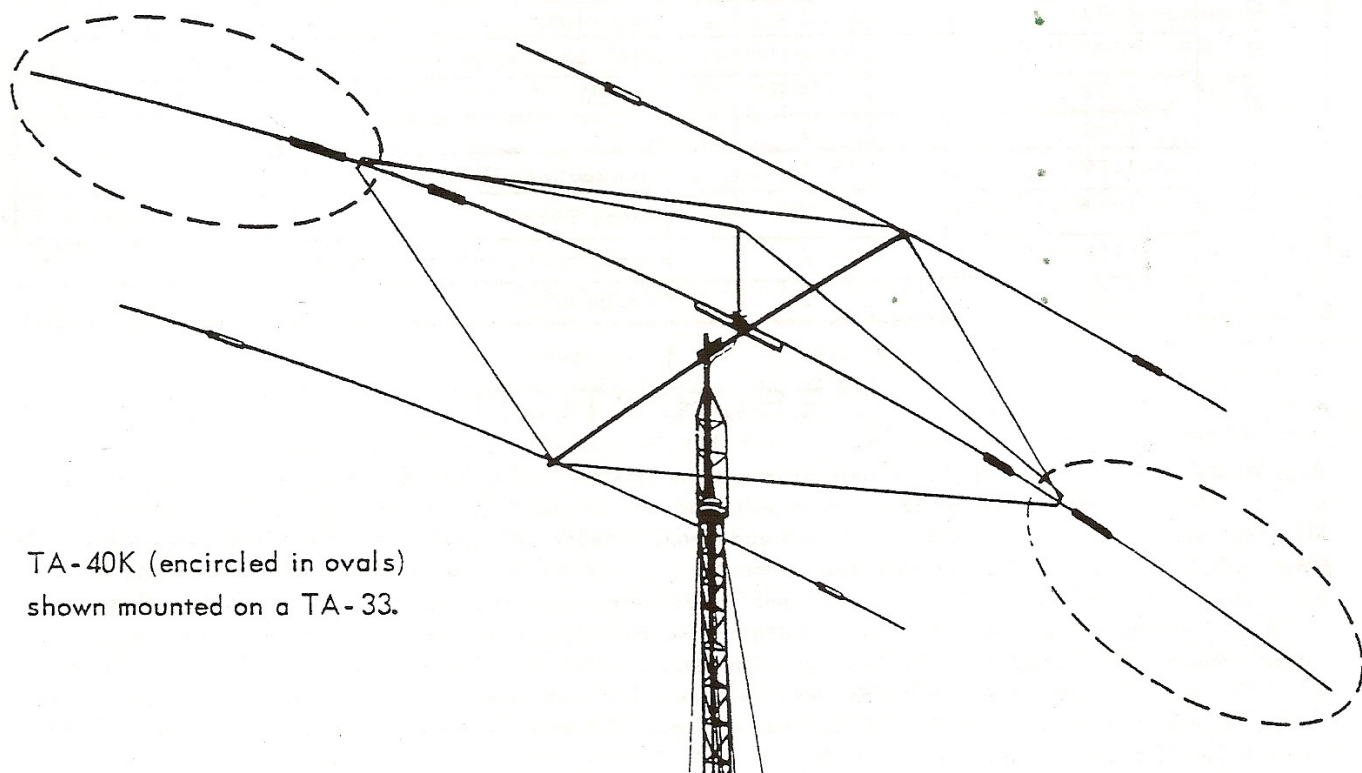


MOSLEY DIPOLE CONVERSION KIT MODEL TA-40-KR

#580331

TO CONVERT MODELS TA-31, TA-32, TA-33 AND TA-36
FOR OPERATION ON 40 METERS



TA-40K (encircled in ovals)
shown mounted on a TA-33.

The high performance of your MOSLEY Antenna can only be achieved if the antenna is assembled in accordance with the instructions supplied. Substitutions of material or modification of design will materially lessen this performance.

PARTS LIST

MOSLEY PART NO.	PART NO.	QUAN	DESCRIPTION
✓ 1167 •	A	2	7/8" OD x .058 wall element section coded blue
✓ 1213 •	B	2	20 meter trap assemblies (color blue)
✓ 1113	C	10	# 6 X 3/8" long sheet metal screw.
✓ 1217	D	2	Guy rings
✓ 1173 •	E	2	5/8" OD x .035 wall element section coded blue
✓ 1016	F	2	5/8" ID- Caplug.
✓ 1175 •	G	1	Angle plate
✓ 1018	H	2	1/4-20 U-bolts
✓ 1019	J	8	1/4" lockwashers
✓ 1020	K	8	1/4-20 nuts
✓ 1037	L	2	#43 clamping blocks
✓ 1174 •	M	1	Vertical mast
✓ 1080	N	8	3/16" guy ring thimbles
✓ 1202	O	115 ft.	Guy line
✓ 1218	P	4	
✓ 1179 •	Q	1	Mast section, 1 1/2" OD
✓ 1034	R	1	Ground stron
✓ 1168 •	I	2	Swedge tubing with color code.
✓ 1172 •	S •	2	Swedge tubing.

When ordering replacement parts refer to FORM NO. H-110 and MOSLEY PART NO.

DESCRIPTION

Your Mosley TA-40KR Conversion Kit will convert the Mosley TA-31, TA-32, TA-33 and TA-36 antennas so that the radiating element of these systems will also operate as a half wave dipole radiator on 40 meters. All components included in this kit are listed under the parts list. All part numbers are listed in alphabetical order rather than numerical order so these components may be distinguished from components which are normally included with TA-31, TA-32, TA-33 and TA-36 antennas. Figure 1 shows the radiating element assembly. Component use, such as angle plate (part G), mast (part M), and guys, may vary depending on the antenna model to be covered. Guy ropes may be attached to the parasitic element sections, such as element (part 17), used on the model TA-33 antenna. In figure 1 the asterisks (*) denote color codes, position and number of color code markings at these positions. Figure 2 shows the method of mounting the vertical guys and the TA-31 support to the vertical mast.

Figure 3 shows the recommended method of securing the guys. Figure 4 shows an over-all length schematic and designates the number of turns on each radiator coil assembly. Before beginning with the TA-40KR assembly it must be decided at what frequencies the finished assembly is to be resonant. In order to do this, refer to the typical resonant frequency charts at the end of this instruction booklet. Note from observing these charts that the resonant frequencies are first controlled by the standard adjustment of the TA-31, TA-32, TA-33, or TA-36 and second they are controlled by the setting of the 20 meter element section (part A) and third by the setting of the 40 meter element section (part E). Therefore, when choosing resonant frequencies, begin with the TA-31, 32, 33 or 36 settings and then set the 20 meter section, and last, the 40 meter section. A package of anti-corrosion compound is included and should be applied to all telescoping element sections as per instructions on package.

ELEMENT ASSEMBLY

Before beginning with the TA-40-KR assembly, read all instructions thoroughly and study the drawings and charts carefully. After taking antenna down from its support and placing it on fairly level ground, begin assembly. Check parts against parts list to insure all items have been included. First, remove existing 20 meter and element extension (on radiator only) and store for future use. Replace this extension with part A (NOTE: Holes will line up one way only on part A) as shown in Fig. 1. Place color codes as shown. Slide guy ring (part D) over inside end of 20 meter trap (part B) opposite of color code. Telescope together with (part I) and secure with screws (part C) in the code position you desire. Telescope (part S) into 20 meter trap. Then telescope (part E) into (part S) and secure in the code position you desire. Install caplug (F). If TA-36 antenna is used, do not use (part R) and remove existing ground strap. (NOTE: TA-36 cable transformer is still necessary to obtain a good match on 10 meters). Place (part G) over U-bolts as shown in Fig. 1 and secure. Install vertical support mast (part M) as shown and secure with (parts H, L, J and K). Install guy line (part O) using thimbles (part N) as shown in Fig. 1. Re-install antenna to tower.

NORMAL SETTING . . . The distance between trap assemblies (parts 8 and B) is kept to a minimum. This distance is measured from end of trap cover (part B) to trap cover (part 8) and should be 30 1/2".

EXTENDED SETTING . . . The distance between trap assemblies (parts 8 and B) is at a maximum 31 3/4". Telescope guy ring (part D) over shimmed end of trap assembly (part B). Telescope the color coded end of trap assembly (part B). Align the holes according to the frequency chart and secure with screw (part C). NOTE: Guy ring (part D) should be between trap assembly and screw (part C) as shown in Fig. 11. Telescope coded end of element section (part E) into coded end of trap assembly (part B). Align the holes according to the frequency chart and secure with screw (part C). Press caplug (part F) on end of element section (part E). When assembly is complete all breather holes in trap assemblies and screws must be facing downward.

FOR TA-32 AND TA-33 ONLY, SEE FIG. 1

Remove nuts, washers, and ground strap (parts 14, 15, and 24) which hold element support (part I) onto the boom (part 23 of the TA-32 or part 23-A of the TA-33). Install angle plate (part G) onto U-bolt (part 12) protruding from element support (part I). Replace ground strap (part 24) on U-bolt (part 12) and secure with washers and nuts (parts 14 & 15). Install U-bolts (part H) through holes in angle plate (part G) and loosely install washers and nuts (parts J & K). Install clamping blocks (part L) within U-bolt (part H) with flat portion of clamping block (part L) against angle plate (part G). Install vertical mast (part M) between U-bolts (part H) and clamping block (part L). Align flat of vertical mast (part M) parallel with element assembly and secure into position by tightening nuts (part K) of U-bolts (part H). Install guy ring thimbles (part N) on guy rings (part D) and onto flat of vertical mast (part M).

Cut guy ropes (part AA for TA-31, 32, and 33) 18 feet long from guy line (part O). Guy ropes (part AA) are installed between guy ring (part D) and vertical mast (part M). Figure 3 shows the preferred knot to be used at guy ring (part D). It will probably be necessary to use a knot other than this at vertical mast guy thimbles. It may be necessary to readjust all guy lengths after initial installation due to stretching and slipping of rope and knots. If a TA-33 is used, guy lines (part BB) are to be cut 19 feet long and guy lines (part CC) are to be 20 feet long. If a TA-32 is used, guy lines (part CC) are to be cut 20 feet long. Guy lines (parts BB & CC) are tied to the far side of element so they will not slip down the element. On the TA-31 and 32, the horizontal guys may be omitted, but it is advisable to add guys in the horizontal plane on both sides of the driven element. The method used in installing horizontal guys is left to the individual.

FOR TA-31 ONLY SEE FIG. 2

When installing angle plate (part G) onto element support (part I) of a TA-31, secure angle plate (part G) to the support (part I) with four screws (part P), washers and nuts (parts J & K). Telescope vertical mast (part M) into mast section (part Q) having screw hole. Align holes and secure with screw (part C). Install U-bolts (part H) through angle plate (part G) and loosely secure with washers and nuts (parts J & K). Place clamping blocks (part L) within U-bolt (part H) so that flat of clamping block is against angle plate (part G). Place mast section (part Q) between U-bolts (part H) and clamping blocks (part L) so that screw hole of mast section (part Q) is slightly above mast angle plate (part G). Align flat of vertical mast (part M) parallel with element assembly and secure in position with nuts (part K) on U-bolts (part H). The end of the mast section (part Q) maybe installed into your rotor.

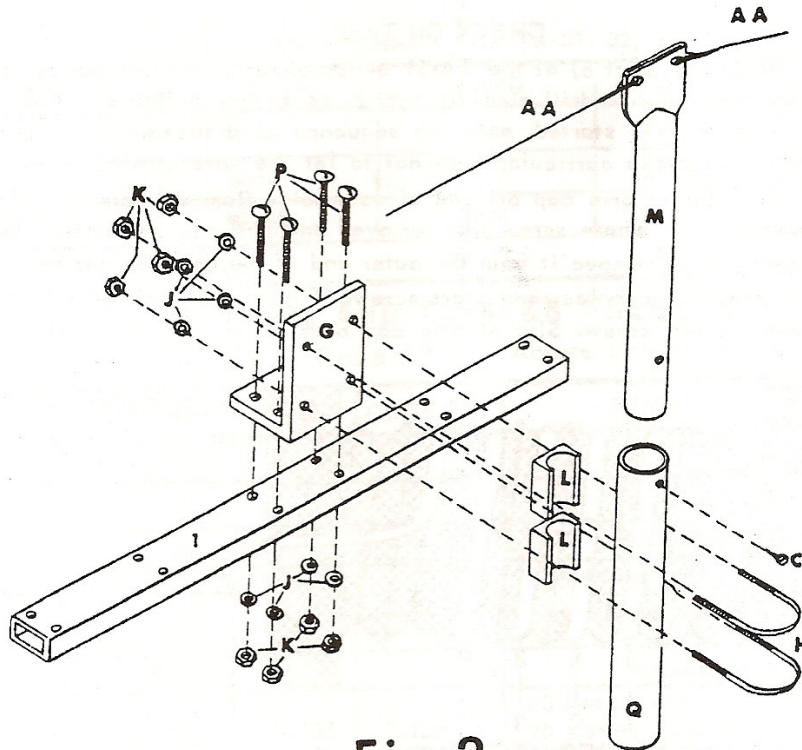


Fig. 2

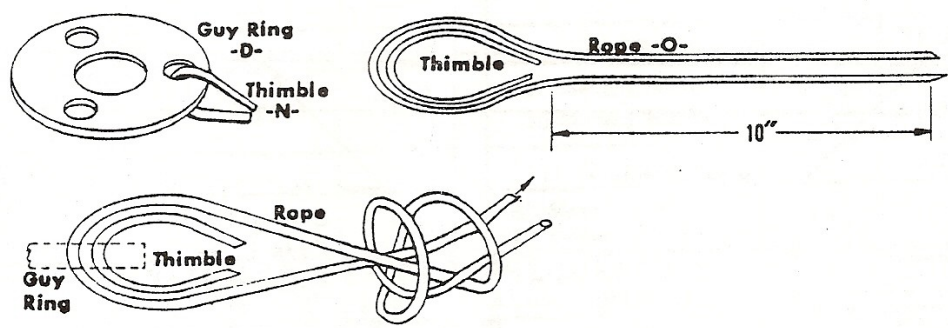


Fig. 3

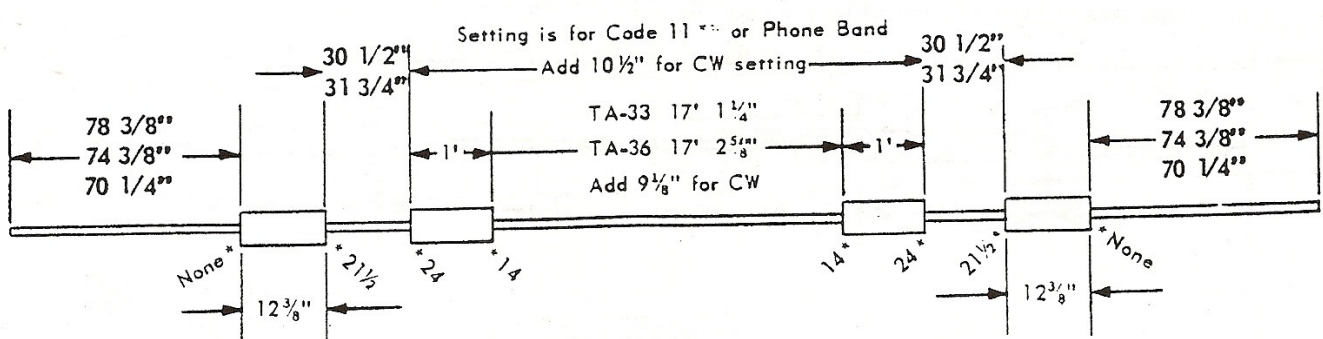
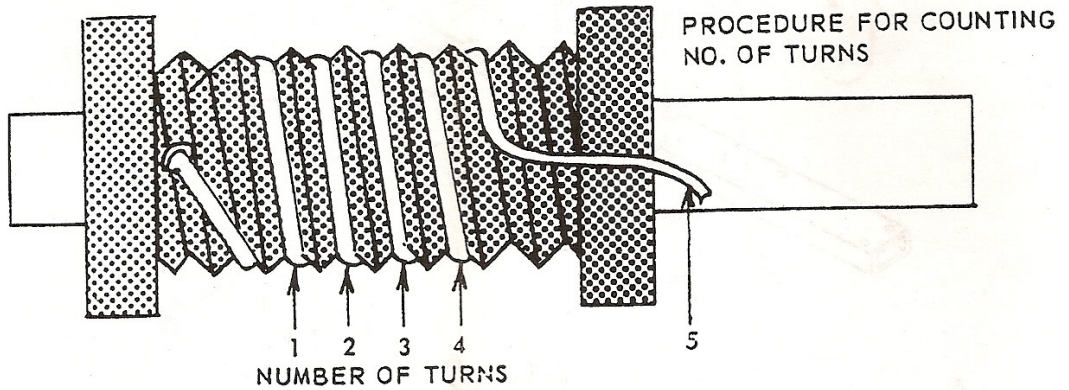


Fig. 4

* Indicates number of coil turns

CHECK ON TA-31

It is necessary that the trap coils (part 8) of the TA-31 be checked for correct number of turns on the trap assemblies. It may also be necessary to drill element (part 7) as shown in figure 5. When checking and disassembly of trap assembly (part 8) is started, note the sequence of disassembly to avoid trouble upon reassembly. When inspecting coils take particular care not to let the wire unwind on the coil form. To disassemble trap assembly pull plastic drip cap off end of assembly. Remove screw holding wire to outside metal housing. Place thumb on wire where screw was removed and pull coil assembly out of metal housing. Do not let the wire slip on coil form. If it is necessary to remove a turn, remove it from the outer end of the coil. Do not let the wire slip on coil form. Slip coil back into cover, align holes, and start screw. If turn was removed wrap wire tightly around screw, cut off surplus and tighten screw. Slip plastic cap back in place. Repeat for opposite end of assembly.



DRILL PART #7 AS SHOWN BELOW

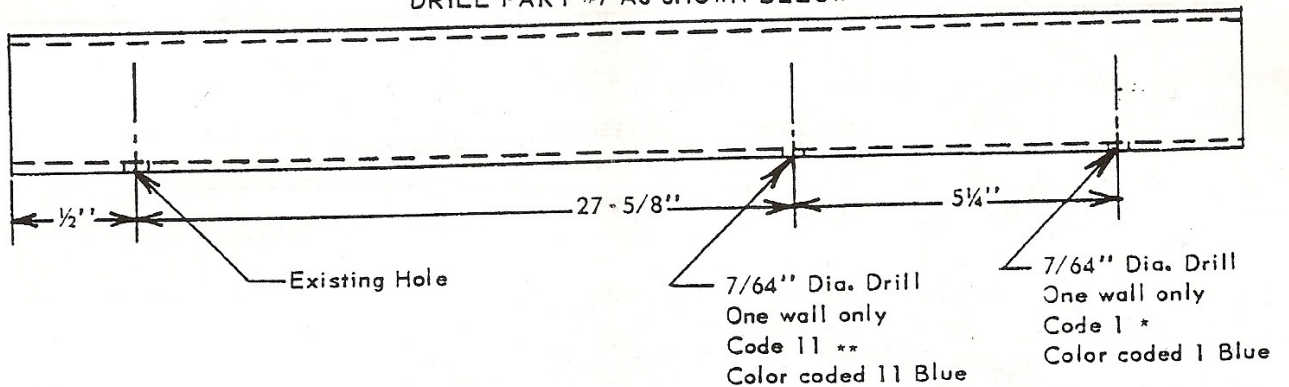


Fig. 5

TA-31, 32 or 33 RADIATOR LENGTHS

Dimensions are for code 11 setting, add 10 1/2" to center dimension for code 1 setting.

* Indicates number of turns of wire on coils.

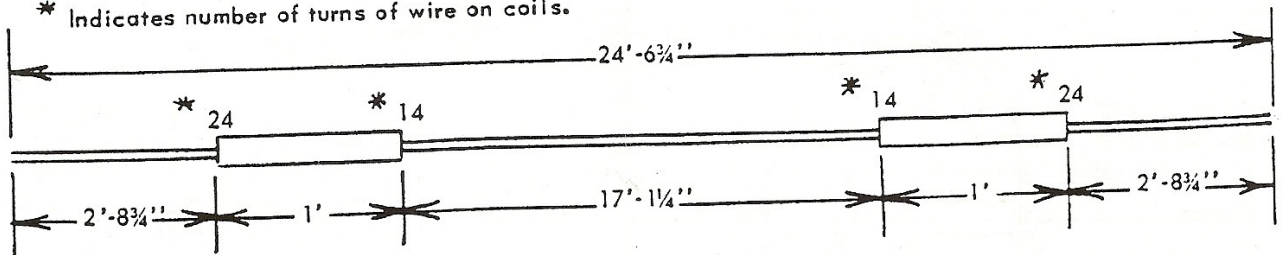


Fig. 6

FREQUENCY CHART FOR TA-31, 32, and 33

ELEMENT	COLOR	BAND	CODE 1*	CODE 2**
Radiator	Blue	10 M	28.1	28.8
Reflector	Brown	15 M	21.050	21.3
Director	Black	20 M	14.050	14.275
			* Best for CW	** Best for Phone

TA-33, TA-36 AND TA-40KR FREQUENCY CHART

Above antennas set for CW or Code 1*

BAND	CODE 1	CODE 2	CODE 3
10	28.1		
15	21.150		
20 Normal	14.245		
40 Meters with 20 Meters Normal	7.025	7.14	7.205
20 Extended	14.060		
40 Meters with 20 Meters Extended	7.020	7.125	7.185

Above antennas set for Phone or Code 11**

BAND	CODE 1	CODE 2	CODE 3
10		28.8	
15		21.3	
20 Normal		14.250	
40 Meters with 20 Meters Normal	7.065	7.175	7.24
20 Extended		14.075	
40 Meters with 20 Meters Extended	7.05	7.17	7.22

TA-32 AND TA-40 KR FREQUENCY CHART

Above antennas set for CW or Code 1*

BAND	CODE 1	CODE 2	CODE 3
10	28.1		
15	21.050		
20 Normal	14.195		
40 Meters with 20 Meters Normal	7.02	7.13	7.185
20 Extended	14.1		
40 Meters with 20 Meters Extended	7.00	7.115	7.175

Above antennas set for Phone or Code 11**

BAND	CODE 1	CODE 2	CODE 3
10		28.8	
15		21.3	
20 Normal		14.26	
40 Meters with 20 Meters Normal	7.05	7.165	7.225
20 Extended		14.025	
40 Meters with 20 Meters Extended	7.16	7.15	7.205

TA-31 AND TA-40 KR FREQUENCY CHART

Above antennas set for CW or Code 1*

BAND	CODE 1	CODE 2	CODE 3
10	28.5		
15	21.18		
20 Normal	14.235		
40 Meters with 20 Meters Normal	7.08	7.12	7.18
20 Extended	14.145		
40 Meters with 20 Meters Extended	7.070	7.1	7.17

Above antennas set for Phone or Code 11**

BAND	CODE 1	CODE 2	CODE 3
10		28.89	
15		21.4	
20 Normal		14.305	
40 Meters with 20 Meters Normal	7.035	7.155	7.22
20 Extended		14.205	
40 Meters with 20 Meters Extended	7.025	7.135	7.19

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ADDENDUM TO TA-40-KR INSTRUCTIONS

Band	Code I	Code II	Code III
10	N/A	28,450	N/A
15	N/A	21,225	N/A
20	N/A	14,175	N/A
40	7,060	7,170	7,245

TA-53-M With TA-40-KR

Frequency Chart

Note: The Large TA-40-KR traps have the Color Code to The Outside Away from the boom. This is the opposite of the TA-53-M traps. They are inserted with the Color Code pointing into the center, toward the boom.

TA-34-XL TA-34-XL WARC CL33M WARC TA-63M/N
Follow the same procedure used for a BLUE radiator on a TA-33.

Notice

During the manufacture of this antenna there are many aluminum chips made by drilling and sawing. It is too time consuming and costly to make a one hundred percent removal of those loose chips from the finished product.

We suggest you remove any loose chips from the inside and outside of parts before assembly. Especially check where the U-bolts holes go through a tubular part. Remove aluminum burrs from the inside and outside of all tubing ends with the aid of a file and small pocketknife. The removal of these burrs at the ends will make the telescoping of tubing sections easier.

Trap assemblies have been cleaned one hundred percent on the inside. It is not necessary for you to disassemble these for cleaning or testing. It may be necessary for you to remove burrs from the ends of small tubing extending from both ends of the traps. When doing so, be careful that aluminum chips do not get within the trap assemblies by way of the inside of the small tube at both ends of the trap assemblies.

WARNING - INSTALLATION OF THIS PRODUCT CLOSE TO ELECTRICAL POWER LINES IS DANGEROUS AND COULD BE FATAL. FOR YOUR SAFETY AND PROTECTION, BECOME FAMILIAR WITH AND FOLLOW THE INFORMATION BELOW.

1. Every year many people are permanently injured or killed through careless installation of communication antennas. These accidents can be avoided if proper information is obtained and simple safety precautions are observed. Antennas, such as this, are cumbersome and hard to handle after assembly. Installation of this assembly upon a supporting structure close to a power line could result in electrocution if accidental contact is made with it.
2. Choose the installation site of the antenna carefully. Determine the overall height of the complete antenna system; include the supporting structure's height (tower, slip-up mast, etc.), rotor (if needed) and the length of the antenna's longest element. The antenna system should be installed a minimum of ten feet over and above the collective height of the system itself, away from any electrical power line. If it is not possible to meet this criterion, it is suggested that professional help be obtained.
3. Determine the location of the electrical service, which is supplied to your location. Most power lines are installed above the ground from a pole to the house; however, in some cases power lines are buried beneath the ground surface. Solicit the assistance of your electric power company. Request that the electric service be shut off during installation time.
4. It is suggested that professional help is obtained, however, if non-professional help is used, be sure installation procedure has been determined and known by all parties. Be sure that safety equipment has been provided and is used. If during installation of the antenna system it begins to fall, do not try to prevent it, let it fall. If the assembly comes in contact with a power line, do not touch it, call the electric power company for assistance.
5. If any part of an antenna system comes in contact with an electrical service (supporting structure, guy lines, antenna, etc.), anyone that touches it will provide an electrical path directly to ground and may be electrocuted. If this happens, call for medical assistance, remove the victim using a non-conductive material (dry board, rope, dry tree limb, etc.), and apply artificial respiration. If a person comes in contact with electrical power lines, directly or indirectly, and has been electrocuted – do not touch the victim yourself – you too will be electrocuted.
6. As previously stated, an assembled antenna is cumbersome and hard to handle. Install the antenna system only in good weather and under favorable conditions. Do not attempt to install an antenna during twilight hours, windy conditions or inclement weather such as rain, snow, etc. Unfavorable conditions greatly increase the chance of accidental mishap.

There may be other factors that are unique only to your installation. Using good judgment and common sense may prevent a serious accident, permanent injury or even death.

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