

K3WBH has come up with a winner on six. With a little bit of effort with simple tools and a spare weekend you too can be burning up the ether on six meters.

A Stacked Log Periodic Yagi For Six Meters

BY T.E. WHITE*, K3WBH

Now that the FCC is requiring better RFI-EMI techniques in TV set design, and good low pass filters are commercially available for transmitters, amateurs no longer have to fear 6 meters. Six has a lot of good E_s openings these

days and it's a shame to miss the DX on account of your neighbors.

Here is a band-burner beam which will punch your signal out FB. It isn't small, and requires some experience in erecting skywire that will stay up, but the results are worth the effort.

This log periodic Yagi requires much less boom length for the same gain

than a "straight" Yagi, is non-critical in dimensions, and will take power and show good performance over the whole band. It is designed to take advantage of standard lengths of material and can be assembled without a crew of professional riggers. There is nothing kinky about the feed system and no "tuneup" is required. The enter-

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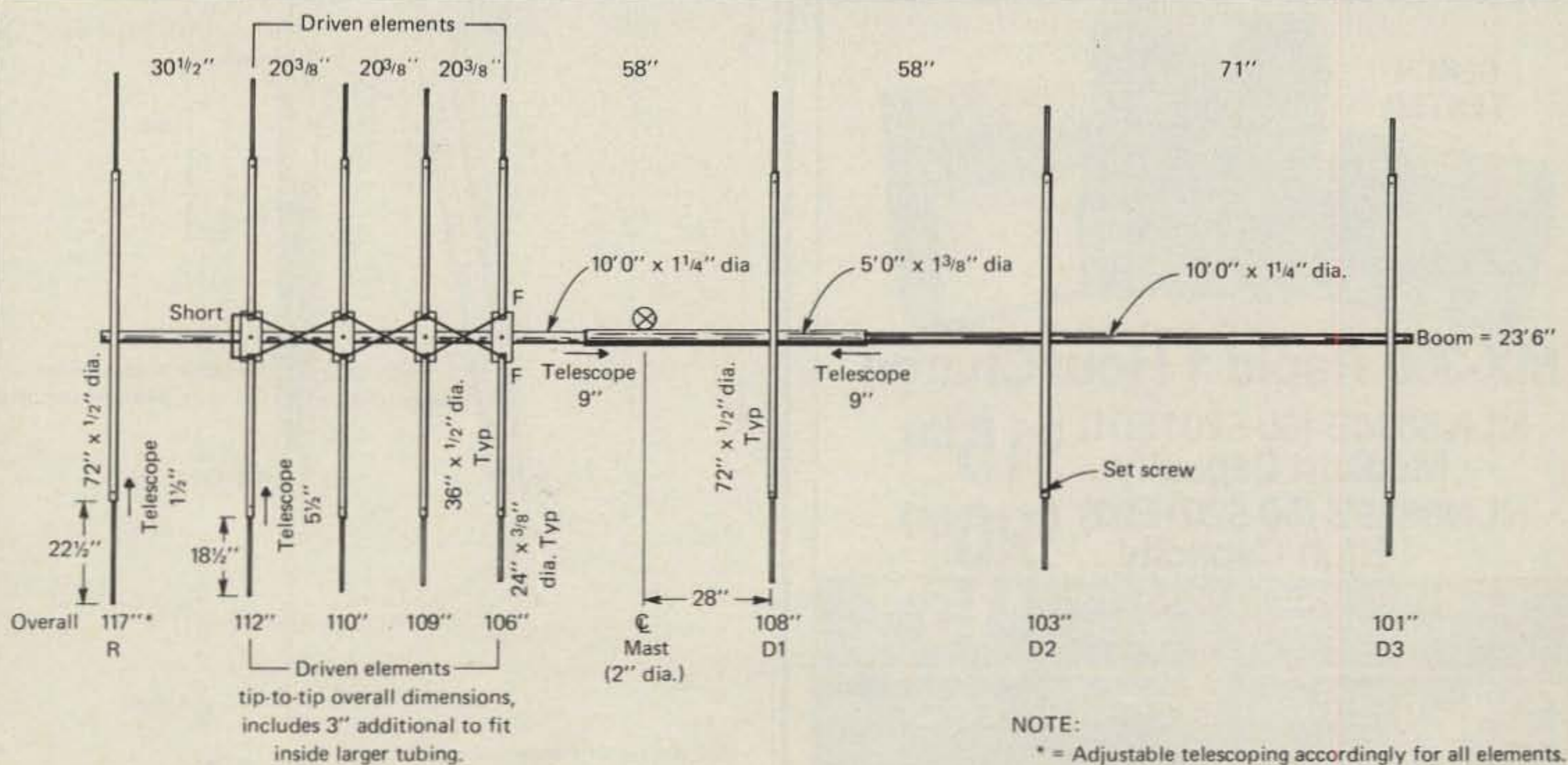
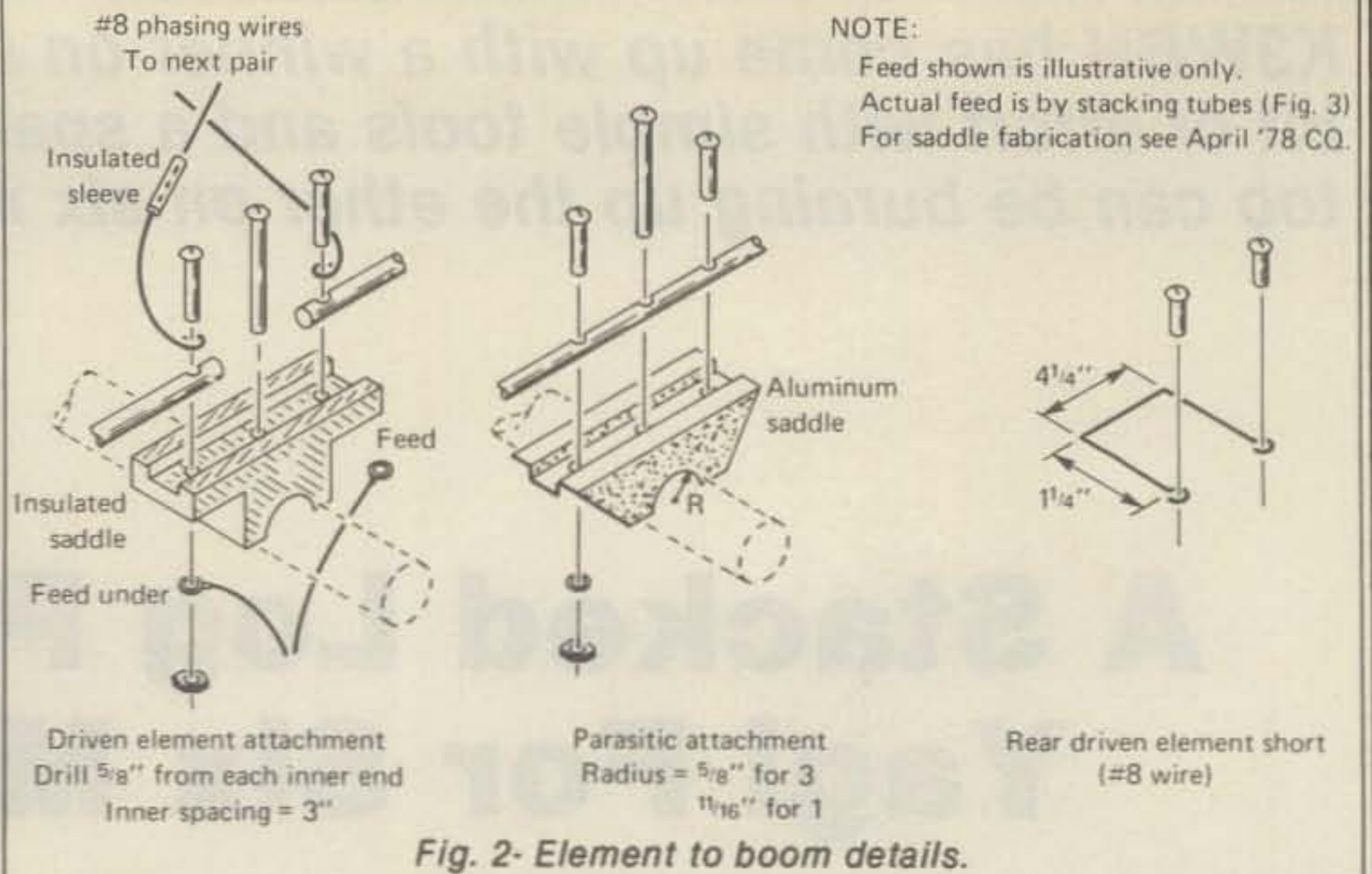


Fig. 1- The 6 meter log periodic Yagi. Two of these are required to construct the antenna.

prising op can fool around with slight dimensional changes for a particular center frequency if he wishes, but it's not really necessary.

The array consists of 2 log periodic Yagis, each on a 23'6" boom, stacked 14' or so for good low wave angle, capture area, and convenient feeding. To make for easily handled lengths of material, the booms are made up of a central 5' piece with 10' lengths inserted into each end. Elements are telescoping so that pre-assembly of the inner sections on the boom can be done first, with these lengths held to 6'

Rather than a harness of wire, stacking tubes of telescoping diameters are used for ease of assembly and adjustment. A simple balun connects the feed line. Boom braces from above, not



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REQUIRED	DIAMETER	LENGTH	FOR
1	1 3/8"	5'0"	Boom center section
2	1 1/4"	10'0"	Boom outer sections
4	1/2"	6'0"	Parasitic element center sections
8	1/2"	3'0"	Driven element inner sections
16	3/8"	2'0"	Outer sections - all elements
4	3/8"	4'0"	Stacking bars
4	1/2"	4'0"	Stacking bars
2	3/4"	8' and 9'	Boom braces
		approx.	
4			Parasitic element mounting blocks - metal
4			Driven element mounting blocks - plastic



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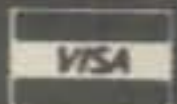
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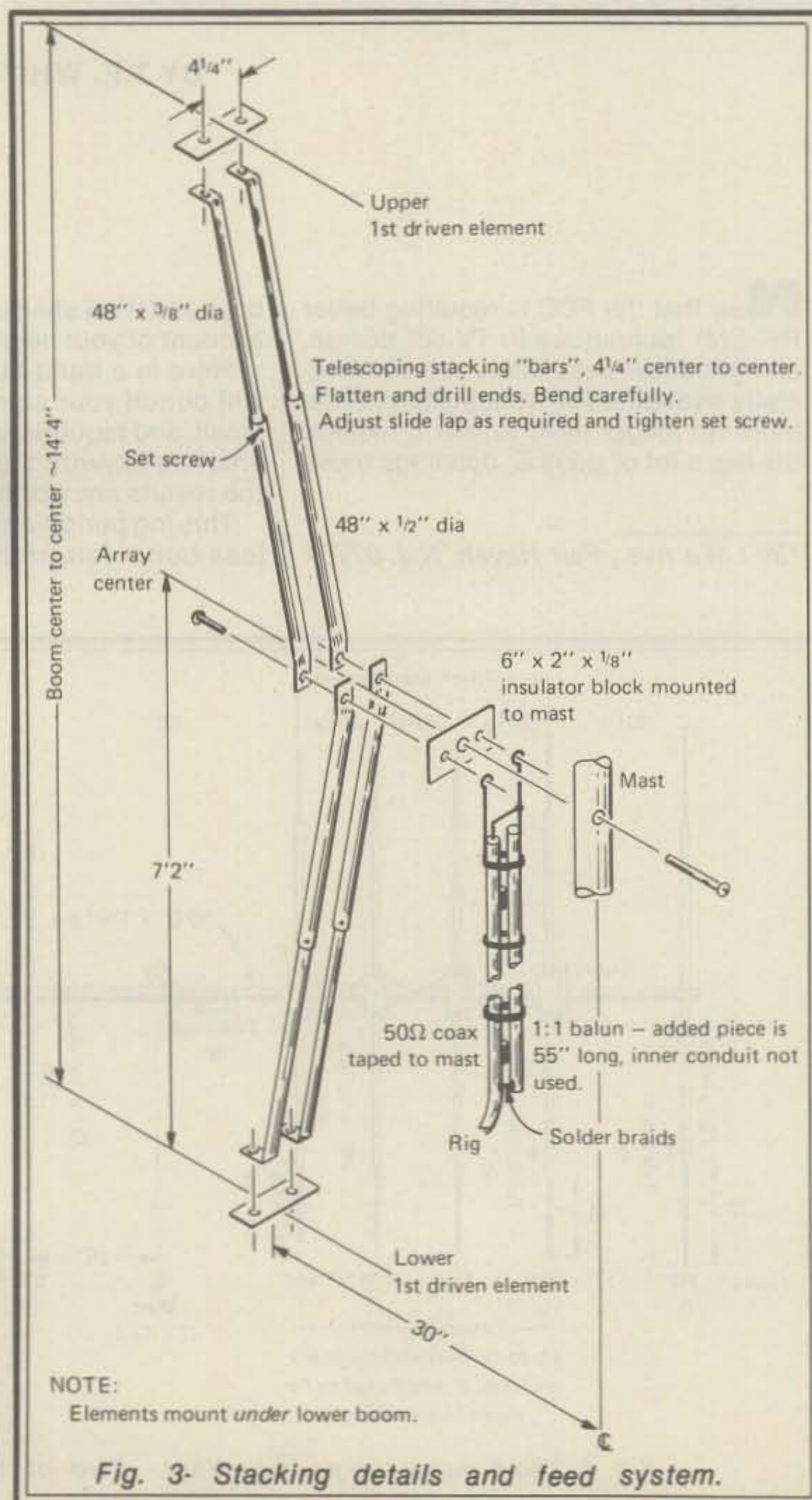
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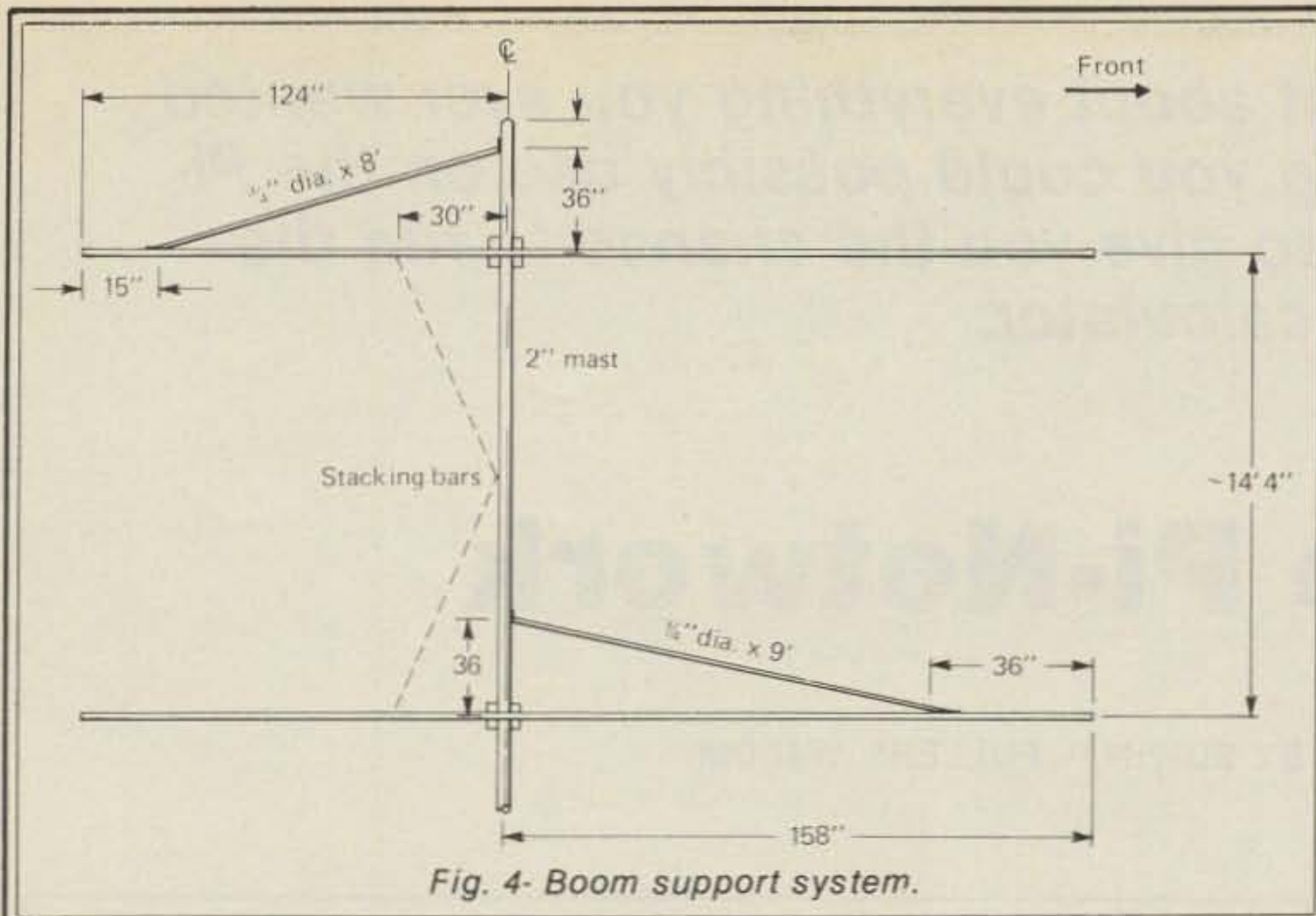



Fig. 4- Boom support system.

beneath (tension is always stronger than compression), support each bay.

Since this looks like a large TV aerial, you can tell your neighbors you put it up to watch Canadian (or Mexican) TV. In point of fact, this beam will bring in the low channels very well.

Be sure to operate with a good filter, such as the Drake TV 5200 LP, in the line. This will handle up to 200 watts of power, which, fed to the Super Six-

Shooter, will result in an ERP of 4500 w, plenty for even not-so-good band openings.

Note that groups of tubing can be cut en masse to the same lengths. Don't stint on quality. Get 60-61-T6 seamless drawn, with wall thickness that accepts slip fit telescoping of the next 1/8" smaller diameter. And use stainless hardware exclusively, and large-diameter coax. 

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