

PARTS LIST

DESCRIPTION

QUANTITY

Boom: 72" x 2" O.D. .058 Wall Aluminum-----	2
84" x 2-1/8" O.D. .058 Wall Aluminum-----	1
6" x 7" Mast Plate-----	1

Reflector #1: (20/15 meters)

50" x 1-1/4" O.D. .058 Wall Aluminum-----	1
72" x 1-1/8" O.D. .058 Wall Aluminum-----	2
48" x 1" O.D. .058 Wall Aluminum-----	2
29" x 7/8" O.D. .058 Wall Aluminum-----	2
36" x 5/8" O.D. .049 Wall Aluminum-----	2
15 meter trap, 32-1/8" overall length, no marking-----	2
3-1/2" x 6" Element Mounting Plate-----	1

Reflector #2: (10 meters)

36" x 7/8" O.D. .058 Wall Aluminum-----	1
48" x 3/4" O.D. .049 Wall Aluminum-----	2
48" x 5/8" O.D. .049 Wall Aluminum-----	2

Driven Element #3:

25" x 1-1/4" O.D. .058 Wall Aluminum-----	2
72" x 1-1/8" O.D. .058 Wall Aluminum-----	2
23-1/2" x 1" O.D. .058 Wall Aluminum-----	2
28-3/4" x 5/8" O.D. .049 Wall Aluminum-----	2
15 meter traps, 32-1/8" overall length, red marking-----	2
10 meter trap, 26-3/8" overall length-----	2
Center insulator, 8" x 2" O.D.-----	1
3-1/2" x 6" Element Mounting Plate-----	1
AFB-1 1-1 Balun-----	1

Director #4:

50" x 1-1/4" O.D. .058 Wall Aluminum-----	1
72" x 1-1/8" O.D. .058 Wall Aluminum-----	2
17-1/2" x 1" O.D. .058 Wall Aluminum-----	2
24" x 5/8" O.D. .058 Wall Aluminum-----	2
15 meter trap, 32-1/8" overall length, black marking-----	2
10 meter trap, 23-3/8" overall length-----	2
3-1/2" x 6" Element Mounting Plate-----	1

3-1/4" x 1-5/8" O.D. Trap Cover-----	4
4-1/4" x 1-1/2" O.D. Trap Cover-----	6

PARTS PACKAGE

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
1	2" U-Bolt -----	6
2	1-5/8" U-Bolt -----	4
5	5/16" Lock Washer -----	26
6	5/16" Hex Nuts -----	26
10	#8 Internal Tooth Lock Washer -----	3
11	8-32 Stainless Steel Hex Nut -----	3
26	8-32 x 1" Stainless Steel Mach. Screw -----	1
27	5/8" Plastic Cap -----	8
31	2" x 4" U-Bolt -----	1
32	3-1/2" U-Bolt Bracket -----	1
33	3-1/2" U-Bolt Backing Plate -----	1
34	2-1/2" U-Bolt -----	4
35	3-1/2" Machines Aluminum V-Block -----	4
36	3/8" Lock Washer -----	8
37	3/8" Hex Nut -----	8
83	1/4 - 20 x 1-1/4" RH S.S. Mach. Screw -----	2
84	1/4" Stainless Steel Lock Washer -----	2
85	1/4 - 20 Stainless Steel Hex Nut -----	4
98	2-1/8" x 3" U-Bolt -----	2
99	2" Plastic Cap -----	2
100	Feed Straps -----	2
101	Balun Clamp for 2-1/8" dia. -----	1
102	1-5/8" Plastic Caps, with 7/8" holes -----	8
103	1-1/2" Plastic Caps, with 3/4" holes -----	12
G-8	3/4" Telescope Clamp -----	8
G-9	7/8" Telescope Clamp -----	8
G-10	1" Telescope Clamp -----	6
G-11	1-1/8" Telescope Clamp -----	6
G-12	1-1/4" Telescope Clamp -----	6
G-19	2-1/8" Telescope Clamp -----	2

Your Cush Craft ATB-34 Tri-Band beam is engineered and manufactured to give top performance and trouble-free service. It will perform as specified if the instructions and suggestions are followed and if care is used in assembly and installation.

Masting: The mast mounting bracket for the ATB-34 will take up to a 2-1/2" O.D. mast. A 2" O.D. or larger heavy wall mast is highly recommended in locations where weather conditions are severe. Refer to Figure 5 for mounting details.

Rotator: A good heavy duty amateur style rotator will provide the best service and longest life.

Mounting: A VHF antenna may be mounted a multiple of a 1/2 wavelength (VHF) above the ATB-34, the minimum recommended distance being 6 feet.

Location: Location of the antenna is extremely important. Surrounding objects such as trees, power lines and any objects of large size will seriously reduce the efficiency of the antenna. To minimize the effects of surrounding objects, mount the antenna as high and in the clear as possible. Metallic guy wires may be broken up with strain type insulators to eliminate resonances. The ATB-34 should be mounted a minimum of 33 feet above ground, although greater heights are preferable. This minimum distance approximates one half wavelength of the lowest frequency (20 meters) of the yagi.

ASSEMBLY INSTRUCTIONS

Boom Assembly: Slide the 72" x 2" tubing into the ends of the 2-1/8" center tubing to the black line. The sections are secured by G-19 clamps. Press the 2" plastic caps onto the ends. The boom is marked with the element numbers. Be sure the sections are placed in the proper numerical order. The assembled boom length is 18 feet.

Trap Covers: All trap covers should be placed over the traps before element assembly begins. The 10-meter trap covers are 3-1/4" x 1-5/8" O.D. and the 15-meter traps are 4-1/4" x 1-1/2" O.D. Two plastic caps for each trap are provided. Refer to Figure 1 for assembly details.

Element Assembly:

20/15 Meter Reflector #1

Slide each 1-1/8" tube as far as the black line into the 1-1/4" center tube. These tubes should butt against each other at the center. Secure with G-12 clamps. Insert each 1" tube as far as the black line into the 1-1/8" tube and secure with a G-11 clamp. Insert each 7/8" tube as far as the black line into the 1" tube and secure with a G-10 clamp. The 15 meter trap (coax end) is inserted into each of the 7/8" tubes. These traps should be fully inserted to the edge of the trap, and secured with G-9 clamps. The 5/8" end tubes are inserted into the traps as far as the black line. These tubes are secured with G-8 clamps. Press the 5/8" plastic caps onto the ends. Refer to Figures 2 and 6 for mounting details.

10 Meter Reflector #2

Slide each 3/4" tube as far as the black line into the 7/8" center section, and secure with a G-9 clamp. The 5/8" end tubes are inserted into the 3/4" tubes as far as the black line. Secure these end pieces with G-8 clamps. Press the 5/8" plastic caps onto the ends. Refer to Figure 3 for mounting details.

20/15/10 Meter Driven Element #3

Align the 1/4" holes in the 1-1/4" tubes with the center insulator holes. Slide each 1-1/8" tube as far as the black line into the 1-1/4" tube and secure with a G-12 clamp. Place the nuts, lockwasher and balun strap in the proper order on the 1-1/4" stainless steel screw. The 1-1/4" screw is tightened to secure the 1-1/8" tubing. The 1/4 - 20 hex nut and lockwasher are tightened next. Leave the strap and last hex nut loose until the balun is mounted to the boom. The other ends of the straps are mounted at the balun with 8-32 stainless steel washers and hex nuts. Slide each 1" tube as far as the black line into the 1-1/8" tube. Secure with G-11 clamps. Insert the 10 meter driven element traps (coax end) into the 1" tubes. These traps should be fully inserted to the edge of the trap, and secured with G-10 clamps. Insert each 15 meter trap (coax end) as far as the red line into the 10 meter trap. The distance between these traps should be 17-3/4". Secure with G-9 clamps. The 5/8" end tubes are inserted into the 15 meter traps as far as the black line. The end tubes are secured with G-8 clamps. Press the 5/8" plastic caps onto the ends. Refer to Figures 4 and 6 for mounting details.

20/15/10 Meter Director #4

Slide each 1-1/8" tube as far as the black line into the 1-1/4" center tube. These tubes should butt against each other at the center. Secure with G-12 clamps. Insert each 1" tube as far as the black line into the 1-1/8" tube and secure with a G-11 clamp. Slide the 10 meter director traps (coax end) into the 1" tubes. Each trap should be fully inserted to the edge of the trap, and secured with a G-10 clamp. Insert each 15 meter trap (coax end) as far as the black line, into the 10 meter trap. The distance between these traps should be 14-3/4". Secure with G-9 clamps. The 5/8" end tubes are inserted into the 15 meter traps as far as the black line. The end tubes are secured with G-8 clamps. Press the 5/8" plastic caps onto the ends. Refer to Figures 2 and 6 for mounting details.

Feedline: Attach a standard PL-259 coax fitting to your 52 ohm coaxial cable and connect it to the coax fitting on the balun. Dress the cable along the boom and down the mast, using tape to hold it in position. Align elements, re-check and tighten all fasteners and connections.

Tuning: The elements are marked for operation in the phone band. Adjustment to any other part of the band may be accomplished by moving the trap positions and the 5/8" end tubes. These dimensions are found in Chart 1 and Figure 7.

CHART 1.

	X ₂	X ₃	X ₄	Y ₁	Y ₃	Y ₄	Z ₁	Z ₃	Z ₄
PHONE	104-1/2"	91-1/2"	85-1/2"	141"	17-3/4"	14-3/4"	44-1/2"	41-1/4"	38"
CENTER	105-1/2"	93-1/2"	89-1/2"	142"	18"	14-3/4"	46-1/2"	41-1/4"	38"
CW	106-1/2"	97-3/4"	93-1/4"	143"	18-1/2"	14-3/4"	48-1/2"	41-1/4"	38"

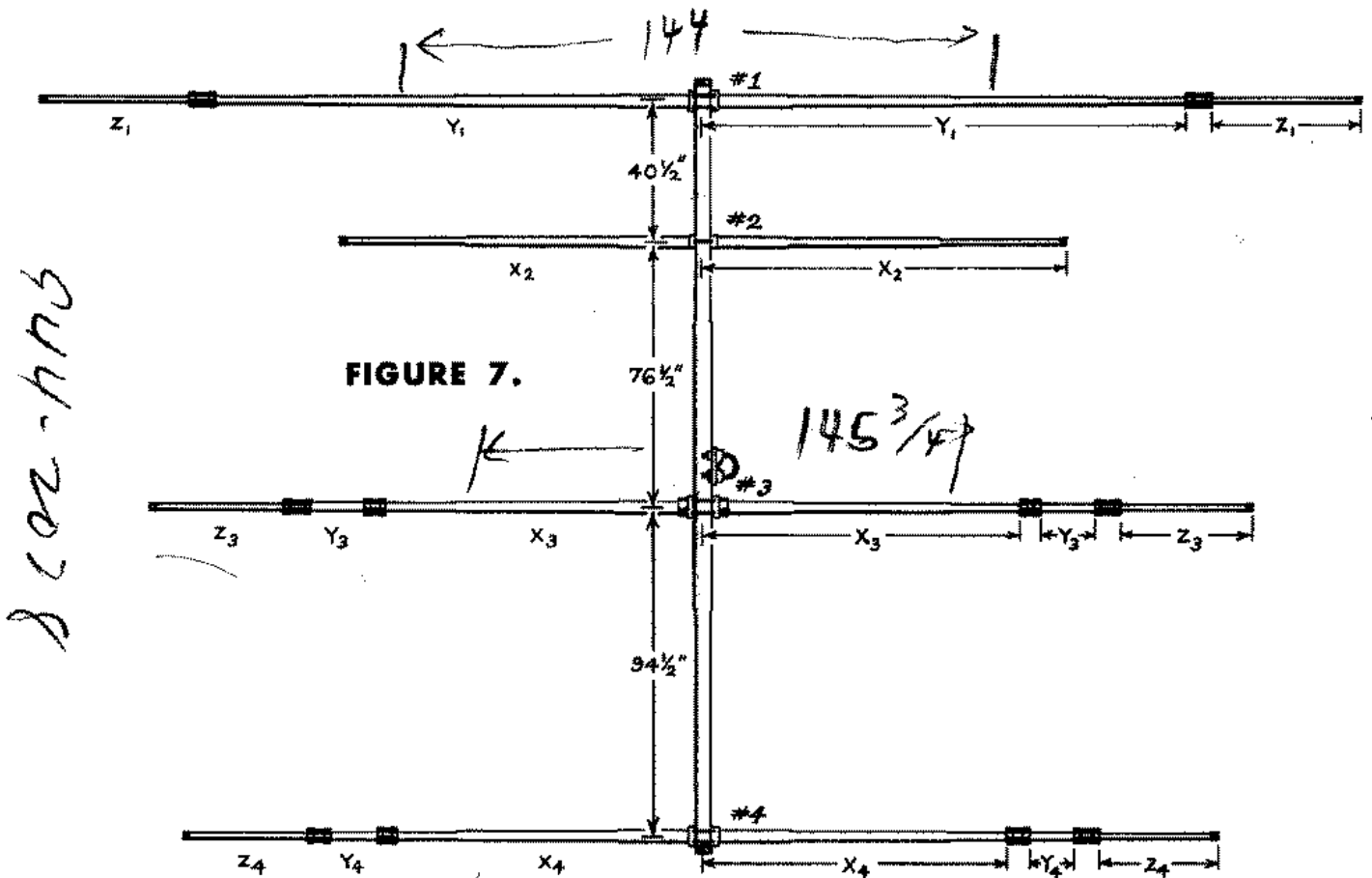


FIGURE 7.

Red w orange yellow
5 BK Brown gr. Blue 8

WARNING: Contact with power lines is dangerous! Do not install this antenna where there is any possibility of contact or high-voltage arc-over from power cables or service drops to buildings. The antenna, supporting mast and/or tower must not be in close proximity to any power lines during installation, or in the event part of the system should accidentally fall. Consult the National Electrical Code for further details.

SYSTEM GROUNDING: Direct grounding of the antenna, mast, and tower is very important. This serves as protection from lightning-strikes and static build-up, and from the power which is present on the radio equipment connected to the antenna. A good electrical connection should be made to one or more ground rods (or other extensive grounding system) directly at the base of the tower or mast, using large grounding-wire and non-corrosive hardware. For details and safety standards, consult the National Electrical Code.

TYPICAL CHARACTERISTICS.

