**C736 Alternator Installation**

CEN Model C736 is a 28 V, 370 amp, negative ground cradle mount alternator. Follow these instructions to ensure proper alternator installation.

1. **If alternator does not include a factory installed pulley, remove factory installed shaft collar, disc spring washer and flange nut from shaft.** Discard shaft collar. Make sure Woodruff key is securely wedged in slot in shaft.

2. **Install pulley, furnished disc spring washer, and flange nut on shaft.** Torque flange nut to 163 Nm/120 lb. ft. See Figure 1.

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

3. **If replacing regulator, or if regulator was supplied separately, install regulator according to instructions on page 2.**

4. **Install alternator on vehicle mounting bracket per manufacturer’s instructions.** Use hardened steel flat washers between mounting surface and bolt head or lock washer. Mounting bolts should be property class 10.9, minimum.

   **CAUTION** Slip bushings in rear mounting foot must be securely tightened against mounting bracket to prevent damage to mounting feet or bracket.

5. **Tension pulley belt to engine manufacturer’s recommendation.**

   **CAUTION** All cables and wires must be supported within 300 mm in (12 in.) of terminals to prevent them from vibrating, loosening, and damaging terminals.

6. **Connect B+ battery cable from vehicle to B+ terminal on alternator as shown in Figure 1.** Secure it with mounting hardware in stacking order shown in Figure 2. Torque hardware to 30 Nm/24 lb. ft.

7. **Connect B- battery ground cable to ground terminal on alternator as shown in Figure 1.** Secure it with mounting hardware in stacking order shown in Figure 3. Torque hardware to 15 Nm/11 lb. ft.

---

**Figure 1: Alternator Installation**

**Figure 2: B+ Terminal Hardware Stacking Order**

**Figure 3: Ground Terminal Hardware Stacking Order**
Regulator Installation

The C736 alternator is available with either a smart regulator or a conventional regulator. Smart regulators automatically optimize charge voltage for battery type, based on temperature. If a J1939/temperature-voltage sense harness is not connected to a smart regulator, regulator operates at a fixed voltage determined by a voltage selection switch located on back of regulator.

NOTICE Conventional regulators do not have J1939/temperature-voltage sense capability.

Perform the following steps to ensure proper regulator installation:

1. Turn regulator over and make sure voltage switch setting is appropriate for type of battery used. See Figure 4. If necessary, change switch setting. See Table 1 for setting options.

2. Mount regulator on alternator or remotely and torque mounting screws to 8.5 Nm/75 lb. in.

NOTICE Remote mounting requires an extension alternator-to-regulator harness.

3. Plug alternator-to-regulator harness into connector on regulator. See Figures 5 and 6 for connector locations.

Table 1: Voltage Selection Switch Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Battery Type (Harness/Sensor Connected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27.5V Maintenance (D Category)</td>
</tr>
<tr>
<td>2</td>
<td>28.0V Maintenance-Free (Group 31)</td>
</tr>
<tr>
<td>3</td>
<td>28.5V AGM</td>
</tr>
<tr>
<td>4</td>
<td>29.0V Flat</td>
</tr>
</tbody>
</table>

4. Refer to Figures 4 and 5 and connect regulator terminals as required by vehicle:

5. **IGN terminal (required):** Receives DC voltage from ignition source or multiplex in order to energize regulator. Connect ignition source or multiplex to regulator IGN terminal. 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. If required, connect vehicle lamp, relay, or multiplex to regulator D+ terminal and torque hardware to 4.5 Nm/40 lb. in.

   - **P terminal (if required):** P terminal taps AC voltage from alternator, typically half the charge voltage (3A maximum), for use with a tachometer. If required, connect vehicle tachometer to regulator P terminal and torque terminal hardware to 4.5 Nm/40 lb. in.

6. If using a J1939/temperature-voltage sense harness, plug it into J1939/sense harness connector on regulator. See Figure 5 for regulator connector location. Harness sold separately.

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

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

C. E. Niehoff & Co. • 2021 Lee Street • Evanston, IL 60202 Tech Services Hotline 800-643-4633