



C.E. Niehoff & Co.

A2-344, A2-348, & A2-350 14 V Regulators with A9-4039 Temperature/Voltage Sense Harness or A9-4050 Temperature/Voltage/IGN/D+ Sense Harness Installation Instructions

NOTICE

These 14 V regulators can be used with or without A9-4039 or A9-4050 temperature/voltage sense harness from the vehicle.

- When A9-4039 or A9-4050 temperature/voltage sense harness **is not** connected, regulator will operate in fixed voltage setting determined by the select switch position on the bottom of the regulator. See column 2 in Table 1.
- When A9-4039 or A9-4050 temperature/voltage sense harness **is** connected, regulator will automatically optimize the charge voltage for battery type based on temperature. See column 3 in Table 1 and select switch position based on battery type.

Switch Position	A9-4039/A9-4050 Harness Not Connected (Voltage Select) See NOTICE above	A9-4039/A9-4050 Harness Connected (Battery Type) See NOTICE above
Position 1	13.8 V	Maintenance (D Category)
Position 2	14.0 V	Maintenance-Free (Group 31)
Position 3	14.3 V	AGM
Position 4	14.5 V	DO NOT USE POSITION #4

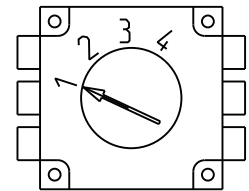


Figure 1

1. Before installing, turn regulator over and select appropriate switch position (See NOTICE above and Table 1 and Figure 1).
2. Install new regulator as described below:
 - Mount A2-344 or A2-348 curved-base regulator on alternator in the same position as the previous regulator. Use screws and washers (if supplied). Torque regulator mounting screws to 8.5 Nm/75 lb. in. See Figure 2.
 - Mount A2-350 flat-base regulator in remote location specified by customer. See Figure 3.
3. Plug alternator-to-regulator harness securely into 5-socket receptacle on regulator.
4. See Figure 2 or 3:
 - If not using A9-4039 or A9-4050 temperature/voltage sense harness, keep cap on regulator.
 - If using A9-4039 or A9-4050 temperature/voltage sense harness:
 - a. Remove cap from regulator and plug harness connector into 5-pin connector.
 - b. Harness length is 182 inches. Unused harness length should be coiled up. Use cable ties every 12-14 inches to securely support harness between regulator and battery. If harness length must be cut:
 - 1) Black wire—Do not shorten unless absolutely necessary. If necessary, cut off first 6 inches on terminal end and save cut piece to reattach. Cut length off of remaining black wire. Crimp and solder two ends and seal with insulated butt splice.
 - 2) Red wire—cut to desired length and use terminal to connect.
 - 3) Attach terminal from black wire in harness to battery negative post and terminal from red wire to 14V battery positive post.
 - c. A9-4050 harness has two additional wire connections for regulators requiring external ignition feed or D+ voltage sense/reference signal. See Figure 2.
 - 1) Green wire (D+)—Connect splice to vehicle voltage sense/signal wire. If terminal is used to run relay, the relay coil must be diode protected and

rated for proper voltage. Crimp spliced end securely. Use heat gun to seal splice. D+ terminal provides 5 amps of 14 V or 28 V output.

- 2) Brown wire (IGN)—Connect splice to switched voltage source from vehicle. Crimp end securely. Use heat gun to seal splice.
5. If required, 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.
6. When replacing an externally energized regulator with a regulator listed in these instructions, existing energize lead is no longer required. Insulate end of existing energize lead, coil up, and support as needed.

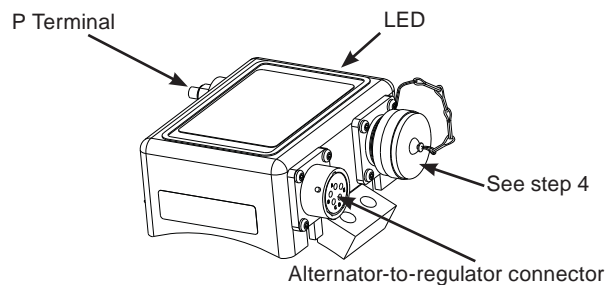


Figure 2 – A2-344/A2-348 Alternator-mounted Regulators

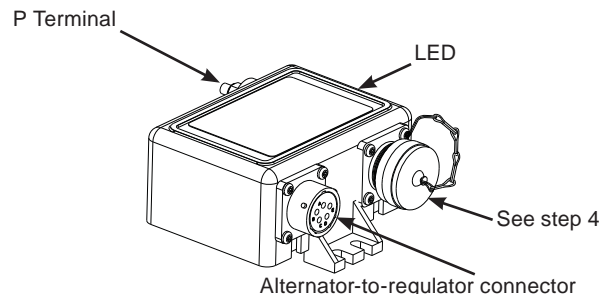


Figure 3 – A2-350 Remote-mounted Regulator