INSTALLATION INSTRUCTIONS

EMFLX-M10007 (420-470 MHz)
5 dB UHF ROOF MOUNT ANTENNA

Congratulations on your selection of another quality antenna product from E/M Wave.
E/M Wave is committed to continually provide the greatest antenna VALUE for your wireless applications.

1. Parts (Figure 1):

Verify all parts are included with the Antenna as shown in Figure 1.

a. 5 dB Antenna Whip
b. e/m-Flex™ Poly Spring Assembly
c. NMO Base Coil Adapter
d. O-Ring

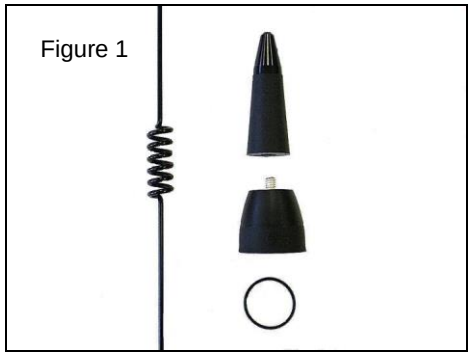
Figure 1

2. Tools:

a. Tool for cutting stainless steel whip
b. Hex Wrench (3/32")
c. **Note:** Special tools are not required to install the antenna. The antenna is intended to be installed using a firm hand torque until the sealing O-ring is completely compressed against the installation surface.

3. Pre-Installation (Figure 2):

a. The EMFLX-M10007 is designed for installation to a standard NMO mount.
b. Ensure O-ring is properly seated within O-ring groove as shown in Figure 2.
c. **Important:** Verify proper operational frequency is stamped on the base of the coil as shown in Figure 2.
d. Read and follow all Whip Cutting Instructions supplied for this model.

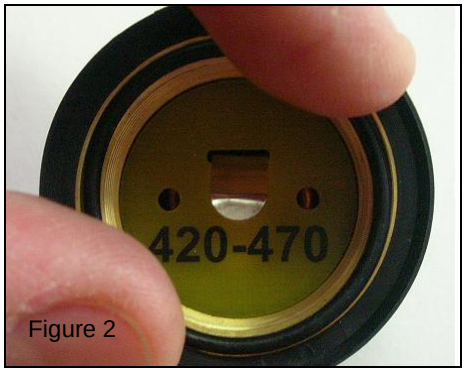

Figure 2

4. Tuning and Installation (Figure 3):

a. Verify contact spring is completely extended. If necessary, adjust by pulling the contact outward. (Figure 3).
b. Thread NMO Base Coil Adapter onto the vehicle NMO mount. Tighten by hand until O-Ring is completely seated.
c. Thread Spring onto NMO Base Coil Adapter. Firmly torque by hand.
d. Refer to EMFLX-M10007 whip cutting instructions. Cut whip to length according to desired frequency of operation.
e. Verify VSWR. Apply firm torque to whip adapter set screws (2 ea.).


Figure 3

WHIP CUTTING INSTRUCTIONS FOR TUNING EMFLX-M10007 (420-470 MHz)

PLEASE CAREFULLY READ ALL INSTRUCTIONS BEFORE CUTTING THE ANTENNA WHIP.

FREQUENCY	TUNED WHIP LENGTH "W"	
(MHz)	(inches)	(mm)
420.0	15-7/8	402
425.0	15-1/4	387
430.0	14-11/16	372
435.0	14-1/16	357
440.0	13-1/2	342
445.0	13	329
450.0	12-1/2	316
455.0	12	304
460.0	11-1/2	292
465.0	11-1/16	281
470.0	10-5/8	270

Table 1

1. **IMPORTANT: Before Cutting.** It is recommended to cut whip longer than the required dimension to verify actual performance. Then trim the whip in 1/16" (1.5mm) increments to fine tune the desired VSWR response.

   CUTTING NOTE: The whip can be cut using a grinding wheel or shearing tool designed for this purpose.

2. **NOTE:** Ensure the whip is located and completely seated inside the antenna whip adapter. The Tuned Length "W" is determined by measuring the distance between the top of the antenna adapter-spring and the bottom of the antenna phasing coil as shown in **Figure 4.** With the whip removed from the adapter, the cut length dimension will be approximately 1" (25mm) longer than the Tuned Length "W".
3. Identify the desired frequency of operation in the left column of Table 1. Imperial and Metric units are given for convenience.
4. **TUNING NOTE:** For frequencies not listed in Table 1, interpolation of Tuned Length "W" is permitted. When interpolating intermediate frequencies, the antenna frequency response increases by approximately 1 MHz for every 0.04" (1 mm) of cut length.
5. Cut the antenna whip as required to establish the specified Tuned Length "W" as shown in Figure 4.
6. Verify VSWR. Secure set screws (2 ea.).

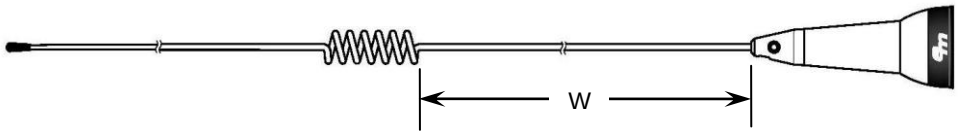

Figure 4

[**Note:** Add 1" (25mm) to Tuned Length "W" when cutting whip.]