

# 150A

## ALTERNATOR NOISE FILTER

### GENERAL INFORMATION

Alternators are a primary source of interference which affects the operation of differential GPS, radios, depth sounders and other on-board electronics. The diode rectifiers in alternators produce a series of short high energy pulses which interfere with the electronic equipment. In a differential GPS receiver, interference of this type causes degradation of position accuracy. In radio receivers, there will often be a high pitched whine which varies with engine speed. Troublesome "hash" can appear on depth sounder displays. The electrical interference, or "noise", is usually conducted from the alternator into the electronics via the powerline wires, though it can also be radiated from the alternator lead much like a transmitting antenna.

### INSTALLATION

*Caution: Disconnect the negative battery lead prior to filter installation. Do not run the engine with the alternator output disconnected.*

- 1) For best results, mount the filter on an engine mount, a wood deck beam or other structural member as close to the alternator as possible. In some cases it may be necessary to make up a special metal bracket in order to mount the filter near the alternator.
- 2) The filter case must be well-grounded, so if the case is not mounted directly to an integral part of the ship or vehicle ground, connection must be made. Use a flexible copper ground strap (available from NEWMAR) or a piece of battery cable, 6 gauge or larger with appropriate terminals, which is no longer than 18". Attach the strap or cable to the grounding stud (1/4-20) with the provided hardware (See diagram). Secure the filter using all four mounting holes with the provided hardware. Secure tightly to ensure that vibration will not shake it loose when the engine is running.
- 3) Disconnect the positive lead from the battery. Wire the filter in series with the output lead from the alternator lead as shown in the diagram. If it is more convenient, or if it will make a shorter run from the alternator to the filter, you may instead disconnect the alternator lead and connect the free end to the "BAT" terminal of the filter. Then prepare a jumper cable of the same gauge with appropriate lugs and run it from the alternator output terminal to the "ALT" terminal of the filter. If there is sufficient slack in the original positive lead you may simply cut that cable at the appropriate point, install suitable lugs on the two cut ends, then attach them to the filter. (Note: Number 2 gauge wire or larger is required to carry 150 amps).
- 4) Use the provided protective boots as well as electrical tape to cover all exposed conductors to guard against accidental shorts. Check to make sure all wires are properly connected. If the alternator is "floating" and has long ungrounded positive and negative leads, use a separate 150A filter for each lead.

The 150A will remove the majority of noise generated by your alternator. If there is still some residual noise, it may be necessary to install an additional NEWMAR power conditioning filter (model PC-10 or PC-25) on the input leads to the affected device to "clean up" any remaining noise.

NOTE: In some instances where an electronic tachometer is used, the tach "sensing" wire may be radiating interference, as well. This electrical noise will also vary with changes in engine speed. For this problem, copper foil can be wrapped around the tach wires and grounded to create a shield and reduce or eliminate the problem.

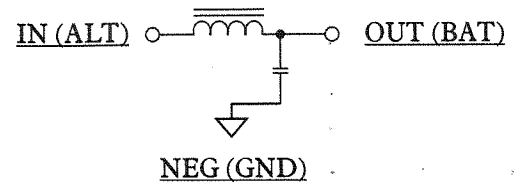
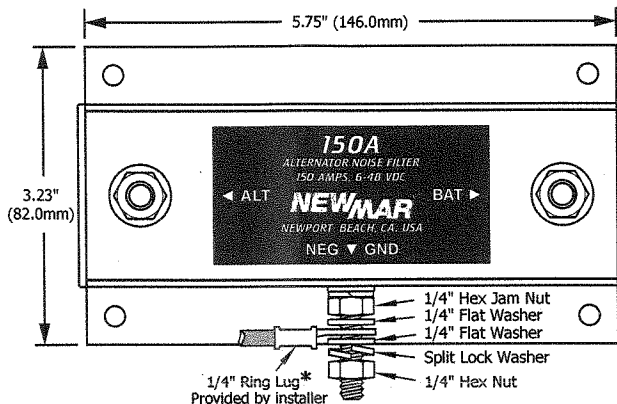
## RATINGS

MAXIMUM INPUT VOLTAGE: 48 VDC

MAXIMUM CURRENT: 150 AMPS CONTINUOUS

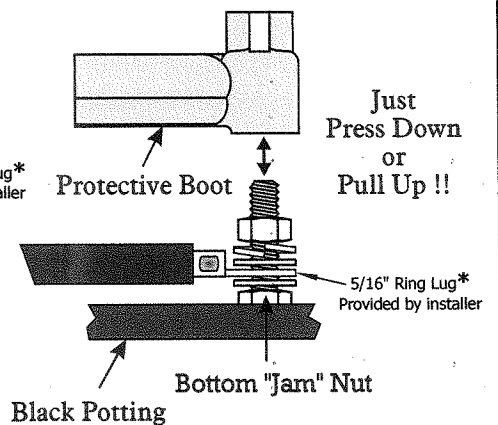
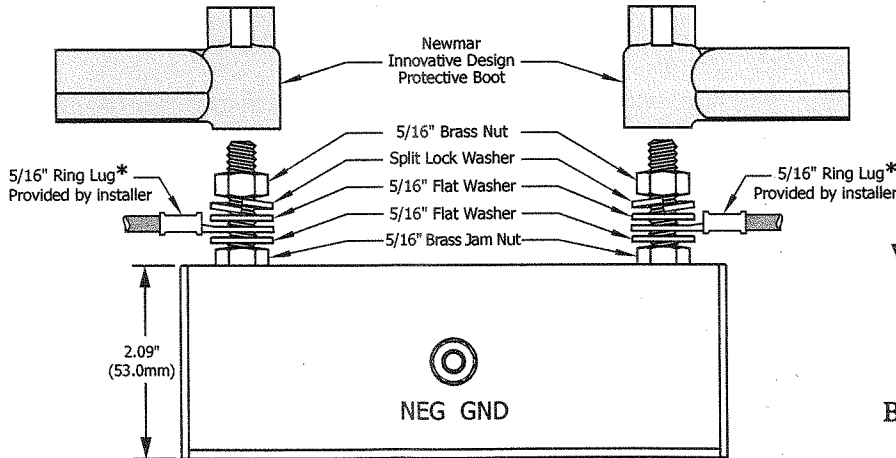
FILTERED FREQUENCY RANGE: 70 KHz - 100 MHz

## Dimensions, Schematic & Typical Installation



### Newmar Innovative Design Protective Boot & Jam Nut Instructions

Just Press on the terminal as far as you can to install, or Pull up to remove "after the bolt & nut installations are completed" !!

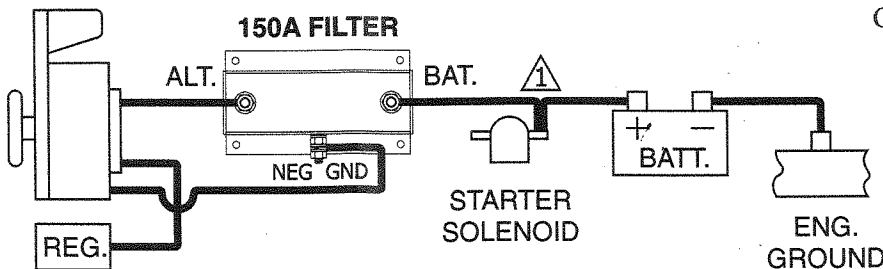


### CAUTION ⚠

Do not loosen any bottom "Jam" nut factory installed as shown ! Or, poor connection will be the result!

Note: May be wired to the battery, meter, shunt or battery selector switch instead of to starter, as shown

### ALTERNATOR



**NEWMAR**  
DC Power Onboard<sup>SM</sup>