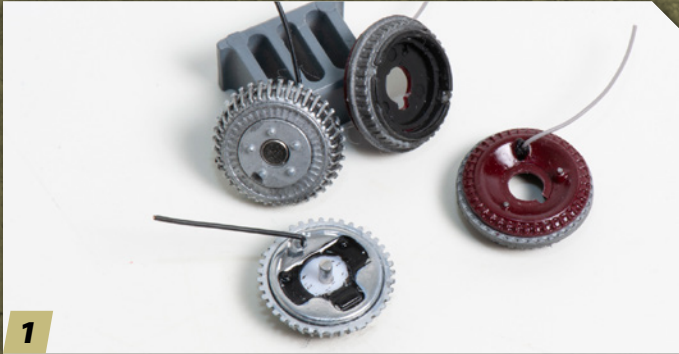


SNAPSHOT

TIPS FOR DETAILING A MODEL CAR'S BRAKES

DETAILING YOUR SCALE MODEL CAR'S BRAKE system can take your replica from meh to wow.

By Tim Boyd



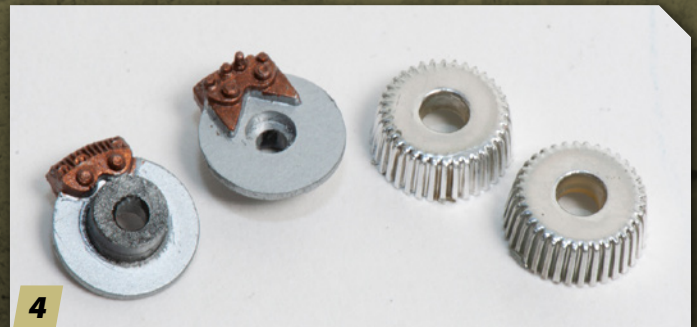
1 You have two predominant types of brakes — drum and disc. On the left, here's the most common hot-rod drum-brake system (1940-49 Ford hydraulic) paired with mid-20th century ribbed Buick drums. On the right is the rare (among full-size hot rods) Kinmont brake system from Replicas & Miniatures Co. of Maryland.



2 At the rear, hard tubing (modeled with copper wire) connects the drum brakes to a junction box mounted on the rear axle (white). From the junction box, a flexible hydraulic line connects to the chassis. Paint the tubing and junction box semigloss black or metallic gray after installation.



3 Starting in the late 1960s, disc brakes became common on the front of cars. Today, they are standard front and back. Model kits typically mold disc brakes as one piece. Paint the rotor a shade of metallic silver or gray and the caliper a different color. Today's performance autos feature large rotors and often add color-coordinated calipers.



4 Gassers often sourced special disc brakes by Airheart for their front axles. These are visually distinctive and can be found in the old AMT Surf Woody and Piranha kits. Finned Buick drum brakes at all four corners are often found on 1960s customs and show cars; check the aftermarket or old MPC kits for those.



5 Photo-etched metal parts have become a prevalent option for brakes. On top, you see the basic parts and the complete assemblies below. On the right is a modern-era disc brake — much larger than the vintage on the left. Also, on modern cars and trucks, the front rotors are typically larger than the rears.



6 Separately molded calipers are a must with photo-etched rotors (upper right); they can even add detail to molded styrene rotors (upper left). Various types of calipers (lower left and right) are available from aftermarket sources in both resin and white metal.



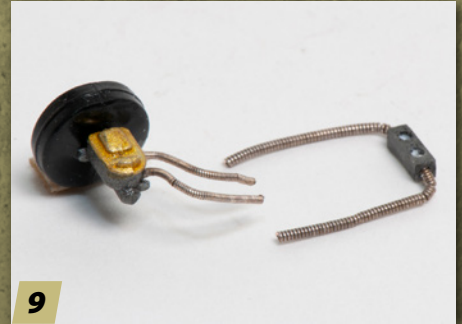
7

Modern disc brakes generate a good deal of dust and collect dirt. As such, I apply a gray wash to all my scale brake systems, even “showroom new” replicas. Also, brake rotors start to show rust after just a week or two of sitting unused, so a distant overspray of rust colored primer might be appropriate.



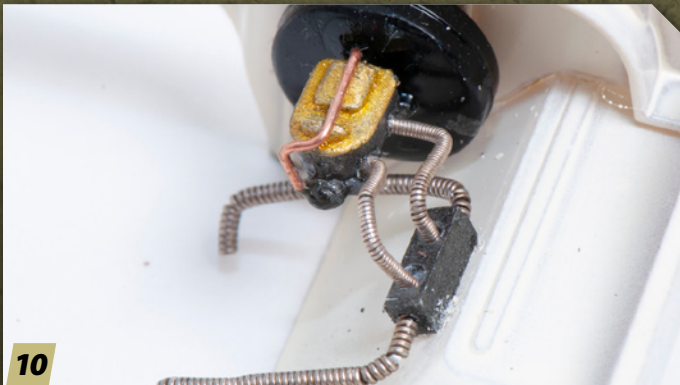
8

Whether drum or disc brake, make sure to leave enough extra length in your front hydraulic lines to account for the suspension moving up and down and the wheels turning right or left. Keep the routing away from suspension pieces, such as radius rods, tie rods, and drag links.



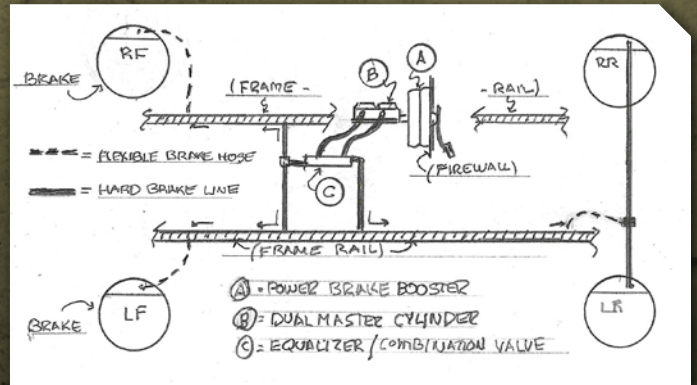
9

In the engine compartment, power brake boosters are typically flat or semigloss black, while the attached dual master cylinder is metallic colored, and its lid is often anodized gold. Front and rear brake lines run from the master cylinder (left), similar to the equalizer/combination valve (right).



10

Typically, you find the booster/master cylinder on the firewall (on hot rods and pickups it's often on the underside of the floorboard). Here the equalizer/combination valve is mounted on the fender wall. Note the brake lines routed between the two components, down the fender, and (eventually) into the frame. The master cylinder cap retaining wire is modeled from fine copper wire.



Here's a diagram of a typical brake system. Details vary by make and model of vehicle, so for a precise replica, consult a shop manual for your vehicle or find an example of your subject and take pictures for your reference.



11

Add a scale hose between the power brake booster (top center of image) and the rear of the engine intake manifold. This line supplies vacuum to support the brake booster. In this image, a second vacuum line runs from the power brake booster to the Speed Control Servo on a 1974 Plymouth Road Runner (E58).



12

Antilock brake systems often have different configurations than what we've explored so far. For example, this is the under-hood braking system of a 2024 Ford Mustang GT. You would really blow away the troops if you reproduced this in miniature, but we need a full-detail S650 Mustang GT model kit first! **FSM**