

7.2 Checking exhaust system flanges and connections for signs of leaks

ally show up as white or rust colored deposits on the areas adjoining the leak. If wire-type clamps are used at the ends of the hoses, it may be a good idea to replace them with more secure screw-type clamps.

6 Use compressed air or a soft brush to remove bugs, leaves, etc. from the front of the radiator or air conditioning condenser. Be careful not to damage the delicate cooling fins or cut yourself on them.

7 Every other inspection, or at the first indication of cooling system problems, have the cap and system pressure tested. If you don't have a pressure tester, most gas stations and repair shops will do this for a minimal charge.

7 Exhaust system check

Refer to illustrations 7.2 and 7.5

1 With the exhaust system cold (at least three hours after being driven), check the complete exhaust system from its starting point at the engine to the end of the tailpipe. This is best done on a hoist where full access is available.

2 Check the pipes and their connections for signs of leakage and/or corrosion indicating a potential failure. Check that all brackets and hangers are in good condition and are tight (see illustration).

3 At the same time, inspect the underside of the body for holes, corrosion, open seams, etc. which may allow exhaust gases to enter the trunk or passenger compartment. Seal all body openings with silicone or body putty.

4 Rattles and other driving noises can often be traced to the exhaust system, especially the mounts and hangers. Try to move the pipes, muffler and catalytic converter (if equipped). If the components can come into contact with the body or driveline parts, secure the exhaust system with new mountings.

5 This is also an ideal time to check the running condition of the engine by inspecting the very end of the tailpipe. The exhaust



7.5 Check the tailpipe - black, sooty deposits at the end of the exhaust pipe may be an indication that the carburetor needs adjustment or the engine is in need of a tune-up

deposits here are an indication of engine tune. If the pipe is black and sooty, or bright white deposits are found here, the engine is in need of a tune-up including a thorough carburetor inspection and adjustment (see illustration).

8 Suspension and steering check

Refer to illustrations 8.6a and 8.6b

1 Whenever the front of the car is raised for service it is a good idea to visually check the suspension and steering components for wear.

2 Indications of a fault in these systems are: excessive play in the steering wheel before the front wheels react; excessive sway around corners or body movement over rough roads; binding at some point as the steering wheel is turned.

3 Before the car is raised for inspection, test the shock absorbers by pushing downward to rock the car at each corner. If you push the car down and it does not come back to a level position within one or two bounces, the shocks are worn and need to be replaced. As this is done, check for squeaks and strange noises from the suspension components. Information on shock absorber and suspension components can be found in Chapter 10.

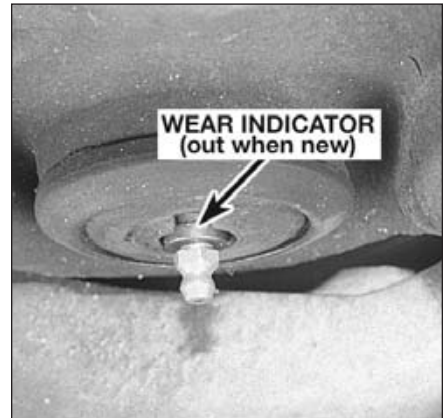
4 Now raise the front end of the car and support firmly by jack stands placed under the frame rails. Because of the work to be done, make sure the car cannot fall from the stands.

5 Grab the top and bottom of the front tire with your hands and rock the tire/wheel on its spindle. If there is movement of more than 0.005 in, the wheel bearings should be serviced (see Section 24).

6 Crawl under the car and check for loose bolts, broken or disconnected parts and deteriorated rubber bushings (see illustration) on all suspension and steering components. Look for grease or fluid leaking from around



8.6a Cracked rubber bushings in the steering and suspension systems should be replaced



8.6b Wear indicators are built into the lower balljoints to aid in their inspection

the steering box. Check the power steering hoses and their connections for leaks. Check the balljoints for wear (see illustration).

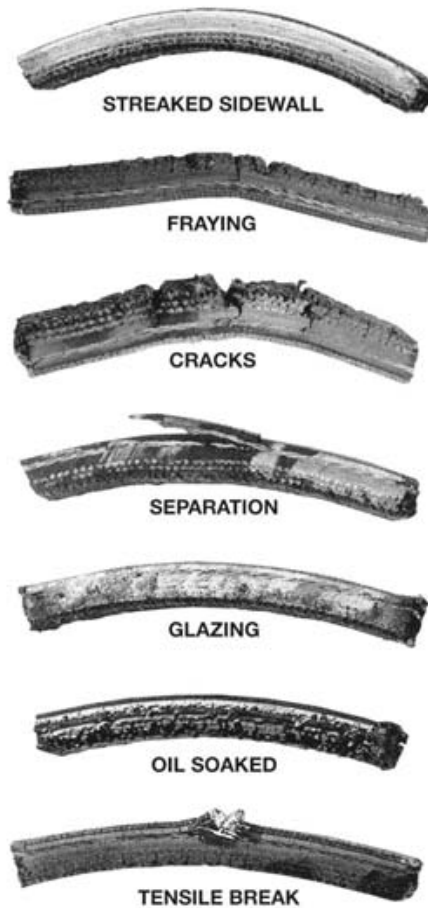
7 Have an assistant turn the steering wheel from side to side and check the steering components for free movement, chafing or binding. If the steering does not react with the movement of the steering wheel, try to determine where the slack is located.

9 Drivebelt check, adjustment and replacement

Refer to illustrations 9.3, 9.4 and 9.8

1 The drivebelts, or V-belts as they are often called, are located at the front of the engine and play an important role in the overall operation of the engine and accessories. Due to their function and material makeup, the belts are prone to failure after a period of time and should be inspected and adjusted periodically to prevent major engine damage.

2 The number of belts used on a particular vehicle depends on the accessories installed. Drivebelts are used to turn the alternator, power steering pump, water pump and air



9.3 Here are some of the more common problems associated with drivebelts (check the belts very carefully to prevent untimely breakdown)

conditioning compressor. Depending on the pulley arrangement, more than one of these components may be driven by a single belt.

3 With the engine off, locate the drivebelts at the front of the engine. Using your fingers

(and a flashlight, if necessary), move along the belts checking for cracks and separation of the belt plies. Also check for fraying and glazing, which gives the belt a shiny appearance (see illustration). Both sides of each belt should be inspected, which means you will have to twist the belt to check the underside. Check the pulleys for nicks, cracks, distortion and corrosion.

4 The tension of each belt is checked by pushing on it at a distance halfway between the pulleys. Push firmly with your thumb and see how much the belt moves (deflects) (see illustration). A rule of thumb is that if the distance from pulley center to pulley center is between seven and 11 inches, the belt should deflect 1/4-inch. If the belt travels between pulleys spaced 12 to 16 inches apart, the belt should deflect 1/2-inch.

5 If adjustment is needed, either to make the belt tighter or looser, it's done by moving the belt-driven accessory on the bracket.

6 For each component there will be an adjusting bolt and a pivot bolt. Both bolts must be loosened slightly to enable you to move the component.

7 After the two bolts have been loosened, move the component away from the engine to tighten the belt or toward the engine to loosen the belt.

8 Hold the accessory in position and check the belt tension. If it's correct, tighten the two bolts until just snug, then recheck the tension. If the tension is all right, tighten the bolts (see illustration).

9 It will often be necessary to use some sort of pry bar to move the accessory while the belt is adjusted. If this must be done to gain the proper leverage, be very careful not to damage the component being moved or the part being pried against.

10 To replace a belt, follow the above procedures for drivebelt adjustment but slip the belt off the pulleys and remove it. Since belts tend to wear out more or less at the same time, it's a good idea to replace all of them at the same time. Mark each belt and the corresponding pulley grooves so the replacement

belts can be installed properly.

11 Take the old belts with you when purchasing new ones in order to make a direct comparison for length, width and design.

12 Adjust the belts as described earlier in this Section.

10 Fuel system check

1 There are certain precautions to take when inspecting or servicing the fuel system components. Work in a well ventilated area and do not allow open flames (cigarettes, appliance pilot lights, etc.) to get near the work area. Mop up spills immediately and do not store fuel-soaked rags where they could ignite.

2 The fuel system is under some amount of pressure, so if any fuel lines are disconnected for servicing, be prepared to catch the fuel as it spurts out. Plug all disconnected fuel lines immediately after disconnection to prevent the tank from emptying itself.

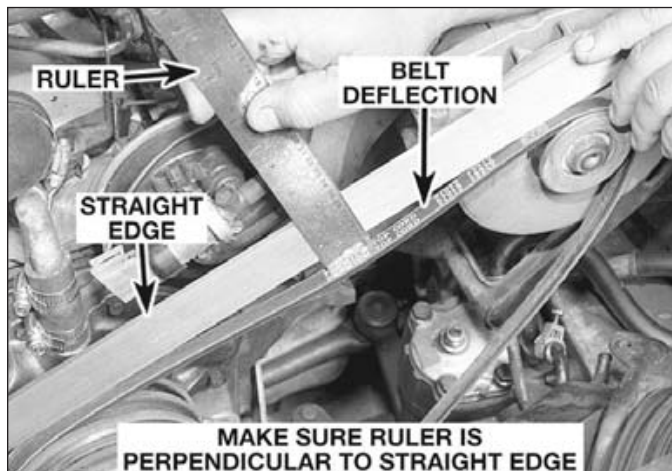
3 The fuel system is most easily checked with the car raised on a hoist where the components under the car are readily visible and accessible.

4 If the smell of gasoline is noticed while driving, or after the car has sat in the sun, the system should be thoroughly inspected immediately.

5 Remove the gas filler cap and check for damage, corrosion and a proper sealing imprint on the gasket. Replace the cap with a new one if necessary.

6 With the car raised, inspect the gas tank and filler neck for punctures, cracks or any damage. The connection between the filler neck and the tank is especially critical. Sometimes a rubber filler neck will leak due to loose clamps or deteriorated rubber; problems a home mechanic can usually rectify.

7 Do not under any circumstances try to repair a fuel tank yourself (except rubber components) unless you have considerable experience. A welding torch or any open flame can



9.4 Drivebelt tension can be checked with a straightedge and a ruler



9.8 Adjust the belt tension by gently prying on the component as the adjustment bolt is tightened