



For at least the last 15 years, American automakers have been telling us that they couldn't make a profit manufacturing and selling small cars. There just wasn't enough money in it to make it worth their while. So one by one, these huge automakers started looking for overseas partners to make their small cars for them.

Chrysler formed a manufacturing partnership with Mitsubishi in the early '70s. Soon, every Dodge and Plymouth dealer in the country had inexpensive Colt and Champ models to sell to economy-minded customers who weren't interested in buying an Omni or Horizon.

Chrysler has sold a bunch of Mitsubishi-built cars over the years, in spite of everything their "buy American" former chairman might have said. The "Imported by Chrysler" line of Mitsubishi-built models actually expanded over the years to include several front- and rear-drive cars and trucks. We'll be concentrating on the Colt models produced from the

mid-80s to the present, as these models represent the biggest percentage of total sales.

The mid-80s also marked the beginning of Mitsubishi's direct involvement in the U.S. market. The company has been selling cars in the U.S. under its own name since that time. Many Mitsubishi models are virtual twins of the equivalent Chrysler models. This is especially true of the Dodge Colt/Eagle Summit/Mitsubishi Mirage models we'll be looking at in this article.

Engines and other equipment offered in these models may vary from one brand name to the next, but the basic package is the same. This family of vehicles went through a major redesign in 1989, and again in 1993. We'll highlight various maintenance and repair tips on several different years and models. Where necessary, we'll point out year- or model-specific information.

— By Karl Seyfert

Mirage/Colt Service Information

Colt Driveability Problems

Some 1989-90 Dodge Colt models equipped with 1.5 liter engines may hesitate, surge, stumble, or stall during the first 60 seconds after a cold start. To correct these problems, begin by inspecting the air flow sensor. The identification number E5T01571 should be marked on the side of the sensor.

One of the air flow sensor's air bypass holes should be blocked off. If both air flow sensor bypass holes are open, the air flow sensor must be replaced with the correct sensor (P/N MD118125).

Clean any oil and/or carbon deposits from the air flow sensor, air intake hose, throttle body, air intake plenum, and intake manifold, using parts cleaner or an equivalent solvent.

Remove the air intake plenum and the intake manifold, then check the intake valves for carbon deposits. If the carbon deposits are heavy (more than a light coating on the valves), the valves should be cleaned. To clean the valves, remove the cylinder head and clean the valve with a wire brush. Also remove any carbon deposits from the spark plugs.

Reinstall the cylinder head, the intake manifold, and the air intake plenum using new gaskets, then install a new style rocker cover (P/N MD168907). This rocker cover has been redesigned to improve air flow and prevent oil spillover into the air cleaner. After reassembling the engine, drive the vehicle to make sure the cold driveability symptoms have been corrected.

Mirage Cold Driveability

Some 1990 Mirage 1.5 liter models may hesitate, surge, or stop running during the first 60 seconds of cold engine operation. This is a condition which develops gradually after tens of thousands of miles of operation, and may be caused by fuel deposits on the intake valves, as well as partially clogged fuel injectors.

The deposits may be removed from the intake valves by one of two methods:

- The intake manifold may be removed and the intake valves cleaned by using a commercially available walnut shell carbon blaster.
- The intake valves may be removed from the cylinder head so the carbon deposits can be mechanically removed from the intake valves.

Whenever deposits are removed from the intake valves, remember that the fuel injectors should also be cleaned. Mitsubishi Motors Diamond Car Care Fuel Injector Cleaner (P/N A991ZC1X01) or an equivalent injector cleaner should be used to clean the injectors.

Cold Acceleration Sag

A carburetor plate and sleeve are available to correct a sag during moderate to heavy acceleration when the engine is cold on some 1985 Colt models. On Colts equipped with automatic transmissions, the sag may also cause the first to second gear upshift to be delayed. Chrysler parts departments will have current part numbers for federal and California models.

To install the carburetor parts:

- Drain about two quarts from the cooling system.
- Remove the air cleaner assembly.
- Remove the throttle cable.
- Remove the carburetor assembly.
- Remove the old carburetor base gasket.
- Install the new carburetor base gasket included in the kit, then install the new carburetor plate above the base gasket.
- Press the kit sleeve through the cutout in the plate until the sleeve is flush with the plate. The sleeve must be pressed in with its slit facing toward the engine. If the sleeve is properly inserted, the PCV passage in the intake manifold should be visible through the slit.
- Install another carburetor base gasket on top of the plate.
- Reinstall the carburetor, throttle cable, and air cleaner assembly, then refill the cooling system.
- Start the engine and allow it to warm to operating temperature.
- Change the ignition timing to five degrees BTDC.
- Clean the underhood emissions label, then install the new emissions label included in the parts kit.

More Cold Hesitations

Some 1985 turbocharged Colt models may have a cold hesitation or sag immediately after shifting gears. This condition will be most noticeable during wide open throttle acceleration, when the engine and ambient temperatures are both cold. An ECU modulator kit (P/N MD102147) is available to correct these cold driveability complaints.

To install the modulator kit:

- Remove the black plastic ECU cover from below the heater housing.
- Remove the ECU and its mounting bracket as an assembly by removing the bracket from the heater housing.
- Disconnect the wiring harness from the ECU and the ground wire from the mounting bracket.
- Attach the new wiring harness contained in the kit to the ECU and the modulator.
- Install the modulator on top of the ECU, then reattach the ECU and bracket assembly to the heater housing.

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- Reconnect the vehicle wiring harness to the ECU and to the new wiring harness that was previously attached to the modulator.
- Make sure the grounding wire is secured to the ECU bracket. A loose or disconnected ground wire will cause driveability problems and may damage the solid state components contained in the ECU and modulator.
- Reattach the black plastic ECU cover to the heater housing.
- An authorized modification label is included in the kit. Attach the label to the hood, near the underhood emissions sticker.

Turbo Oil Feed Tube

The turbo oil feed tube on 1985-86 Dodge Colt 1.6 liter turbo models may become restricted or clogged. The oil feed tube on models built before March 12, 1986 may be routed too close to the exhaust manifold, causing an oil feed tube coking condition. The restricted oil feed tube may cause turbocharger bearing damage.

A new oil feed tube (P/N MD112030), which provides additional tube-to-manifold clearance, is available to correct this condition. When replacing the turbocharger on these models, always check the oil feed tube for blockage. Replacing the oil feed tube with the improved design will prevent later problems, even if no evidence of coking is found at the time of replacement.

Disc Brake Squeal

Updated front brake pad kits are available for 1987 and early 1988 Colt and Colt Vista models. The brake pad kits are designed to correct front disc brake squeal that can occur during light to medium brake application.

When installing the new pad kits, discard all of the old brake hardware and pads and use all of the anti-squeal shims included in the kit. A special grease is also included with the kit. When assembling the pads and shims, apply a thin film of grease to the contact surfaces on both sides of the anti-squeal shims. The grease must not contact the friction surfaces of the brake pads.

Timing Belt Noise

A new timing belt camshaft sprocket is available to correct a low pitched whining noise from the timing belt area on 1984-87 Colt and Colt Vista models equipped with 1.6 and 2.0 liter engines. When installing the sprocket (P/N MD11930) on early models, the sprocket washer must not be installed.

Valve Lash Adjuster Noise

Some customers may complain about a slight

valve tapping noise heard during initial vehicle start up. This noise may be more noticeable if the vehicle has not been operated for more than one week. If the noise disappears after normal engine temperature is reached, explain to the customer that this is normal and not a cause for concern. The most likely cause of automatic valve lash adjuster noise is the presence of air in the high pressure chamber. Before replacing any of the automatic lash adjusters on a vehicle with excessive valve noise, perform the following procedure:

- Check the oil level in the crankcase. Change the oil and filter if necessary. If the oil does not require changing, top it off to the full mark on the dipstick.
- Start the engine, check for oil leaks, and bring the engine up to operating temperature.
- If the valve noise is still present after engine warm up, air may be trapped in one or more of the automatic lash adjusters. To bleed the air, gradually increase engine speed from idle to 3,000 RPM during a 30 second interval. Then decrease the engine speed during another 30 second interval until it returns to idle.
- This procedure can be repeated up to (but not more than) 10 times. After each increase/decrease cycle of engine speed, allow the engine to idle. This will allow you to check whether the valve noise has stopped.

If the valve noise still persists, disassemble and inspect the automatic lash adjusters according to the following steps:

- Stop the engine and remove the valve cover.
- Using firm finger pressure, push down on the rocker arm over the head of each lash adjuster. The flat side of the camshaft lobe should be facing the rocker arm during this step.
- If the head of the lash adjuster sinks when finger pressure is applied, the adjuster must be replaced.
- If the heads of all adjusters stay firm when finger pressure is applied, the adjusters are functioning normally and do not need to be replaced. At this point, perform further engine diagnostic procedures to determine the origin of the noise.

Engine Starting Practices

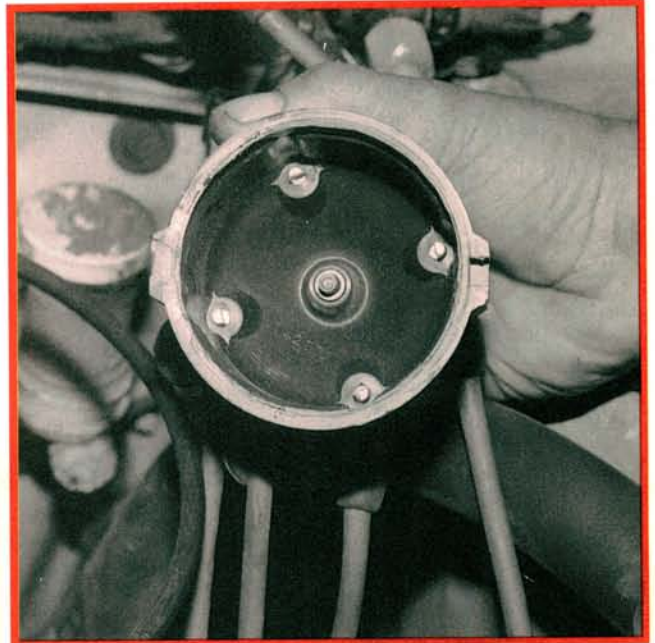
When attempting to start a flooded engine, do not disengage the coil wire from the distributor cap to create an additional spark gap and increase secondary ignition voltage. This practice may ignite either nearby fuel vapors or the distributor cap. The risk of fire may be immediate, or may occur later if the coil wire is not properly reinserted into the distributor cap.

Remove, clean, and dry the fouled spark plugs to start a flooded engine. Disable the ignition system temporarily, then crank the engine to remove unburned fuel from the flooded cylinders. Reinstall the spark plugs, reconnect the ignition, then start the engine.

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1 Electronic ignition can make you careless about secondary ignition components. High secondary resistance in other parts of the system may cause the secondary spark to burn holes through the distributor cap as it looks for an easier path to ground. Check for deposits on the tip of the rotor, too.



2 Flip the distributor cap over while you've got it off. Look for chalky deposits at the electrodes that can increase secondary resistance. On models equipped with a vacuum advance, check the unit with a vacuum pump. This is a common failure that may cause acceleration problems.

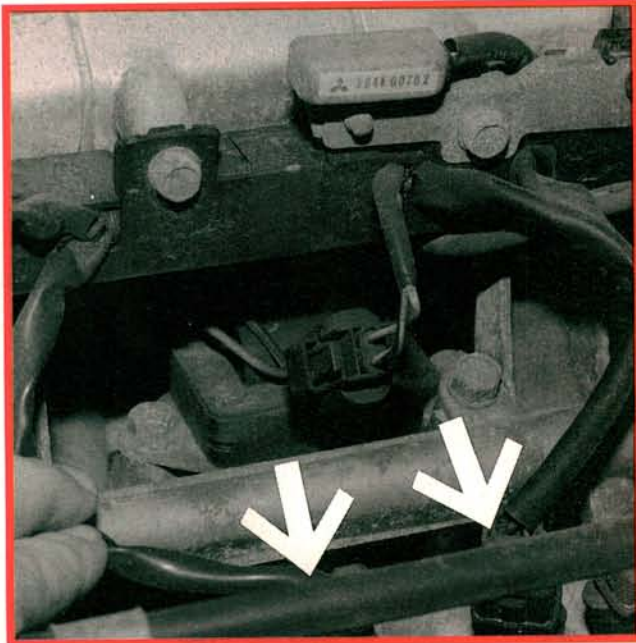


3 Have you ever seen a fuse that sags in the middle? This is a sign that the fuse has passed current close to its rated limit, and lived to tell about it. Check for sagged fuses in the main underhood fuse panel. These could indicate higher than normal current draw caused by corrosion or loose connections.



4 Battery maintenance is another often overlooked service. Mirage and Colt batteries are low maintenance, but not maintenance-free. Remove the battery caps to check the electrolyte level. A specific gravity test will show the battery's health and give advanced warning of battery failure.

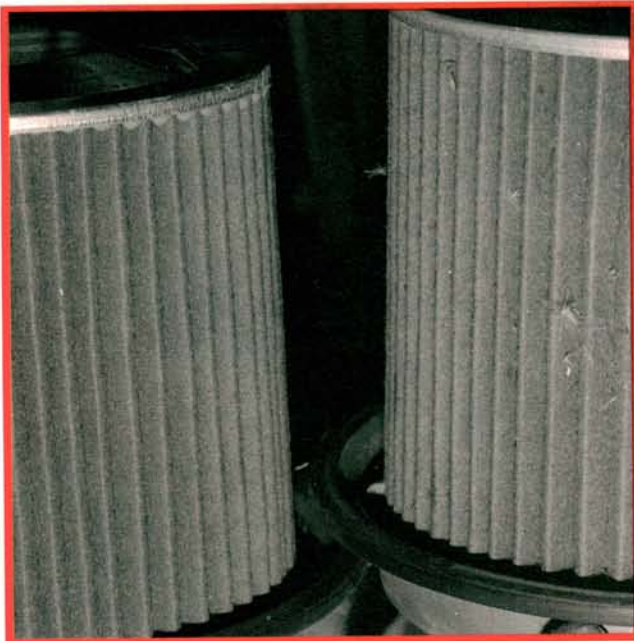
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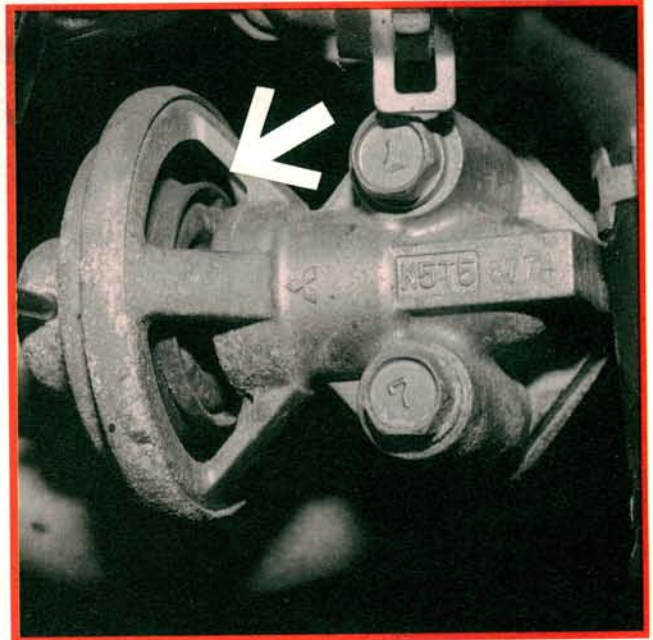
5 Corroded terminals in the injector harness connectors on port injected models may cause a stumble on acceleration that can be hard to diagnose. Remove and clean the connector terminals and the pin terminals on the injectors. Replace the harness terminals if they're too far gone to clean.



6 The oxygenated winter fuels used in some areas have been known to loosen fuel tank deposits. These deposits can work their way forward and clog the fuel filter, causing stalling or other driveability problems. Frequent fuel filter replacements may be necessary to prevent these problems.

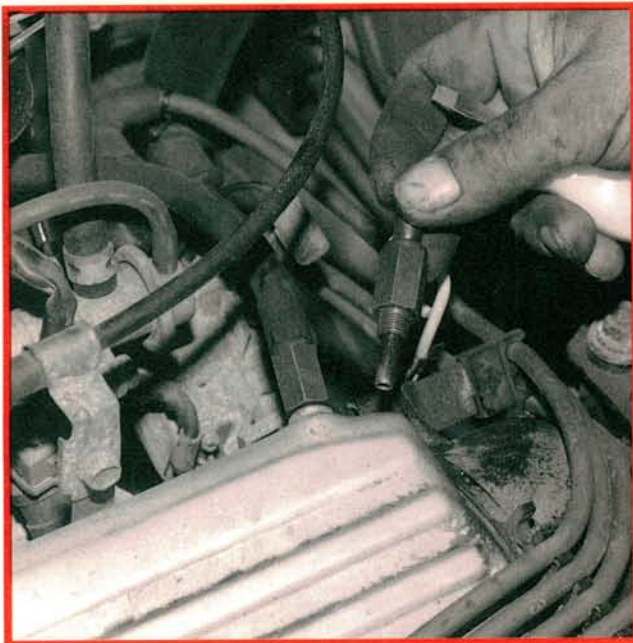


7 Replace air filters at recommended intervals, and more frequently in dirty conditions. The large surface area of a canister air filter can hide a lot of dirt and may not look dirty. On carbureted models, watch for poor fitting replacement filters. They may allow dirt to slip past the filter.

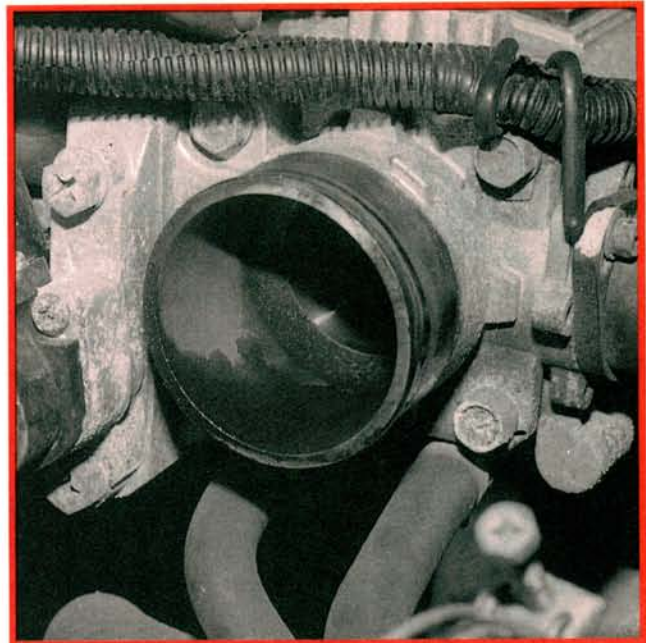


8 The open design of the EGR valve may prove inviting to our four-legged friends. Unusual driveability problems may result when they leave nuts or other debris in the valve. Reach behind the intake manifold with your hand to check for a stuck EGR valve if diagnosing a rough idle condition.

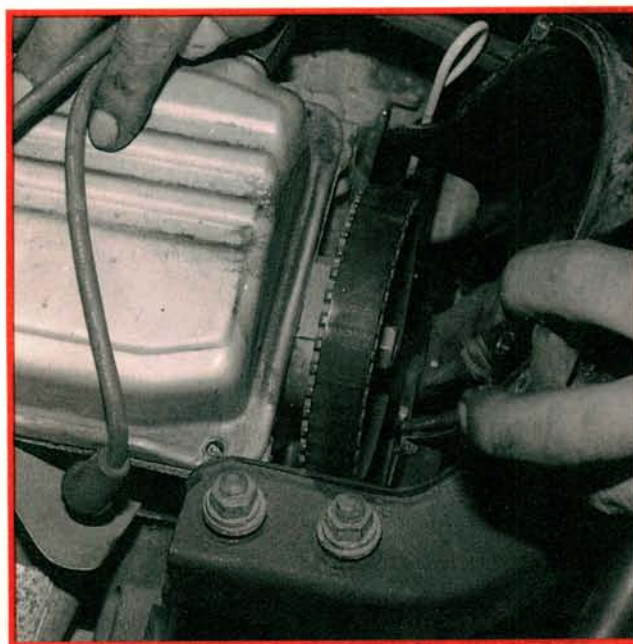
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9 The metal PCV valve threads into the valve cover. These valves should be replaced during a major maintenance to prevent crankcase ventilation and oil consumption problems. You probably won't be able to tell that the valve needs to be replaced by looking at it. When it's time, it's time.



10 Crankcase fumes and fuel deposits cause a build up on the inside of the throttle housing. If these deposits get thick enough, they can cause the throttle plate to stick or hang open slightly at idle. These deposits also throw off the throttle position sensor adjustment, causing driveability problems.



11 Some technicians remove the valve cover without removing the upper timing cover. The valve cover may come off okay, but it can be difficult to reinstall without damaging the gasket and causing an oil leak. With the upper cover removed, the timing belt can be inspected at the same time.



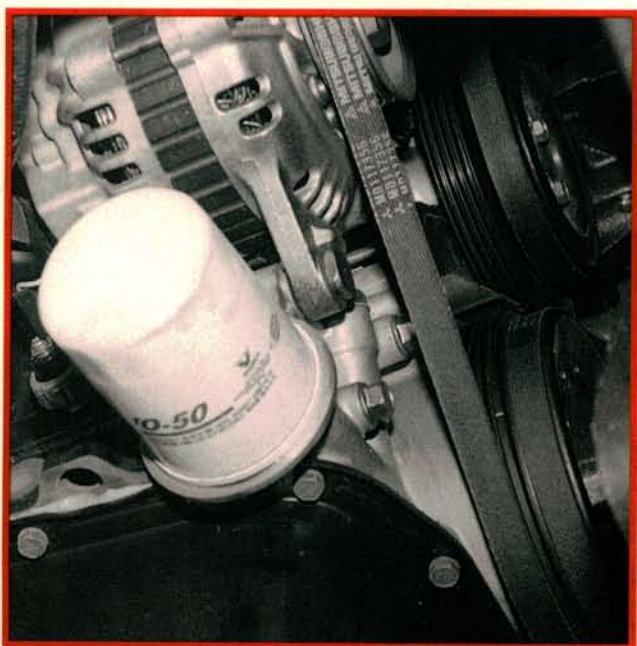
12 While you've got the upper cover off, check the timing belt for signs of wear and proper tension. Timing belt replacement is recommended at 60,000 mile intervals. Belts on SOHC engines usually make it to this interval without difficulty. The DOHC engines put more strain on the belt.



13 The owner of this DOHC engine decided to wait a few thousand more miles before replacing his timing belt. He made it all the way to 68,000 miles. The DOHC engines are valve benders, so this one clipped all eight exhaust valves, plus a few intakes. An expensive lesson in deferred maintenance.



14 All single overhead cam engines require periodic valve adjustments. Adjustment on this two valve 1988 Mirage engine is normal. The smaller "jet" valve spring pressure on 1989 and later three valve engines is very light. The feeler gauge should slip past the valve stem with light resistance.

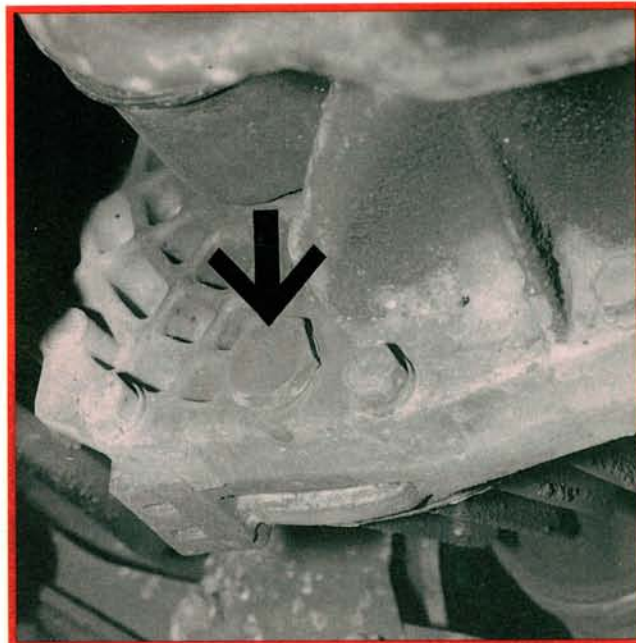


15 The v-ribbed drive belts used on all Mirages and Colts since 1985 will normally last a long time, and may get neglected for the same reason. As the outside of these belts normally stays in good condition until the bitter end, look on the inside of the belts for signs of age or cracking.

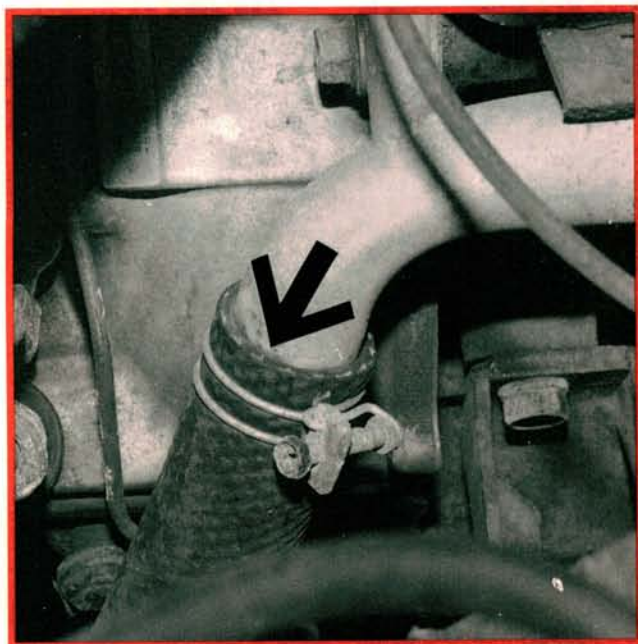
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16 This seems obvious, but it did happen. The engine and automatic transmission pans both have drain plugs. This car's transmission was damaged when the ATF, not the engine oil, was drained by an inattentive lube jockey. The engine got four extra quarts; the transmission was four quarts low.



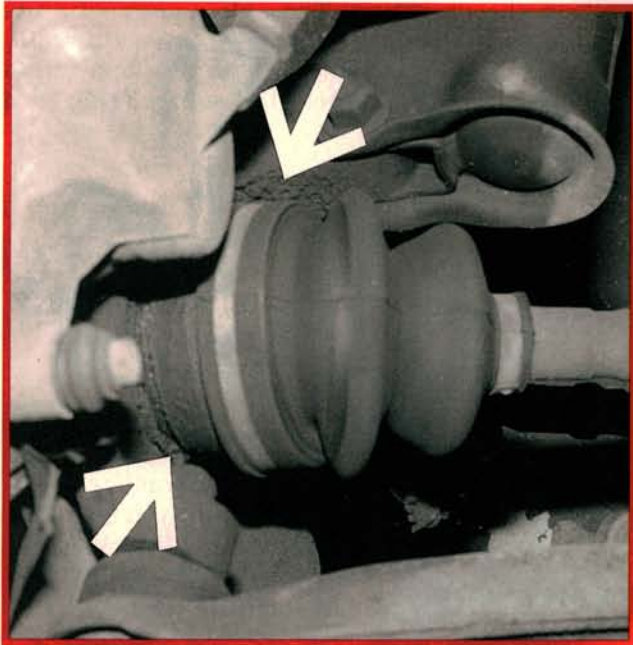
17 The manual transaxle gear lube is an often neglected fluid change. Remove the large drain plug (arrow) after the transaxle has reached operating temperature. See a service manual for the recommended lubricant type and grade. Some models require ATF rather than straight gear lube.



18 Cooling system hose clamps can lose their grip on hoses over time. A coolant leak from a loose clamp may be too small to notice on the ground, but can gradually empty the cooling system. Pressure test the system. Also look for spots of dried coolant deposits around the hose connections.



19 The front brake rotors on this 1988 Mirage are "captive." Resurfacing requires either hub and bearing removal or an on-car brake lathe. Rotor resurfacing isn't mandatory during every pad replacement if the rotors are in good shape. Check surface finish, runout, and parallelism before deciding.



20 Check the inner and outer CV joint boots during any servicing. The grease buildup on the inside of the steering knuckle (arrows) indicates that the inner wheel bearing grease seals are leaking. A wheel bearing repack and seal replacement during a rotor refinish will prevent a costly repair.



21 Mirages and Colts have a simple strut front suspension. Toe is the only adjustable front alignment angle. Service technicians tell us these vehicles normally hold an alignment for many miles. They watch for unusual tire wear or handling problems, then align problem vehicles when needed.



22 Colts and Mirages built before 1989 have a beam axle rear suspension, so no rear wheel alignment is possible. An independent rear suspension is featured on 1989 and later models. Eccentric adjuster bolts on the front and rear control arms permit camber and toe adjustments.