



**C535 Alternator Installation**

The CEN C535 alternator is a negative ground, pad mounted alternator rated at 28 V, 225 amps. Follow these instructions to properly install the C535 alternator.

1. Alternators not shipped with pulley installed are shipped with a shaft collar, nut, and disc spring washer installed on shaft. If necessary, remove shaft collar, nut, and disc spring washer. Discard shaft collar. Make sure Woodruff key is securely wedged in shaft slot.
2. Install pulley on shaft and secure with furnished disc spring washer and nut. Torque nut to 135 Nm/100 lb. ft. See Figure 1.

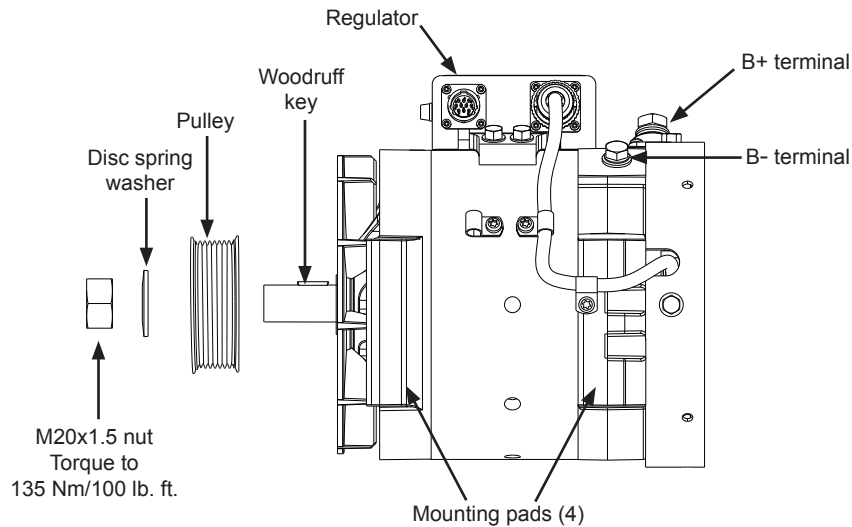
**CAUTION** Do not hammer pulley when installing it on the shaft. Carefully slip-fit the pulley onto the shaft to prevent shaft from moving out of place.

3. Install alternator on pad mount according to vehicle manufacturer's instructions. Mounting bolts must be SAE Grade 5 minimum (Metric Grade 8.8). Use hardened steel washers between bolt heads and aluminum surfaces.

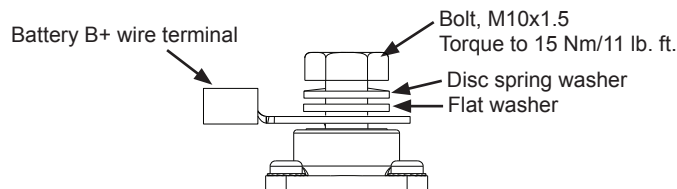
4. Tension pulley belt to engine manufacturer's recommendation.

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

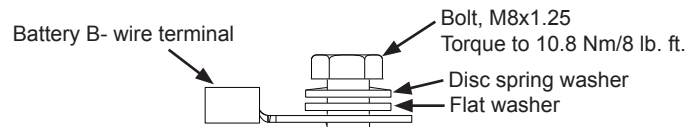
5. Connect vehicle B+ cable to B+ terminal on alternator and secure with mounting hardware in stacking order shown in Figure 2. Torque hardware to 15 Nm/11 lb. ft.
6. Connect vehicle B- cable to B- ground terminal on alternator and secure with mounting hardware in stacking order shown in Figure 3. Torque hardware to 10.8 Nm/8 lb. ft.
7. Connect alternator-to-regulator harness to regulator as shown in Figure 1.
8. If replacing the regulator, or if regulator was supplied separately, install regulator according to instructions on page 2.



**Figure 1: C535 Alternator Installation**



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



**Figure 3: B- Terminal Hardware Stacking Order**

## Regulator Description

If regulator is connected to a sensing temperature-voltage sense/J1939 harness, it automatically optimizes charge voltage for battery type based on temperature. See Table 1. Harness sold separately. If regulator is not connected to a temperature-voltage sense/J1939 harness, it operates at a fixed voltage determined by voltage selection switch located on back of regulator. See Figure 4.

## Regulator Installation

1. Make sure voltage selection switch on back of regulator is set for type of battery used. If necessary, change switch setting. See Figure 4 and Table 1 for setting options. Factory setting is position 1 (27.5 V).
2. Mount regulator on alternator as shown in Figure 1 on page 1 and secure it with 4 flange lock screws. Torque screws to 8.5 Nm/75 lb. in.

1. Contact CEN for alternator-to-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 temperature-voltage sense 1939 harness options.

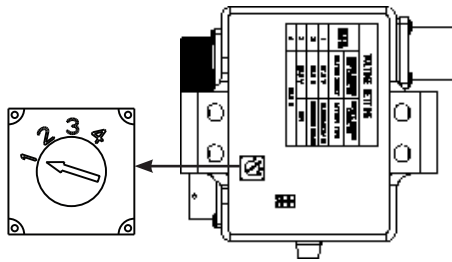


Figure 4: Regulator Voltage Selection Switch  
(Factory setting is position 1)

Table 1: Regulator Voltage Switch Settings		
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) <sup>2</sup>
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	

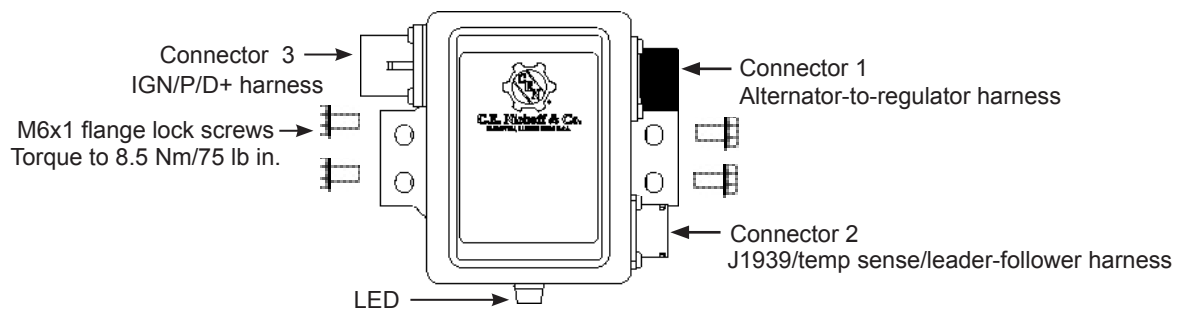


Figure 5: Regulator Connections

3. Refer to Figure 5 and connect regulator to charging system as required:
  - Alternator-to-Regulator Harness: Plug harness into connector 1.
  - J1939/Battery Temp-Voltage Sense Harness: Plug harness into connector 2. Harness sold separately.
  - Leader-Follower Interconnect Harness (if required): Plug harness into connector 2. Harness sold separately.

### NOTICE

Do not remove cover on connector 2 if connector is not used.

- IGN/P/D+ Harness (if required): Plug harness into connector 3. Harness sold separately.
  - Voltage should be present at IGN pin (pin C) on connector 3 when ignition is on or engine is running.
  - No voltage should be present at pin C when ignition is off or engine is not running.
  - AC voltage tap (P) should be 3A maximum at pin B. DC voltage tap (D+) should be 5A maximum at pin A.

If you have questions about your alternator or any of these instructions, or if you need to locate a Factory authorized Service Dealer, please contact us at:  
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