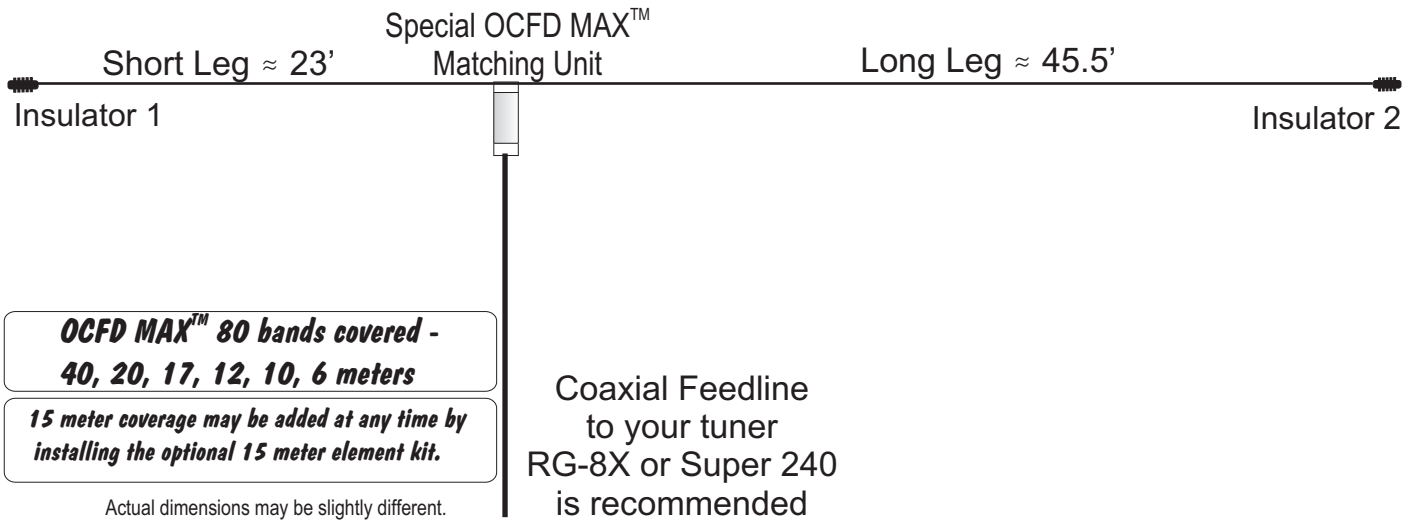
RADIO WORKS™ Off-Center-Fed Dipole
The "OCFD Max™ 40"



There are many versions of the Off-Center-Feed Dipole or OCFD being sold. The RADIO WORKS™ has probably had more experience with this type antenna than anyone. The CAROLINA WINDOM® is the ultimate version of an off-center-fed antenna, and we've been making them for over 25 years. We have sold literally tens of thousands of these marvelous antennas.

I've resisted producing an OCF Dipole for many years because there was really no reason to make them. Just purchase a CAROLINA WINDOM® and you have the ultimate in performance with antennas in this class. Nothing else even comes close.

The second reason for not making an OCFD was that I didn't want there to be any connection or confusion between the OCFD and the CAROLINA WINDOM®. ***They are in no way the same antenna.*** The only thing they share is the fact that neither is fed at the center like a common dipole. The OCFD in incapable of achieving the performance of the CAROLINA WINDOM® and that should be understood to avoid possible disappoint with the Off-Center-Fed dipole. Simply put, the CAROLINA WINDOM® is a high performance, special purpose antenna for those who are interested in generating a strong signal at low takeoff angles needed for DX and other long distance communications. The pattern is not limited to DX, and radiation at moderately high takeoff angles provides coverage of intermediate propagation paths.

That said, ***the OCFD has a important place in your antenna arsenal***. It is a fine general purpose, efficient, trapless, multiband antenna with a radiation pattern suitable for all uses that do not require an "on the horizon" low angle, nearly omnidirectional radiation pattern. For this application, I present the RADIO WORKS' OCFD MAX™. It's different from its rivals, and it works. The most important difference is the high power matching unit. The characteristics of this matching unit have been optimized for the OCFD MAX™ and provides the best compromise between maintaining a low SWR and low loss on each band while providing good feedline isolation which minimizes feedline radiation.

Bands Covered

Without introducing major compromises into the design, OCFD antennas work on even harmonics and can be tweaked to work on frequencies near even harmonics. OCFD antennas will not work well on odd harmonics. This means that 60, 30 and 15 meters are not covered. An optional, user installable, 15 meter element kit is available for this version of the RADIO WORKS OCFD™. A 30 meter parallel element is not available because there was too much interaction between it and the OCFD MAX™ on 40 and 20 meters. OCFD MAX™ antennas with the extra 15 meter element are designated as "+15" in the product name. For example, the RADIO WORKS™ OCFD MAX™ 40 + 15 adds 15 meter coverage through the use of a parallel 15 meter element.

Operational bands for the OCFD MAX™ 40 + 15 include 40, 20, 17, 15, 12, 10 and 6 meters.

Inverted-V Configuration

It is best to install the antenna as a flattop, as shown. The CAROLINA WINDOM® OCFD MAX™ 40 can be installed as an inverted-V, but the angle between legs must be as large as possible. Never use an angle between legs of less than 120°. An angle greater than 140° is recommended.

As with all *multiband* antennas, an inverted-V configuration with an angle less than 120° between legs will result in loss of low angle radiation on all but the lowest frequency band. This effect is not unique to the CAROLINA WINDOM® OCFD MAX™ but applies to all multiband antennas not operating on their fundamental frequency. Moving the elements closer together results in signal cancellation and alteration of the radiation pattern. Essentially, you lose the low takeoff angles required for the long propagation paths necessary for DX operation. Keep the angle between legs larger than 140°, and this effect will be minimal. Angles as small as 120° may be used, but larger angles are better.

Bending the Ends to Shorted the Antenna

As with most antennas, you can bend the ends of the OCFD MAX™ downward or outward to reduce the length needed to support your antenna.

CAROLINA WINDOM® OCFD MAX™ 40 Installation Check List

Caution KEEP ANTENNAS AWAY FROM ELECTRIC UTILITIES.

Read and apply all applicable information which precedes this page.
Review installation and weatherproofing procedures in the Product Manual.

___ 1. Install your antenna support ropes. I recommend using the pulley system descried on page 9 of the Product Manual.

___ 2. The antenna should be located in the clear and far away from anything metal - **ESPECIALLY Power Lines.**

___ 3. If a metal center support is to be used (i.e., a tower or mast), see page 17 of the Product Manual for details.

___ 4. The antenna should be as straight as possible. Read the information on the previous page for information concerning inverted-V configurations.

___ 5. The configuration and geometry of the antenna should not be changed as far as the location of the insulators is concerned.

The wire ties are color coded to aid in the installation of the antenna
Cut them only as directed in the instructions which follow.

___ 6. Once the support ropes are installed and secured, lay the antenna assembly on the ground and cut the **ORANGE** wire ties.

There will be two coils wires connected to the matching unit. The long side of the antenna is identified by YELLOW wire ties and the short side by RED wire ties.

___ 7. Cut the RED wire-ties on the short side of the antenna. Red wire tie(s) are on the #14 wire.

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___ 8. Extra wire ties are used during assembly of an antenna. Cut any WHITE wire ties on this #14 wire bare copper wire. Uncoil the wire using a hand over hand motion. T*his is important to avoid kinks and tangles.*

___ 9. Carefully tie your antenna support rope to insulator #1 (see diagram on page 1). This is the insulator closest to the matching unit.

___ 10. Cut the YELLOW wire-tie(s), and unwind the long end of the #14 antenna on the ground. Cut the White wire ties as necessary. Follow the instructions in step #8 to unwind the wire.

___ 11. Carefully tie your remaining antenna support rope to insulator #2. This is the insulator on the end of the long leg of the antenna.

___ 12. Pull the antenna a few feet into the air. Carefully remove any kinks and twists in the bare copper antenna wire.

___ 13. Pull the antenna further into the air so that you can easily reach the matching transformer.

___ 14. Apply coax Seal to the two WHITE WIRES exiting the Matching Unit as directed on page 3 of the Product Manual.

___ 15. “Knead” (squeeze and press) the Coax Seal™ again to assure a perfect seal. Make sure it “whets” (sticks) to the case and to the wire.

___ 16. Screw the PL-259 on the end of your coaxial cable to the SO-239 connector on the matching unit. RG-8X or Super 240 coax is recommended. Super 240 is a low loss, high power version of RG-8X and is available from the RADIO WORKS®. Light weight coaxial cables are recommended because they put less physical stress on the antenna.

___ 17. Pull the antenna into the air. Don’t pull the antenna up tight. There is no need to put extra stress on the antenna to gain another foot or two in height. Such a small height change will not result in any improvement in signal strength.

___ 18. Connect your coax to your tuner if you plan to use one and enjoy your new, high performance antenna.