

## Ferrari 312B3

As an item of topical interest, I thought I'd bring to the SFC an account of the conception and execution of this truly great Formula One car in 1/12 scale.

The Ferrari 312B3 was the link car between the relatively unsuccessful 312B2 ('71 - '73) and the brilliantly successful 312T of 1975. A change in management and design in 1973/4 brought about a rapid evolution through some of the least good looking early B3's (debuted at Jarama '73), culminating with the final version built for the 1974 season. Team drivers, Regazzoni and the young Lauda came together under the catalytic influence of Luca Montezemolo and thus was born the immediate stepping stone to Championship success in 1975, the first at Ferrari for nine years.

Back to 1974 and the 312B3 which superficially looks like an almost completely red 312T, but as you can imagine, was anything but. Clay Regazzoni was in line for the 1974 Driver's World Championship, but was pipped to the post by that other fabulous early to mid 70's driver Emerson Fittipaldi in a McLaren M23, after the Ferrari was sidelined by shock absorber problems at Watkins Glen. I can remember waiting up that very night for the result; nostalgia or what! I chose to build a late 312B3 after I decided that my own built 312T was due for the scrapyard, having been constructed and brush painted in 1982, long before I had an airbrush. Having decided that it was possible to carry-out all the changes between the two cars, I photographed the 312T and then dismantled it.

Using an overhead photograph and scale drawings of the car a plan-view paper template outlining the bodywork was drawn, this required the use of a ruler and calculator to draw-up accurate proportions. On this, a modified monocoque was built-up around the tub and seat area, the latter of which remained unchanged. The internal anatomy of a 312B3 late version has been fortuitously supplied in two very helpful books, namely Ferrari 1964-1976 (Piero Casucci) and the Autocourse History of the Grand Prix Car 1966-1985 (Doug Nye). The footbox was slightly extended and the fuel tank emphasis was altered from mainly alongside the driver to all along the monocoque sides as was common with the earlier cars. This necessitated the removal of the fuel-tank hatches and their re-siting further forward. The liberal application of a mini-drill (with cutting disc etc) and subsequent use of plasticard made these changes possible. This new monocoque was placed on a floor whose shape was dictated by the formerly carefully drawn template. Cutouts in the floor facilitating the insertion of the lower wishbones and the entrance to the side pod radiator areas were made. To complete the monocoque, a modified simplified top was placed over the drivers knees and a short extension between the driver's seat and engine, was added. The front bulkhead area was now simply rectangular and laterally new rocker arms were fitted horizontally rather than steeply sloping at the front as in the 312T. Vital outer rosejoints were preserved as well as the tunnels for the rocker-arm pivots, but otherwise these were scratch-built using plasticard etc. The lower wishbones were broken down into their component parts and reassembled to conform to a new geometry so that the forward leg could articulate with a forward extension of the front subframe, which in this car I made from narrow gauge

aluminium tubing (1mm). The master cylinders and a new tubular steering rack were then added.

A substantial roll-over bar was formed from 3mm brass rod and fixed in to the rearmost aspect of the monocoque, its fore and aft bracing bars of narrower (2mm) aluminium rod being added at a later stage after the engine was attached. Speaking of the engine, a more interesting and good looking powerplant than the Ferrari 312 Boxer engine is hard to find. The engine from the 312T was ideal if a little more advanced than that used in 1974. The forward mountings (more plasticard) and plumbing of the engine were changed slightly and the larger oil filter on the left side was removed with a change from white to orange of the smaller central oil filter. Apart from these changes and the placing of the refashioned components of the electronic ignition in the space behind the driver's seat, the engine was untouched.

Next, came the construction of two of the most challenging and characteristic features of the 312B3. The 312T of course, had as one of its most innovative and brilliant design features the transverse gearbox which would never do on a model of a 312B3. A standard early seventies Ferrari longitudinal 'box was produced using Milliput and Tamiya's 1/12 scale 312B's gearbox - time and trial & error finally proved successful. The second very visual make or break item was the unique cross-beam between engine and gearbox to which rear suspension components were attached. This was achieved after a few pleasurable hours with scalpel, plasticard and filler, perhaps 30 separate parts in all. The rear aerofoil pillar was quite different again, requiring a de novo construction incorporating the gearbox cooler beneath and a top surface slot for ventilation of that small radiator; also the rear light configuration was different. Milliput, plasticard, brass rod, filler and most of the original internal frame from the 312T all had their part to play. As you can see, it's becoming clear that the closer one looks, that almost every part of the car had to be altered or scratch-built....and so it went on, nearly everything being affected by this realisation.

The rear suspension had to be redone to replicate lower parallel links, altered antiroll bar (1mm aluminium tubing) and modified rear uprights. The rear brakes and brake-ducts were retained from the 312T, but new driveshafts were made from ever useful aluminium rod. The radius rods were altered only slightly in length. At this stage the rear wing support was filled, sanded and sprayed white and then brass pinned to the gearbox - rock solid! The battery was re-sited on the left of the gearbox and an oil catch-tank was made and fitted on the right. The exhausts were lengthened with aluminium tube and the inner ones fitted with heat deflector baffles to protect the battery and oil catch-tank, these were then sprayed matt white and given a used look with matt black.

In order to complete a rolling chassis, wheels in-keeping with the 1974 Ferrari had to be made. The central hubs were cut out and rims from Lotus 72D wheels were acquired. Square section plastic was cut to length with each spoke being supplied with a central spine of thin plasticard. Five-spoke wheels were then fashioned, primed and sprayed gold, with a finishing touch of an inner-tube valve fitted

for extra realism. The original 312T tyres were then fitted and Goodyear logos painted as usual.

The longer narrower water radiators flanking the monocoque were made from plasticard and curtain net provided the radiator-core pattern; these were plumbed with brass rod and Milliput and then the left rearward oil radiator was constructed from parts of the originals in the 312T. A radiator support frame was made and drilled accordingly before the arrangement was fixed to the chassis at an angle along with a modified oil tank on the right hand side, using the template drawn earlier.

All these fabrication projects were pure joy and easy compared to the final and very necessarily accurate body-work manufacture. The body-work took three months of sometimes tedious sanding and filling, sanding and filling, ad nauseam. The promise of that hoped for, final appearance, kept me going day in, day out. In essence, only the cockpit rim (not sides) and airbox entrance were retained. The rest (95%+) was made from plasticard and Milliput. The cockpit cowling shape was a little narrower and steeper at the front with a more vertical headrest area, the airbox shape was subtly different all over and the engine cover and bodywork covering the monocoque sides was all new as was the nosecone which was much broader than in the 312T. The asymmetry of the bodywork covering the rear oil tank and oil radiator either side of the engine cover was novel and needed to be right, however, that covering the oil radiator changed in style during 1974 and the one modelled was close to that fielded at the Nurburgring. When the final shapes were finalised and sanding and filling complete, the bodywork was primed and sprayed with Halfords Nissan Red before lacquering and polishing. The white stripes and number blocks were cut from Microscale's Trim-film. Finishing touches included a hole for the Emergency Pull ring, holes for extinguisher holes and addition of body fasteners.

After the original aerofoils were fitted, all that remained, was to fit the wingmirrors, windscreen and fit the Willans seatbelts before decaling the car. The rear aerofoil shape varied throughout the season, and for simplicity the 312T rear wing was retained, being the same as that used at Monza. The decals were in the main straightforward although it was necessary to draw upon the kindness of Richard Hewer for certain unusual sized decals. Several of the flank sponsor decals had to be made from parts of others in my decal spares box and one in particular (Koni) was made up of 15 individual parts; others required various techniques including Letraset and colour-sprayed white decal. The style of the number 'eleven' was typical for Monza onwards.

The entire project took twelve months during which a second massive project was run in tandem (Renault RE30B, 1982 scaled-up from 1/20 to 1/12 scale using an RE20 1/20 kit as a base...masochistic perhaps!). Completing the projects in time for the show in November '97 took real determination and during the last three months opportunities every day had to be taken. Nevertheless, the end result was extremely satisfying and such a lovely looking car driven by a wonderful character such as Clay Regazzoni made it all very well worth it.....here's to you Gianclaudio!