LAKEVIEW COMPANY, INC.

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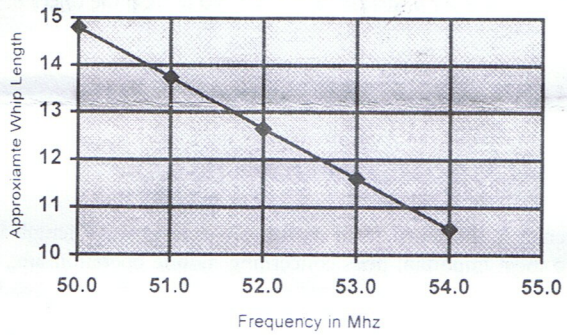
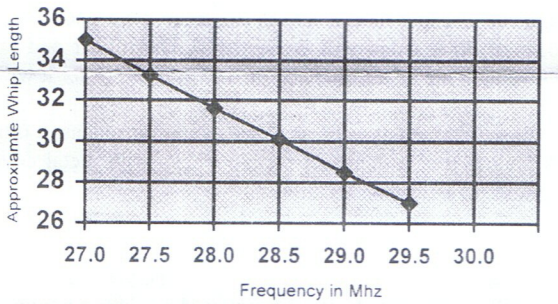
Do not cut the Whip First! Check the antenna for resonant frequency with the whip fully extended and then adjust the whip for the desired frequency. ***The exposed whip lengths shown are only approximate.*** Actual lengths will depend on several factors including mounting position, coax length, other antennas in the area and matching method. ***Again*** do not allow the whip to enter the close wound loading coil area of the Hamstick antenna in order to not shear the wire that passes through the fiberglass rod.

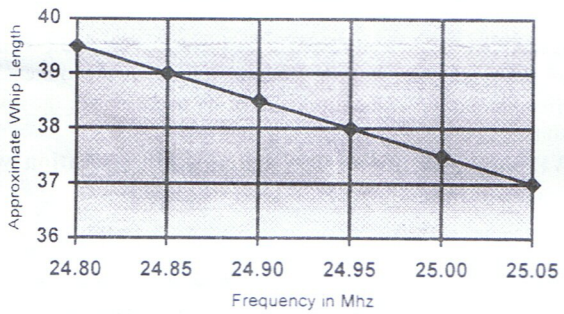
#9106 6 Meter Hamstick



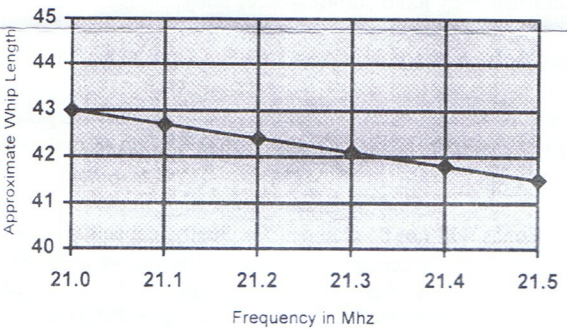
#9110 10 Meter Hamstick



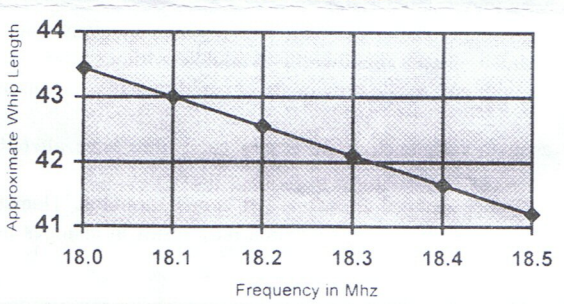
#9112 12 Meter Hamstick



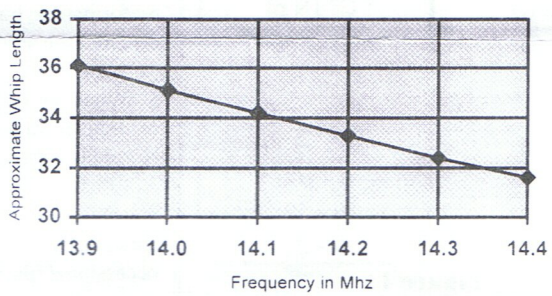
#9115 15 Meter Hamstick



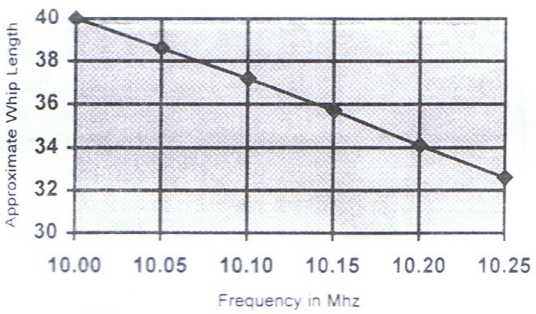
#9117 17 Meter Hamstick



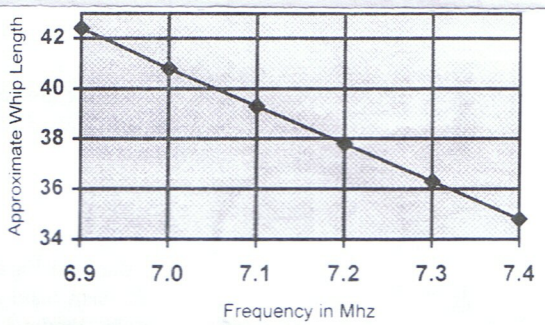
#9120 20 Meter Hamstick



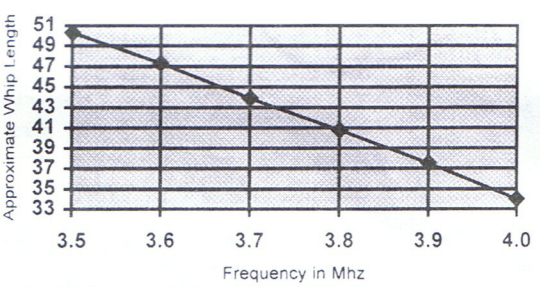
#9130 30 Meter Hamstick



#9140 40 Meter Hamstick



#9175 75 Meter Hamstick



WARNING:

On some "Hamsticks" a wire conductor passes through the hollow fiberglass rod about 6" from the top. It is easy to shear off this wire by jabbing the stainless steel whip against it. *If you shear the wire the warrantee is voided.*

CAPACITANCE VALUES

BAND	"C" IN pf
75 M	900 - 1200
40 M	450 - 600
30 M	400 - 550
20 M	200 - 300
15 M	0 - 100
12 M	0 - 50
10 M	0 - 25

Figure 1

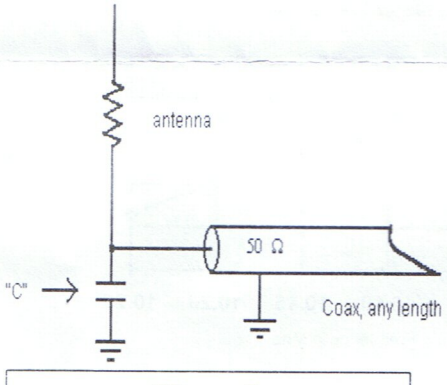


Figure 2

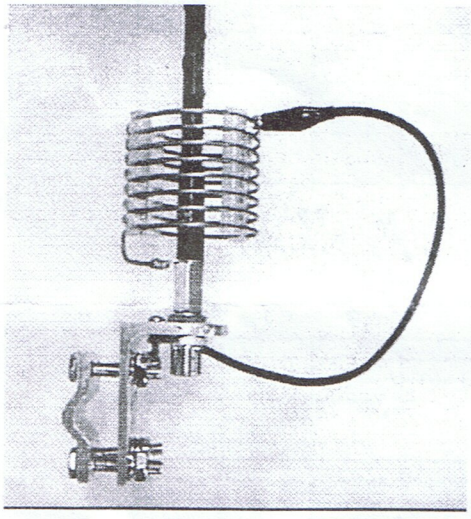


Figure 3

Tuning and Matching H.F. Mobile Antennas
General Information

Getting setup for mobile H.F. radio operation is more differcult than regular base station operation due to the "shortened" antennas necessary. First time mobile operators should not become discouraged because their new H.F. antenna may not be a "bolt on and use it" installation as is with two meters or even 10 and 11 meters. The following information is intended to help the operator get past any initial differculties.

REMEMBER THE BASIC ELECTRICAL LAWS WILL ALWAYS APPLY.
THERE IS NO MAGIC INVOLVED.

Whenever any ¼ wave vertical antenna is shortened from its full physical ¼ wave length it is compromised in certain ways. The two most important ones concerning mobile operation are: (1) The radiation resistance is reduced and the resistance (heat) is increased due to the inductive loading in the coil. (2) The "bandwidth" of the antenna will be reduced.

The antenna mounting location is a very important consideration. Good grounding of the mount should be such that the antenna does not run near or parallel to any part of the vehicle's metal body. For instance, a van or pickup truck using a rear bumper mount cannot expect to get a good antenna performance, but the same mounting location on a sedan will work well. The higher and more centered the antenna can be located on the vehicle the better the performance and the easier it will be to "match".

When using "Hamstick" antennas it is usually practical to use a trunk mount on sedans, a mirror or luggage rack mount on vans and R.V.'s, and roof mounts on pickup trucks with metal covers. Normally a bumper mount is the poorest choice of mounting locations.

Center loaded antennas such as "Hamsticks" are much preferred to base loaded antennas due to improved current distribution over a greater part of the antenna length. These fiberglass, low profile antennas will stay vertical at high speeds without guying. They also are not easily damaged by an occassional blow from a limb or overpass so they can (and should) be mounted as high as possible.

TUNING HAMSTICK ANTENNAS AFTER MOUNTING

Tuning refers here to adjusting the antenna to the desired resonant frequency. This is most easily done by positioning the stainless steel whip into the hollow fiberglass base to the dimensions indicated on the tuning chart. Then verify the setting with a dip meter or by checking for the lowest SWR. Shorten the whip to raise the resonant frequency or lengthen it to lower it.

Important Note: The lowest SWR may still not be low enough for operation with solid state rigs. This situation is covered under "MATCHING" below.

Important Note: For some frequencies on some "Hamstick" antennas the stainless steel whip may project into the area where the coil is wound "close spaced". When this happens, cut off the whip so that it will not project into the coil. Otherwise, severe inductive heating will occur at that point. To cut the whip, score with a file or grinding stone to where it will break easily. Wire cutters will be ruined trying to cut this very hard stainless steel alloy.

MATCHING MOBILE ANTENNAS TO 50 OHMS

If the antenna has an SWR of 1.5 to 1 or better then no matching should be necessary for that particular antenna installation. However, if the SWR is above 1.5 to 1, there are several methods of matching: INDUCTIVE, CAPACITIVE, R.F. TRANSFORMER and TUNER being the most versatile.

For monoband operation or where antennas will not be changed frequently, capacitive matching at the feed point is the least expensive. All that is necessary is a 1000 volt capacitor of the proper value (see Figure 1) from the feed point to ground as shown in the schematic in Figure 2. Where frequent band changes are anticipated, the WD4BUM INDUCTI-MATCH (cat # IM-1) should be used. Figure 3 shows an IM-1 used with a Lakeview Co. mount and a 20 meter "Hamstick". Follow the instructions with the IM-1 for an easy an inexpensive match.

A mobile tuner located near the output of the transceiver will also achieve excellent matching with the additional benefit of making much greater bandwidth available without resetting the antenna. Your tuner can be used in series with any of the previously covered matching methods for even greater (up to 3 times) bandwidth.

After matching, a recheck of the resonant frequency is necessary as it may have altered the resonant frequency slightly.

Figure 1 shows actual values of capacitance derived from tests of center mounted "Hamstick" antennas clear of surrounding objects. Other mounting arrangements may result in changes in the values required.