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VITE ANTENNAS

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KLM 50-52-11
SIX METER ANTENNA

01392

Welcome to the antenna line of the KLM communications family. Your antenna kit features hi-grade materials and workmanship. It requires no additional drilling or machine work. The design has been optimized for maximum performance and durability. Altering or modifying the antenna is not recommended.

This packet contains basic assembly instructions for the KLM six meter antennas. Also included are the specific Dimension Sheet, Assembly Drawing and Parts List for the particular model KLM antenna you ordered.

I. PREASSEMBLY

1. Select an assembly area large enough to accommodate boom and element lengths. Two sawhorses or large boxes are useful for holding antenna boom at a comfortable working height. A shallow box is handy for holding and sorting the small hardware. The following tools are required: Tape measure, screwdriver, spintites, socket or end wrenches. Common nut sizes encountered are:

1 1/32".....	8-32	hdwe	Boom, element, insulator ass'y
3/8".....	10-32	hdwe	
1/2".....	5/16-18	hdwe	- U-bolts
9/16".....	3/8-16	hdwe	(11 element only)

PLEASE NOTE: With the exception of U-bolts, most small nuts and screws can be considered "tightened securely" when moderately hand tightened with screwdriver or spintite. When using tools with additional leverage, care must be taken not to overtighten and damage components.

For the best results and the best use of your time, we strongly recommend familiarizing yourself with all parts and instructions before beginning assembly.

2. Thoroughly unpack shipping box and check all components and hardware against the attached Parts List supplied for your particular antenna model. In the event a difference is apparent, please check for a factory "up-date/changes" list accompanying this instruction sheet prior to contacting your KLM dealer or the factory.

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II. ASSEMBLY (See Assembly Pictorial)

1. The ends of each boom section are letter-marked in felt pen. Assemble boom sections matching like letters ("A" to "A", etc.). Sections may be rotated to align screw holes. Each joint requires two sets of 10-32 x 2 1/4" screws, nuts, and lockwashers from Hardware Package. Additionally, assemble "cut" boom sections matching like numbers ("1" to "1", "2" to "2", etc.). These numbers are marked in felt pen also. The 1, 2 and 3 numbered junction points will need to be sleeved, drilled and bolted together.

1A. (11 Element Only) Slide boom support clamps (2" i.d.) onto boom - 79" from boom rear and 101" from boom front.

2. Attach the driven element insulators to the boom according to position and spacing specified on Dimension Sheet. Use 10-32 x 3" screws, nuts, and lockwashers from Hardware Package. Screws are inserted down through insulator.

3. Slide each pair of phasing straps through a black plastic standoff until centered.

4. An additional strap and insulating sleeve (3/4" clear vinyl tubing) are included with antennas using a "loop". See Dimension Sheet for your model. This strap should have the vinyl sleeve centered and be gently bent to a "U" shape as shown in the Assembly Pictorial.

5. Use tape measure to select and match driven elements according to lengths specified in the Dimension Sheet. Mount elements and straps to insulators as shown in Assembly Pictorial (also attach loop, if specified, to rear driven element). Use 8-32 x 1 1/4" screws, nuts, and lockwashers from Hardware Package. Note orientation of screws, (nuts are topside). Tighten securely. Loosely add a flatwasher, lockwasher, and nut to both of the front driven element screws (used later for balun leads).

6. Attach reflector and director element insulators to the boom according to position and spacing specified on Dimension Sheet. Use 10-32 x 3" screws, lockwashers, and nuts from Hardware Package. Tighten securely. NOTE: Screws are inserted down through insulator.

7. Use tape measure to select and match reflector and director element pairs (see Dimension Sheet). Attach jumper straps and element pairs to insulators (see perspective view - Assembly Pictorial). Use 8-32 x 1 1/4" screws, lockwashers, and nuts from Hardware Package. Tighten securely.

M.2-60 1:1

(8) If you order a KLM balun with the antenna, mount the balun clip ON TOP of the front driven element insulator with #6 x 3/8" self-tapping screw into offset hole.

Place balun in clip (connector pointing to mast) keeping terminals at least $3/8$ " from clip. Secure leads to feedpoints using nuts, lockwashers, and flatwashers previously installed. Keep leads as short as possible.

9. Double-up the 4"x 8" boom-to-mast plates and center them 160" from boom rear. align plates horizontally, as shown in Mounting Pictorial. Secure with 2" U-bolts.

10. Attach boom support guy cable loops to boom clamps previously installed (1A) with $3/8$ -16 x 2" bolts, lockwashers, and nuts. Be sure shorter cable half is attached to rear boom clamp. Loosen turnbuckles until only $1/8$ " of thread is showing inside. Tape cables to boom so they will not interfere with antenna installation.

11. Connect 50 ohm feedline to balun and route it under boom and back to boom-to-mast plate. Tape or strap to boom at regular intervals.

12. Final Inspection: Use tape measure and Dimension Sheet to double check all elements for correct spacing and length. Use Assembly Pictorial to double check correct placement of straps, loop, balun, screws, etc. Re-check all nuts and screws for tightness.

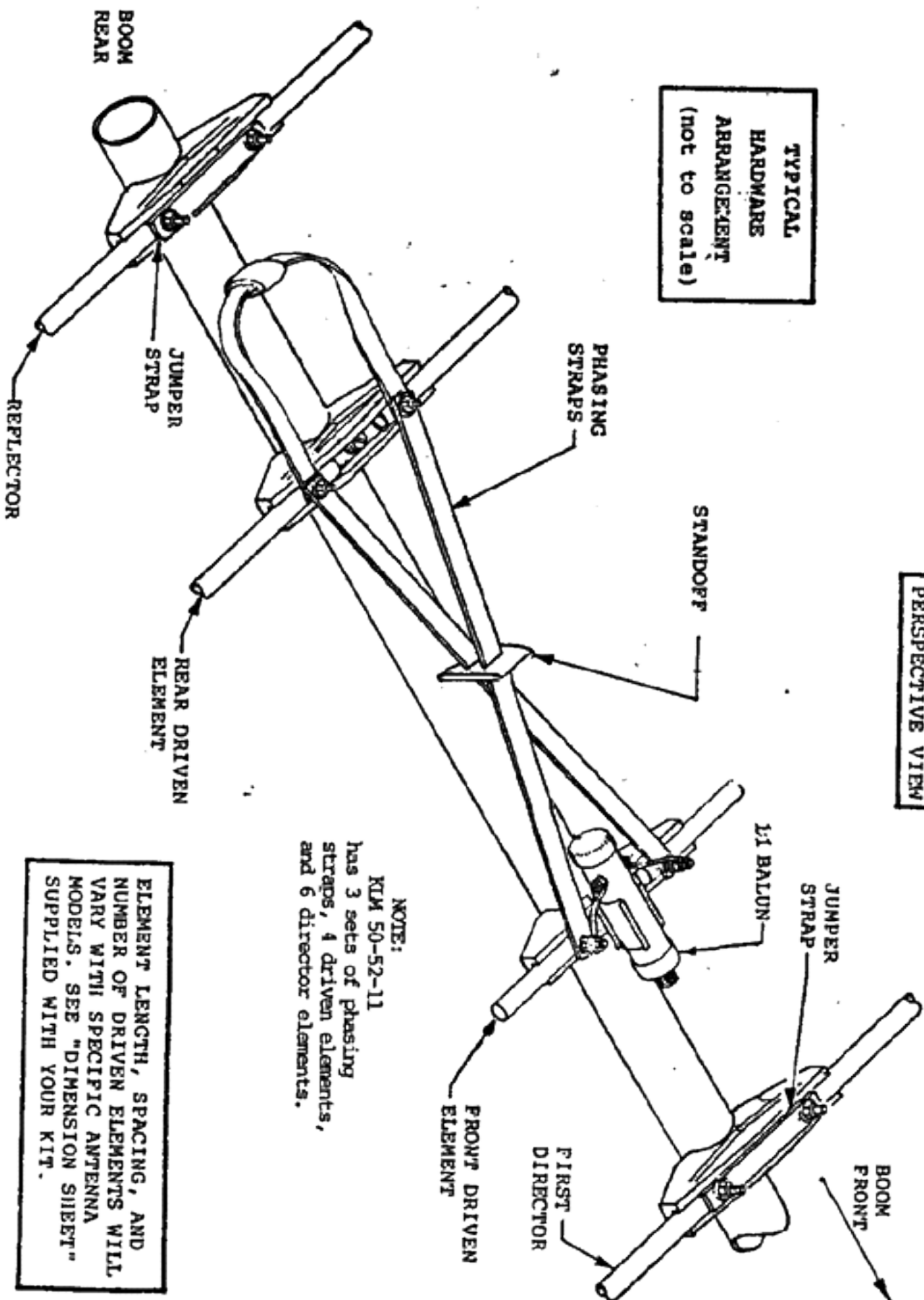
13. Install antenna on mast with two 2" U-bolts through the boom-to-mast plate. Tighten them securely. Allow at least 40" of mast above the boom for attaching boom support cables center plate.

14. Attach guy cable center plate to mast with 2" U-bolt. Adjust until boom is more or less straight. Make final adjustments with turnbuckles. Make sure cables are not twisting. Block eyebolts if necessary. When boom is straight, safely lock turnbuckles with wire through center and eyebolts.

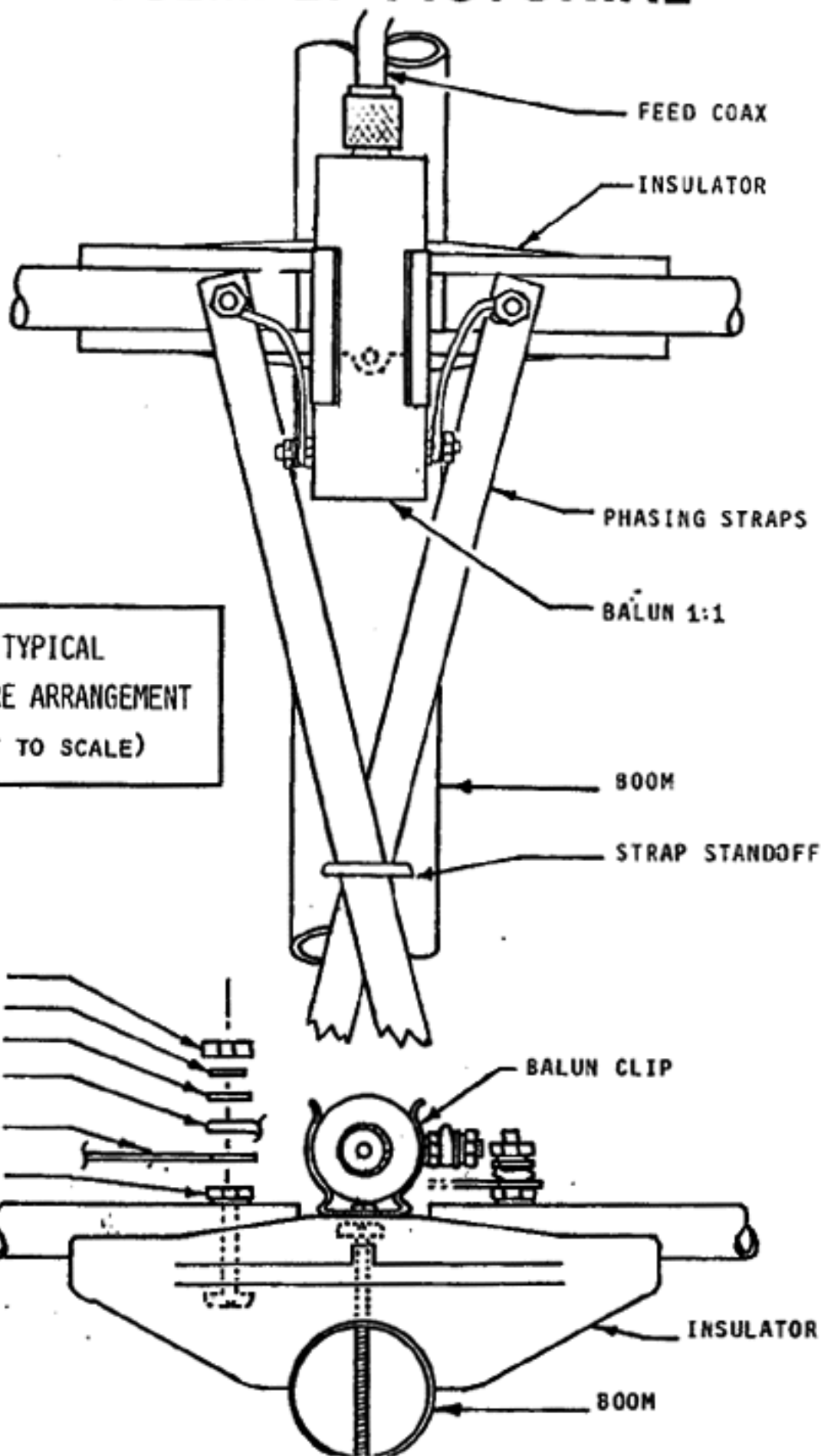
ASSEMBLY PICTORIAL

PERSPECTIVE VIEW

TYPICAL
HARDWARE
ARRANGEMENT
(not to scale)



ASSEMBLY PICTORIAL



DIMENSION SHEET

KLM 50-52-11
6 METER ANTENNA

Element Spacing
(in inches from boom rear)

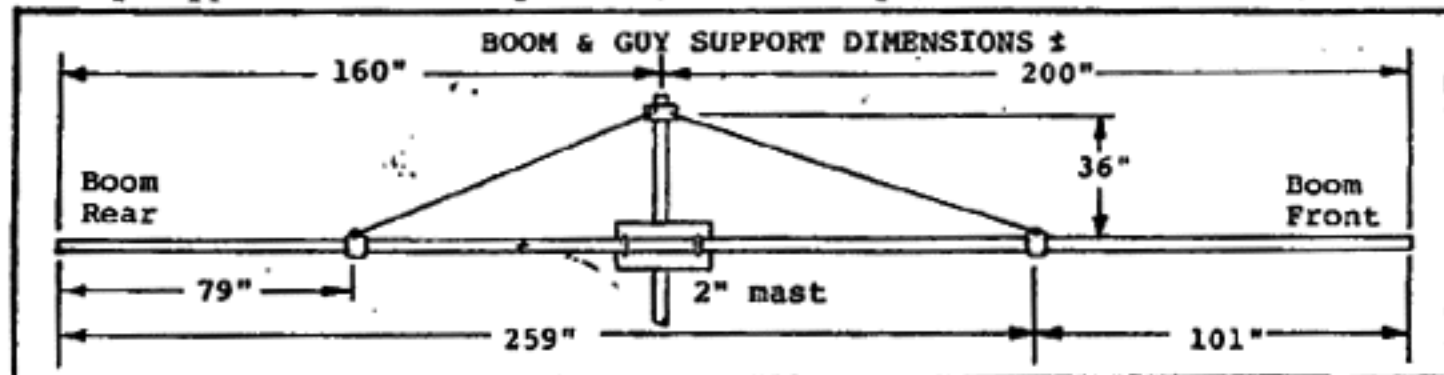
Element Half-Length
(excluding jumper straps)

	Boom Front	
Directors	359.25	48.25
	322.25	50.125
	288.25	50.125
	222.0	50.5
	165.25	50.5
	100.25	51.0
Driven Elements	74.75	49.5
	57.75	52.0
	39.75	53.5
	20.75	54.0
Reflector	.75	59.0
	Boom Rear	

XX - Feedpoints, 50 ohm balanced. For optimum performance a KLM 3-60-1:1 balun is recommended.

Mounting: 4"x8" plate (2"to2") at physical balance point (160" from rear).

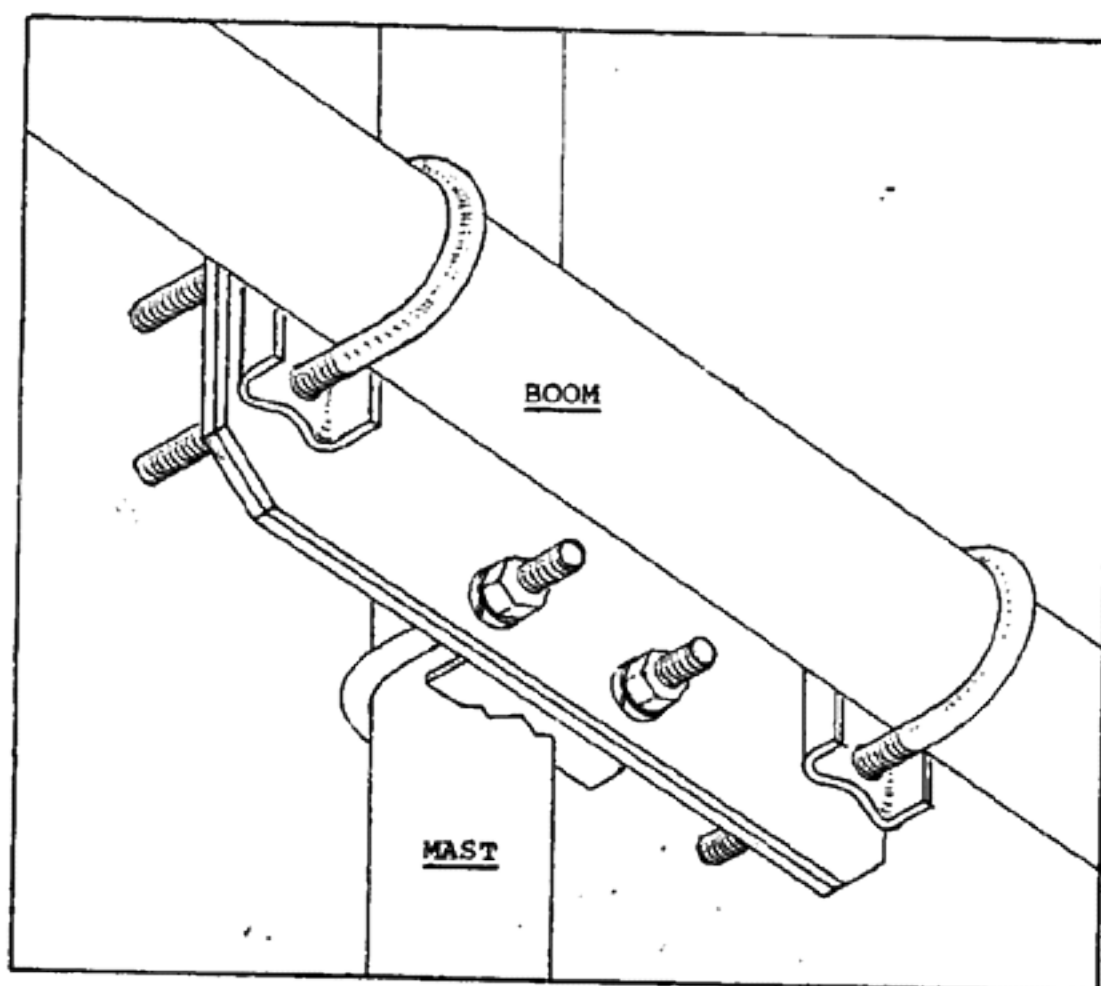
* - Guy support attachment points (2"I.D. clamps): @ 79" and 259" from rear.



ANTENNA MOUNTING

TYPICAL BOOM TO MAST
HARDWARE ARRANGEMENT

4" X 8" PLATE



BOOM AND ELEMENT ORIENTATION WILL
VARY WITH SPECIFIC ANTENNA AND
APPLICATION. SEE ASSEMBLY INSTRUCTIONS
AND DIMENSION SHEET SUPPLIED WITH
YOUR MODEL

PARTS LIST

KLM 50-52-11

HARDWARE PACKAGE

3/8-16 x 2" Bolts	2
3/8-16 Nuts	2
3/8 Lockwashers	2
10-32 x 3" Screws	11
10-32 x 2 1/2" Screws	6
10-32 Nuts	18
#10 Lockwashers	18
8-32 x 1 1/2" Screws	22
8-32 Nuts	46
#8 Lockwashers	46
#8 Flatwashers	2
#6 x 3/8 Screw	1
Spacers (for phasing straps)	3
Vinylsleeve (for loop)	1
5/16-18 Nuts	10
5/16 Lockwashers	10

IN SHIPPING BOX

Boom: 2" O.D.		
	x 10'4" swaged	2
	x 9'11 1/2" straight	1
Elements: 1/2" O.D.	x 53 1/2"	2
	x 59"	2
	x 54	2
	x 52	2
	x 51	2
	x 50 1/2	4
	x 50-1/8	4
	x 49 1/2	2
	x 48 1/2	2
Phasing Straps: 1/2"		
	x 19 25/32	2
	x 18 13/16	2
	x 17 13/16	2
Jumper Straps: 1/2"		
	x 3 13/16	7
Loop: 1/2 x 22 1/2"		1
2" I.D. Ring Clamps		2
4"x8" Boom-to-mast plate		2
Guy Support Harness		1
2" End Caps		2
2" U-bolts & Cradles		5 ea.
Insulators 1/2" x 2"		11