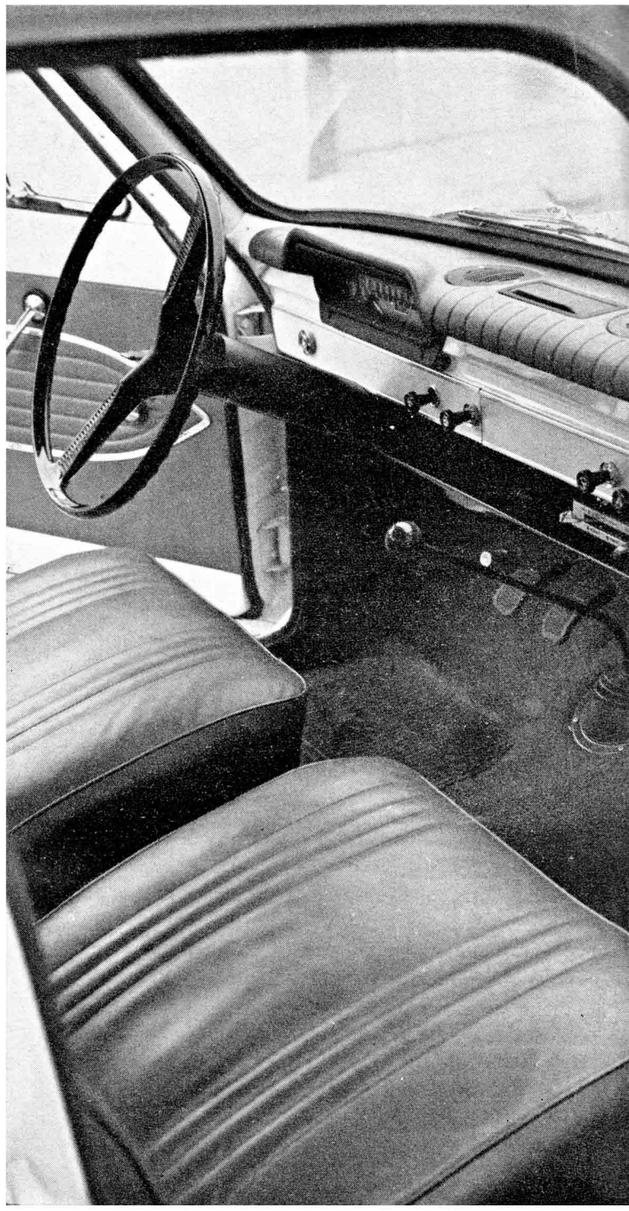
Time-Proved Design, But Sized To Sell

MARVIN LYONS PHOTOS



CAR LIFE ROAD TEST

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Writers have been speculating ever since as to the reasons for this decision by Ford Motor Co. Ostensibly the U.S. market "wasn't ready" for such a small car. Some have guessed that the auto workers union objected to assembling car components which were to have been shipped in from Germany (principally the V-4 engine and 3-speed transmission).

We are going to be so bold as to say that the real reason the Kentucky Cardinal project was abandoned was because of another Ford car, the English Ford Consul Cortina.

The Cardinal/Taunus was designed in Dearborn, with proper liaison between engineering teams in the manufacturing area so that the plant and machinery in Germany could produce the complete car. The Kentucky operation was strictly an assembly plant, although the unit body-frame structure was fully tooled for complete manufacture in the U.S.

At the same time Dearborn was designing and testing the Cardinal/Taunus (i.e., 1960–62), the Ford Division at Dagenham, England, had a similar assignment—a new car for world markets, slightly larger and more refined than the very small cars which are currently the best sellers in Europe. The Dagenham design was the Cortina, a car very similar in size, appearance and performance to the Cardinal—yet quite different in almost every single mechanical detail.

And now we come back to our earlier premise that the Cortina was the reason for abandonment of the Kentucky Cardinal. The Cortina is completely conventional in every respect, the Cardinal was not. The Cardinal had a 60° V-4 engine that required two cylinder heads and a gear-driven balance shaft. Its front wheel drive feature required four large universal joints and an expensive transaxle assembly.

In contrast the Cortina has a simple in-line 4-cyl. engine, a conventional 4-speed transmission, a one piece propeller shaft with a small universal joint at each end and a simple hypoid gear rear axle. The Cortina has a more refined front suspension and avoids the problems found in the Cardinal/Taunus system, which uses the powerplant package as a mounting for the front suspension wishbones.

The net result is a car (the Cortina) which weighs nearly 200 lb. less than its German counterpart. More important, the Cortina can be built for perhaps as much as $200 less in cost than the Cardinal/Taunus. It also is easier to service and over 500 English Ford dealers in the U.S. have parts, some of which are the same as have been used for years on the Anglia. ▶

FORD CONSUL CORTINA 1500

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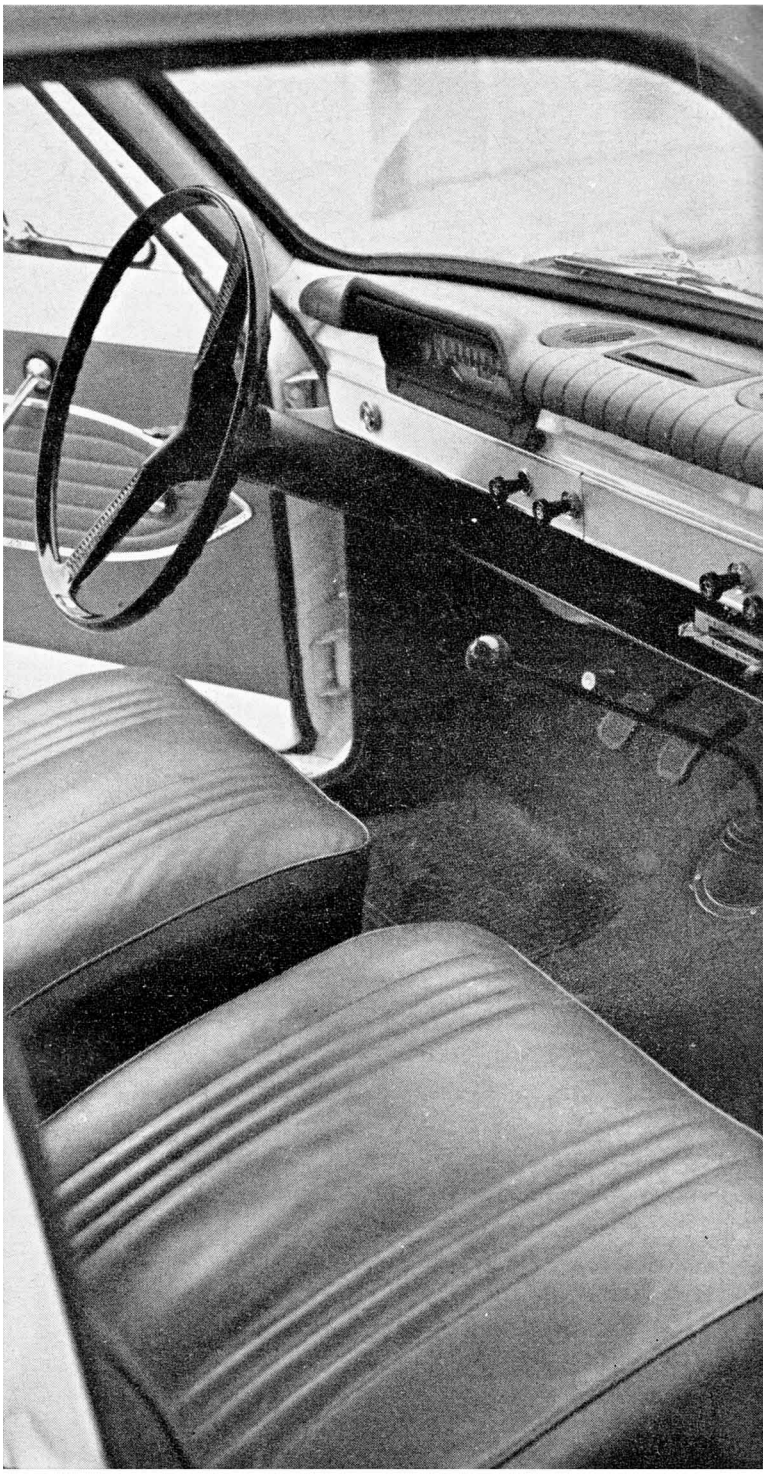

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CORTINA 1500

In short, the English Ford Cortina is a modern-day Model A (page 46), a universal car, designed to suit world-wide demand. It may seem small in size by current U.S. standards, but we must remember that it is a relatively large, luxurious vehicle to the rest of the world.

Thus, the Cortina invites comparison with the Model A. Both seat 5 adults, but look at the difference in seating position. The Cortina engine is placed well forward, leaving the entire space between wheels for passenger accommodation. The Cortina has 20 cu. ft. of luggage space available in the trunk—on the Model A you used the running boards or bought side-mounted spare tires and a trunk rack.

The Cortina wheelbase is only 98 in. or 5.5 in. less than the A, but the smaller wheels give it a lot more usable interior space than was left by the big 30-in. tires of the Model A. And of course, the riding qualities cannot be compared at all—the A would have ridden just as well (or rather no worse) if the springs had been omitted.

The modern Cortina also has oversquare cylinder dimensions; overhead valves, in order to use a high-compression ratio; full-length water jackets; a proper water circulating pump and full-pressure lubrication. This engine costs a lot more to build than the old A, but the car owner of today expects at least 50,000 miles of maintenance-free operation. A Model A owner was lucky to get 25,000 miles before new rings were required and the very light pistons had a propensity to collapse—which didn't help oil consumption either.

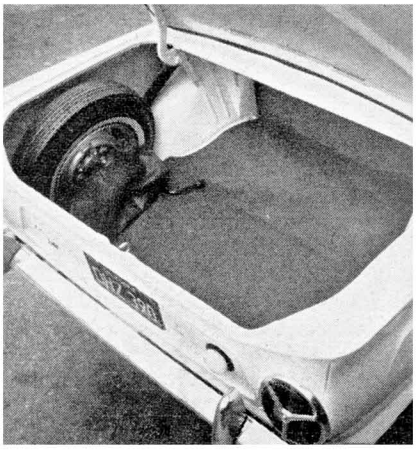
The standard engine for the Cortina has a displacement of only 72 cu. in., just over ⅓ the size of the Model A. Yet it develops more honest horsepower than the Model A and readily outperforms it, too.

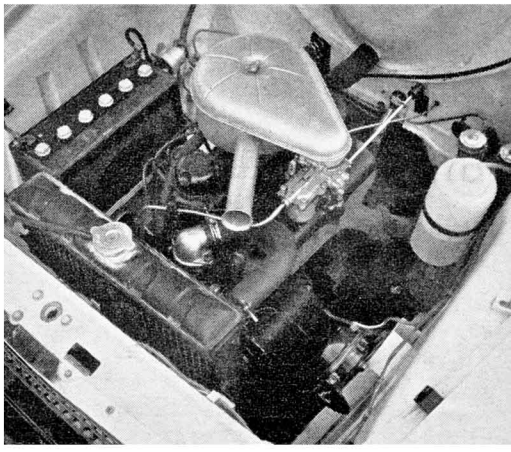
The Cortina is presently produced with a choice of 5 engines. The standard engine already mentioned has 72 cu. in., 53 net bhp and a 3-main-bearing crankshaft. The other four optional engines all use a slightly taller cylinder block incorporating a longer stroke crankshaft supported in 5 main bearings. The principal differences are in the cylinder heads. Details of all 5 engines are given in the table on p. 47.

For the American market, the 91-cu. in. 64-bhp version probably is the most suitable, although the GT models, which have higher compression, more carburetion, etc., in order to achieve 78 bhp, may prove to be the best sellers in the U.S.

For this road test *Car Life* elected to test the 64-bhp model, on the basis that it is cheaper and less fussy than the GT. The optional 5-bearing engine costs $81 extra, which seems like quite a lot when comparable options on U.S. cars cost only $30 to $40 extra. However, the extra 19 cu. in. and 11 bhp are worthwhile for American driving conditions. Ford wisely drops the axle ratio from 4.12 to 3.90 with the 64-bhp engine and this combination enables the driver to keep up with normal traffic without the necessity of screaming the smallish engine through the gears. High speed cruising is therefore more pleasant and, except for a slight rear axle whine which appears at exactly 65 mph, the short stroke engine is quiet and well within its capabilities at any speed, even 80 mph.

A 4-speed, all-synchromesh transmission is standard equipment, and the shift lever is the old-style long stick that sprouts from a position on





the floor much farther forward than usual. The synchromesh cannot be beaten, but the gearbox falls short of an excellent rating for two reasons. The worst fault is an abominable reverse selector pattern. You must lift, move left and then pull back to get reverse gear. Even parking lot attendants give up and push the car into its place. The other fault is the same as with the Corvair; the 2nd gear ratio is too close to 1st gear, so close in fact that 1st gear is seldom needed.

During the acceleration tests we tried various shift points and found that winding the engine a little higher in 2nd gear (to 5000 rpm) was slightly helpful. In the other gears a speed of only 4500 rpm proved best; for example, in 3rd gear the car will actually show 70 mph on the speedometer, but acceleration from 60 to 70 mph is quicker in high gear than in 3rd.

Our test crew rated the ride as excellent for a car weighing barely a ton and approximately equal in quality to the Volkswagen. Handling in a cross wind is very good and the unique high-roll-center front suspension contributes to excellent cornering characteristics with moderate roll angles.

Steering also was rated excellent by our test crew. It is quick and precise, but not so sensitive as to be tiring when cruising fast. Understeer is very moderate and, in fact, the rear end will usually break away first when the limit of tire adhesion is reached.

The brakes survived our usual 80-mph stop test, partially because it took so long (nearly a minute) to get back up to 80 mph to repeat the test.

Fuel consumption on trips never fell below 30 mpg and one tankful gave 29 mpg around town.

The Cortina is obviously a cheap car, designed to provide basic transportation. It has black rubber floor mats, simple instrumentation, a rather plain interior, etc. But it is smooth running, quiet, economical and, from a design standpoint, extremely rugged.

Summed up, the Cortina, though conventional throughout, is a more astute design than its unconventional and more expensive brother, the Cardinal/Taunus 12-M. It is interesting to note that the latter car, though supposedly designed for the small car market in the U.S., is not being imported. The Cortina *is* being imported and any Ford or Mercury dealer is permitted to sell it.

It's a little too early to predict how the Cortina will sell in the U.S. against the well-entrenched Volkswagen. But in Europe the Cortina literally sells like hot cakes—in Italy, for example, it already leads all other imports. The Ford plant in England, in 3 months, has produced more Cortinas than any other car ever built in England in a similar period, and the current production rate of 1200 per day is the highest ever attained on a single model in England. ■

CAR LIFE ROAD TEST

1963 FORD
Consul Cortina 1500

SPECIFICATIONS

List price	$1962
Price, as tested	2127
Curb weight, lb.	1840
Test weight	2170
distribution, %	53/47
Tire size	5.60-13
Tire capacity, lb.	2680
Brake swept area	174.5
Engine type	4 cyl, ohv
Bore & stroke	3.19 x 2.86
Displacement, cu in.	91.4
Compression ratio	8.30
Carburetion	1 x 1
Bhp @ rpm	64 @ 4600
equivalent mph	80.0
Torque, lb-ft	85 @ 2300
equivalent mph	40.0

DIMENSIONS

Wheelbase, in.	98.2
Tread, f and r	49.5
Over-all length, in.	168.3
width	62.5
height	56.6
equivalent vol, cu ft	345
Frontal area, sq ft.	19.7
Ground clearance, in.	5.5
Steering ratio	15.1
turns, lock to lock	3.8
turning circle, ft.	30.8
Hip room, front	2 x 22
Hip room, rear	54.0
Pedal to seat back, max.	39.0
Floor to ground	11.5
Luggage vol, cu ft	20.9
Fuel tank capacity, gal.	10.0

EXTRA-COST OPTIONS

Larger 64-bhp 5-bearing engine, wsw tires, heavy-duty battery, cigar lighter, heater.

GEAR RATIOS

4th (1.000), overall	3.90
3rd (1.412)	5.51
2nd (2.396)	9.34
1st (3.543)	13.8

PERFORMANCE

Top speed (4650), mph	81
Shifts, rpm-mph (manual)	
3rd (4900)	60
2nd (4950)	36
1st (5100)	25

ACCELERATION

0-30 mph, sec.	4.6
0-40	7.8
0-50	12.5
0-60	19.0
0-70	30.8
0-80	57.0
0-100	
Standing ¼ mile	21.0
speed at end	62

FUEL CONSUMPTION

Normal range, mpg 24-32

SPEEDOMETER ERROR

30 mph, actual	27.5
60 mph	58.3
80 mph	79.0

CALCULATED DATA

Lb/hp (test wt)	33.9
Cu ft/ton mile	84.1
Mph/1000 rpm	17.4
Engine revs/mile	3450
Piston travel, ft/mile	1645
Car Life wear index	56.7

PULLING POWER

70 mph, max gradient, %	5.5
50 mph	11.0
30 mph	20.9
Total drag at 60 mph, lb.	110