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. Each winner's NAPA jobber will also receive a $100.00 prize.

In addition to the $100.00 monthly prizes, NAPA Echlin will award an all expense paid trip for two to the 1992 Indy 500 to the Tech Tip winner who submits the best tip for 1991. The runner-up will receive a check for $2500.00, also courtesy of NAPA Echlin.

So tear out those Tech Tip cards and start mailing us your Tech Tips. We'll print the best ones each month. Everyone will benefit from the shared information, whether you win or not.

SUBARU COOLANT LOSS, PART TWO

A loss of coolant and a burnt antifreeze smell from the tailpipe on turbocharged Subaru models may be caused by cracked cylinder head exhaust ports. The cause of this problem may be misdiagnosed as a bad turbo.

To inspect the exhaust ports, lower the crossover pipe and pressurize the cooling system. Now carefully examine the exhaust ports for cracks or signs of coolant leakage. Left cylinder heads seem to crack more frequently, but we've seen some right cylinder head cracks too.

If the exhaust ports are cracked, be sure to check the turbo for damage or noise caused by the coolant leaking into the exhaust system

Gary Stone
Don Herring Inc.
Cedar Hill, Texas

Editors' Note: Kent Hilty described a different Subaru coolant loss problem in last month's ***Tech Tips.*** *It seems there's more than one way for Subarus to lose coolant.*

TOYOTA TORQUE CONVERTER INSTALLATION

The correct torque converter mounting bolts must be used when installing Toyota automatic transmissions. Installing mounting bolts that are longer than the original bolts will dimple and distort the torque converter's front cover.

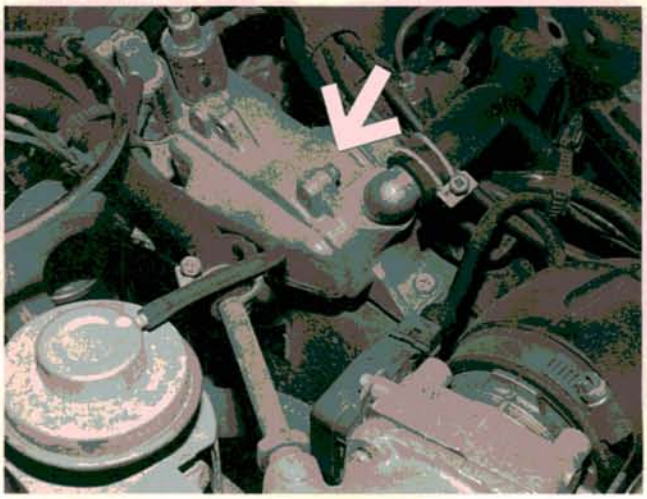
Torque converter cover distortion can internally damage the friction facing of the converter's lock-up clutch disc. Clutch material from the damaged lock-up disc will circulate through the transmission and contaminate the valve body.

One of the six original converter mounting bolts may be a different color than the other five. This special bolt is slightly longer than the other five and centers the converter to the flex plate during installation. Install and hand tighten the special bolt first. Then tighten all six bolts in a three step process using a criss-cross pattern.

Bob Woo
Thompson Toyota
Daly City, California

NISSAN MAXIMA DRIVEABILITY PROBLEMS

A faulty air injection valve (AIV) may cause a hesitation or rich running condition on 1986 Nissan Maximas. To check the AIV, remove the air cleaner cover. Look for water or corrosion in the air intake well below the air filter element directly in front of the hot wire mass air flow sensor (MAF).



When the AIV is working normally, it uses the exhaust system's negative pressure pulses to draw fresh air from the air cleaner into the exhaust system. If the reed valve inside the AIV fails, exhaust flows backwards through the AIV, and water collects in the air cleaner assembly during start ups.

While driving, the engine's intake air sucks the water through the MAF. The water intermittently cools the MAF's hot wire, causing the MAF to send false load signals to the control unit. This causes the intermittent hesitation or rich running condition. Replace the AIV if you find any evidence of water in the air filter housing.

John Stevenson
John's Speed and Auto
Sepulveda, California

Editors' Note: Leaking AIV reed valves can cause similar problems on other Nissan models equipped with AIV systems.

SUPRA NO-GO

A loud whining noise and no drive in forward or reverse gears may be caused by a failed torque converter on 1983-85 Toyota Supras equipped with A43DE automatic transmissions. We have removed several Supra transmissions with these symptoms, and found that each had stripped the torque converter turbine splines. The transmission input shaft splines weren't damaged.

After flushing the transmission and installing a rebuilt torque converter, transmission operation returned to normal.

We haven't seen this problem on any Toyota Cressidas yet, although they do use a version of the A43DE transmission that is very similar to the Supra's.

Kevin McNeill
Rising Sun Japanese Auto
Austin, Texas

TOYOTA TERCEL CLUTCH REPLACEMENT

Many service manuals will tell you that the engine, not the transaxle, must be removed to replace the clutch on 1980-86 Toyota Tercels. We have found it is much easier to remove the transaxle, while leaving the engine in place.

One special step is necessary before removing the transaxle. Locate the small cover on the bell housing directly behind the transaxle's input shaft. Remove the cover, then slide the input shaft out of the transaxle through the back of the bell housing. Removing the transaxle's input shaft gives you enough room to remove the transaxle instead of the engine.

John Shubin
Toyota of Naperville
Naperville, Illinois

BITING BACK

I got bitten one too many times by stray sparks from spark plug wires, so I decided to do something about it. First I attached two feet of 12 gauge wire to the handle of my spark plug wire pliers. Then I attached a large alligator clip to the other end of the wire.

Now each time I use my wire pliers to remove plug wires while the engine is running, I ground the pliers to the engine block first. I haven't gotten bitten since.

Rolando Alvarez
Hialeah, Florida