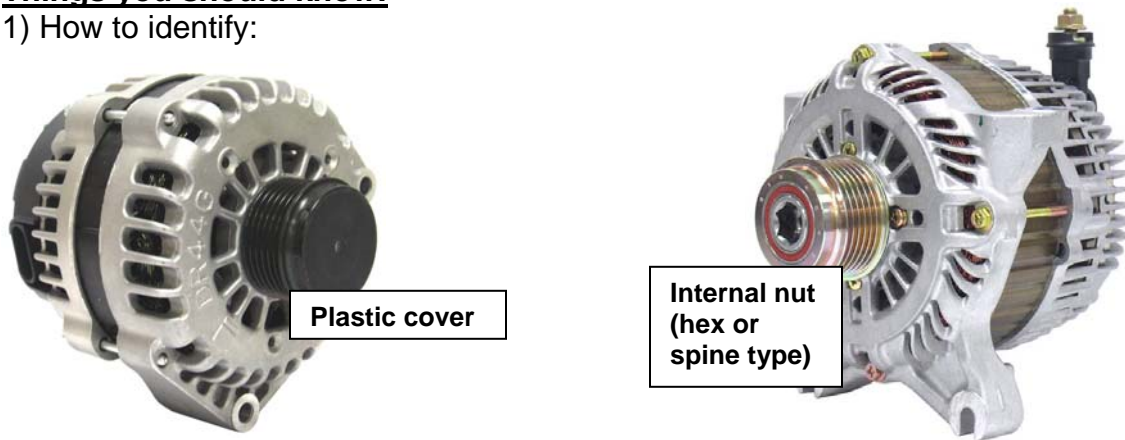


Clutch Pulleys on Late Model Alternators

You've probably already seen them: a pulley with a black plastic cover on it, or one with an extra thick hub and an internally splined or allen type nut. These are "clutch pulleys," or at least they started out that way ten years ago. Since then they have evolved in design and have become very common on alternators over the last ten years. There are clutch pulleys, decoupler pulleys, dampening pulleys and designs that are combinations of the three technologies. (We'll just call them clutch pulleys.) The clutch pulley allows the alternator's heavy rotor to overrun, absorbing shock, each time the alternator cycles on and off (about 3 times per second). The result is smoother idle, no belt chirp, increased life of alternator, power steering pump, water pump, serpentine belt and automatic belt tensioner. It is important to understand how to handle and test this newer technology.

Things you should know:

1) How to identify:



2) Alternator Spin Test. Many customers like to hand spin the alternator from the pulley... just to make sure it turns smoothly. If it has a pulley clutch it will only spin one direction (the clutch will free-spin the other way).

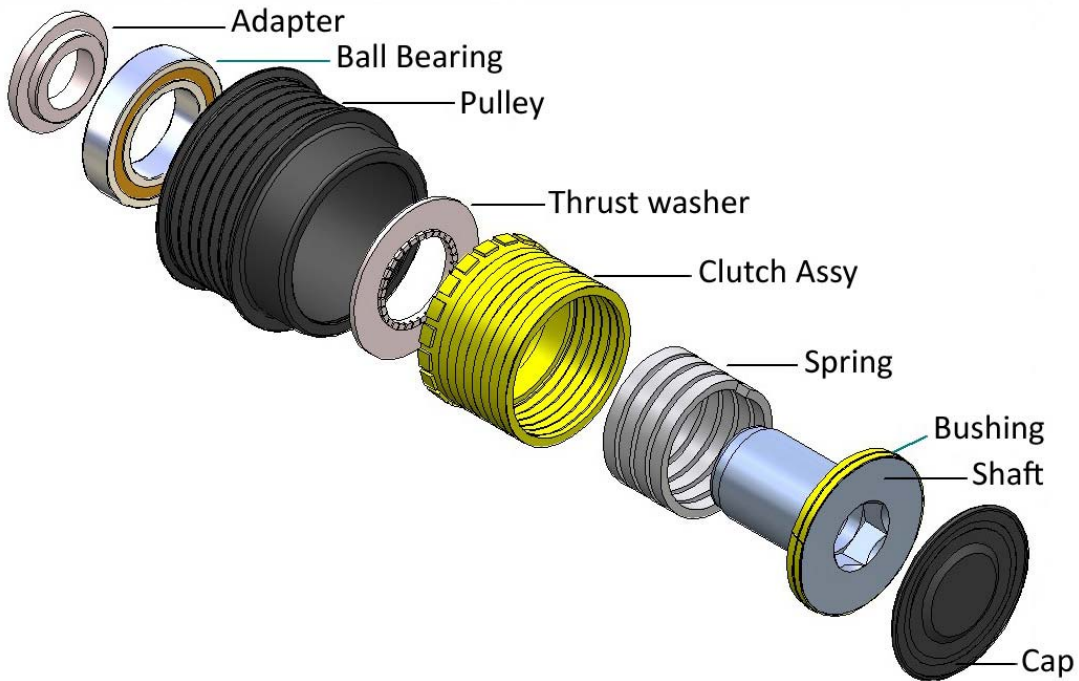
3) Clutch Spin Test. The clutch should turn smoothly one direction and lock up the other. If you spin the pulley by hand, then quickly stop it, the rotor will continue to turn inside the alternator (just a little bit). If the pulley is seized, has two-way rotation, or is noisy, the alternator will need to be replaced.

NOTE: The replacement alternator for 2001- 2007 Town & Country, Caravan and Voyager now uses a dampening type pulley that cannot be tested by hand (it will feel solid).

4) Changing Pulleys. Special tools are required to install this pulley and properly set pulley nut torque. Changing pulley is NOT recommended.

5) Replacing With a Solid Pulley. Most clutch pulley alternators are designed by the OEM so that you cannot easily switch to a solid pulley. Even if you can, **THIS IS NOT RECOMMENDED!** Doing this will be harder on the alternator, engine and all belt driven engine components, and it will void the alternator remanufacturer's warranty.

6) What's inside a decoupler type clutch pulley?



If you have any questions regarding clutch pulleys, alternators or starters, just call the Tech Hotline at 800-228-9672. M-F 5:00AM to 5:00PM Pacific Time.