



The CEN model N1252 alternator is a hinge mount, isolated ground alternator rated at 28 V, 310 amps. Follow these instructions to ensure proper installation.

1. Alternators without pulleys are shipped with a shaft collar, disc spring washer and flange nut installed on shaft. Remove nut and disc spring washer, then remove and discard shaft collar. Make sure Woodruff key is securely wedged in shaft channel.
2. Install pulley, disc spring washer, and nut on shaft, in that order. See Figure 1. Torque pulley nut to 163 Nm/120 lb. ft.

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

3. Mount alternator on engine and torque mounting bolts to engine manufacturer's specifications. Use hardened flat washers between mounting surfaces and bolt heads or lock washers. Mounting bolts should be Grade 5, minimum.

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

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

CAUTION All cables must be supported within 305 mm (12 in.) to prevent twisting, loosening, and damage to terminals.

5. Connect vehicle B+ cable to alternator B+ terminal. Install hardware in stacking order shown in Figure 2. Torque B+ terminal hardware to 15 Nm/11 lb. ft.
6. Connect vehicle B- cable to alternator B- terminal. Install cable hardware in stacking order shown in Figure 3. Torque B- terminal hardware to 15 Nm/11 lb. ft.
7. Install regulator according to instructions on page 2.

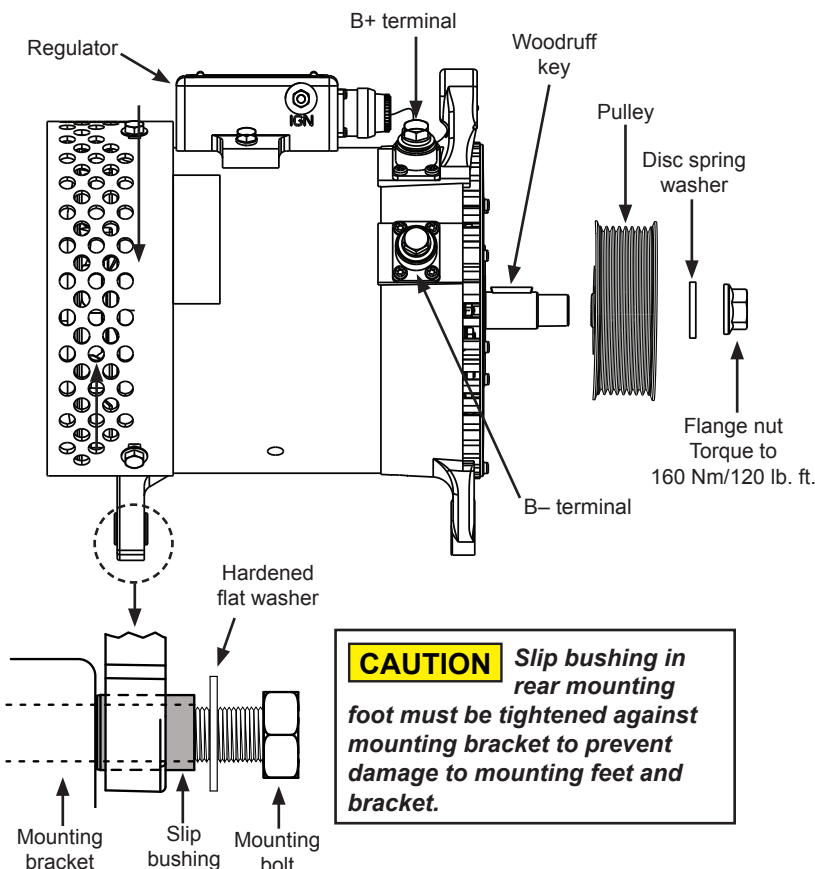


Figure 1: N1252 Alternator Connections

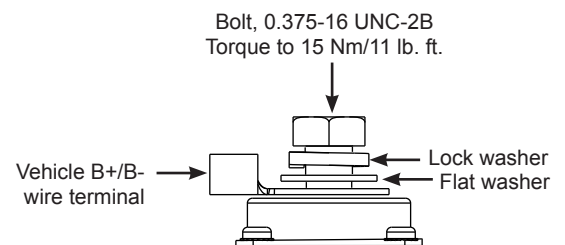


Figure 2: B+/B- Terminal Hardware Stacking Order

Regulator Installation

1. If using a conventional (N3044) regulator, make sure voltage selection switch on regulator is appropriate for type of battery used. Factory setting for switch is position 2. See Figure 4 and Table 1.
2. Align regulator tabs with screw holes on alternator shell and secure with lock washers and mounting screws. Torque screws to 8.5 Nm/75 lb. in.
3. Connect regulator terminals as required by vehicle:
 - Regulator **IGN terminal** (required) must receive voltage from vehicle DC ignition source or multiplex, to energize regulator. Torque terminal hardware to 3.4 Nm/43 lb. in. See Figures 4 and 5.

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

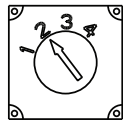


Figure 4: Voltage/Battery Profile Select Switch

Switch Position	Conventional Regulator Set Point or Smart Series with <i>no Sensor/Harness Connected</i>
1	27.5 V
2	28.0 V
3	28.5 V
4	29.0 V

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

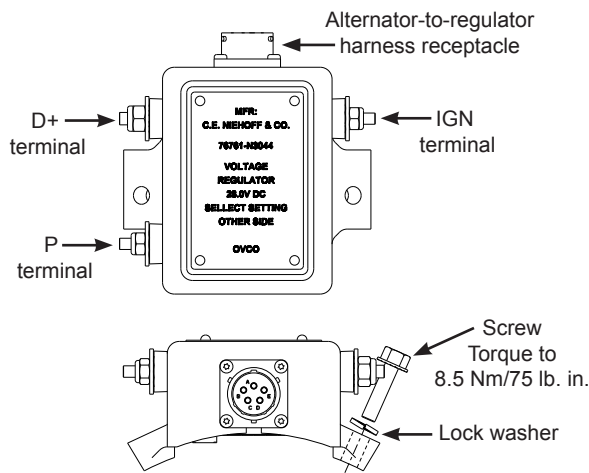


Figure 4: Conventional Regulator (N3044)

- Regulator **D+ terminal** (if required) provides DC system battery voltage to vehicle (5A maximum) for charge indicator lamp, relay, or multiplex while alternator is producing output. Torque terminal hardware to 3.4 Nm/30 lb. in. See Figures 4 and 5.
- Regulator **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 4 and 5.

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

4. If using a J1939/temperature-voltage sense harness, plug J1939 harness into J1939 receptacle on smart regulator (N3261, N3282). See Figure 5 for location. Refer to CEN document I1184 for harness installation instructions. Harness sold separately^{2,3}.
5. Plug alternator-to-regulator harness into 5-pin receptacle on regulator.

Switch Position	Battery profile for Conventional Regulators or Smart Series <i>with Sensor/Harness Connected</i> ²
1	Maintenance (D category)
2	Maintenance-free (Group 31)
3	AGM
4	29.0 fixed

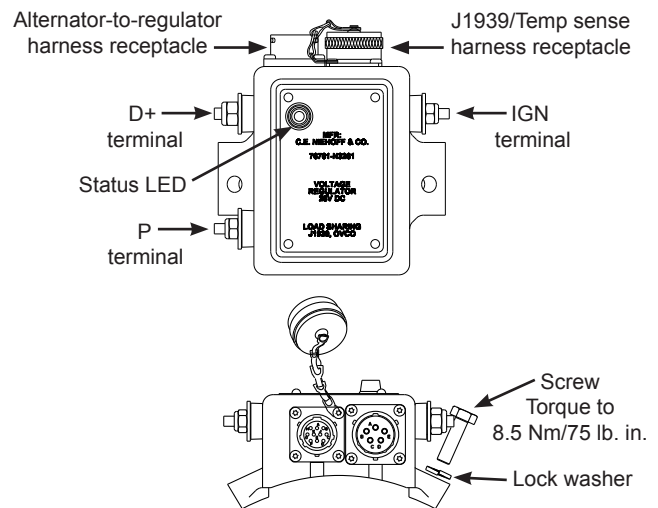


Figure 5: Smart Regulator (N3261, N3282)

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:
 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