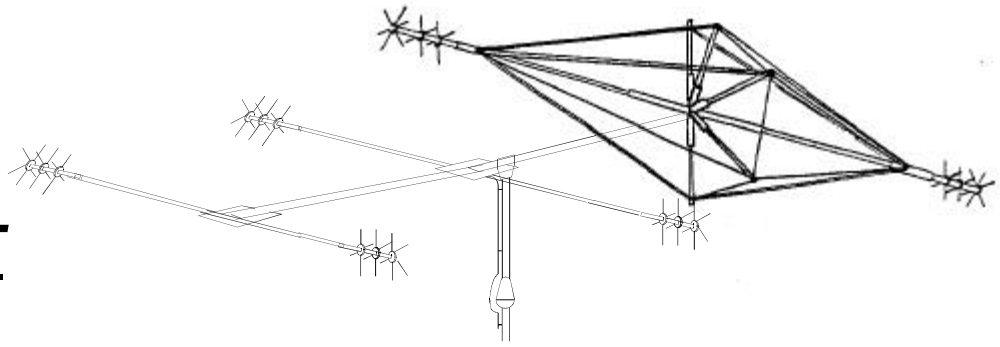
MQ-34SR



THREE ELEMENT MINI BEAM

Four band Hybrid Quad Antenna

Most antennas are large heavy structures requiring heavy towers ,rotors and lots of extra muscle during installation and lots of extra dollars before the job is done.

We believe this Hybrid to be the ultimate in a four band three element antenna, with a reflector design which results in a unique super hi-performance radiating system.

This principle of loading contains no magic whatsoever, by simply reducing the element length by eliminating the least useful portion, the ends, and retain the center which is the primary current or radiating portion, that plus a super Hi-Q Reflector diamond shape for maximum signal capture, and properly phased, puts all your signal out front where it does the most good.

Performance is excellent- low SWR, low radiation angle, broad band, excellent gain and front to back ratio .
The Hybrid Quad is a sensible designed, built from high quality materials and mounts with standard TV hardware and rotor. It's small size gathers very little ice and wind which allows you to spend more time on the air, not in the air.
Try this Hybrid-Quad, you'll be amazed.

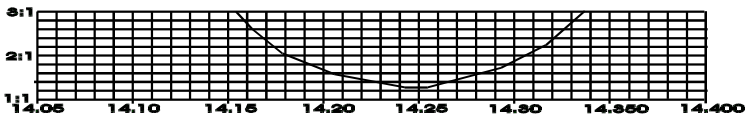
Mechanical Spec.

Element Length - 11 foot 5 in.
Boom Length- 10 foot 3 in.
Turning Radius- 8 Ft. 8 in.
Weight- 24 lbs.
Mast (not inc'l)- up to 2 1/8"
Wind Loading- 2.8 Sq. Ft.
Wind Survival- 75 MPH.
Overall Quad Reflector Height- 48 in.

Electrical Spec.

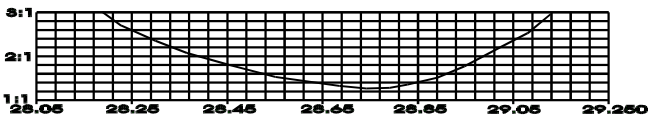
Operating Bands -6-10-15-20 Meters
Forward Gain (Ret. Dipole) 6M-7.0 dB, 10M-7.0 dB, 15M-6.8 dB , 20M-6.0 dB.
SWR @ Resonance- See curves
Front to Back Ratio- 15 dB. to 20dB.
Front to Side ratio- -25db.
Power Rating- 1200 Watts P.E.P.
Input Impedance- Single 50 OHM Feedline

SWR vs FREQUENCY FOR MODEL MQ-34SR

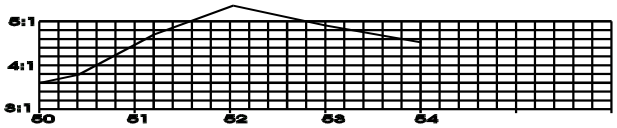


20 METERS

15 METERS



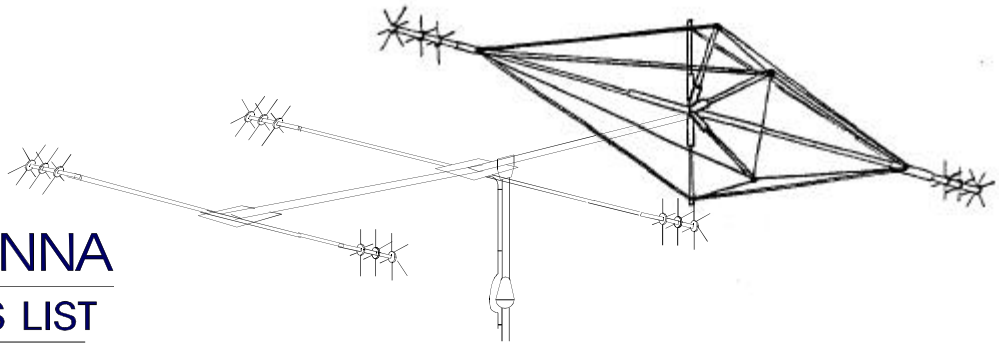
10 METERS



6 METERS

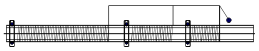
NOTE: Above curves typical -Resonance may be adjusted up or down.

T.G.M. Communications 121 Devon St. Stratford ON. N5A2Z8
Tel (519) 271-5928 Fax (519) 271-5928 E-mail: tgmc@sympatico.ca

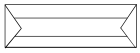


HYBRID-QUAD ANTENNA

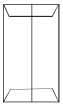
INSTRUCTION & PARTS LIST



LOADING COIL (6)



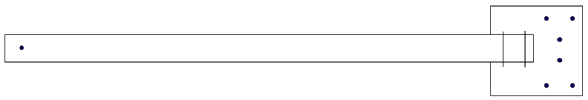
SPOKE PACKAGE (1)



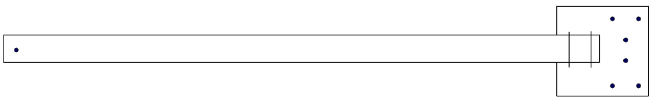
HARDWARE PACKAGE (1)

DRIVEN ELEMENT (2)

INSULATING DOWEL (1)

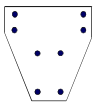


SHORT BOOM WITH INSULATING BOARD (1)



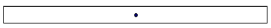
LONG BOOM WITH INSULATING BOARD (1)

MAST COUPLER (1)

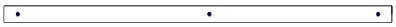


MAST MOUNTING PLATE (1)

CROSS ARM BRACKET (1)

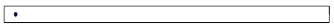


VERTICAL SLEEVE (1)

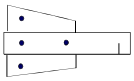


VERTICAL INSULATOR (1)

HORIZONTAL SLEEVE (1)

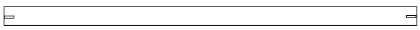


HORIZONTAL INSULATOR (2)



COIL MOUNT SLEEVE ASSEMBLY (2)

REFLECTOR DIAGONAL ASSEMBLY (4)

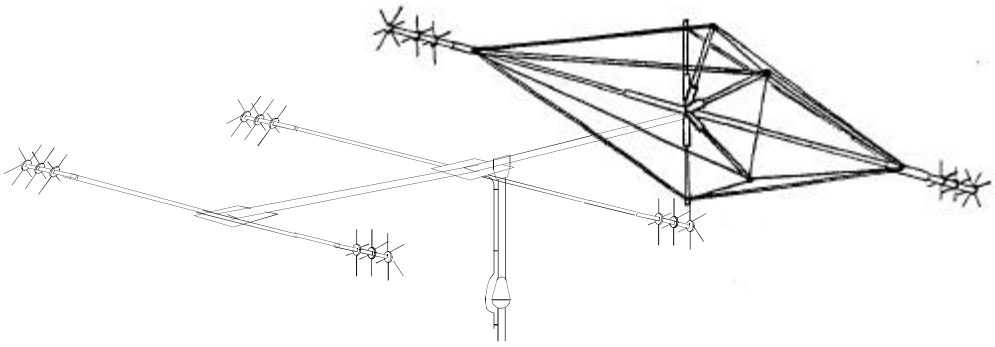


DIRECTOR ELEMENT CENTER (1)

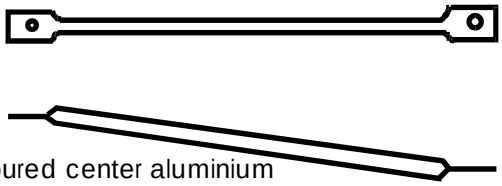
DIRECTOR ELEMENT ENDS (2)

MQ-34SR

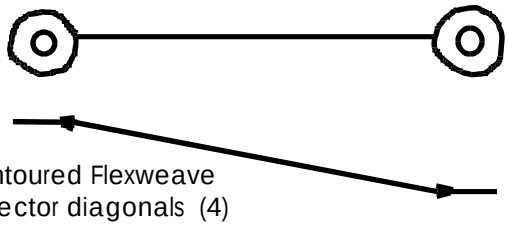
Minature



Instruction and Parts List

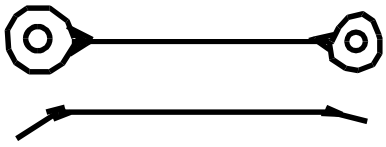


Contoured center aluminium
Reflector diagonals (2)
{Top & edge view}



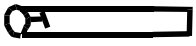
Contoured Flexweave
Reflector diagonals (4)
{Top & edge view}

Flexweave Diagonal support
with 90 degree bend (2)



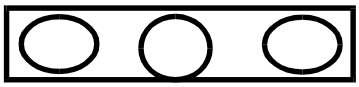
Contoured
Flexweave
diagonal support (2)
{Top & edge}

aluminium
Support stub (1)



Aluminium
Support stub (2)

Insulating support arms (3)



Rear reflector bracket (1)

Safety Precautions

Warning! You can be killed if the antenna, feedline or the equipment used to install the antenna accidentally contacts any utility lines, Never install an antenna near power lines!

1. Be careful while climbing and carrying the antenna. It is heavy enough to cause you to lose your balance if it is handled too casually or if the capacitance spokes are snagged on a gutter, ladder, tree limbs and so forth.
2. Mount the antenna high enough so that it is out of reach. The ends of the capacitance spokes can cause eye injury, serious RF burns or both.
3. Make sure that the mast is sturdy enough to support the 24 pounds weight and the wind load of approximately 2.6 square feet.

CHOOSING A LOCATION FOR THE ANTENNA

The best performance on receiving and transmitting will be obtained by mounting the antenna in a clear location above or away from buildings, towers, feedlines, utility wires and other antennas. While your own ingenuity and particular circumstances will determine the final mounting method, we'll pass along a few ideas for both permanent installation and portable operation.

Never mount this antenna in a location that permit unsuspecting people to come in contact with the loading spokes or any other part of the antenna.

Never mount this antenna where a mechanical failure might allow the antenna to contact power lines or other utility wires.

Always ground the feedline at the point it enters a building to a good earth ground or directly bury the cable in the earth for several feet before it enters the building for lightning protection. The coaxial cable should be totally disconnected from the station during threatening weather conditions for maximum lightning protection.

Note: Wear saftety glasses whenever working near or on this antenna!

ASSEMBLY INSTRUCTIONS FOR HYBRID QUAD

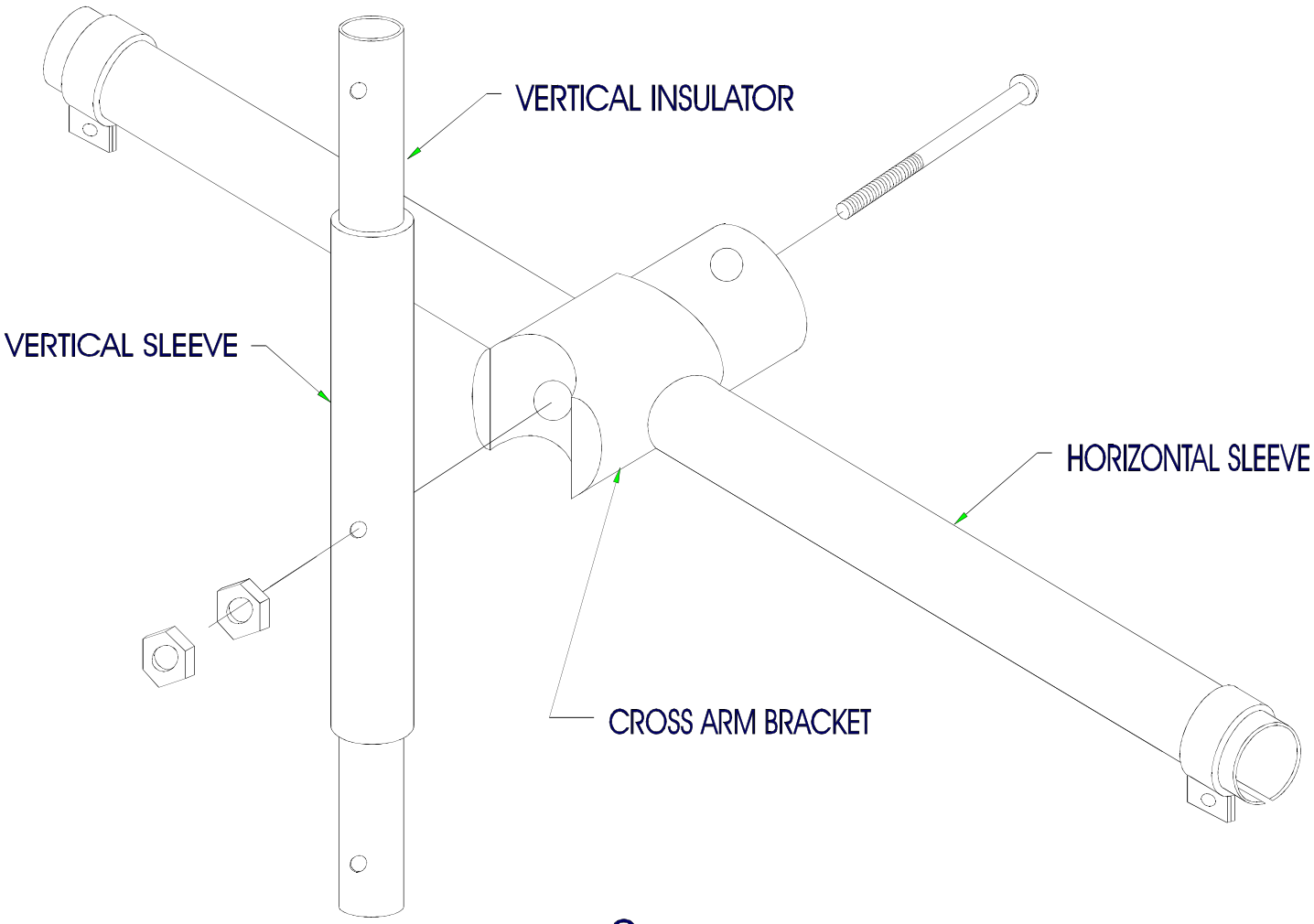
Please read these instructions over before attempting to assemble your antenna.

Page one shows the component parts and their description. These components will be referred to by the description in the following instructions.

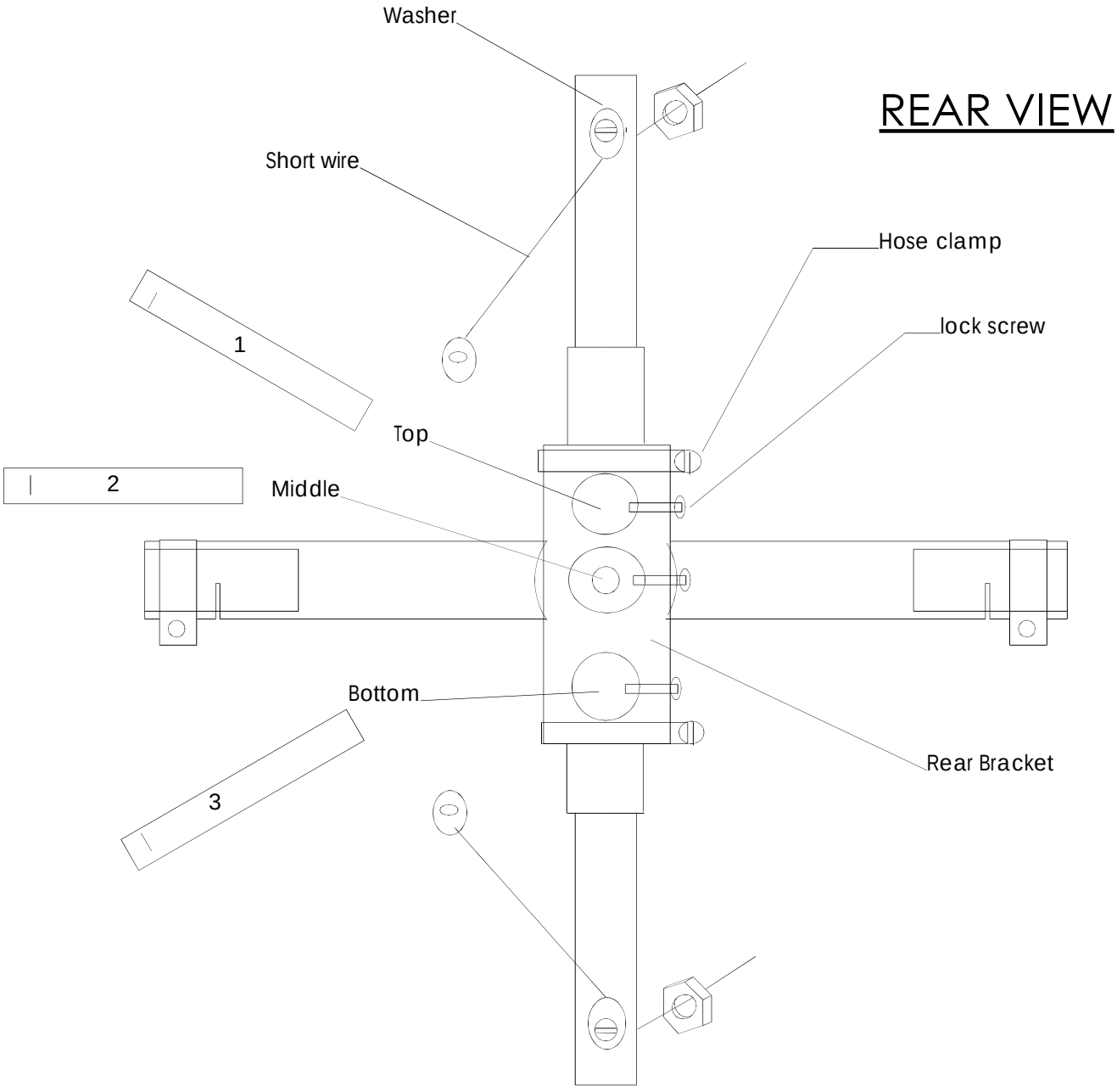
1. Choose a cleared area to proceed with assembly such as a garage floor , patio, etc.

2. Remove loading coils and spoke package; set them aside while performing the hardware assembly. The coils are the last step performed in these instructions.

3. Cross Arm Assembly. Assemble horizontal sleeve, vertical sleeve and vertical insulator to cross arm bracket; align holes, insert 2 1/2" long screw; secure with nut and nut. Attach clamps to horizontal sleeve. Refer to picture below.

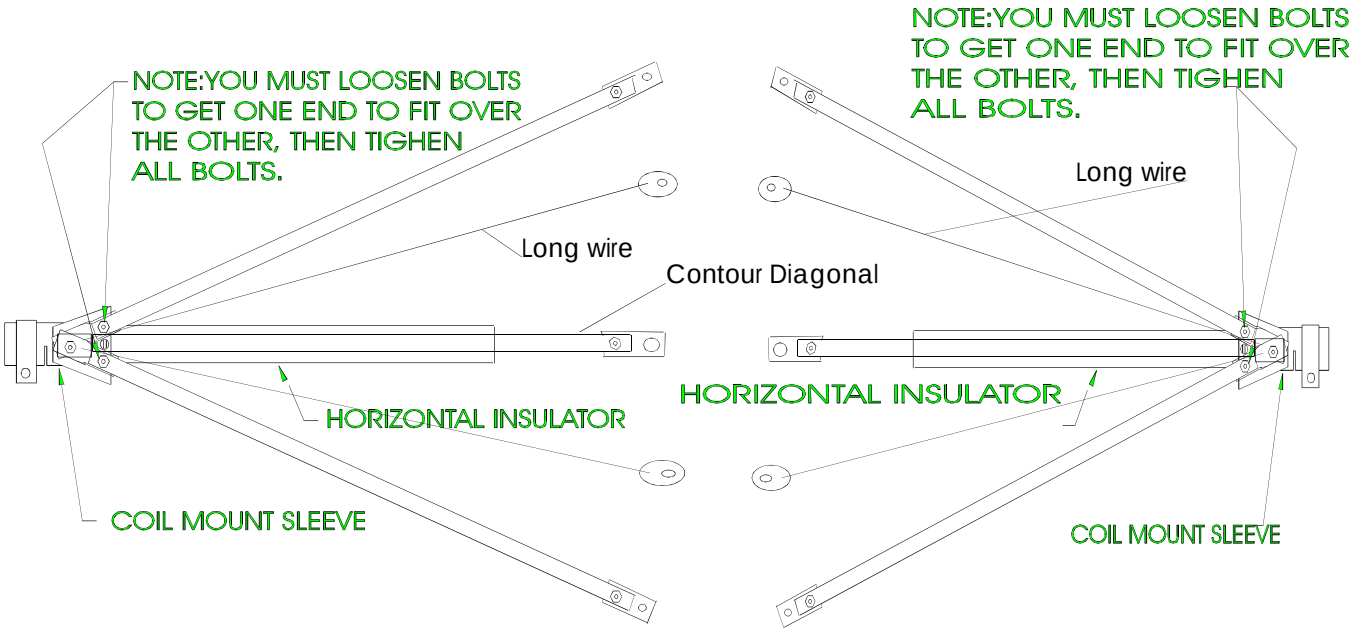


4. Install rear bracket, center in position and tighten two hose clamps. Then using two 2 " bolts through short wires and tighten 10-32 nut on rear.
Next position top support stub and lock in with lock screw, then install middle and bottom support stub with lock screws .
Now install all three insulating support arms all the way in for now , but don't tighen clamps yet.



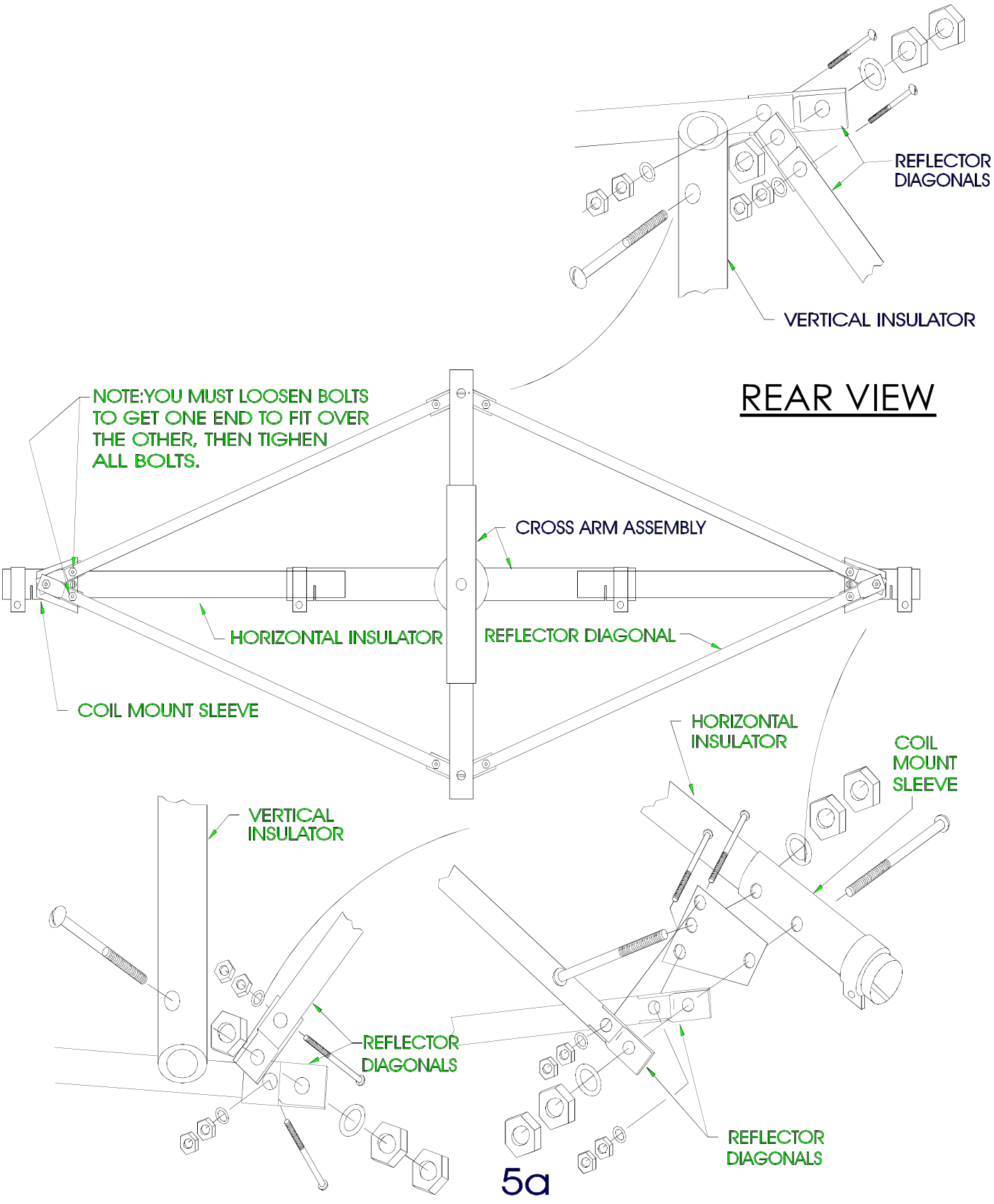
5.Install contour diagonals with two long wires on the the top of the exisiting reflector assembly , install washer the two 10-32 nuts and tighten up everything.

This may be easier to do by standing each half of the reflector on end with the three diagonals acting like a tripod, This makes it easier to get all the wires in the correct location before tightening the 10-32 nuts.



Note:Look at page 5a for clearer view of the reflector without the rear refector assembly installed.

6. Reflector Element. Insert horizontal insulators in ends of horizontal sleeve. Do not tighten clamps yet. Assemble 2" screw and nut to the vertical ends of cross frame and tighten securely. Assemble coil mount sleeves to ends of horizontal insulators. Insert 2" screws through the holes provided and fasten securely with nut. Place four 1/2" diameter aluminum diagonals over the protruding 2" screw ends. Put on washers and nuts but do not tighten. Align by sliding insulator in or out of horizontal sleeve. Tighten down all connections including clamps on horizontal sleeve. Refer to drawings below.



7. Install wires with the long ones on the bottom as well as the two diagonals and short wires on top , snug down till tight ,don't over do it and strip the lexan. Next pull out lexan support arms till wires have a some tension, but not till reflector starts to lose it's shape, and tighten clamps.
When done wire terminals ends under lag screw should be 90 degrees to each other, readjust if necessary.