



Cheap Spills

Toyota has produced thousands of Tercels since this economy model was introduced during the 1980 model year. The majority of these inexpensive cars are still on the road, and have earned a good reputation among their owners for predictability and reliability. So besides the unavoidable necessities like brakes, exhaust, and tune up work, what could possibly annoy a Tercel owner enough to bring his car in for some unscheduled maintenance?

In my experience, the biggest causes of unscheduled Tercel maintenance and repair are fluid leaks. If you thought the *Exxon Valdez* produced a big puddle, you probably haven't checked underneath an older Toyota Tercel lately. Find yourself a Tercel that is leaking fuel, oil, gear lube, transmission fluid, coolant, or interesting combinations of these fluids, and you're liable to find a slick that might make the average super-tanker blush.

Cheap Spills

Perhaps you're snickering to yourself about the seeming simplicity of this article. There's nothing very high tech about a fluid leak, is there? But liquids can do funny things when they get together with gravity. As you'll see, leaks that appear to be coming from one place may be starting out from somewhere all together different.

In the following photo captions, we will describe the root causes behind several common Tercel fluid leaks. We'll also show you where to look for these problems, and what to do when you find them. In most cases, Tercel fluid leaks can be repaired easily and inexpensively.

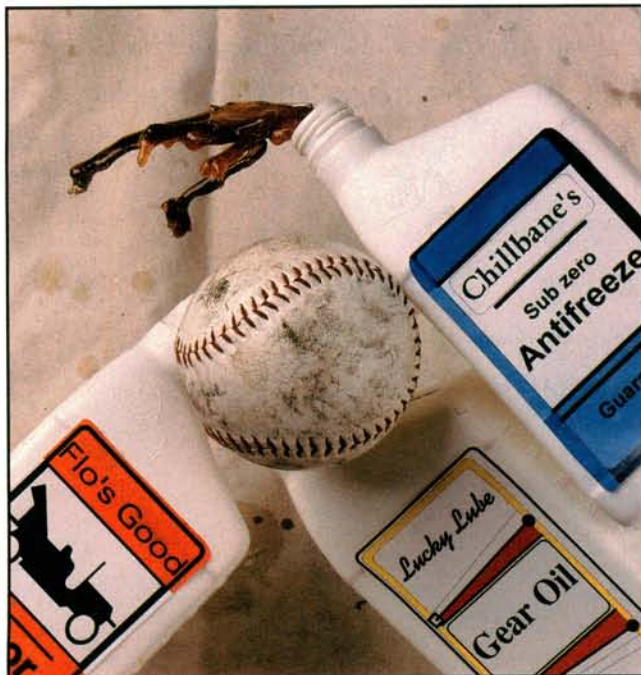
Before we go after the leaks, we should point out that the Tercel has been through a few body and drivetrain restyles since its introduction. All Tercels are front wheel drive. Later models have transverse-mounted engines, while early models use a longitudinal (lengthwise) setup.

For the purposes of this article, we'll be sticking with second generation Tercels in the 1983-87 model range. These models are equipped with a longitudinally mounted engine from the 3A engine family. Several tips that are applicable to four wheel drive Tercel wagon models of the same vintage are also included.

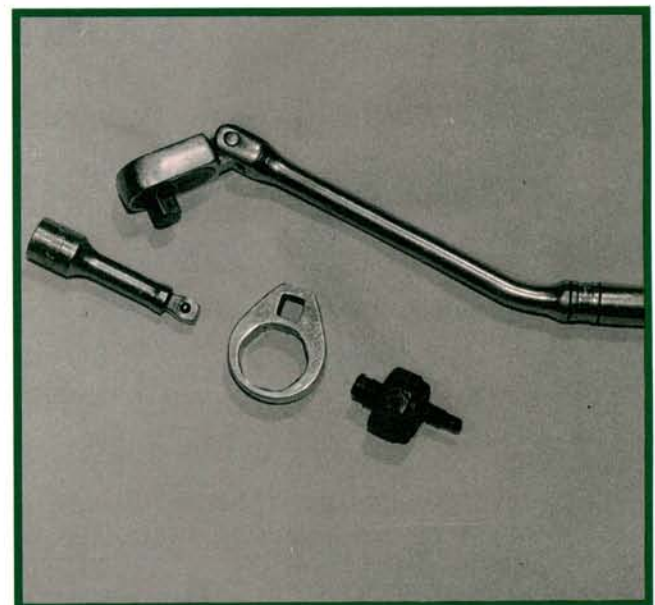
Many of the engine fluid leak tips can also be applied to the 4A engine family that can be found in Corollas of the same vintage. If a tip is year- or model-specific, we'll be sure to point that out in the photo caption.

We've tried to weight the chances for success in your favor. Take careful aim and you should be able to win a kewpie doll. Good luck.

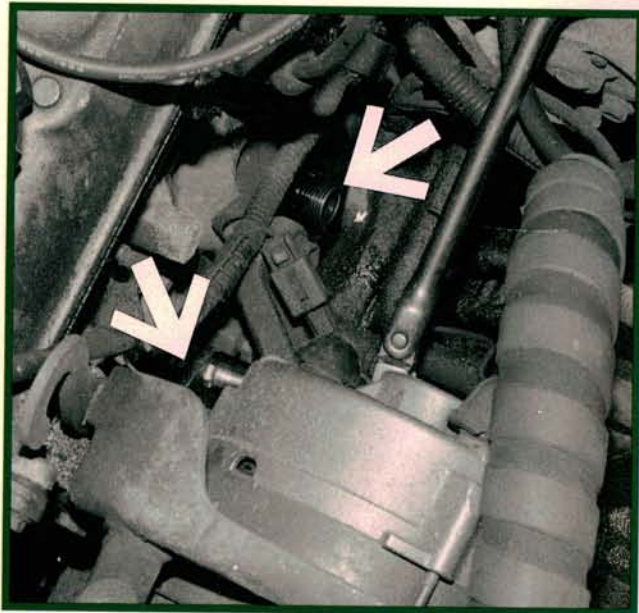
— By Sam Bell



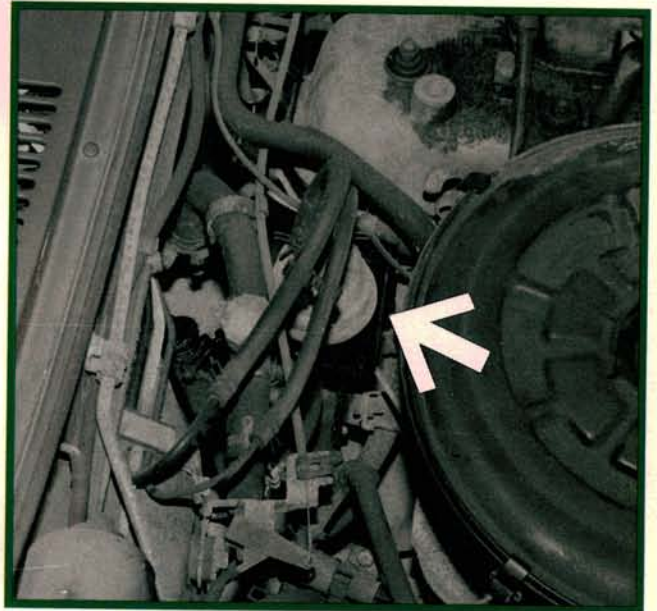
1 Yes, that is the oil pressure sending unit under there. It's buried next to the A/C compressor bracket, below the alternator. Leaks here usually start small, but can grow to catastrophic proportion as life-sustaining lubrication is pumped onto the pavement. Have you priced a new engine lately?



2 Without a ring-type socket, you'll need to remove the alternator, A/C compressor, mounting bracket, and left motor mount to remove the sending unit. Unlike a standard sending unit socket, a ring-type socket won't get trapped as the sending unit is removed. A wobble extension and flex ratchet will turn the socket.



3 Removing the oil filter isn't absolutely necessary to get to the sending unit, but it sure makes things easier. Clearance is limited and we still had to grind a small amount of material off the heel of our sending unit socket before it would clear the engine's coolant drain plug.



4 An oil leak from the fuel pump is not uncommon on these models. In extreme cases, the firewall may be soaked with oil. Be sure to check for damage to the heater hoses and the vacuum lines around the charcoal canister. These hoses and lines do not tolerate oil baths very well.

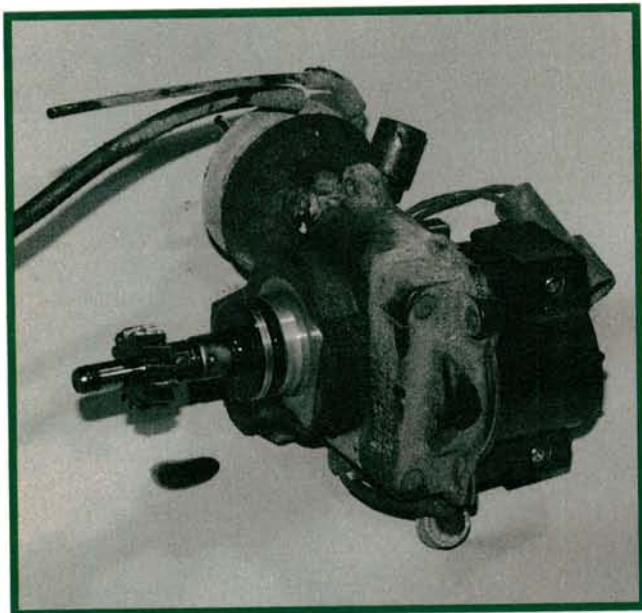


5 This photo shows the basin/insulator that Toyota uses to contain minor oil leaks at the fuel pump. The small drain hole in the basin does a good job of lubricating the heater hose that's routed directly below. A fuel pump leak can easily be misdiagnosed as a head gasket or valve cover leak.

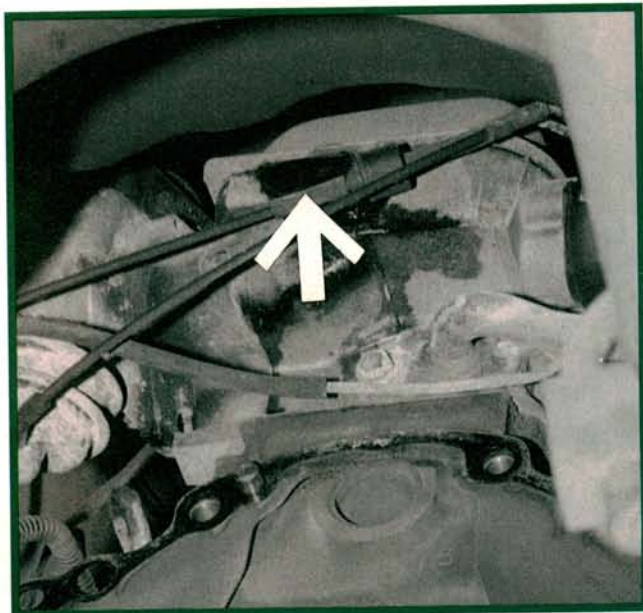


6 If the left rear side of the engine is covered with oil, the cause is probably a leaking o-ring seal at the base of the distributor. A single bolt secures the distributor and maintains the timing adjustment. Set the engine to TDC on number one, then mark the distributor rotor position before removal.

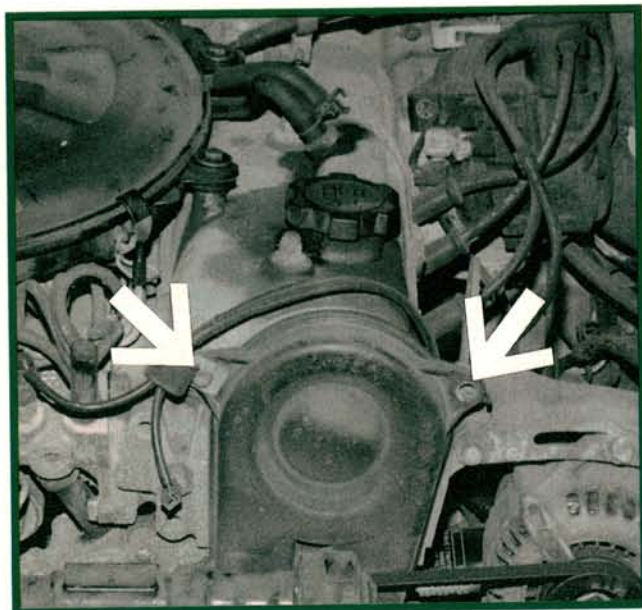
Cheap Spills



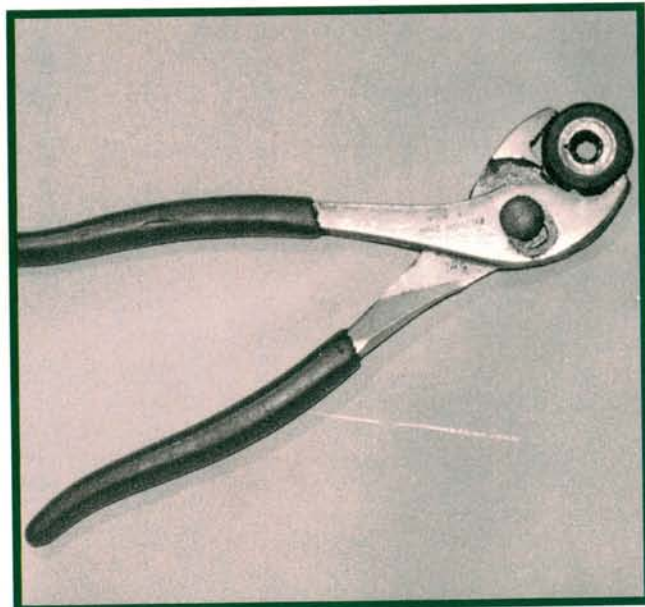
7 The distributor that is installed on 49 state models has three vacuum hoses. Before removing the distributor, unplug the hoses in the staggered manner shown to make reinstallation easier. Avoid scratching the distributor body by using a dull pick to remove the o-ring. Check the vacuum diaphragm for leaks.



8 Don't forget to check the camshaft half moon seal at the back of the engine when you're looking for valve cover leaks. Since it's hard to see the seal (much less photograph it), use your finger to check for leaks. A clean finger that comes back wet with oil is your best diagnostic tool for this job.

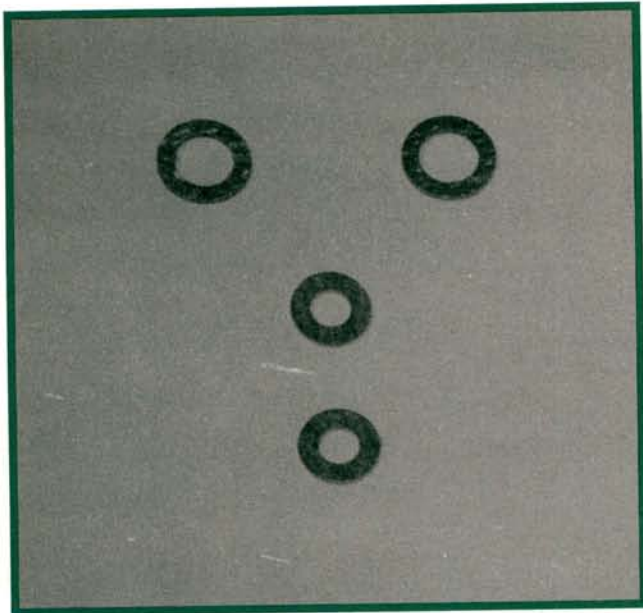


9 Simple stuff again. Two partially hidden bolts (arrows) secure the valve cover to the upper timing cover. You'll have an awfully hard time removing the valve cover if you forget to remove these bolts, along with the three acorn nuts at the top of the valve cover. Remove the air cleaner assembly first.

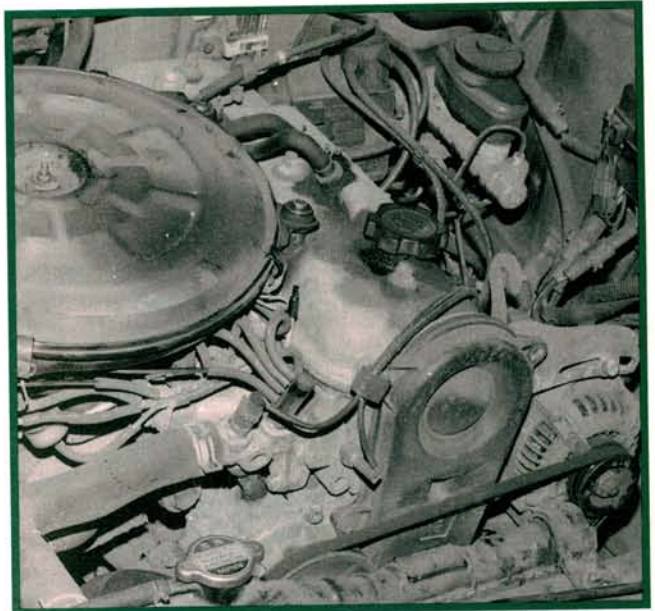


10 The valve cover grommets mold themselves to the mounting studs and harden, making it difficult to remove the valve cover. Unscrew the grommets with small adjustable pliers, then remove the valve cover. Replace the damaged grommets to prevent oil leaks from the top of the valve cover.

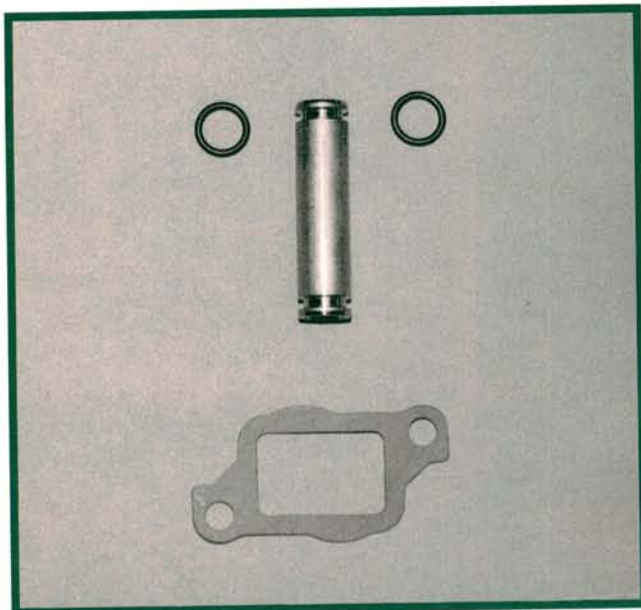
Cheap Spills



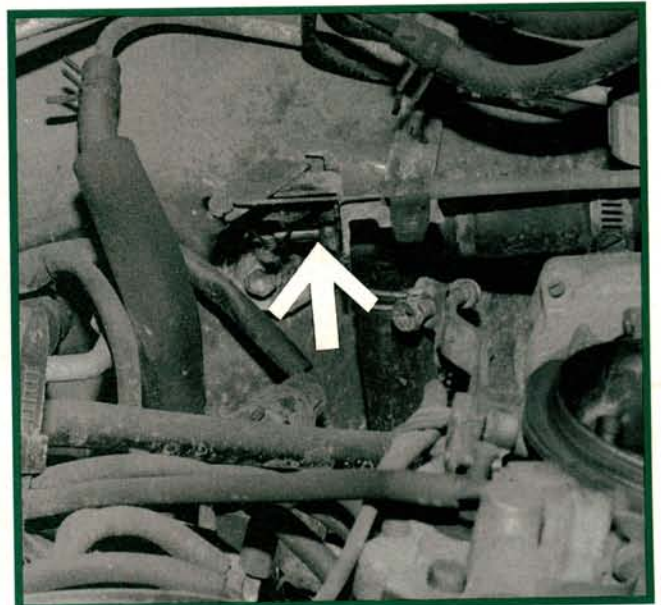
11 The treated paper drain plug gasket often sticks to the oil pan when the drain plug is removed. Fast lube jockeys have been known to mistakenly add a second gasket (if one is good, two must be better). The result is a slow but persistent leak. Overtightening won't stop the leak, but it will strip the oil pan threads.



12 Tercel owners may complain of steam coming from under the hood following cold starts or a small puddle of coolant under the car after parking overnight. You may start to scratch your head if a cooling system pressure test reveals no visible leaks. Who's going crazy, you or the customer?

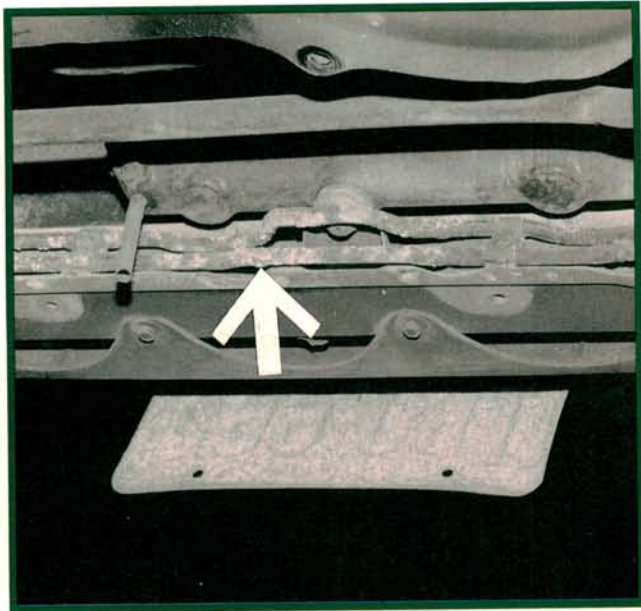


13 The water pump bypass tube o-rings are likely suspects. Worn o-rings allow coolant loss when the engine is cold, but expand enough to seal as engine temperature rises. A leak will leave a coolant stain at the base of the bypass tube. Remove the water outlet housing, then remove the bypass tube to replace the o-rings.

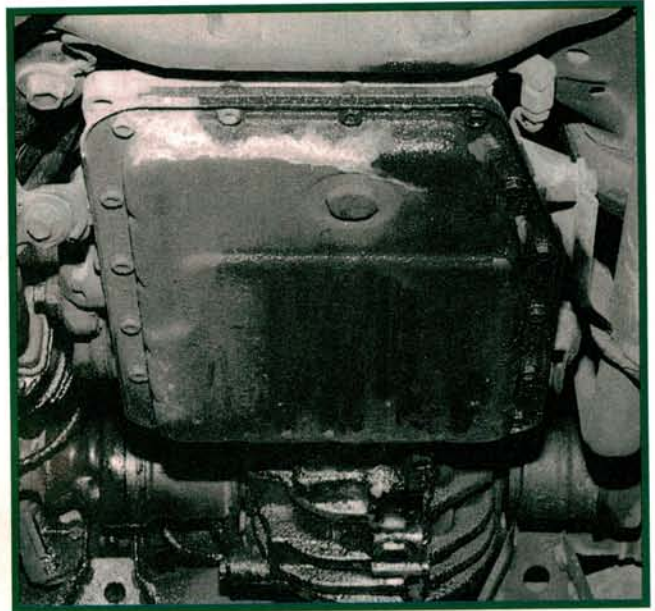


14 The valve seal at the base of the heater control valve is another site for easily overlooked coolant leaks. After replacing the leaking control valve, lubricate the new valve stem and cable pivot with a silicone grease to prevent a recurrence. Petroleum-based greases may damage the valve seal.

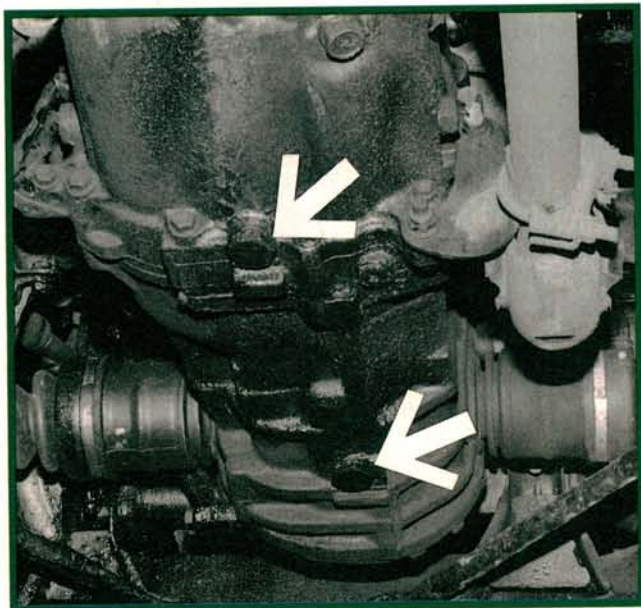
Cheap Spills



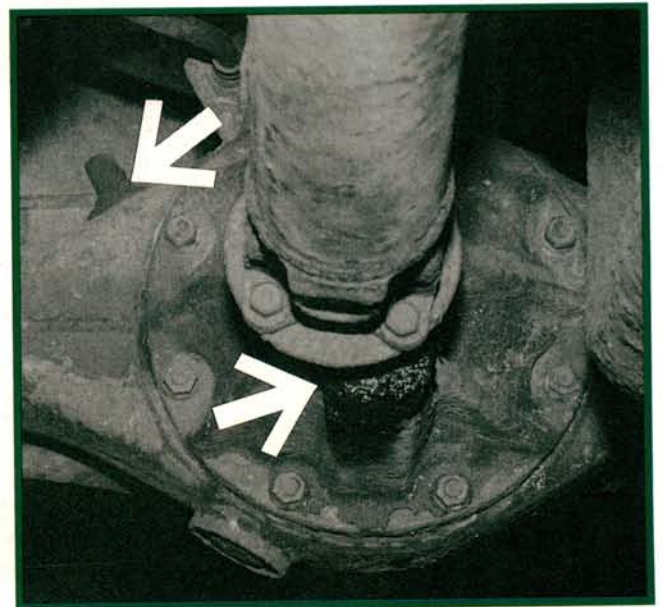
15 Before replacing what appears to be a leaking power steering pump, be sure to check the steel pressure and return lines that snake around the engine compartment and under the radiator (arrow). These lines frequently rust out. A misdiagnosis here could cost you a customer, or \$250 for the line set.



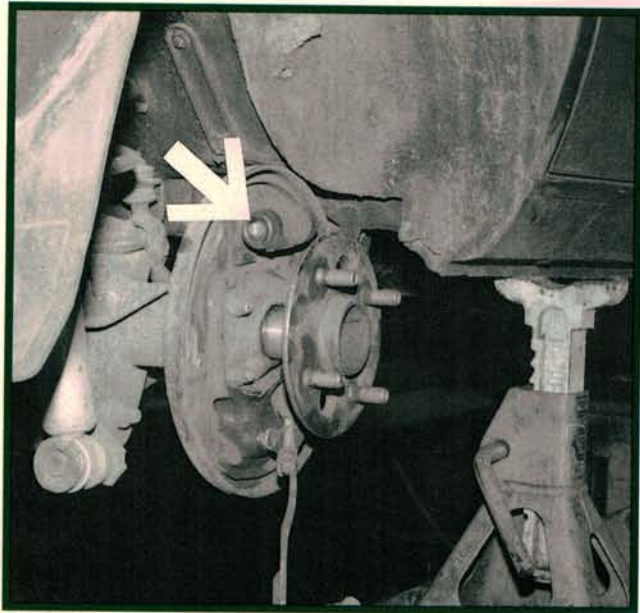
16 Keep your eyes peeled for ATF leaks before the transaxle gets damaged by operating while low on fluid. The price of a rebuilt transaxle will make your customer see red. If the fluid looks or smells burnt, replace it. There are no tricks to replacing the pan gasket. Clean or replace the strainer while you're in there.



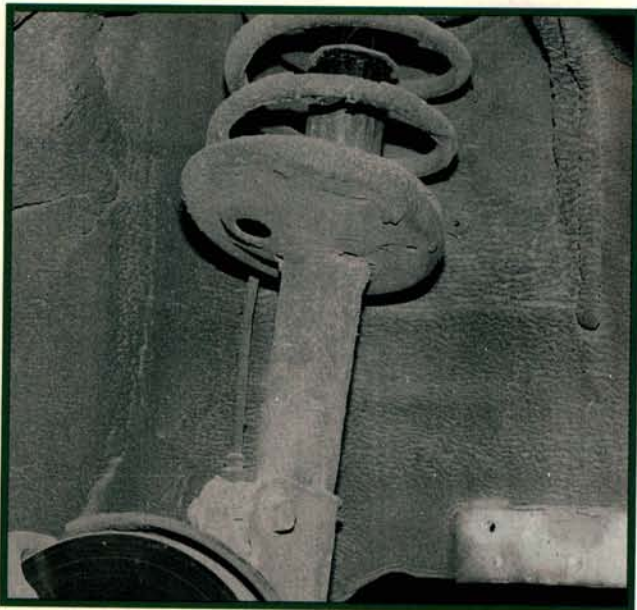
17 Check the manual transaxle, as well as the differential fluid levels. Two sets of drain and fill plugs are used on manual transaxle models. Remove both drain plugs to drain the trans and differential. Replace the drain plugs, then add lube through one fill hole until it comes out the other. Reinstall both fill plugs.



18 Four wheel drive rear axle seals, and differential pinion shaft seals (right arrow), will leak if pressure builds up in the rear end. Take a minute to check the breather vent (left arrow) for free operation whenever servicing a four wheel drive Tercel. Opening a clogged vent will cause a whooshing noise as pressure is relieved.

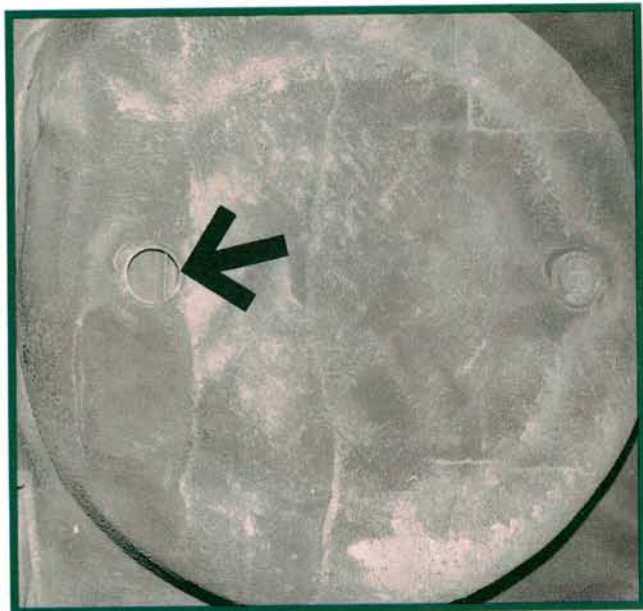


19 Low fluid in the master cylinder reservoir usually means the brake pads are worn, but don't overlook the possibility of a fluid leak. Rear wheel cylinders are likely culprits. Frozen parking brake cables may generate enough heat to damage new cylinders. Check for proper cable operation before quoting a price on the job.

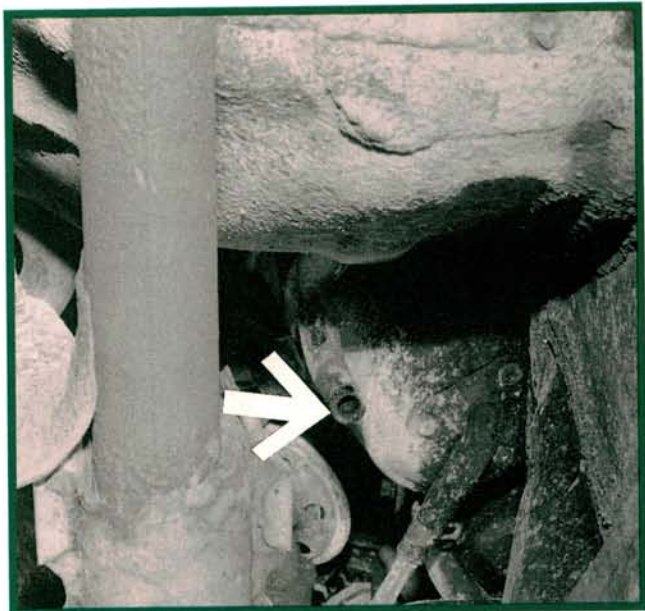


20 Check the shocks and struts for leaks. Replacing OE front struts may require cutting the brake line bracket or separating the brake line. Some replacement struts have removeable brackets, so a second strut replacement may be easier than the first. Check the strut bearing assembly for wear, too.

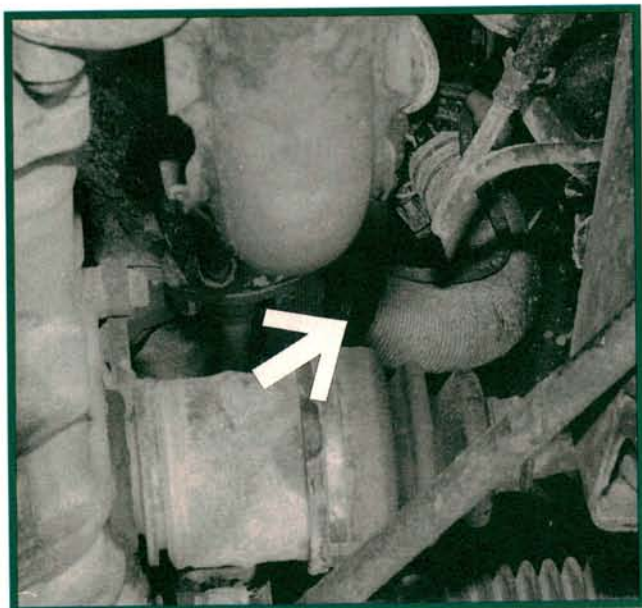
Cheap Spills



21 A flat spare tire can turn a nuisance into a nightmare. Always check the inflation as part of a pre-trip inspection. We've also discovered a number of lakes in the trunk (complete with algae) due to water leaks around the taillights. Remove the body drain plug (arrow), then break out the disinfectant to prevent mildew.



22 One "leak" you should be happy to see is the cold clear condensed water from the A/C drain hose. But remember that a clogged drain hose is a possible cause of wet carpeting if it's not accompanied by the smell of anti-freeze. Another possible cause of wet carpeting is a loose or missing body drain plug.



23 This broken carburetor preheat hose (arrow) may not leave a mess on the driveway, but the carburetor icing it can cause is no picnic. Carburetor icing may cause a loss of power and stalling while driving at moderate to high speeds in cooler weather. The ice will melt by the time the wrecker brings you the car.



24 A ruptured auxiliary accelerator pump diaphragm may cause a noticeable bog on acceleration or spark plug fouling during cold starts. Break out your vacuum pump, then check for leaks. Many technicians replace the AAP diaphragm at the first sign of fuel in the vacuum supply line.