



CAUTION

This symbol is used to indicate presence of hazards that can cause minor property damage.

1. Install alternator as shown in Figure 1:

CAUTION

Slip bushing located in rear mounting foot must be securely tightened against alternator mounting bracket on engine. Failure to do so can result in broken mounting feet or broken upper mounting bracket.

- a. Use hardened washers between aluminum surfaces and bolt heads and nuts.
 - b. OEM units are shipped with pulley, hardened washer and locknut installed.
 - c. Aftermarket units are shipped with shaft collar, disk spring washer, and nut. Remove and discard shaft collar. Install pulley and furnished disc spring washer. Torque nut to 163 Nm/120 lb. ft.
 - d. Follow vehicle manufacturer's recommendations for belt tension.
2. All cabling, wiring or conduit must be supported within 305 mm/12 in. of termination on alternator.
 3. Choose wire gauge capable of handling maximum alternator output with no more than 0.4 V drop on each leg from alternator to battery.
 4. Regulator is furnished with OEM units and is supplied separately by request with aftermarket units. Mounting screws on regulator should be torqued to 8.5 Nm/75 lb. in. If regulator is to be remote-mounted, see separate instructions packed with extended

wiring harness. **A2-338 regulator: See page 2 for regulator mounting instructions.**

5. Make electrical connections to CEN regulator as required, using proper ring terminals (follow vehicle manufacturer's diagram and separate instructions packed with extended wiring harness when used):
 - a. Make sure alternator-to-regulator harness is plugged securely in regulator receptacle.
 - b. A2-146/A2-153 regulators have P terminal with M6 stud and D+ terminal with M5 stud. Torque terminal nuts to 4.5 Nm/40 lb. in.
 - P terminal taps AC voltage, typically half the charge voltage.
 - D+ terminal provides 28 VDC voltage output to multiplex controller. When connecting D+ terminal to controller through a relay, the relay coil must be diode protected and rated for proper voltage.
 - c. A2-214 regulator has P and D+ terminals with M6 studs and an IGN terminal with an M5 stud. Torque terminal nuts to 4.5 Nm/40 lb. in.
 - P terminal taps AC voltage, typically half the charge voltage.
 - Optional D+ terminal provides 28 VDC voltage output to multiplex controller. When connecting D+ terminal to controller through a relay, the relay coil must be diode protected and rated for proper voltage.
 - d. A2-338 regulator: See page 2 for regulator electrical connections.

Slip bushing must be tightened against bracket — see "CAUTION" above

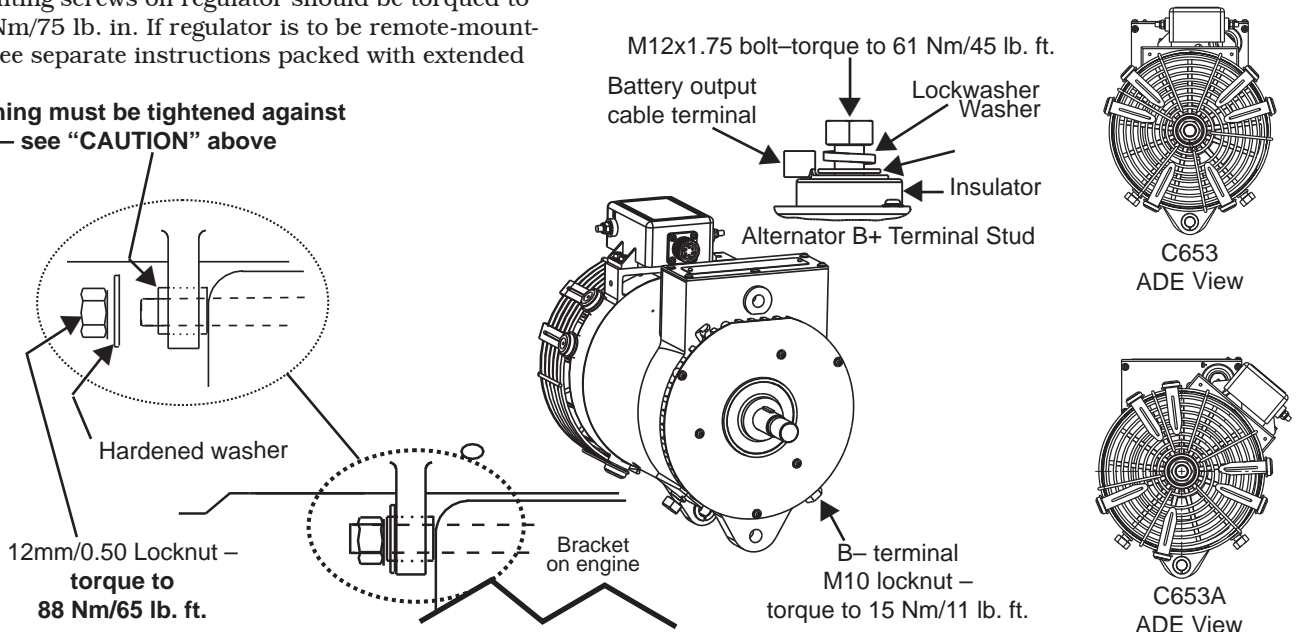


Figure 1 - C653 Alternator Installation Details

A2-338 Regulator Installation on C653 and Electrical Connection:

1. Install regulator on C653 alternator, using mounting hardware furnished with regulator. Torque screws to 8.5 Nm/75 lb. in.
2. Plug alternator-to-regulator harness securely into regulator.
3. If A9-4011 temperature sense lead is used, see Figure 2:
 - a) Connect twin lead ends of A9-4011 temperature sense lead:
 - one to regulator T terminal, using hardware furnished, torque terminal nut to 4.5 Nm/40 lb. in.
 - the other to one mounting bolt. Retorque to 8.5 Nm/75 lb. in.
 - b) Connect single sense lead ring terminal to B- terminal on battery as shown in Figure 2. Tighten hardware securely.
 - c) Coil up any unused sense lead and use cable ties every 12-14 inches to securely support temperature sense lead between regulator and battery.
4. Complete remaining connections to regulator, if required, as shown in Figure 2.
 - Connect P terminal to tachometer or relay. P terminal taps AC voltage, typically half the charge voltage. Torque M6 terminal nut on regulator to 4.5 Nm/ 40 lb. in.
 - Connect D+ terminal to multiplex controller: D+ terminal provides 28 VDC voltage output to multiplex controller. When connecting D+ terminal to controller through a relay, the relay coil must be diode protected and rated for proper voltage. Torque M5 terminal nut on regulator to 4.5 Nm/40 lb. in.
5. When the A9-4011 temperature sense lead is not in use, the regulator will operate at 27.5 V.
6. When A9-4011 temperature sense lead is in use, the lead senses the ambient temperature within the battery box and regulator will adjust charge voltage based on battery temperature—the higher the battery temperature, the lower the charge voltage.

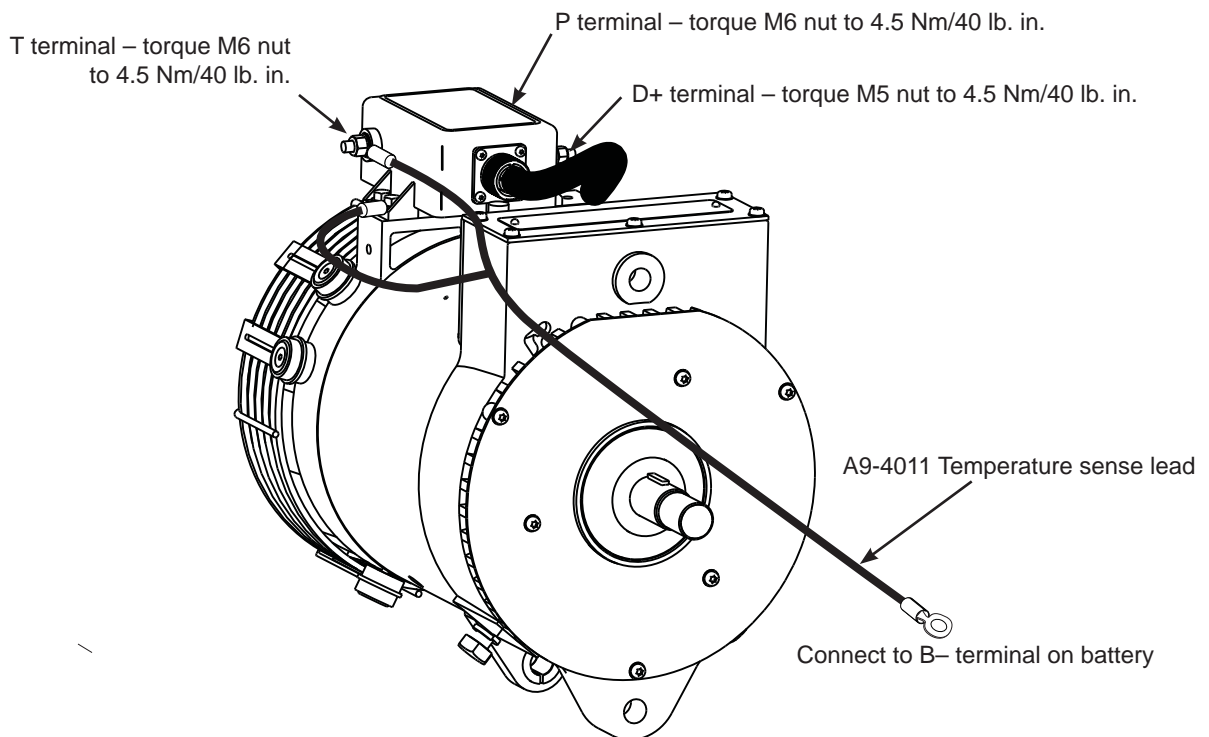


Figure 2 – A2-338 Regulator on C653 Alternator with Temperature Sense Lead