

PMG Mistral Special

*Capable Of Moving Like The
Wind For Which It Was Named,
The PMG Is The Latest
Home Built Threat In
The Storming 1500 Class.*



Dressed in its attractive plastic shell, which weighs only 75 pounds, the PMG Mistral sits 4½ inches from the ground. The reinforced body has its color laminated into it at the time of manufacture.

AMERICAN ingenuity and British components have been combined by Bob Plass of Los Angeles into the PMG Mistral Special to form an interesting and potent threat to the red hot and expensive Class F competition.

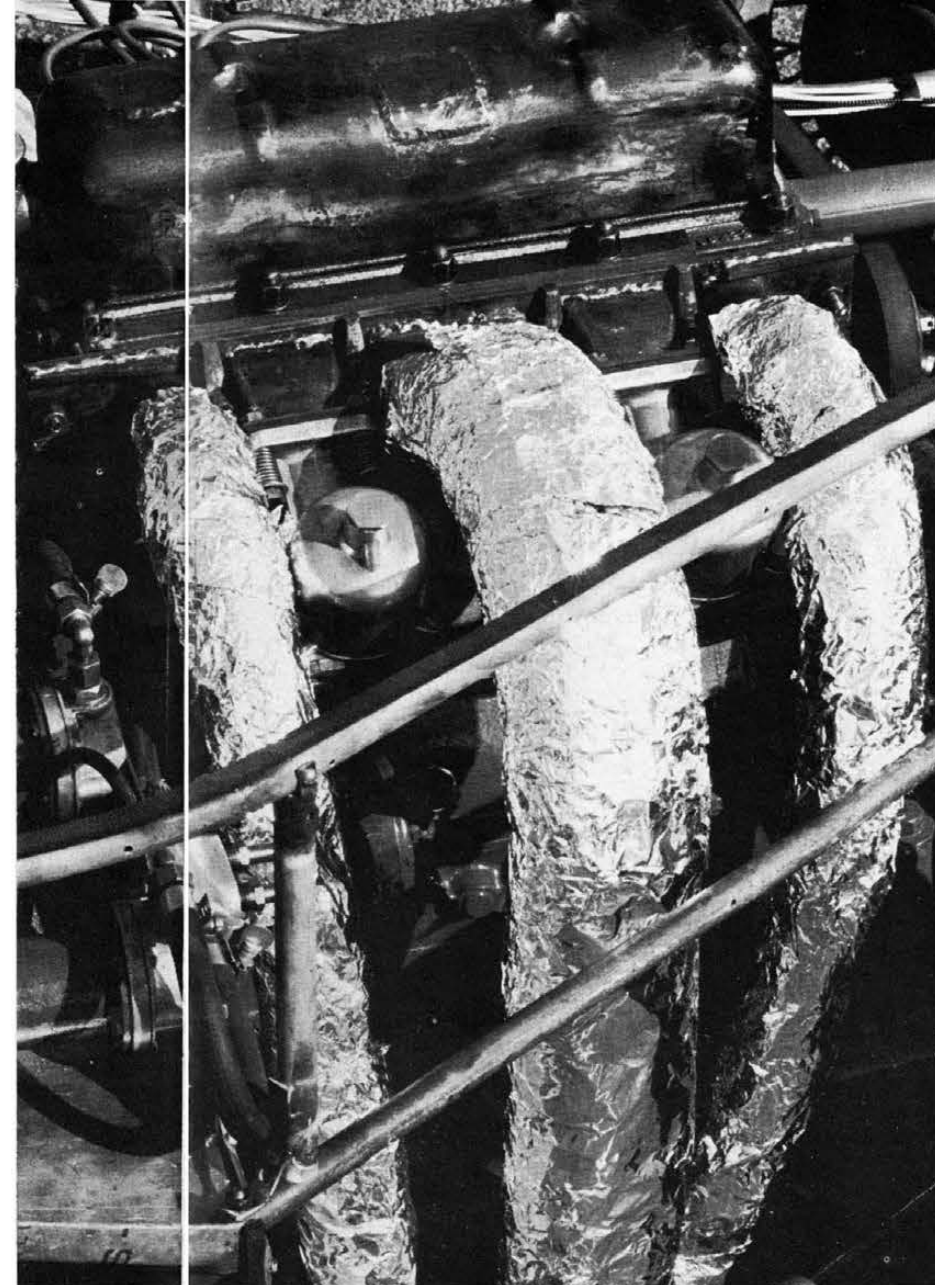
Plass, an engineer for the Western Precipitation Corporation, is no stranger to racing. He formerly raced midgets in the east under the AAA banner prior to moving to California. For the past several years he has been active in sports car racing, driving both stock and near-stock MG's in West Coast competition. However, it soon became evident to him that while it was great sport racing a stock MG, much was left to be desired in the matter of performance.

Being an engineer, Plass decided it would be more interesting to build and race an MG special than it would to purchase a racing machine such as an OSCA or Porsche 550, and less expensive. Therefore he approached the problem in typical engineering fashion. The car was completely

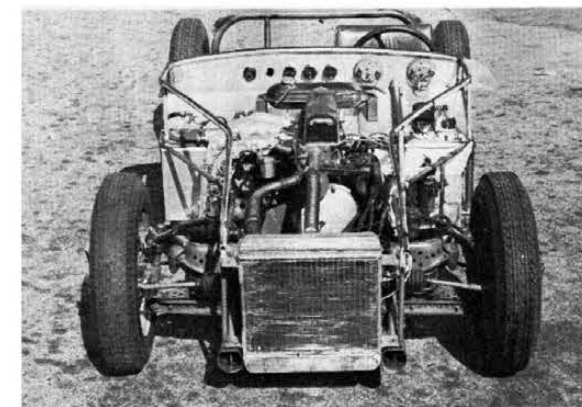
designed and engineered on paper before construction commenced. Deflection curves were plotted for the proposed frame and they worked out to give a maximum deflection of two tenths of an inch under full load.

Construction began in August of 1954 with the fabrication of the arc welded frame from three inch mild steel seamless tubing with a wall thickness of .065 inch. Body outriggers were constructed from one inch thin wall steel tubing, with a roll bar made from 1½ inch heavy wall steel tubing. Mild steel tubing was chosen for the chassis because it has strength at the welds equal to that of chrome-moly tubing after welding, plus having a slight weight saving factor over chrome-moly.

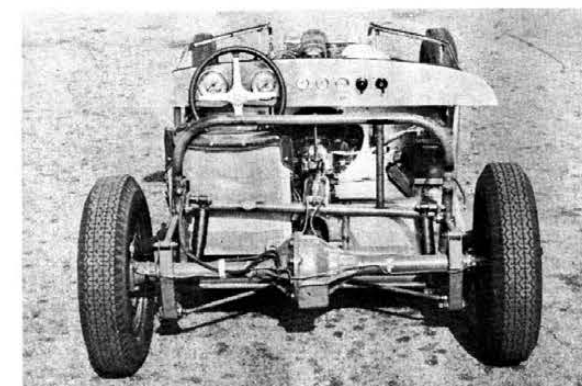
Suspension is composed basically of MG components. The front is an IFS system based on the 1,100cc Kieft design which utilizes a tubular built-up structure using TD radius arms and shocks in conjunction with a Jaguar Mark VII anti-roll bar. Rear suspension was designed along lines



LEFT: Header pipes are wrapped in asbestos with aluminum foil covering to protect SU carbs from heat of the exhaust.



Low frontal silhouette necessitates rear placement of header tank. Note front suspension drilled out to save weight.

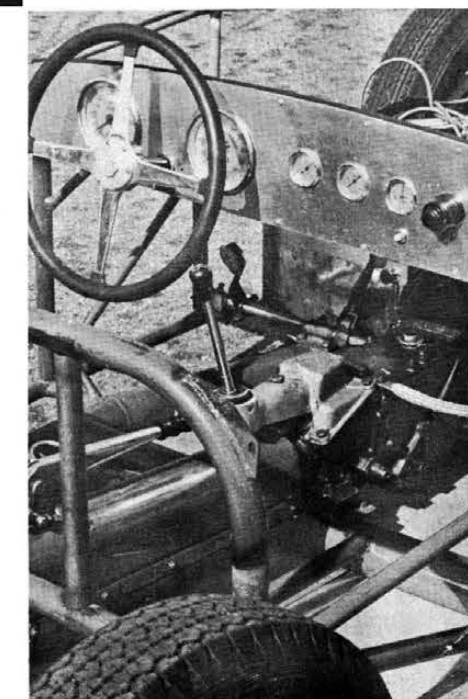


To maintain parallelogram of Morris Minor torsion bar system, bar below roll bar was set in at a crooked angle.

similar to Ken Miles R-2, utilizing transverse Morris Minor torsion bars. Shock absorbers are 50-50 Gabriels. Specially constructed Panhard arms were built using Ford tie rod ends and chrome-moly tubing with rubber mountings at the trailing arm. The entire rear suspension is fully adjustable.

For steering, Plass used a basic TD rack and pinion arrangement constructed from chrome-moly tubing fitted with two aircraft type U-joints to achieve proper position. The steering column is mounted on the firewall structure inside a chrome-moly tube and rides on six needle bearings. Steering requires 2¼ turns lock to lock.

An extensively modified 1,500cc MG competition engine was chosen as the powerplant. The engine is one of five brought to this country by Captain George Eyston and Ken Miles for their record runs at the Bonneville Salt Flats. It is equipped with racing rods, pistons, and full race cam. Compression ratio is 10.7 to one. The head has been com-



Three-quarter skeleton view shows easy to read gauge panel. Note shortened remote control lever on gearbox.

pletely polished, ported and relieved. Oversize valves, which have been polished and balanced, are used in conjunction with special lightened, polished and balanced rocker arms, tubular pushrods and 150 pound valve springs.

The engine, competition clutch and flywheel were balanced both statically and dynamically by Edelbrock. Two inches were cut off the bottom of the sump, then these pieces were welded together and refitted to the front of the pan, thus reducing overall height by two inches, and at the same time retaining the original six quart oil capacity. To increase the oil cooling an external oil radiator was constructed from a surplus aircraft unit and was mounted on the front suspension just behind and below the water radiator. To further give the engine a lower silhouette, the oil filler cap was repositioned at the rear of the valve cover. Water flow holes between the head and the block were welded closed and the water now passes through the head and block separately.

An additional crankcase breather was mounted on the back of the bell housing and the flywheel was lightened to 17 pounds. The front engine mounts are TC, while the rear mounts are TD. Plass feels these modifications should give the engine a horsepower rating somewhere above 86 hp.

Fuel to the engine is supplied by two 1¾ inch SU carburetors mounted on neoprene gaskets and backed up by spring loaded bolts. The SU's are mounted on a specially constructed one-piece intake and exhaust manifold of mild steel. Fuel to the carburetors is supplied by two SU electric fuel pumps, discharging into a fuel block, then through neoprene tubing into the carburetors. Plass used two pumps because one was not adequate to supply the required fuel flow at higher speeds.

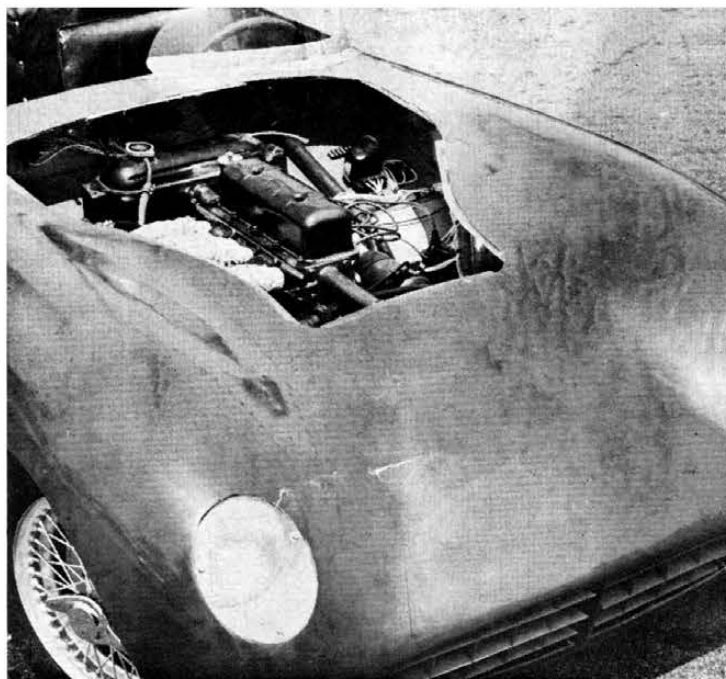
Fuel comes to the pumps from a rear-mounted 13 gallon surplus aircraft hydraulics tank which has had baffles added, together with separate fuel lines to each pump. An especially designed airbox was built for the SU carburetors with a scoop mounted on the front of the body next to the radiator.

Engine cooling is supplied by a seven pound pressure system consisting of a one gallon header tank mounted at the highest point in the system which is behind the engine on the firewall structure and a main water radiator with a three inch core and a nine quart water capacity, plus the normal block water capacity.

A standard MG-TD four speed gear box is used, however the remote control lever has been shortened. The gear box feeds into a TD differential housing equipped with a 4.55 to one gear ratio. Wheels are TF wire knock-offs with 5:00 x 15 on the front and 5:90 x 15 on the rear running Pirelli tires. Eleven inch Al-fin brake drums with backing plates generously drilled for improved cooling are used. Air scoops in the body also help cool the rear brakes. Fren-do racing brake lining is used. The stock MG emergency brake has been adapted to the rear end and the standard cockpit mounting is retained.

The electrical system consists of Lucas Distributor, Runbaken coil and condenser with a 30,000 volt capacity and a stock TD fuse box. Power is supplied by a specially built 12 volt battery having a weight about ⅓ of the standard MG battery. The battery is mounted in the cockpit next to the firewall as is the starter solenoid which is a Lucas of the type used by Jaguar. Wiring on the car follows aircraft principles, using aircraft type terminal blocks.

Cockpit layout is neat and functional. All instruments are



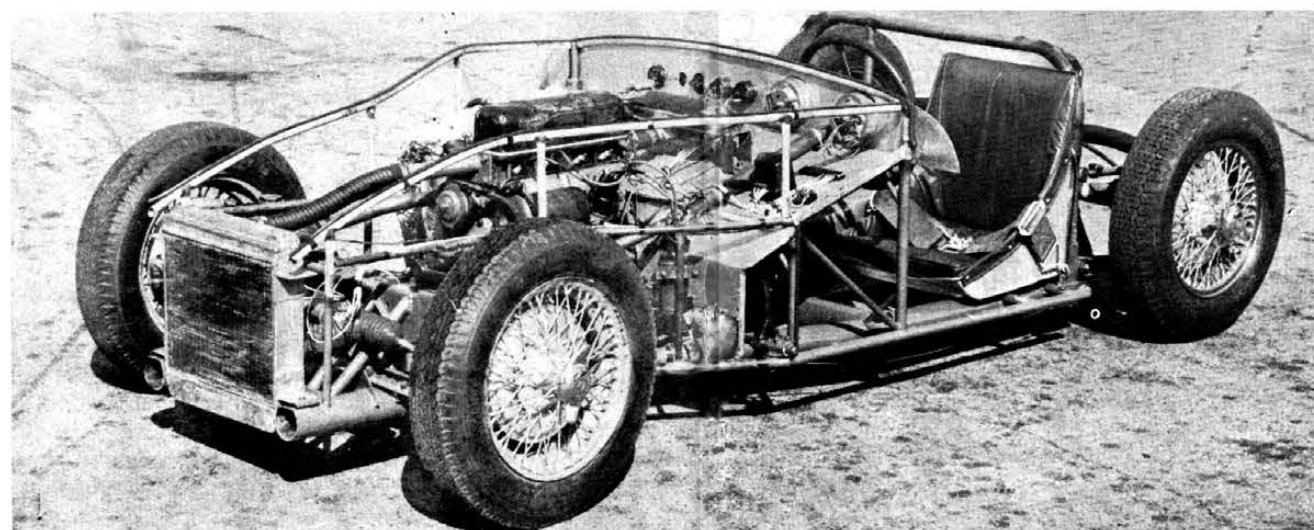
Hood removed to show easy access to engine compartment. Lid slips on and off quickly for necessary minor adjustments.



Three-quarter rear view shows graceful lines, tail lights, and body indentations behind front wheels.



Cockpit layout is designed more for utility than for comfort. Instruments are placed for easy reading. Note wide seat belt for maximum safety.



The entire weight of the car is supported by the heavy single rail tubular frame. The cage-like structure trusses the light, one piece body.

TD and include tachometer, odometer, water temperature, oil pressure, amps, starter button, horn and light switch, ignition switch with hi-lo switch and choke. The seat of the bucket type finished in red leather upholstery. The clutch pedal is attached to a cold-rolled steel shaft mounted in three bronze bearings. The brake pedal rides free on the clutch mounting shaft, however, the brake pedal set-up is reversed from stock MG with the master cylinder mounted ahead and above the pedal.

Crowning glory for the special is its beautiful red fiberglass body which has a total weight of only 75 pounds. The reinforced plastic shell has its color laminated into it at the time of manufacture. Builder of the extremely attractive body is Microplas Limited of Mitcham Surrey, England. It sells for the remarkably low price of only \$317 delivered and requires six to eight weeks for delivery. The body comes complete except for the cut outs for the hood, door and radiator. This body style is known as the Mistral (after a violent seasonal wind) and is one of three types manufactured by Microplas. Lights were built into the fenders by Plass somewhat similar to the D Jaguar. The Special is equipped with a full belly pan constructed of .040 ST aluminum.

Additional specifications for the car include a wheelbase of 90 inches with a front tread of 48 inches with 50 inches in the rear. Road clearance is 4½ inches. Weight is approximately 1,200 pounds dry with a weight distribution of 46.4 on the front and 53.6 on the rear.

Before the year is over, this car should see considerable action on the California courses and great things are expected of it by its proud owner-builder. It is hoped that it will give the OSCA's and Porsche 550's a bad time, and perhaps even a 1½ liter Maserati will find it snapping at its heels.

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