

# Tech Tips



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## Bimmer Clutch

If you disconnect the shift linkage from the bottom of the shifter and disconnect the circlip at the top of the shift pop out, you can remove the entire rear shifter carriage with the transmission. This makes it much easier to get the transmission down in the limited space available.

**Csaba Tatrai**  
Tatrai and Son Auto  
New Albany, Ohio

## Damp AIR

It seems to happen most often on Volkswagens and Volvos in our experience. The secondary air pump fills with water once the weather turns cool. Evidently the combi-valve sticks open, allowing some exhaust to flow into the pump. Moisture condenses out of the exhaust at that pump, soaking the pump and eventually causing rust. The pump, of course, locks up, sometimes blowing the supply fuse and almost always setting a code for poor secondary airflow. It's another case of fix the cause, not just one of the effects.

**Michael Lyons**  
Ash Tisdelle, Inc.  
Jacksonville, Florida

## Draining Uphill

If you fill gearboxes and differentials from quart containers rather than from an overhead pneumatic lube reel, you've noticed the extended good time you can have persuading the 90-wt to get out of the plastic bottle and into the housing.



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But if you're careful about it, you can dig the foil out of the bottle, rig a fuel-line hose from the tip, poke a small hole in the bottom and persuade the oil to go where you want with light applications of shop air. If you overdo the pressure, of course, this is a wonderfully effective technique for suddenly covering the bottom of the car, the floor, your tools and yourself with trans oil.



*Sometimes it's very hard to get 90-wt oil to flow uphill through a line into a transmission or differential. One way to try – with some care! – is to route the oil through a fuel line with one end in the casting and the other over the grease-bottle tip. Then hold the bottle upside-down, poke a small hole in it and judiciously introduce air pressure into the bottle to push the grease through.*

**Mark Kuhlmeier**  
Mark's Auto  
Quincy, Illinois

## Hood Prop Prop

When the lift cylinders wear out so a hood won't stay up, many people prop a stick somewhere between the hood and something else. This is a good way to poke a hole in a radiator or something else expensive. It's also a good way to have the hood fall on your head unexpectedly. Instead, I just grip the lift cylinder shaft with a spare pair of Vise-Grips. It does scratch the shaft, perhaps, but after all, this lift cylinder is already junk.

**Mike Kiser**  
Whitley's Garage  
Conway, North Carolina



*A broomstick or shovel jammed under the hood can stab the radiator or other parts and can fall out if you bump it. If the car you're working on has lift cylinders to hold up the hood, but they've lost their lift, lock them in place with your trusty Vise-Grips.*

## Temporary Special Tool

Ever notice there is no access to the lower screw on Toyota Celica TPS sensors? I take a quarter-inch #2 Philips bit and stick it semi-permanently in the box of a quarter-inch wrench with a dab of rhino-snot glue. Voila! I have a special Celica TPS tool that I can turn back into my regular tools once I'm done.

**Doug Kertie**  
Catalina Automotive  
San Diego, California



*It's a rare offset screwdriver that can deliver much torque to an inaccessible screw, but glue a #2 Philips bit into a quarter-inch box wrench, and you can get almost anything to move. Grind the blunt stub of the bit off if you need to for even more clearance.*