



C812 Alternator Installation

The CEN C812 alternator is a 28 V, 600 amp hinge mount alternator. Follow these instructions to ensure proper installation.

1. Alternators without pulleys are shipped with a shaft collar, disc spring washer and nut installed on drive end shaft. If alternator Remove flange nut, disc spring washer, and shaft collar. Discard shaft collar. Make sure Woodruff key is securely wedged in shaft slot.

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

2. Install pulley, disc spring washer, and flange nut on shaft, in that order. See Figure 2. Torque flange nut to 163 Nm/120 lb. ft.

CAUTION Slip bushing in rear mounting foot must be tightened against mounting bracket to prevent damage to mounting feet and bracket. See Figure 2.

3. Mount alternator on engine and torque mounting bolts to 88 Nm/65 lb. ft., or to engine manufacturer's specifications.
4. Install belt on pulley and tension belt to engine manufacturer's recommendation. If an automatic belt tensioner is used, 80-120 lbs. of tension is typical.

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

5. Connect vehicle B+ cable to alternator B+ terminal and install hardware in stacking order shown in Figure 3. Torque hardware to 30 Nm/ 22 lb. ft.
6. Connect vehicle B- cable to one of two B- terminals on alternator. See Figure 1. 22Install hardware in stacking order shown in Figure 4 and torque to 15 Nm/11 lb. ft.
7. Install regulator according to instructions on page 2.

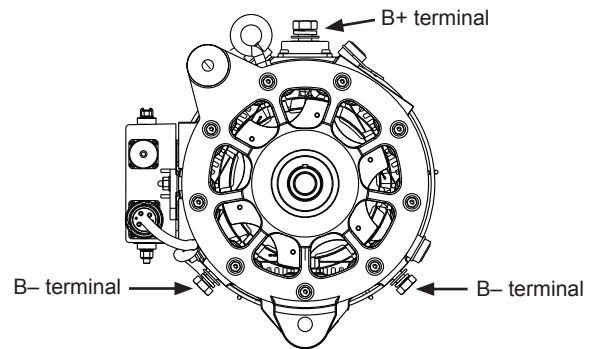


Figure 1: C812 Alternator B+/B- Terminal Connections

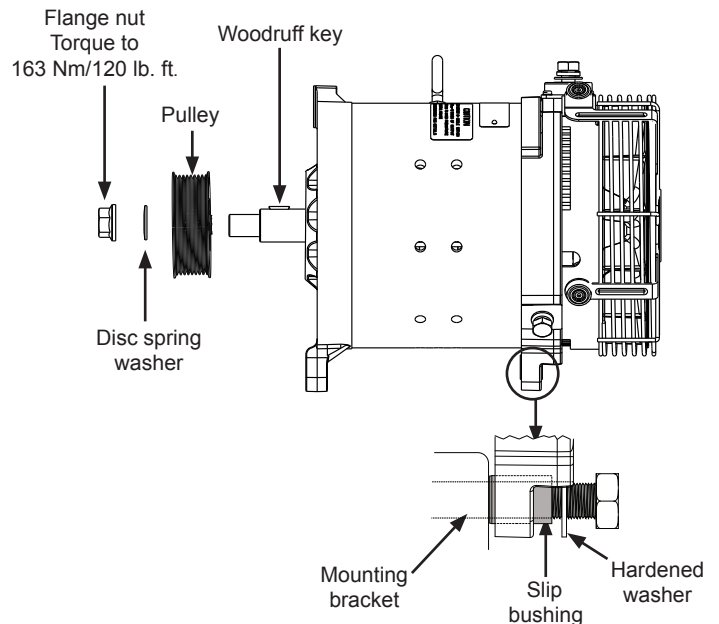


Figure 2: C812 Alternator Installation

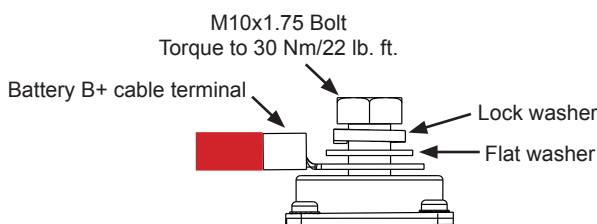


Figure 3: B+ Output Terminal Hardware Stacking Order

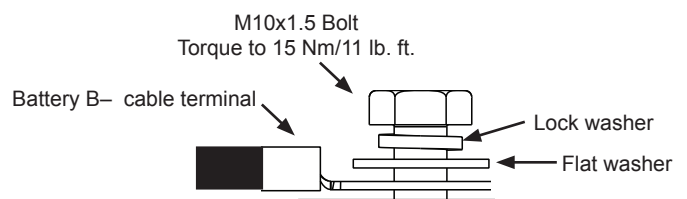


Figure 4: B- Terminal Hardware Stacking Order

Regulator Installation

1. Turn regulator over and make sure set point of switch on back of regulator is appropriate for type of battery used. If necessary, change switch setting. See Figure 5 and Table 1 for voltage set point options.
2. Mount regulator on alternator or remotely, using included mounting hardware as shown in Figure 6 below. Torque hardware to 8.5 Nm/75 lb. in.
3. Plug alternator-to-regulator harness into receptacle on regulator. See Figure 7 for receptacle location. If remote mounting regulator, use a CEN extension harness¹. Extension harness supplied separately.
4. Refer to Figure 7 and connect regulator terminals as required by vehicle:
 - **IGN terminal (required):** Connect voltage from vehicle DC ignition source or multiplex to regulator IGN terminal. DC voltage from DC ignition source or multiplex is required to energize regulator. Torque terminal hardware to 4.5 Nm/40 lb. in.

- **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 4.5 Nm/40 lb. in.
- **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 4.5 Nm/40 lb. in.

NOTICE

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

5. If using a J1939/temperature-voltage sense harness, plug J1939 harness into J1939 receptacle on regulator. See Figure 7 for receptacle location. Reference CEN document II184 for harness installation instructions. Harness sold separately².

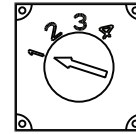


Figure 5: Regulator Voltage Selection Switch (on back of regulator)

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.

1. Contact CEN for regulator extension harness options:
 - A9-4036 Harness: 4.5 m/15 ft.
 - A9-4049 Harness: 12 m/40 ft.
 - A9-4048 Harness: 16.7 m/55 ft.
2. Contact CEN for alternative sensor/harness options.

Position	Conventional Regulator Set Point or Smart Series with Sensor/Harness Not Connected	Battery profile for Smart Series Regulators with Sensor/Harness or Connected (Battery Select) ²
1	27.5 V	Maintenance (D category)
2	28.0 V	Maintenance-free (Group 31)
3	28.5 V	AGM
4	29.0 V Flat	

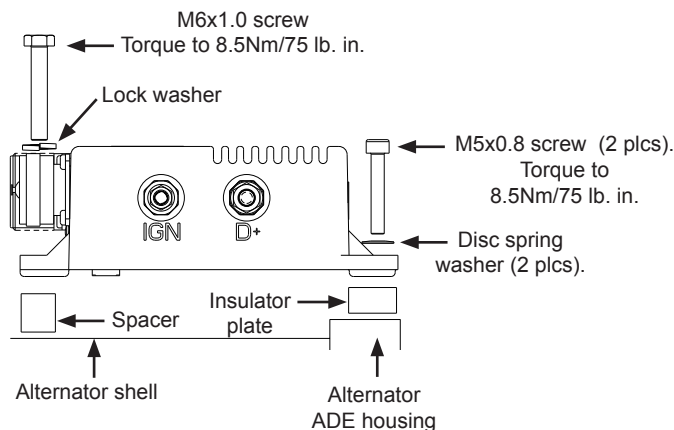


Figure 6: Mounting Regulator

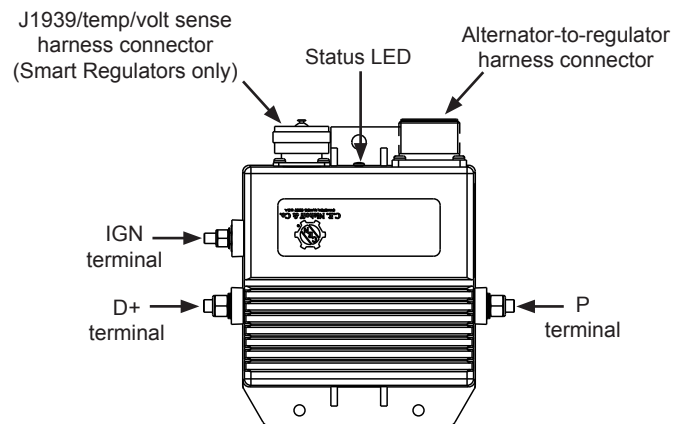


Figure 7: Regulator Connections

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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