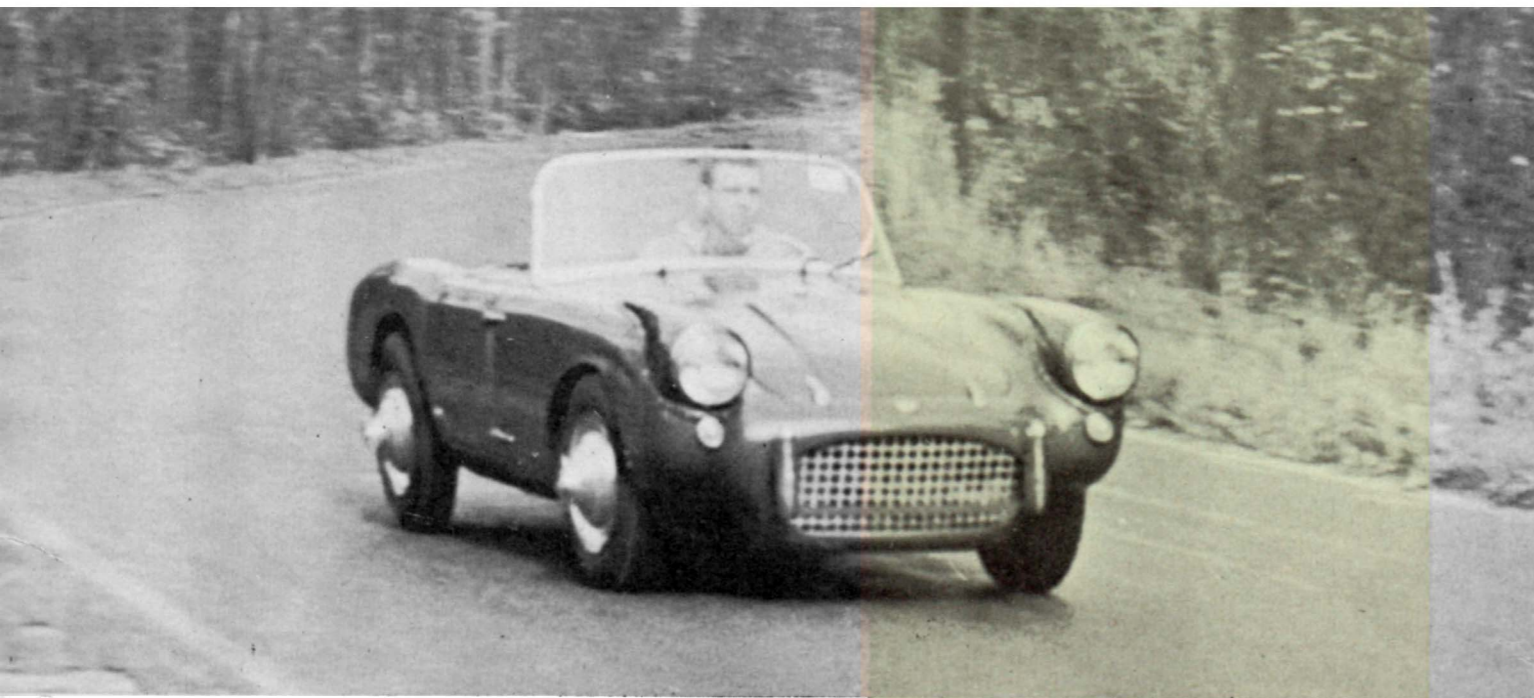


SCI ROAD TEST: Berkeley Sports



If the front-wheel Berkeley is "pulled" around the corners, it behaves like it's part of the road. Because of its low power (top speed about 60 mph), it is extremely difficult to develop—and hold—large slip angles, or to get into trouble.

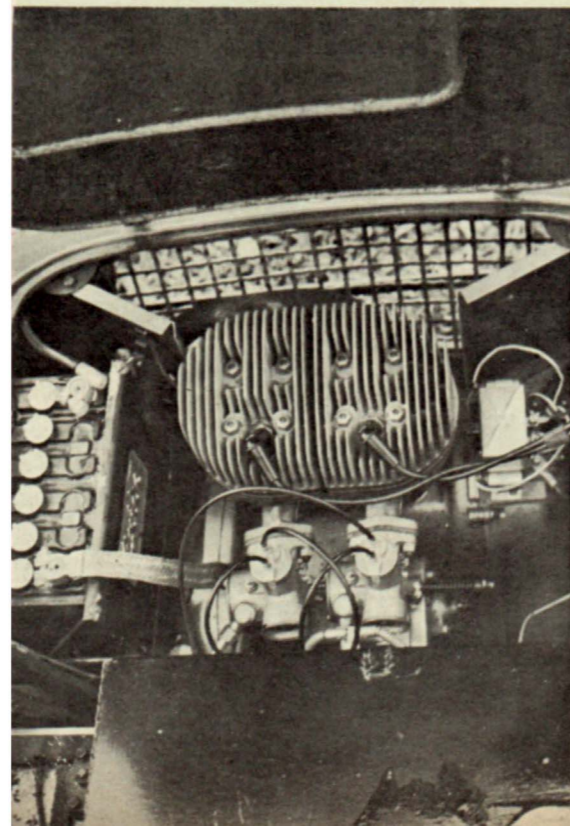
THE Berkeley Sports is a small but very sociable car. From the moment we pulled out of the Berkeley garage we began to make new friends. And the car is definitely an attention getter.

Driving out into New York's garment-district traffic, we braked to a halt behind a huge tractor-trailer. Immediately another pulled up behind, and a third came out of a driveway, stopping with his bumper nuzzling the right door: sort of like being dropped in the middle of a herd of Brontosaurus. The driver of the truck behind stepped out and said "Small, ain't it? I bet I can pick that thing up." And he did! But he was quite surprised when we slipped the car into gear and eased it ahead, forcing him to run along with his hands full of car, like a reluctant barrow-pusher.

The Berkeley at this point had only twenty-seven miles on the odometer. In all conscience it was impossible to conduct a road test until at least two thousand miles were on the clock, so the car was run for four days before it was put under the stop watch and subjected to the scrutiny of the SCI staff. Fortunately, these four days represented a variety of conditions: a summer-like day; a rainy day; a day that was cold; and the last day, in which we conducted the performance testing, was cold, sun-less and dry.

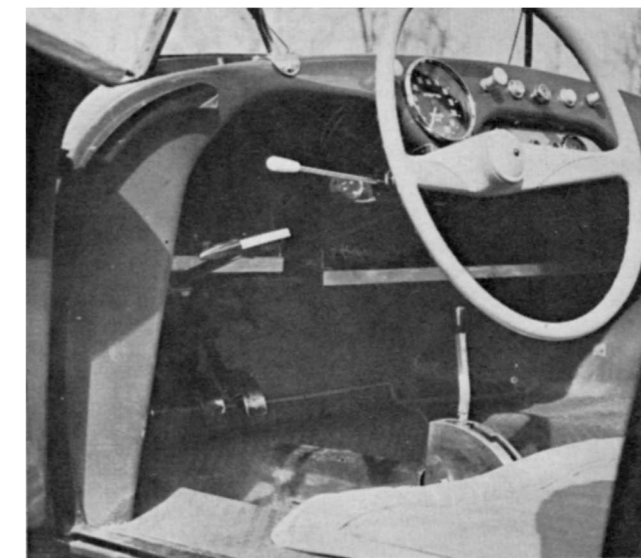
The first thing we did was lift the hood, wherein dwells the Excelsior "Talisman Twin" vertical two-stroke engine with a full 328 cc pumping a full 18 horses. The two KLG sparkplugs are connected to two coils, with a set of points for each plug. There is no sump since the engine is lubricated by the petrol system, which mixes one part lube oil to sixteen parts gasoline (one quart to four gallons). In appearance the engine looks as though it was originally de-

Two-stroke two-cylinder 328 cc engine has 1 plug, 1 coil and 1 carb per cylinder. Fuel tank, foreground. At right is Siba Dynastart, combination starter-generator.



Instruments include speedometer calibrated to 120 mph, fuel gauge, ammeter. Reinforcing struts at edges of windshield are very practical. Gate-type gear shift splits cockpit. Jump seat/storage compartment deck pivots upward from seatback.

Storage shelf under dash is very large, and there is no tunnel. Progressive gear shift pattern moves aft through two neutrals.



Jump seat will hold small child, but an adult will not fit in. Removing back of jump seat reveals huge storage compartment, holds roof. If edges are trimmed, spare will fit in, too.



signed for a motorcycle—perhaps because it was.

On a cold day the engine is not an immediate starter. The owner's manual prescribes that the choke should be fully closed, the throttle about half open (or half closed) and the engine cranked. It worked, but it took a few turns. It's a consolation to look at the full-size battery, then the size of the engine with its built-up roller-bearing crank, and realize the number of turns one has before exhausting the charge. The starter is small; it will not move the car on the battery. On the other hand, once the engine is up to temperature, the starting is literally push-button. The slightest touch fires the engine up with absolutely no starter noise. It saves a lot of embarrassment for the driver who is prone toward stalling, as one might be until he learns he has to scream the engine out before easing the clutch. The starting motor is the Siba Dynastart, which combines the functions of cranking the engine and charging the battery in a single unit. It's a handy way to save space and weight.

Once running, the engine is uneven, as may be expected from a two-stroke unit with the engine exhausting towards the ground under the belly pan. A great deal of the exhaust noise reverberates into the cockpit. Once on the road, however, the story changes. First gear gives you a definite feel of acceleration, for the engine winds up quickly. Top is about 20 in first; then to second, where the Berkeley is less snappy up to about 35. This is the point to shift the compromise between engine noise and acceleration. From here the car pulls all the way up to 60. The most comfortable cruising speed is between 50 and 55. The engine produces enough power at this rpm to level out road rises and there is very little vibration. If you get caught with your revs down on



We forced the Berkeley sideways by cutting wheel, hitting brakes; no matter how rough we were, wheel correction and power brought tail in line. We were never in serious trouble.

most any hill, you have to be a man of patience. You can only get so much power from less than a third of a liter, but our test car, not yet fully broken in and at no time driven as if we were on an economy run, gave us an honest 57 miles per gallon of fuel. The engine just can't burn enough fuel to get the half-ton of car and passengers up the hills in a hurry.

The clutch operates smoothly and easily and the gears can be changed without using the entire clutch throw. It is, however, what used to be called a "suicide" clutch—all of a sudden you've got it. Once you know it's there, though, you soon get used to it and get to like it. It's a multiple disc unit that really bites.

A progressive-pattern remote-linkage crash-transmission ties the engine to the driving front axle. There is really no shift pattern; to engage first gear from neutral merely pull the shift lever one notch toward you, until you hit a stop. To engage second, move the lever off the stop and pull until you hit another stop. Third gear is engaged by moving off the second stop and pulling down to the bottom of the gate. That's all there is—there are only three forward speeds. Fourth was converted to reverse, and is engaged by working up through the pattern as far forward as you can go. Incidentally, there are three neutrals—one between each cog. It's a very convenient fool-proof shift that is a cinch to manipulate once you get used to it.

One of the sit-down-first-then-put-the-legs-in variety. Berkeley has a good finish, plenty of glass area, and independent rear suspension.



To say adequate for the brakes would be to sell them short. A car that weighs 760 pounds dry needs far less than the Berkeley's allotted 65 square inches of lining to be described as adequately braked. This is 171 inches of lining per ton dry. Wet, with passengers, the ratio is closer to 125 square inches per ton; the stopping power is excellent. At low speed, up to maybe 40 mph, the slightest touch on the pedal with the toe of the shoe brings the car to a fast, gentle stop. At high speed (50 to 60 mph) only slightly more pressure is needed. This is to be expected when one considers two factors: the brakes are oversize, probably designed for a larger car; the heat energy dissipation factor of the linings is greater than the kinetic energy developing capacity of the engine (remember that 57 mpg). On our very punishing brake test there was no sign of fade. The light-weight rear however, does present a problem: it doesn't take too much push on the pedal to lock up the rear wheels, and if you push too hard with the front wheels cocked, you'll find yourself sideways.

The brakes are good but stopping can be tricky. To see just how tricky, we took the car on a winding Connecticut road and tried to bend it. We sneaked up on a curve at 55 mph, cut the wheel sharply to the right, and slammed on the brakes. Immediately the tail swung way out to the left, and a lot more steering correction was needed than one normally expects. There just isn't enough weight on the rear to keep it stable, and the front wheels do most of the stopping. The rear lifts and tries to catch up with the front end. The car slides, however, and we do not believe that a driver of fair ability could get the car to go fast enough to get himself into any trouble that he couldn't get out of. We whipped it for all it had, contorted it, and never felt as if we were really going to lose it.

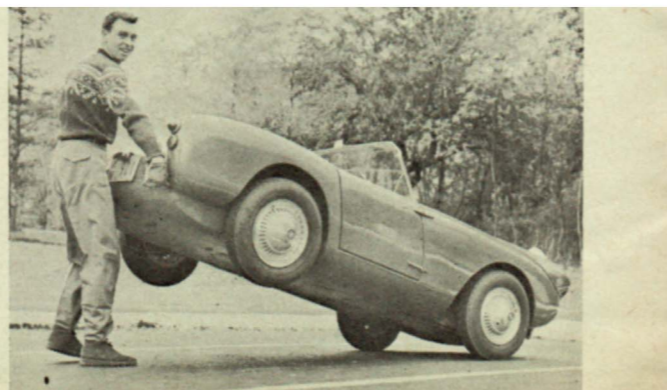
There's only one way to describe the steering—quick. With 2 1/4 turns lock to lock, it doesn't take much wheel motion to get around bends and curves. Steering is extremely fast, and there doesn't appear to be very much wheel return. You have to turn it in and then turn it out of the curves—usually requiring no more than a half-turn. Yet on extremely rough and choppy roads very little shock is transmitted back to the driver through the wheel. One thing, however, can be felt.

The power is transmitted through a pair of Hardy-Spicer joints that do not transmit constant-velocity. On straights it's not noticeable; but you can feel it on the turns. It's particularly bad—you can feel the power surges—when starting from a dead stop in full lock, as in the case of making a U-turn. The wear factor is likely to be quite high.

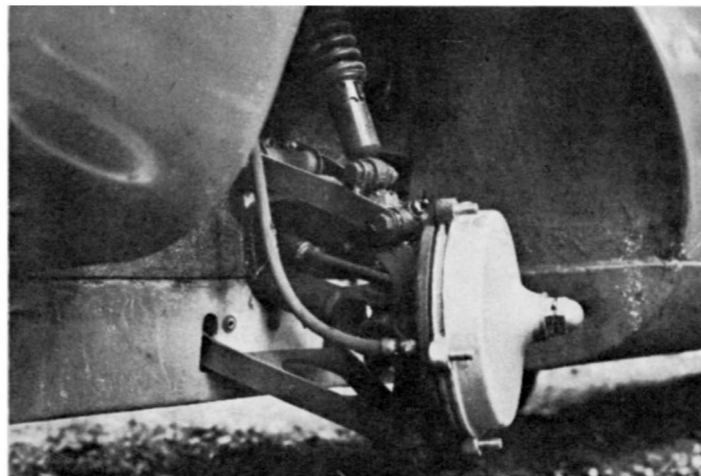
But once in motion it's easy to forgive these minor faults. The car tracks well on the straight and requires little attention. There is very little urge to wander, but turning may feel a bit strange to the driver accustomed to rear-wheel drive. The front drive, coupled with the lightweight rear, requires getting used to.

(Continued on page 47)

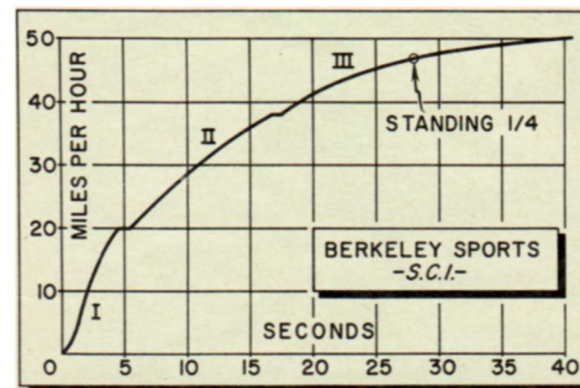
The Associate Editor parked by pulling abreast of a space, bouncing in front, and walking in the rear.



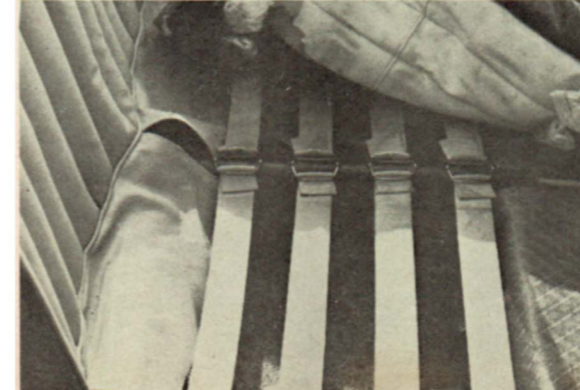
Seven inch brake drum is more than adequate for 760 pound car. Chrome hub is slitted for cooling air, and is held on by knock-off hub.



Wishbone front end with Girling coil spring and shock unit. Torque is transmitted through Hardy-Spicer joint.



Tension-adjustable rubber spanners are base for seat pad, which is surprisingly comfortable.



BERKELEY SPORTS

TEST CONDITIONS:

Number aboard 2
 Top position up
 Temperature 50°
 Etc. full fuel tank, weather clear

PERFORMANCE

TOP SPEED:

Two-way average 59 mph
 Fastest one-way run 60.5 mph

ACCELERATION:

From zero to
 20 mph 4.6 sec
 30 mph 11.0 sec
 40 mph 18.9 sec
 50 mph 39.1 sec
 Standing 1/4 mile 27.9 sec
 Speed at end of quarter 46.4 mph

SPEED RANGES IN GEARS:

I 0-18 mph
 II 15-40 mph
 III 25-top

SPEEDOMETER CORRECTION:

Indicated	Actual
20	19 mph
30	28 mph
40	38 mph
50	47 mph
60	55 mph

FUEL CONSUMPTION:

Average driving (45-60 mph) 57 mpg

BRAKING EFFICIENCY (10 successive emergency stops from 40 mph, just short of locking wheels):

1st stop	50
2nd	50
3rd	58
4th	62
5th	65
6th	65
7th	65
8th	65
9th	65
10th stop	65

Note: Pedal High, No Fade.

SPECIFICATIONS

POWER UNIT:

Type Vertical Twin, two-stroke
 Valve Arrangement None (cylinder wall ports)
 Bore & Stroke 2.28 x 2.44 in (58 x 62 mm)
 Stroke/Bore Ratio 1.07/1
 Displacement 20 cu in (328 cc)
 Compression Ratio 7.9:1
 Carburetion by Twin Amals
 Max. power 18 hp @ 5000 rpm

DRIVE TRAIN:

Transmission ratios:
 I 13.85
 II 8.34
 III 5.27
 Final drive by open chain
 Axle torque taken by wishbone

CHASSIS:

Wheelbase 70 in
 Front Tread 42.25 in
 Rear Tread 42 in
 Suspension, front Independent, wishbone, coil spring
 Suspension, rear Independent, swing axle, coil spring
 Shock absorbers Girling
 Steering type Burman worm and nut
 Steering wheel turns L to R 2.25
 Turning diameter 28 ft.
 Brake type Girling Hydraulic
 Brake lining area 65 sq. in.
 Tire size 5.20 x 12

GENERAL:

Length 130 in
 Height 42 in
 Weight, test car 760 pounds
 Weight distribution, F R 34 66
 Weight distribution, F R, with driver 41 59
 Fuel capacity 3.6 U. S. gal.

RATING FACTORS:

Bhp per cu. in. 0.90
 Bhp per sq. in. piston area 2.20
 Pounds per bhp—test car 42.2 dry; 55.5 with passengers
 Piston speed @ max bhp 2040 fpm
 Brake lining area per ton 171 sq. in. dry; 130 sq. in. with passengers

BERKELEY SPORTS

(Continued from page 23)

At low speeds, say up to 35 mph, and no matter how gently the wheel is turned for a curve, there is an immediate necessity to cut back to correct. Not dangerous, but it's there. But as velocity increases, the feeling is less acute, until at about 50 mph the condition disappears. Steering becomes effortless.

There is not enough engine and not enough speed to get into a drift. Besides, it feels a lot more comfortable when you're pulling around the corner. There is very little lean, and what there is, is unnoticeable from the cockpit. It gives the driver a lot of confidence.

The ride is exceptionally good for a car with only 70 inches of wheelbase: small bumps are absorbed by the suspension and never get to the "frame". No pitching was noticeable, and the shock absorbers must certainly be very much oversized. They work well, and it takes a choppy washboard condition to make you aware that you are not cruising on a new turnpike.

The car is small, and this quality is more than apparent when entering and exiting. It's one of the sit-down-first-then-put-the-legs-in type. If you're average in height you can do it easily; if tall, you'd better be agile. Once in, however, you're in for a pleasant surprise.

The seat appears to be nothing more than a mat spread over the floor. Examination showed that it was actually a soft, padded mat suspended on rubber impact-absorbing adjustable-tension straps. The one-piece cushion is anchored by tap screws on the sides, and these hold it securely. It is surprisingly comfortable despite the lack of fore-and-aft adjustment.

The seats have no bucket-affect whatsoever, but you don't seem to miss it. When driving alone, the driver knows what he's going to do and braces himself; with a passenger, the two occupants support each other very firmly. With the roof up two people are a snug but comfortable fit; with the roof down, we carried two passengers a pretty fair distance without interfering with the operation of the car or seriously discommoding the passengers. The absence of a tunnel provides a lot more passenger space than might be at first supposed, but over the winter months its not a good idea to ride with someone you don't like.

The roof is good-quality rubberized canvas that can be erected quickly and easily. A rolled insulation bond is sewed on to every edge all the way around, sealing off any drafts. The sidecurtains just drop in and pop out, secured in place by a single snap fastener that secures the vent slit (inadvertently we once closed both doors with these snaps fastened on both sides, and had to solicit the aid of a passing youngster, whose arm was small enough to squeeze between the top and the cur-

(Continued on page 48)

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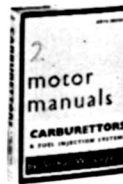
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BERKELEY SPORTS

(Continued from page 47)

tain). However, the abundance of glass area (clear vinyl) cut into the top and the design of the curtains provide about 320 degree visibility. The remaining 40 degrees of blind spot are located where visibility is least needed—the area the driver can see by merely turning his head.

The steering wheel is located close to the dash panel. It is a position comfortable for most any driver, but long legs seemed to have difficulty clearing the edge of the wheel. However, this did not interfere with control. Foot pedals are the conventional clutch, brake and accelerator located in the conventional places. Since there is no adjustment on the seat, one either fits or one doesn't. There is no middle ground. The car needs a foot rest next to the accelerator; over a long stretch the throttle foot had a tendency to "go to sleep".

The instruments include a speedometer (calibrated to 120 mph!), an ammeter and a fuel gauge. Apparently the manufacturer feels there is no need for a temperature gauge on an engine that is awfully difficult to overheat, and there is no oil under pressure. All are well placed, readable, and well illuminated at night, without the fault of blinding the driver, and the instrument lights can be turned off by a separate switch if the driver desires. The small controls are well placed, too. They are unmarked, but there are only three of them—running lights, dash light switch and electric wipers. The choke is under the dash but it's easy to locate and operate. The handbrake locks the rear wheels with very little pull, and is located to the left of the driver and out of the way.

Storage space, because of the physical size of the car, seems inadequate; yet really there is plenty. Inside the cockpit, the entire underside of the dash is one big shelf, large enough to carry all kinds of assorted gear and even large enough for small cases. Cigarettes, scarves, gloves *et al* can be carried in the sizable door pockets.

The entire rear of the car, running from the seat backrest to the bumper, is all available for storage space, occupied only by the spare wheel. After turning the two Dzus keys that lock the trunk, the cover hinges forward, exposing a jump seat suitable for one small child. An adult cannot physically fit into it. Either of the two spring-loaded snaps may be pushed, completely detaching the lid. The spare wheel is stored where the legs would normally be located if the jump seat were used.

The release of another Dzus at the rear of the jump compartment removes another panel and exposes a cavernous space where the top, tonneau cover and tool set is stored. We noticed that by merely trimming away a bit on the fiberglass at the edges, it would be possible to store the spare in here, too. This makes the entire

jump seat space available as more readily accessible luggage storage. And with the top up this section can be left open permanently, making access a lot easier. Since this section hinges from the front, it is necessary to unsnap the roof to put anything in or take anything out.

The "frame" is set inside the beautifully-finished fiberglass, giving a full belly-pan effect, except that the body is cast as a one-piece unit. With the top up the sealing is perfect, except for minor drafts entering through gaps in the side curtains. Even in a driving rain, our car remained dry.

To erect the top, it is necessary to assemble the cross piece, which is composed of two half-sections joined at the center by a male-female joint. The roof snaps align well, and the whole operation can be done a lot quicker than it would take to read the directions on how to do it.

And it is much the same with maintaining the car. After twisting a single Dzus, the hood is held up by a rod that locks in a slot. The spark plugs are there where you can get at them. The battery, master cylinder, ignition coils, wiring, carburetors, fuel tank, drive chain, and everything that is serviced can be reached from above—easily. And all the running components—steering gear, universal joints, etc.—are accessible from the aft side of each front wheel. A screwdriver, pliers, and a two dollar grease gun puts you in your own maintenance business, and you could do most of the jobs dressed in a tuxedo. It's as simple as that.

Another feature that impressed us was the efficiency of the headlights. Incidentally, the headlights on our car look as though they were dropped on the fenders as an afterthought; actually they were. On non-export British models, the headlight is faired into the fender; in this country several states have refused to pass this faired-in headlight on their safety inspections. However, Tony Pompeo assures us that you can order your Berkeley with the headlights faired-in, if you wish, and take your chances on inspections. Any way you take it, the bulb is a real, honest-to-goodness twelve-volt *sealed beam*.

There is no provision for a heater in the car, and it would be difficult to mount one. Without heat, the car cannot honestly be called all-weather transportation. Considering its displacement it's quite lively, although another 172 cc would not be unwelcome, especially on the hills. But these faults are balanced by the solid, beautifully-finished body with every snap and clamp placed in exactly the right spot. It's truly a fun-car on an economy budget—the total cost of ownership has to be low—and there's one thing for sure: you'll save money on parking meters!

Len Griffing