

NOTES ON INSTALLING REED SWITCHES ON HI-Q ANTENNAS

A 2.5" long bar magnet is attached to the antenna's tuning shaft, centered on a point 2.5" above the Phillips-head screws which hold the motor in place inside the bottom section of the antenna.

If you attempt to position a reed switch exactly 2.5" above the Phillips-head screw, there is a chance that the reed switch will NOT actuate as the tuning shaft rotates because the 2.5" point is the mid-point between the North and South poles of the magnet. In other words, there is little, if any, usable magnetic field to be found at the exact center of the bar magnet. This area is shown to the right as the "DEAD ZONE".

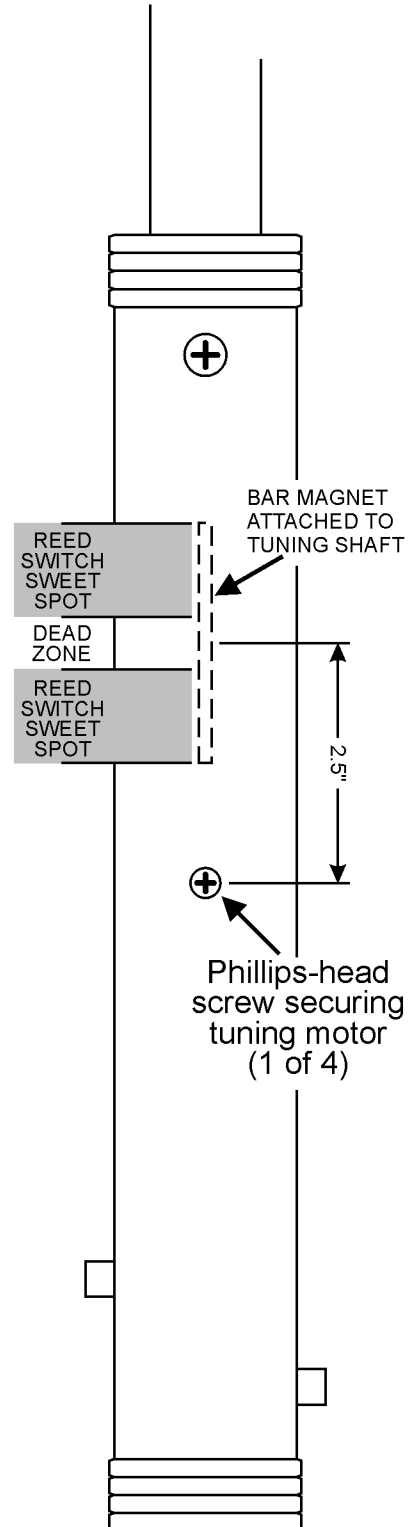
In order to obtain the most reliable closure of a reed switch mounted on these antennas, it is necessary to position the reed switch slightly above or below the center point of the bar magnet... centered on a point about 1" above or below the 2.5" starting point... shown at the right as the "REED SWITCH SWEET SPOT".

A reed switch so installed will close once per rotation of the tuning shaft.

If you wish to increase the granularity of the tuning count, consider installing two (2) identical reed switches, one on each side of the antenna shaft, and wired *in parallel*. Adding a second reed switch will double your rotational counts and may allow better reset-ability of tuning points.

See the next page for suggestions of how to install dual reed switches on your Hi-Q HF antenna. Note that the pictures show the reed switches held in place with a single strip of plastic tape. Once properly positioned, the reed switches should be completely covered with an overlapping layer of high-quality black plastic tape such as Scotch #33 or #88.

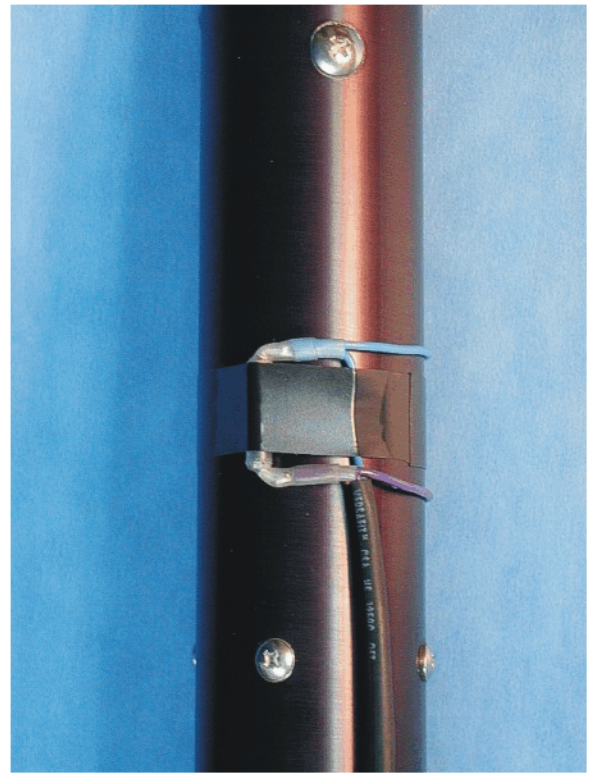
The wires from the reed switches were enclosed in heatshrink tubing, brought down to the base of the antenna, wrapped a number of times through a ferrite core (to reduce the chance of RF on the control sensor lines) and then attached to a 4-pin weatherproof connector, along with the motor control lines.



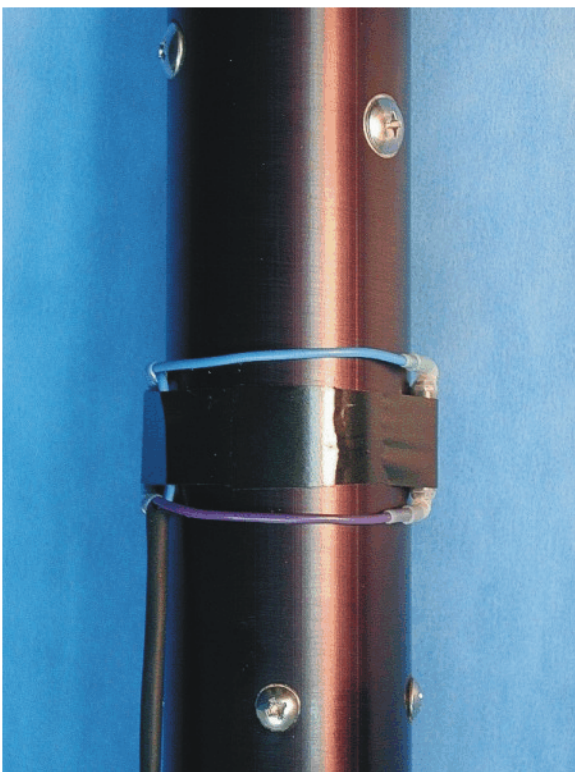
Installing Dual Reed Switches for Better Turns Counting Resolution



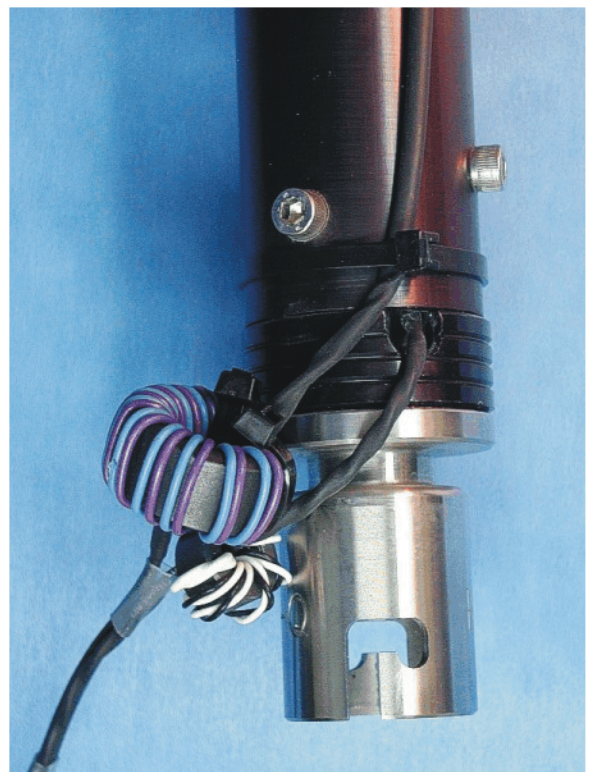
Reed Switch #1



Reed Switch #2



Reed Switches #1 & #2 - 180° apart



Ferrites used for RFI filtering at base