TECH TIPS

Winning Tech Tip entries have been selected by the editors of *Import Service* as well as the technical staff at NAPA Echlin. Winning entrants will each receive $100.00 from NAPA Echlin and a special NAPA Echlin jacket.

A cash prize of $2500.00 will be awarded at the end of the year to the entrant who submits the best 1992 Tech Tip. The first runner-up will receive $1000.00 worth of NAPA Echlin products.

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.

VOLVO DIESEL CHARGING SYSTEMS

A sticking glow plug relay may cause a discharged battery on Volvo diesel models. A glow plug relay that sticks in the ON position after the engine starts may prevent the alternator from charging above 13 volts and can lead to a discharged battery. This condition may not show up during normal charging system testing.

To accurately diagnose what may be an intermittently sticking glow plug relay, monitor the alternator voltage and charging rate for at least 20 minutes. Watch for sudden changes in charging rate that may indicate the glow plug relay is sticking.

Frank Tomasiello
Frank's Foreign Car
Wharton, New Jersey

CAMRY CRUISE CONTROL

Using the wrong stop light bulbs may prevent the cruise control from engaging on Toyota Camry models that are also equipped with light failure sensors. Always use 1157 bulbs for the stop lights, never substitute 2057 bulbs.

The difference in filament resistance between the two bulb types (2.5 ohm for 1157 bulbs and 3 ohm for 2057 bulbs) is enough to affect the light failure sensor and may also affect the voltage reading at pin 15 of the cruise control ECU.

Diagnosing the cruise control system using the manual can be misleading because the trouble tree only instructs you to check for battery voltage at pin 15 of the cruise control ECU when the brake pedal is depressed. If battery voltage is found, the next step calls for replacement of the cruise control ECU. Always check the stop light bulbs before making this expensive misdiagnosis.

Dennis Check
Tim's
Prescott, Arizona

CLEANING HEADLIGHT CONNECTIONS

Some headlights are unnecessarily replaced when the actual cause of the problem is a poor electrical connection at the headlight wiring harness connector. Often the simple act of removing and reinstalling the connector cleans enough corrosion off the terminals, allowing the new headlight to light and supporting the misdiagnosis.

Valve lapping compound can be used to clean the female headlight wiring harness terminals and ensure a good electrical connection. To clean the connectors:

- Remove the harness connector, then place a small amount of valve lapping compound on each of the male headlight terminals.
- Reinstall the harness connector, then remove and reinstall the connector several more times until the female terminals inside the harness connector are clean.
- Remove the valve lapping compound, then apply dielectric grease to the headlight terminals to prevent further corrosion.

OVERSIZE SHEET METAL HOLE SAVER

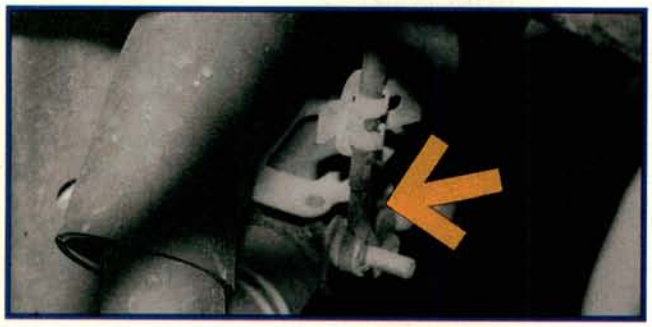
A cotter pin can be used to repair an oversize or stripped sheet metal screw hole in any sheet metal surface. This can be especially useful if a larger screw can't be substituted.

- Find a cotter pin of the appropriate size to fit the oversize hole.
- Open the cotter pin and slip it into the oversize hole. Use two cotter pins to fill the oversize hole if necessary.
- Install the sheet metal screw. The screw grips the cotter pin so the screw will once again fit tightly in the hole.

William Crummey
Crummey's Garage
Lexington, Ohio

HONDA HEATER CABLES

A small helper spring installed at the water control valve can be used to correct a no heat condition on mid to late 1980's Honda Accords. The water control valve meters the flow of coolant through the heater core. The dash mounted temperature control is connected to the water control valve by a cable.



When the temperature control is moved to the full heat position, the cable must push the control lever to open the water control valve on the firewall. As the cable wears, it may tend to kink at the dash control end, rather than opening the water control valve. The water control valve can't open fully, causing the no heat condition.

To correct this problem, attach one end of a small helper spring to the water control valve's lever arm. Attach the other end of the spring to an appropriate spot on the transaxle.

Installing the helper spring may increase the effort needed to close the water control valve, but will reduce the chance of cable kinking when the valve is pushed to the open position. The helper spring also saves you the trouble of dismantling the dash to replace the temperature control cable.

Norman Eric Peterson
Fine Tuning
Grantsburg, Wisconsin

FAILED EMISSIONS TESTS

Collapsed PCV valve hoses have caused high CO readings and failed emissions tests on many Nissans that have come to our shop for service. The owners of some of these cars have spent hundreds of dollars on major tune ups, carburetor overhauls, oil changes, and other repair work before coming to our shop for help.

On Nissan Sentras, the rubber PCV hose attaches to the PCV valve at the back of the intake manifold, below the carburetor. Oil and crankcase fumes soften the hose over time and engine vacuum then causes the hose to collapse. This prevents proper function of the PCV system and leads to the failed emissions test.

Always inspect the PCV hose during any engine performance or emissions repairs and replace the hose when necessary.

Dave Toler
Sparks Tune Up
Maple Heights, Ohio

CV AXLE DISASSEMBLY

Some front wheel drive axles use a snap ring to hold the outer CV joint in place on the axle. When servicing the axle, the snap ring must be popped out of its groove to free the outer CV joint for removal. Rather than hitting the outer joint with a hammer and drift to unseat the snap ring and remove the joint, our shop uses a slide hammer adapter to do the same job.

It takes two nuts to make the slide hammer adapter, one to fit the threaded slide hammer shaft and an old drive axle nut to fit the threads on the outer CV joint. Weld the two nuts together and you're ready to remove the CV joint:

- Clamp the drive axle in a vice equipped with soft face jaws. Don't clamp the axle any tighter than necessary, to avoid damaging the axle shaft.
- Remove the outer CV joint boot clamps and peel the boot away from the outer CV joint.
- Thread the adapter axle nut onto the CV joint. Make sure you thread the nut onto the CV joint threads far enough to prevent damage to the CV joint threads when you start slide hammering.
- Thread the slide hammer shaft onto the other adapter nut. Lock the adapter nut on the slide hammer shaft with a second jam nut, then start hammering. A couple sharp whacks with the slide hammer frees even the most stubborn snap ring.

Michael Stuehrk
Stuehrk Auto
Webster, Texas