

# TECH TIPS

Winning Tech Tips have been selected by the editors of *Import Service* and the CARQUEST technical staff. Winning entrants will receive \$100 and a special jacket from CARQUEST.

A cash prize of \$2,500 and three months of CARQUEST Tech-Net service will be awarded to the entrant submitting the best 1993 Tech Tip. The first runner-up receives a CARQUEST store credit valued at \$1,000.

So tear out those Tech Tips cards and start mailing your Tech Tips. We'll print the best ones each month. Everyone will benefit from the shared information.

## EUROPEAN ROUNDUP

**I have repaired several BMW models that were having intermittent driveability problems caused by a faulty Digital Motor Electronics (DME) relay. A faulty DME relay could be the cause of the engine cutting out intermittently, then restarting with no difficulty.**

Before you spend a lot of time on this one, insert a new DME relay and see what happens. The 325 and 528 series use the same relay, P/N 12 631 708 646.

The driver's door window on some Audi models is designed to roll all the way down after momentarily touching the window switch. This is accomplished by integrating a relay into the door window circuit.

**If you are faced with a driver's door window that won't roll up or down, I would urge you to test the window switch before you remove the door panel. If the switch is okay, bypass the relay to see if the electric window motor works.** The relay is located above the kick board on the driver's side, and should be labeled with the part number 443-951-253B.

**I have seen several late model BMWs that were suffering from leaking fuel injectors.** If you're diagnosing this problem, your customer may tell you that his car used to start the second he turned the key, but lately he has to crank a long time. When the engine finally starts, it probably runs rough

until the extra fuel from the injector's post nasal drip has been cleared out. Keep in mind that injectors are covered by the manufacturer's emissions warranty for five years or 50,000 miles.

**Another cause of hard starting or hydraulic lock may be a failed fuel pressure regulator.** Many late model European cars use Bosch EFI systems. Most of these systems feature a vacuum-controlled fuel

pressure regulator. When the fuel pressure regulator fails, the symptoms may mimic a dead starter or engine lock up.

If the regulator diaphragm ruptures, the attached vacuum hose can allow the engine to suck enough fuel into the nearest combustion chamber to lock up the engine within seconds. Use extreme caution during the process of purging raw fuel from the combustion chambers.

Hermann Ultsch  
German Automotive  
Novato, California

## RAT PATROL

**Blower motor vibration or imbalance may be caused by mice or pack rats building a nest in the ventilation system.** These problems can be avoided by reminding your customers to keep their ventilation system in the RECIRC position when they park their cars for the night. This will usually discourage all but the most dedicated rodents.

Some pack rats have been known to eat through plastic. In this case, it may be necessary to remove the evaporator case and add a metal screen to discourage unwanted entry.

Last year, the outbreak of a fatal respiratory illness in the southwestern region of the country was linked to mouse droppings. If you're dealing with a mouse infestation problem in one of your customer's cars, common sense should dictate the use of a filter mask and safe disposal while removing the debris. Keep the droppings in a sealed plastic bag so the wind can't blow them around the shop. Better safe than sorry.

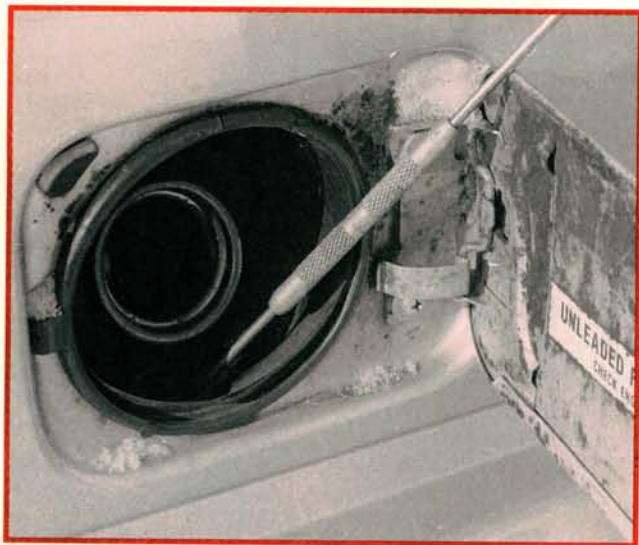
Dennis Check  
Tim's  
Prescott, Arizona





## FUEL TANK WATER ENTRY

The rubber filler neck retainer used on 1985 and later Volkswagen Golf and Jetta models has a small drain hole at the bottom that is barely visible when the fuel cap is in place. This drain hole may become clogged, especially on cars that are frequently driven on back roads.



During a heavy rain storm, the filler neck boot can fill with water. The water has to go somewhere, and may find its way into the fuel tank.

Blow out the drain hole using a blow gun with a small tip. Also check the condition of the fuel tank o-ring. A new o-ring, P/N 191 201 557, is available from Volkswagen dealers. If the fuel has been dosed with water during a storm, add isopropyl gas drier to the tank.

Leroy McCune  
McCune Auto Repair  
Youngwood, Pennsylvania

## SEVEN LOW BUCK QUICK FIXES

**Chewing gum or children's Play Doh™ can be used as a temporary repair for a leaking gas tank.**

**If you're stuck on the road miles from home, oatmeal will seal a leaking radiator.**

**If you don't have a nut splitter or air chisel handy, use an electric drill to drill holes in the nut. Keep drilling until the nut is weak enough to twist off with a pair of pliers.**

**On older vehicles with conventional shock absorbers, a distributor wrench can be used to hold the mounting nuts in place.** Accessibility is usually very poor on these designs, and the distributor wrench might fit where a regular wrench or socket won't.

**If you have the right size, an oil filter wrench can be used to loosen up a stuck or frozen distributor for adjustment. A 3/8-inch drive cup-style filter wrench can also be used for unscrewing transmission vacuum modulators.**

**Most automatic transmission torque converters don't offer any provision for draining. If you can't afford a vacuum operated draining device, the following method will work just as well:**

- Locate the transmission cooler, then determine which cooler line delivers the fluid from the transmission to the cooler.
- Disconnect this line, then place a drain pan under the disconnected line. A flexible hose may make this a slightly neater operation.
- With the engine running and the transmission in PARK, start adding fluid through the dipstick tube at about the same rate that fluid is escaping through the disconnected cooler line. It may take up to eight quarts to completely flush the torque converter and remove the old fluid. To avoid damage, never allow the transmission to drop below about 90 percent capacity.
- After completing the flushing process, reconnect the cooler line.
- Add fluid to the proper level, then check for leaks.

**Four engine valves placed in the carburetor stud holes make a nifty carburetor stand.**

Joseph Gennusa  
Joe's Auto Repair  
Tucson, Arizona

## VOLVO SPRING SEATS

**Volvo 200 series front strut spring seats have started rusting out and collapsing at an alarming rate in our area.** Previously, we had only two alternatives to deal with this problem:

- Buy a used strut tube from a salvage yard. Unfortunately, most of the used strut tubes that the salvage yards have to offer are just as badly rusted as the parts we have been replacing.
- Buy a new strut tube from a Volvo dealer. The disadvantage to this approach is that new strut tubes cost approximately \$300 each.

Apparently Volvo has recognized this problem, and now markets a spring seat kit (P/N 274100-7). If the rest of the strut tube is in serviceable condition, the rusted spring seat can be removed and a new spring seat can be welded into place.

Each spring seat kit includes parts to replace two spring seats and the price works out to about \$40 per side.

Bob Howlett  
The Swedish Solution  
Orange Village, Ohio