

SNAPSHOT

FASTEN SCALE MODEL PARTS WITH MAGNETS

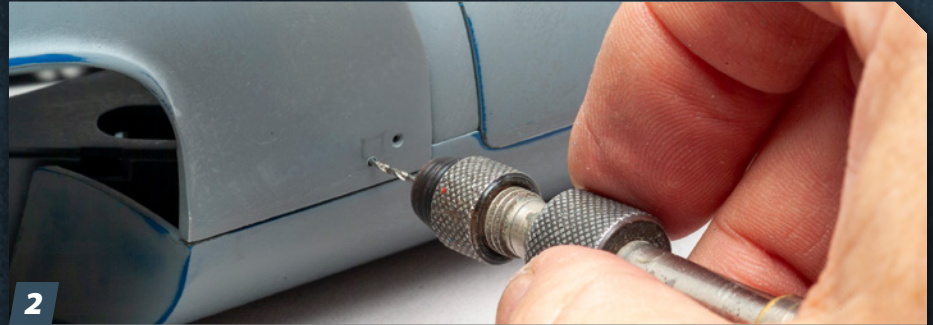
WHEN YOU WANT to hold a movable or removable hood, door, or hatch in place, or would rather not have an unsightly screw holding parts together on your scale model, use rare-earth magnets.

By Mark Jones



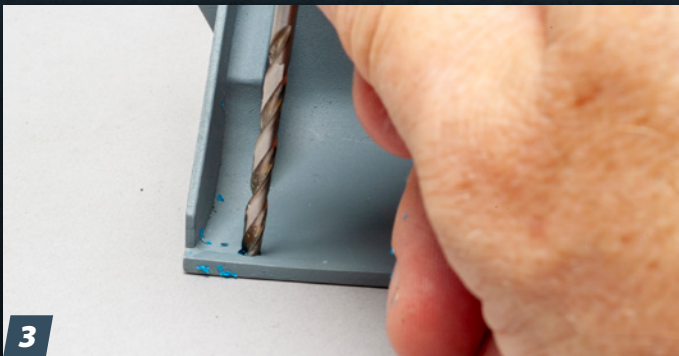
1

I'll use four 1/8- x 1/16-inch neodymium magnets to secure the hinged engine cover on a Tamiya 1/12 scale Lola T70. First, determine where the magnets fit and work best. (You can even correct warped panels.)



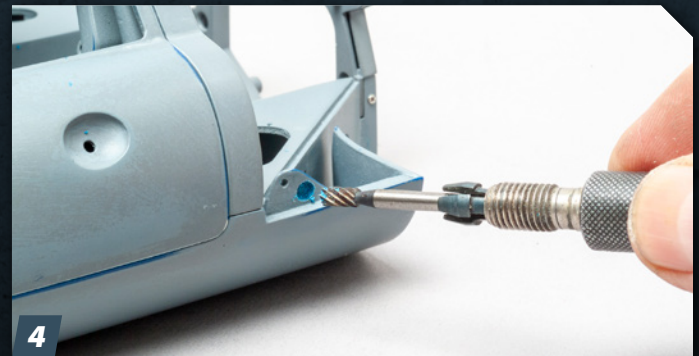
2

I measured and marked the engine cover where it and the chassis had a good mating surface and drilled a pilot hole with a pin vise through the cover and made a dimple in the mounting boss. Then I removed the engine cover and drilled the hole in the boss deeper.



3

The pilot holes on the engine cover and tub were enlarged by hand with a #31 (0.12 inch) drill bit. These four holes (two on each side) were drilled to a depth of about 1/16 inch — the thickness of the magnets. I used a smaller drill than the 1/8-inch diameter of the magnet so the final hole size would not be too oversized.



4

A 1/8-inch rotary tool cutting head chucked in a pin vise worked well to make the magnet recesses the final size. It gave the holes a flat bottom for the magnets to rest against, but the holes do not have to be exact, tight fits.



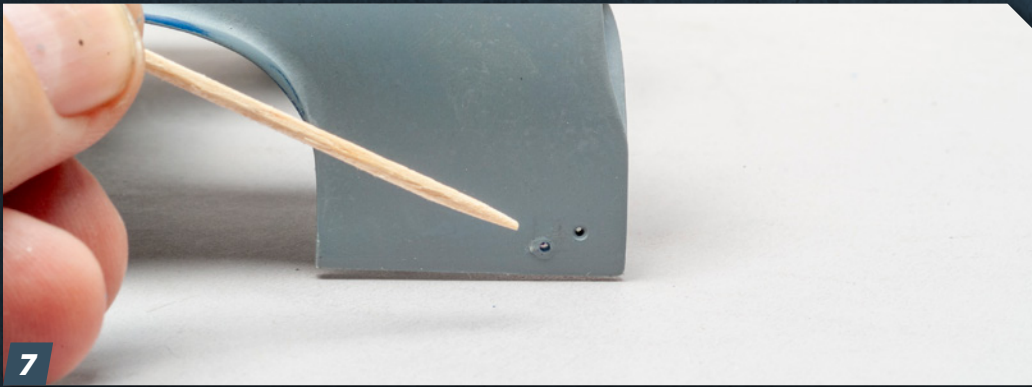
5

I superglued the magnets in place. I like superglue because it's quick and can be sanded. However, you could use 5-minute epoxy. A second drop of superglue on top of the magnet seals it into the part. Beware the magnets' polarity and make sure to install them so they attract instead of repel their mated magnet.

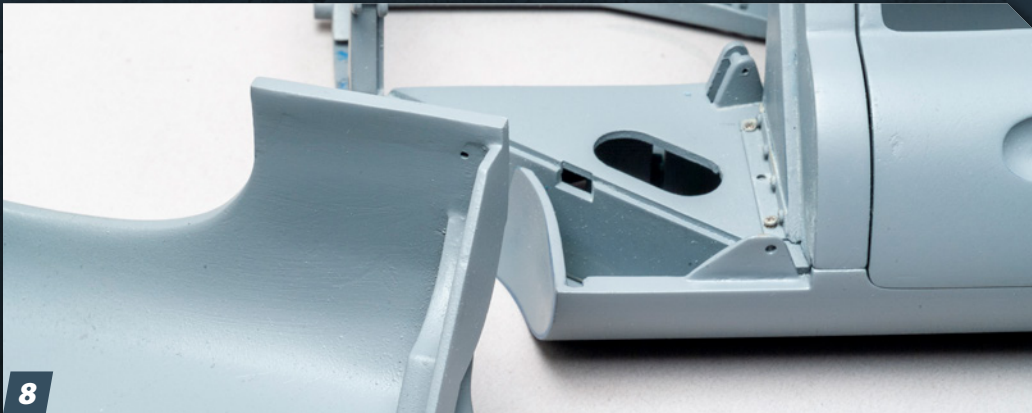


6

To ensure I installed the second magnet with the correct attracting polarity, I set it on its mate already installed. Then I marked the side that would be glued to the engine hood with a black marker — ink side means bottom of the recess in the mating surface.



Because the pilot hole is still in the engine cover, I applied the superglue from the outside — the hole needed to be filled anyway. Just like on the mounting boss, a second drop of superglue was applied to the face of the magnet, too.



To finish the installation, the surfaces were sanded and primed for paint like any other minor repair. The parts show no evidence of the hidden magnets.



After the pilot holes were sanded smooth and primed, the exterior keeps the secret as well. Now, the project can be treated as any other model.

FAST FORWARD ...

Many parts on the Lola T70 were designed to be held together with screws. I used magnets instead. In fact, I re-engineered the project to use magnets to hold much of the model together instead of glue. And this was fortuitous, because at one point, well into a four-year-long build, I needed access to an area under one of the headers to run wiring after the engine and exhaust had been “permanently” installed. The magnets allowed me to disassemble one side down to the head and block to easily do the work with plenty of “elbow room.” Reassembly was even easier. This scenario played out several times on this model. About 80% of the parts held together with magnets were eventually permanently secured with cement during the final stages of assembly. **FSM**