



# 6 meter ANTENNAS

REVISED: 5/26/83

01545

## KLM 50-7 LD 6 Meter Antenna

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 your antenna. A detailed Dimension Sheet, Assembly Pictorial, and Parts List are included to assist in successful construction.

### I. PREASSEMBLY

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:

8-32 Hdwe..... 11/32"  
 1/20 Hdwe..... 7/16"  
 5/16-18 Hdwe..... 1/2"

**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 on any hardware, 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.

### II. ASSEMBLY INSTRUCTIONS

1. 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.

A. BOOM ASSEMBLY:

A1. One end of each boom section is letter marked in felt pen. Assemble the boom sections matching like letters ("A to A", etc.). Rotate sections as necessary to align all holes. Secure the joint with two 8-32 x  $1\frac{3}{4}$ " screws, lockwashers, and nuts.

B. ELEMENT ASSEMBLY:

(See Dimension Sheet & Assembly Pictorial)

B1. Beginning with element #1 (reflector), attach the 3/8" OD x 61" element half sections to the insulator. Insert 8-32 x  $1\frac{1}{2}$ " screws through bottom of insulator and secure above tubing butts with 8-32 lockwashers and nuts. Screws are extra long to provide mounting studs for jumpers.

B2. Attach 3/8 O.D. elements #2 through #7 (front director) to insulators according to lengths specified in right hand column of the Dimension Sheet. Secure with 8-32 x  $1\frac{1}{2}$ " screws as in B1.

To avoid mixups, number or otherwise keep in order each element as it is assembled.

B3. Attach assembled elements to boom according to spacing shown on the Dimension Sheet. (Dimensions in left hand column show distance of each element from the rear of the boom). Secure with 8-32 x  $2\frac{1}{4}$ " screws inserted down through insulator and nuts and lockwashers applied beneath boom. If you are using a KLM balun, use the element mounting screw to secure balun clip to the top of element #3.

B4. Place the 1/2" x 4" jumper straps on the element half mounting screw studs of elements 1, 4, 5, 6, and 7. Secure with additional 8-32 lockwashers and nuts.

B5. Slide the 24-1/8" phasing straps through the standoff until centered (crossover point). Attach the straps to the studs on elements #2 and #3. Secure on #2 with additional 8-32 lockwashers and nuts.

B6. Place balun in clip on front driven element with connector pointed to boom front. Attach balun leads to feedpoints (over phasing straps) and secure with #8 flatwashers, lockwashers, and nuts.

C. BOOM-TO-MAST PLATE: (See Antenna Mounting Pictorial)

C1. Attach feedline to balun (use only hi-quality 50 ohm coax) and route it under boom towards center, taping or strapping it over three or four feet.

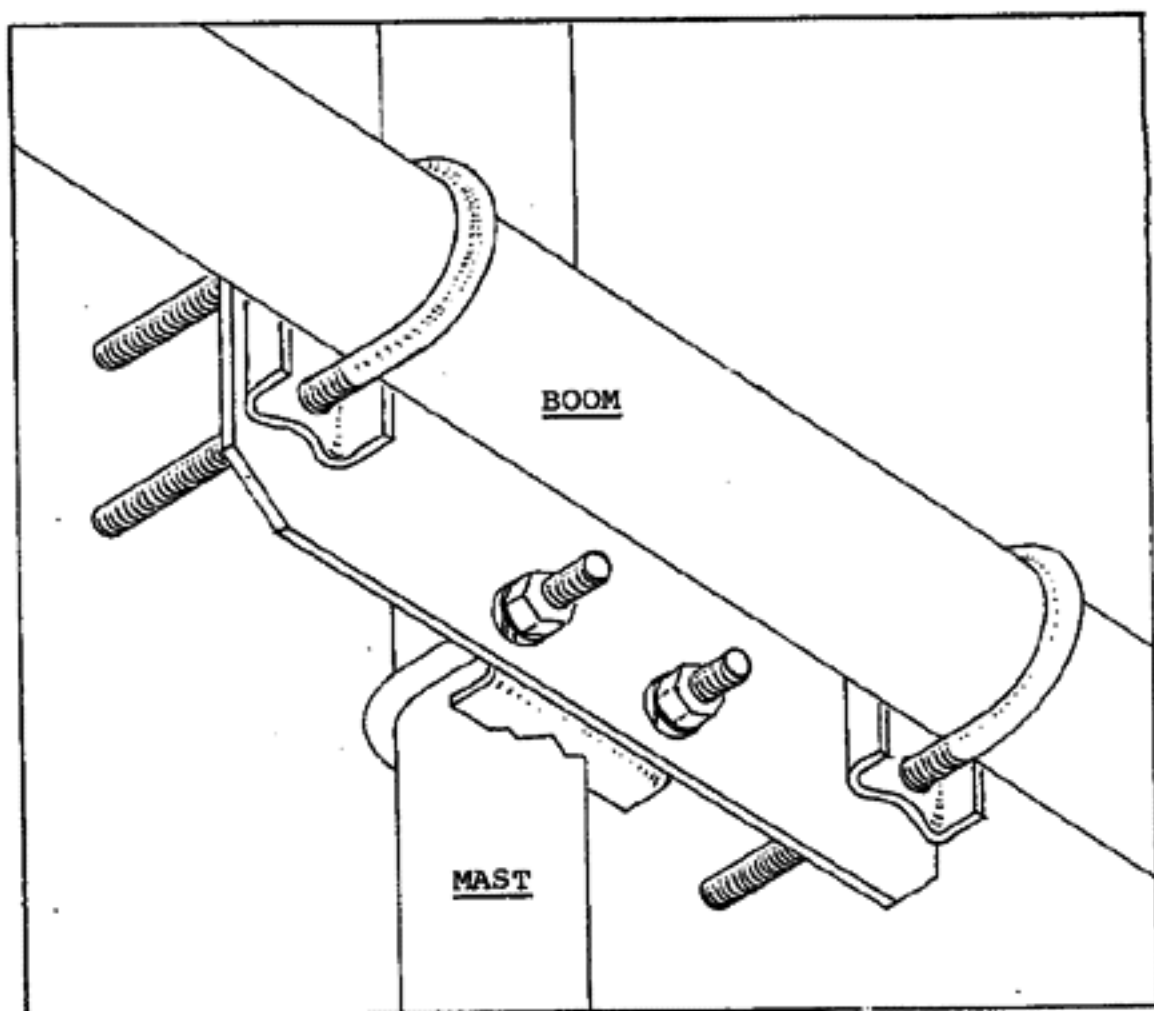
C2. With feedline attached determine physical balance point of beam. Attach the 1/8" x 4" x 8" boom-to-mast plate over this point. Plate lays lengthways to boom. Secure with two  $1\frac{1}{2}$ " U-bolts.

D. ANTENNA INSTALLATION

D1. Install antenna to mast using two 2" U-bolts through boom-to-mast plate. Tighten securely.

TYPICAL BOOM TO MAST  
HARDWARE ARRANGEMENT

**4"X8" PLATE**

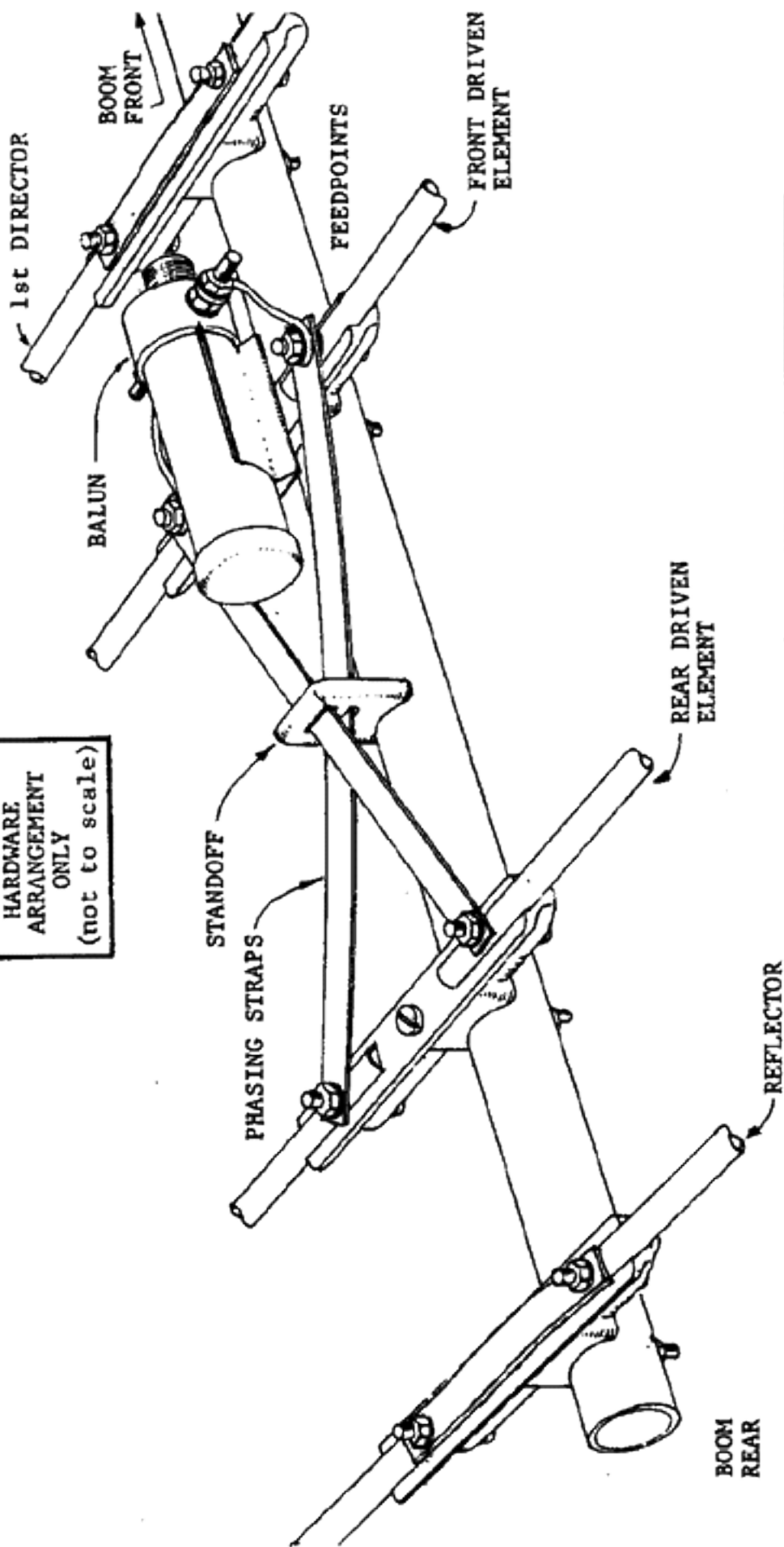


BOOM AND ELEMENT ORIENTATION WILL  
VARY WITH SPECIFIC ANTENNA AND  
APPLICATION. SEE ASSEMBLY INSTRUCTIONS  
AND DIMENSION SHEET SUPPLIED WITH  
YOUR MODEL

# ASSEMBLY PICTORIAL

**KLM 50-7LD**








TO SHOW  
TYPICAL  
HARDWARE  
ARRANGEMENT  
ONLY  
(not to scale)



ELEMENT POSITIONS SHOWN  
VERY CONDENSED. FOR ACTUAL  
SPACING SEE THE DIMENSION  
SHEET.

# DIMENSION SHEET

## KLM 50-7LD 6 METER ANTENNA

	ELEMENT SPACING (In ft. & in. from boom rear)		ELEMENT-HALF LENGTH (In inches)	
		FRONT		
7	20' 1/8"		50	} directors
6	14' 10-3/4"		53-1/4	
5	11' 1/2"		52-1/2	
4	6' 2-3/4"		52	
3	4' 2-1/2"		47-9/16	} driven
2	2' 3"		53-3/4	
1	1"		61	- reflector
		REAR		

XX = FEEDPOINTS: 200 OHMS BALANCED. FOR OPTIMUM PERFORMANCE A  
KLM 3-60-4:1 BALUN IS RECOMMENDED.

MOUNTING: 4 x 8 PLATE @ PHYSICAL BALANCE POINT.

# PARTS LIST

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KLM 50-7LD

6 METER ANTENNA  
LIGHT DUTY

<u>HARDWARE PACKAGE #1</u>		<u>IN SHIPPING BOX</u>	
5/16-18 NUTS	8	BOOM:	
5/16 LOCKWASHERS	8	1 1/2" O.D. x 64 SWAGED	3
1 1/2" U-BOLTS & CRADLES (H.D.)	2	x 60"	1
		3/8" O.D. x 53 3/4"	2
		x 50"	2
8-32 x 2 1/2" SCREWS	7	x 53 1/2"	2
x 1-3/4" SCREWS	6	x 52 1/2"	2
x 1 1/2" SCREWS	14	x 52	2
8-32 NUTS	41	x 47-5/8	2
#8 LOCKWASHERS	41	x 61	2
#8 FLATWASHERS	2	PHASING STRAPS:	
JUMPER STRAPS 1/2" x 4"	5	1/2" x 24-1/8"	2
STANDOFFS, PHASING STRAP	1	4 x 8 x 1/8 MOUNTING PLATE	1
		2" U-BOLTS & CRADLES	2 ea.
<u>HARDWARE PACKAGE #2</u>		Balun 3-60-4:1	1
Insulators 1 1/2" x 5"	7	Balun Clip	1