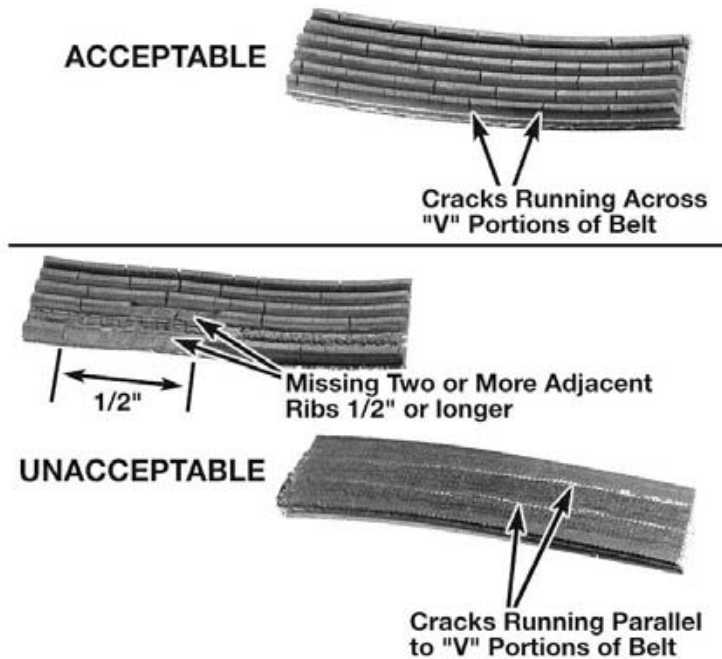




12.2a Check ribbed (serpentine) belts for signs of wear like these - if they look worn, replace them as a set

Note: The manufacturer recommends the battery be removed from the vehicle for charging because the gas that escapes during this procedure can damage the paint. Fast charging with the battery cables connected can result in damage to the electrical system.

11 Slow-rate charging is the best way to restore a battery that's discharged to the point where it will not start the engine. It's also a good way to maintain the battery charge in a vehicle that's only driven a few miles between starts. Maintaining the battery charge is particularly important in the winter when the battery must work harder to start the engine and electrical accessories that drain the battery are in greater use.

12 It's best to use a one or two-amp battery charger (sometimes called a "trickle" charger). They are the safest and put the least strain on the battery. They are also the least expensive. For a faster charge, you can use a higher amperage charger, but don't use one rated more than 1/10th the amp/hour rating of the battery. Rapid boost charges that claim to restore the power of the battery in one to two hours are hardest on the battery and can damage batteries not in good condition. This type of charging should only be used in emergency situations.

13 The average time necessary to charge a battery should be listed in the instructions that come with the charger. As a general rule, a trickle charger will charge a battery in 12 to 16 hours.

14 Remove all the cell caps (if equipped) and cover the holes with a clean cloth to prevent spattering electrolyte. Disconnect the negative battery cable and hook the battery

charger cable clamps up to the battery posts (positive to positive, negative to negative), then plug in the charger. Make sure it is set at 12-volts if it has a selector switch.

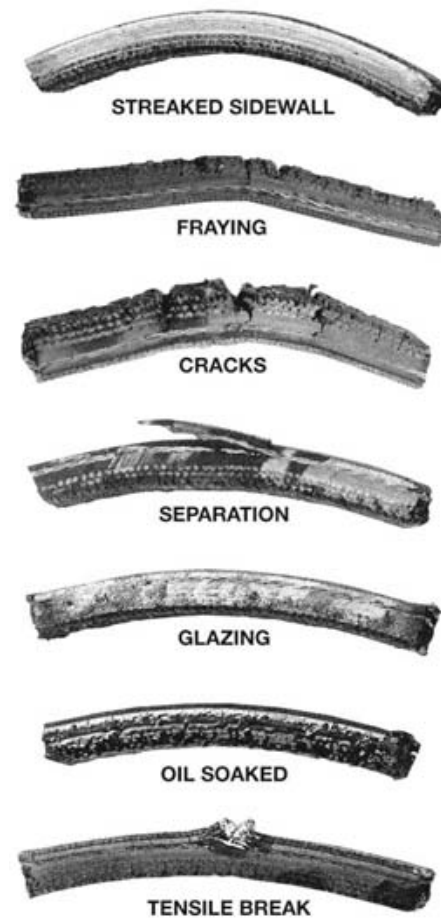
15 If you're using a charger with a rate higher than two amps, check the battery regularly during charging to make sure it doesn't overheat. If you're using a trickle charger, you can safely let the battery charge overnight after you've checked it regularly for the first couple of hours.

16 If the battery has removable cell caps, measure the specific gravity with a hydrometer every hour during the last few hours of the charging cycle. Hydrometers are available inexpensively from auto parts stores - follow the instructions that come with the hydrometer. Consider the battery charged when there's no change in the specific gravity reading for two hours and the electrolyte in the cells is gassing (bubbling) freely. The specific gravity reading from each cell should be very close to the others. If not, the battery probably has a bad cell(s).

17 Some batteries with sealed tops have built-in hydrometers on the top that indicate the state of charge by the color displayed in the hydrometer window. Normally, a bright-colored hydrometer indicates a full charge and a dark hydrometer indicates the battery still needs charging.

18 If the battery has a sealed top and no built-in hydrometer, you can hook up a digital voltmeter across the battery terminals to check the charge. A fully charged battery should read 12.6 volts or higher.

19 Further information on the battery and jump-starting can be found in Chapter 5 and at the front of this manual.



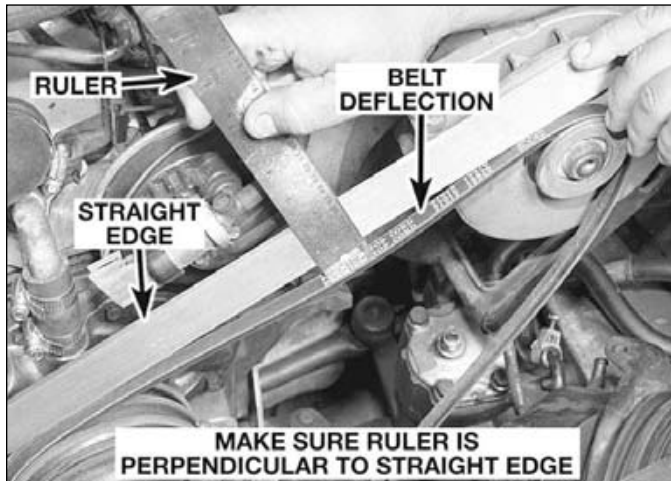
12.2b Look for these signs of wear or damage on V-belt drivebelts

12 Drivebelt check, adjustment and replacement (every 6000 miles or 6 months)

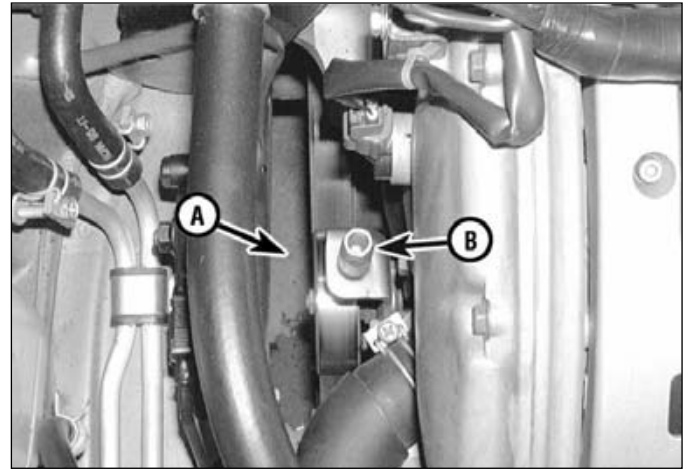
Refer to illustrations 12.2a, 12.2b, 12.4, 12.5a, 12.5b and 12.5c

1 Drivebelts are located at the front of the engine and play an important role in the overall operation of the engine and its components. Due to their function and material make up, the belts are prone to wear and should be periodically inspected. Early models have three belts, including serpentine and V-belt types, while 1995 and later models have two belts, both of the serpentine type. The drivebelts drive the alternator, power steering pump, water pump and air conditioning compressor (if equipped).

2 With the engine off, open the hood and use your fingers (and a flashlight, if necessary), to move along the belt checking for cracks and separation of the belt plies. Also check for fraying and glazing, which gives the belt a shiny appearance (**see illustrations**). Both sides of the belt should be inspected, which means you will have to twist the belt to check the underside.



12.4 A ruler and straightedge can be used to determine the belt deflection (tension) between two pulleys



12.5a Loosen the tensioner lock nut (A), then loosen/tighten the idler pulley adjuster bolt (B) to adjust the main serpentine belt (1995 model shown)

3 Check the ribs on the underside of the belt. They should all be the same depth, with none of the surface uneven.

4 Belt tension must be checked manually, by pushing on the belt at a distance halfway between two pulleys. Push firmly with your thumb and see how much the belt moves (deflects) (**see illustration**). As rule of thumb, if the distance from pulley center-to-pulley center is between 7 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 1/4 to 1/2-inch.

5 On three-belt models, one belt drives the water pump and power steering pump, and is adjusted by a idler accessed from below the engine. Another short belt drives the alternator, and is adjusted by moving the alternator adjuster. A longer belt drives the air-conditioning compressor and is adjusted by a top-mounted idler. Later models have one serpentine belt adjusted at the power steering pump, and a larger serpentine belt adjusted at the upper idler (**see illustrations**).

6 To replace the belts, loosen the adjuster or component until the belt can be removed from the various pulleys. On multiple-belt applications, outer belts will have to be removed to access inner belts, but as a general rule, all belts should be replaced at the same time anyway.

7 Route the new belt over the various pulleys, then adjust the tension. **Note:** Refer to your owner's manual for the belt routing diagram for your specific model.

13 Underhood hose check and replacement (every 6000 miles or 6 months)

General

Caution: Replacement of air conditioning hoses must be left to a dealer service department or air conditioning shop that has the



12.5b From below, loosen the bolt (arrow) at the back of the power steering pump . . .

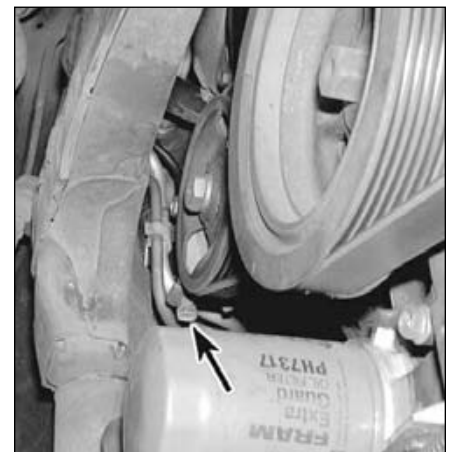
equipment to depressurize the system safely and recover the refrigerant. Never remove air conditioning components or hoses until the system has been depressurized.

1 High temperatures in the engine compartment can cause the deterioration of the rubber and plastic hoses used for engine, accessory and emission systems operation. Periodic inspection should be made for cracks, loose clamps, material hardening and leaks. Information specific to the cooling system hoses can be found in Section 14.

2 Some, but not all, hoses are secured to their fittings with clamps. Where clamps are used, check to be sure they haven't lost their tension, allowing the hose to leak. If clamps aren't used, make sure the hose has not expanded and/or hardened where it slips over the fitting, allowing it to leak.

Vacuum hoses

3 It's quite common for vacuum hoses, especially those in the emissions system, to be color-coded or identified by colored stripes molded into them. Various systems require hoses with different wall thickness,



12.5c . . . then adjust the belt tension at the adjuster bolt (arrow) - when proper tension is achieved, retighten the bolt on the back of the pump

collapse resistance and temperature resistance. When replacing hoses, be sure the new ones are made of the same material.

4 Often the only effective way to check a hose is to remove it completely from the vehicle. If more than one hose is removed, be sure to label the hoses and fittings to ensure correct installation.

5 When checking vacuum hoses, be sure to include any plastic T-fittings in the check. Inspect the fittings for cracks and the hose where it fits over the fitting for distortion, which could cause leakage.

6 A small piece of vacuum hose (1/4-inch inside diameter) can be used as a stethoscope to detect vacuum leaks. Hold one end of the hose to your ear and probe around vacuum hoses and fittings, listening for the "hissing" sound characteristic of a vacuum leak. **Warning:** When probing with the vacuum hose stethoscope, be very careful not to come into contact with moving engine components such as the drivebelt, cooling fan, etc.