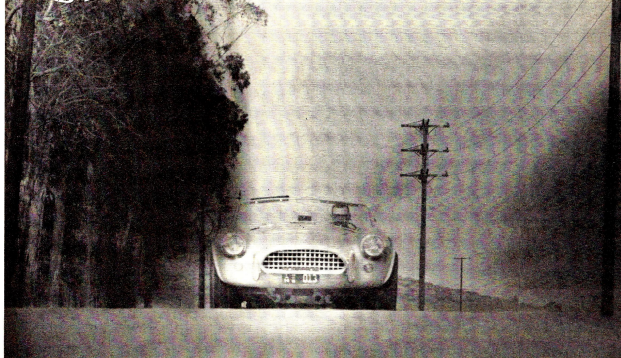




AC COBRA

The street version of this famous machine is also long on performance

WHEN CARROLL SHELBY retired from racing in 1960, he turned his considerable engine and experience to the production of a sports car incorporating his own ideas, and the



result was the AC Cobra. In order to prove the car, he immediately engaged in an extensive racing program, which has put his brainchild in the winner's circle at numerous circuits, and enabled him to sell all the street models that the AC company is able to produce.

The idea of combining a big American V-8 with an English sports car chassis is certainly not new. Sidney Allard had a good run for his money in the early Fifties and, although it might appear that Shelby has taken over where Allard left off, the Cobra is in fact a much more sophisticated automobile, and its racing successes are being achieved at a time when the competition is a lot tougher than was the case

AC COBRA
AT A GLANCE...

Price as tested.....\$6343
Engine.....V-8, 4738 cc, 271 hp
Curb weight, lb.....2170
Top speed, mph.....139
Acceleration, 0-60 mph, sec.....6.6
Passing test, 50-70 mph, sec.....2.5
Overall fuel consumption, mpg.....15

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and handling characteristics. However, the standard of finish of both the exterior and interior are very good and the aluminum body shows evidence of a considerable amount of hand workmanship. Unfortunately, the car does not offer very much in the way of creature comforts for its \$6000. There are no windup windows and the top is a tent-like affair which one assembles around a collapsible frame carried in the trunk. The result is minimal weather equipment reminiscent of the MG-TC. On the other hand, the interior is carpeted and the bucket seats are covered with leather, although they are not particularly comfortable because the back seems to be far too upright. Furthermore, the taller driver will find that there is hardly sufficient room to operate clutch, brake and throttle.

On the road the Cobra is a curious mixture of ancient and modern. It is without doubt one of the fastest cars we have ever tested, and one can forgive almost anything for the sheer exhilaration of its performance. On the other hand, the suspension and steering reminded us of the sports cars we were driving 10 years ago, which is not necessarily a criticism. In an age when the sports car is expected to offer all the comforts of a family sedan, it is pleasant to revert to something like the Cobra which is nothing more than a weapon designed specifically for proceeding from one point to another in the minimum amount of time.

At low speeds both the suspension and steering are stiff, and it is not possible to tell that the rear suspension is independent. However, when the car is being driven in the manner for which it is designed, the road holding, steering and directional stability are very good. The behavior of the suspension is distinctly peculiar when the car is driven hard because the parallelogram layout at front and rear causes the wheels to lean excessively when cornering. This is particularly noticeable if one watches one of the competition cars during a race, however, the effect on the road holding is not as bad as it appears at first sight.

To compensate in part for the peculiarities of the suspension, the street Cobras are equipped with 7.35 x 15 Goodyear tires (Shelby handles Goodyear racing tires as a side-line), and apart from improving the road holding by the simple method of putting more rubber on the ground, they are a great asset to a car which needs all the traction it can

get. This is carried a stage further in the competition models which are equipped with monstrous 8.20 x 15 Goodyear Stock Car Specials. Another noticeable feature of the street machines when viewed from the rear is the 3 degrees negative camber designed to counteract a tendency toward oversteering.

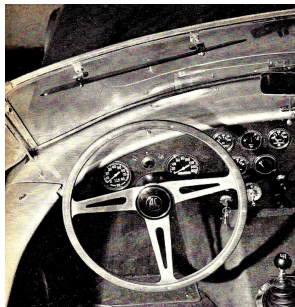
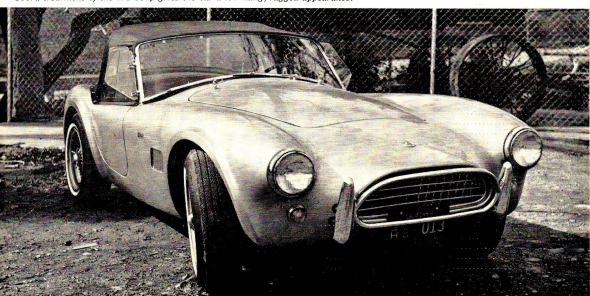
Although oversize tires are a definite improvement, they do tend to make the steering heavy at low speeds, but another side effect is that they contribute directly to the cars remarkable stopping ability which is insured by the Girling disc brake at front and rear.

Our first impression of the Cobra on the road was one of blinding acceleration in all gears. This was assisted considerably by the 3.77 axle ratio, and our feeling was that the car would be improved by a slightly lower numerical ratio because the engine is turning over unnecessarily fast at 70-75 mph cruising speed. However, even with this ratio and using a peak of 7000 rpm, 60 mph can be achieved in 1st and a useful 100 mph in 3rd, and in consequence the passing ability of the car at any speed is nothing short of sensational. In traffic it is quite docile, although the clutch is heavy and considerable use must be made of the transmission.

Those people who are unaccustomed to driving cars with the potential of the Cobra would be advised to proceed with caution, because it is easy to find oneself going much too fast for comfort before one has realized what is happening. This does not mean that the car is particularly difficult to drive, because the tires and suspension do not permit excessive wheelspin off the line, unless one is very heavy handed, and shifting presents no problems at all. The main thing about it is that the Cobra reaches 100 mph while more conventional cars are struggling up to 75 mph, and this can be disconcerting to the uninitiated.

The AC Cobra is not just another sports car which someone has dumped a big V-8 into, but a properly conceived and developed machine which has been greatly improved by an extensive racing program. It offers exceptional performance without the problems of parts and service normally associated with cars of this nature. The AC Cobra is a sports car in the true sense of the term and, for those people who are not unduly concerned with comfort, it is a good value for the money.

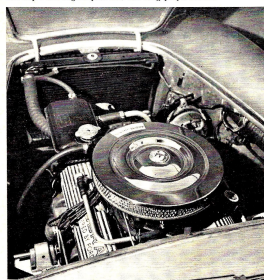
Cobra treatment of the AC body gives the car a low-hung, rugged appearance.



AC COBRA

when the Cadillac and Chrysler Allards were in their prime. Although the prototype AC Cobra was little more than a standard AC chassis and body with a Ford engine and transmission dropped into it, much development work has been done since, and many of the lessons learned while Shelby's team have been racing the cars have been incorporated in the design. One does not really appreciate what Shelby has done to the AC design until one sees an AC Bristol and com-

271-hp Ford engine provides startling performance.



64 ROAD & TRACK

pires it to a Cobra. The AC Bristol is a nice, lean, graceful car, and the Cobra is a squat, mean and brutal piece of machinery, but nevertheless extremely handsome.

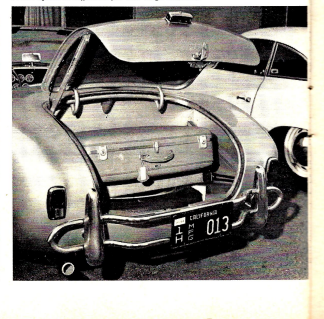
The basis of the Cobra is the AC chassis designed by John Tojeiro in 1954. The frame itself is extremely simple, consisting of two large-diameter tubes with sturdy cross members front and rear and an additional member at the transmission. The aluminum body is supported by a framework of small-diameter steel tubes, and the body is not stressed at any point. The suspension is fully independent with transverse leaf springs front and rear and lower A-arms. The result is a rugged but simple structure which is well able to withstand the torque of the 4738-cc Ford engine. However, both the chassis and the suspension have been modified and these modifications are mainly concerned with strengthening various components. The wall thickness of the frame tubing has been increased slightly, the A-arms strengthened, an additional spring leaf incorporated front and rear, and Texas-size universal joints installed, among other modifications.

The engine used in the street model Cobras is the 271-hp version of the 289-cu-in. Ford engine which is offered as an option on certain Ford sedan models. This engine features a high lift cam, bigger valves, a single 4-barrel carburetor, mechanical valve lifters, and a compression ratio of 11.6:1. In this form it presents an excellent compromise for street use because its power output is about as much as one can use in the Cobra, but it is still both docile and reliable. For those people who want even better performance, a variety of Cobra options are offered for the engine, and the ultimate modification is a set of four Webers with manifolding which sell for an additional \$1230.70, although they are not recommended for street use.

Coupled to the engine is a Warner Gear T-10 transmission which is undoubtedly one of the best all-steel 4-speed transmissions we have ever sampled, and is quite strong enough to handle the power of the engine under the most arduous sports car driving conditions. The combination of engine and gearbox makes a lot of sense because parts and service are readily available throughout the country, and both components do their job exceptionally well.

At first sight, the Cobras give the impression of being definitely a man's car, and this is borne out by its performance

Trunk space is sufficient for one large suitcase.



ROAD TEST
AC COBRA

PRICE
List, West Coast PDF.....\$5995
As tested, West Coast.....\$6343

ENGINE
Engine, no. cyl, type.....V-8, ohv
Bore x stroke, in.....4.00 x 2.27
Displacement, cc.....4730
Equivalent cu in.....288.5
Compression ratio.....11.6:1
1 hp @ rpm.....77 @ 6000
Equivalent mph.....121
Torque @ rpm, lb-ft.....314 @ 3400
Equivalent mph.....69
Carburetor, no., make.....1-4-bbl Ford
Type fuel required.....Premium

DRIVE TRAIN
Clutch diameter & type.....10.41
Semi-centrifugal
Gear ratios, 4th (1.00).....3.77
3rd (1.41).....5.32
2nd (1.78).....6.71
1st (2.36).....8.90
Synchronism.....on all 4
Differential ratio.....3.77

CHASSIS & SUSPENSION
Frame type: large diameter, ladder-type tube frame.
Brake type.....disc
Swept area, sq in.....est. 580
Tire size.....7.35 x 15
Wheel revs/mi.....788
Steering type.....rack & pinion
Turns, lock to lock.....2.0
Turning circle, ft.....34
Front suspension: Independent with A-arm, transverse leaf spring, tube shocks.
Rear suspension: Independent with A-arm, transverse leaf spring, tube shocks.

ACCOMMODATION
Normal capacity, persons.....2
Hip room, in.....2 x 16.5
Head room.....35.5
Seat back adjustment, deg.....0
Entrance height, in.....41
Step-over height.....14
Floor height.....10.5
Door width.....29.5
Driver comfort rating.....65
for driver 69-in. tall.....65
for driver 72-in. tall.....55
for driver 75-in. tall.....50

GENERAL
Curb weight, lb.....2170
Test weight.....2540
Weight distribution with driver, percent.....47/53
Wheelbase, in.....90.0
Track, front/rear.....51.5/52.5
Overall length.....151.5
Turns, lock to lock.....2.0
Height.....49.0
Frontal area, sq ft.....16.6
Ground clearance, in.....5.0
Overhang, front.....30
Rear.....39
Departure angle, no load, deg.....18
Usable trunk space, cu ft.....6.5
Fuel tank capacity, gal.....18

ACCESSORIES
Included in list price: 271-hp engine, 4-speed gearbox, full instrumentation, wire wheels, limited-slip differential.
Available at extra cost: grille guard, wind wings, visors, heater, seat belts, luggage rack, chrome wheels, outside mirror, radio—plus many performance options.

CALCULATED DATA
Lb/hp (test wt).....9.4
Cu ft/hp (on mi).....136.1
Mph/1000 rpm (4th).....20.2
Engine revs/mi.....2970
Piston travel, 1/2 mi.....1421
Rpm @ 2500 ft/min.....5230
Equivalent mph.....103
R & T wear index.....42.2

MISCELLANEOUS
Body styles available: roadster as tested.

INSTRUMENTATION
Instruments: 160-mph speedometer, 8000-rpm tachometer, oil temp, water temp, oil pressure, fuel, clock, ammeter.
Warning lights: turn indicators, generator, high beam.
Miscellaneous: Crankcase capacity, qt.....5
Change interval, mi.....5000
Oil filter type.....Paper
Change interval, mi.....5000
Lubrication grease points.....8
Lube interval, mi.....1000
Tire pressures, front/rear, psi.....28

ROAD TEST RESULTS

ACCELERATION
0-30 mph, sec.....2.2
0-40 mph.....3.4
0-50 mph.....5.0
0-60 mph.....6.6
0-70 mph.....8.8
0-80 mph.....10.8
0-100 mph.....14.1
Passing test, 50-70 mph.....2.5
Standing 1/4 mi, sec.....14.0
Speed at end, mph.....99.5

GRADE CLIMBING
(Tapley Data)
4th gear, max gradient, %.....28
3rd.....off scale
2nd.....off scale
Total drag at 60 mph, lb.....115

SPEEDOMETER ERROR
30 mph indicated.....actual 31.0
40 mph.....41.3
60 mph.....62.6
80 mph.....83.0
100 mph.....104.4

FUEL CONSUMPTION
Normal range, mpg.....13-18
Cruising range, mi.....230-320

TOP SPEEDS
High gear (6900), mph.....139
3rd (7000).....100
2nd (7000).....79
1st (7000).....60

ACCELERATION & COASTING