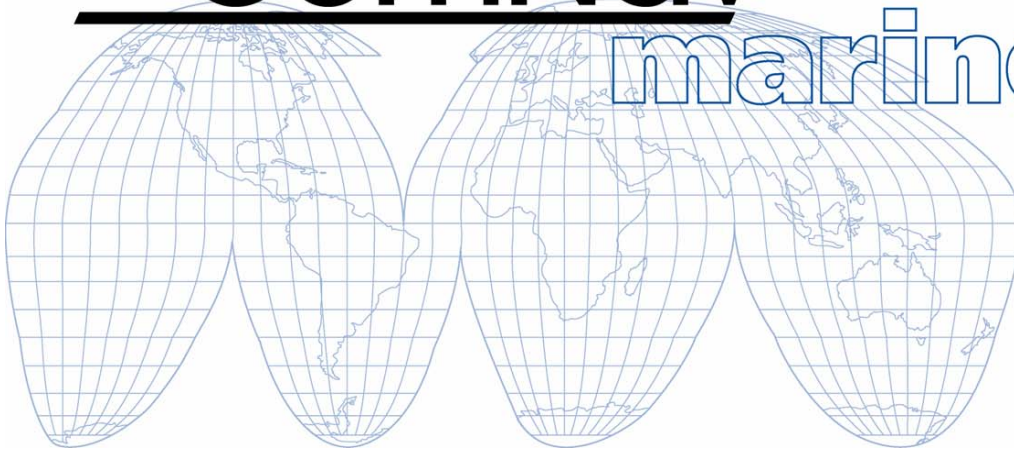


ComNav[®]

marine ltd



RUDDER ANGLE INDICATOR

Part # 20360023

Document Part # 29010033

Installation Instructions Version 1.3



Rudder Angle Indicator (PN 20360023)

These Rudder Angle Indicator meters require ± 500 microAmperes (500 μ A) for full deflection.

These Rudder Angle Indicators are not a water-proof device. The **Water Tight Case** accessory is recommended for outdoor applications where flush mounting the Rudder Angle Indicator may not be practical or when the back of the Rudder Angle Indicator may be exposed to moisture. The part number for the Water Tight Case is PN 20360016.

Supplies Included in Standard Rudder Angle Indicator Kit:

- 1) Rudder Angle Indicator (PN 20360023)
- 2) 1 set of L-Brackets, nuts and washers



- 3) Bulb Socket Assembly (PN 61130007)



- 4) Light Bulbs
Bulb #1818 (PN 61130001) for 12V systems
Bulb #1828 (PN 61130002) for 24V systems

*Note: For 32V systems, the required bulb is #1835 (PN 61130003), which can be obtained from any industrial/automotive lighting supplier, or from the ComNav Service Department.

Additional Supplies Required:

Suitable length of 18 – 22 AWG wire

CAUTION – Be sure that the ComNav Autopilot is OFF before making any connections or modifications to wiring.

Wiring Instructions - refer to Figure 1 for diagram of RAI and connections

- 1) Remove the meter shunt across the terminals on the back of the meter.
- 2) Install the correct rated bulb in the bulb socket. Then insert the socket assembly into the socket slot. If the socket assembly can't be pushed in easily, try to tilt the assembly and/or squeeze the tangs of the assembly with a flat screwdriver.
- 3) Use 18 – 22 AWG (not included in kit) wires and connect them to the RAI (Rudder Angle Indicator) SIGNAL and RAI RETURN terminals (see Figure 1).
- 4) Make sure the ComNav Autopilot is OFF before hooking these wires into the Autopilot Distribution Box or Processor Unit.
- 5) Once the connections to the RAI meter are completed, switch ON the Autopilot and follow the set-up instructions in the Installation & Operation Manual for proper operation of the system.
- 6) If the RAI meter needle deflection is moving in the opposite direction to the rudder movement, reverse the RAI SIGNAL and RAI RETURN wire positions (make sure that the Autopilot is turned OFF). This reversal can be done either at the terminals of the RAI meter or at the Distribution Box/Processor Unit.

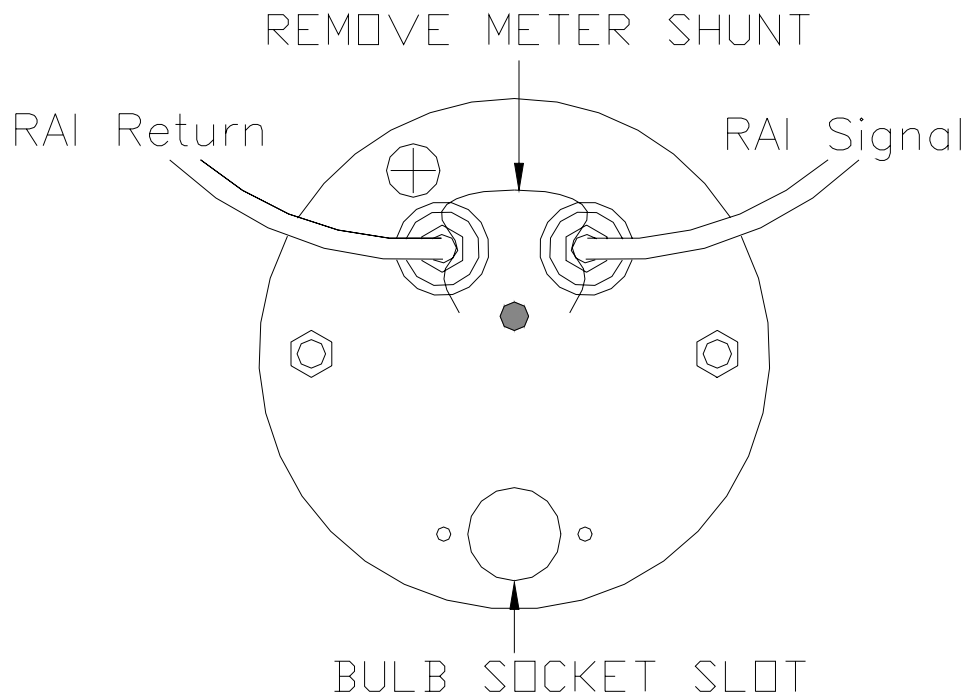
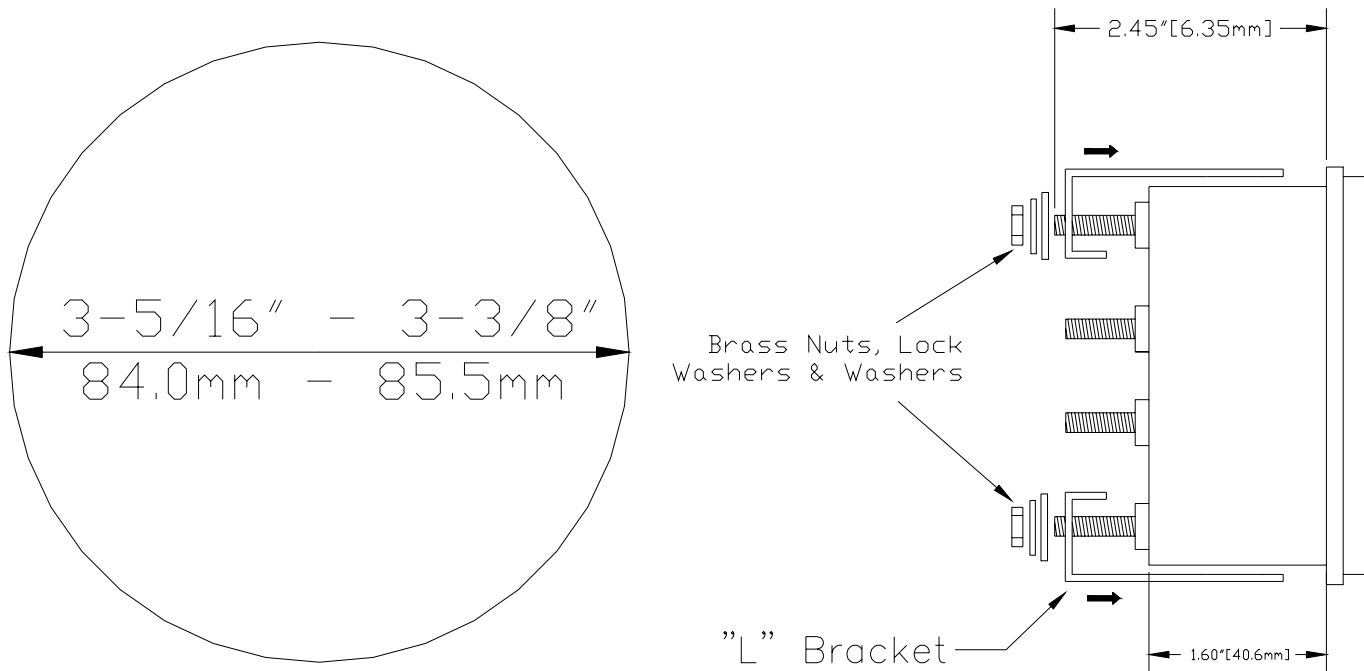


Figure 1 – Diagram of RAI wiring

The following are the dimensions of the RAI cut out & clearance (Figure 2).

Figure 2 – Diagram of RAI dimensions



FOR QUALIFIED PERSONNEL ONLY:

ZERO ADJUSTMENT PROCEDURE

Please read carefully before performing this procedure.

1. The following procedure should only be performed by qualified personnel. Any damage to the product resulting from this procedure is the full responsibility of the owner. Please ensure that no dust or foreign particles of any type enter the meter. The meter should be placed carefully on a clean, soft non-abrasive cloth. Remove the small red plug.



Zero adjustment through this hole



2. A light will be required to see down into the hole. Observe a small lever with a wire attached to it. By using a small dowel or screwdriver with a tapered edge, carefully slide the lever left or right, no more than the required amount to position the pointer on "0". Reinsert the red plug making certain it is tight.



When reinserting the red plug, insure that it is pushed in as far as it will go to provide a tight fit.