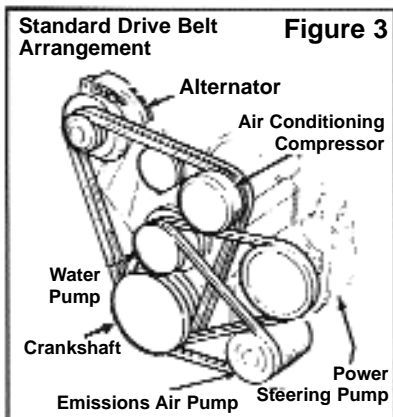
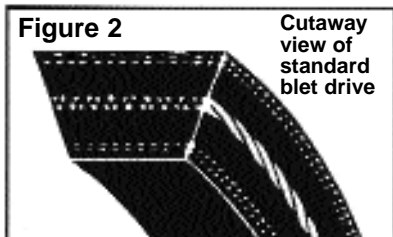
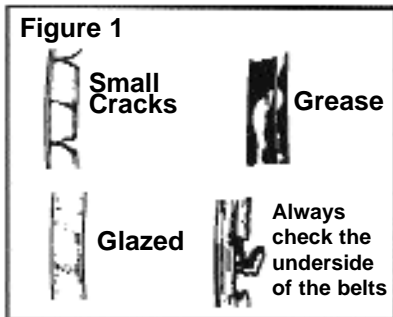


Tech Tip®

INSPECTING & REPLACING YOUR FAN BELTS



ITEMS NEEDED:

- Combination Wrench Set (Metric or Fractional)
- Socket Set (Metric or Fractional)
- Wood Pry Bar
- Fan Belt Dressing (not necessary if replacing belts)
- Replacement Fan Belts
- Power Steering Pump Belt Tension Tool (for convenience)

1

INSPECTION

A key component in vehicle operation is the fan or accessory drive belt. These belt(s) drive many critical components, including the alternator, water pump, air injection pump, power steering pump and more.

Performing a periodic visual inspection can often detect a belt destined for failure, before the failure occurs. Twist the belt over with your hand and inspect the bottom and sides for signs of deterioration (see Figure 1). Look for small cracks, grease or oil saturation, glazing, or peeling.

Cracks indicate a belt worn out from normal wear, and the belt should immediately be replaced. Glazing or shiny spots indicate belt slippage and the need to apply a liquid or spray belt dressing to the belts and retighten them. Deterioration or fraying may be caused by a bent or damaged pulley. Inspect all pulleys when replacing belts and replace any that show signs of damage. If your belts are oil saturated, the cause of the oil leak must be corrected to ensure proper operation once the new belt is installed.

A closer inspection of your belts can be performed by removing the belt(s) and then inspecting them. If any of the above conditions exist, replacement of your belts is necessary. You can obtain the replacement belts you need from your nearby Auto Store. **NOTE:** On vehicles where a particular component is driven by two belts, both belts must be replaced at the same time to ensure they are matched in length.

2

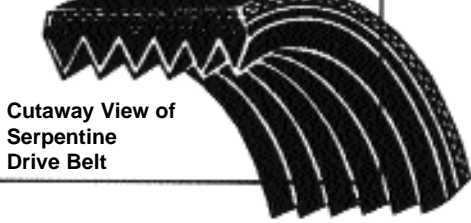
REMOVAL

Before beginning the replacement, or anytime that you are working on your engine, disconnect the negative battery cable to prevent accidental electrical damage while making repairs. Also, for ease of replacement, always start with a cool engine.

Standard V-Belts

On engines with a standard drive belt arrangement (see Figures 2 & 3), start by locating and loosening the component driven by the front most mounted belt. Loosen the adjustment bolt on the tension adjustment bracket first (see Figure 4). The tension adjustment bracket will have a slotted hole for adjusting belt tension. Next, loosen any other attaching bolts and move the component inward towards the crankshaft to relieve tension on the belt. Remove the belt from the pulley and work the belt around the fan to remove it from the vehicle. Repeat this procedure on the remaining belts that need replacement, noting their routed paths.

Figure 5



Cutaway View of Serpentine Drive Belt

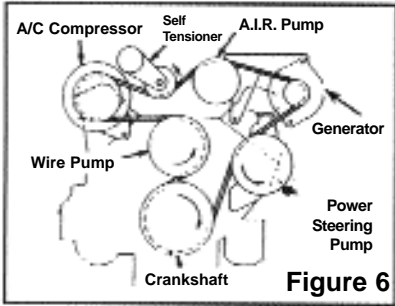


Figure 6

Typical Serpentine Drive Belt Installation

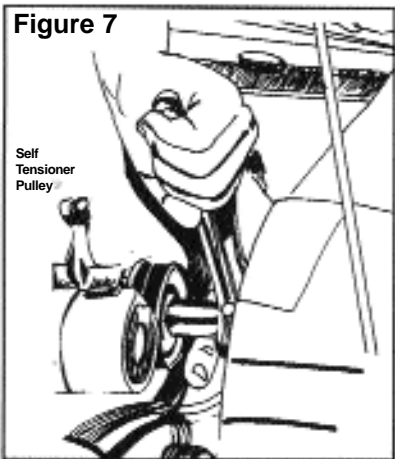
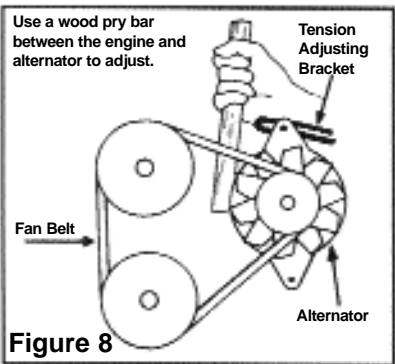


Figure 7

Self Tensioner Pulley

Relieving Pressure From the Self-Tensioner



Use a wood pry bar between the engine and alternator to adjust.

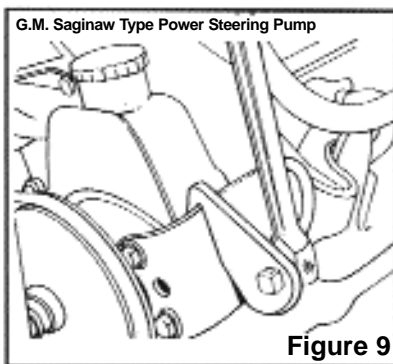
Tension Adjusting Bracket

Fan Belt

Alternator

Figure 8

Adjusting Fan Belt Tension



G.M. Saginaw Type Power Steering Pump

Figure 9

Adjusting Power Steering Belt Tension With Tension Adjustment Tool

3

INSTALLATION

First, match the old belt(s) with the new ones to make sure you have the correct replacement. Then, clean any oil or grease from the pulley surfaces and smooth off any nicks or rough spots with a file or sandpaper.

Standard V-Belts:

Route the new belts around the fan and position them around their respective pulleys, starting with the one closest to the engine. Make sure each belt is routed in its correct path. Using hand pressure or a wooden pry bar as a lever, pull the component outward from the crankshaft to tighten the belt (see Figure 8). If you have a G.M. vehicle with a Saginaw power steering pump (see Figure 9), we suggest using a power steering pump tension adjustment tool on the power steering pump. They're inexpensive and available at your nearby Auto Store. The tool will make the job easier and protect your power steering pump reservoir from damage that a pry bar may cause. Now tighten the adjustment bolt. Be careful not to overtighten the belt, as this could cause premature failure of the component being driven by that belt. As a general rule, we suggest that the belt be tightened so there is no slippage of the belt when the pulley is turned by hand. Tighten any remaining bolts, attaching the component to the engine. Repeat this same procedure on the remaining belts, making sure they are correctly aligned in the pulleys before tightening.

Serpentine Belts:

If your vehicle has only one "Serpentine" drive belt (refer back to Figures 5 & 6), route the new belt in its correct routing path. Then attach the socket and wrench to the pulley bolt of the self-tensioner, and move the self-tensioner counterclockwise to slip the new serpentine belt under the self-tensioner pulley. Release the self-tensioner until the pulley contracts and tightens the belt.

Reconnect the negative battery cable and start the engine to check that all of the belts are working properly. If you hear a squeal from one of the belts, it's too loose and requires retightening.

Check and retighten all of the new belts after a couple of hundred miles of operation. We suggest placing the old belt(s) in the trunk or under the seat in case of roadside emergency. For a demonstration on replacing your belts, ask to see your Video Answer Center chapter on belt replacement.