

Depth Finder Interference

Variable speed motors with a PWM speed control / Maximizer circuit can sometimes interfere with the operation of a depth finder. This can be due to RF (radio Frequency) or electrical interference. Here are a few steps to reduce or eliminate the interference problem.

I. If the motor interferes with the depth finder when both are being operated:

- Step 1.** Determine if supply voltage for trolling motor and depth finder is provided by the same / common battery.
- A. If yes, disconnect depth finder battery leads from the trolling motor battery and connect them to the engine cranking battery.
 - B. Test depth finder for interference while operating motor.
- Step 2.** If interference is still present at Step 1B, proceed as follows:
- A. Connect a light gauge wire (18 gauge is fine) from the negative post of the trolling motor battery to the negative post of the engine's cranking battery. We suggest installing a 1 or 2 amp inline fuse in this ground wire. (Minn Kota part number 2060310)
 - B. Test for depth finder interference while operating the motor.
- Step 3.** If interference is still present after installing the ground wire, proceed as follows:
- A. Check the routing of the depth finder and trolling motor battery leads. If they run parallel to each other for any length of distance, separate the leads as much as possible or run the leads to the trolling motor and depth finder on opposite sides of the boat.
 - B. Test depth finder for interference while operating the motor.
- Step 4.** If interference persists after completing the previous steps, proceed as follows:
- A. Check mounting location of the depth finder transducer. If the transducer is on the trolling motor's lower unit, try temporarily moving it away from the lower unit while operating the motor and observing the depth finder display.
 - B. If the interference is reduced or eliminated when the transducer is moved away from the motor's lower unit, the problem is due to the transducers proximity to the lower unit.
 - C. To reduce / eliminate this type of RF interference, a ground wire can be connected to the trolling motor lower unit. This can be accomplished by means of either an external or internal connection. Grounding the motor case in this manner creates a "shield" between the motor brushes and the transducer, trapping / shunting the RFI to the ground.
 - C-1. To ground the motor case externally, drill a small diameter hole (1/8"), in the motor skeg. Attach one end of the ground wire at this point by using a self tapping stainless steel screw (18 gauge wire may be used for this purpose). Run the ground wire up the motor shaft along with the transducer coax cable. Connect the other end of the ground wire to the motor negative battery lead or post.
 - C-2. To ground the motor case internally it will be necessary to disassemble, reseal, and reassemble the motor lower unit. (We recommend this be done only by a Minn Kota Authorized Service Center) With the lower unit disassembled, connect one end of a light gauge wire to the motor brush plate mounting screw (18 gauge wire may be used for this purpose). Run the ground wire up the fiberglass motor shaft along with the red and black motor brush leads. Connect the other end of the ground wire to the motor negative battery lead or post. Reassemble and reseal the motor lower unit.

By following these steps the problem of depth finder interference is usually resolved. Oftentimes, simply connecting the depth finder to a separate battery will address this issue. At other times, a separate battery and common negative ground is all that is required. For other installations, all of the steps outlined will be required. Keep in mind that the steps should be followed in the order they are written and that the final step should be attempted only after completing steps 1, 2, and 3 and testing with the depth finder.