BENCH RACER

Across the FINISH LINE

Andy Kellock races past the checkered flag with his model of the first rear-engine F1 car, Colin Chapman's 1959 Lotus 18.

Topping off a scratchbuilt 1/25 scale 1959 Lotus 18

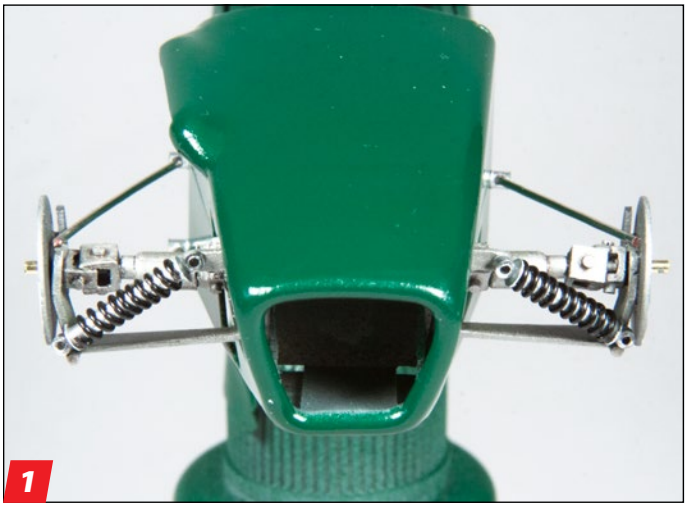
BY ANDY KELLOCK

In the October 2020 *Scale Auto* magazine, I showed you how to build the body shell of a Formula One (F1) Lotus 18. Now let's win the race!

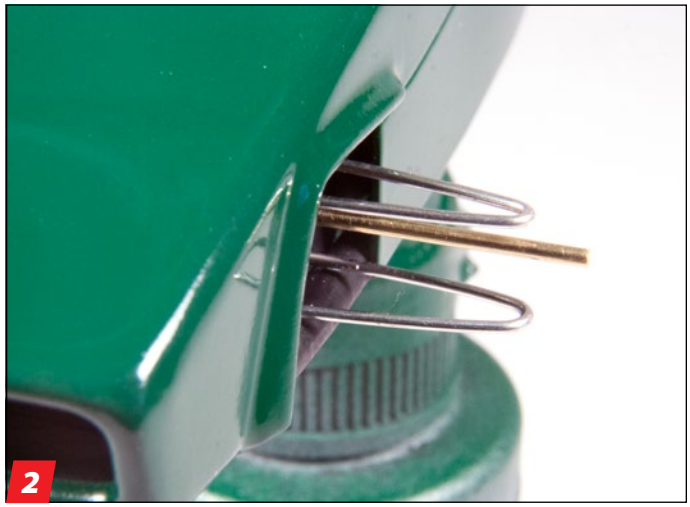
Because of the exposed nature of the car's design, the suspension must be detailed because everything is visible. For strength, I went with axles made from brass rod. Also, I was concerned about getting all four wheels at the same height, so pairing them on axles seemed the best solution. I drilled holes through the inner walls of the double-wall body at the correct height. By painting these inner walls flat black, they disappeared and stopped any see-through effect.

By studying photos of the real car, it became apparent that I could make all the suspension parts from styrene or metal. I used polished metal rod for the upper and lower A-arms and the radius rods because it's stronger than styrene and didn't need to be painted.

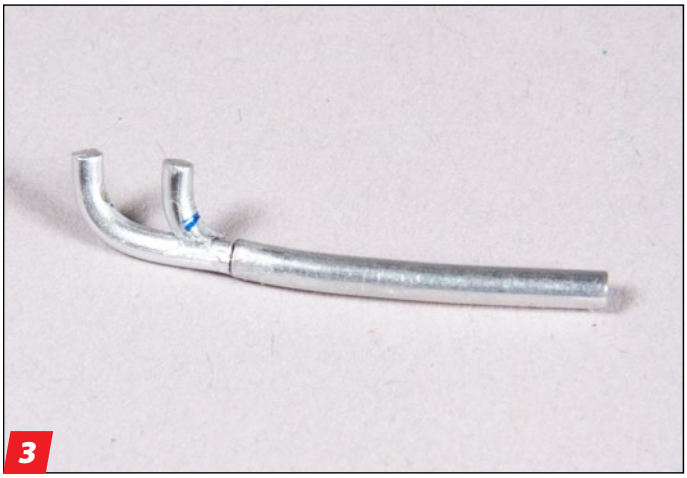
The rear suspension consists of a triangular-shaped styrene lower arm. I also made the axle hub and disc brakes from styrene. To hide the brass axle rod, I fabricated half shafts from two diameters of styrene tube. For the union joints at each



Styrene comprises the suspension's lower arm, disc brakes, and half-shafts. Everything else is metal rod. While it looks intimidating to scratchbuild, just break everything down into simple subassemblies.



The front suspension has upper and lower A-arms made from metal rod. The brass axle was used to for alignment and removed after the suspension was complete.



I fabricated the exhaust from aluminum rod and tubing bonded together with superglue.

The dash panel is styrene sheet painted red and dressed it with decal gauges and a suitable steering wheel. The windscreen is made from clear butyrate.

end, I cut two square sections of styrene channel and glued them 90 degrees from each other. I finished them with "bolts" modeled from styrene rod.

I made coil-over shocks from two diameters of aluminum tubing and springs wound from craft wire. The end caps were punched from an aluminum soda can and fashioned the end fittings from aluminum tubing, ***1***.

Out in front, the suspension is much simpler with upper and lower A-arms made from polished metal rod. I bent four pieces to shape and drilled holes in the inner body wall to locate them. As in back, I made disc brakes from styrene sheet and finished up with coil-over shocks. As luck would have it, I found the metal A-arms, when glued to the disc brakes, were so sturdy I didn't need the brass axle for the front suspension. This was good because it would have been difficult to disguise the axle, ***2***.

The wheels and tires posed a challenge. I had some nice "wobbly-web" Lotus wheels in a Lotus 23 kit, but they were too small in diameter to fit the F1 tires I rescued from an old Merit kit. I discovered some other wheels in my spares box that had the right diameter. I cut out the wheel centers, leaving the rims. After I glued the rims to the Lotus wheels, I inserted the corrected wheels into the Merit tires and made resin copies.

It's always nice to get a car up on its wheels! Now I turned to final details.

The exhaust was a stinger type sticking out the side of the engine. I couldn't get styrene rod to maintain the gentle curve it required. I have better success shaping aluminum pipe for the manifold part and bonding aluminum tubing to the end for the pipe, ***3***.

I found parts in my spares box and dressed them up with styrene and metal pieces for the gear box visible through the opening in the rear.

The body's inner wall formed the monocoque for the very basic cockpit. I used a seat from my spares box and fashioned a dash from styrene with decals for gauges. In true Lotus fashion, the dash pad and seat are painted red. I used a spares-box steering wheel and dressed it with a Lotus decal in the center. After making a pattern for the windscreen on paper, I transferred the shape to clear butyrate. I taped the windscreen in place and permanently affixed it with slow-setting 2-part epoxy. The wing mirrors also came from my spares box. After adding an aluminum-rod roll hoop, the cockpit was complete, ***4***.

I painted with Tamiya British green for the body and yellow for the wheels. The decals came from my spares, and I called it done. **FSM**