

Methods for installing Clutch Pulleys and Litens OADs

There are basically three different methods for installing these special pulleys. The methods are the same for both standard clutch pulleys, as well as Litens Overrunning Alternator Decouplers (OADs). When presenting my seminar on OADs, one of the first questions that always pops up from rebuilders is “How do I install it properly?”. In this article, I will explain the pros and cons of each of the three methods. Once you finish reading this you can actually grow your shop’s revenue by advertising for clutch pulley/OAD removal and installation. There are many local shops, as well as “do it yourselfers”, that don’t want to buy the proper tools to do this job. This situation presents a great opportunity for you to make some money. Having a few of the most popular OADs and clutch pulleys in stock doesn’t hurt either. In this economy, every little bit of income helps.

Method #1 – Recommended

Method: Proper Installation Tools

The type of installation requires the pulley shaft to be held with a wrench and the correct tool and then alternator rotor shaft is rotated with a torque wrench. (CCW for right hand threaded pulleys and CW for left hand threaded pulleys) Note: Typically installation torque is the 65 ftlbs/90Nm unless otherwise specified.

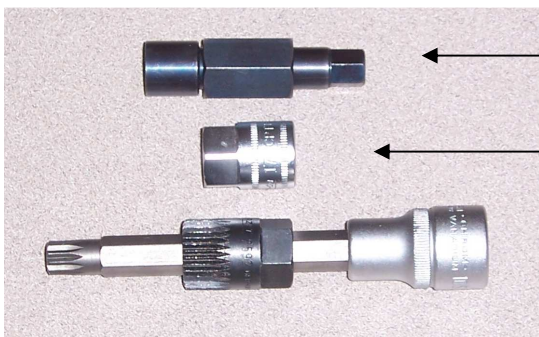
Pros: Fast, easy, correct installation torque can always be achieved. Often is possible to remove and install the clutch pulley/OAD while the alternator is still in the car. – Time Saver/Money maker!

Cons: Correct Clutch Pulley/OAD installation tools required, and must be used with calibrated torque wrench.

Note: Investing in the proper tools to do the job is essential in today’s world of rebuilding alternators. A vast selection of clutch pulley/ OAD tools are now available from Vensel Enterprises amongst others.



Some examples of the different types of Clutch pulley and Litens OAD installation tools.



Most Denso Alternators

17MM Hex –used for many OADs

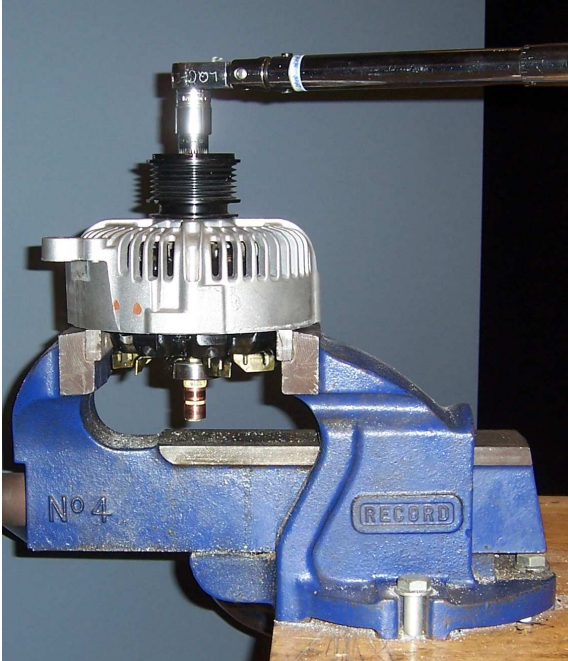
Bosch Triple square with 17X20 spline – used with many OADs and clutch pulleys.

Note: There are other installation tools that are not show here. Always check to see what type of feature there is in the alternator shaft (10mm hex, 8mm allen, T50 torx, Triple square etc.) and match the tool accordingly. You will also need to match the correct tool to the clutch pulley/OAD shaft (17mm hex, 17x20 spline, 12x14 spline etc). If the alternator shaft does not have a feature in the end to allow you to turn it, then you will have to use method #2 or #3.

Method #2 – Acceptable (with caution)

Method: Holding the rotor in a vice

With the rear housing of the alternator removed, hold the alternator rotor in a vice. Use the correct tool and a torque wrench to tighten the pulley to spec.



Pros: Correct installation torque can be achieved. It does not require the purchase of all of the special tools. Fast and easy if a total rebuild of alternator is being performed.

Cons: You must remove the rear alternator housing and stator to gain access to hold the rotor. If you aren't careful then you may damage the alternator rotor or the fan.

Method #3 – Will work if the other options are unavailable

Impact gun method:

With the alternator secure in a vice, hold the pulley with one hand and using an impact gun with the correct tool on the end. Pulse the gun two or three times on the highest torque setting. You will notice that the shaft of the pulley will rotate while your hand holds the pulley portion.



Pros: No investment in new special tools (unless you don't have a torque stick).

Fast and easy. Works great for removal of old pulleys and works ok for installation if used with a torque stick.

Cons: Correct installation torque cannot be achieved with any degree of accuracy. There is risk of damaging alternator rotor threads and pulley internal components. Impact gun and air compressor required.

Remember to always take the time to install a new protective cap once you have installed the new pulley. Many of the new OADs are grease filled and thanks to our friend centrifugal force, can get quite messy spinning at 10-15,000 rpm under the hood if the cap is missing.

IF using the impact gun method, you will need to “reset” the OAD prior to starting the engine. To reset the OAD you must rotate the shaft in the overrun direction at least 2 full turns by hand and then rotate in the drive direction until you feel the spring force.

Special Note: There is a major difference between standard clutch pulleys and Litens OADs. They are not interchangeable. Always check the Lester online Kwikfinder for the latest and most up to date information on which type of pulley your application requires and where you can purchase it in the **aftermarket**.