

## HOW TO REMOVE AND REINSTALL A POWER STEERING PUMP PULLEY

Power steering pulleys are sometimes fitted on the pump shaft with a press and the assembly is held together with friction. Over time and use these pulleys get 'locked on' tight and cannot be removed by hand. You will need a Power Steering Pump Pulley removal tool that can remove the pulley from the pump shaft. This puller is different from common gear pullers with jaws (Do NOT use the 'jaws' type puller). Various brands of the puller are available; there may be slight differences in the parts, but they function in a similar manner. A few brands also come with tools that can be used to reinstall the power steering pulley, be sure to purchase or use one of these. Most parts stores have these in their 'Loan-a-Tool' programs.

The power steering pulley puller kit should consist of two half-parts that make up a split collar, a metal sleeve to retain the collar, and a threaded bolt which is the puller. The kit should contain the tools to re-install the pulley consisting of a bolt & nut assembly also.

1. Before Beginning the Job
  - a. Place vehicle on level ground and adjust the gear selector to park (standard transmission in gear)
  - b. Allow engine to cool
  - c. Apply parking brake
  - d. Open hood
  - e. Disconnect battery
2. Tools needed to complete the job:
  - a. Wrench Set
  - b. Socket Set with Ratchet
  - c. Safety Gloves
  - d. Power Steering Pulley removal and installation tool
    - i. Never use a three or four-jaw gear puller to remove the pulley from the pump shaft. This can bend the pulley and/or damage the pump shaft, which will void your core return deposit.
    - ii. During the re-installation of the pulley, use the bolt nut assembly tool. NEVER USE A HAMMER to reinstall the pulley as it can cause damage to the pulley as well as the pump, thereby voiding your warranty on the pump and the pulley.
3. You may need to remove pump mounting brackets & other components 1<sup>st</sup> to insure you have room to use the pulley removal tool and the ratchet. You will need approximately 12" to operate.

Fit on the puller by inserting the half-part that projects more inward below the pulley lip. Close the two parts so the pump shaft is held tight. Fit the metal sleeve over the ring formed by closing the two parts. Push the rounded end of the threaded bolt inside the pump shaft, until it touches the pulley shaft, and tighten it.

Position a wrench at the bottom of the threaded puller assembly, on the top side near the threaded shaft. Use a ratchet to tighten the nut and bolt parts by screwing the puller assembly into the bottom portion; this will cause the pulley to move off the pump shaft. You may hear a 'POP' as the pulley frees from the shaft. Continue to turn the ratchet until the pulley is completely free from the pump shaft.

Make sure the shaft that the pulley will be installed on is clean from rust and nicks. This will make the installation process less difficult and insure the pulley is installed properly. If debris is present on the shaft, use a small piece of fine grit sandpaper to smooth out the surface before installation. **DO NOT LUBRICATE THE SHAFT OR PULLEY.** If grease or oil is present clean thoroughly before installation. Anything but a clean surface can cause the pulley to slip which would create a failure

To reinstall the original pulley or a new pulley, position it to sit squarely on the pump shaft. It may be helpful to heat the pulley 1<sup>st</sup> to approximately 120 degrees F to allow it to more easily mount on the shaft. Gently spinning the pulley once it's on the shaft will insure a square mount and will start the correct alignment before it's installed. Using the bolt nut assembly provided with the puller kit, insert the bolt inside the pump shaft's internal threading and screw it on until the bolt touches the lower surface. Using the ratchet, push the pulley on by rotating the nut assembly along the bolt. When the pulley has installed completely you will 'feel' it bottom out and the nut assembly will stop moving. Do not over torque once it bottoms out. Remove the assembly and check that the pulley is flush with the level of the pump shaft.