



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

A cash prize of 2500 dollars 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 of 1000 dollars.

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.

You may remember seeing Mike Craft's name in this department. For the last two years, Mike has been sending us at least one tech tip a month. This steady stream of helpful tips was one of the reasons we chose him as our runner-up in our 1991 Tech Tip competition.

We disqualified Mike's tips from consideration during 1992 so the rest of our readers would have a shot at the prize money. We also explained to Mike that he would be "out of the running" during 1992.

Mike continued to send us his tips, at least 18 more of them over the course of the past year. He told us to use the tips however we wanted and also said he hoped they might be of some use to his fellow technicians. Several of his tips have been used in our feature articles.

It's a new year, so we're going to lift Mike's ineligible status, take him off the bench, and print some of his recent offerings. There are close to 70,000 subscribers to *Import Service*. We encourage all of you to "be like Mike." We would be glad to hear from more of you this year.

TOYOTA TECH TIP TREASURE TROVE

Loose cylinder head plugs may cause an oil leak on 7M-GE Toyota Supra or Cressida engines. The center cylinder head cover is attached to the cylinder head by large hex head plugs that thread directly into the cylinder head oil gallery. If any of the plugs are loose or leaking, oil may fill the area between the cam hous-

ings. The center cylinder head cover makes it difficult to see where oil leaks in this area are coming from.

Remove the spark plug wires. The wire boots pass through the center cylinder head cover. If the spark plug wires have oil on them, the cylinder head plugs may be leaking. Remove the cylinder head plugs and apply sealer, then torque the plugs to 18 Nm (13 ft-lb).

Oil smoke from the exhaust during cold starts on Toyota Camry and Celica models may be caused by loose spark plug tubes on 3S-FE and 5S-FE engines. Like bad valve stem seals, loose spark plug tubes may allow oil to leak into the combustion chambers while the engine isn't running, but they're a lot easier to fix.

Remove the large hold down nuts that secure the valve cover to the valve cover, then remove the valve cover. Remove the spark plug tubes. Remove the old sealer from the threads, then apply new thread sealer (Loctite 572 or an equivalent) to the first three or four threads on the cylinder head side of the spark plug tubes. Now use the hold down nuts to torque the spark plug tubes to 39 Nm (30 ft-lb).

Two different problems may cause a no-start on carbureted Toyota trucks after sitting overnight. First, check the fuel level in the carburetor float bowl sight glass. If the float bowl is empty, the carburetor has an internal crack and must be replaced.

If there is fuel in the float bowl, check for spark. If the spark is weak, remove the igniter and warm it in the sun. If the engine now starts, replace the igniter.

It isn't necessary to remove the dash and blower housing on a Toyota Van if you need to replace the blower motor. Instead, remove the glove box, then the right headlight trim and the headlight assembly. Look through the opening. You should see the squirrel cage nut. Remove the nut, then remove the blower motor.

Mike Craft
Andy's Toyota/Honda
Portsmouth, Ohio

NISSAN TRANSMISSION PAN BOLTS

Pay attention to the proper location of the mounting bolts when removing the automatic transmission pan on Nissan Van models. One short pan bolt is installed directly below the neutral safety switch and must be returned to this position when the pan bolts are reinstalled.

If any of the longer pan bolts is accidentally installed below the neutral safety switch, the long bolt will bottom out in the hole and bind the neutral safety switch. The binding switch will also cause hard shift lever operation.

Mike Apple
Bill Smith Foreign Car Service
Solana Beach, California

HYUNDAI EXCEL TRANSMISSIONS

A restricted vacuum line may cause transmission problems on Hyundai Excel models. The clutch on a 1986 Excel was replaced twice because it seemed that the clutch slipped when the engine was hot. However, the problem persisted even after the new clutch parts were installed.

After some additional diagnosis, I found that the transaxle's fifth gear is engaged by an electrically controlled vacuum servo system. The vacuum supply hose from the intake manifold had deteriorated, limiting the vacuum supply to the transaxle's vacuum select actuator. The vacuum supply wasn't strong enough for the actuator to completely engage fifth gear. The symptoms this produced were very similar to a badly slipping clutch and lead to the original misdiagnosis.

Fred Olivier
Fred's Foreign Cars
Eunice, Louisiana

ACURA WATER PUMPS

Deteriorated water pump impeller blades may cause engine overheating during highway driving on some 1988 Acura Integra models. Original equipment water pumps used stamped steel impeller blades. These blades may rust away and reduce coolant circulation at high engine speeds. Replacement water pumps now have cast impeller blades.

To test the water pump, carefully check the temperature of the upper and lower radiator hoses. Worn water pump impeller blades are probably to blame if the upper hose is very hot, the lower hose is cool, and the engine temperature gauge indicates HOT.

Even though the engine is hot, the radiator cooling fan will not activate because the fan's temperature sending switch is located at the lower, cooler part of

the radiator. Coolant temperature may return to normal at idle or lower engine speeds because the damaged blades may be able to handle the lower engine heat load. Install the updated water pump to correct the overheating problem.

Rick Allen
Rick Allen's Auto
Hampton, New Jersey

VOLKSWAGEN KNOCKING NOISES

If a customer with a Volkswagen diesel Rabbit or Golf complains of a knocking noise while driving over bumps, don't be too quick to inspect the under-car suspension components for wear. Check the pinch bolts on the steering column universal joint for looseness first.



The universal joint is located at the bottom of the steering column, near the brake and clutch pedals. I suspect that over a long period of time, the extra vibration from the diesel engine can loosen the universal joint and cause these knocking noises. It's a quick check to make and can save a lot of problems.

Charles Bates
Kauth & Mayeur
Peoria, Illinois

VISUAL AID

We keep a partially disassembled lawnmower engine in the shop office to help customers understand our engine repair recommendations. The lightweight, simple lawn mower engine makes it much easier to explain lower engine (crankshaft, pistons, and bearings) problems and suggested repairs.

By pointing out the equivalent part on the lawnmower engine, our technicians can easily give customers verbal and visual descriptions of rear main seal leaks, crankshaft bearing failures, broken or leaking piston rings, or possible damage caused by lack of lubrication.

Ney Delgado
Ney's Auto Repair
St. Petersburg, Florida