



Follow these instructions to properly install a CEN N1224 alternator:

1. Alternators not shipped with pulley are shipped with shaft collar, disc spring washer, and nut installed. Remove and discard shaft collar. Make sure Woodruff key is securely wedged in slot in shaft.
2. Install pulley and furnished disc spring washer with beveled side facing pulley. Torque pulley nut to 163 Nm/120 lb. ft. See Figure 1.

CAUTION Do not hammer pulley when installing pulley on shaft. Carefully slip-fit pulley over shaft to prevent shaft from moving out of place.

3. Mount alternator on engine and torque hardware to engine manufacturer's specifications.

CAUTION Failure to tighten slip bushing in rear mounting foot against mounting bracket can result in broken mounting feet or broken bracket. See Figure 1.

4. Install drive belt on pulley and tension to engine manufacturer's recommendation (typically 80-120 lbs.).

CAUTION All cables must be supported within 300 mm (12 in.) to prevent twisting, loosening, and damage to terminals.

5. Connect vehicle 14V/28V B+ cables to alternator 14V and 28V terminals, shown in Figure 2. Install B+ terminal hardware in stacking order shown in Figure 3. Torque hardware to 15 Nm/11 lb. ft.
6. Connect vehicle B- cable to alternator B- terminal, shown in Figure 2. Install B- terminal hardware in stacking order shown in Figure 4. Torque hardware to 15 Nm/11 lb. ft.
7. If alternator was not supplied with regulator, or if replacing an existing regulator, follow the regulator installation instructions on page 2.

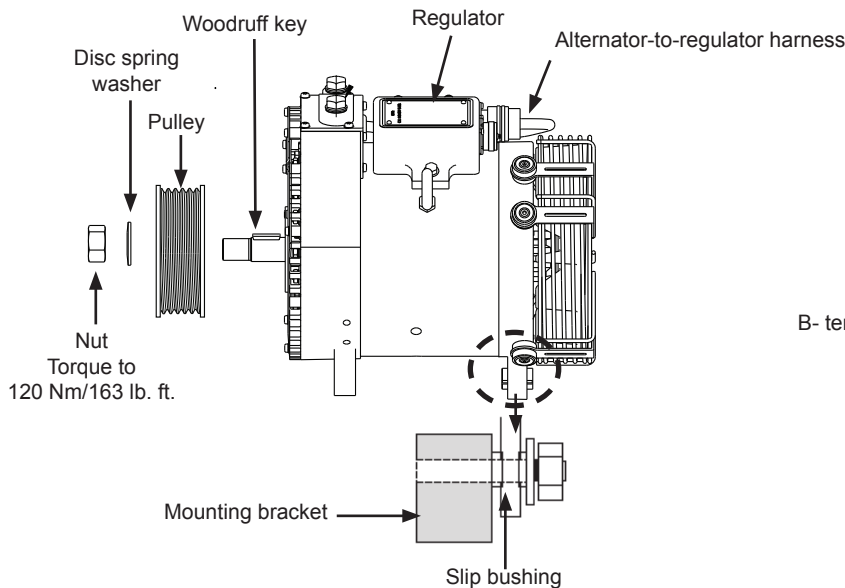


Figure 1: N1224 Alternator Installation

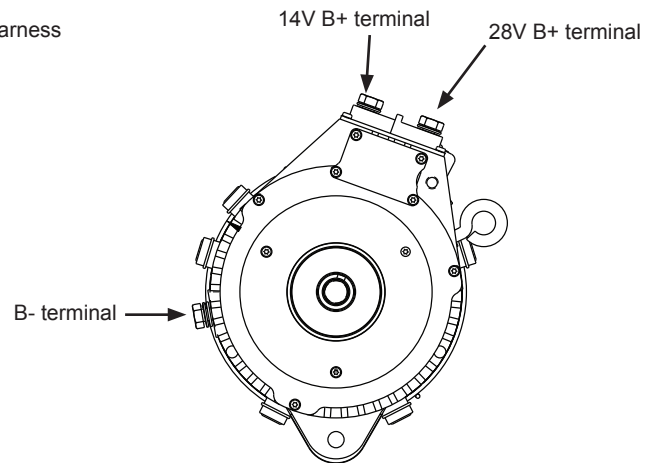


Figure 2: B+/B- Terminal Connections

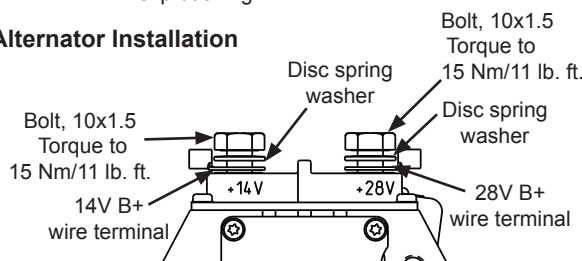


Figure 3: B+Terminals Hardware Stacking Order

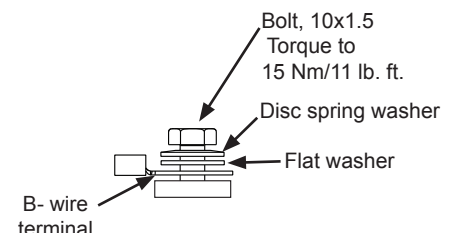


Figure 4: B-Terminal Hardware Stacking Order

Regulator Installation

1. Mount regulator on alternator and torque mounting screws to 8.5 Nm/75 lb. in. See Figure 5.
2. Plug alternator-to-regulator into receptacle on regulator. See Figures 6 for receptacle location.
3. Connect regulator terminals as required by vehicle:
 - **E terminal** (required) must receive voltage from vehicle DC ignition source or multiplex in order to energize regulator. Torque to 4.5 Nm/40 lb. in. See Figure 6.

NOTICE Voltage should be present at E terminal when ignition is on or engine is running. No voltage should be present when ignition is off or engine is not running.

- **AC terminal** (if required) taps AC voltage from alternator, typically half the charge voltage (3A maximum). AC terminal also provides alternator RPM frequency at 10:1 ratio for use with tachometer. Torque terminal hardware to 4.5 Nm/40 lb. in. See Figure 6.

NOTICE If using relay for AC circuit, coil must be diode-protected and properly rated.

4. If using a J1939/sense harness, plug harness into J1939 receptacle on regulator. See Figure 6 for receptacle location. Reference installation instructions included with harness for more information. Harness sold separately. Contact CEN for harness options.

NOTICE If J1939/sense harness is not used, leave protective cap on receptacle.

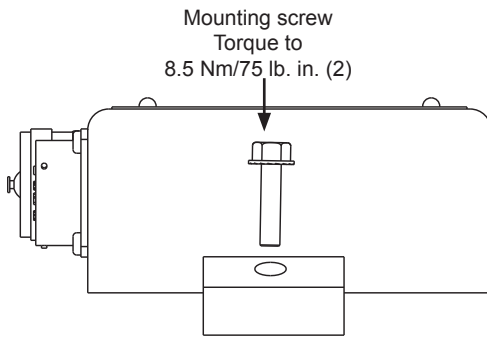


Figure 5: Mounting Regulator

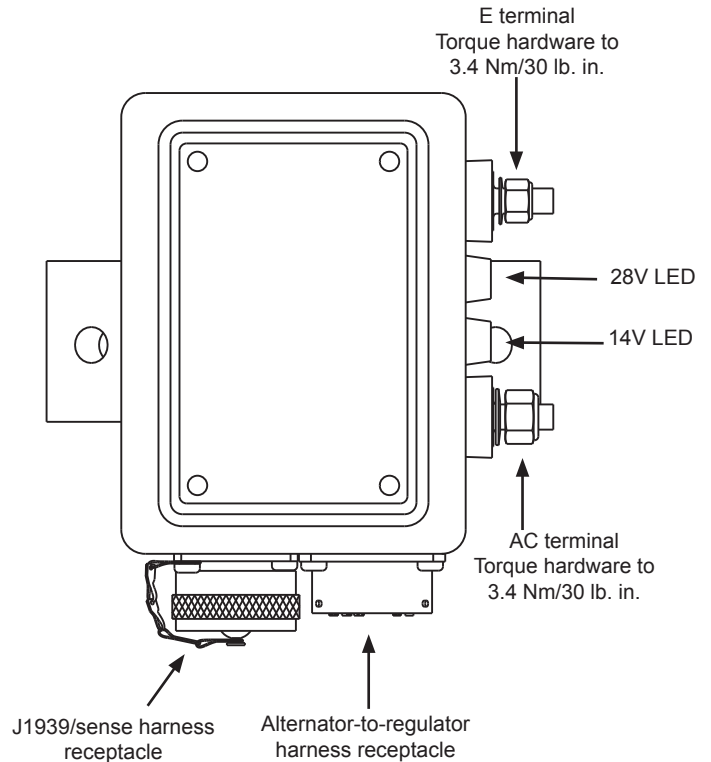


Figure 6: Regulator Connections

If you have questions about your alternator or these instructions, or if you need to locate a Factory Authorized Service Distributor, please contact us at:
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