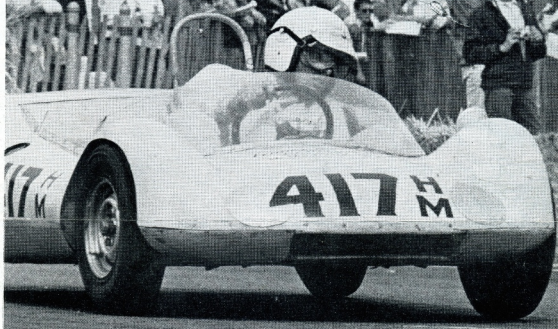


# H-BOMB from McMINNVILLE



PHOTOS: PETER SUKALAC & PETE BIRO

## DAN ODENBORG'S

### MERCURY SPECIAL

BY PETER G. SUKALAC

THOSE WHO HAVE SEEN THE MERCURY SPECIAL PERFORM IN THE HANDS OF DAN ODENBORG ARE DIVIDED INTO TWO CAMPS—those who believe what they hear when its specs are recited, and those who dismiss the pit chatter as pure fabrication.

Both are within their rights. The Merc runs in the H Modified class where the performance criteria has long been established. So when a newcomer appears that immediately begins to up the top speed of the class by 15-20 mph, all the while

showing an even wider acceleration edge, they either feel there has been a break-through of the performance barrier, or that somebody is pulling a funny.

An invitation to SCG by the car's builders to take a look at the Special was, therefore, welcome. There is no better way to probe the mysterious aura that has followed the car in the short time it has raced.

The fact that the Merc Special is the product of an aborted project and three years work by Odenborg and Scott Hamilton, partner and chief designer, was the first revelation made by them when interviewed in their McMinnville, Oregon shop.

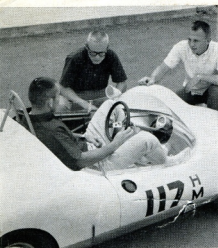
McMinnville is a small, quiet college town in the Northwest portion of the state. Both Odenborg and Hamilton look like college students, and they are. Odenborg, of medium

build, with dark, close-cropped hair, attends classes part time while working to support a wife and child. Hamilton, about the same physical build, has a ruddy complexion and sandy, almost red hair worn in a severe crew cut. Both work full time for a McMinnville painting contractor who has a financial interest in the car. The car is kept in the contractor's warehouse between races. The big, open building makes a fine workshop.

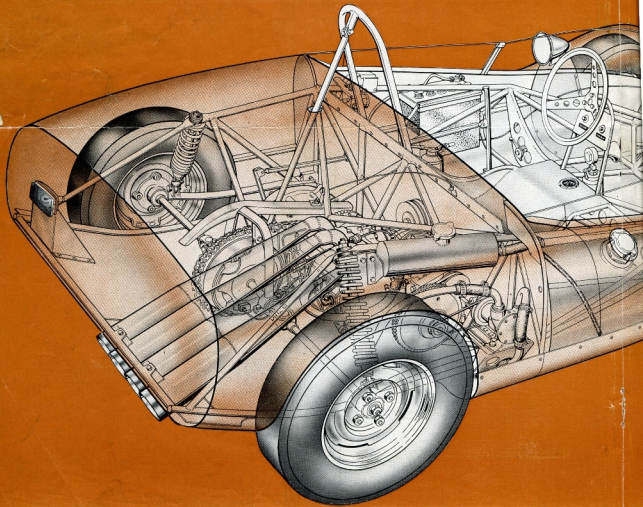
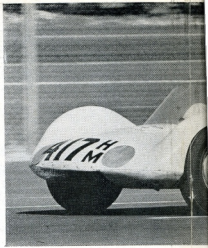
Odenborg, Hamilton and Paul Prescott, their crewman, pulled the car outdoors, apologizing for the condition of one body panel that was damaged in a bash during a recent race in Utah. They pointed out that regardless of its formidable record, it has had its off days. The Utah bit was one of them.

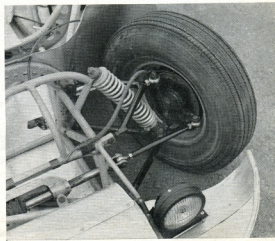
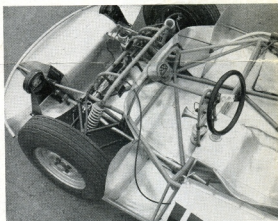
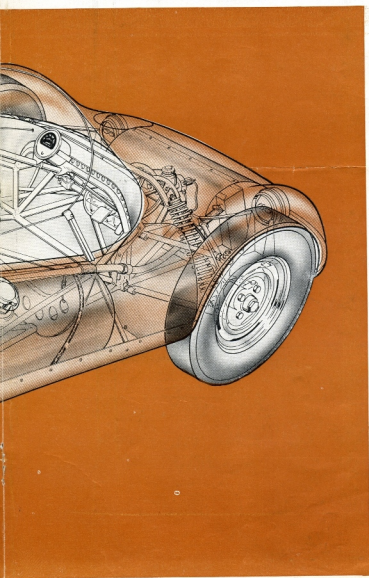
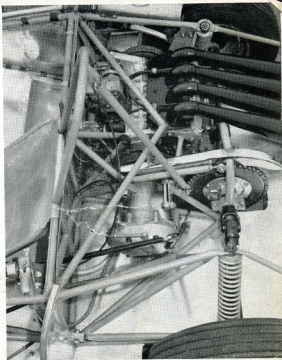
(text continued on page 46)

# MERCURY SPECIAL



The successful team, at left, includes Dan Odenberg (aboard), Paul Prescott, and Scott Hamilton. Well-conceived and well-built, the little car should be an inspiration to other amateur builders. Remember, however, that Modifieds for '64 will have to be made FIA-legal to run in most SCCA-sanctioned competition.







## MERCURY SPECIAL (continued)

With the body in place the car looks for all the world like a high-rumped bug. The cockpit is short and well forward. Odenborg, who does the driving, demonstrated how he wears the car. His legs stuck out and up, almost as they would on a go-kart. His arms extended, elbows straight, to the wheel. All controls, though, fell right to his hands. If you studied it long enough to forget its unconventional aspects, it looked as good as any driving position. Certainly no more radical than the

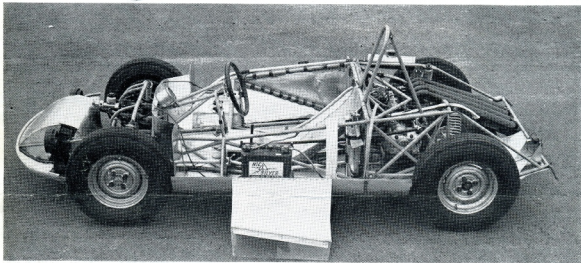
reclining position used by Cooper, Lotus, and others.

Stripped of its body, the frame proved to be of the multitubular space type composed of  $\frac{3}{4}$  and  $\frac{5}{8}$  inch sections with a wall thickness of either 20 or 18 gauge. The wheelbase measured out at 64 inches with tread 43 inches front and 46 inches rear. The high point measured 24 inches and the belly pan cleared the blacktop by about  $5\frac{1}{2}$  inches on the average. A compact package. The front suspension was by coil shocks and unequal length A-arms. A rack and pinion box out of a Panhard had been re-machined and fitted to the frame. The steering column made its

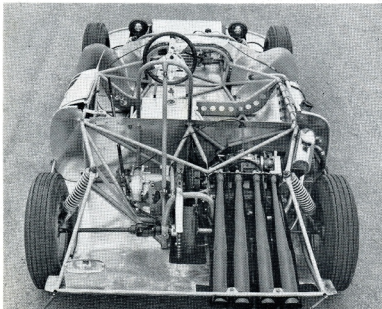
way to the steering box through two extreme angles via small universal joints. It works smoothly enough, though. Two swing pedals are fitted to the framework. The right hand pedal worked a push-pull cable to the clutch while the other actuates a BMW 300 master cylinder.

Where the front end is not particularly unusual, the rear of the car is — completely. The 747 cc Mercury outboard engine lays on its side. A reversible starter and flywheel is fitted to the top of the engine, while the bottom is mated to a gearbox and chain drive. A big, single brake is fastened to the frame with U-braked

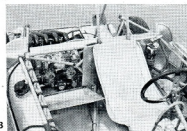
(continued on page 82)



1



2



3



4

1—Side view of the "skinned" special reveals its wedge-shaped spaceframe. 2—Installation of the powertrain is neat, but bay needs more triangulation. 3—Tuning adjustments are made through this hinged panel in firewall. 4—The body lines are good; tailored, streamlined, and are quite attractive.

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## MERCURY SPECIAL

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axles carrying the power to the wheels. The engine is almost smothered by four big, black painted megaphone exhaust stacks.

"This actually is our second car," Dan said. "We began work on the first chassis about three years ago. We worked about a year on the original machine and decided it was all wrong in design, materials, everything.

"In looking back," Dan said, "we weren't kidding ourselves. We were on the wrong track and there was no point in continuing without a complete re-design of the chassis. The little engine had to lay flat in a transverse position on the right hand side of the car to place the power take-off as close to center as possible. The difficulty we faced was in how to design a light space frame aft of the cockpit that would carry the wide spaced loads. It was not like anything we had seen or encountered before. Scott worked it out finally, and we went ahead. His calculations worked and the chassis carries the stresses perfectly.

"Construction moved slowly because there was nothing, or almost nothing, that we could use 'off the shelf'. The chassis, a multi-tubular space frame made from round section, welded seam and seamless 1020 tubing, was almost entirely gas welded with mild steel rod. We made our own suspension system. Unequal A arms were made for the front end with long king pins carrying homemade spindles. BMW seven-inch drums with aluminum shoes and cut-away backing plates were fitted to the spindles. We had coil springs especially wound on BMW shocks for all four spring-shock points.

"The rear drive and suspension took a lot of time to construct. We adapted a BSA Type A gearbox (1952) and clutch to the business end of the engine. Gear ratios are; 2.575 for 1st, 1.603 for 2nd, 1.201 for 3rd, and 1-to-1 in 4th. Final drive is 3.2-to-1. An Opel brake was modified to act as an inboard unit alongside the final-drive sprocket. We re-machined two BMW 300 axles to act as swing-types between the final-drive bearing carriers with only one U-joint, at the inboard ends.

"Re-working the engine for automotive work was not a big problem. We did some minor port work, just refinement, and followed general two stroke racing practice of reed cage modification, installation of a Quinicy exhaust block and a tuned megaphone exhaust system. The stock carburetion proved to be inadequate and so did the cooling. We have installed Carter Model N carbs (cost \$9 each) that have enlarged venturis. The water jackets have been completely re-worked. All the stock ports have been plugged and straight-through passages inletted at either end of the engine, exhausting at the back center of the block.

"The cooling system, once worked out, hasn't given any trouble. We mounted

a pair of automobile heater cores up front. The two cores are joined to make an 8 x 20 x 4-inch crossflow radiator with about one gallon capacity. A Jabco rubber impeller, high speed, marine water pump is mounted on a pad near the right end of the engine where it is pulley driven. The coolant is carried between the radiator and pump via tubes fastened to the frame. The pump is so powerful it will shoot a stream of water 30 feet into the air.

"We made our own five gallon fuel tank. It fits on the right side of the frame. It carries a mixture of gas and Sten C oil mixed 20:1.

"The body was a chore for us since we lacked Fibreglas experience. We constructed a mock-up and laid up the cloth without the benefit of molds. Two laminations of six-ounce cloth with resin turned out a body that weighed 26 pounds with windshield and hardware. Aluminum sheets were used for the belly pan, bulkhead and seat.

"We finally finished the car in the early months of 1963. Our goal had been a 500 pound car. As it turned out it weighed 450 dry and 490 ready to race. Out on the course, except for the problems that developed with the gearbox and linkage, the thing was perfect. It drives beautifully and has no bad habits. As light as it is, it feels solid and steady at 125 mph. The acceleration has to be experienced to be believed. We can't give it to you in seconds because we have never checked it that way. The ride is not the least bit harsh. In fact, it's downright comfortable. We've been beaten, but only a couple of times, and then only when we have had trouble. It's been a satisfying experience."

Satisfying indeed. Queried about future plans, both Odenberg and Hamilton agree that they will build a similar car for Class F, where competition is hotter. The new car will be powered with a six-cylinder Mercury. Weight of the F car should be 600 pounds, according to their calculations.

If it is possible, look out! More records will fall!

## ALPINE RENAULT

continued from page 42

Knowing that Jean Redebe has only three M 63s built, I was extremely careful in my driving, to the point where I felt many times that I was crawling. In fact, on several occasions, I braked so early (the brakes were very powerful and pleasant to use) that I either had to shift down or accelerate again. Still, I was enjoying myself at what seemed to me to be a slow pace and, fully confident in the behavior of the car, I never found myself in an uncomfortable moment. The only discomfort came from the wind and relatively hard ride. The engine behaved beautifully, it was extremely responsive and power came on like "a little ton of bricks" after 5,000 rpm, and then all the way to 8,000. As

