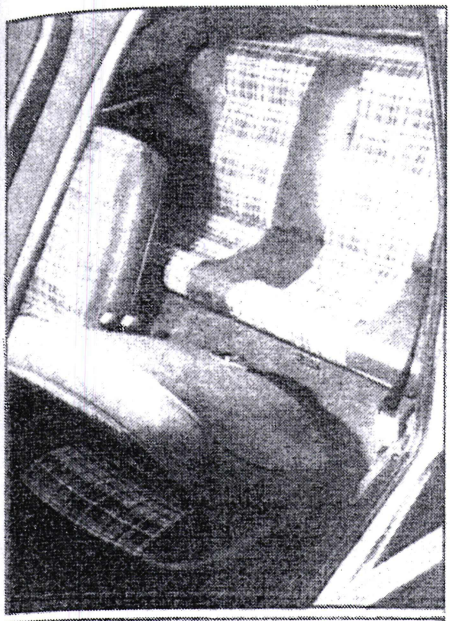
As befits a car with a strong sporting image, the handling and roadholding are excellent, though, and the performance little short of remarkable for only 1300 cc. The 128 3P is also very economical, even when driven hard, a virtue which will be of great appeal to many buyers. Another strong selling point will be the opening rear door.

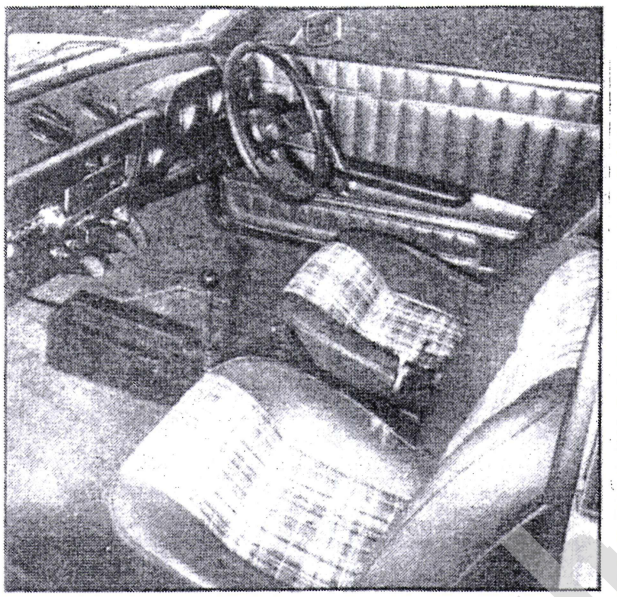
A new cylinder head featuring more compact, high turbulence combustion chambers is fitted to the 1290 cc engine of the 128 3P



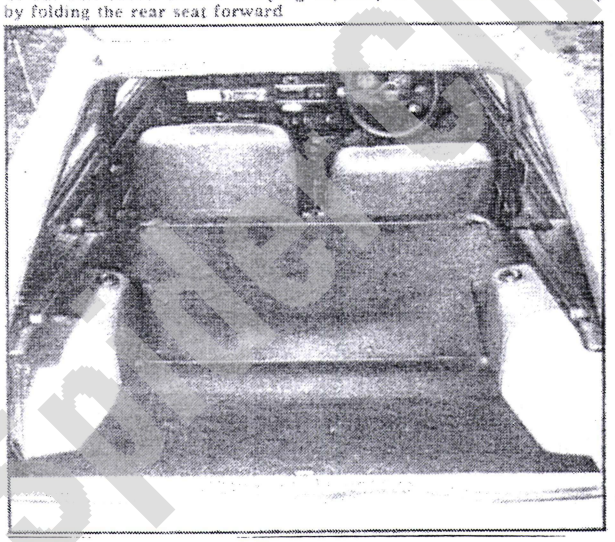


Fiat Spider Hub









Above left: legroom in the rear is very limited, especially if front seat passengers need a lot of room. Above: the front seats are comfortable and smartly finished. Left: the boot held 8 cu ft of our suit cases. Below: carrying capacity is increased enormously by folding the rear seat forward

(No 1116 cc versions of the 3P available in the UK). The new combustion chamber has allowed the compression ratio to be raised from 8.8 to 9.2 : 1 without affecting the engine's octane requirement (4 star or 97 octane fuel). These changes have resulted in a small drop in maximum power (from 75 bhp at 6600 rpm to 73 bhp at 6000 rpm) but a small improvement in torque (74 lb ft at 3900 rpm instead of 68 lb ft at 3600 rpm).

Our 128 3P lapped MIRA's banked circuit a little slower (97.3 mph) than the superseded Sport Coupe (99.0 mph) perhaps because of more adverse, windy conditions, as Fiat claim the top speed to be unchanged. Over this lap, the 3P had an average engine speed of 6500 rpm, disconcertingly near the recommended limit of 6800 rpm. During the 103.4 mph fastest quarter the engine ran up to 6900 rpm briefly, suggesting that in favourable conditions the car might well be rev limited. Higher overall gearing would not only reap an increase in maximum speed but markedly improve the car's cruising ability. At present, 85 mph or so is a realistic cruising limit.

Despite the 3P's extra 0.6 cwt, the engine modifications have improved acceleration. The car reached 60 mph from a standstill in 10.8 s (Sport Coupe : 11.3 s), and 80 mph in 21.1 s (22.4 s) — truly remarkable figures for a 1300. Low speed pulling power is better, too, the 30-50 mph top gear time dropping from 9.2 s to a brisk 8.4 s.

Like many Italian cars, the 3P has both a choke knob and a hand throttle. For starting from cold we used the choke alone and the engine always fired first time, but sometimes stalled immediately afterwards. Once started, the engine warmed up very quickly, taking less than a mile in the mild weather of our test. It revs very freely to its 6800 rpm limit but, like many small Fiats, is noisy and furry when extended.

On the 128 3P, Fiat fit a progressive twin-choke carburetter. In order to open the second choke, you have to push the throttle quite hard at the end of its travel. The transition from first to second choke was sometimes disconcertingly abrupt — fierce enough to break traction at the front in the wet in second gear, for instance.

Overall, the 3P averaged 30.2 mpg — a great improvement over the Sport Coupe's 26.7 mpg, and a very creditable figure considering our hard driving. Gentle drivers should be able to equal or better our touring consumption figure of 33.8 mpg. A generous 11 gallon tank allows up to about 370 miles between fill-ups.

When the engine and gearbox are warm, the gearchange is a delight to use. The lever moves freely through a well-defined gate and when the car's on the move, the synchromesh is unbeatable and baulk-free. At standstill, however, the old problem of selecting first remains, particularly when the gearbox oil is cold. This tendency can be infuriating when a quick start is required at traffic lights.

Some drivers criticised the strong spring detent which has to be overcome to select reverse. You have to push down on top of the lever and move it across to the right and back. The lower seating position in the coupe makes this more difficult than in the saloon. We all disliked the clutch pedal position — it's high up and swings through an arc that allows your foot to slide off the top.

At the engine's maximum speed, the 3P achieves 30, 48 and 73 mph in the intermediate gears. While we have no quarrel with the spacing of these ratios — they're ideally suited to the sporting character of the car — we find it strange that the 3P still has the same overall gearing as the lowest powered 128 saloon.

Unlike the rest of the 128 range, the 3P has no anti-roll bar at the front and different steering geometry to reduce understeer and improve directional stability, particularly under hard acceleration. Certainly, the grabbing and tugging of the steering wheel in your hands as one or other of the front wheels spins on a slippery surface is much reduced, though still noticeable. The steering is heavy at parking speeds and has a rubbery feel around the straight ahead position — exaggerated by a lack of self-centring action at low speed.

But these are our only criticisms of the 3P's handling. It tends towards mild understeer under most conditions (though like most front wheel drive cars indelicate use of the throttle can cause the front wheels to lose adhesion and strong understeer to set in) and the change in attitude on lifting the throttle in mid-corner is mild; the nose gently tucks in. Roll is low and the car so responsive that it is a joy to drive along twisting roads. The roadholding is very good.

Under most circumstances, the brakes work well. They are sensibly weighted, progressive and powerful, if a little spongy in action. Under severe driving we didn't notice much fade, though the increase in pedal travel was at first a little disconcerting. Heavy braking provokes a grating noise, while the brakes squeal annoyingly when not in use. The handbrake was poor and needed to be fully on to hold the car even on a moderate gradient.

Allowing for the fact that the 3P has small overall dimensions, the accommodation inside the car is fair. Legroom in the front is limited—barely enough for a 6ft driver for instance—while with the front seats right back, the rear seat is very cramped for adults with leg, head and elbow-room all at a premium. Getting in and out of the back isn't easy either as the release for the front seat back (a button at its base) is difficult to reach and the space between the front seat and door pillar small. You also lose the backrest angle setting on the front seat when it is released.

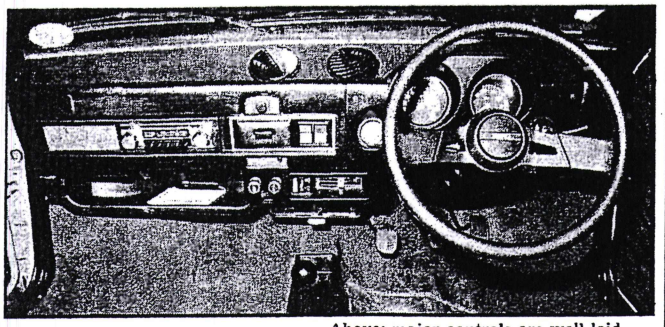
The rear seat itself is quite comfortable. As you sit fairly low down with your knees high up, Fiat provide a very large roll at the forward edge of the seat cushion to support your thighs.

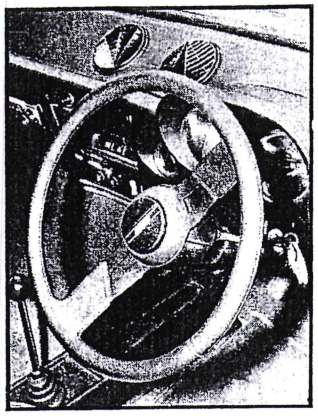
Supported by a gas-filled strut the tailgate rises high up lifting the rear parcel shelf with it. The boot so revealed (with the rear seat up) is quite large and free from intrusions.

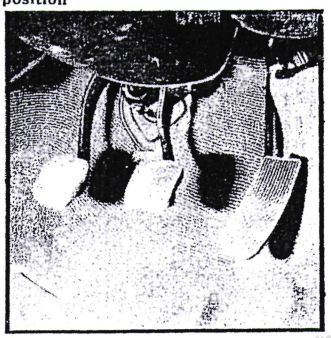
The parcel shelf may be removed completely, allowing tall objects or animals to be carried

Fiat Spider Club

MOTOR ROAD TEST No. 5/76
Fiat 128 3P







Above: major controls are well laid out, but some of the minor switches are a little scattered. Left: steering wheel has a mock-leather cover. Below: pedal angle spoils the driving position

In addition, the rear seat may be folded down like an estate. While it's possible to reach the catches for the backrest (one each side) through the rear hatch you have first to pull the cushion forward, something that can be done only through one of the front doors. The load area so obtained is flat and quite free of intrusions.

Were it not for the pedals, the driving position would be quite good. As they are the pedals are too high, and too close to the steering column, demanding the legs-bent driving position which characterises many of Italian cars. The seat is well shaped with good thigh and lateral support, but some drivers found the backrest to be wrongly shaped and ache-provoking.

Grouped around the steering column are three fingertip stalks which control most of the minor facilities—wash, wipe, indicators, dipswitch, headlamp flasher (which works on dip, not main beam) and so on. The lighting circuit is activated by a rocker switch mounted on the facia immediately adjacent to the hazard warning light switch; the two can be confused easily, especially at night. Also unsatisfactory is the siting of the heated rear window switch—hidden by the choke and hand throttle knobs.

Our test car was fitted with buckle-less seat belts with inertia reels concealed in the rear three-quarter panels. They were effective in use, if a little difficult to unreel from the drivers' seat.

Two large dials containing the speedometer and rev counter are provided directly in front of the driver, faced with sloping glasses and substantially reflection-free. They're easy to read and clearly marked. There are also two minor gauges—one for water temperature, one for fuel—but these create noticeable reflections during daylight. A good selection of warning lights is provided: low fuel; main beam; sidelights; indicators; low oil pressure; low charge and handbrake.

Although you sit low down in the car, seeing out presents few problems as the waistline is also low and the glass area large. The only blind spots exist around the rear three-quarter panels and they're not really significant. The wipers are painted matt black, clear a good area of the windscreen and have an intermittent wipe facility.

By modern standards, the 3P's heating and ventilation system is a bit too utilitarian. Distribution is controlled by pushing up or pulling down a flap beneath the heater—a good stretch for a belted-in driver even with the inertia reel belts fitted. The heat output seemed modest, though this is mainly due to the low throughput of air at low road speeds. Flow can be boosted by using the fan, but it is noisy on both speeds.

In addition, there is no independent ventilation system. Cool air can be obtained from the large swivelling vents on top of the facia, but it is very difficult to obtain the ideal warm feet/cool face condition.

Most criticisms were directed at the high noise levels within the car. The engine becomes obtrusive when working hard, road noise (both tyre roar and bump-thump) is prominent and we noticed a number of rattles and squeaks from the tailgate, exhaust system and rear seat back catches. There were other indications of poor assembly, too: a loose front number plate; and badly fitted heated rear window switch. In contrast, wind noise, even at high speed, was low.

PERFORMANCE

CONDITIONS

Weather	wind 5-20 mph
Temperature	48° F
Barometer	29.8 in. hg
Surface	Dry tarmac

MAXIMUM SPEEDS

	mph	kph
Banked Circuit	97.3	156.6
Best ¼ mile	103.4	166.4
Terminal Speeds:		
at ¼ mile	76	122
at kilometre	93	150
at mile	98	158
Speed in gears (at 6800 rpm):		
1st	30	48
2nd	48	77
3rd	73	117

ACCELERATION FROM REST

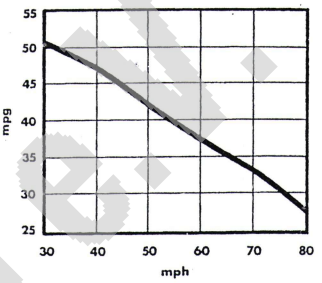
mph	sec	kph	sec
0-30	3.6	0-40	2.8
0-40	5.2	0-60	4.9
0-50	7.7	0-80	7.7
0-60	10.8	0-100	11.6
0-70	14.5	0-120	17.2
0-80	21.1	0-140	28.3
0-90	32.6		
Stand'g ¼	18.0	Stand'g km	34.1

ACCELERATION IN TOP

mph	sec	kph	sec
20-40	8.9	40-60	5.4
30-50	8.4	60-80	5.4
40-60	8.7	80-100	5.7
50-70	9.4	100-120	6.6
60-80	11.9	120-140	11.4
70-90	18.3		

FUEL CONSUMPTION

Touring	33.8 mpg 8.4 litres/100 km
Overall	30.2 mpg 9.4 litres/100 km
Fuel grade	97 octane 4 star rating
Tank capacity	11.0 galls 50.0 litres



Max range	372 miles 599 km
Test distance	986 miles 1584 km

* Consumption midway between 30 mph and maximum less 5 per cent for acceleration.

SPEEDOMETER (mph)

Speedo	30	40	50	60	70	80
True mph	29	38	47	57	66	76

Distance recorder: 2.9 per cent fast.

WEIGHT

	cwt	kg
Unladen weight*	16.4	833
Weight as tested	20.1	1021

* with fuel for approx 50 miles

Performance tests carried out by Motor's staff at the Motor Industry Research Association proving ground, Lindley.

Test Data: World copyright reserved; no unauthorised reproduction in whole or in part.

GENERAL SPECIFICATION

ENGINE

Cylinders	4 in-line
Capacity	1290 cc (78.8 cu in)
Bore/stroke	86.0/55.5 mm (3.3/2.2 in)
Cooling	Water
Block	Cast iron
Head	Light alloy
Valves	Sohc
Valve timing:	
inlet opens	12° btdc
inlet closes	52° abdc
exhaust opens	52° bbdc
exhaust closes	12° atdc
Compression	9.2:1
Carburetter	Weber 32 DMTR 32
Bearings	5 main
Fuel pump	Mechanical
Max power	73 bhp (DIN) at 6000 rpm
Max torque	74 lb ft (DIN) at 3900 rpm

TRANSMISSION

Type	4-speed manual
Clutch	Sdp, mechanically operated
Internal ratios and mph/1000 rpm:	
Top	1.042:1/15.1
3rd	1.414:1/10.8
2nd	2.235:1/7.0
1st	3.583:1/4.4
Rev	3.714:1
Final drive	4.0:1

BODY/CHASSIS

Construction	All steel unitary

SUSPENSION

Front	Independent by MacPherson struts, transverse arms, coil springs
Rear	Independent MacPherson strut transverse arms, transverse leaf spring

STEERING

Type	Rack and pinion
Assistance	No
Toe-in	0.5 ± 2.0 mm
Camber	1° 20′ ± 0° 30′
Castor	Zero
King pin	Zero
Rear toe in	Zero

BRAKES

Type	Disc/drum
Servo	Yes
Circuit	Dual
Rear valve	Yes
Adjustment	Automatic

WHEELS

Type	Pressed steel 13 x 4½ in
Tyres	Pirelli Cinturato P3 145 SR 13
Pressures	25½/24 psi

ELECTRICAL

Battery	12V 45Al
Polarity	Negative
Generator	Alternator
Fuses	10
Headlights	45/40W

Make: Fiat
Model: 128 3P
Maker: Fiat SpA, Corso Marconi 10, 10135 Turin, Italy
Concessionaire: Fiat (England) Ltd, Great West Road, Brentford, Middlesex.
Price: £1833.00 plus £152.75 car tax and £158.86 VAT equals £2144.61.

Fiat 128 Group e.V.



Fiat Turbo Spider 2000

Would you believe Fiat has changed its way of living?

• There is new handwriting on the wall at Fiat Motors of North America, Inc. It says, "Fiat wants to be your sports-car company." This replaces the old handwriting on the wall, which said, "Fiat wants to be your small-sedan company." If you are too far away from the head office to read the writing, you can drop by your local Fiat dealer and have a look at the new Turbo Spider. Company planners hope this freshly breathed-upon two-seater will carry the new message to every hamlet, burg, and ville in America.

The new handwriting is the result of either popular demand or popular lack of interest, depending upon how you look at it. Fiat's sports cars have enjoyed great success in this country—in fact, the Spider 2000 is not sold anywhere else—but the company always thought the two-seater fun car was much too frivolous a market for an automaker of Fiat's stature and solemnity. So it tried to low-profile the sportsters and push the sedans. It might just as well have been pushing harvard beets the way folks always seemed to find something else, thank you very much.

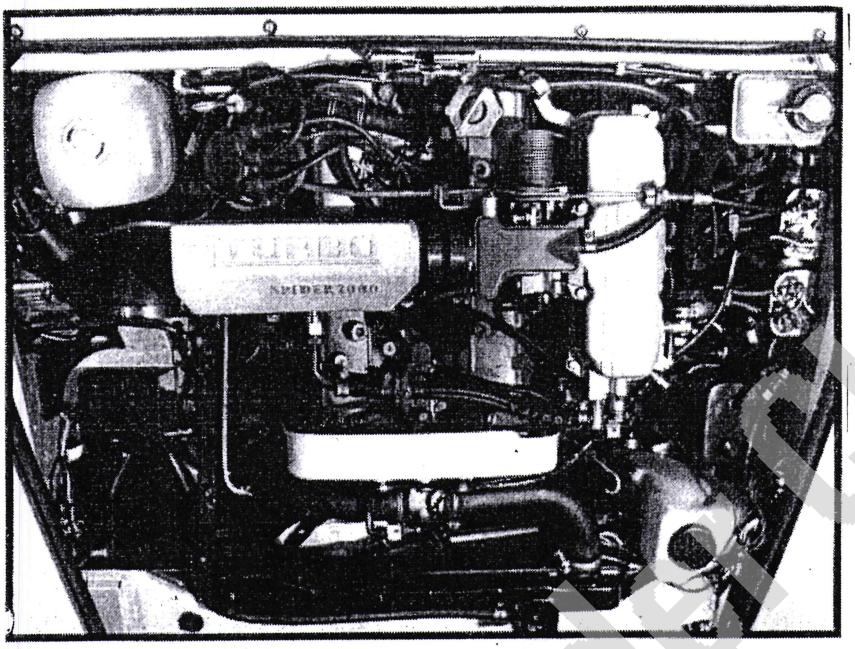
So in a burst of marketing genius, Fiat is changing the menu. Sports cars go to the top. Much updating of the two-seaters will be done in the next few years. But to make the right people get the message early, Fiat is making a big gesture up front: the Turbo Spider, planned for an April introduction if the final assembly and certification details go as planned.

Not only is this a radical step for Fiat, but it is also being accomplished in a radical way: the turbo conversion has been designed and fabricated by an independent American company (Legend Industries, Inc.), and it will be installed at the ports of entry. The regular factory warranty applies and spare parts will be available over the regular dealership counter, but the Turbo Spider is one Fiat that's never been seen in Turin.

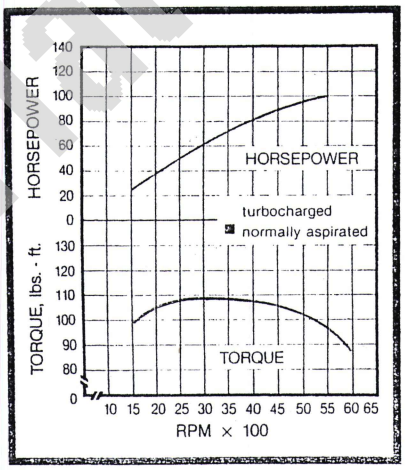
In fact, the turbocharger itself comes from Japan—an IHI unit marketed in this country by Borg-Warner. IHI is known for its exceedingly compact turbos, and the RHB6 certainly lives up to that reputation. Even with its integral waste gate it weighs only thirteen pounds, and the small-diameter turbines, in addition to not taking up much space, also minimize turbo lag.

In the Fiat, the turbo bolts to a special exhaust manifold and packages down tight against the right side of the block. The air meter for the Bosch L-Jetronic fuel injection stays in its original location. Air now goes through the meter

Fiat 124 Spider Club







down to the compressor, then up through a cast-aluminum duct over the cam covers to the original throttle body. It's a neat job.

The intent of the conversion was to give the Spider a torquey, big-engine feel rather than a rush of high-end horsepower. The boost starts at relatively low revs—about 1400 rpm if, say, you're climbing a hill in fifth at full throttle—and peaks at 6 psi just over 3000 rpm. In normal cruising the Spider responds quickly to the accelerator—small motions of your foot produce big changes in speed—and the result is quite pleasing. The power seems to tail off at the high end, however, so there is not much incentive to visit the redline. While our sports-car sensibilities draw us to the five-speed version, the turbo seems happiest with the automatic, which is also available, and in our testing the latter turned out to be marginally quicker. The pavement was damp in patches, which may have altered the results, but the closeness of the five-speed's ratios is a disadvantage for a turbo because the boost goes away whenever you shift. It was for this reason that Porsche used a four-speed on the 930 Turbo.

Of course, Fiat of Italy might have used a four-speed too, but that choice is not readily available to someone who installs a turbo at the port. In fact, the Turbo Spider has none of the modifications that are usually present in a factory turbo: no longer axle ratio, no lower compression ratio, no heavy-duty pistons, no enlarged cooling system, and no oil cooler. Detonation is controlled, says Legend Industries, by richening the mixture under boost and backing off the spark timing. The company also claims that durability testing has shown no other modifications to be necessary. This may be true. But the rated output of the turbo engine is 120 hp at 6000 rpm, up 18 percent over the stock engine, and it's clear that the extra 18 percent is being taken out of whatever durability margin was originally engineered in at the factory. There are those, some in this office, who would say that Fiat's customary margin can't stand any crowding.

We'll have to wait and see on that point. For now at least, Fiat Motors of North America, Inc., just hopes you'll drop by your local dealership and bask in the new emphasis. And if you should happen to see a Spider there that looks just a bit different from the others—bold pinstripes, 14-by-5.5-inch Cromodora wheels with 185/60 Pirelli P6 tires and a nice round boost gauge in the middle of the dash—that's the Turbo. You may also notice that the bottom line of its window sticker has crept over thirteen grand. The new emphasis at Fiat is not confined entirely under the hood.

—Patrick Bedard

Vehicle type: front-engine, rear-wheel-drive, 2-passenger, 2-door convertible
Price as tested: $13,000 (estimated)
Engine type: turbocharged 4-in-line, iron block and aluminum head, Bosch L-Jetronic fuel injection
Displacement ..... 122 cu in, 1990cc
Power (SAE net) ..... 120 bhp @ 6000 rpm
Transmission ..... 3-speed automatic or 5-speed manual
Wheelbase ..... 89.7 in
Length ..... 163.0 in
Curb weight ..... 2400 lbs

ACCELERATION (sec)

	0–60 mph	¼-mile
automatic	11.9	18.7 @ 73 mph
manual	10.9	18.1 @ 75 mph
automatic turbo	8.6	16.7 @ 80 mph
manual turbo	9.1	17.0 @ 81 mph

Fiat 124 Spider Europa

Pleasure Machines

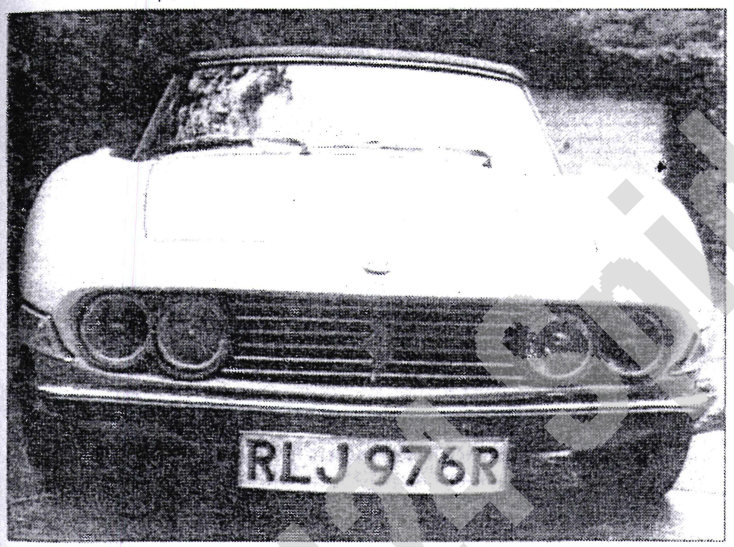
Ecco-Dino!

Fiat's fastest production car was powered by Ferrari – and is now a very rare sight on the roads of Britain

By Graham Robson

"TO ME it's a driving machine – a real pleasure machine. It's one of those cars that is great for providing revitalization. the engine is wonderful – it's like having your own orchestra to play tunes on – just like all Ferraris." Mike Morris is a mature and successful business man, and I wouldn't expect him to be exaggerating, but he was talking about his Fiat Dino Spider 2400, and meaning every word of it. But then, to own any Ferrari, or Ferrari-engined car, affects grown men like that – they do say that, in certain circumstances, there is no closer approach to legal drug taking than this!

The Fiat Dinos of 1966-1973 were the first, and only, Ferrari-engined Fiats ever built, and they originally came into existence for one reason, and one reason only. Ferrari wanted to go formula 2 racing in 1967, but the rules required an homologated "road car" engine to be used. For homologation, 500 cars had to be built in less than a year, and Ferrari simply wasn't making enough cars to



Above: Ferrari power, Fiat chassis – and bodywork by Pininfarina. This was the combination which produced the front-engined Fiat Dino, the ultimate in "homologation specials"

achieve this. (In any case, after the 250LM *debacle*, he could expect the CSI inspectors to count cars very carefully indeed). We now know that he turned to Fiat to help him, and that Fiat were more than willing partners in the enterprise.

The long and short of the deal was that Fiat (headed by Ing. Aurelio Lampredi, who had once worked for Ferrari) agreed to redevelop the engine, and put it into series production. Ferrari would produce a mid-engined Dino car, complete with Dino engine (but not badged as a Ferrari at first – this is a confusing story), while Fiat would produce front-engined Fiat Dinos, with Dino engines. To compound the choice even further, there would be two Fiats – a 2+2 Spider, with bodyshell by Pininfarina, and a close-coupled four-seater Coupé, with bodyshell by Bertone.

The Fiat Dinos were announced in 1966-67, and the Ferrari Dinos late in 1967, with final assembly of Fiats at the Fiat Rivalta factory, and of Ferrari Dinos at Maranello, but after Fiat bought 50 per cent of Ferrari's share capital in 1969 things became confused again, with Maranello taking over final assembly of Fiats as well – on separate production lines.

"The engines in Fiats and Ferraris are virtually identical", Mike Morris says, "but for marketing reasons the Ferraris had to be more powerful. The 2400 Fiat engine is billed at 180 bhp, the Ferrari at 195 bhp, but the camshafts have identical part numbers, and the only differences seem to be in jetting, and exhaust systems. I think the Ferrari figures were SAE gross, the Fiats DIN."

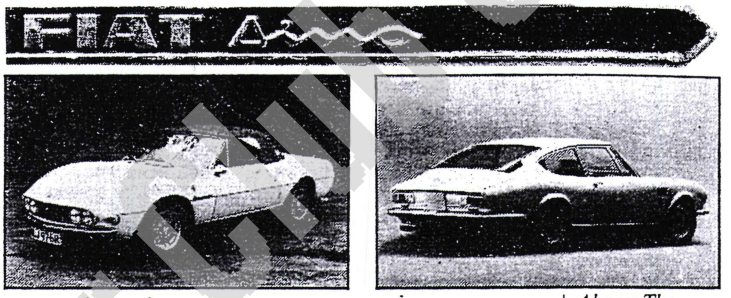
It doesn't matter that the figures say, the cars are very fast indeed. *Autocar* never formally figured either type – the 2.0-litre introduced in 1966, or the 2.4-litre which followed in late 1969 – but it seems clear that Mike Morris's type of 2.4-litre Spider could exceed 130 mph with ease, and by 1969 standards that was Supercar urge in anybody's language.

Ferrari and Fiat first got together in the spring of 1965, and the Fiat Dino was originally scheduled to be announced late in 1966, with 500 examples built (and homologated) by the beginning of 1967. As it happened, the announcement date was met, although the homologation slipped to the spring of 1967, but to all intents and purposes the project succeeded. In the end, in fact, it succeeded beyond Farrari's wildest dreams, for the following number of Fiat Dinos were built:

Dino Spider (Pininfarina) – 1,163 2.0 litres, 420 2.4 litres

Dino Coupe (Bertone) – 3,670 2.0 litres, 2,398 2.4 litres

Below: The famous – and original – Scuderia Ferrari badge appears above the model's name on the front wings, just ahead of the doors



Above: The convertible Spider body was built by Pininfarina, while the handsome four-seater, close-coupled Coupé was created by Bertone

– not forgetting:

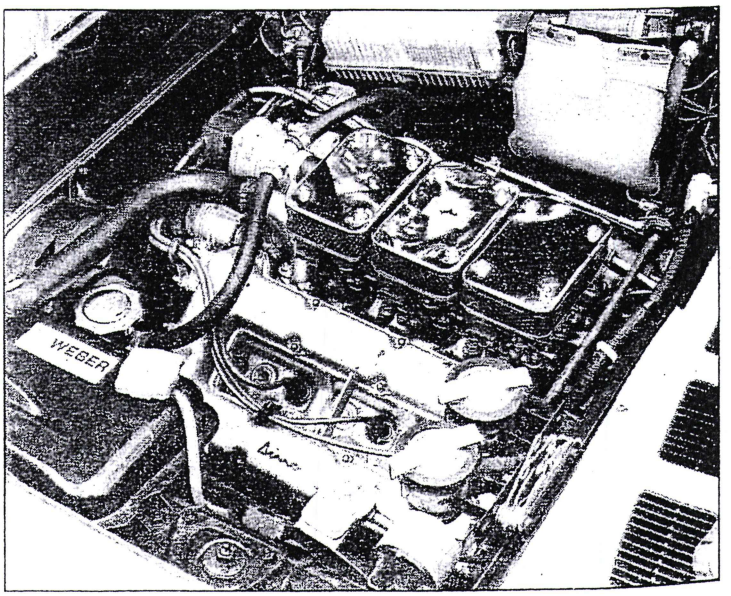
Ferrari Dino (Coupe and Spider) – 150 2.0-litre 206GTs, 2,732 2.4-litre 246 GTs, and 1,180 2.4-litre 246 GT Spiders

Lancia Stratos (Dino engined) – Approximately 500 built

However, because of the rush to get the car on sale, the Fiat Dino Spider (which was conceived first) was a real "parts-bin" job. The unit-construction underpan was based on that of the 124 Sport Spider (for which Pininfarina were also to make bodies for Fiat), front suspension was 125 saloon, the gearbox casing from the 2300, and the rear axle also a 2300 item, but the rear suspension was newly developed, and the body shell was stunningly curved by Pininfarina's artists. Original Fiat Dinos had all-alloy 1,987 c.c. engines, but the 2.4s which followed had iron-blocked 2,418 c.c. units. Indeed, there was more "parts-bin" engineering in the 2.4s which picked up the five-speed ZF gearbox from the 130 saloons, and the semi-trailing arm independent rear suspension from the same car.

Bertone coupés used a lengthened version of the same underpan, and the same running gear, but their own sleek

Below: The iron-block 2.4-litre V6 carries twin overhead camshafts in each alloy head, with the Dino designation each side and three downdraught, twin-choke Weber carburettors



Photocopied Guide

Ecco – Dino!

continued

body style, which sold in much higher numbers.

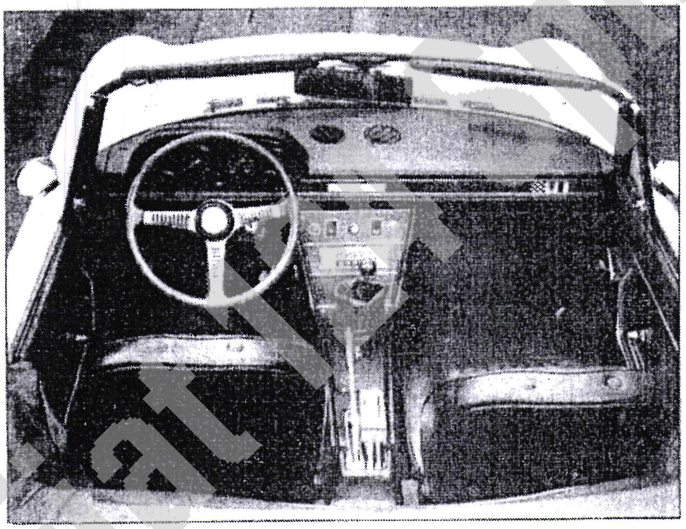
"It means that Dino owners never find any problem in getting Ferrari garages to deal with the engine. Mechanical parts from the factory are no problem – you can get anything for the engine, still, but it isn't cheap. ZF gearbox parts are OK too. But you are in trouble for body parts on Spiders. Windscreens are still available, strangely enough, and some rear panels can still be found, but if you have a front end crunch . . . Some interior trim – door handles, switches and things – was from the 124, and of course 2.4 rear suspension is from the 130."

Mike Morris was very confident about the cars because he was the founder member of the Fiat Dino Register, which now has more than 400 members, as far flung as Alaska and Australia. "We have about 70 2.4 Spiders on the books, world-wide, about 50 Dinos in all in the UK right now, almost all of which were privately imported."

Fiat Dinos, in fact, were price listed in the UK, but very few were ever sold here while the model was current, as they were only built in left-hand drive. When Edward Eves described the 2.0-litre Spider in *Autocar* on 2 February 1967, he wrote that "it promises to be one of the most sought-after semi-volume-production sports cars", and Fiat provided engineering drawings proving that nothing of the original Jano/Dino Ferrari concept of a vee-6 engine of 1956 had been lost. (Ferrari's only son Alfredino – Dino for short – died, tragically young, at a time when he and his father had been discussing new formula 2 engine layouts with their chief engineer, Vittorio Jano. Legend, and Ferrari's memoirs, have it that it was Dino, so young, who guided Jano, so distinguished, to the vee-6 layout. It may be hard to believe – what is a fact, however, is that the grief-stricken father had the name Dino cast on every engine camshaft cover, and the name was also applied to the Fiat and Ferrari production cars which used the engine as well.)

Autocar borrowed a Bertone Coupé, an early 2.0-litre, in fact, in 1968, and tester Geoffrey Howard was quite ecstatic about it:

The 2.4 engined Fiat Dinos had a five-speed ZF gearbox, and trailing arm rear suspension, both legacies from the Fiat 130. Instrumentation is comprehensive, with the rev counter redlined at 7,000rpm



"Above all she was a lady. Like a lady she arrived late, breathless, full of apologies, and looking a billion lire . . . Just as I was about to make a third phone call there was a yelp of tyres, a thrash of camshaft chains, and the zoom-zoom of six Weber throats . . . She sounded like an orchestra. At the top were the treble chords of her four cams, whining and whirring up to 5,000 and screaming like a circular saw on to 7,500 or 8,000. From 2,000 she would pull like a lion with a deep throaty growl which hovered and burbled, then picked up to rise in a crescendo with all the other sounds – gearbox, wind and exhaust – joining in with a double *forte*."

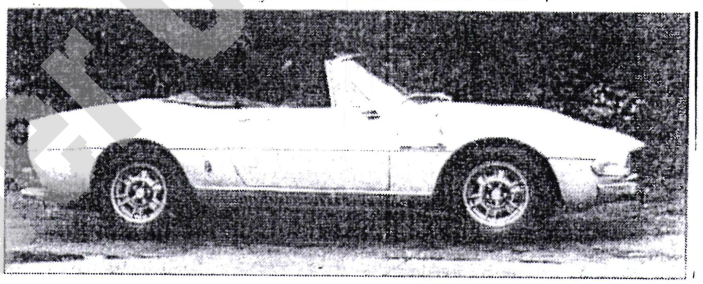
The Dino was, and is, that sort of car, not one to use every day, but one to love and cherish. Surprisingly enough, many of them were not, at first. As Mike Morris confirmed:

"I bought mine from Modena Engineering some years ago for £2,250, who had taken it from a short-of-money Italian working in this country." But he'd apparently looked at nine Spiders in Italy before he bought this one – they go rusty quite easily. "I'd now love to buy another one, for spares, if you like, but I can't find anyone to sell me one any more. My car had done 44,000km when I bought it, and I've done another 16,000km in it, using it purely for pleasure."

Pleasure, incidentally, can come expensive for Morris reckons that the valve gear should be "re-shimmed" every 6,000 miles. On his car he always lets the engine warm up on the hand-throttle before he drives off, and changes the oil every 3,000 miles to be doubly sure that lubrication is top quality. He also makes the point that his car's underside was Waxoyl treated as soon as he got it.

The pleasure, however includes the attention the car gets from everyone else. Perhaps the colour – bright yellow – and the fabulous noise the four-cam engine makes explains this. He does admit to some attention from the law, and admits to having exceeded 120 mph ("On a private test track, of course"). He is adamant that his 2.4-litre car is *not* an engine looking for a chassis, and points out that it has all-independent suspension and ventilated disc brakes, with a nice firm ride helped along by front and rear anti-roll bars. The cooling is adequate for most climates ("The Register have members in California and Texas who don't complain either"), and although he admits that the ZF gearchange can be notchy, the use of high revs helps a lot. Escort rally cars using the same box exhibit the same tendencies, incidentally.

"Have you thought," Morris comments, "that a lot of Ferrari enthusiasts now buy Fiat Dinos because there



Above and right: The front wings curve up noticeably higher than the bonnet line, giving the Fiat Dino Spider a purposeful, although slightly dated appearance

really aren't many Ferrari-engined convertibles around? On the other hand, there are the other sort of Ferrari lovers who say my Spider would be a super sports car if it wasn't for the swear word on on the bonnet badge!"

Values of Fiat Dinos, like those of many other fairly rare, or thoroughbred, cars, have gone through the roof in recent years, which explains why Mike Morris would have to pay up to £7,000 even to find a scruffy spare Spider. One problem is that, like many Italian cars of the late 1960s/early 1970s, many of the Dinos have simply rusted away, and even though there were nearly 8,000 cars built in six years, the supply is now limited.

All of which helps to explain why Mike Morris wouldn't swap his Dino for anything else at the moment, in spite of the perils of rear tyres wearing out in less than 10,000 miles, and replacement camshafts costing around £150 each (and the Dino has four of them . . .), and the worry about being damaged by someone else when the body panels are no longer available. Insurance is not a problem for him, for he has a good record, and uses a 2,500 mile-a-year maximum policy which is extremely good value. He doesn't really like the heavy low-speed steering, or the typically Italian driving position, but the left-hand drive doesn't disturb him at all.

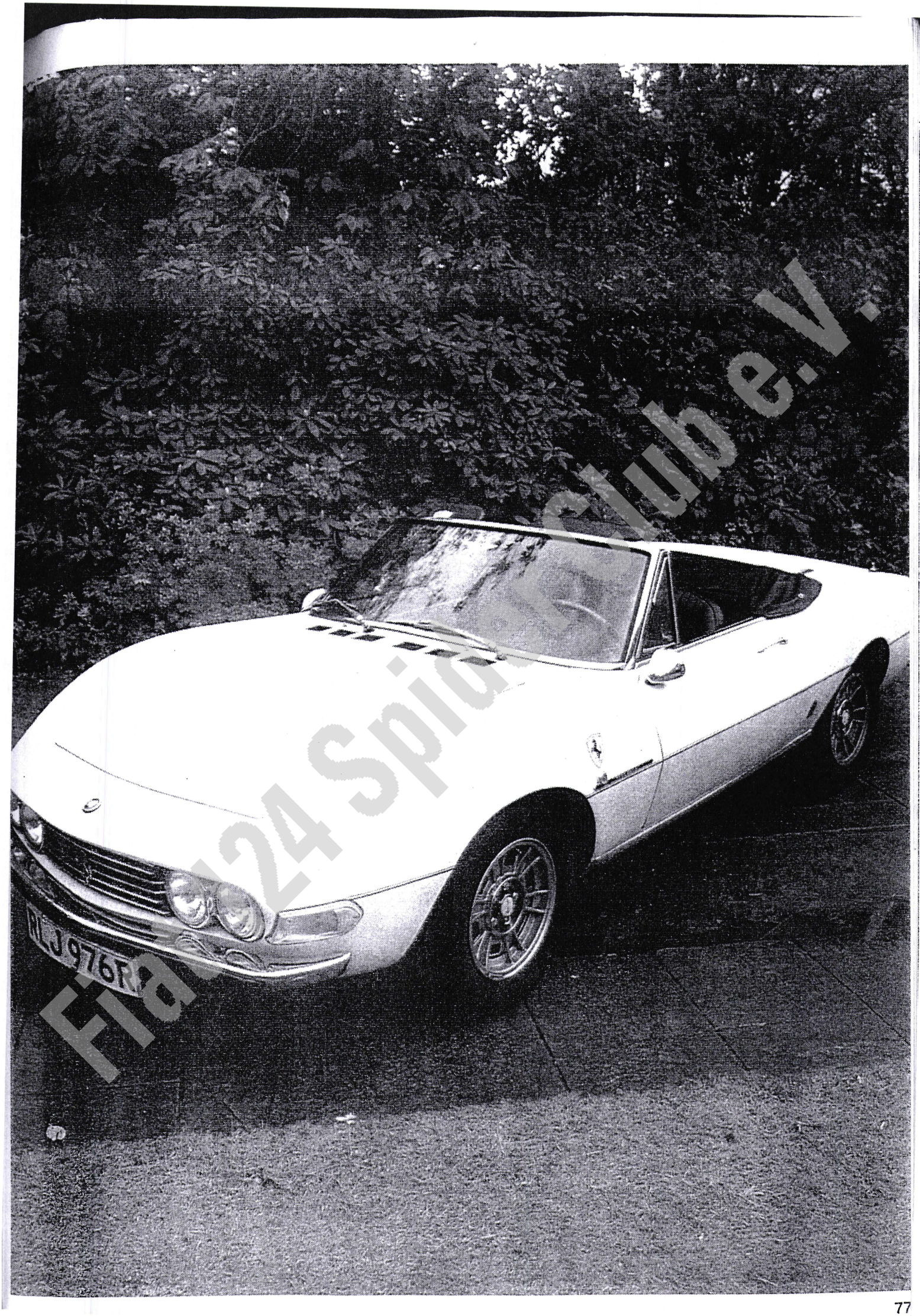
Nicest of all, of course, is the performance, the sheer animal urge of this Ferrari-engined Fiat.

As Mike said, with that gleam in his eye which I have come to recognize in all car buffs: "I can't begin to describe the feeling you get in the Dino. It's the looks, and the noise it makes that attracts everybody. Above 4,500 rpm it changes to a different type of car . . ."

Different? Certainly. Very different from anything Fiat have made, before or since. It may, indeed, be unique, for there's every sign that Fiat are now withdrawing completely from the sports car market. The Dino is certainly the high-point of anything the Torinese concern have attempted in the past 40 years. □

The owner of this attractive Dino is also secretary of the Fiat Dino Register. So if you want to know about the car, and the Register, contact Mike Morris at *"Owl's Barn", 59 Sandown Park, Tunbridge Wells, Kent.*

Fiat Dino Register

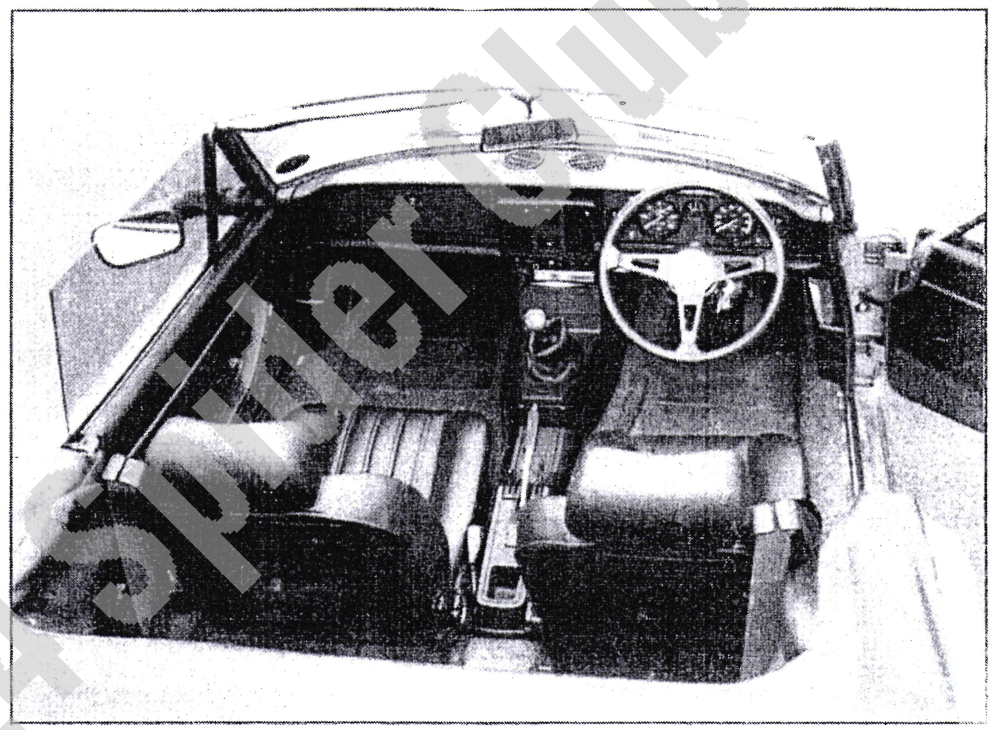


Fiat 124 Spider Club e.V.

Eh Bellissima

The Italians love their sporting cars and with hands flaying the air naturally enthuse about them. Yet the Fiat 124 Spider — now the Pininfarina Spidereuropa — was an Italian car the Americans took to their hearts like the MGB

Report by Daniel Ward *Photography Peter Burn*



Basic design is now 19 years old and Spidereuropa looks like a classic 1960s sports car. Driving position is surprisingly good

THE MGB spawned a sort of sub-breed of owners who required heat-wave conditions before even considering the possibility of putting the hood down. At least drivers of the fastback GT version didn't go in for this pointless self-deception. They were not fresh air fiends and knew it.

In contrast Morgan enthusiasts consider it a matter of honour to keep their hoods packed away unless the rain on the inside of the screen has totally obscured the view. Reflect on how few soft-tops you see in the streets of Paris on blissful summer days and you realise that sunshine and sports cars don't necessarily go together.

And so it is with the Italians. Synonymous with sports cars certainly, but stop and think of the current or recent sports car convertibles, and the list is surprisingly short. After the much-loved Alfa Romeo Spyder and Ferrari Mondial Cabrio, the names come less easily to mind. A car easily forgotten is the Fiat 124 Sport Spider.

From its birth in 1966 on a shortened Fiat 124 floorpan the two-door Fiat has never officially been imported into Britain and, like the 12th man in a cricket team, not had a chance to prove itself here against the opposition of MG and Triumph.

Pity, because the Spider was a copy-book rival to the MGB and the production run of 190,000 between 1966 and 1982 came close to matching the Abingdon total. The North American market was even more important to the Fiat rag-top than the MG. In 1974 Americans looking for the sports car image bought over 14,000 124 Spiders, yet sales in Europe were down to 400 and thereafter it became exclusively a US model. But just like a pop idol built up by the media to be a star, the downfall at the hands of the American "preppies" had an inevitability about it, and so the US market proved to be the Spider's undoing.

With red ink splattered on its balance sheet Fiat took the momentous decision to retreat from North America in 1982; Spider sales were down to about 2000 a year. With the thought that there might still be some mileage left in the ageing soft-top, Fiat suggested Pininfarina take over full production rather than just build the Spider bodies for final assembly by Fiat. This alone explains the dropping of the Fiat name and how the car gained the awful name of Pininfarina 124 Spidereuropa. At about the same time Bertone took over production of the Fiat X1/9, which it had styled for the giant car maker.

With the Spider now on sale in Europe enthusiasts may have hoped that this Italian sports car, to many people's minds enhanced with age and detail improvements, would soldier on for years finding perhaps 1500 customers a year. Sadly, no. Detroit is about to deal it a backward blow, which will mean the last Spider leaves the Pininfarina production line at the end of this year. The company has secured a lucrative deal to design and build the bodies for a new Cadillac convertible, and the Spider can no longer command the factory floor space that stocky Italian workers are busy writing dollar signs on.

This is far from good news for a Nissan dealer in Basingstoke, one Dennis Hands Esq, who since last July has had an agreement with Pininfarina to sell Spiders in Britain, although as "personal imports". They can even be had with the steering wheel on the right side thanks to the freely available supply of bits from Fiat.

Would you buy a "new" 19-year-old Italian sports car for around £9000 which will be obsolete by the end of the year and has zero reputation, compared with, say, an Alfa Romeo? Don't laugh, think about it. For owners of similarly priced Golf GTis, the Spider probably brings thoughts of bailing water out of flooded footwells or trying to go on holiday with the family but just one suitcase. Even for Cabrio drivers who think they would like a sports car, the message must be forget it; fast prams are more your style, so stay with them.

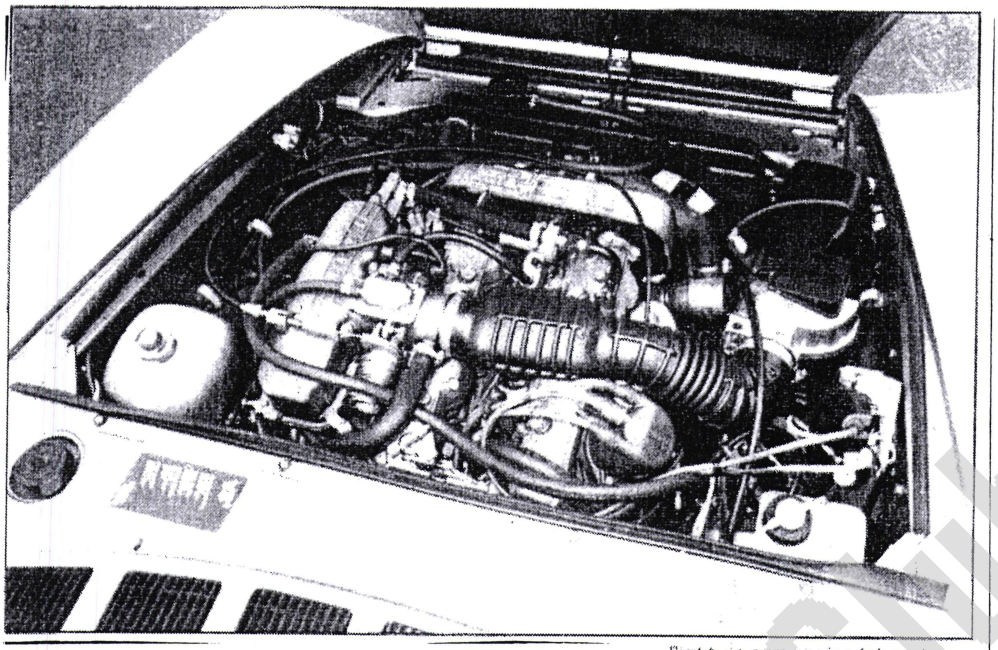
The Spider is all about style and the often indefinable pleasure a small band of drivers gets from being in a car with just two seats, a cramped cockpit and the roof peeled back, all yielding a sense of driving and travel no mass-production box can match. That is not to say the Fiat is a paragon of engineering design, nor does it set any new standards of roadholding or handling. For those who can't help but like the Spider this is not of real importance.

And there is also rarity in its favour — a strange quality for something that bore the Fiat emblem for much of its life, though this is no criticism; its past, as we have seen, is not steeped in failure. That distinction among Fiats is better reserved for wonderful models like the 130 Coupé with its

Fiat 124 Spider Club U.K.



Fiat 124 Sport Club e.V.



breathless elegance, or the odd mixture of Fiat and Ferrari called the Fiat Dino.

As Graham Robson's informative book *Fiat Sports Cars, 1945 to X1/9* recounts, the styling of the Spider neatly continued the theme of the earlier 1500/1600S Cabriolet sports car, although appearing squatter due to its shorter wheelbase and markedly wider track. The Pininfarina lines were certainly simpler and the overall style of the first Sports Spiders less overtly sporty than the MGB, launched some four years previously. Yet the 124 is one of those rare cars which has actually been improved by subtle changes during its life.

When the earlier 1438 cc twin-cam four-cylinder engine made way for a 1608 cc version in 1969 the bonnet was treated to a pair of "power" bulges reminiscent of the glorious bulge in the centre of the Jaguar E-type's bonnet. The steel wheels gave way to distinctive alloy ones, the radiator grille changed style as quickly as women's hem lines, while black door sills helped reduce the perceived height of the body sides. The pencil-thin bumpers of the sixties have been consigned to the defunct pile by Ralph Nader, but even the Federal bumpers hardly detract from the Spider's pleasing form, thanks to a healthy dash of chrome. Pity UK registration plates don't fit the minute slots purpose-made for Roma or Torino numbers.

Proud MGB owners will find it hard to concede that the Fiat started life with a considerably more modern chassis than the B, but the facts are hard to dispute. No-one seemed to mind that the MG's deficent lever arm dampers and crude leaf springs stayed with it throughout its long life. The Spider never suffered such handicaps, as it employed a coil-sprung live axle efficiently located by torque tube, trailing arms and a Panhard rod; a forward-mounted anti-roll bar checked body roll. At the front it emulated the MG's double wishbone layout. The Fiat stepped up its advantage when the 124 Abarth Rallye was launched in November 1972, complete with independent rear suspension and MacPherson struts with reversed lower wishbones.

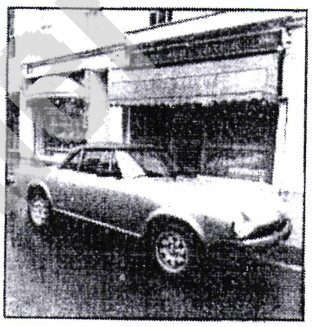
Unusually for a sports car the 124 has reciprocating ball steering, rack and pinion only taking its rightful place in 1985 models. From the start the specifications included four-wheel discs, the front ones being upgraded recently to ventilated ones.

Take your place behind the wheel and the impression is one of practical roominess. The generous seat travel makes the Spider infinitely more bearable for taller drivers than the flawed Alfa Spyder and behind the seats there is a broad shelf which for 1985 boasts storage boxes. MGB owners stored their corroding 6V batteries in a similar position. The Italian's boot is deceptively big but hopelessly shallow.

I find myself looking hard at short stocky Italians to see whether they really do have the unlikely proportions of short legs and ape-like arms around which many Italian cars have been designed. When Alfa drew the Spyder the designers worked out the driving position based on a really extreme case. Consequently I find it more easy to grip the steerig wheel, gear lever and door handle of the Alfa with my knees than hands.

By comparison the Fiat is comfortable, largely due to the sensible travel of the seat. I was able to fit into a Fiat 500 for the same reason. The steering wheel is really too far away but certainly manageable, while the beefy gear-lever falls easily to hand. The instrumentation is no-frills 1960s style, courtesy of Veglia Borletti; the use of familiar-looking Fiat switchgear is inevitable, but the wood facia is an unconvincing effort.

Fiat twin-cam engine (above) gives reasonable acceleration from 2 litres and 122 bhp but lacks refinement. Power bulges on bonnet (below) were introduced in 1969. Hood is very practical



If your definition of a sensible sports car is one where the heater is efficient and the hood both keeps the draughts out and is easily folded down, then the Spider is good sense itself. I can't remember the last sports car I drove where it was necessary to turn the heater *down* in February. To offer the driver an unexpected challenge the heater controls operate in a completely opposite way from the markings.

The engine is more effective than exciting. When the compression ratio was raised to 9:1 power output moved up to 122 bhp, respectable for a 2-litre four-pot; nevertheless, its asset is not outright power but solid mid-range torque. Rev the engine hard to the 5500 rpm red line and acceleration is good rather than enthusiastic; 60 mph is reached from standstill in about nine seconds. Far better to drive the Fiat like a TR7, changing up early and flooring the throttle to let the lugging power do the work. Get used to driving this way and it becomes a pleasant part of the Fiat's character. Pity though the engine doesn't sound sweeter when revved; Alfa lovers will find it hard to accept that the Fiat twin-cam has the edge on refinement over their "classic all-aluminium" engine. Fuel economy was about 25 mpg — unexceptional.

Strong torque may dull the excitement of an engine's delivery, but it invariably makes a car a swift performer in give-and-take traffic. The Fiat's deceptive speed is undoubtedly complemented by five close and ideally selected ratios. The chrome gear-lever and stitched air-bag type gaiter are pure 1960s nostalgia, and the operation is more rewarding than expected.

The short action lever is both quick and wonderfully direct, the feel refined but strictly mechanical. Matched to this is a heavy clutch that barely needs to be dipped to allow the next cog to be engaged.

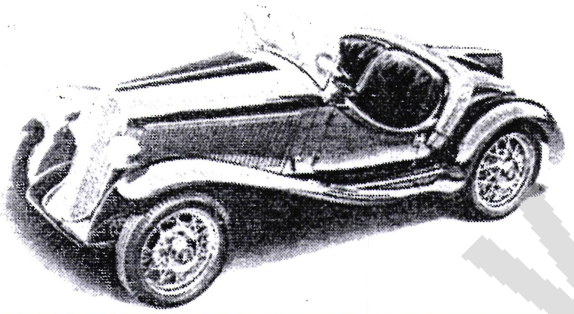
Pick your road carefully and the Spider's handling and ride belies its age. On gently undulating lanes with open curves the car impresses with its accurate steering, taut handling and compromising ride. Opt for something more demanding and soon you realise that the steering becomes markedly heavier on lock, subjectively slowing the inputs from the driver. The rack and pinion of the latest cars will be a welcome improvement. The handling becomes less competent, the limits of grip more obvious and the "understeer in/oversteer out of a corner" character more clear. Always controllable, but no mid-engined slot racer.

Make the suspension work for its living and throw in a few pot holes and the body will occasionally shudder as the undue loads excite it. Discernible it may be but it never becomes so marked that the screen shakes in front of your eyes as it did on the "other" Italian convertible we drove recently.

The brake pedal offers reasonable retardation in exchange for a long travel and rather spongy feel. It is not such a bad deal.

It was certainly with regret that we let the Fiat pass from our hands; it had been a surprisingly enjoyable experience. Sadly the last 1500 Spiders are being built this year and then this Fiat will be confined to the obsolete pile. Dennis Hands has 150 right-hand-drive versions available for the sum of £9399 each. Next time you go to Calais to stock up with duty frees bring back a Spider as a personal import; you won't be disappointed.

THE 1981 FIAT SPIDER 2000. A RARE 15TH EDITION OF A CLASSIC.



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The sports car was born in Europe. And Fiat has traditionally made some of Europe's most beautiful sports cars. Like our classic Spider designed by Pininfarina.

Introduced in 1966 and continually refined over the years, the Spider has been hailed by Road & Track as "the best of the vintage breed of roadsters."

And the 1981 Spider 2000 is even better.



SPIDER 2000. NOW WITH COMPUTERIZED FUEL INJECTION.

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But the most beautiful thing about the Spider 2000 is simply the exhilarating fun of driving one.

25* EPA EST MPG / 36 EST HWY

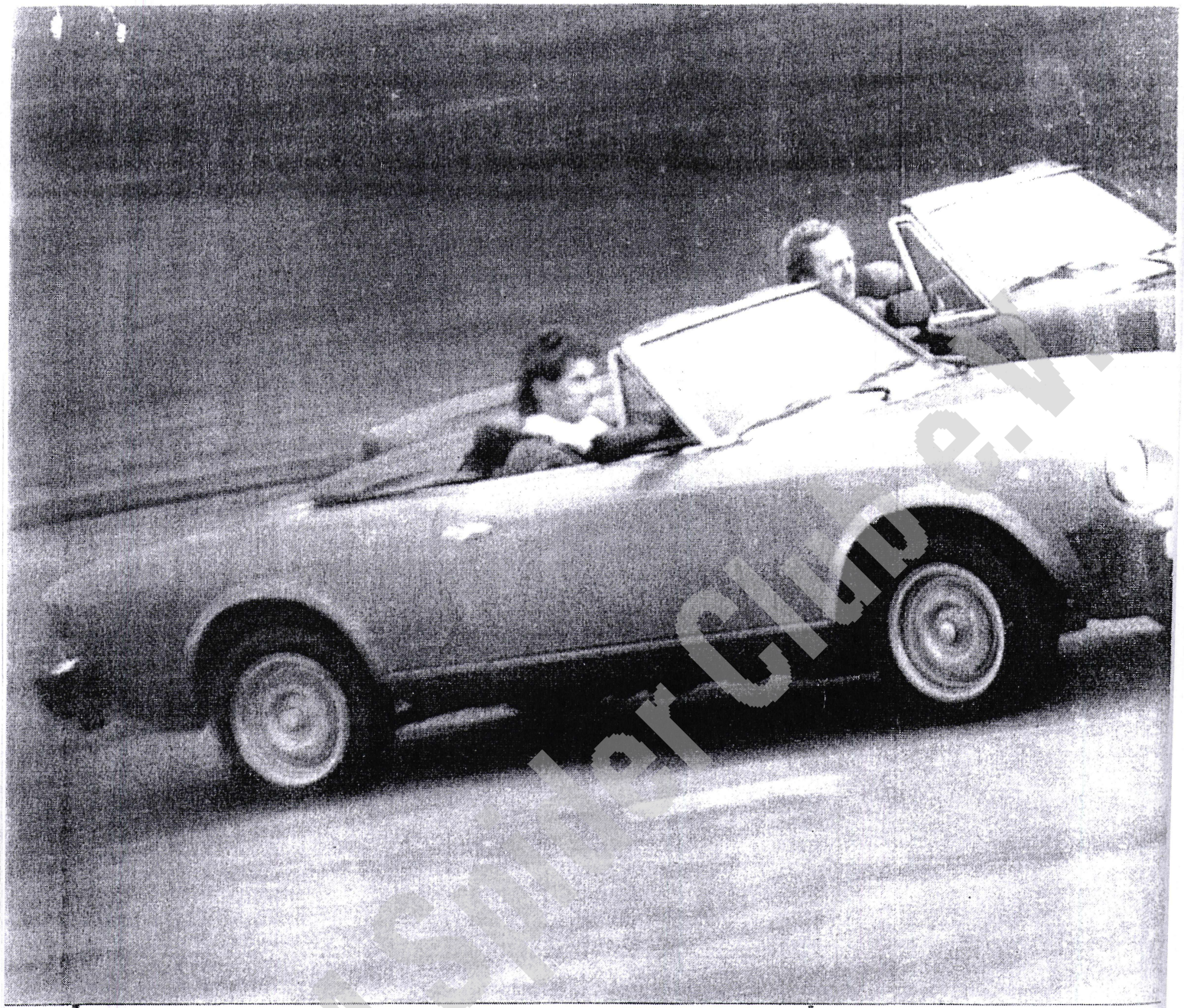
For the name of the nearest Fiat dealer, call toll-free: (800) 447-4700; in Illinois, (800) 322-4400; in Alaska and Hawaii, (800) 447-0890.

*Remember to compare these estimates to the estimated MPG of other cars. You may get different mileage depending on speed, weather, and trip length. Actual highway mileage will probably be less.

FIAT

MOTOR CARS IN THE GREAT EUROPEAN TRADITION.

Fiat Spider Club N.V.



It is hard to believe but, nearly 20 years after they were announced, two Italian sports cars, one Fiat-based and the other an Alfa Romeo, are still being manufactured, alongside each other at Pininfarina in Turin.

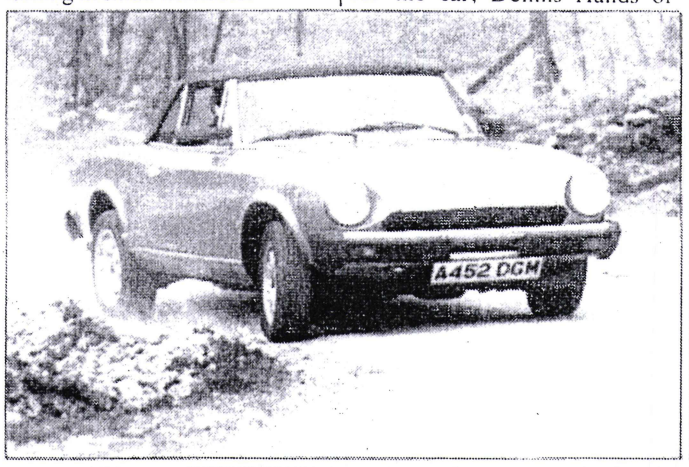
What is even more surprising is that the Spidereuropa, which started life as the Fiat 124 Spider, has never been offered in Britain by Fiat. It's a few years now since Fiat ceased to market the car under its own name, leaving production to Pininfarina, after withdrawing from the North American market in 1982.

Alfa Romeo, meanwhile, continues to market its Spider as part of the family but with production centred at Pininfarina alongside the Spidereuropa. It was sold in Britain up to 1978.

Now both cars are available on the British market. They are imported by dealers, converted from left-hand-drive to right and sold in small numbers, relying on exclusivity for their appeal. Enthusiasts undoubtedly find them appealing, although both companies — Dennis Hands Cars of Basingstoke and Bell and Colvill of West Horsley in Surrey — are talking in small numbers.

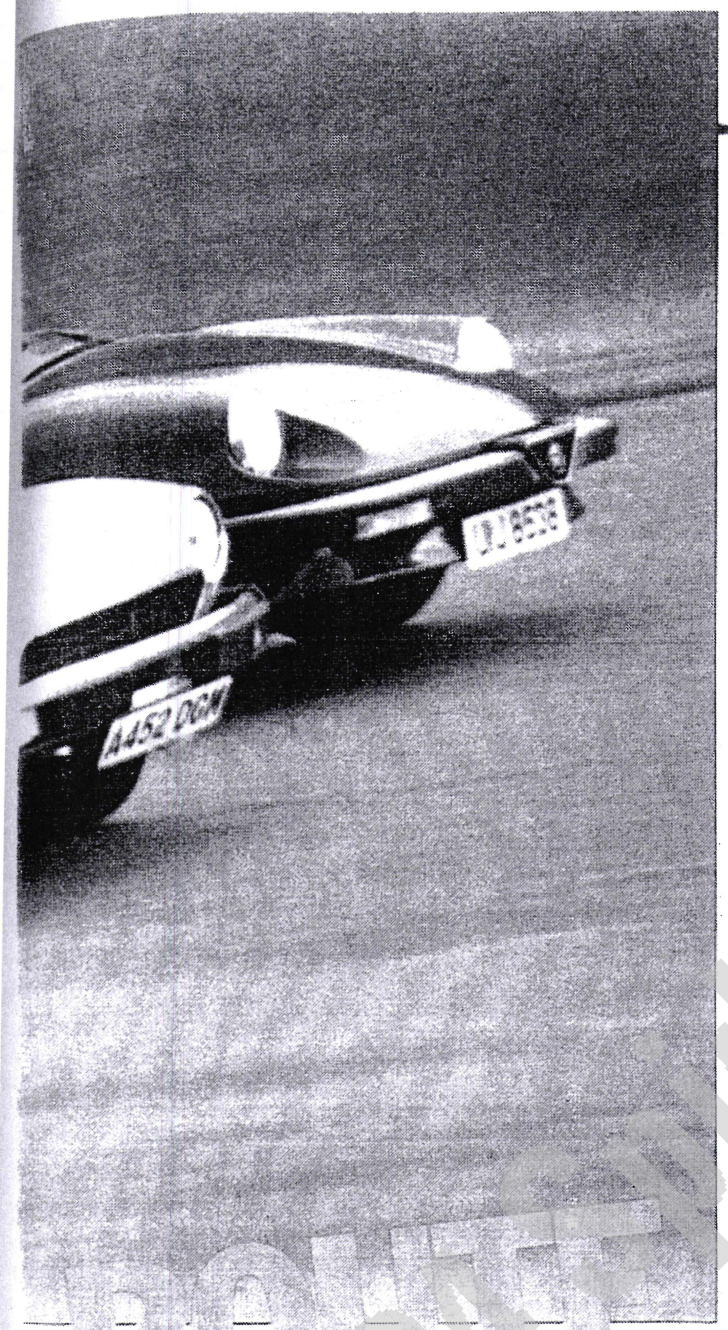
PININFARINA SPIDEREUROPA

Until recently, British wanting a Pininfarina-styled Spidereuropa have had to be content with left-hand-drive. Now, however, the import agent for the car, Dennis Hands of Basingstoke, is offering a right-hand-drive conversion of this 60s classic. The conversion uses only genuine Fiat parts, including a new rack, and the whole job is finished off with a neat dashboard moulding — the result is a very professional job.



The Spidereuropa dates back only to 1982, but the Fiat 124 Sport Spider, on which the current car is based, dates back to 1966. Fiat mechanicals are used throughout construction and include the structural underpan, engine, transmission and driveline components. The original car had a 1.4-litre unit, later increased to 1.6 litres in twin cam format and, in current specification 2 litres with Bosch fuel injection. Power output is 122bhp at 5200rpm, coupled to 127lbft torque at 3500rpm.

The fairly ordinary-looking bodyshell does not immediately strike one as 'Pininfarina',



Fiat 124 Spider/Pininfarina Spidereuropa

Two convertible sports cars from 20 years ago are now readily available again. Peter Williams reports on the Alfa Romeo Spider and Andrew Kirk drove the Pininfarina Spidereuropa

although it is unmistakable, nevertheless, for its simple good looks, which have changed very little over the years. Minor modifications have included twin bonnet bulges, which have grown in size, the adoption of Federal bumpers — to meet US safety legislation — and a new square-cut grille. Detail changes have included the fitment of light alloy wheels shod with low profile Pirelli rubber and twin door mirrors mounted, in fact, on the front quarter lights.

The name change from Sport Spider to Spidereuropa resulted from Fiat's deal with Pininfarina, in which the latter took over the complete assembly of the car. It was allowed to rebadge the car as its own product, so the Fiat Sport Spider became the Pininfarina Spidereuropa in March 1982. The 'Europa' was added to show that a European version of the fuel-injected 1995cc engine was on the way.

The car we sampled was one such European version, devoid of external emission control equipment, although internal modifications remain. The specification is similar to that of cars now rolling off the production line in Turin, though more recent mechanical changes include a switch from recirculating ball to rack and pinion steering, larger disc brakes and new-style alloy wheels.

Each car is produced, apparently, to order, other manufacturers such as Talbot and Ferrari providing the majority of work for Pininfarina; with further projects looming, such as a new Cadillac bodyshell, production of the Spidereuropa is likely to finish at the end of 1985 after a 19-year run.

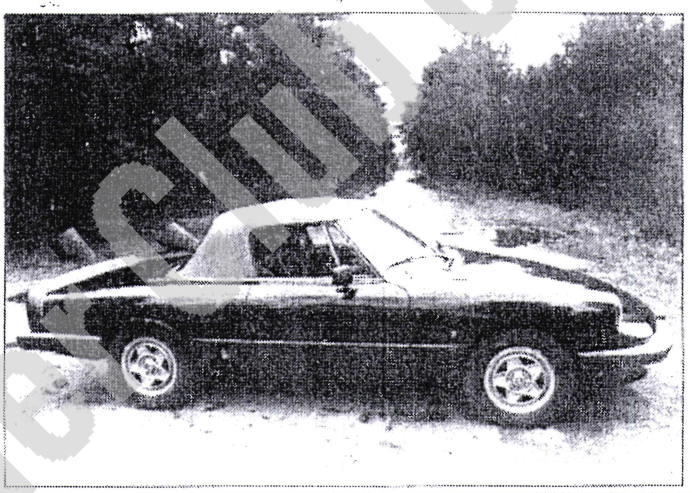
Even in its latest guise, the Spidereuropa is still very much a 60s-style sports car, possessed of all the advantages and disadvantages associated with open-top cars of this era. On the plus side are the classic lines, uncluttered shape and sturdy construction, on the minus side the unrefined — by today's standards — engine and heavy controls. On top of that the basic price tag seems high at £9399, although the basic specification could be hard to match.

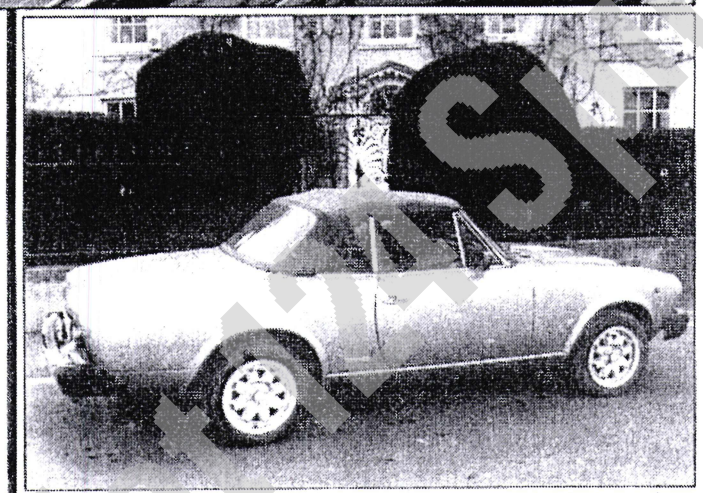
The on-paper power output suggests that acceleration and overall performance ought to be close to many current specification sports cars, but this is not the case. Acceleration, in fact, is quite sluggish for a fuel-injected twin-cam unit of this capacity, the car requiring 11.1secs to reach 60mph: Top speed is also a little disappointing at 104mph, perhaps because of the less than aerodynamic body styling and rather high kerb weight (2296lb), although we suspect the reason may be the choice of gearing. Maximum speed is achieved ▶

Main picture: Both cars are now manufactured by Pininfarina in Turin. Left: Spidereuropa 2-litre produces 122bhp at 5200rpm but is a fairly sluggish performer due to high weight, unaerodynamic styling and gearing. Below: Alfa bodyshell has changed little in 20 years











Top: Alfa Romeo Spider has gained bigger bumpers and bootlid spoiler. Above: Alloy wheels and metallic paint are optional extras on the Spidereuropa. Above right: The Alfa's boat-tail has given way to a squared-off boot. Right: Controls are heavy but economy excellent

in the 19.4mph/1000rpm fifth gear, with the engine slightly over-revving at 5400rpm.

Acceleration in the gears is more acceptable and, here, the torquey 2-litre power unit provides good flexibility for low speed pullaway and fewer gear-changes when negotiating articulated lorries and the like. The 50 to 70mph increments in third, fourth and fifth gears translate to 6.8, 9.0 and 10.9secs respectively.

The heavy clutch, which requires a 40lb pedal effort, and unduly heavy steering and gear-change all show up the Spidereuropa's age. They are all excessive by current standards and make town driving more of a handful than one might like. The heavy steering is exaggerated by the wide footprint low profile tyres and the rack and pinion system does not have power assistance and can leave one exhausted after a tight parking manoeuvre. The gear change simply feels old fashioned, the large gear knob and stick possessing a truck-like quality. One gets used to them in time, though they do mar the driving pleasure.

On a more positive note, we were amazed by the overall fuel consumption figure recorded during quite a lengthy test period — 34.6mpg. Clearly the Bosch fuel injection helps towards this. A 9.4 gallon fuel tank is provided and the diet of four-star fuel allows an average of around 300 miles between fills — a range which many current sports cars cannot match.

Cruising at 70mph proved particularly fuel efficient while, at this sort of speed, the rather unrefined engine is at a more subdued hum, though there is plenty of road and wind noise to contend with, even with the hood raised.

With the majority of weight over the front wheels, 55.1 per cent as opposed to 44.9 per cent at the rear, the Spidereuropa exhibits understeer when pushed quickly through corners, though it is more agile than the cumber-

British Spirit Club

some initial feel suggests. It is a difficult car to provoke into oversteer, unless really travelling on the limit, and shows good balance and poise in most situations, though it is possible briefly to lift the inside rear wheel without trying too hard and leave it spinning in mid air. The brakes, like the majority of controls are on the heavy side though stopping power is good, thanks to servo assistance and quite hefty sized front disc brakes.

There is more interior space than one at first sight might imagine thanks to the deep footwells. With the front seats half way along their runners, there is also enough room for two small adults in the rear — providing the top is down, of course. Seats have rake adjustment and are stitched up in a waterproof plastic material though they are still likely to leave a driver hot and sticky in warm weather. The quality of finish was high in our test vehicle, the metallic paintwork of a high lustre, the chrome trim contrasting well. Only source of complaint was a faulty boot lock which required more effort than normal to open. The weather equipment is easy to raise and takes only a couple of minutes.

Overall, the Spidereuropa is well packaged and, compared to the Alfa, a fair bit cheaper. It may lack the performance of its close rival but certainly offers as much enjoyment in terms of wind-in-the-hair motoring.

For more information contact Dennis Hands Ltd, West Ham Roundabout, Basingstoke, Hampshire, phone 0256 25783.

ALFA ROMEO SPIDER 2.0

She's a bit more butch nowadays; gone are the pretty nose with perspex light covers and the long 'boat' tail, but Alfa's classic Spider — spell it with an 'i' not a 'y' — is alive and well, once again on sale in Britain.

Everything else is still there. Turn the ignition key after a couple of dabs on the pedal and the 2-litre twin cam engine fires up immediately — that familiar Alfa growl distinguishing it from any pretenders. As you snick the gearlever into first and move off, you know you're in a no-nonsense sports car built only for your pleasure.

The lever comes easily to hand in the Alfa fashion of the period. Remember you're driving a design that's now 19 years old and which harks back even further to some Pininfarina styling studies of the late 50s. If you judge it by the fluidity of the primary controls — steering, gearlever, pedals — then the Alfa Spider doesn't show its age.

It's the way that the Spider brings together those functions that marks it out from any other sports car I can remember driving. After just a brief taste, 20 to 30 minutes behind the wheel, the Alfa will capture your imagination forever.

Drop the snug, tight-fitting roof down on a bright Spring morning and you will be further inspired to stay behind the wheel of the Spider. The driving position may not be to some people's tastes, your knees are well bent upwards in the traditional Italian ape fashion, but it is comfortable for a six-footer, the flat seats perhaps the only drawback.

The large speedometer and tachometer, left and right respectively, have hardly changed since the car's inception, while the centre console, which houses the neat, cranked, gearlever bears an assorted bunch of minor gauges and controls, including an incongruous modern digital clock.

On the move, you can feel the responsiveness of the torquey twin cam engine through the pendant Giulietta-type accelerator pedal. It develops 127bhp at 5500rpm and 134lb/ft of torque at 4200rpm. That's from an all-alloy unit of 84mm bore and 88.5mm stroke which gives a displacement of 1926cc.

It puts the power down through a five-speed gearbox and live rear axle. Gearing can appear a little strange at first. There's a long throw between first and second, while fifth is an overdrive giving 21.85mph/1000rpm. The final drive is 4.4:1 while in each gear the Spider does 26.7mph (3.30:1), 42mph (1.99:1), 65.2mph (1.35:1), 87.9mph (1:1), and 118mph (0.79:1). Economy is not a strong point — we managed 30mpg.

The Spider easily reaches 60mph in under 10 seconds and runs out of steam at around 120mph. At all times it feels relatively stable but will occasionally hop out of line if the tail is caught out by a road bump in mid bend. It's a well-located axle though, staying well-glued to the ground and generally feeling more like an independent set-up. Coil springs, shock absorbers and an anti-roll bar complement the trailing arms and central triangulated link locating the axle.

At the front there are unequal length wishbones, coil springs, shock absorbers and an anti-roll bar. Braking is by discs all round and there is a brake regulator to the rear axle to prevent premature lock-up. Other technical highlights include twin Weber or Solex carburettors and an electronic ignition system. On 'our' car there was also a non-standard electric fan arrangement fitted by the importers, Bell and Colvill.

The all-monocoque body of the Spider sits on a 88in wheelbase, but overhang front and rear gives an overall length of 13ft 9in. At 64.1in wide, the Spider has plenty of room for two passengers with room behind the seats on a carpeted shelf for further luggage if it will not fit in the capacious (for a sports car) boot.

After 19 years in production it is still an extremely forgiving and responsive car on the road. Yes, it has a live axle, but the modern Michelin MXV70R tyres mounted on 14in rims — as big as they ever were — help the Spider stay a little better glued to the road than it did in the past.

Only around town does the low-geared recirculating ball system show the disadvantages of its poor lock-to-lock and heavy feel. The brakes are an absolute delight, progressive in the best sense of the word, pulling up the car easily, especially in the wet.

Ride comfort can be a little disconcerting at low speeds. Here the modern tyres have given the Spider a coarser feel than before. It doesn't seem as supple though, at higher speeds, it tends to level out and absorb road undulations better.

Wind noise predominates, of course, when the hood is down and does much to hide the mechanical din at higher speeds. With the roof up, the throaty Alfa twin-cam note is always there, wind noise starts to come in at 50mph and, by the time you're at the legal limit, there's quite a thrash — not unacceptable from a sports car, though. From about 4500rpm upwards, the 2-litre engine is quite extended and some better sound insulation would not be a bad thing.

What the Spider's engine doesn't lack though, is low-down punch. The driver can poodle around town in it quite easily — it pulls so cleanly from 10mph in third — continuing strongly right up the rev range.

Our black example arrived with less than 900 miles on the clock, so was still a bit tight; either this or the gearing prevented it from revving quite as freely as we remember with previous Alfa twin cams. That said, the Spider really has few faults. It proves how good the original design concept was, with the first 1300cc car back in 1966. Since then it has developed, gaining 1600cc, 1750cc and 2000cc engines over the years and then the current square 'short-tail' rear-end in 1970.

Alfa Romeo did export the Spider to Britain until 1978 when it was withdrawn because of Type Approval problems and the company's projected marketing strategy. Since then, the front and rear bumpers have been remodelled and are always coloured black, the rear with an integrated spoiler, while the front gained an apron spoiler.

Overall, Pininfarina's build quality for the Spider is excellent, with a high standard of paint and interior trim finish. One disappointment was the quality of the hood cover clips, while the hood can be a bit of a heave-ho to erect. Another is the finish of the boot carpeting, and there are perhaps one or two too many screw heads about. It's not free of scuttle shake, either. Bell and Colvill has made an excellent job of conversion, though, except perhaps for the loss of the glovebox, reducing oddment space to virtually zero, while the new facia covering looked tacky and did not match as well as it might with the maroon interior.

Bell and Colvill still services Alfas and has readily at hand the parts to convert. A new steering rack is used, Giulietta pedal box and a clever tie-rod connecting the left-hand servo (in its original position) to the new right-hand-drive set-up.

It is well-equipped for £10,995 but metallic paint, alloy wheels, leather faced seats, targa hardtop and a radio unit are all optional extras so you could easily find yourself spending from £11,500 to more than £13,000.

The Spider is a living classic, though, a car that deserves to survive as long as legislation allows it to. With its elegant styling, however, it probably best suits the role of a woman's car.

For further information contact Bell and Colvill at Epsom Road, West Horsley, nr Leatherhead, Surrey, phone East Horsley 4671.

Finkelstein



So rarely seen on the road nowadays, a Fiat 124 Sport Spider 1600 leads an even scarcer Sport Coupé 1400

FORGOTTEN FLAIR

Although nearly forgotten today, the Fiat 124 Sport Coupés and Spiders were remarkably advanced in the sixties. Richard Sutton re-discovers these dynamic Italians

How short our memories are. How prejudiced we have become. We who claim to know so much of classic or collectable cars seem to have forgotten one of the greatest and once most popular of them all. Precious little has been written or spoken of them for years, yet they were great competitors of the MGB, were built in similar numbers over a similar period, and at a similar price. Furthermore, on many counts they were far superior cars.

Yet today there are few enthusiasts for them, and even fewer examples left on the road. Only road test reports in contemporary motoring magazines remind us of these remarkable little cars. They were, and still are, highly capable, immensely stylish, cheap and highly desirable, and they will still outperform many of their modern equivalents.

I speak, of course, of the Fiat 124 Sports. These convertibles and coupés were truly astonishing motor cars. Triumph TR and MGB owners, even Alfa Romeo and Lancia enthusiasts, need read no further if so persuaded by their loyalties. But those interested in acquiring one of the world's finest performance cars, which *Car* magazine once implied would out-handle a Lotus Elan, should continue and rejoice in the realisation that the best need not be the most expensive.

For those unconvinced by such heady praise, a reminder of Fiat's remarkable market status back in the sixties might help. At that time, Fiat was in a far healthier international market position than it had been before or since. In 1967 Paul Frère remarked in *Motor* 'You cannot fail to be impressed when you consider the range of models announced by Fiat in the course of the last three years, everyone of which has considerable technical merit and has met with immediate success.'

Such 'considerable technical merit' saw Fiat topping the import charts in Belgium, Germany and France during the late sixties, to say nothing of successful export drives to Great Britain. Of all those new Fiats, the 124 – in saloon, Coupé and Spider guises – was probably the most important, and undoubtedly the most surprising.

The 124 story effectively begins in 1963, when Fiat were having to consider replacing their then 10 year old 1100/103 saloon. It was a costly period for Fiat, who were having to budget for massive re-investment in factory modernisation, tooling and design. As the new car would have to be inexpensive and effective, it was to be based on the 1100/103 floorpan but with all-new bodywork and a new, more versatile engine. This new engine was to be the heart of Fiat's production for the foreseeable future. Its design was crucial, and it was left to Italy's best man for the job, Aurelio Lampredi, to execute.

Lampredi's reputation went before him; he had already been responsible for several fabulous Ferrari engines (notably the V12) prior to 1955, and had then designed several six-cylinder engines for Fiat. His brief this time was to design a light in-line four cylinder of 1.0, 1.4 and 1.6-litres with an iron block, and the capability of carrying different valve arrangements. The project was dubbed '124'.

Triumph TR, MGB, Alfa Romeo and Lancia enthusiasts need read no further if so persuaded by their loyalties

At this stage only the saloon was under final development, but the Sports – Spider and Coupé – were soon to follow. All the models carried the same drive-train specification, but engines and gearbox options varied. The specification included coil spring and double wishbone suspension with telescopic dampers and an anti-roll bar to the front, and at the rear a lightweight hypoid bevel axle located by parallel trailing arms, coil springs and telescopic dampers. A clever torque tube arrangement was mated to the front of the differential casing, and both a Panhard rod and anti-roll bar were employed. Such early rear suspension set-ups were significant, as will be disclosed later. The sensitive steering was by worm and peg, and brakes, remarkably, were by discs all round!

For the saloon, revealed in April 1966, the 1198cc version of Lampredi's engine was employed together with a four-speed gearbox. This was an overhead valve pushrod operated unit producing 60bhp. Sure, its Fiat in-house styling was very conservative – a three-box affair with rounded corners – but the little saloon's dynamic qualities were well ahead of the opposition.

Such qualities were put to better effect with the development of the 124 Sport Spider, due to be launched a few months later. As had been the case with the Fiat 850, Fiat delegated the styling of the convertible car to an outside stylist, in this case Pininfarina, while the Coupé derivative was shaped, like the saloon, in-house.

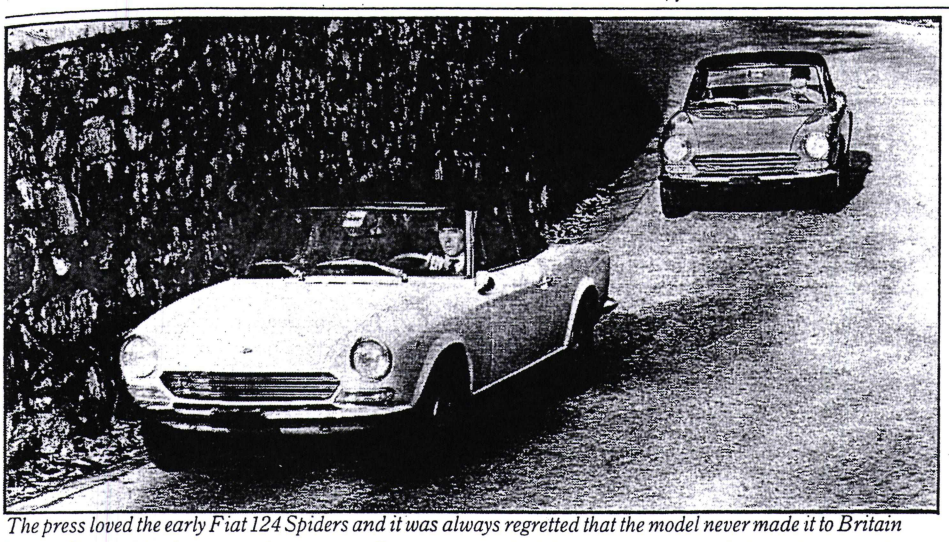
Pininfarina were supplied with shortened 124 saloon floorpans (by 5½ins) complete with drive-trains. The shorter wheelbase, together with certain floorpan reinforcements undertaken by Pininfarina, ensured that the convertible would be suitably rigid, but prevented the Spider from evolving into a full four-seater – 2+2 seating was settled for. Most significantly, with the Spider came the first variant of the Lampredi engine, an enlarged 1438cc version topped with twin overhead camshafts. The camshafts were driven by a single toothed belt powered directly from the crankshaft, a system pioneered by Glas and seldom seen on quantity production cars. Valves were inclined at 65 degrees and cross-flow breathing was incorporated. This meant that inlet and exhaust manifolds now appeared on opposite sides of the engine rather than both on the right, as was the case with the 124 saloon unit. Carburation was by a single downdraught twin choke Weber. This engine was a rugged, reliable and revvable unit producing 90bhp at 6000rpm, and was available with a five-speed greabox.

It was accepted that the 124 Spider would look good and, although somewhat eclipsed at its debut at the November 1966 Turin Show by the Fiat Dino Spider launch, the Sport Spider was very well received.

The bad news was that the Fiat Spider was not destined for the British market, and that it was only to be available with left-hand drive. With the American market squarely in its sights, the Fiat would make dramatic inroads into the MGB's share of the US market. If only it had been available in England ...

There can be no doubt that the launch of the Sport Coupé caused more of a stir than that of the Spider. The Coupé was first shown at the 1967 Geneva

Fiat 124 Sport Spider e.v.



The press loved the early Fiat 124 Spiders and it was always regretted that the model never made it to Britain



The Mark II acquired twin headlights and new wings



The Coupés looked just as good from behind

Motor Show, this time alongside the new Bertone-styled Dino Coupé. The car caused a minor sensation. It was, after all, styled in-house at Fiat, but it was *so* beautiful. A generous 2+2 seater airy coupé with sharp, unfussy styling, it looked as practical as it was pretty, and was cheap too. The motoring press, in the cheerful knowledge that the stylish little Fiat was due for England's shores, soon with five-speed gearbox, clamoured for press cars.

And so began a remarkable period for Fiat in Great Britain as magazine after magazine raved about the car's sensational roadholding, handling, styling and practicality. It seemed that Fiat, almost by accident, had come up with the world's best family coupé, and by a wide margin.

It should be mentioned here that the Spider might well have received a similar response in Britain, but its non-availability rendered any English reviews pointless and no major tests were carried out. The Spider was built initially in small quantities, and only when US exports began in 1968 did test reports from America start to extol the cars' virtues in the English language. And in America, despite anti-smog paraphernalia which repressed the cars' performance, both the Coupé and the Spider were regarded as outstanding and without competition. The Spider was described by *Road & Track* in July 1968 as being the 'only car of its type being built today that is mechanically modern'. That statement was to hold true for several years to come.

The 124 Coupe caused a minor sensation. It was, after all, styled in-house at Fiat, but it was so beautiful ...

Perhaps some indulgence is permitted here as contemporary road tests make such extraordinary reading. The esteemed L.J.K. Setright was one of the first to try the 124 Coupé, and he immediately adopted it as one of his favourite cars. Such hallowed praise had been lavished only on the original Lotus Elite and various Bristols.

On successive group car test days at Goodwood, run by Total for the benefit of the motoring press, LJK walked away hailing the 124 Coupé as the best car he had driven all day. On two such occasions Maseratis had been hounded and overtaken and it would appear that even larger engined Alfas were defeated by the little Fiat. The 124 Coupé was an outstanding track car. In August 1969 LJK remarked of the Coupé: 'It is absolute bliss and it will take something better than that Alfa GTV behind to catch me.' Earlier in 1967, LJK said of a Spider that had made its way to Britain, 'This was a car that sent everyone wild with delight, several discriminating people clamouring to know when they could buy one.' Of the roadholding of both Spider and Coupé he said, 'It was fantastic. It was inexplicable.'

And by no means was it just the over-the-top temperament of LJK which sparked such enthusiasm, for others consistently said similar of the Fiat Sports. *Autocar* reported, 'Seldom have the *Autocar* test staff been so unanimously in praise of a car ... yet judged absolutely and objectively it is outstanding ...' *Car & Car Conversions* said, 'The worst feature about the 124 Coupé is that everyone who drives it wants one ... it's a real beauty and goes as well as it looks.'

Of course, there were complaints. The steering was considered too heavy at parking speeds, the brakes were rather 'over-servoed', and the pedals were too close together. The car was rather noisy inside, and the driving position, for all but the shortest drivers, really did take a bit of getting used to. Four adults could be seated in relative comfort, but their luggage would have to be minimal. The simulated wood interior trim received little enthusiasm, and the traditional Italian plastic trim did not respond well to hot summer temperatures. But the little Fiat was well equipped, with comprehensive instrumentation, a good heater and even variable windscreen wiper speeds.

The Spider had all of the Coupé's domestic conveniences, but because it was really only a two-seater its 6.2 cubic feet of luggage space was rather more practical. The Spider also came with the world's best convertible hood, complete with glass side windows which retracted automatically as the hood was lowered. It was leak-proof and easy for single-handed operation.

For all the quibbles, Fiat were on to a winner, not least in America, where the Spider and Coupé were offered at near identical money to the MGB. From the year that sales began in the US, 124 production rose dramatically. Between 1968 and 1970 Spider production alone doubled. By the beginning of 1970, annual production of Spiders and Coupés at Fiat's Lingotto factory had risen to 50,000 units – that is about 15,000 more than MGB production.

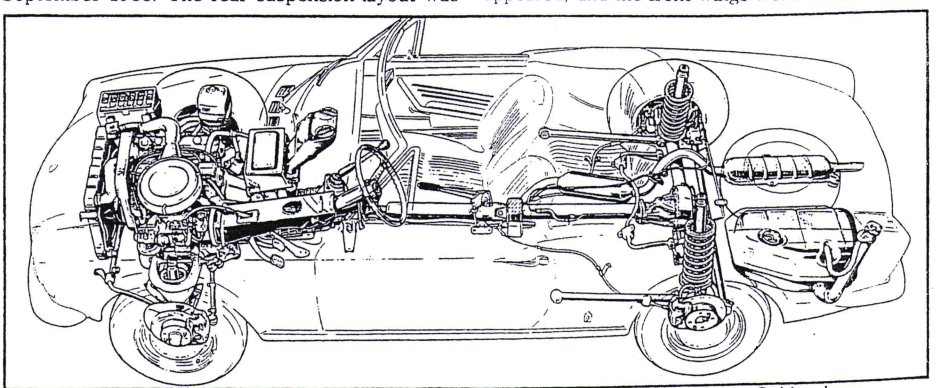
The first significant changes to the 124 occurred in September 1968. The rear suspension layout was revised, and this modification upset the Sports' impeccable handling characteristics. The modifications involved disposing of the torque tube and substituting a system with two extra short radius arms fitted above the axle tube toward the centre of the differential. The torque tube was dropped because it was found that unless the suspension radius rods were exactly aligned the torque tube would transmit substantial loads on the axle casing on poor roads. As breakages were apparently common, the system had to go. The new arrangement, together with extra rubber bushing, worked well, but the car now rolled rather more and there was a marked tendency toward understeer.

If the rear suspension modifications were a necessary evil, the introduction of the Mark II at the Turin Show in November 1969 was positively malevolent. 'With what woe did I discover its deficiencies. I was appalled,' wailed Setright.

The Mark II should have been everything the Mark I was and much more. The principal difference with this car was the adoption of the 125 saloon 1608cc variant of the twin-cam engine with twin Webers. Performance increased: as power was now up to 115bhp at 6400rpm, the car could reach 60mph in 11.6secs and top 105mph, a healthy increase over the 1.4's 12.8secs and 99.5mph. The Americans would surely be happy, having complained so much at the de-smogged 1.4 car's lack of urge.

But life didn't work out like that. The new car was notably thirstier than the 1.4 and could achieve barely 23mpg. Worst of all, the American specification car turned out to be no quicker than the 1.4 version. The Mark II was much 'softer' too – the handling had lost its edge. The brakes were even more over-servoed and tended to fade. The car rolled more than its predecessor and the gearbox (a five-speed as standard on the 1.6) acquired closer ratios and developed a snatchiness due to the increased torque. It was also a heavier car, and more expensive.

The styling, too, was upset. Twin headlights appeared, and the front wings were modified. Sud-



The 124 Sport drivetrain was very advanced in the sixties, as this cutaway of a torque-tubed Spider shows

denly the Coupé became rather plain. Of course, lots of creature comforts inside – better heater, an electric clock and windscreen washers – had appeared, but to what avail? Some housewives were happy, fashion following fancy-frees with cravings for fast roundabouts were not.

The revised Spider was more attractive. Two vestigial power bulges appeared on the bonnet and a new grille adorned the snout. A 1.4-litre version with four-speed gearbox was still available.

Nevertheless, the 1.6 continued to impress. Robert Glenton of the *Sunday Express* sampled the revised machine and sighed 'Believe it or not, this car spoke to me', and *Motor* summed up, 'Although it now has tougher opposition, notably from Ford Capri and Opel Manta, it has, in our opinion, yet to be surpassed by any upstart youngster.'

In the summer of 1972, Fiat introduced the 132 saloon offered with a highly modified Lampredi twin-cam of 1.6 or 1.8-litres. This engine had different block and head castings from its forebear, and in 1973 both engines were offered in the Sports. These revised cars are now known as the Mark IIIs. Power was rated at 108bhp for the 1592cc version and 118bhp for the 1756cc. The 1438cc engine was dropped altogether. Two gearboxes were offered: a four-speed (basically the old five-speed with fifth lopped off) and the new five-speed as fitted to the 132. Performance was up again: the 1.8 Coupé could now top 111mph and reach 60mph in 9.2secs. Those after even more performance could always opt for the Abarth Spider now being offered in limited and expensive quantities – but that's another story, ably recounted in *C&S* in January 1985.

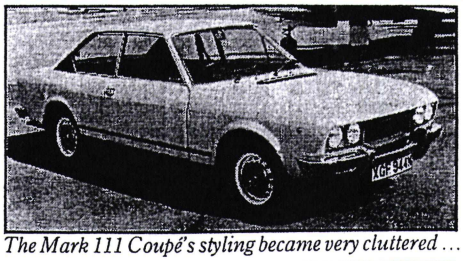
Even if the 1.8 was not as powerful as had been hoped, the Mark III was regarded as much improved over the Mark II. A single Weber carburettor helped restrain fuel consumption to the mid-20s, even if performance was affected. The rear anti-roll bar which had been removed on the Mark II re-appeared, and the brakes were revised. These relatively small changes restored much of the Coupé's old character. Nearly all had been forgiven.

But the revised Mark III styling was another matter. The Coupé acquired vast rear lights, extra grilles and very nasty styling trim around the nose. Fortunately, the Spider was largely left alone, although power bulges and bumpers became inevitably larger for the American market.

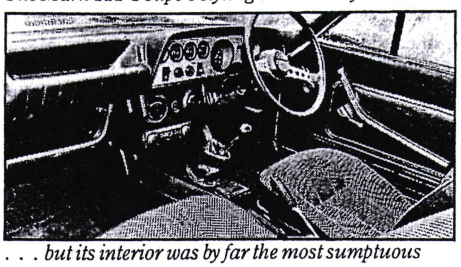
From 1974, all Spiders were destined for the USA as the open car continued to sell well there, but the Coupé was not as successful and production ended in late 1975. The last cars were sold in Britain in 1976.

From 1975 the 124 Spider continued to be developed and revised for the American market. By this time Fiat had bought Lancia and were hard at work developing the Beta range, the X1/20 (Monte Carlo) and the X1/9. But as long as there was demand for the Spider, Fiat continued to supply. And the American motoring press during the seventies ensured that a demand would be maintained. In August 1976 *Car and Driver* pitched the 124 against 11 other convertibles, concluding that the Fiat 'is the finest all-round sports car money can buy'.

In July 1978 a longer stroke 1995cc version of the 132 engine was fitted to the Spider and a three-



The Mark 111 Coupé's styling became very cluttered ...



. . . but its interior was by far the most sumptuous

speed Strasbourg automatic gearbox became available. The car was now called the Spider 2000. It produced only 86bhp, but at least it managed 104lbs ft of torque.

For May 1980, Bosch L-Jetronic fuel injection increased power output to a healthier 103bhp, but sales had now irreversibly slipped. A Turbo Spider was offered through Fiat agents courtesy of Legend Industries of Detroit, but in spite of good performance from the 120bhp car, just over 1000 were sold.

As sales continued to fall, Fiat handed over 124 production to Pininfarina, who then marketed the car under their own name. Supercharged Volumex and Abarth versions were offered, but fewer than 5000 Pininfarina cars were built between the time of the hand-over in March 1982 and the model's final demise in 1985.

Buying any second-hand 124 is an unenviable task as Fiats, perhaps more than any other Italian car, have an appalling reputation for rust. When buying a 124 it is not so much a case of finding a good one as finding one that isn't too far gone! Any second-hand 124 will demand bodywork attention.

Furthermore, Fiats rust everywhere. This is because of inherently poor quality steel used in the car's manufacture rather than too many built-in water traps. Doors fall off, floorpans drop out and holes appear everywhere.

Start your examination with the sills. The inner and middle sills take most of the structural strain, while the outers are largely decorative and their condition is not as critical. Check that the bottom rear corner of the door isn't jutting out – if it is, sill problems are likely. The front floorpans around the outriggers disappear. These are fairly easy to repair, as excellent quality (and very cheap) Lada outrigger assemblies are available off the shelf.

The front suspension turrets rust away. These can be plated, but the job is difficult. Spanish-listed SEAT parts would appear to be available as complete replacement units.

All 124 wheel arches rot and let the water in, and are generally difficult to repair. Check the rear under-valences too. The bonded-in front and rear 'screens let in plenty of water and rot the scuttles – replacements are not currently available.

Because the Spider's demise is only recent, it would appear that panel availability is very good and rumour has it that panels will continue to be supplied for another three years at least. Spiders also seem to avoid the rust problem rather better than the Coupés, for which most panels are unavailable.

Mechanically, the 124s are for the most part reliable and cheap and easy to repair. Virtually all parts are readily available and easy to fit. Engines should last at least 100,000 miles before serious bore or valve guide wear demands attention. The bottom end is particularly strong, but the cylinder head is apt to warp. A common reason for this is overheating due to blocked radiators which are cheap and easy to renovate. Head overhauls normally transform the twin-cam's performance.

It is crucial that camshaft belts are changed whenever a car is purchased and replaced thereafter every 30,000 miles. A breakage can result in very expensive valve/piston collisions.

Carburettor wear is common in older cars and replacements are cheap. A larger alternative is often advised. All exhaust systems are available but vary a great deal in quality.

A worn gearbox is indicated by excessive slop and a tendency to jump out of gear. Reconditioned units are available.

Brakes and suspension componentry are reliable, and all parts are available. Discs are cheap, Tar-Ox replacements with Mintex pads making a dramatic difference to performance and reliability. Calipers can be troublesome but replacements are cheap. King-pin ball joints wear – replacements are available but ensure only Fiat or Lada parts are used.

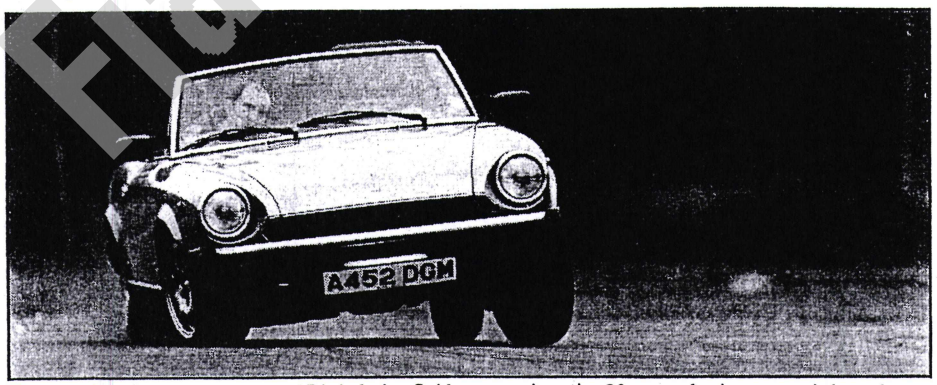
When buying a 124, it is not so much a case of buying a good one as finding one that isn't too far gone

It is absolutely vital when considering purchase of a 124 first to join the Fiat Twin Cam Register. This excellent club can help and advise on all aspects of 124 purchase and restoration. They are constantly tracking down parts sources, experimenting with performance modifications (for which there is huge scope) and tracing cars. The club even runs a computerised market place in which vast numbers of Twin Cam Fiats are listed for sale. The FTCR is a young organisation but is deservedly growing fast. Over 200 124s are now on their books and they can be contacted via their membership secretary, Dave Gibbons (whose gold Spider you see in colour here). Dave can be found at 166 Pickhurst Rise, West Wickham, Kent.

Very little outlay is required to buy a Fiat 124 Sport today. There appears to be no difference in values between Mark I, II and III Coupés (termed AC, BC and CCs respectively). A wreck can be picked up for next to nothing, and MoT'd runners for a couple of hundred pounds. Even the best on offer will fetch barely £1000. Having said that, a BC Coupé with delivery mileage was sold last year for £6000. There is clear investment potential!

Spiders always sell for a lot more money than the Coupés and anything up to £10,000 can be paid for Abarth versions of Pininfarina Spidereuropas. But excellent Mark I, II and III cars (termed AS, BS and CS respectively) can all be bought for around £2500 each. A fully restored example may make nearer £4000 and MoT'd runners can be bought for around £1000. Right-hand drive converted cars (undertaken by Radbourne of Chiswick in the mid-sixties and Hands of Basingstoke in 1984-5) are worth significantly more than their standard left-hand drive equivalents, and as yet torque tube suspension cars have no price premium.

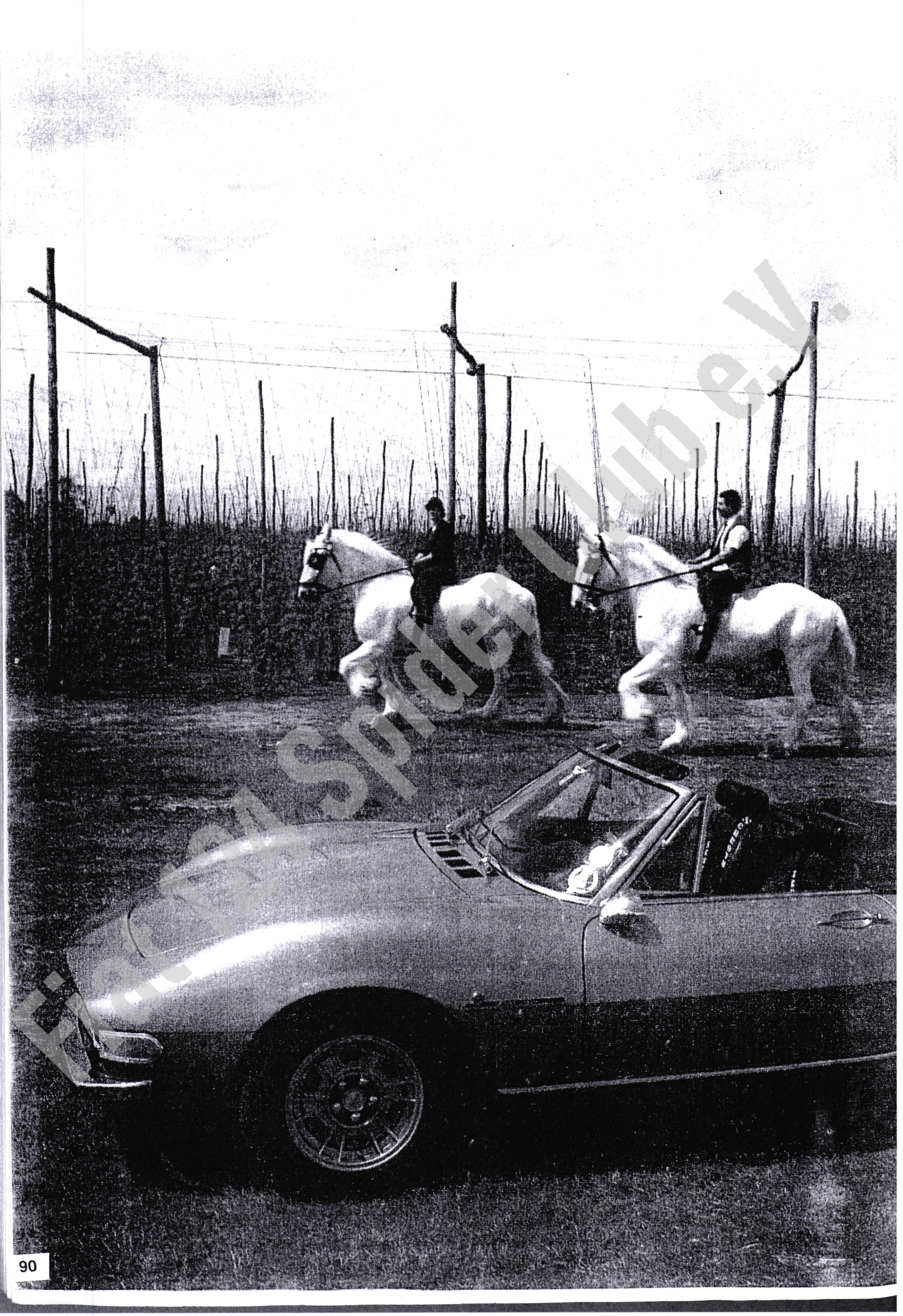
There can be little doubt that the dynamic and practical Fiat 124s are among the most under-rated classic cars available today.



The end of the line – a rhd converted Pininfarina Spidereuropa in action 20 years after its ancestor's launch

Fiat Twin Cam Register


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Fiat Spider Club e.V.

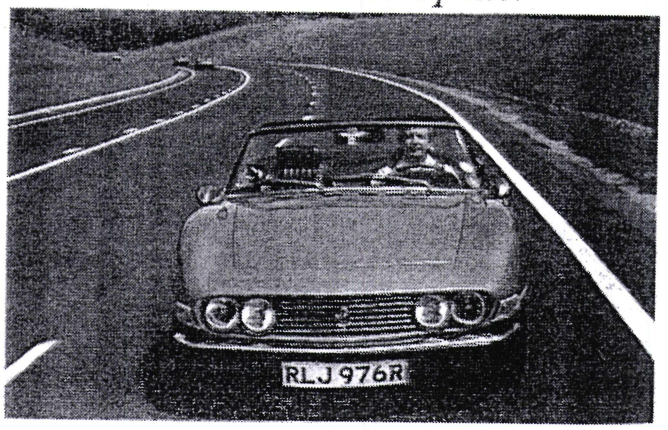


Our thanks to Whitbread Hop Farm, Beltring, Paddock Wood, Kent

PHOTOGRAPHY MAURICE ROWE

Fiat v. Ferrari

A Fiat Dino? Yes, an earlier example of synergy, before the Prancing Horse was swallowed whole by the Italian giant. Tony Lewin drives a rare treat – the Fiat Dino Spider



The highly placed Fiat executive's offer astounded the select group of seasoned writers, huddled together on a closed-off Italian autostrada one winter morning just 21 years ago: "Maybe we'll deliver the cars first and send out the bills later."

Nor was the official – and history doesn't record how much longer he remained in the Italian giant's employ – either making a cheap joke or referring to two-a-penny *nuova* 500s. The glee that must have been writ large on every correspondent's face was for real, for each had just minutes earlier completed two-way maximum speed runs at almost 130mph and had screamed past the quarter-mile post in just 16sec, courtesy of 8000rpm of pure blood-red, quad-cam Ferrari grand prix power.

Nor, either, was this seemingly rash promise the episode that finally flipped Fiat out of their cosy Sixties prosperity and into the nearly terminal downward slide of the 1970s; no, it was a deliberate but quickly calculated move in a rush programme whose aim was to exploit Fiat finance to further Ferrari's fortunes in

Fiat 124 Spider Club e.v.

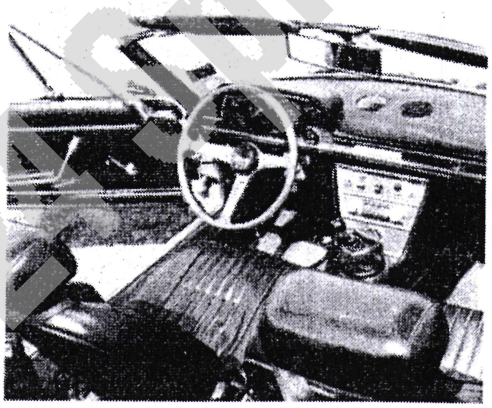
single-seater racing – and so what if some of the glory coincidentally rubbed off on the baby-car builder, too?

The story, and over the intervening two decades dozens of others like it, has become all too familiar. Racing's rule makers, intent on keeping the costs of competition under control, impose high minimum-production quotas for engines so as to force teams to race cheaper production-based power units; manufacturers, mindful of the glories to be gained by beating everyone else to the flag, respond by mass producing racing engines rather than racing mass production engines. And that's essentially what Fiat provided for Ferrari – the necessary 500-plus production volume to allow the 2-litre four-cam Dino V6, derived from the 1.5-litre Formula 1 engine of 1961, to compete in new Formula 2.

Fiat's stake in Ferrari had in any case been steadily rising throughout the Sixties and the racing car builder had suffered several lean years on the world's racetracks, so a very competitive circuit engine must have rated as a high priority. The benefits would be mutual – Ferrari would gain free homologation for the V6 and Fiat would enjoy the cachet of Ferrari power for their road vehicles. The problem was to find a suitable Fiat home for such an exotic piece of engineering.

The world soon saw the solution – in the shape of Pininfarina's suitably sculptural Fiat Dino Spider – at the Turin Show in autumn 1966. And thus was one of the first homologation specials created; few details were provided, though everyone knew that 500 had to be built and sold within a specified period for the homologation to be approved. And that's where the autostrada driving exercise early the following year came in – the cars had been finalised in record time over the winter, and the journalists were there to appraise pre-production examples. Even though Fiat claimed all 500 Spiders had already been spoken for, there was the underlying suspicion that the profit and status-hungry corporation intended to produce slightly more.





Above: Bulbous beauty – to some. Left: Gearbox is a smooth but angled-shift five-speed ZF, as in the Fiat 130. Tidy cabin has a Ferrari-like feel

Hurried though the chassis design undoubtedly was, with its live rear axle and saloon-derived front end contrasting uncomfortably with the shapely body and the sophisticated engine, the Dino Spider was an instant hit with the Press.

The Dino was never officially imported into Britain, though it was ironic that barely had the ink dried on the UK's Rome Treaty application than the Fiat/Ferrari was withdrawn from production. Yet in its short production span – just over six years – the Fiat Dino was remarkably successful and, despite going through considerable changes and many crises en route, sold almost 8000 units at a price that was not far distant from that of the mid-engined Ferrari Dino using the same engine.

Built initially in the Fiat factory, the Spider was soon joined by a rather prettier Bertone-styled coupé which immediately grabbed the sales limelight. But following Fiat's acquisition of the controlling interest in Ferrari in 1969 there was another upheaval – production was transferred to Maranello, and Fiat exercised their authority over Ferrari by heavily productionising and simplifying the design of the engine as well as substantially enlarging it from two litres and 160bhp to 2.4 litres and a claimed 180bhp.

At the same time chassis and body changes were also implemented. In place of the crude live rear axle located on single-leaf semi-elliptic springs came a proper independent rear-end from the 130 saloon; the 130's ZF five-speed gearbox replaced the 'interim' four-speeder with an afterthought fifth tacked on behind. And though there were no noticeable visual clues, the two bodies were slightly lengthened – leaving the doors as the only panels common between 2.0 and 2.4.

It's this 2.4-litre Spider that has been keeping Mike Morris entertained for well over 10 years. "It's the rarest of all the Dinos," he says proudly. "There were quite a few 2.4 coupés built but only 420 Spiders were made and not many survive – in this country there are only about five or six.

"It's nice to have something that you don't see around every day – I've had it a long time and I've enjoyed the car a lot. And I didn't buy it because I wanted to make a financial gain. I bought it because I liked the car."

As secretary of the worldwide Dino register he's in touch with enthusiasts in every conceivable outpost. "We've even got a Spider owner in Alaska," Mike grins.

Resisting the temptation of the picture-packed Dino 'den' which once used to be his garage, we file outside to inspect the real thing. A broad, double-fronted up-and-over door lifts to reveal a 911 Targa (the ideal holiday car according to Mike), a world tour in personalised number plates such as 4-CAM and naturally DIN-O, plus, looking neat and small but nevertheless still enticingly Daytona-like, the tail-end of the rare Spider.

"I haven't used it for some while," confesses Mike, mercifully forsaking the feminine form and the pat of the bonnet. "Today's the first decent day for a long time, so I hope it'll start all right."

And start it did – in that inimitable and exciting way so unique to highly strung Italian machinery. First, considerable churning on the starter, then a couple of coughs and gurgles through the carbs and exhausts; a pop, a splutter and

eventually an irregular juddering as at last two or three cylinders catch.

On the hand throttle Mike has the Dino humming happily at some 3000rpm. "I always make sure I warm it up properly. If you don't you'll soon wear the profiles off the cams; it's expensive to fix and you lose the performance anyway. Changing the oil regularly helps, too, and using the right filter – the Ferrari type with the ball in it that traps half a litre of oil so that the cams can get their oil quicker – is essential. It's pointless trying to save money by using the cheap types of filter."

And as the Spider backs out of its nest it shows first its best angle – the square-cut tail seen from the rear three-quarters where it has echoes of the bigger, older Ferrari roadsters – and then its most controversial and certainly most dated aspect, that front. The proportions initially seem all wrong, the bulbous wings being too high and overstated, the grille too low-set, perhaps even too narrow and certainly jutting uncomfortably far forward. But with half-closed eyes and a little imagination it's easy to see Ferrari's Dino in there – especially, as Mike knowledgeably points out, the original '65 show prototype with the Plexiglass nose and the lights in the grille.

"This one's a bit more docile than the 2-litre," explains Mike as we ease down his lane and head for the open country. "The 2.4 has a lot more torque – you don't have to row it along so much. It's easy to drive, just like a modern car."

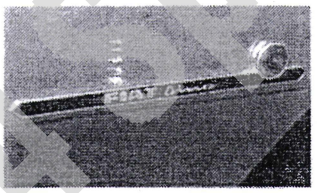
Worries about the Dino's rarity and value were evidently not inhibiting Mike's driving style as we snarled past a long line of crawlers on a brief stretch of three-lane: "The thing about this is that you can't easily afford Ferrari convertibles – this you can, you see." And as he snatches yet another neat 8000rpm red-line gearchange, there's a hearty chuckle: "It must be worth about £25,000, I suppose. The 2-litres are going for anywhere between £17,000 and £20,000 at the moment."

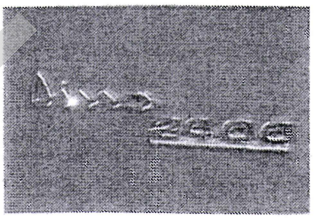
Hardly bargain-basement stuff, but then the Spider, particularly in its 2.4-litre form, was an advanced car for its time and had a technology

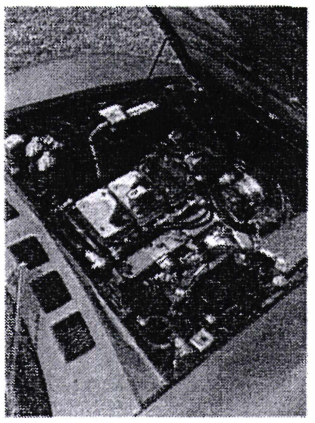




Fiat Dino is home to exotic Ferrari engineering – in this later example of the Spider, a 2.4-litre, more torquey, '180bhp' version of the original 2-litre V6







level far closer to Ferraris than Fiats. The Dino was the first road car to be fitted with electronic ignition, for instance. Marelli, a Fiat subsidiary, specially developed the Dinoplex system for the car following chronic plug trouble with early models. The dual-circuit brekes were advanced for the time, too, featuring ventilated discs and four-pot calipers all round.

Lifting the Spider's bonnet reveals not only the surprisingly compact V6 with its red Dino script on each double cam cover but also the three twin-choke Webers and their non-standard small square air cleaners and a host of interesting minor details, too – such as the electric vacuum pump which cuts in automatically to top up the vacuum in the reservoir.

Morris explains: "The 2-litre had very over-servoed brakes, but if the engine died coming down a hill and you couldn't stop with the first two pushes of the pedal you'd had it. The 2.4, with less servo action, incorporated this fail-safe idea. The Dinoplex" (here he points to the massive finned aluminium casing on the offside) "has an emergency function too; you can bypass it to revert to ordinary coil ignition if you're jump-starting, for instance. They used exactly the same unit on the Formula One cars, by the way – the 312s and suchlike."

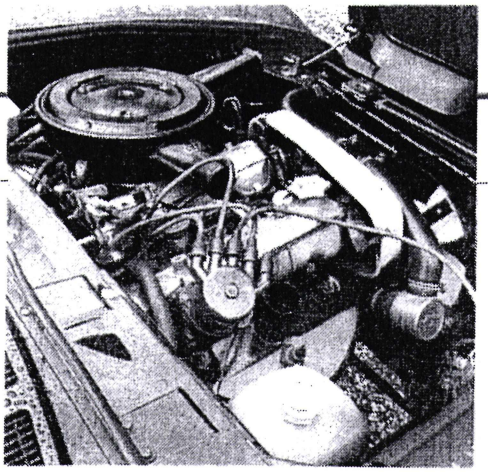
Nor are spare parts – at least the majority of them – the headache that one might expect. "The tuned exhaust system, which has a total of eight silencers," explains Mike, "is very cheap at only £185. But you've got to know your part numbers and what's common to other cars, too. The front brake calipers, for instance, are Maserati Ghibli, those at the back De Tomaso Pantera. Much of the suspension is Fiat, mainly 125 – but unique items such as the ventilated discs can be harder. I found my set on a wrecked coupé in a London scrapyard and had them skimmed."

The Dino's pedals are not so closely crammed as in some Italians and the Alfa Spider-like angled gearchange (dog-leg first on the ZF box, remember) is easy; steering is not very positive at low speed, though with 205-section tyres it's certainly heavy for parking. And there's something unaccountably Ferrari-like about the tidy but otherwise undistinguished cabin detailing. Perhaps it's the flat-set wood-trim steering wheel or even the heater controls set between the seats.

But it's still that magnificent engine that leaves the most lasting impression – every single horsepower of it. All 195 of them, in fact. For according to Mike Morris, who's been researching the subject for many years, the Fiat Dino engine is identical to the Ferrari Dino engine in all but jets and exhausts. And the fact that Fiat claimed 'only' 180 and Ferrari quoted a full 195 is down as much to company politics as to differing SAE and DIN standards.

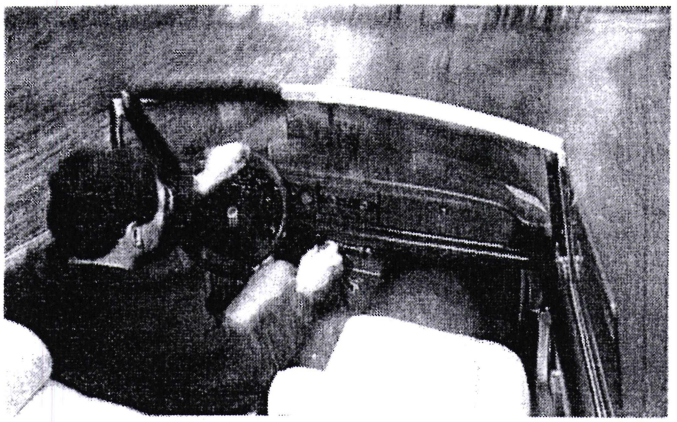
Yet whatever one's feelings might be to Fiats past and Fiats present, there's one truth that cannot be denied. Without Fiat there would have been no Dino project at all; the Ferrari world would have been deprived of its one eminently sensible classic. Instead 8000-odd Fiat Dino buyers might have plumped for Porsches, and today's moderately heeled enthusiasts would have been denied the opportunity of enjoying a Ferrari-engined sports car. M

Fiat Dino Register



Car has 1800cc engine with European-spec carbs (above), which gives plenty of go (below)

Abart



This Fiat 124 Spider has been changed from a Californian cruiser into a retro-rally thoroughbred. Robert Coucher explains how the metamorphosis happened

GEOFF LOWE IS AN INVETerate car 'fiddler'. He has owned 25 cars since 1973, and has been unable to keep his hands off any of them. Every one has received a tweak, some degree of personalising and, in most cases, a full strip and rebuild.

Past cars include BDA Escorts, Minis, a TR6 and more recently a brace of very hot Fiat Unos. "I fitted an electronically controlled turbo boost to one of the Unos which gave the owner of a Janspeed Turbo Capri a big fright at a 96 Club test day at Castle



Fiat 124 Spider Owner.

htime



Fiat in American trim, painted awful Electric blue

Coombe," Geoff recalls. His interest in Fiat engineering continued with a bang, when he inadvertently revved the Uno to over eight thou and banana'd the conrods.

"Since then I've admired Italian cars and there verve. But having wrung all I could out of the Unos, they had to go, so I sold them and bought an MG Midget and then found this 124 Spider in the classifieds. I called the dealer in High Wycombe and bought the car pretty much blind for £3500 on 13 June 1990.

"It was a standard Californian-spec 1978 124 Spider, left-hand-drive and with very little rust," he says.

"The car had an MoT but was running a little roughly, but with a bit of fiddling I got it going well enough to start using it. The respray had obviously been hurriedly applied in the States and I discovered the original colour had been burgundy under the Electric blue.

"Then I went along to the Fiat 124 Spider meeting at Syon Park in June last year and saw John Eglington's 124 Abarth Rally. That was it. I had my next project. I studied his car in detail, got the paint number off the chassis plate and noted all the special touches like the neat little overriders; that sort of thing.

"The first task was to get rid of the horrendous American-spec bumbers, hung onto each end of the beautiful Pininfarina styled shell." Geoff had seen how the Abarth Rally had the front indicators fixed directly to the bodywork; a much better and more attractive set up, enhancing the car's shape.

"I hadn't done any welding until this car," confesses Geoff. "I bought a Clarke MIG outfit and practiced on old pieces of steel, just as the instruction manuals suggest. Soon I had the confidence to tackle work on the car, and it has turned out to be quite easy," he says.

The Abarth metamorphosis continued. The American side indicator marker-lamp apertures were welded up and the bodywork stripped back to the bare metal. Geoff moved the fuel filler cap to the rear panel behind the hood, from the usual location in the rear wing. This necessitated cutting the correct size hole and welding the original closed.

"I got hold of some aviation fuel pipe and a couple of 90 degree bent piping from a Renault 5 and connected it all up with the required overflow pipe, he says.

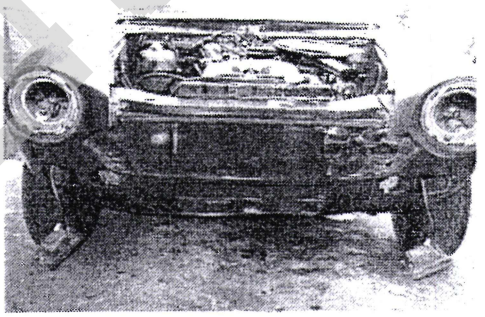
Fortunately the rest of the shell was in really good condition. There was one crease where the door had swung open and marked the wing, but that was soon sorted out. A little surface rust was evident, which Geoff gently polished off and then treated with Trustan 23 rust inhibitor.

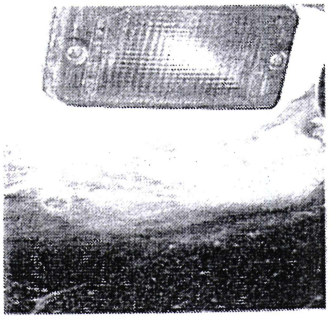
"I gave the shell a good going over with fine sandpaper, wiped it with thinners, then sprayed on nonporous etch primer, which gives a good bond between the body and the primer coats," he says.

Meanwhile Geoff had been researching what else was needed to make his Spider into a close replica of the Abarth Rally. He had removed the bumpers and refitted the front indicators, but he needed to fit a set of overriders. A pair was available from Germany for £150, which seemed extortionate, for a few blocks of rubber.

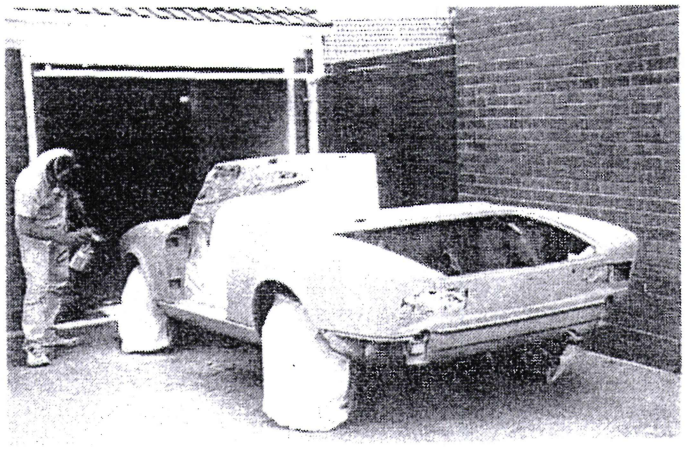
So he got hold of a set of Triumph 1500 overriders and with the help of an angle grinder and a few paper templates, fashioned the hard plastic to suit the contours of the Fiat's valances. Total cost — £10. Clever.

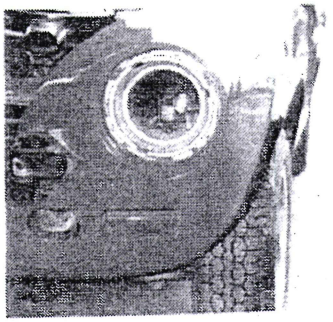
Unfortunately he mistakenly entrusted the bonnet and bootlid to a sandblasting 'specialist' who ruined them completely. He had to find replacements, which were uncovered at DTR, Fiat 124 specialist in Twickenham. "They had a bonnet off an old car for £225 and a bootlid ➤➤➤





Geoff stripped the car of the American style bumpers (left) and fitted the indicators directly to the body (right)





Geoff did all the painting and welding himself

Fiat 124 Spider Club

for £125, which I had to buy," he says.

The next trick was to change the colour of the interior trim and soft-top. This Geoff resprayed with Vinylcote, changing the trim colour to a lighter 'Connolly'-type cream from the original brown, and the off-white hood had to be Abarth black to match the proposed paintwork. The original Abarths had lovely cloth bucket seats fitted, and Geoff has found a pair of similar looking Sparco racing seats which look just the job, but they will cost over £300 for the pair, which is just a little expensive at the moment.

Then came the finishing coats. As any *aficionado* will tell you, the Abarth is usually painted in red with matt black bonnet, bootlid and plastic wheelarch extensions. Geoff had the correct Rosso 171 for the body, but his wife Kim put her foot down at the thought of matt black proturberances.

The extremely rational question, "Why can't we have a normal car?", was difficult for Geoff to answer. So a sensible compromise was reached, and the Fiat received a number of coats of gloss black cellulose in the strategic places.

"At no time have I tried to pass this car off as anything other than my personal interpretation of an Abarth Rally. So the fact that this is not an exact copy is no problem to me at all," he says.

The black plastic wheelarches are very scarce, so Geoff painted his in cellulose, with judicious use of 3M fineline plastic masking tape. "This gives a very sharp edge unlike paper masking tape which can be a little fuzzy," he says.

Then the finishing coats were applied, and the car transformed from a rather ungainly Electric blue Californian cruiser into a retro-rally thoroughbred.

Only the Wolfrace wheels were obviously wrong, but Geoff spotted an ad in the classifieds for a set of five Fiat Cromodora alloys and a 132 1800cc engine, all for £130. "When I discovered the wheels were almost exactly the same look as some Abarths had I was down there like a shot," he says. With the wheels fitted and a set of Abarth emblems affixed to the centre hub, the car looks superb.



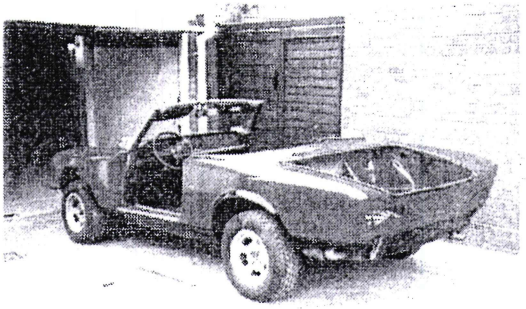
Geoff had left the original engine alone, other than fitting a European twin-choke Weber carb and giving it a good tune to ensure it runs sweetly. At present he has stripped the spare motor and is having the components balanced and the flywheel lightened, at Clifford Cox Engineering in Reading (0734 585 469).

"I am gas flowing the cylinder head myself," he says, "and have bought the Cetem Porting kit for the job."

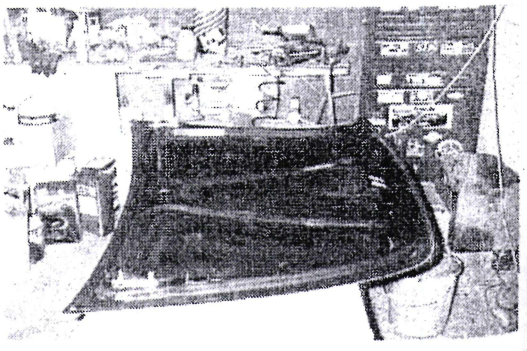
With careful assembly, blueprinting and matching of all the ports, Geoff hopes to surpass the standard Abarth's output of 128bhp. "These engine's are superbly built and very rugged. The crank and con-rods are steel and on this one there is hardly any wear at all. The bearings were like new, and the crank just needed polishing. The bores were OK but, ▶▶▶

Paintwork and finish superb. Details very correct

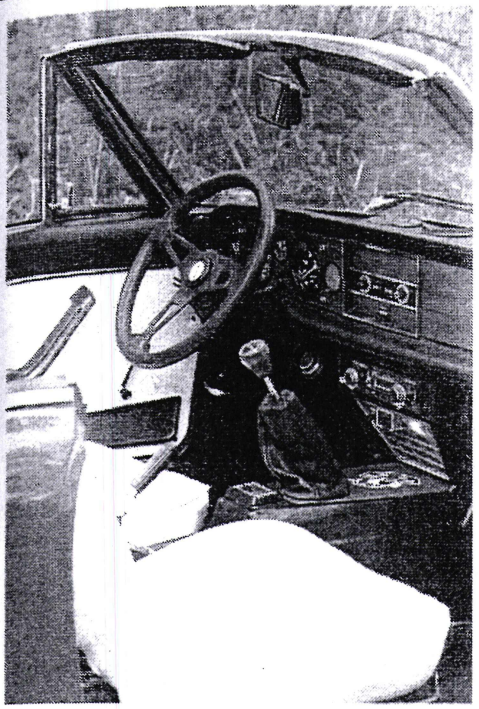


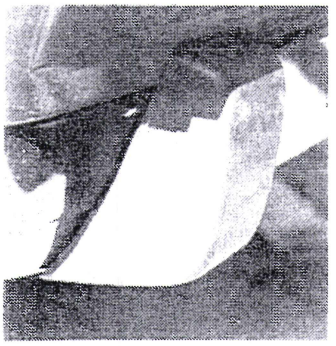


Fiat begins to look truly Abarth (above). Geoff had to fit a replacement bonnet and bootlid as originals damaged by sandblasting

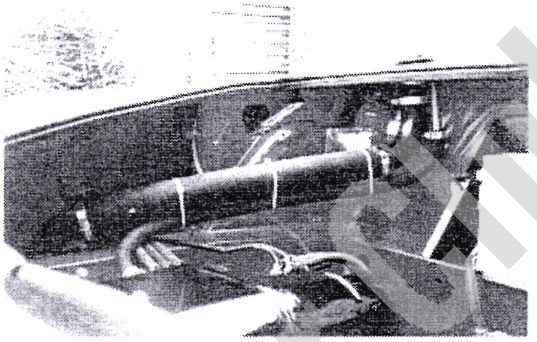


Fiat Spider Club





Adapted overriders fashioned by Geoff (right). Relocated fuel feed in boot (below). Vinylcoted interior (left)



Geoff's restoration costs

Brake discs	£26
S/h gearbox	£450
Vinylecote	£16
Paint materials	£61
Trim	£58
S/h boot	£125
S/h bonnet	£225
Carpet set	£93
Shock absorbers	£68
Engine and wheels	£140
Engine rebuild	£350
Exhaust	£100
Total	**£1712**

Useful addresses

124 Spider Register, 22 Evelyn Close, Twickenham, Middx, TW2 7BN; tel; 081-898 2599. **DTR European Sports Cars,** Amyand Park Road, St Margarets, Richmond, TW1 3EE; 081 891 4043. **Old Forge Garage,** The Green, Ealing, London W5 6DA; tel; 081-567 4010.

of course, I fitted new rings," he says. "The engine has to be ready and fitted by 31 May for the next big Fiat meeting at Brooklands."

Geoff is thinking hard about fitting a set of downdraught Weber carburettors. The Abarths had 44mm Webers as standard, and Geoff is contemplating spending the £150 needed to secure these carbs and manifold.

"I am planning a trip to the Fiat and Lancia specialists, Bayless in Atlanta, Georgia, USA, to get hold of an exhaust system. This may sound crazy, but their prices are half the price of the ones here, and I have access to reasonable airfares, so it makes sense. But anyway the trip will be tremendous, as they have the most fantastic stock of parts. I hope to get a couple of Abarth enamel body badges while over there, too," he says.

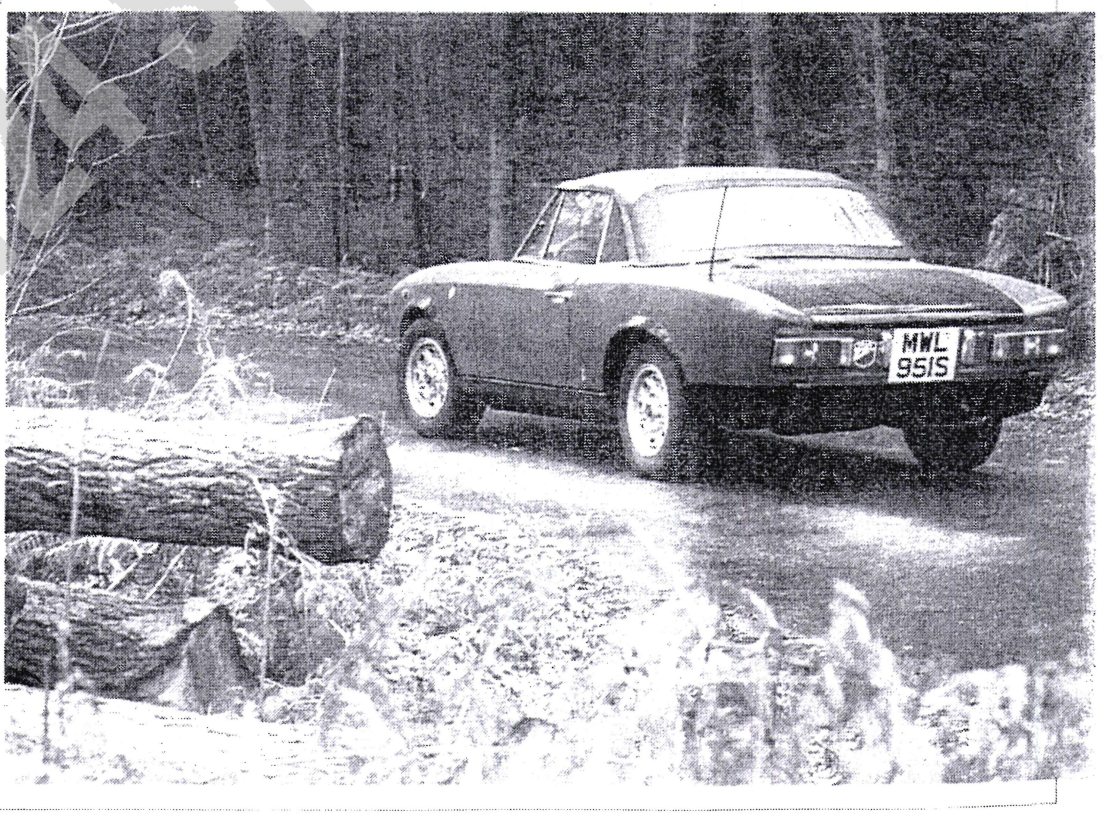
So Geoff has spent just over a year getting his Fiat Spider into the fabulous condition you see here. But being the 'fiddler' he is, he's continuing to get all the mechanics fettled to ensure his replica not only looks as good as an original but that it goes equally well, if not better.

With a brace of Webers strapped to the side of the singing twin-cam 1800cc engine, and a duo of period bucket seats in the cockpit, this car will have the heart and soul of the rare and dynamically exciting Abarth Rally. Only 1013 were originally built. Geoff Lowe has added one more hand-built example to the rare rally breed — a very special Spider.



Emotive rally-bred Abarth logo on bonnet

Superb replica at home on forest tracks (below)



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