



RFI Solutions from KHz to GHz

Product Manual

End Fed OCF Antenna BULLET-8006-100, 500, 1500

Bands: 80-40-30-20-17-15-12-11-10-6

BULLET-8006 Antenna

 <p>Bullet End Fed OCF Antenna System 80-40-30-20-17-15-12-11-10-6 Meters Wire: 95 FT, Choke at 40 FT 100 Watts SSB/FT8</p> <p>Part# BULLET-8006-100</p>  <p>100 Watt Version</p>	 <p>Bullet End Fed OCF Antenna System 80-40-30-20-17-15-12-11-10-6 Meters Wire: 95 FT, Choke at 40 FT 500 Watts SSB/FT8</p> <p>Part# BULLET-8006-500</p>  <p>500 Watt Version</p>	 <p>Bullet End Fed OCF Antenna System 80-40-30-20-17-15-12-11-10-6 Meters Wire: 95 FT, Choke at 40 FT 1500 Watts PEP/1000 Watts Digital</p> <p>Part# BULLET-8006-1500</p>  <p>1500 Watt Version</p>
---	--	---

The End Fed OCF Antenna

Off Center Fed (OCF) antennas are very convenient as they will allow multiple bands of operation with a simple wire antenna which is fed off center. The Palomar Engineers 8010 OCF is a very popular antenna and consists of an off center fed dipole with sides of 95 feet and 40 feet and it will work all bands from 80-6 meters. The BULLET-8006 uses the same dimensions but the wire section is 95 feet as in the OCF and the coax outer braid is used for the “other” part of the OCF dipole. We place a choke on the coax at the 40 foot distance from the matching unit and we essentially have an OCF antenna with its great frequency range, but with only a 95 foot wire length instead of the 132 feet required by the regular OCF or 80M EFHW. You feed the antenna from one end which may be more convenient for some installations. This antenna will work on 80-40-30-20-17-15-12-11-10-6 and 2 meters at reduced power. Most bands are under 3:1 SWR and easily tuned by your transceiver’s internal antenna tuner or external tuner used with an amplifier.

These antennas are MUCH BETTER PERFORMERS than End Fed Half Wave (EFHW) antennas because they work the WARC bands, DO NOT HAVE A DANGEROUS HIGH VOLTAGE at the antenna connection and are shorter to fit in smaller spaces yet provide more band coverage up to 6 meters!

Typical Configuration

Bullet™ End Fed OCF Antenna Configuration

Bands: 80-40-30-20-17-15-12-11-10-6

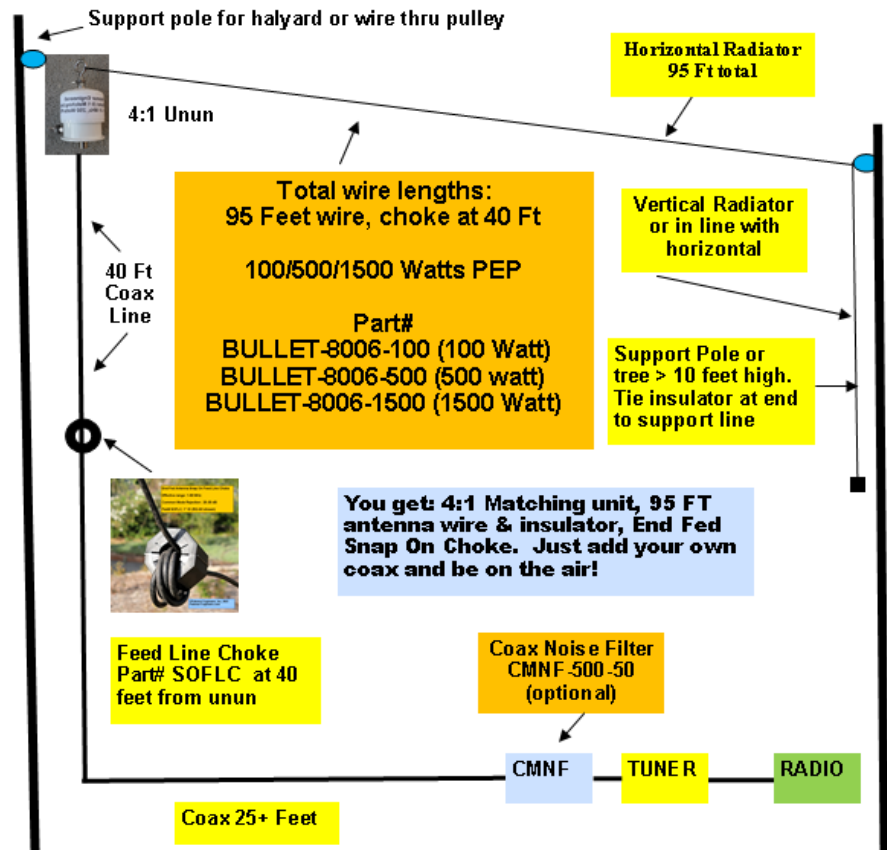
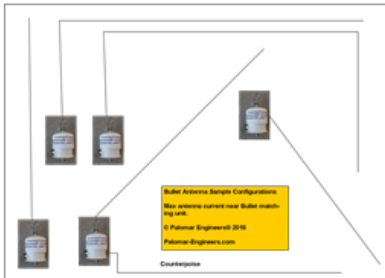
Coax feed line length > 50 feet

Feed Line Choke installed at 40 feet from matching unun, wire length 95 ft

© Palomar Engineers® 2023

Palomar-Engineers.com

Other Possible Configurations



Work more bands than 80M EFHW, 40 Feet shorter wire with NO HIGH VOLTAGE at feed point!

Installation

For best results raise the Bullet matching unit as high as possible (use a tree or vertical support) and then extend the antenna wire horizontally or as an “L” (horizontal with vertical end drop). The antenna may also be deployed as a sloper with the Bullet matching unit at the top (best) with the wire sloping toward the ground (with the end high enough to avoid contact by humans or animals), or at the bottom of the sloper with the antenna wire rising to a higher point.

Any length of 50 ohm feed line ok (over 50 feet minimum recommended) but longer feed lines over 50 feet may show reduced SWR on some bands due to soil conductivity, nearby objects, feed line loss, etc. Due to local ground conditions, antenna height and feed line length, SWR may vary and an antenna tuner may be required on some bands to bring SWR at end of feed line to acceptable levels. Position a feed line choke (part# SOFLC) 40 feet from the matching unit.

Use a good quality 50 ohm cable adequate for the power level of your station. The Bullet matching unit is rated for 100, 500 or 1500 watts PEP (depending on model) for SSB and 50% for CW or digital modes. If the matching unit becomes warm to the touch or SWR starts to

Copyright Palomar Engineers®, Inc., 1965-2023
Palomar-Engineers.com – Revised 12042023

increase as you transmit at high power, reduce the power output or the internal matching unit may become damaged.

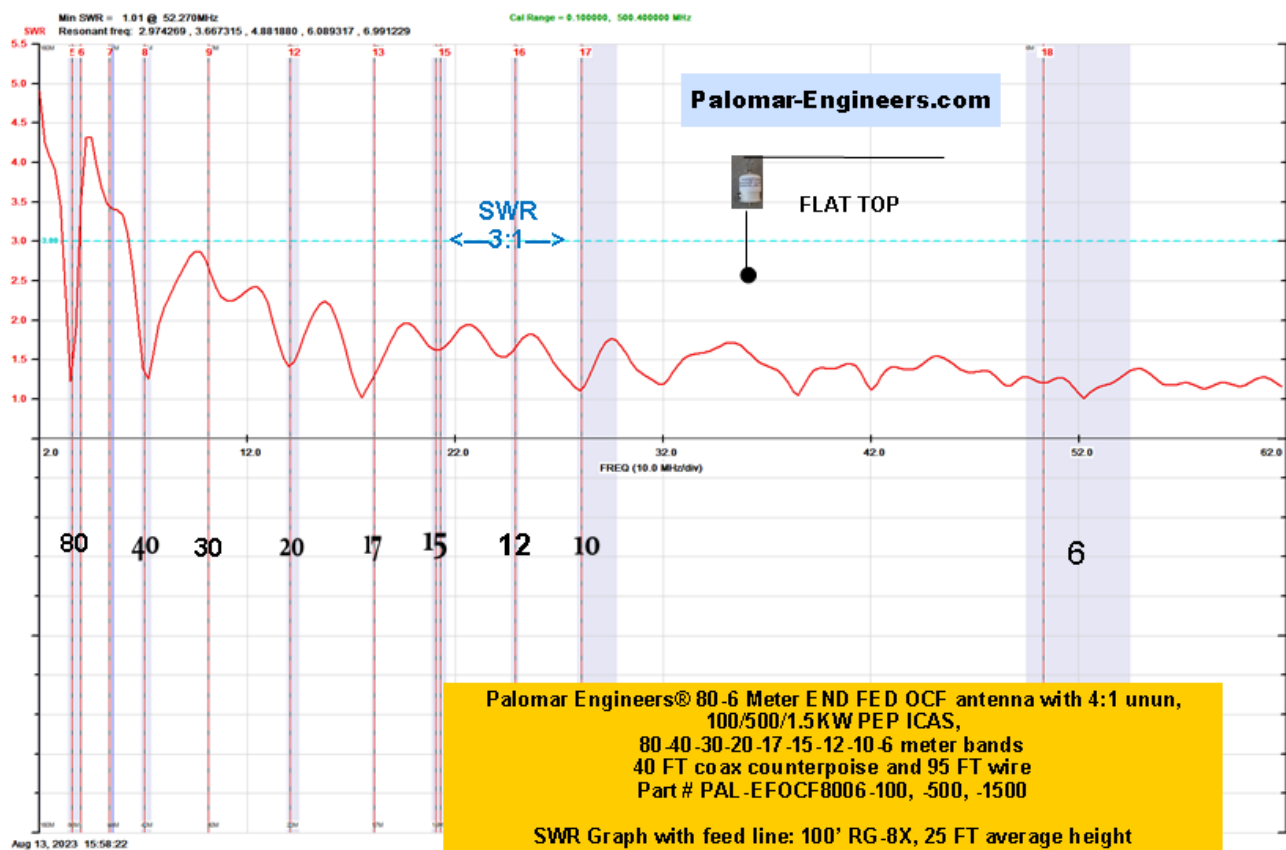
NOTE: The matching unit output is DC grounded to bleed off static electricity, however it is not RF grounded. This antenna is a current fed antenna and has high voltage at the antenna insulator end so keep this end away from people, animals, etc. for their safety..

The BULLET8006-100, -500, -1500 are rated for 100, 500, 1500 (respectively) watts PEP ICAS at a maximum 50% duty cycle. Digital modes are approximately 50% of PEP ratings depending upon band.

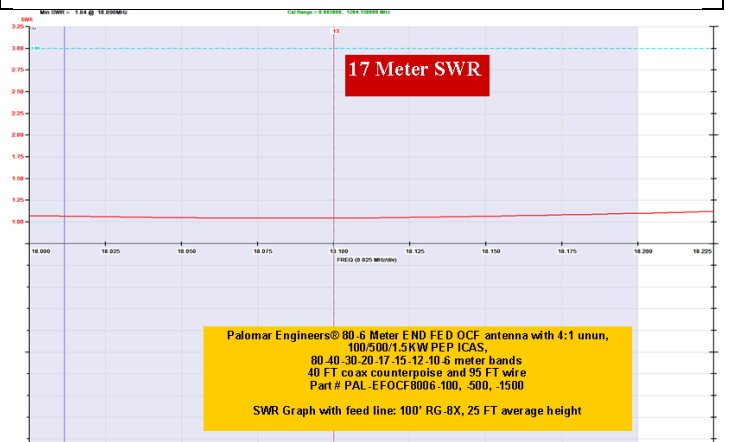
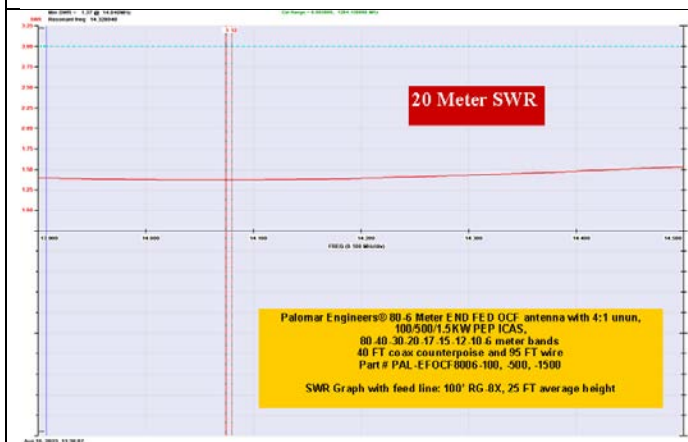
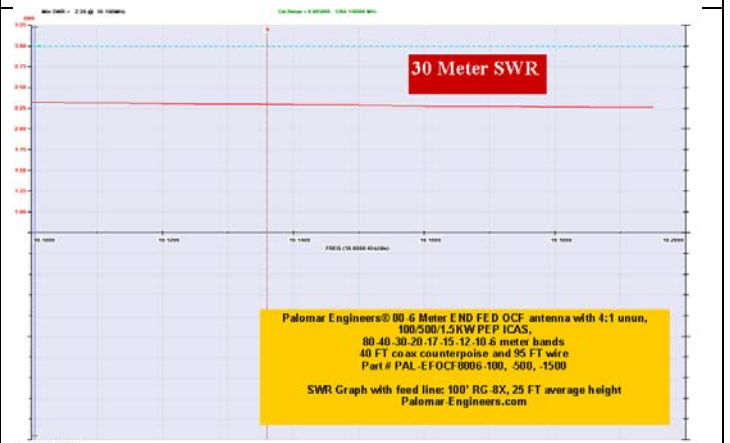
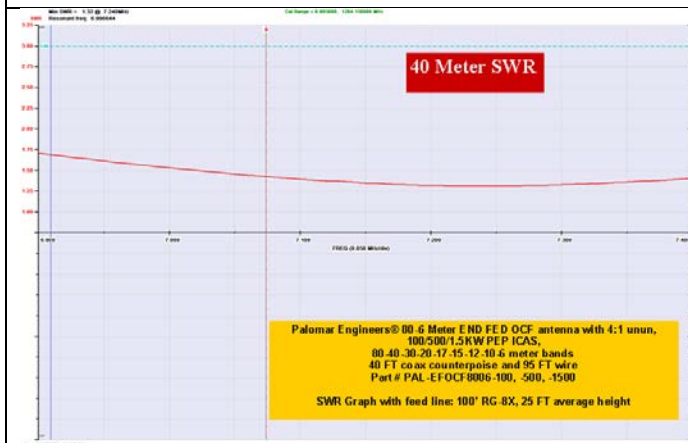
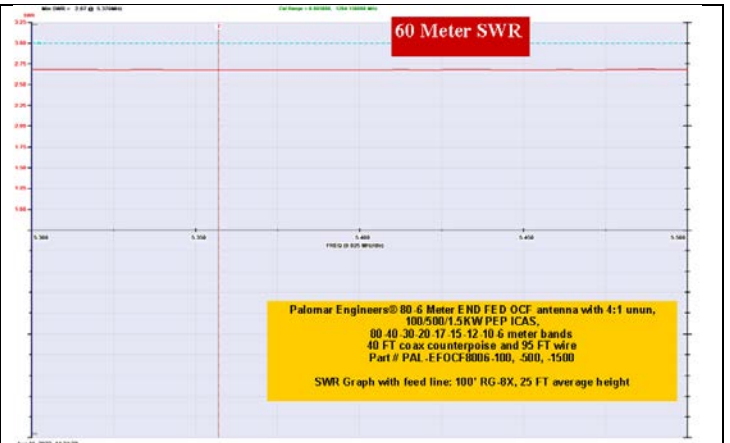
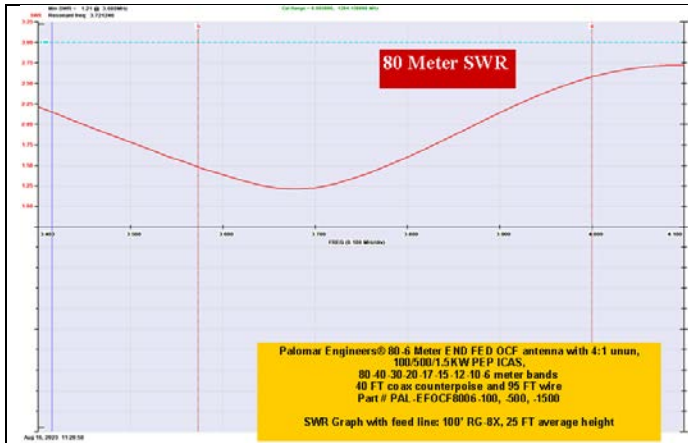
Use a coax noise filter (CMNF-500-50 or CMNF-1500) to reduce coax outer braid noise – see website for simple test to determine whether you need one to suppress coax braid noise on receive.

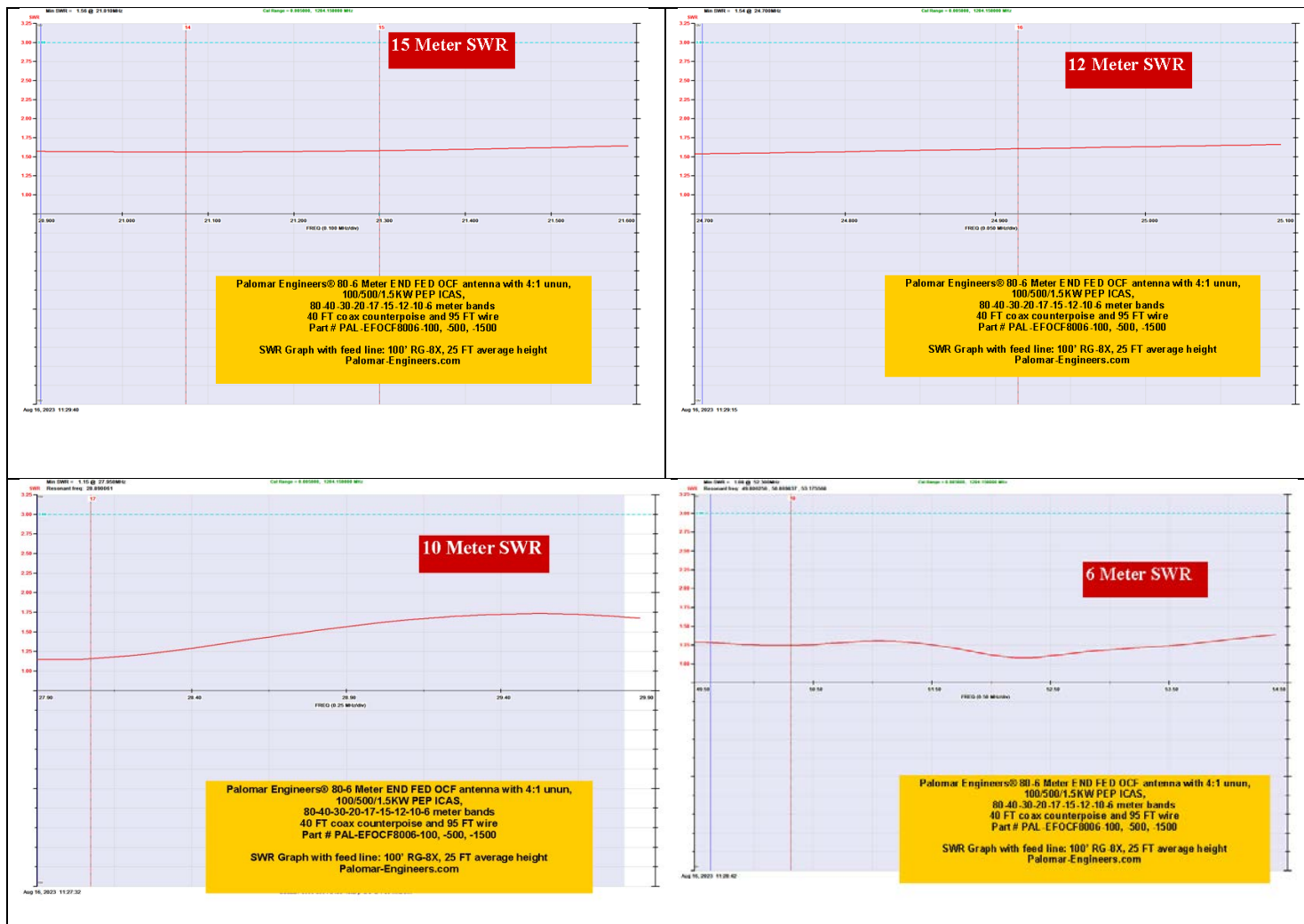
SWR

Due to local ground conditions, antenna height and feed line length, SWR may vary from samples shown and an antenna tuner may be required or some bands or portions of bands to bring SWR at end of feed line to acceptable levels. Use a good quality 52 ohm cable adequate for the power level of your station.(RG8X usually good up to 1000 watts PEP).



INDIVIDUAL BAND SWR SAMPLES – up 30 FT All Horizontal, 100 FT coax





Antenna also works 11 meters and can be used on 2 meters too (at reduced power)!

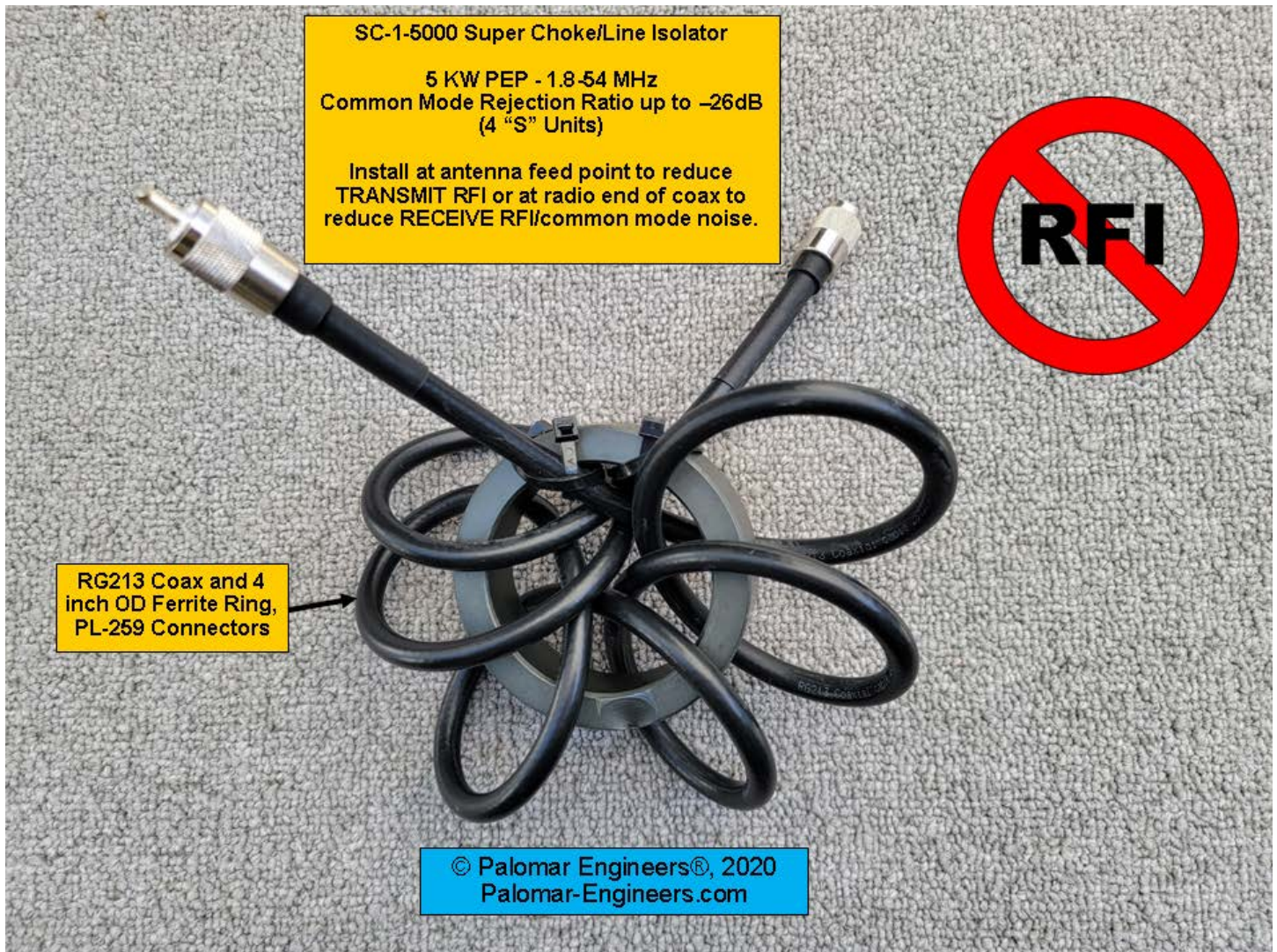
TECH NOTE: SNAP On Chokes



If you use RG-8X size cable, then the included SOFLCx2 with this kit is sufficient if you have 5-6 turns thru the center of each. See picture on next page as an example of how to wind the cable.

Measure 40 feet from the matching unun and then wind 6 turns thru the center of the SOFLC. Close it up and then wind an additional 6 turns thru another SOFLC placed adjacent to the first one and on the radio station side of the coax. See picture to left.

If you use LMR-400 or 1/2" coax cable you will only get 3 turns thru the snap on choke and you will need an additional choke (with an additional 3 turns) in series to provide enough choking on 40 and 80 meters. Part# SOFLC. You may also use a F400-31 ring (3" ID) with 6 or more turns instead of the SOFLC x 2 chokes. See picture below for winding example.



CAUTION

USE CAUTION WHEN INSTALLING ANTENNA AND KEEP AWAY FROM ANY POWER LINE WIRES!

Product specification subject to change - check website for latest updates.
Made in USA by hams for hams!