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Paul Budzik's 1/12 scale McLaren M23

A magnificent — and complex — conversion

A CLASSIC FORMULA 1 racing car, the McLaren M23 made its appearance in 1973 and stayed competitive until early 1977, a long time for a Formula 1 car to remain in front line service. Emerson Fittipaldi in 1974 and James Hunt in 1976 drove the car to world championships.

Paul Budzik of Fresno, California, built the late version of the car driven by James Hunt from a 1/12 scale Tamiya kit. Paul told FSM that he prefers 1/12 scale for single-seat racing cars because it is a good size for display, but also allows him to reproduce all the significant details.

The most noticeable differences between the kit and the version Paul modeled appear in the bodywork, the later versions having shortened noses mounting larger wings. The shroud surrounding the driver was lengthened to accommodate a front roll bar. The air box has a lower profile as dictated by a regulation change. Side pods housing the oil coolers were added, as were a modified rear wing and mounting system.

tyrate so that the depression for the mounting of the windscreen needed to be reduced in depth," according to Paul. "I did this by laying a piece of .015" styrene in the depression. This was trimmed to match the existing height of the fairing. In place of the normal mounting pins I substituted 00-90 screws so that the fairing could be drawn down snugly against the monocoque. The windscreen was mounted after painting by using .020"-diameter straight pins with their heads cut down and painted black."

Paul explained that the air box was the most difficult conversion: "I started by cementing the original air box together. I cut it down so that it had the correct side profile. A piece of sheet styrene with the correct upper outline was cemented to the top. I then cemented a piece of styrene with the correct profile to the front. The rest of the additions were done with pieces of sheet styrene.

"The outside contours of the air box were shaped to a final stage before the openings in the air box were cut. I tried to keep the use of fillers to a minimum as this part would un-



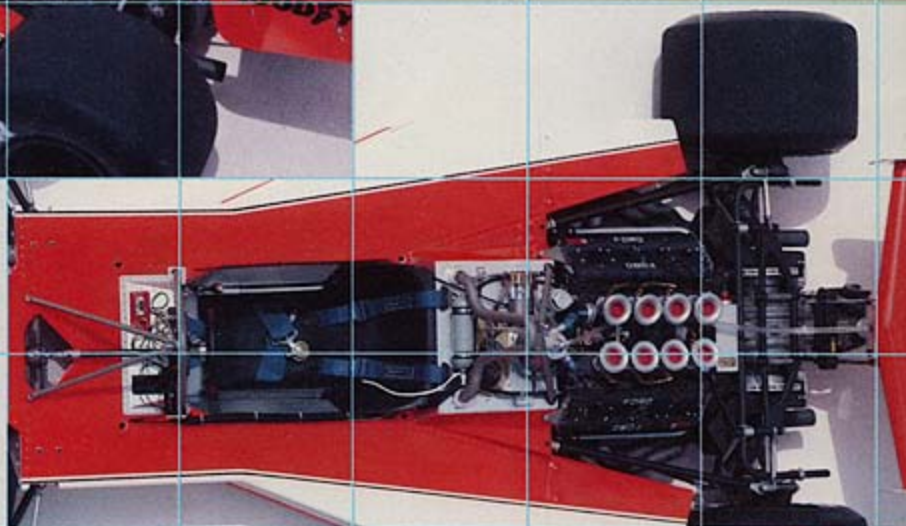
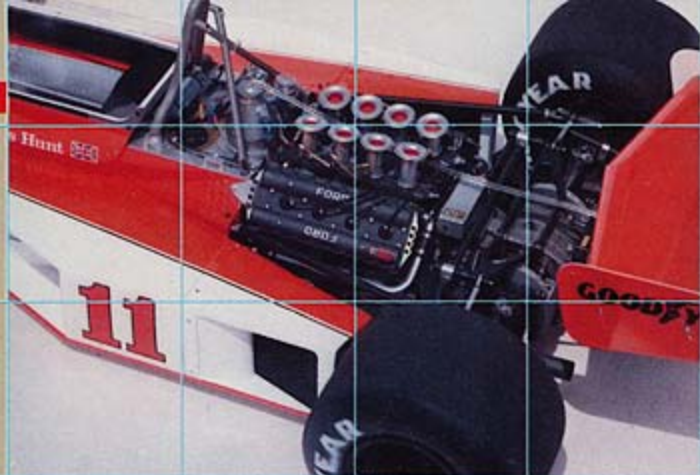
Photos by Paul Budzik

The fairing that surrounds the driver had to be lengthened to extend past the joint between the monocoque and the nose piece. Paul spliced two fairings together, but says he could have spliced in a section of sheet styrene instead. Because these joints can be fragile, he backed up the joint with a piece of .010" sheet styrene.

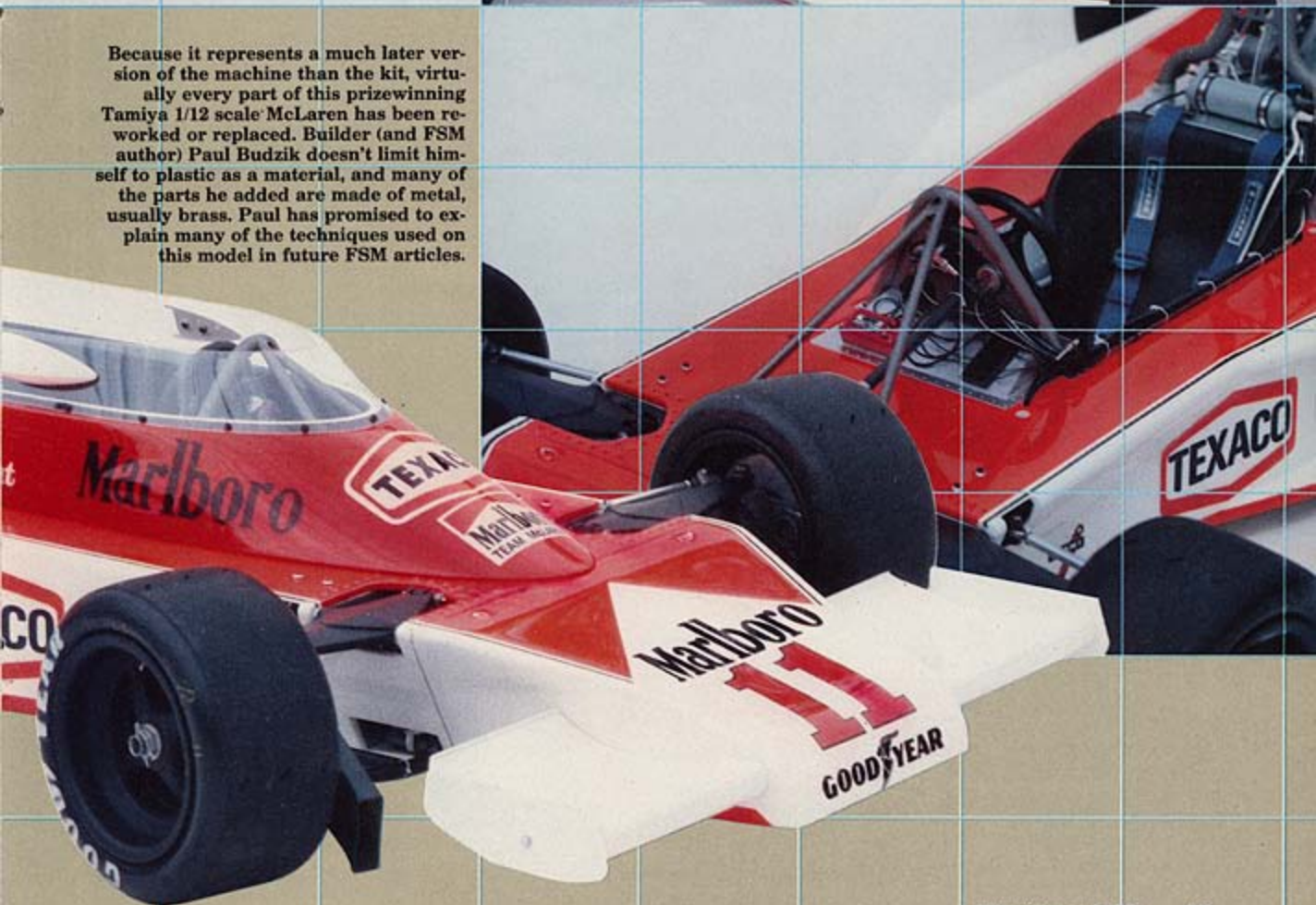
"A new windscreen was to be formed from .007" sheet bu-

dergo some flexing when taken off and on and I did not want anything to crack."

Modifications to the main part of the body included new cutouts for the front suspension and adding side pods which held the oil coolers. Paul told FSM that his assembly se-



Because it represents a much later version of the machine than the kit, virtually every part of this prizewinning Tamiya 1/12 scale McLaren has been reworked or replaced. Builder (and FSM author) Paul Budzik doesn't limit himself to plastic as a material, and many of the parts he added are made of metal, usually brass. Paul has promised to explain many of the techniques used on this model in future FSM articles.



Added engine details include throttle slides and return springs, and a throttle and injector pump linkage system.



The model is painted with acrylic enamel automotive finish. Paul described his painting techniques in his article on superdetailing 1/12 scale motorcycles in the May/June 1984 FSM.

quence for this part of the model differed greatly from the instructions. "I had already determined that if the seam between the upper and lower body halves was to be effectively hidden the car halves would have to be assembled before painting," he said. "If the instructions were followed, all the internal structures would have to be fitted prior to cementing the two halves together, which would make for a nightmare of masking. I found it easier to assemble the two halves, then fit the other parts in later. This can be done by simply removing a few locating pins."

Paul painted the entire car white with acrylic enamel made by Ditzler for use on automobiles. After this was set he masked off and painted the Dayglo red areas of the car. He used Martin Senour fluorescent red that he emptied out of a spray can, then airbrushed.

After Paul applied all the decals and transfers he gave the entire car several coats of clear gloss, sanding with 600 wet sandpaper between coats.

The front roll bar and instrument panel were fabricated from brass rod, sheet, and machinings. The rear roll bar was formed in a similar way except that it did not require the mounting of an instrument panel.

Paul reworked the entire front suspension and most of the rear suspension, adding many scratchbuilt metal parts. All assembly and soldering was done on a jig he made to simulate the correct position of the components; the jigs were made on a block of aluminum. The mounting points



Formula 1 race car cockpits are a lot less cluttered than those of aircraft, but this one looks as if you could strap yourself in and drive it away.

were anchored by brass machinings screwed into the block.

"I got tired of making so many suspension rod ends," Paul told FSM, "so I made a variety of different sizes and a rubber mold so they could be mass-produced by lost wax castings. This way I select the proper size end and drill a hole in the end of a rod of the correct diameter to accept the end fitting. The two are soldered together and I have a rod."

"The engine is as fully detailed as I could make it. Lost wax castings were used for the injectors, hose fittings, wire connectors, and plug covers. A new injector pump and distributor assembly were made by repositioning the ignition box to the front of the transaxle housing."

Paul states that a seasoned observer of Ford-Cosworth engines will note a few differences in the way the engine components are set up. The ignition box was repositioned and the last injector of each bank has been turned 180 degrees to have its fuel pickup on the inside. This was done to facilitate the aerodynamics of the rear portion of the air box.

Attachment of the throttle cable is internal to the banks of injectors as on early DFVs rather than to an outside mounted lever as was usually seen.

Paul scratchbuilt the rear wing mount from brass similar to the way he made the wing endplates, taped together during the machining processes so they were identical. The wing support was anchored in place with four press-fit bolt head pins.

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The model won the Judges' Best Automobile award at the 1984 IPMS/U. S. A. national convention.



