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 who submits the best 1993 Tech Tip. The first runner-up receives a CARQUEST store credit valued at $1,000.

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

TOYOTA FUEL SMELL

A damaged fuel vapor hose between the charcoal canister and the vent solenoid may cause a fuel smell under the hood on 1975-85 carbureted Toyota engines. This molded hose may rot from the bottom, making it very difficult to spot during a visual inspection. Even if the hose looks okay, feel for any holes along the bottom edge of the hose.

The damaged hose should be replaced with the correct molded hose. If an ordinary piece of straight hose is substituted, it may tend to kink shut and prevent proper evaporative emissions operation. Vehicles that are being smog tested should be failed for an open evaporative system and repaired if a damaged hose is found.

Phil Wiemann
Engineering Science
Oceanside, California

MAGNETIC ATTRACTION

A discarded radio speaker makes a convenient magnet for small nuts and bolts that are removed during underhood jobs. Turn the speaker upside down on top of the air cleaner or place it on a fender cover. Keeping all of the hardware together in one place makes reassembly easier as well.

David Anderson
Citywest Automotive
Chaska, Minnesota

TAKE TWO ASPIRIN AND CALL ME IN THE MORNING

I have found that the following procedure saves a lot of time by preventing air locks when draining and refilling cooling systems:

- Drain the cooling system using normal methods.
- Remove the thermostat housing cover to access the thermostat.
- Open the thermostat valve by hand, then place two aspirins between the thermostat valve and body. Space the aspirins about 180 degrees apart and make sure they keep the thermostat valve partially open.
- Reinstall the thermostat and refill the cooling system.
- Start the engine, then add coolant as necessary to reach the proper level.
- The aspirins will keep the thermostat open, allowing coolant circulation and preventing an air lock behind the thermostat. As the coolant warms up, the aspirins will dissolve and the thermostat will function normally. This temporary extra coolant circulation during warmup also prevents hot spots in the head.

Chip Tremper
Auto Craftsmen Ltd.
East Calais, Vermont

NISSAN TRUCK IDLE

A damaged throttle body base insulator may cause a rough or hunting idle when warm on all 1986 1/2 through 1989 Nissan trucks equipped with four cylinder engines. The base gasket material may have sucked into the manifold on the firewall side of the throttle body insulator. Direct a little propane or carburetor spray around the base of the throttle body to pinpoint the location of the leak.

Replacement base gaskets are available through Nissan parts departments, or you may wish to fabricate your own gasket with gasket paper.

Brad Davis
Rhoden Nissan
Lincoln, Nebraska

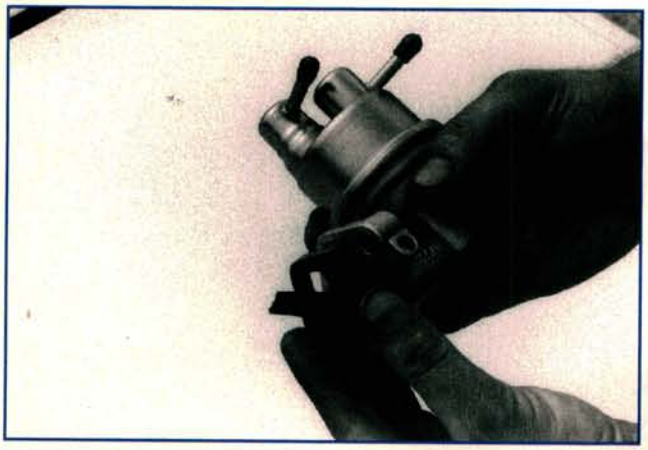
SAAB IDLE PROBLEMS

I have had more than one Saab 900 customer complain of a surging or dying idle problem. While questioning one of these customers recently, I found that she had just visited a 10 minute oil change operation. Noticing the problem immediately after she left, she went back and had them check the car. They assured her that all vacuum lines were in place and her problem was not related to any work they had performed.

After listening carefully to her story, I opened the hood and found that the combination oil dipstick/cap was not seated properly. The extra air entering the crankcase through this opening was throwing off the fuel system, causing the stalling and rough idle. I removed and reseated the dipstick/cap and the surging condition was immediately corrected.

MISDIAGNOSED OIL LEAKS

When you've finished checking the obvious potential sources for oil leaks (oil pressure switch, valve cover gaskets, missing oil fill cap, etc.), don't forget to check the plastic insulator between the fuel pump and the engine block.



I have found this insulator to be a common source of oil leaks, either because it has cracked or the gaskets on either side have failed. I never replace a fuel pump without replacing the plastic insulator and its gaskets.

Bruce Gill
Bug Doctor, Inc.
Versailles, Kentucky

WEIRD SCIENCE

Okay, okay, this isn't a cure for cancer or anything like that. But if you have many customers that own late model automobiles that feature aerodynamic headlight housings with replaceable bulbs, the following tip may come in handy some day.

The problem that we've dealt with most commonly involves a "bullet hole" in the customer's expensive headlight lens. Sealing the hole with a dab of silicone caulk will prevent any more water from entering the housing, but how do you remove the water that's already gotten in there?

Have you ever heard of the Bernoulli Effect? Even if you haven't, you've probably used old Dan-iel Bernoulli's discovery many times before. To get the water out of the headlight housing:

- Remove the bulb and insert a length of vacuum hose through the opening. Make sure the end of the hose is below the water line.
- Blow across the opposite end of the hose with your blow gun. This will create an area of low pressure inside the hose, drawing the water out of the headlight housing.
- Make sure you stand clear of the end of the hose. Where ever you direct the jet of air there will also be a cloud of cold, atomized air.

James Aiken
Stan's Foreign and Domestic Car Repair
Duson, Louisiana

TOYOTA THROTTLE BODY DEPOSITS

Carbon deposits inside the throttle body may prevent the throttle plate from completely closing at idle on 1985 and later Toyota trucks equipped with 22R-E engines. Heavy deposits can also prevent the throttle switch idle contacts from closing, which will cause driveability problems.

If the throttle switch contacts are open at idle, the ECU will advance the ignition timing by 20 degrees. This will cause a rough idle and high hydrocarbon emissions. The TCCS self-diagnostics will indicate a code 11 on 1985-87 models, and a code 51 on 1988 and later models.

Remove the throttle housing inlet hose and clean the throttle housing with a quality carburetor cleaner. Make sure the throttle plate and throttle switch are closed at idle and that the throttle switch is properly adjusted.

Michael Smith
Douglas Toyota
Thornton, Colorado

WHEEL CYLINDERS

Worn out wheel cylinders may be to blame if you get a low or spongy brake pedal after properly adjusting and bleeding the brakes. The worn wheel cylinders may be sucking air back into the brake system during the brake pedal's return stroke.

This usually happens with high mileage wheel cylinders or wheel cylinders that have been honed beyond the recommended diameter. Even more air may be drawn into the brake system if you are using a vacuum pump at the wheel cylinders to bleed the system.

Jim Trook
Cannon Toyota
Gering, Nebraska