



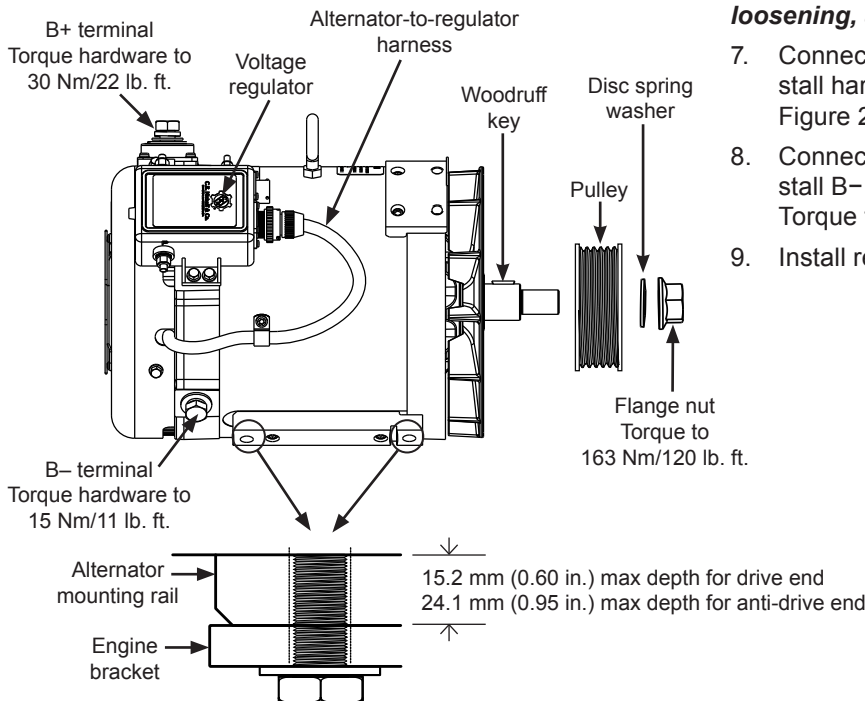
C804 Alternator Installation

The CEN model C804 alternator is a cradle mount, negative ground alternator rated at 28 volts/525 amps. To insure proper installation, follow instructions below.

1. Alternators shipped without 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 on shaft, with beveled side of washer facing pulley. Secure with furnished flange nut and torque 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. Mount alternator on engine. Use hardened steel washers and 0.5-13 UNC-2B bolts, grade 5 bolts or higher. Torque mounting bolts to 88 Nm/65 lb. ft., or to engine manufacturer's specifications.



CAUTION Mounting hardware should only reach 15.2 mm (.60 in.) maximum into DE rail and 24.1 mm (.95 in.) into ADE rail. EXCEEDING MAXIMUM DEPTH WILL RESULT IN IMMEDIATE ALTERNATOR FAILURE.

Figure 1: C804 Alternator Installation

CAUTION Minimum recommended thread engagement is 12.7 mm (0.5") into drive end mounting holes and 16.5 mm (0.65") into anti-drive end mounting holes. Maximum mounting screw depth into alternator regardless of washer and bracket stackup is 15.2 mm (0.60 in.) into drive end mounting holes and 24.1 mm (0.95 in.) into anti-drive end mounting holes. See Figure 1 inset. EXCEEDING MAXIMUM DEPTH WILL RESULT IN IMMEDIATE ALTERNATOR FAILURE.

4. Install vibration damper bracket on alternator per engine or vehicle manufacturer's instructions if included with alternator and/or required by engine manufacturer.
5. Install cable support bracket(s) on alternator per engine or vehicle manufacturer's instructions if included with alternator and/or required by engine manufacturer.
6. Install drive belt per engine manufacturer's instructions. Typical belt tension is between 80-120 lbs nominal. Tension belt to vehicle manufacturer's recommendation.

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

7. Connect vehicle B+ cable to alternator B+ terminal. Install hardware on B+ terminal in stacking order shown in Figure 2. Torque to 30 Nm/22 lb. ft.
8. Connect vehicle B- cable to alternator B- terminal. Install B- hardware in stacking order shown in Figure 3. Torque to 15 Nm/11 lb. ft.
9. Install regulator according to instructions on page 2.

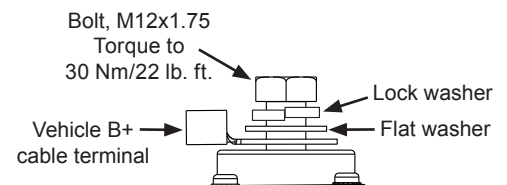


Figure 2: B+ Terminal Hardware Stacking Order

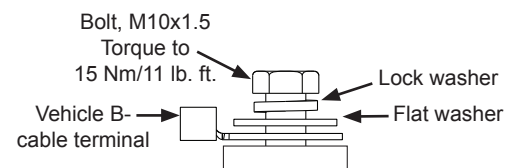


Figure 3: B- Terminal Hardware Stacking Order

CEN Regulator Installation

1. Regulator has four selectable set points. Before installing regulator, verify appropriate switch setting for your application and change if necessary. See Figure 4 and Table 1 for fixed voltage set point options when used without battery sensor/harness. See Table 2 for battery chemistry-based charge profiles when used with compatible CEN battery sensor/harness. **Contact battery manufacturer or vehicle OEM for charging set point recommendations for your environment or application if necessary.**
2. Mount regulator on alternator or remotely¹ and torque mounting screws to 8.5 Nm/75 lb. in.
3. Plug alternator-to-regulator into receptacle on regulator. See Figures 5 and 6 for receptacle location.
4. Connect regulator terminals as required by vehicle. Refer to Figures 5 and 6 below:
 - **IGN terminal (required):** Receives DC voltage from ignition source or multiplex in order to energize regulator. Torque terminal hardware to 4.5 Nm/40 lb. in.

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.

- **D+ terminal (if required):** D+ terminal provides DC system battery voltage (5A maximum) to vehicle charge indicator lamp, relay, or multiplex while alternator is producing output. Torque terminal hardware to 4.5 Nm/40 lb. in.
- **P/AC terminal (if required):** P terminal taps AC voltage from alternator, typically half the charge voltage (3A maximum), for use with a tachometer. Torque terminal hardware to 4.5 Nm/40 lb. in.

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

5. If using a J1939/temperature-voltage sense harness, plug it into J1939/sense harness connector on regulator. See Figure 6 for regulator connector location. Refer to installation instructions included with harness for more information. Harness sold separately².

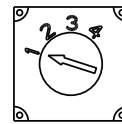


Figure 4: Voltage Selection Switch (Located on bottom of regulator)

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

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

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

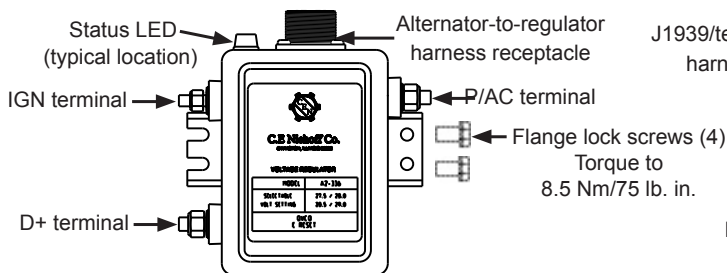


Figure 5: Conventional Regulator Connections

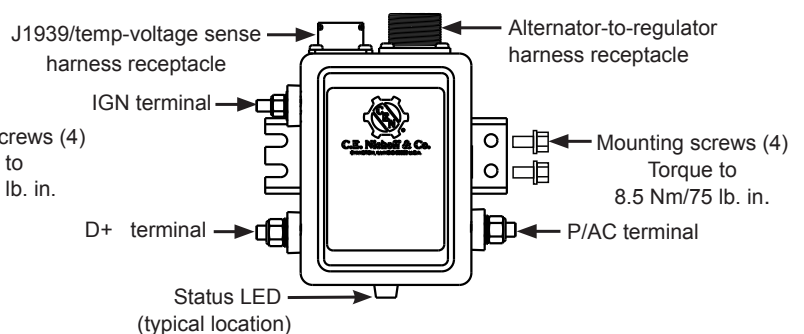


Figure 6: Smart Regulator Connections

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:
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