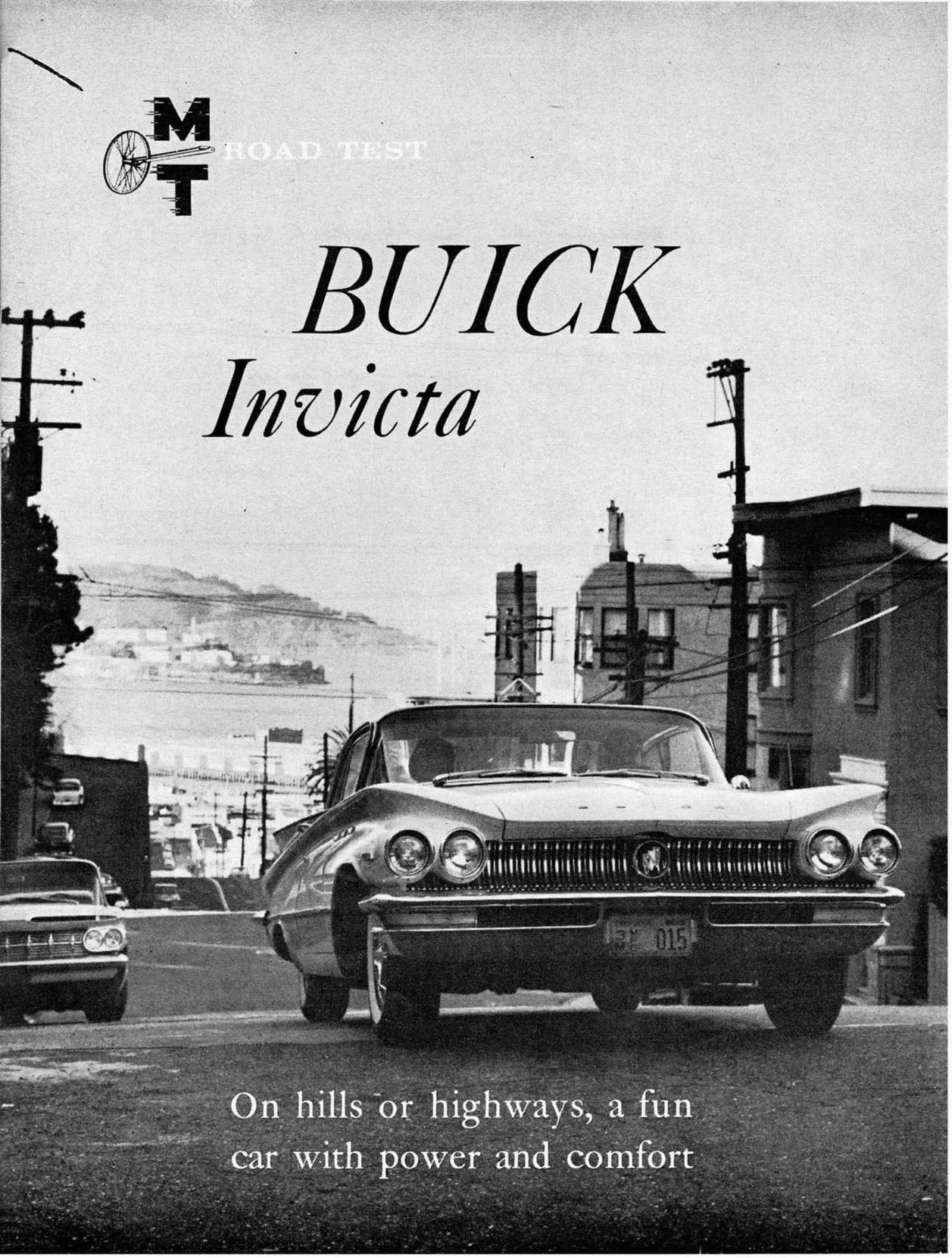
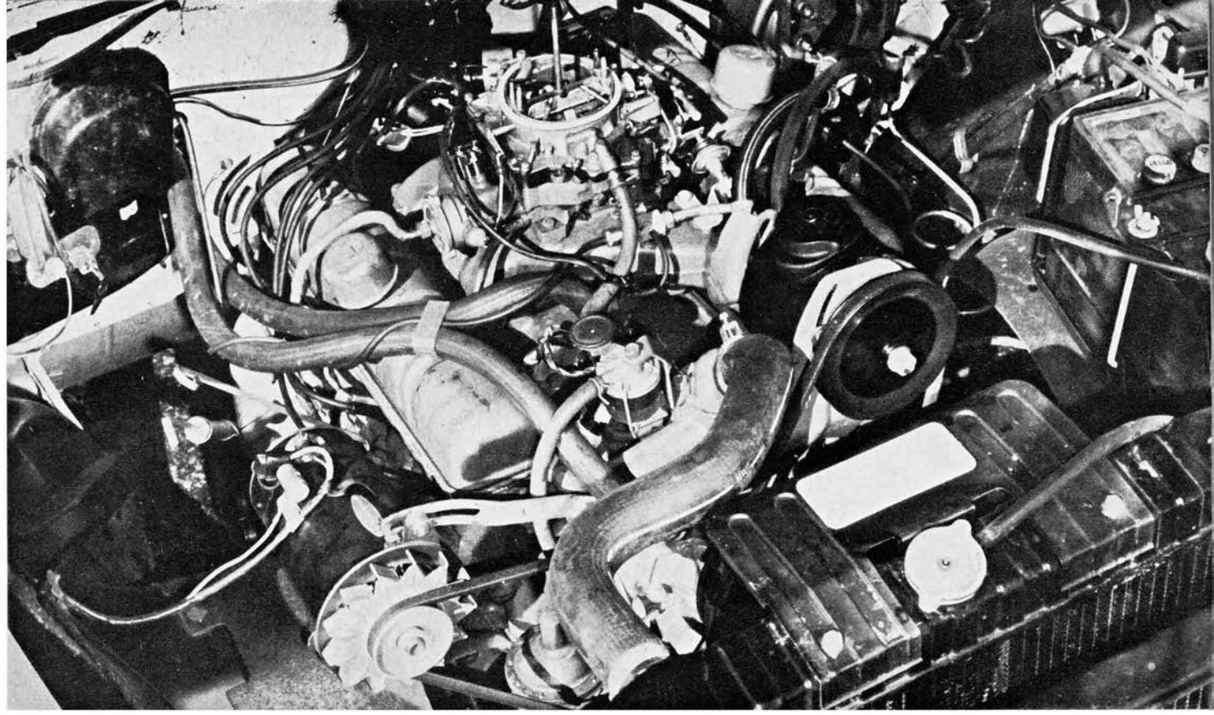
ROAD TEST

BUICK Invicta



On hills or highways, a fun car with power and comfort



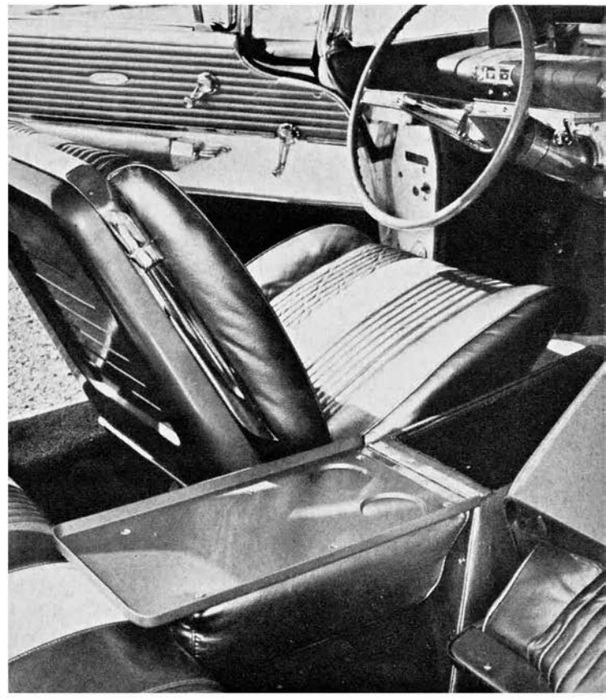
Engine compartment, nicely laid out for easy access to plugs and carburetor, has cramped quarters for distributor. Large air filter housing, removed to show details, has a reusable, oil-impregnated polyurethane foam element.

by Chuck Nerpel Technical Editor

THE STATOR BLADE in the twin-turbine torque converter changed into low pitch as we mashed the throttle at the foot of one of the three-block ramps that San Francisco fondly calls a street. The Buick Invicta's powerful 401-cubic-inch engine pushed us back in the seat as we stormed past a picturesque cable car grinding its way toward the top. Minutes later on the open, divided freeway, when we needed speed to keep up with fast traffic, the turbine stator blades angled to high-gear position for level road cruising. No jerks, clicks or sudden changes in the smooth flow of power to the rear wheels—that's Buick's twin-turbine automatic transmission, a wonderful combination for the 325-hp engine and the small 123-inch-wheelbase chassis.

The ratio selection or stator blade angle is automatic, but it is possible to hold the transmission in its high-performance position by flicking the selector quadrant into L or LOW position and wind the engine right out of the frame, a procedure certainly not recommended. This gear is intended for slow pulling on steep grades or under very slippery conditions. Quarter-mile acceleration runs in DRIVE position gave us exactly the same speed (80 mph) as starting in L and shifting to D at 65 mph, but elapsed times were shortened one second by this method.

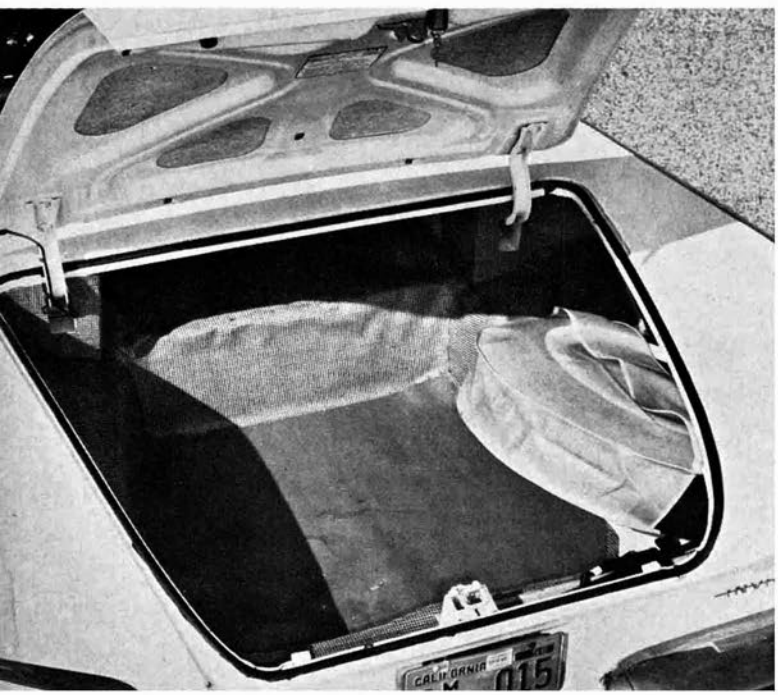
It is a pleasant feeling to settle back in the seat of a lively, powerful and positive-steering car, especially when those seats are the semi-bucket type optionally available for the Invicta ($295 f.o.b. Detroit). A great deal of effort has been put into the interior of this car to make it adaptable to a variety of different-sized passengers and to still pre-



Padded armrest between the front bucket seats is the lid of a center carryall compartment and folds back to provide handy shelf-type tray for rear passengers. The full-folding seatbacks ease rear entry and exit.

Improved suspension, new shock absorbers keep the Invicta smooth and level on curves

PHOTOS BY BOB D'OLIVO



Excellent detailing of passenger area is carried into the luggage compartment which is completely lined and sealed to protect contents from dust and moisture. The side-mounted spare is easy to reach, has plastic cover.

Adjustable non-glare mirror reflects speedometer and other instrument dials and may be tipped at any angle to suit the needs of each driver. Beneath speedo are the water temperature, oil pressure, and charge indicators.

serve adequate line-of-sight for the driver and long-haul comfort for both him and his passengers. Wheel position is excellent and near-chair-height seating reduces leg and thigh fatigue.

Instrumentation is simple: miniature aircraft-type throttle controls for heater, ventilator and defroster, and an adjustable angle on the long narrow ribbon-type speedometer panel. This, believe it or not, is done with a mirror. The actual speedometer panel, which includes indicator lights for temperature, oil pressure and generator charge rate, is concealed behind the dash panel. All lettering is in reverse so that when the long adjustable non-glare mirror reflects the image to your eyes, everything reads correctly. A small knurled knob provides fingertip control of the mirror angle.

We never could decide whether the Invicta was better in city traffic or out on the highway, for it has everything a car needs for both types of driving. Stop and go is a breeze, aided of course by what are probably the best brakes currently furnished as "stock" out of Detroit. Twelve-inch drums all around—with the front ones cast-iron-lined aluminum; the rear, finned cast iron—dissipate heat and defy the fade of repeated stops. As with most domestic front-engined cars, the front brakes do a greater percentage of the stopping than the rear. Buick claims nearly 60 per cent front brake effectiveness, which is quite low due to anti-dive geometry and rugged shocks. During our braking tests we discovered an interesting fact that again proves the value of rapid heat dissipation to prevent fade. After a series of six stops from 60 mph, the rear linings were hot enough to smoke, while the aluminum drum front brakes were not even giving out the slight odor that indicates the beginning of dangerous overheating.

When cruising in the high 80s (and it's easy with the Invicta) there is a feeling of confidence and safety in knowing that should that slow-moving hay truck turn left as you are going to pass, or, suddenly over a hill there are the flashing yellow lights of a school bus staring you in the face, you have brakes—and good ones.

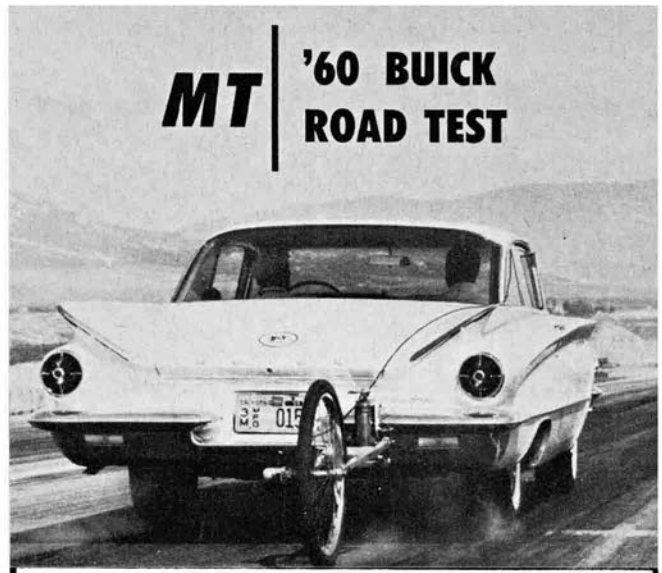
In addition to the necessary power and acceleration for modern driving, today's car must also be able to stop and turn. As already noted, the Invicta can stop. Front end improvements in the 1960 models give good stability in the turns plus positive and easy steering. Coil springs and ball joints with a beefed-up stabilizer bar now 13/16-inch in diameter, rubber bushed to the chassis and link mounted, make up the front suspension. New shocks have nylon-skirted pistons and retain their snubbing ability over a wider temperature range due to better sealing and reduction of internal friction.

With a front end like this hooked up to the power-assisted rotary valve Saginaw steering unit, four fingertip turns of the wheel are all that are necessary to snap the wheels from full left to full right. On the highway, most turns can be taken without ever shifting position of hands on the wheel rim. City driving does not require a crank handle to maneuver through traffic or to squeeze into that ever shrinking parking space. Hydraulic valving by the rotary system provides for built-in wear compensation so that the power unit always responds like the day it was new. Besides, with less slack in the system and a method for keeping it tight, steering is positive and does not require constant attention even on irregular road surfaces.

The capacity of the Invicta with bucket seats is limited to five adults, two in the front, three in the rear, with the center rider straddling the driveshaft tunnel. Headroom and seat width are generous, with 44 inches of legroom in the front and 42 inches rear on either side of the tunnel. A lot of that rear headroom is covered with glass, and at certain angles the sun is not well shaded off the neck and shoulders of the rear passengers. If they get a little hot around the collar, it's not your driving—just the sun.

Human nature being what it is, we are all interested in one big question: How many miles per gallon? No matter what we pay for a car, $2000 or $10,000, we do like to know how much fuel is necessary to run our particular piece of machinery.

continued on page 76

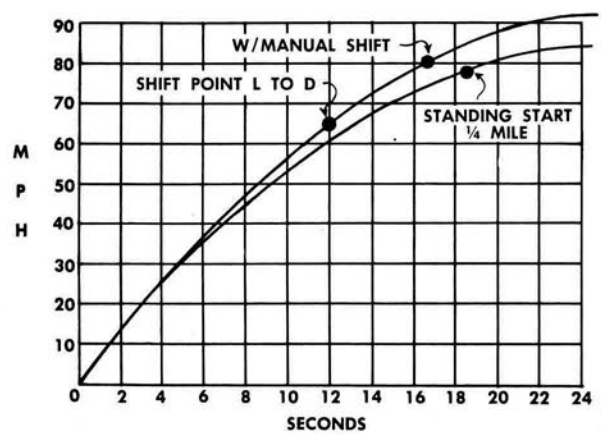


Car at a Glance

Things We Like	Things We Don't Like
Good passenger comfort	Short legroom for center rear seat
Reasonable gas mileage	Lack of sun protection through rear window
Smooth transmission and engine	
Quiet, comfortable cruising	
Easy handling	
Excellent brakes	

Acceleration

0-45 mph 7.0 secs. 0-60 11.5
Quarter-mile 18.4 secs., 79.9 mph
30-50 4.5 45-60 4.5 50-80 10.4



Stopping Distance

From 60 mph to standstill 138 ft.
(In 4.2 secs. with maximum of 0.68-G deceleration)
Stop after maximum acceleration to end of ¼-mile 266 ft.
(In 5.7 secs. with maximum of 0.75-G deceleration)

Gas Mileage

	Mpg
Stop and go heavy traffic	11.6
Normal traffic	14.2
Open highway steady cruise	18.2
Open highway, fast cruise	17.3

Buick Road Test

continued from page 45

Considering the power accessories on the test Invicta—a factor in the amount of extra work the engine must do other than driving the wheels—plus a 3.23 to 1 rear axle ratio, fuel consumption was good. Heavy city traffic mileage varies noticeably, according to the use of full throttle on getaway. Under very congested traffic conditions, with many rapid starts—and this includes those ramp-type San Francisco hills—we recorded 11.6 mpg. More conservative driving in ordinary level street traffic with minimum use of full throttle, increased mileage to 14.2 mpg, and there was one tank of fuel (same brand used in entire test) that gave 15.1 mpg and included some freeway driving.

Out on the highway where the engine was driving just through the torque converter, miles per gallon began to go up. The illusion of speed in the Invicta is disarming because of its quiet operation and low wind-noise level, so high-speed cruising will be limited only by one's adherence to state laws. Tempted by this driving ease several times during one 156-mile run on divided highway with light traffic, we maintained 65-mph speeds with some spurts to 85 and recorded 17.3 mpg at an average speed of 57.4 mph for the distance.

Premium fuels are required with the Invicta's 10.25 to 1 compression ratio, and even then there will be some ping due to carbon buildup from city driving that will clear out, such as our test car did, as soon as the car is driven at good steady highway speeds for 20-30 miles.

The 1960 Buick Invicta can put a lot of fun back in driving, whether it be around town or between towns. Detailing and trim are excellent, and once you're behind the wheel there is a feeling that the comfort and driving ease are not just coincidence but were carefully designed and engineered into the car. Because of the wide variety of public wants that must be satisfied within a rather restricted price range, it is impossible to state or prove without qualification just which is the "better" car. But after "living" with the Invicta for nearly a month, we believe that it is not only among the best in its class but is the best car Buick has ever built.

Mighty Sprite

continued from page 59

small-bore production equipment to small sports-racing machinery such as the Lotus, Lola or Elva, normally a rather disconcerting process to drivers used to production cars. A sports-racing car is worlds apart from the normal sportscar in such attributes as acceleration, handling and overall "feel," so much so in fact that they require an "unlearning-plus-learning" process. The "Super" Sprite seems to bridge this gap in an entirely viceless way and gently leads the neophyte racer into the ways of the racing car without entirely wrenching him out of the familiar though not ideal ways of the production vehicle.

When we had gotten all the information we could during the test and from Roger Menadue we delivered the car back to Healey. There was one more question that demanded asking and only he could give the answer. The question and its answer had to wait—Healey had one for us.

"How would you like to run it in one event?" he asked. It seems that Leavens had been called away and Healey was going to spread the riding chores (chores?) around. The writer got one ride, Augie Pabst got another and regular Healey team driver Phil Stiles was picked for the main event. Whether it was the rear end change or whether it was Ed Leavens' consummate skill or a combination of both defies guessing but none of us quite equalled Ed's performance. None of us exactly blotched the Healey escutcheon either, Augie getting in one storming lap at three minutes, 45 seconds. It might have been that the use of the higher rear end ratio may have allowed more use of the lower three gears than was possible with the 4.55 ratio—more than once we ran out of third gear just when it seemed to be needed—but it would take a retest with the 4.22 gears to be even remotely sure. What *is* sure is that Leavens had us by three to five seconds a lap on the average except for Augie's sizzling 3:45, a lap time that Ed had approximated as regularly as a train and one that Augie admitted later he had had everything hanging out on every turn.

The question we had wanted to put to Mr. Healey earlier was the natural capper: "Will the car be produced for the market?" The answer was vague. Healey was emphatic in pointing out that this was a prototype. He did admit, however, that he would *like* to put it into limited production in the same way the AH 100-S was built. The answer will have to depend on the demand and inquiry from those who would like a small, inexpensive sports racing car. How expensive? Healey feels that a Sprite like this could be built to sell for around $2500 in the U.S. In any case, production or not, three copies have been ordered by an Eastern dealer and the order was tentatively accepted.

In any event, those who feel that a semi-race car of this sort is their dish of tea can get in touch with Mr. Healey in care of the Healey Motor Car Co., Warwick, England.