

# Tech Tips



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## New Clutch/Blown EFI Fuse

Ever find a '89-'94 Toyota four-cylinder pickup that blows the EFI fuse intermittently, and for no reason you can find? Particularly if the truck just had a clutch replacement before the problem started, this may come from an oxygen sensor wire left loose and contacting the exhaust pipe. The insulation can melt or wear through, and random movements of the vehicle can bring the harness into a dead short to ground, popping the fuse. The fix, of course, is to secure the sensor wiring properly to the positioning clips.

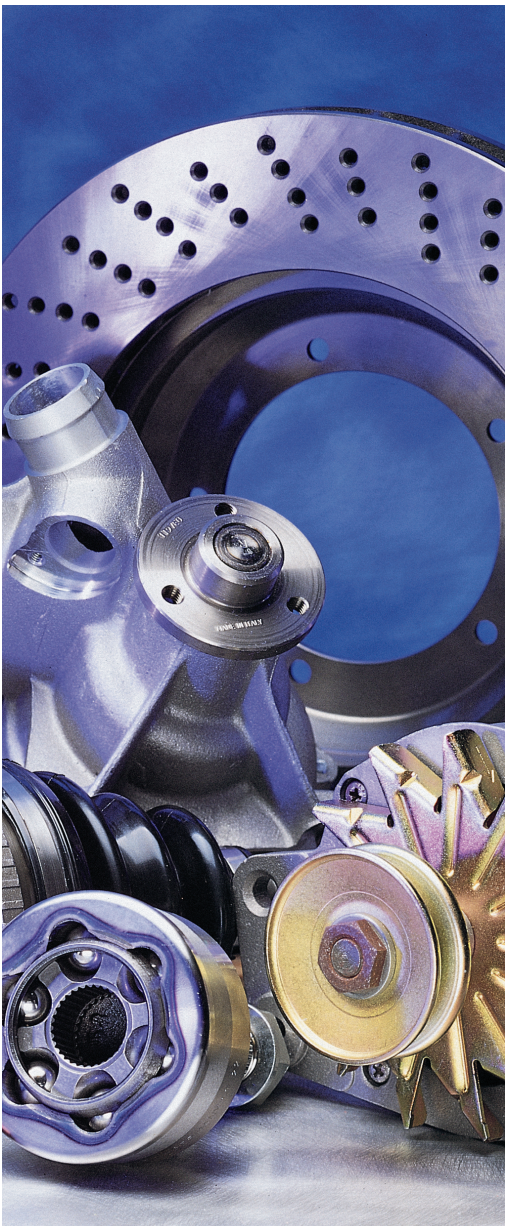
**Keith Ullrich  
Mark Toyota  
Wisconsin Rapids, Wisconsin**

## Impellers and Thermostats

We recently had a car in with an odd overheating problem. The vehicle, with 83,000 on the clock, ran normally at highway cruise speeds; but as soon as you let the engine fall to idle, the coolant temperature would climb to overheat levels. We checked the fluid, the hoses, the cap and the thermostat — all to no effect. We flushed the system (it needed it!), but the problem remained. Finally we pulled the water pump and found the abrasive debris in the system, circulating through the pump over and over, had abraded almost everything but the last stubs of the impeller away. Evidently, that was enough at high shaft rpm to circulate enough coolant, but not once the engine slowed.

Obviously, this is an object lesson in just why it is important to flush cooling systems with regularity!

**Roy S. Holm  
Roy's Tune Up  
Portland, Oregon**



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## Force-Feeding ATF

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We found no easy way to get transmission fluid into a Honda Passport, so we used an old Honda speed sensor — which serves as a hydraulic pump for power steering — along with two hoses to drive ATF from a bottle into the transmission drain hole. Any sort of fluid pump would do, of course.

**Stephen Hollowman**  
**Ed Voyles Honda**  
Acworth, Georgia

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## Balloon Barrier

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Anytime an A/C system is open to the ambient air, moisture can condense inside, and debris of all sorts can wander in. Because of the wide variety of different fittings and threads, it's hard to find something that seals the lines and pipes securely, but I keep a pack of balloons in my toolbox. Whatever size the A/C line is, I can stretch a balloon over the end and positively block everything out.

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



*How to keep particulates and debris out of open air conditioner lines in the engine compartment? Be very careful, or swipe a kid's balloon and cover the exposed fitting with it.*

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## Soapy Smoke

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*Foaming at the mouth? A soap solution over the suspect vacuum lines and shop air through the brake booster hose can often make the location of a vacuum leak conspicuous.*

A smoke machine might be cost-effective in a large, high-volume shop that spent a lot of time chasing vacuum leaks, but here's an alternative for a small shop. Mix up dishwashing soap at about a one to three ratio with water and put it in a spray bottle. Spray down the areas of the engine compartment where you suspect there may be a vacuum leak. Block the intake with your hand, pump shop air in through the large brake booster line, and you should see bubbles anywhere you have leaks! Don't use full compressor tank pressure. You're looking for vacuum leaks, not stress-testing rubber lines.

**John W. Schroeder**  
**F.L.C.I.**  
Fox Lake, Wisconsin

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## Short-Tripping No-Crank

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We tend to forget some things now that fuel-injection is so widespread, but a carbureted car or truck with a spring-loaded automatic choke will collect more and more fuel in the crankcase if it only sees short trips that don't boil the fuel out. This can mean a no-start if the oil gets too diluted to seal the rings, or it can mean a hot no-crank if the engine is run for a long distance once, and the consequences of oil dilution turn into near-lockup friction at the rings.

**Sally Mills**  
**Elk Creek Service**  
Coburn, Pennsylvania