



*AWP-24 Wave Height Gauge*

*Wave Probe Head  
Wire Replacement Procedure*

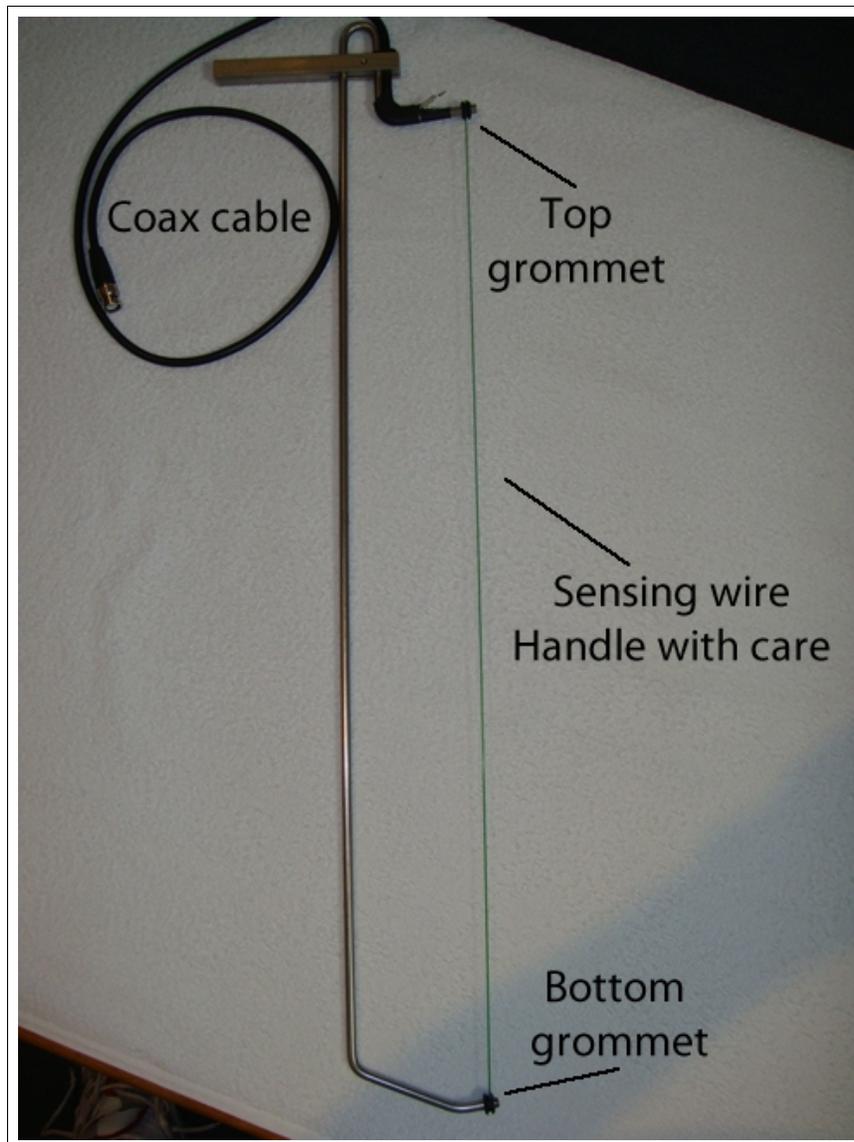
REV: 1.0

# 1 PROBE HEAD WIRE REPLACEMENT PROCEDURE

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## 1.1 Sensing Wire

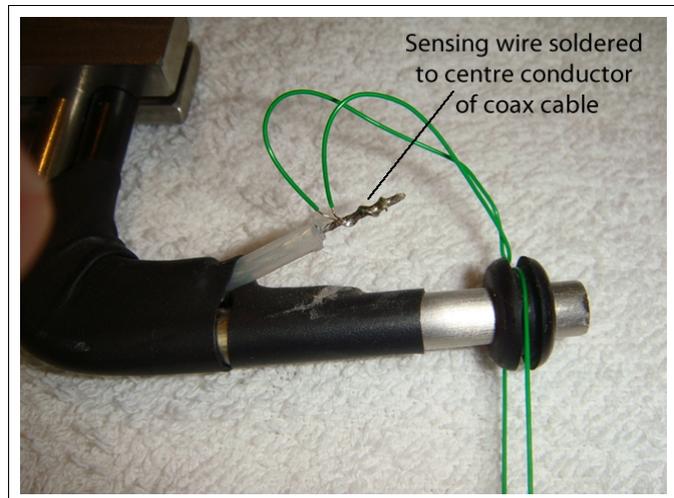
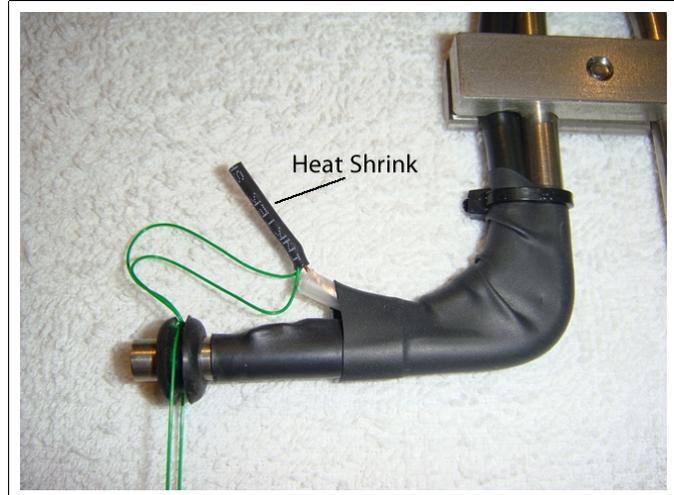
The sensing wire is an important part of the wave probe head and it must be handled with care. Any damage such as twists, nicks, or kinks to the wire will affect the accuracy of the instrument.



## 1.2 Replacement Procedure

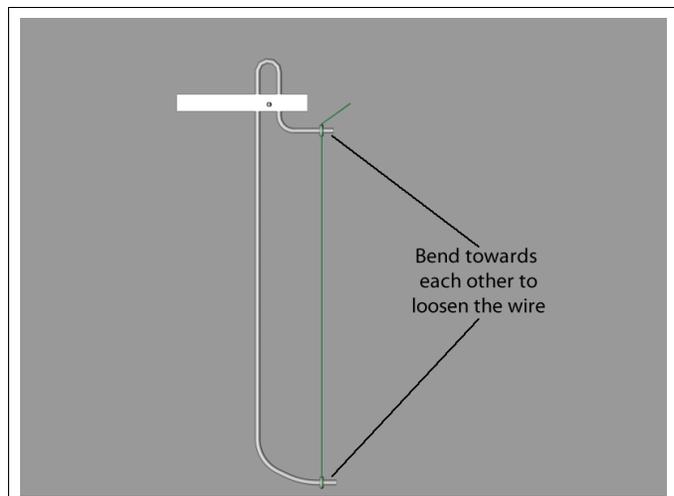
### 1.2.1 Removal

1. Remove heat shrink that covers the junction of the wave probe sensing wire to the central conductor of the coaxial cable.
2. Using a soldering iron, apply sufficient heat to the soldered connection to make it possible to separate the conductor of the sensing wire from the central conductor of the coaxial cable.
3. Separate the wires.
4. Gently bend towards each other the ends of the probe head to loosen the loop of sensing wire to allow it to be removed from the grommets.
5. Remove the sensing wire and discard it.



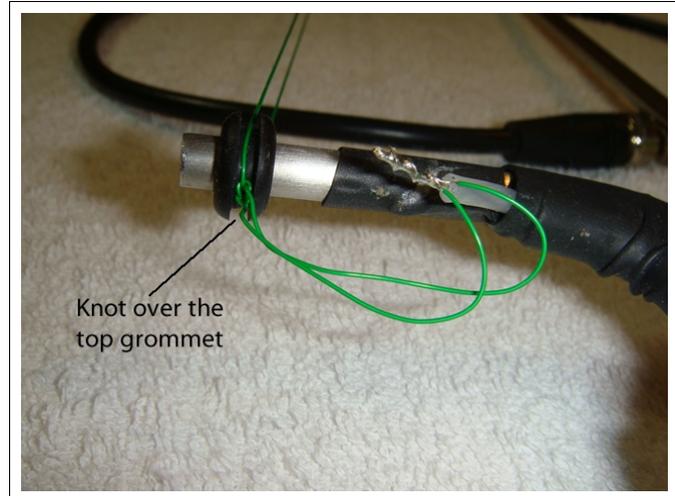
### 1.2.2 Installation

1. Place the shaft of the wave probe head in a vice. The probe should be oriented vertically with the top of the probe facing up and the top arm facing forward towards the technician.
2. Cut a sufficient length of wire to form a loop around the lower and upper grommets on the wave probe head with some extra length for a knot and a soldered connection. Any excess will be trimmed later in the procedure.
3. Bend the two ends of the wave probe head slightly together. To do this you could suspend a 2.3 Kg / 5 lb weight from the top post. This will cause the probe to bend slightly creating a spring that will later keep the wire tight.
4. Arrange the wire in a loop around the top and bottom grommets, and tie a secure knot at the top grommet. Keep the loop tight



while tying the knot<sup>1</sup>. A reef knot or a square knot is recommended.

5. Remove the tensioning weight and check the tension in the wire. Adjust the loop length if necessary (repeat steps 3 and 4).
6. Cut the excess from the two ends of the sending wire leaving approximately 3 cm after the knot.
7. Using a wire stripper, remove the insulating material from the last 5 mm of both ends of the sensing wire.
8. Twist the two ends of the sensing wire together.
9. Twist the paired sensing wire ends around the outside of the central conductor of the coaxial cable.
10. Solder the twisted sensing wire to the coaxial cable. A lead-free solder is recommended.
11. Place heat shrink tubing over connection to keep it dry and clean.



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<sup>1</sup> The bend in the probe rod created by the weight also provides some tensioning to the wire but if the wire loop is too loose at this step, removing the weight from the rod will not tension the wire sufficiently.