Follow these instructions to remove or install an alternator pulley:

NOTE: *Following these procedures will ensure proper pulley installation and prevent damage to equipment.*

Document Conventions

The presence of hazards that can cause minor personal injury or damage to equipment is indicated by a **CAUTION** symbol.

Recommended Tools

- Impact wrench
- Torque wrench
- CEN pulley tool A10-135
- Pulley puller (optional)
- 1/2 inch breaker bar

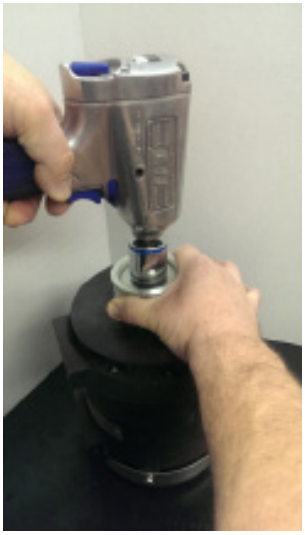


Figure 1

Figure 2

Remove Pulley

1. Hold pulley firmly in place and loosen pulley nut with an impact wrench. See Figure 1.

CAUTION

Do not use a pry bar or other tool to prevent fan baldes from spinning. Applying pressure to fan may damage fan blades.

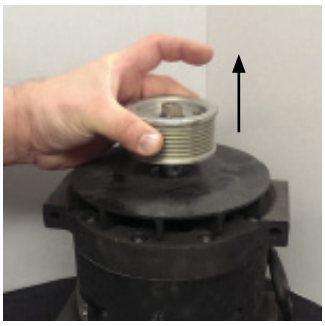
CAUTION

Do not grip fan nut while removing pulley nut.

2. Remove nut and washer from shaft. See Figure 2.
3. Remove pulley by lifting it off shaft. If pulley is stuck, use a pulley puller to remove it. See Figure 3.

CAUTION

Do not strike pulley with a hammer. Striking pulley can damage shaft bearings.



OR

Figure 3

Install Pulley using CEN Pulley Tool

NOTE: *If you do not have CEN A10-135 pulley tool, or if pulley tool cannot be used, refer to alternative installation method on page 4.*

1. Make sure Woodruff key is fully seated and aligned with shaft, as shown in Figure 4.

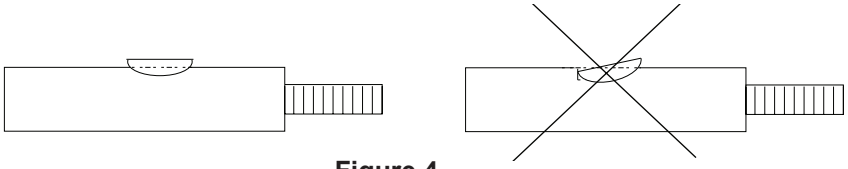


Figure 4

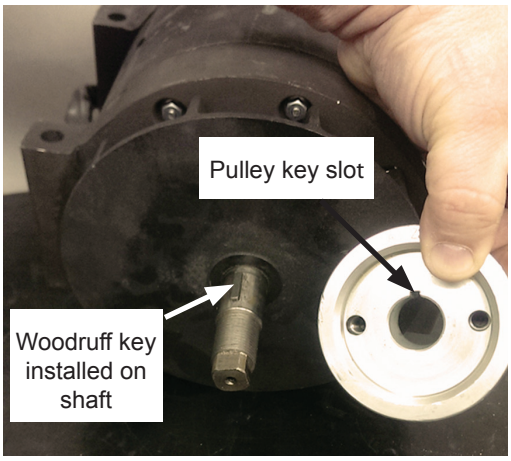


Figure 5

CAUTION

An improperly installed, improperly seated, or missing Woodruff key can lead to pulley misalignment, which can result in shaft/pulley damage or failure.

2. Align key slot on pulley with Woodruff key on shaft and slide pulley/fan onto shaft until it is seated on the housing. See Figures 5 and 6.
3. Make sure pulley bushing/fan is fully seated by rotating it back and forth while pressing it firmly against the housing.

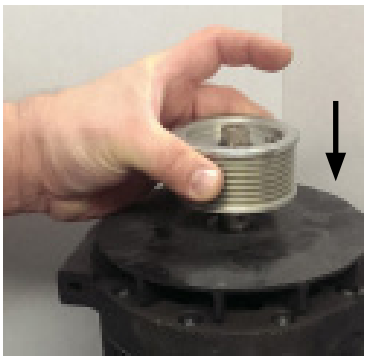


Figure 6

CAUTION

Failure to fully seat fan or pulley bushing can cause damage to spiral ring and lock up shaft.

Figure 7

4. Install new washer and nut on shaft, finger tight. Shaft threads must extend below washer-nut mating surface on pulley so nut can be securely attached when torqued. Consult CEN parts list for hardware part numbers. See Figures 7 and 8.
5. Place CEN A10-135 pulley tool over pulley and align slots on tool with screw holes on top of pulley. See Figure 9 on page 3.

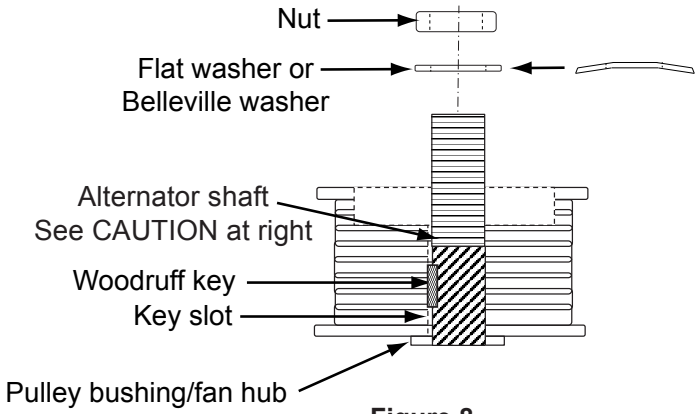


Figure 8

CAUTION

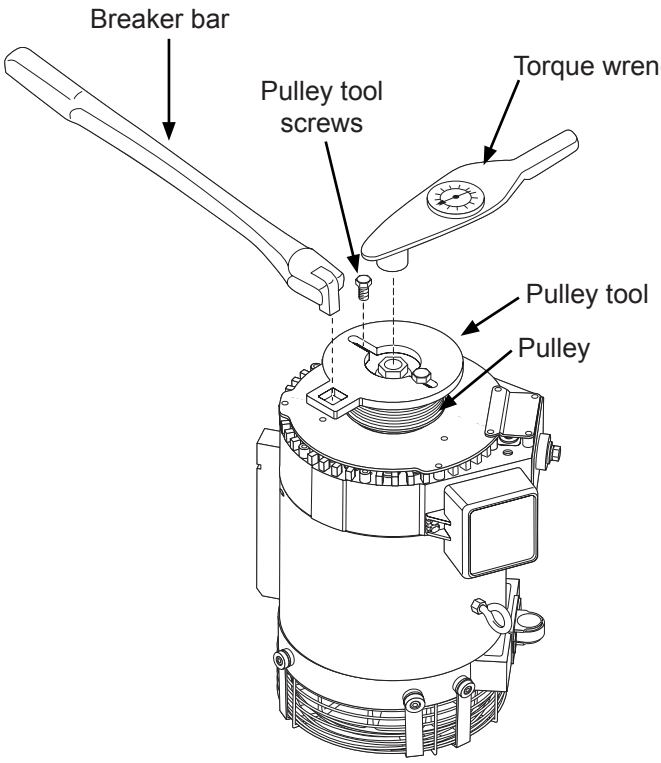
Shaft threads must extend below washer/nut mating surface on pulley so nut can be securely attached when torqued. Loose hardware can lead to pulley failure.

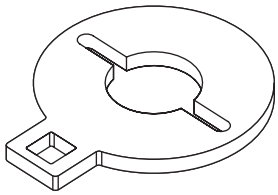
6. Secure pulley tool to pulley by inserting two screws through slots on tool and installing them into screw holes on top of pulley. Make sure screws are right size for holes.
7. Insert end of a 1/2 inch breaker bar into square hole on pulley tool. Hold pulley tool in place with breaker bar and use a torque wrench to torque pulley nut as specified for alternator model.

CAUTION

Do not use a pry bar or other tool to hold fan in place while torquing pulley nut. Applying pressure to fan may damage fan blades.

8. Remove pulley tool and screws.
9. Make sure pulley or fan rotates freely.





A10-135 pulley tool

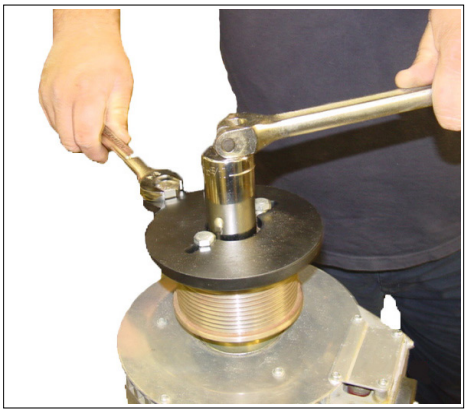


Figure 9

Install Pulley using Vise (alternate installation method)

NOTE: *Use this method ONLY if you do not have a CEN pulley tool or if installing a pulley without threaded holes.*

1. Set alternator on bench and place pulley in vise. Make sure vise jaws only grip front edge of pulley. See Figure 10.

CAUTION

Do not position vise jaws over pulley grooves. Tightening vise jaws over pulley grooves can damage grooves and result in drive belt failure.

2. Using a torque wrench, torque pulley nut as specified for alternator model.

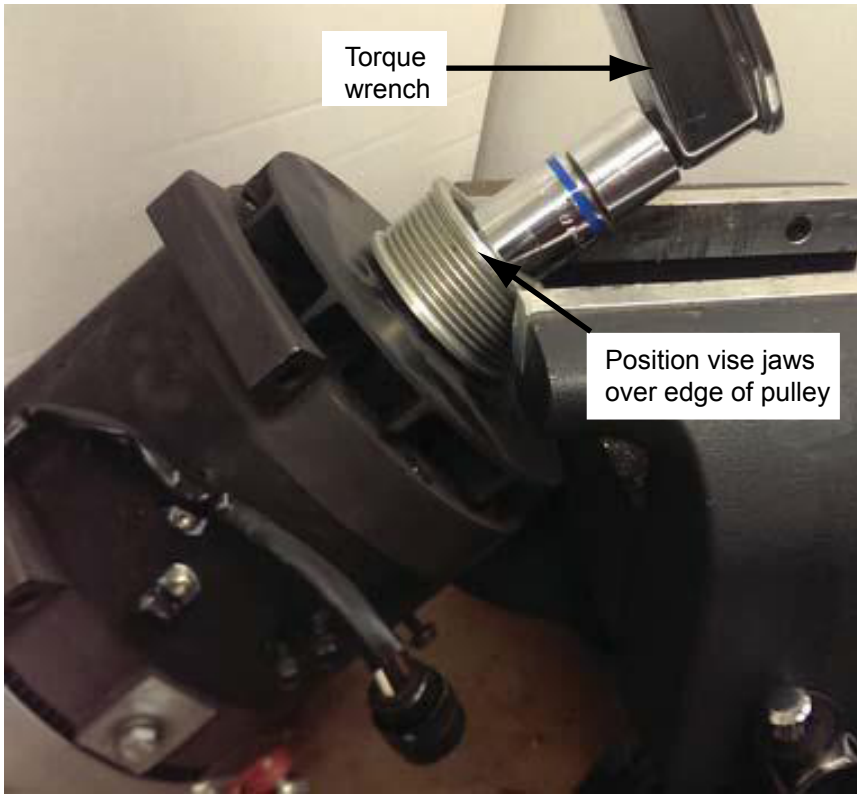


Figure 10

If you have questions about your alternator or any of these instructions, or if you need to locate a Factory Authorized Distributor, please contact us at:
C. E. Niehoff & Co.• 2021 Lee Street • Evanston, IL 60202 USA
TEL: 800.643.4633 USA and Canada • TEL: 847.866.6030 outside USA and Canada • FAX: 847.492.1242
E-mail us at service@CENiehoff.com