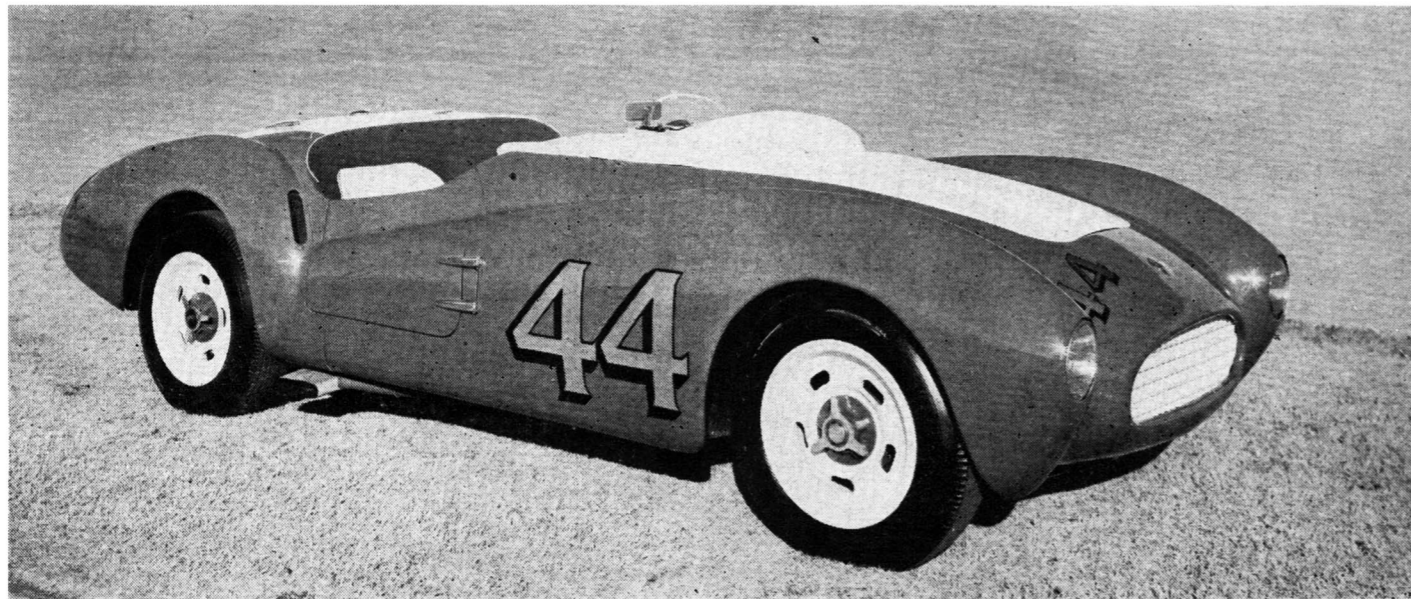


"THE WORLD'S FASTEST SPORTS CAR!"

BY JOHN CHRISTY



Streetliner as togged out for road racing, with rear fenders in the Victress body vented for cooling. Scoops in grille perform the same function for front tires and brakes. The

car has turned 202 mph on the salt using a nitro-alcohol blend, and 196 mph on pump gas. Builders now have their eye on sports car racing competition as next step.

After 200 mph on the salt, builders of the Mabee Special are out to make it go just as fast on a road course

THE MABEE SPECIAL is a piece of backyard machinery known variously as the "Streetliner" and as the "Fastest Sports Car in the World." Both terms had been used two years ago when the car turned 202 mph at the Bonneville trials. At the time there was some justification for calling it a Streetliner, since the car never would have passed the road race technical committee.

The following year the car was changed from alcohol-nitro to gas and ran a top time of 196.50 mph. So the owners, Texas oilman Guy Mabee and his son, took the car to the March Field sports car road races. After a fast start the car was in and out of the pits, but hung to within a lap of the leaders and finished seventh.

Originally, the streetliner chassis was a double-rail affair, following Chuck Manning's principle of close-set truss tubing but with heavier two-inch chrome-moly tubing and set up for transversely placed torsion bars instead of leaf springs. Front and rear axles were 1946-48 Ford, the rear equipped with a Halibrand quick-change center section. Brakes on all four wheels were reworked 11-inch Lincoln units modified by Chuck Manning into his version of Al-Fins. Kurtis torsion bars were used all the

way around. Wheels were and are Halibrand pin-drive knock-off disc units.

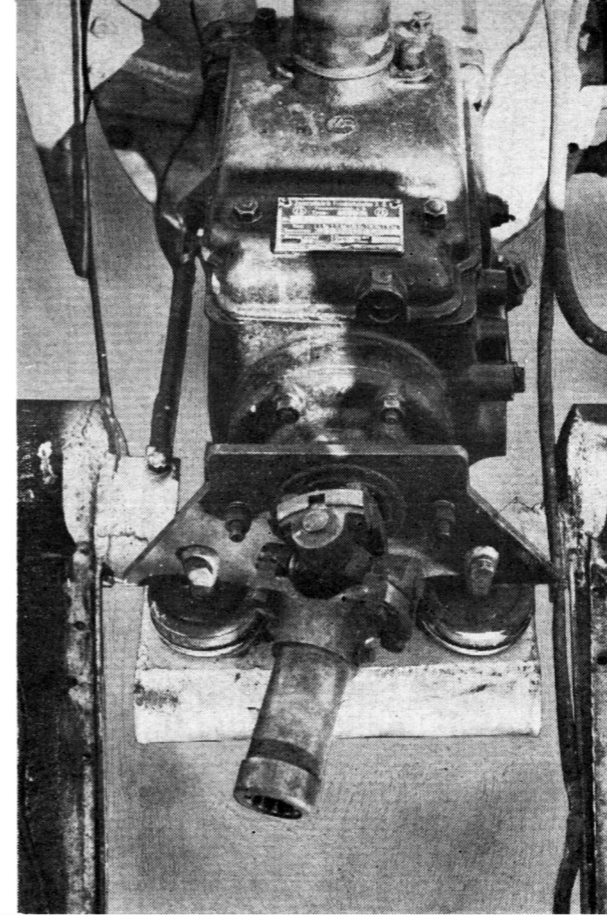
Since its maiden trip to the salt, several changes have been made. The front end has been modified to take the Kurtis tubular axle and the steering has been rerouted so that the column now passes under the left rocker cover on the engine rather than over it as originally built. The same Gemmer sector is used with a Kurtis pitman arm. The homemade brakes have been discarded in favor of Halibrand double-spot brakes and Indianapolis reversible wheels can replace the sports car type shown here.

A 389 cubic-inch (6.37 litre) Chrysler V-8, modified by Ray Brown Automotive, produces 350 hp on gas at 5100 rpm. To achieve this healthy performance, the engine has been bored three-sixteenths oversize to four inches and stroked .250 of an inch to give a piston travel of 3 $\frac{3}{4}$ inches. To stroke a Chrysler crank that much requires that each crankpin be metal sprayed to bring it back to size.

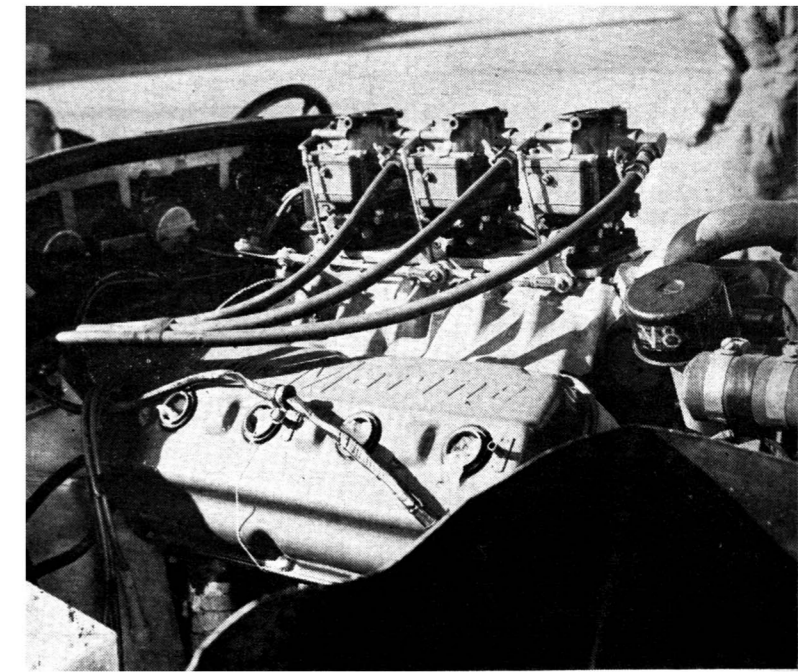


The metallurgy of the crank is such that the collar formed by the spray breaks loose under stress and twists on the crankpin. Brown solved this problem by setting bronze pins 180 degrees apart in each journal. The throws were then ground to size and no shifting of the new metal has been noted after a year of hard use.

Another problem lay in the fact that at high speeds the drive gear on the cam and the driven gear carrying the magneto shaft would wear at racing speeds to such an extent that as much as 10 degrees of slop would be noted in the ignition timing. Experiments showed that these gears were not getting sufficient oil to keep the steel drive gear from chewing up the cast iron magneto drive. A study of the oil passages showed that two galleries ran through the block alongside the tappet bores. Each bore had a hole leading to these galleries to provide pressure to the hydraulic tappets but since roller tappets were used in the modified engine, these were found not only unnecessary but detrimental. The 80-lb. oil pressure actually caused side thrust and resultant wear on the tappets. The holes were plugged with brass rod, thus letting full pressure go through the galleries around to a plug at the left



Rear view of German-made ZF gearbox shows extra heavy universal joint, ball-bearing adaptor. In the upper right is the hydraulic clutch operating cylinder of imported unit.



Three dual-throat carbs are mounted on Chrysler engine. Marine rocker covers are used to make room for adjustable rockers which would hit top of passenger-car type.

rear, leading into the magneto drive chamber. This plug was drilled with a .030-inch hole and the wear problem was stopped due to the resulting stream of oil which bathed the two gears. It's the little things that count.

The heads were modified by cleaning out the ports and enlarging the intake valves to 2 $\frac{1}{16}$ inches. Sodium cooled valves were then set into big-bore bronze guides. Chrysler Marine rockers, which are adjustable, replace the stock items and are used with very light .058 wall chrome-moly push rods manufactured by Brown's company. The stiffness of these push rods is such that there is less than .010 of an inch whip with the engine

operating at 5000 rpm! No milling was done to the heads, the increase in displacement, coupled with the use of J. E. high dome racing pistons being sufficient to bring the compression up to 10-to-1.

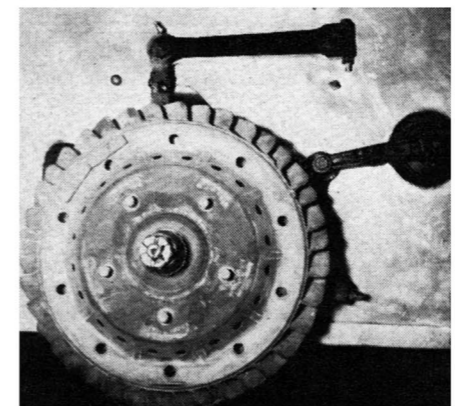
Induction for record runs is by the injector system. On shorter road courses a triple carburetor manifold bearing three Stromberg dual throat carburetors is used. Experiments are now being made to set up the injectors for full-time use, however.

All this pressure is delivered to the driveline via a stock flywheel and a 2800-pound Frictionmaster clutch to a ZF four-speed gearbox and thence to the shortened late Ford drive shaft.

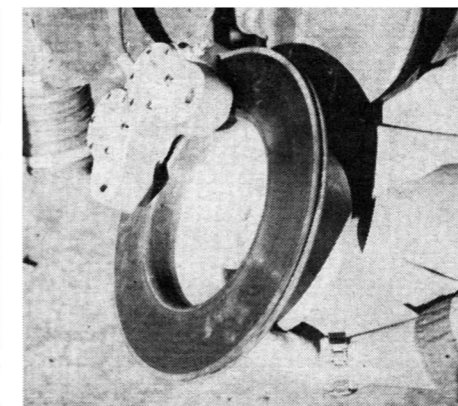
The German made ZF (Zahnradfabrik Friedrichshafen, A.G.) box was a later addition, installed when it was found that the Ford transmission, while sufficient for straightaway runs, was not beefy enough nor of close enough ratios for closed circuit road racing. Although expensive and not easy to acquire, the ZF box has for years been practically S.O.P. in Grands Prix due to its ruggedness and even ratios of 25 percent step-up between gears.

All of this proves a point, that point being that a successful sports car does not have to have the tradition of years behind it to be good but it does have to have considerable thought and cooperation in its design and make-up. •

Original Alfin drums were replaced with Halibrand Indy double spot brakes, which allow driving deeper into turns.



Brakes made from Lincoln drums were used at first, with finned aluminum muff cast around turned-down original.



Exterior view of Halibrand hub and brake assembly, showing deep hub section which allows use of reversible wheels.

