



IN a journal of the calibre of AUTOSPORT, there is no need to write a lengthy introduction to the Lotus Cortina. After the Cortina G.T., with pushrod engine and semi-elliptic springs, had made a habit of victory for most of the 1963 season, the Lotus version was homologated. This model, with its twin-cam engine and helical rear springs, proved to be even faster, and it is now available on the open market in road-going tune.

The basis of the car is the standard pressed steel saloon body, which is stiffened at the rear and has aluminium for the unstressed panels, such as the doors, bonnet, and boot lid. (The latter tends to bend or dent if closed sharply.) The front suspension has a very thick anti-roll bar, but at the rear a complete re-design has taken place. The axle is now located on trailing arms, with an A-bracket for lateral positioning. At the apex of this member, the trunion has a grease nipple to ensure that no friction here can cause roll resistance.

Wheels with extra wide rims are set out to increase the track. The Girling brakes, with discs in front, have vacuum servo assistance. The body is carried appreciably lower than that of the standard car, the battery being moved back into the boot where the spare wheel is now bolted flat on the floor.

The engine is the Ford five-bearing four-cylinder unit, enlarged to 1,558 c.c. It has a light-alloy, twin overhead camshaft head, with two inclined valves per cylinder, and the drive for the camshafts is by chains. Two double-choke Weber carburettors, type 40DCOE 18, make an impressive sight under the bonnet.

Exceptionally close ratios are employed in the gearbox, the excellent Ford synchromesh being retained on all gears. The bottom gear is quite remarkably high for a saloon, but the good torque of the engine in the middle revolution ranges ensures certain restarting on steep hills—the diaphragm spring clutch will stand plenty of slipping. The remainder of the car follows Ford practice, though some components are of aluminium to counteract the extra weight of the twin-cam power unit.

The interior of the body is upholstered in



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tests a

LOTUS FORD CORTINA



black Vynide, the seats being much more comfortable than the standard ones and giving good lateral location. The seating position is fairly high, the driver taking up a commanding posture behind his wood-rimmed steering wheel. All the controls are well placed for fast, long-distance driving.

The engine is an instant starter, even after a frosty night in the open. After a few seconds, the choke may be released, no accidental stalling taking place. By no means as flexible as the G.T. unit, the twin-cam engine can nevertheless be relied upon not to foul its sparking plugs or overheat during extended traffic driving. It is perhaps a little "lumpy" when idling and objects to pulling at less than 2,000 r.p.m., but thereafter, gives a most satisfying "punch" up to its peak speed of 5,500

r.p.m. It will reach about 6,200 r.p.m. on top gear and can touch 6,500 r.p.m. on the indirects, at which velocity a red mark is found on the rev.-counter dial. Actually, the relatively large "four" is just about running out of breath at such a rate, possibly due to pre-ignition of the very versatile sparking plugs.

The clutch is fairly heavy to operate and grips very firmly, but it never judders when slipped deliberately on the high bottom gear. This ratio is equivalent to second speed on most saloons, so it must be employed a great deal during traffic driving, when one seldom goes higher than the 70 m.p.h. second gear of the Cortina Lotus. The gear change is superb, which removes any objection to the frequent use of first speed. The gearbox and rear axle are both audible, but the noise level is not unduly high.

Except on very bad roads, the car rides remarkably well. The steering has a "competition" feel about it, allowing the machine to be pulled back onto its line when one has inadvertently run wide on a corner. At Brands Hatch, on Clearways, it is possible to get back onto the chosen line after over-sliding and dropping down the outer camber. With most saloons, the corner is irreparably spoilt if this mistake is made. The handling characteristic is an under-steering one, but the tail may be "flicked out" with the steering, or power may be used to break the rear end loose.

On very sharp corners, particularly where there are bumps, some rear wheel bounce and a tendency for the inside tyre to lift emphasize the presence of a rigid axle. The brakes, with servo assistance and discs in front, are smooth, dependable, and very powerful. The parking brake is a somewhat utilitarian pull-out handle but it holds well on hills.

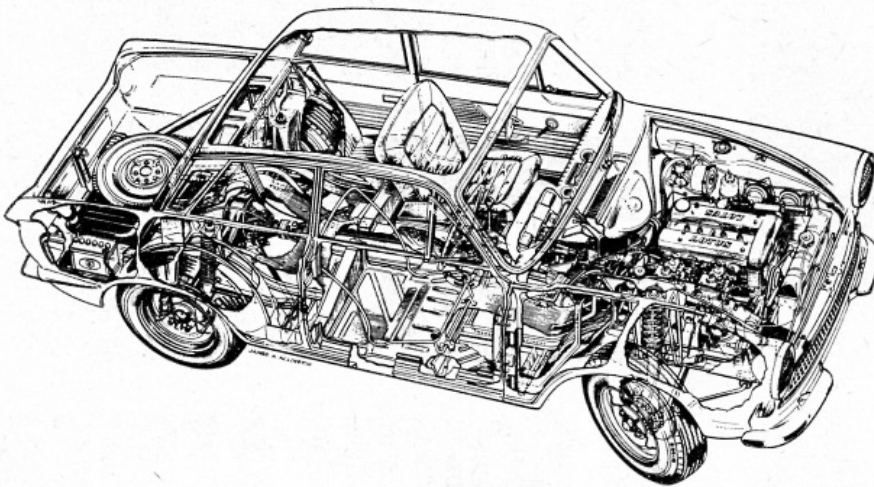
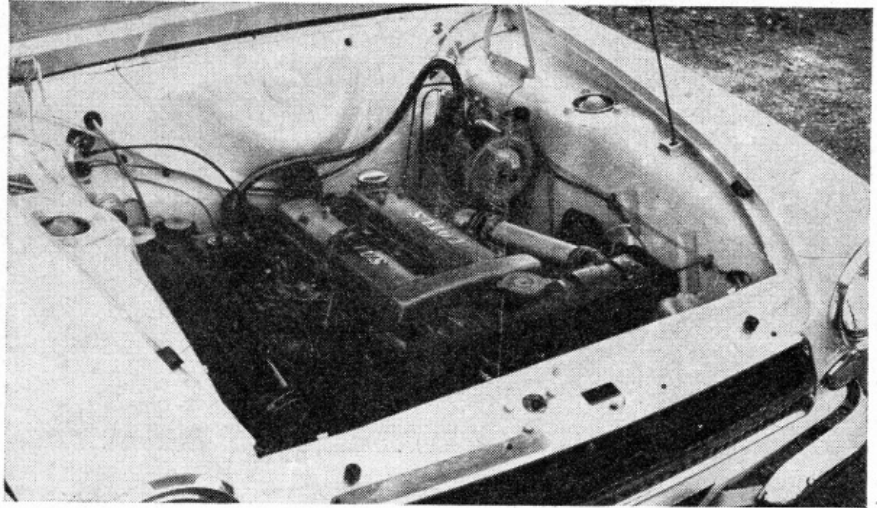
The acceleration is very good indeed, aided by the closeness of the gear ratios. The engine seems to prefer hard driving and on average British roads this Ford is a hard one to beat. The acceleration continues strongly right up to 100 m.p.h., and consequently this is a speed which is often seen. When driven with abandon, the Lotus Cortina may consume fuel at the rate of a

gallon for less than 20 miles. This consumption is not outrageous, having regard to the outstanding performance, but the size of the fuel tank is rather inadequate.

The silencing of the engine is worthy of praise and the unit is not mechanically noisy. The whole character of the car encourages fast driving, the acceleration being more than a surprise to many other road users. The cream paint, with green flashes, gives the game away, but I would

URGE DEPARTMENT. The engine (right) is a five-bearing, four-cylinder, twin-cam unit of 1,558 c.c. Power output is 105 b.h.p. at 5,500 r.p.m., which is quite healthy for any sort of motor car.

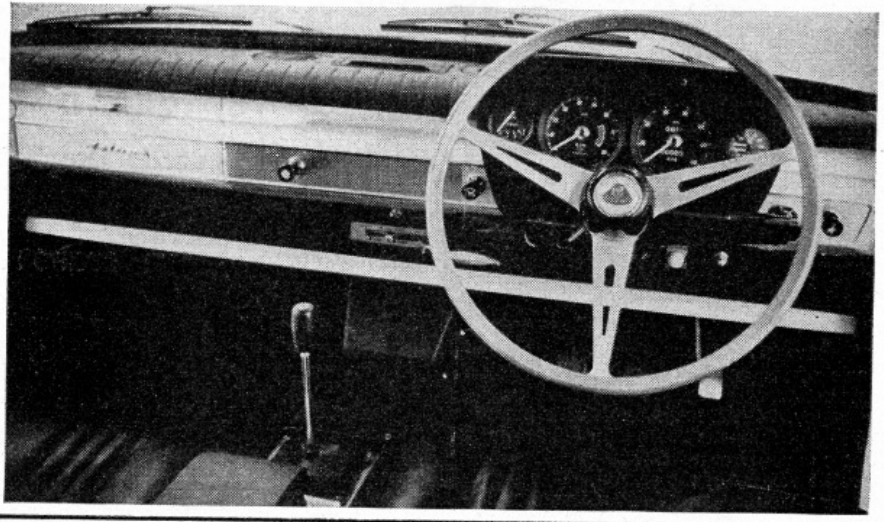
CUTAWAY DRAWING of the Lotus Ford Cortina (below), a high performance car developed jointly by Lotus and Ford. The changes from the original Ford Cortina can be seen.



prefer to spray the body in one colour, when one would have a real wolf in sheep's clothing!

The Lotus Cortina is a roomy four-seater saloon, with a large boot and plenty of interior parcel space. It is practical rather than luxurious, but has quite adequate equipment and a very good heater. The man who drives mostly in towns or traffic would probably prefer the more flexible G.T. and would certainly use less petrol. For really going places on the open road, however, the Lotus model, with its fierce acceleration and its speed of well over 100 m.p.h., is incomparably the better car and is made to be exploited by the press-on driver.

INSIDE of the car (below), showing the wood-rim steering wheel, the remote control gear-change and the instrument panel, which includes a speedometer, a rev.-counter and oil pressure, water temperature and fuel gauges.



SPECIFICATION AND PERFORMANCE DATA

Car Tested: Lotus Ford Cortina saloon, price £1,100 3s. 1d, including P.T.

Engine: Four-cylinders 82.55 mm. x 72.75 mm. (1,558 c.c.), twin overhead camshafts. Two double-choke side-draught Weber carburetters. Compression ratio 9.5 to 1. 105 b.h.p. (net) at 5,500 r.p.m. Lucas coil and distributor.

Transmission: Single dry plate diaphragm spring clutch. Four-speed all-synchromesh gearbox with short central lever, ratios 3.90, 4.79, 6.40, and 9.75 to 1. Open propeller shaft. Hypoid rear axle.

Chassis: Combined body and chassis. Independent front suspension with MacPherson struts, wishbones, and anti-roll torsion bar. Burman recirculating ball steering gear. Rear axle on trailing arms and A-bracket. Helical springs and telescopic dampers all round. Girling hydraulic

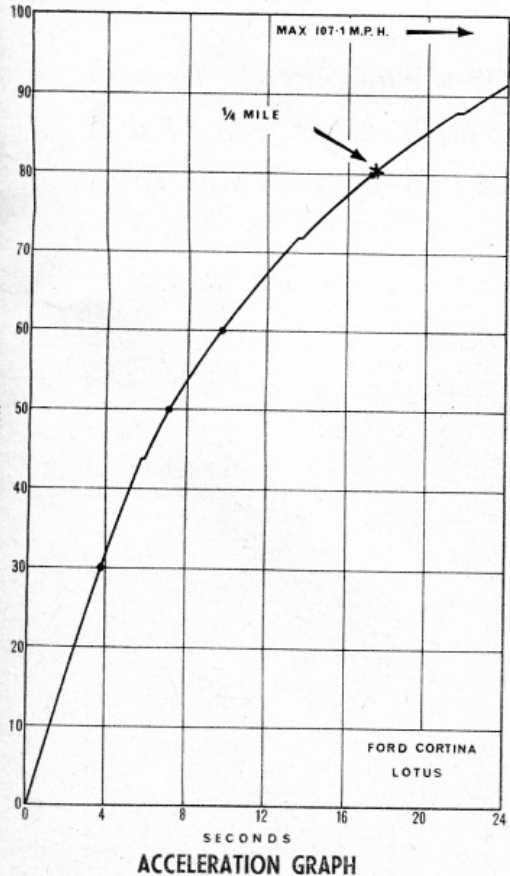
brakes, discs front, drums rear. Bolt-on disc wheels, fitted 6.00-13 in. Dunlop tubeless tyres.

Equipment: 12-volt lighting and starting. Speedometer. Rev. counter. Oil pressure, water temperature, and fuel gauges. Heating and demisting. Windscreen wipers and washers. Flashing direction indicators.

Dimensions: Wheelbase 8 ft. 2½ ins. Track (front) 4 ft. 3½ ins., (rear) 4 ft. 2½ ins. Overall length 13 ft. 10 ins. Width 5 ft. 2½ ins. Weight 16 cwt. 1 qtr. Turning circle 38 ft.

Performance: Maximum speed 107.1 m.p.h. Speeds in gears, 3rd 88 m.p.h., 2nd 72 m.p.h., 1st 44 m.p.h. Standing quarter-mile 17.2 secs. Acceleration: 0-30 m.p.h. 3.8 secs.; 0-50 m.p.h. 7.1 secs., 0-60 m.p.h. 9.7 secs., 0-80 m.p.h. 17.2 secs.

Fuel Consumption: 19-23 m.p.g.



ACCELERATION GRAPH