

Fig. 61 The cable ends should be cleaned as well

removed and the metal is shiny. It is especially important to clean the inside of the clamp thoroughly (an old knife is useful here), since a small deposit of oxidation there will prevent a sound connection and inhibit starting or charging. Special tools are available for cleaning these parts, one type for conventional top post batteries and another type for side terminal batteries. It is also a good idea to apply some dielectric grease to the terminal, as this will aid in the prevention of corrosion.

After the clamps and terminals are clean, reinstall the cables, negative cable last; DO NOT hammer the clamps onto battery posts. Tighten the clamps securely, but do not distort them. Give the clamps and terminals a thin external coating of grease after installation, to retard corrosion.

Check the cables at the same time that the terminals are cleaned. If the cable insulation is cracked or broken, or if the ends are frayed, the cable should be replaced with a new cable of the same length and gauge.

CHARGING

*** CAUTION

The chemical reaction which takes place in all batteries generates explosive hydrogen gas. A spark can cause the battery to explode and splash acid. To avoid personal injury, be sure there is proper ventilation and take appropriate fire safety precautions when working with or near a battery.

A battery should be charged at a slow rate to keep the plates inside from getting too hot. However, if some maintenance-free batteries are allowed to discharge until they are almost "dead," they may have to be charged at a high rate to bring them back to "life." Always follow the charger manufacturer's instructions on charging the battery.

REPLACEMENT

When it becomes necessary to replace the battery, select one with an amperage rating equal to or greater than the battery originally installed. Deterioration and just plain aging of the battery cables, starter motor, and associated wires makes the battery's job harder in successive years. This makes it prudent to install a new battery with a greater capacity than the old.

Belts

INSPECTION

▶ See Figures 62 and 63

The belts, which drive the engine accessories such as the alternator, the air pump, power steering pump, air conditioning compressor and water pump, are of serpentine belt design. Older style belts show wear and damage readily, since their basic design was a belt with a rubber casing. As the casing wore, cracks and fibers were readily apparent. Newer design, caseless belts do not show wear as readily, and many untrained people cannot distinguish between a good, serviceable belt and one that is worn to the point of failure. It is a good idea, therefore, to visually inspect the belt regularly and replace it, routinely, every two to three years.

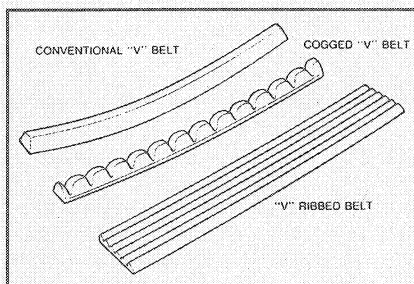


Fig. 62 Typically, there are three types of belts found on today's vehicles

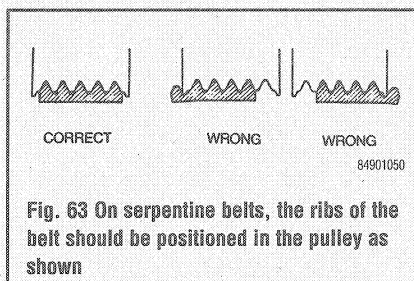


Fig. 63 On serpentine belts, the ribs of the belt should be positioned in the pulley as shown

ADJUSTING

Vehicles are equipped with V-ribbed (serpentine) accessory drive belts. To ensure maximum life, the replacement belt should be of the same type as the original. This system is equipped with an automatic belt tensioner that will maintain the correct tension on the belt and should not require any tension adjustment for the life of the belt. A worn belt can result in slippage, which may cause a noise concern or improper accessory operation.

Automatic tensioners do not have to be removed to remove a drive belt. To remove a drive belt, rotate the tensioner away from the belt.

Alternator Belt

▶ See Figures 64 and 65

1. Loosen the alternator pivot and adjustment bolts.
2. Position a suitable belt tension gauge at the point indicated in the figure. Install an open end

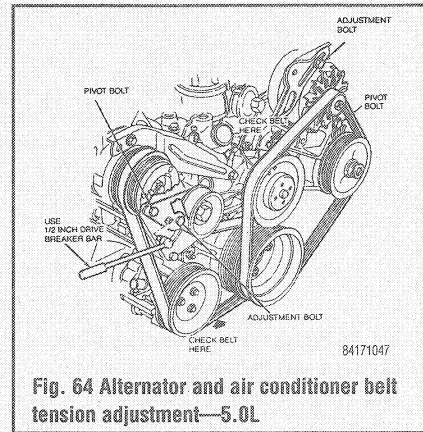


Fig. 64 Alternator and air conditioner belt tension adjustment—5.0L

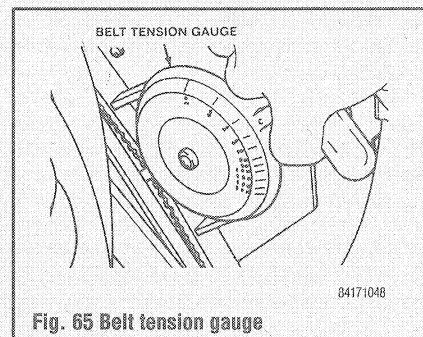


Fig. 65 Belt tension gauge

wrench over the alternator adjustment boss, then apply tension to the belt, using the wrench.

3. Set the tension on a new belt to 170 ft. lbs. (231 Nm) or a used belt to 140 ft. lbs. (190 Nm). While maintaining the tension, tighten the alternator adjustment bolt to 29 ft. lbs. (39 Nm).

4. Remove the belt tension gauge, start the engine and let it idle for 5 minutes.

5. Shut off the engine and install the tension gauge. Apply tension with the open end wrench and slowly loosen the adjustment bolt to allow belt tension to increase to the used belt specification, 140 lbs. Tighten the adjustment bolt to 29 ft. lbs. (39 Nm).

6. Tighten the pivot bolt to 50 ft. lbs. (68 Nm).

Air Conditioner Compressor Belt

1. Loosen the idler pulley bracket adjustment and pivot bolts.

2. Position a suitable belt tension gauge at the point indicated in the figure.

3. Install a 1/2 in. breaker bar in the hole in the idler pulley bracket as shown in the figure. Apply tension to the belt using the breaker bar.

4. Set the tension on a new belt to 170 lbs. (231 Nm) or a used belt to 140 lbs. (190 Nm). While maintaining the tension, tighten the adjustment bolt to 30 ft. lbs. (40 Nm).

5. Remove the belt tension gauge and the breaker bar. Start the engine and let it idle for 5 minutes.

6. Shut the engine off, then reinstall the belt tension gauge and breaker bar. Apply tension with the breaker bar and slowly loosen the adjustment bolt to allow belt tension to increase to the used belt specification, 140 ft. lbs. (190 Nm). Tighten the adjustment bolt to 30 ft. lbs. (40 Nm).

7. Tighten the pivot bolt to 50 ft. lbs. (68 Nm).