C.E. Niehoff & Co.
BRUSHLESS ALTERNATORS

N1126-2 Alternator
N9700 Filter Replacement Kit and Diode Module Test
Field Instructions

Disassembly:

1. Disconnect alternator-to-regulator harness plug at regulator.
2. Remove and discard four screws from black cover plate on control unit. Loosen cover to access wiring underneath.
3. Label and disconnect three harness leads, red (B+), green (B–), and brown (AC) from defective filter.
4. Label three black phase leads from diode module at filter.
5. Remove and discard six screws attaching filter to diode module.
6. Uncouple gray connector on harness.
7. Remove and discard filter.
8. Test diode module per Table 1, page 2.
   - If defective, see diode replacement on page 2.
   - If not defective, follow directions below for reassembly.

Assembly:

NOTE: Before reassembly, make sure all ring, power, and diode terminals are cleaned with a wire brush to remove any conformal coating and ensure a good electrical connection.

1. Put end of harness with ring terminal through hole in cover from outside.
2. Mate two ends of gray connector.
3. Install phase leads, copper links, and spacer washer between new filter and diode module using new hardware. Leave fasteners loose.
4. Install screws in terminals E, A, and C. Leave fasteners loose. See Figure 3 on page 2.
5. Using new hardware, install red harness lead (B+) in terminal D. Install brown harness lead (AC) in terminal B and green harness lead in terminal F.
6. Torque down all fasteners (4.6 Nm/40 lb. in.) taking caution to ensure proper connection.
7. Replace black cover plate and torque fasteners to 2.3 Nm/20 lb. in.
8. Reconnect alternator-to-regulator harness plug at regulator.

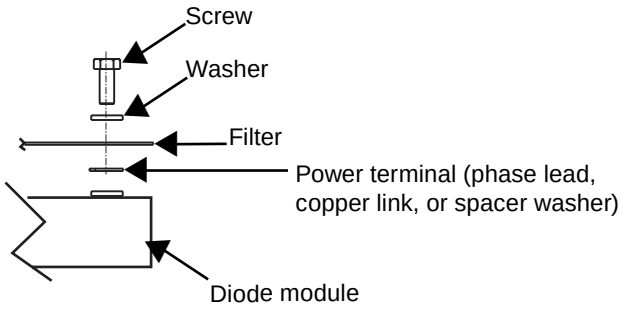

Figure 1 – Diode Module Stacking Order

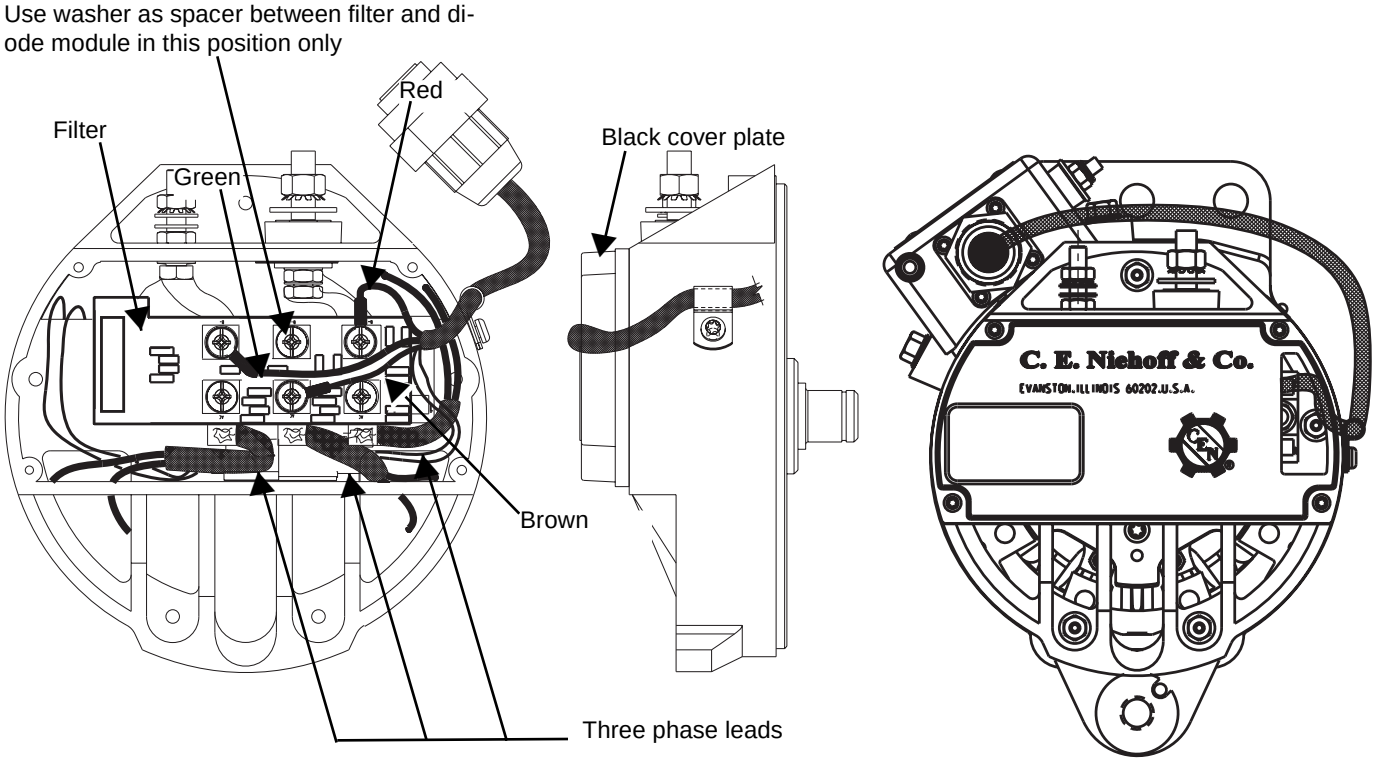

Figure 2 – Replacing Filter and Black Cover Plate on N1126-2 Alternator

Diode module tests:

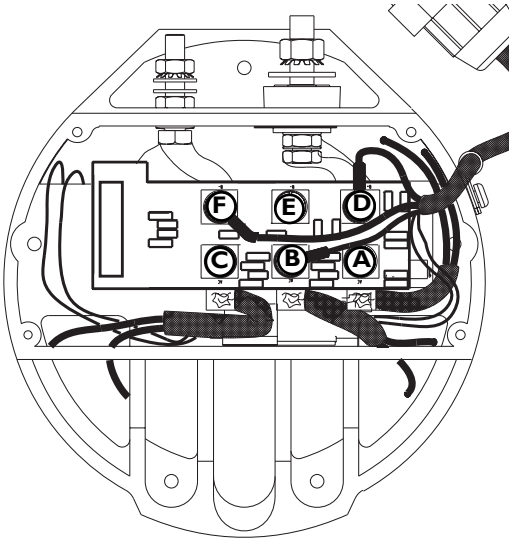

Figure 3 – Diode Module Terminal Designations

TABLE 1 Diode Module Tests
USE DIODE TEST SCALE ON DMM.
SEE FIGURE 3.

TEST NO.	METER (+) LEAD CONNECTION	METER (–) LEAD CONNECTION	TESTED CIRCUIT	EXPECTED READING
1	Terminal A	Terminal D	(+) side diode	<1.0 volts (flow)
2	Terminal A	Terminals E & F	(–) side diode	OL (blocking)
3	Terminal B	Terminal D	(+) side diode	<1.0 volts (flow)
4	Terminal B	Terminals E & F	(–) side diode	OL (blocking)
5	Terminal C	Terminal D	(+) side diode	<1.0 volts (flow)
6	Terminal C	Terminals E & F	(–) side diode	OL (blocking)
7	Terminal D	Terminal A	(+) side diode	OL (blocking)
8	Terminals E & F	Terminal A	(–) side diode	<1.0 volts (flow)
9	Terminal D	Terminal B	(+) side diode	OL (blocking)
10	Terminals E & F	Terminal B	(–) side diode	<1.0 volts (flow)
11	Terminal D	Terminal C	(+) side diode	OL (blocking)
12	Terminals E & F	Terminal C	(–) side diode	<1.0 volts (flow)

To replace diode module:

1. Reference disassembly steps on page 1.
2. Remove and discard hardware and defective diode module.
3. Clean housing surface to remove old heatsink compound. Surface must be clean and flat before applying new heatsink compound.
4. Apply a layer of heat sink compound, such as GC/ Waldon HSC # 10-8109 zinc oxide filled silicone or its equivalent on the back of the new diode module between the module and housing surface.
5. Install new diode module in orientation shown in Figure 3. Stack mounting hardware on mounting studs: nut, disc spring washer, flat washer. Torque nuts to 12.5 Nm/9.2 lb. ft.
6. After diode module is secured in place, reference reassembly instructions on page 1.