



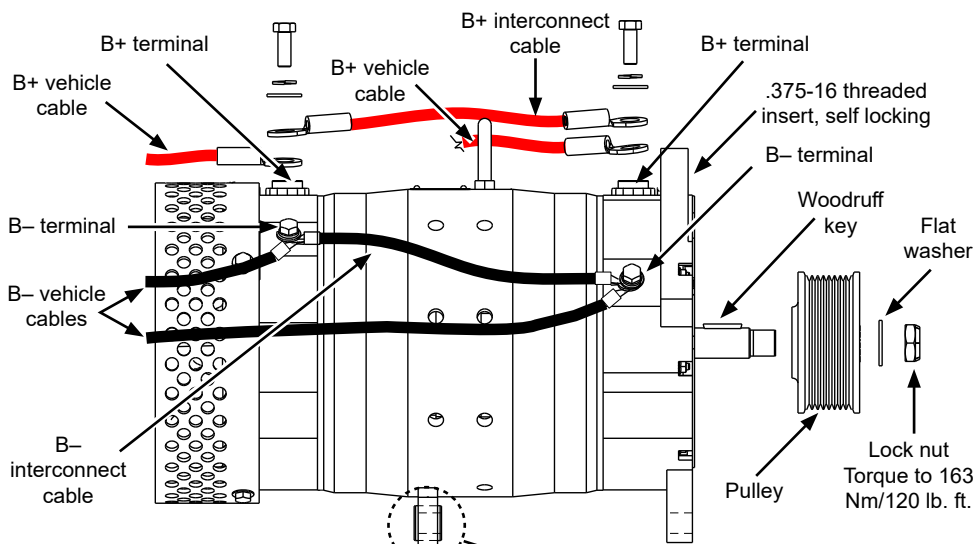
N1601 Alternator Installation

CEN model N1601 is a hinge mount, negative ground alternator rated at 28V/400A. Follow these instructions to ensure proper installation.

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 with furnished flat washer and lock nut. 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 woodruff key from moving out of place.

3. Install alternator on mounting bracket according to vehicle manufacturer's specifications. Use hardened flat washers between mounting surfaces and bolt heads or lockwashers. Mounting bolts should be Grade 5 (Metric Grade 8.8), minimum.



CAUTION Slip bushing in rear mounting foot must be tightened against mounting bracket to prevent damage to mounting feet and bracket.

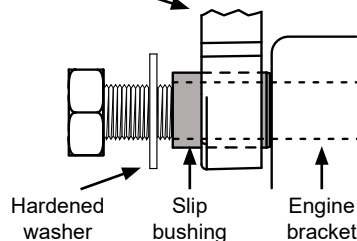


Figure 1: N1601 Alternator Installation

4. Tension belt to vehicle manufacturer's specifications.
5. Connect vehicle B+ cables to alternator B+ terminals. Connect interconnect cable between both B+ terminals. Install hardware on B+ terminal in stacking order shown in Figure 2. Torque to 20 Nm/15 lb. ft.
6. Connect vehicle B- cable to alternator B- terminal. Connect interconnect cable between both B- terminals. Install hardware on B- terminal in stacking order shown in Figure 3. Torque to 9 Nm/7 lb. ft.

NOTICE Wire gauge for alternator output and interconnect cables must be capable of handling maximum alternator output with minimum voltage drop. All cables must be supported within 300 mm (12 in.) to prevent twisting, loosening, and damage to terminals.

7. If regulator was supplied separately, install regulator according to instructions on page 2.

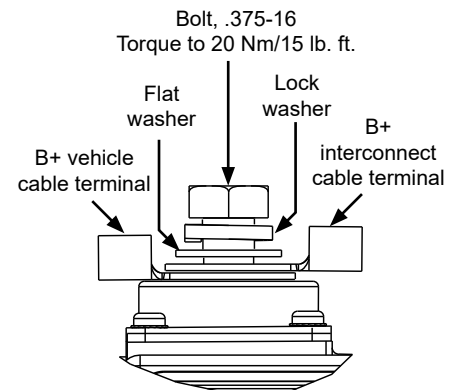


Figure 2: B+ Terminal Hardware Stacking Order

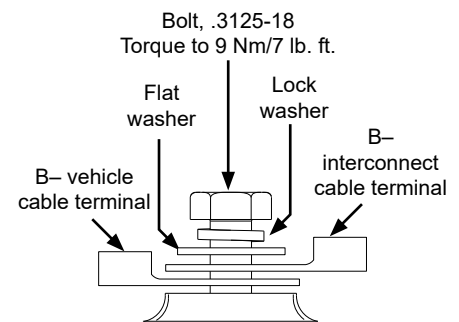


Figure 3: B- Terminal Hardware Stacking Order

Regulator Installation

1. If applicable, turn regulator over and make sure set point of switch at bottom of regulator is appropriate for type of battery used in vehicle. If necessary, change switch set point. See Figure 4 and Table 1 for voltage set point options.
2. Mount regulator on alternator or remotely¹ with included hardware as shown in Figures 5 and 6.
3. Securely plug alternator-to-regulator harness into receptacle on regulator. See Figures 5 and 6 for receptacle location.
4. Connect regulator terminals as required by vehicle:
 - **IGN/E terminal** (required) must receive voltage from vehicle switched DC ignition source or multiplex in order to energize regulator. Torque to 3.4 Nm/30 lb. in. See Figure 5 and 7.

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

- **P/AC terminal** (if required) taps AC voltage from alternator, typically half the charge voltage (3A maximum). P/AC terminal provides alternator RPM frequency at 10:1 ratio for use with tachometer. Torque terminal hardware to 3.4 Nm/30 lb. in. See Figures 5 and 7.

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

- If using a J1939/temperature-voltage sense harness, plug J1939 harness into J1939 receptacle on regulator. See Figure 7 for receptacle location. Refer to instructions included with harness for more information. Harness sold separately².

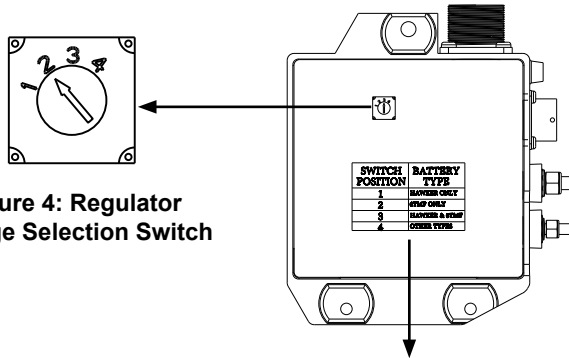


Figure 4: Regulator Voltage Selection Switch

Position	Temperature Compensation
1	Hawker/6TAGM
2	6TMF only
3	Hawker/6TAGM & 6TMF
4	Other types

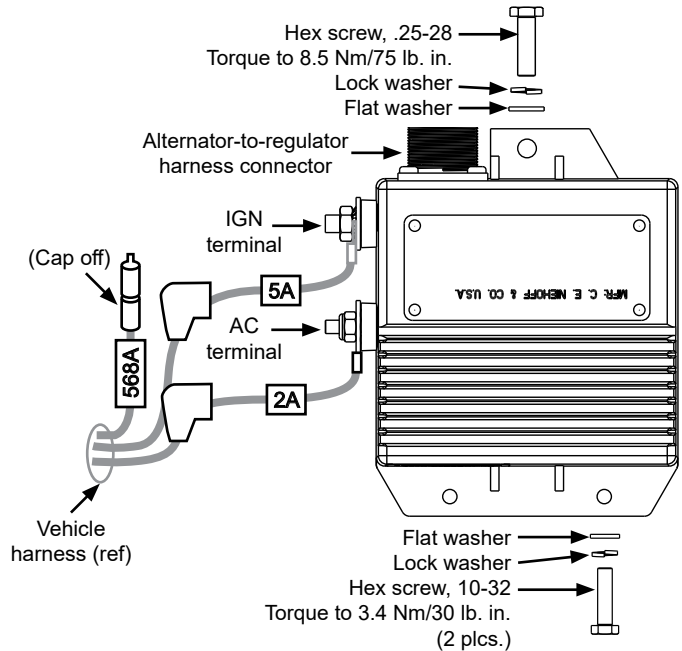


Figure 5: Typical Regulator Connections

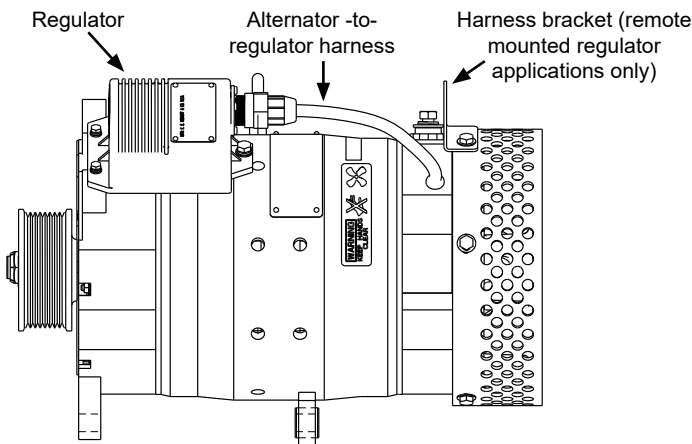


Figure 6: Regulator Installation

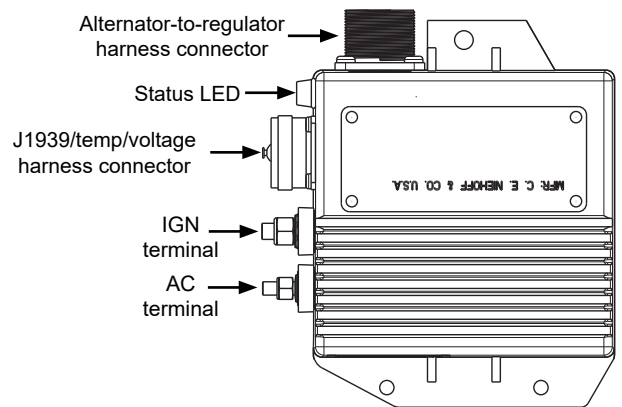


Figure 7: N3257 Regulator Connections

1. Contact CEN for regulator extension harness options.
2. Contact CEN for alternative sensor/harness options

If you have questions about your alternator or any of these instructions, or if you need to locate a Factory authorized Service 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