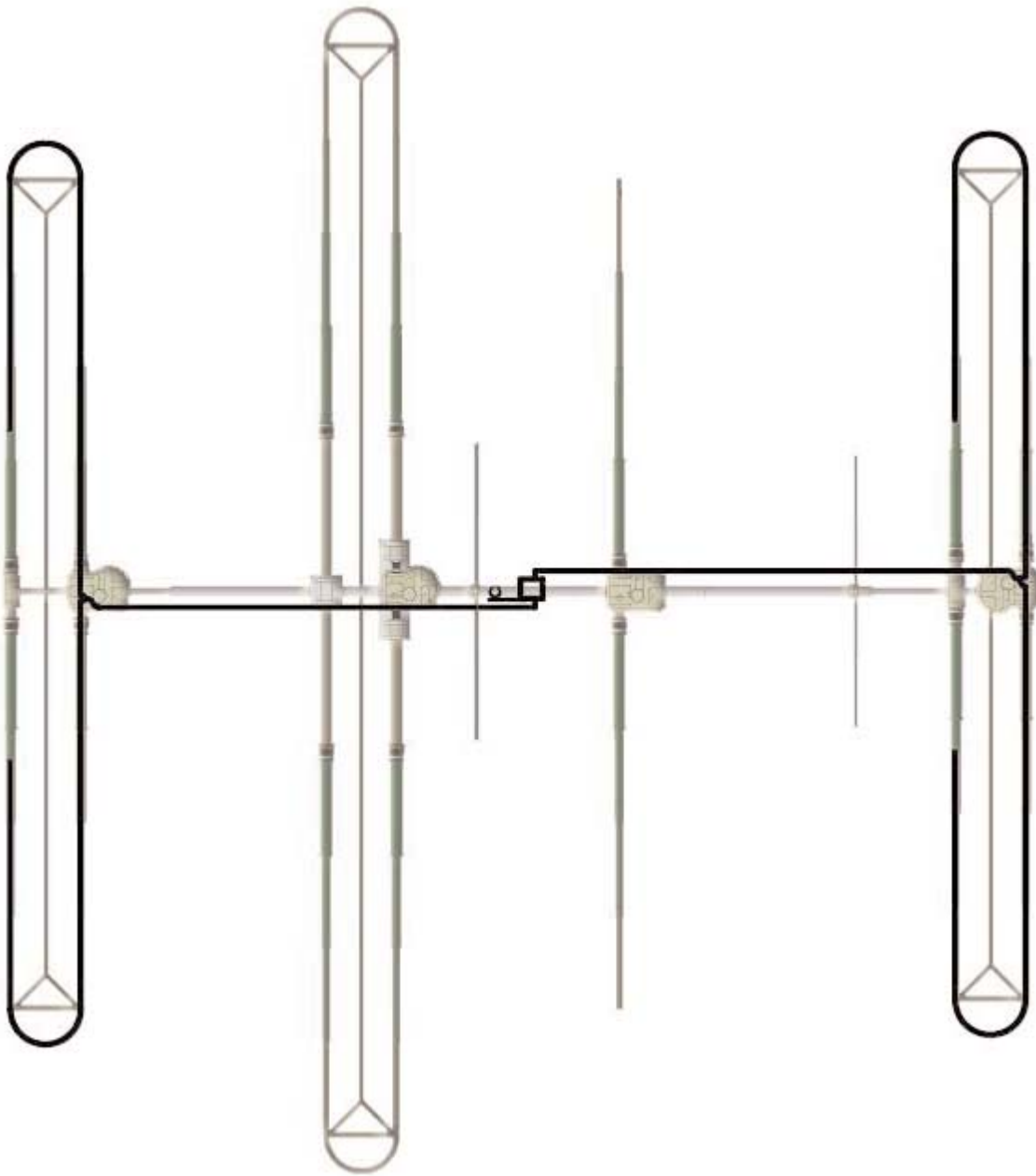


80m Dipole
for the
Dream Beam 36
Assembly Manual



80m Dipole Parts			
Inventory check	QTY	Part #	Description
	1	N/A	80m Dipole box with Lid (located in Antenna Box)
	2	10-1054-01	30m/40m truss support (Located in Antenna Sweep Box)
80m coil Hardware kit Bag 1(Located in Antenna Box) 72-0028-01			
Inventory check	QTY	Part #	Description
	2	N/A	25' Ultra Flex wire with inductance coil
	1	60-0112	10-32 SS set screw
	2	60-0075	5/16" X 3 1/4" SS hex bolt
	2	10-1601-02	1 3/4" Solid Saddles
	2	60-0046	5/16" Nylock Nuts
	2	60-0028	1/4" X 2 1/4" SS hex bolt
	2	60-0034	3/8" SS washer
	2	60-0116	1/4" Regular nut
	2	60-0030	1/4" Nylock nut
	2	60-0094	3/16" SS Quick Link
	2	60-0107	3/16" SS eyebolt with nut and washers
	2	60-0111	10-24 Nylock nut for eye bolts
	1	60-0117	Cable clip with adhesive back
	2	10-1613-01	1" Aluminum spacers
	1	10-1029-01	Connector Protector
80m coil Hardware kit Bag 2(Located in Antenna Box) 72-0028-11			
Inventory check	QTY	Part #	Description
	2	10-1607-01	Truss attachment plate
	2	N/A	25' 3/16" Dacron rope
	1	N/A	6' RG 213 Jumper COAX cable
	1	21-5001-01	30" 4 conductor control cable
	1	09-0001	Electrical tape 66' X 3/4"
	1	20-6020-4	4 position terminal strip (only used if Connector Box Option was not purchased)

STARTING ASSEMBLY

Notes:

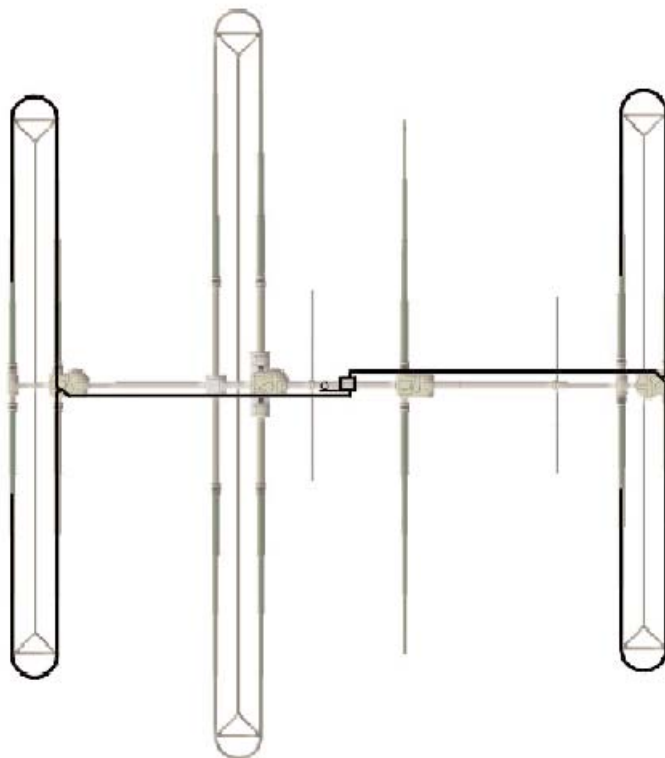
The 80m dipole option is a wire dipole that runs above and parallel to the boom and then connects to the reflector element center on one side of the dipole and to the director 2 on the other. This forms an “H” shaped dipole shown below, where the two passive elements act as large capacity hats that are tunable via the controller. The capacity loading is very efficient so the DB 36 dipole is only -0.7 dB below a full-sized dipole. The dipole wires connected to the passive elements have no effect whatsoever on the performance of the antenna on other frequencies because the wires are connected at the zero current point in the center of the element.

Use the same starting notes that were given in the Dream Beam 36 manual. This option should only be installed with the antenna down on the ground.

This Option is an add on to the DB 36 and can be installed after or during the building process of the DB 36. Some hardware for installing the 80m Dipole will be used from the DB 36. Also with the purchase of the 80m Dipole it includes 2 X 30m/40m truss option. Hardware from both the truss kits and 80m dipole will be needed to complete the assembly.

Figure 11 on page 12 shows the complete layout of the 80m Dipole mounted on the DB 36. Studying this Figure before assembling will help in understanding how the dipole is mounted on the DB 36.

Refer to the 30m/40m truss manual for mounting the truss and truss support that will be needed for the 80m dipole assembly.



MOUNTING 80M DIPOLE ANTENNA SWITCH

Locate 80m dipole antenna switch (located in Antenna box)

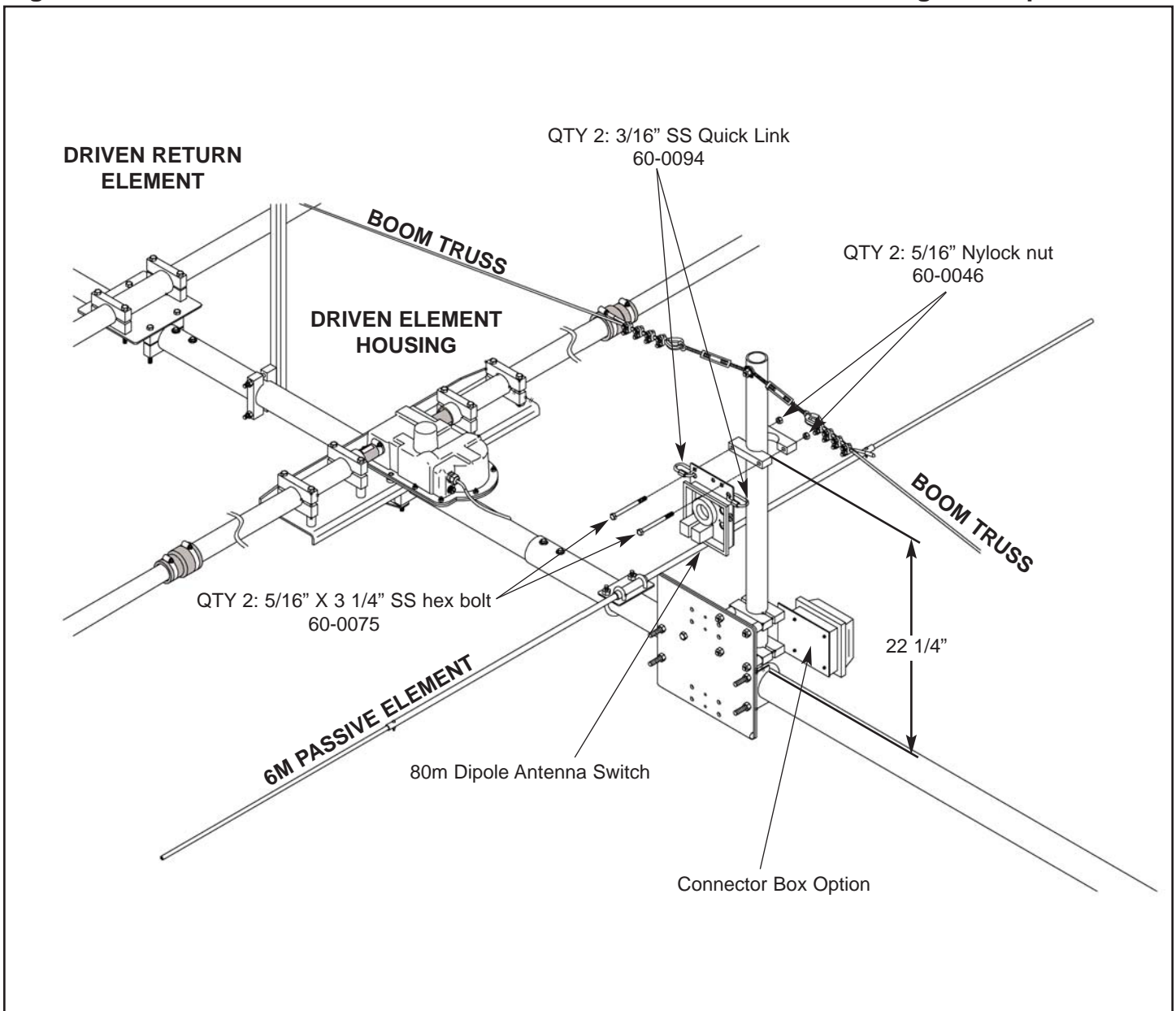
QTY 1 80m Dipole box with Lid (DO NOT MOUNT LID YET)

Locate 80m coil Hardware Kit Bag 1 72-0028-01 (located in Antenna box)

- Follow **Figure 1** for mounting the antenna switch.
- Secure the SS Quick Links to the mounting plate of the antenna switch.
- DO NOT attach the lid of the antenna switch, it will make wiring difficult and is almost impossible to take off once attached.
- Make sure to mount the antenna switch so that the top of the saddles are 22 1/4" above the top of the boom.

Figure 1

Mounting 80m Dipole Switch



MOUNTING DIPOLE ATTACHMENT POST / TRUSS SUPPORT

Locate the following parts for this assembly (located in Antenna Sweep box)

QTY 2 10-1054-01 30m/40m truss support

Locate 80m coil Hardware Kit Bag 1 72-0028-01 (located in Antenna box)

Locate 80m coil Hardware Kit Bag 2 72-0028-11 (located in Antenna box)

Notes:

Refer to your truss manual for assembling the truss support to the DB 36 boom. The hardware will be in the truss hardware kit.

- Once the truss supports are mounted to the boom, as shown in **Figure 2** below and **Figure 3** on the next page, the dipole mounting posts must be mounted.
- Also mount the Truss Attachment Plates to the outside of the boom. These will be used to anchor the 80m dipole rope. Use the existing mounting bolts on the EHU/ ERT for securing the Truss attachment Plate

Figure 2

Installing Attachment Post and Plate

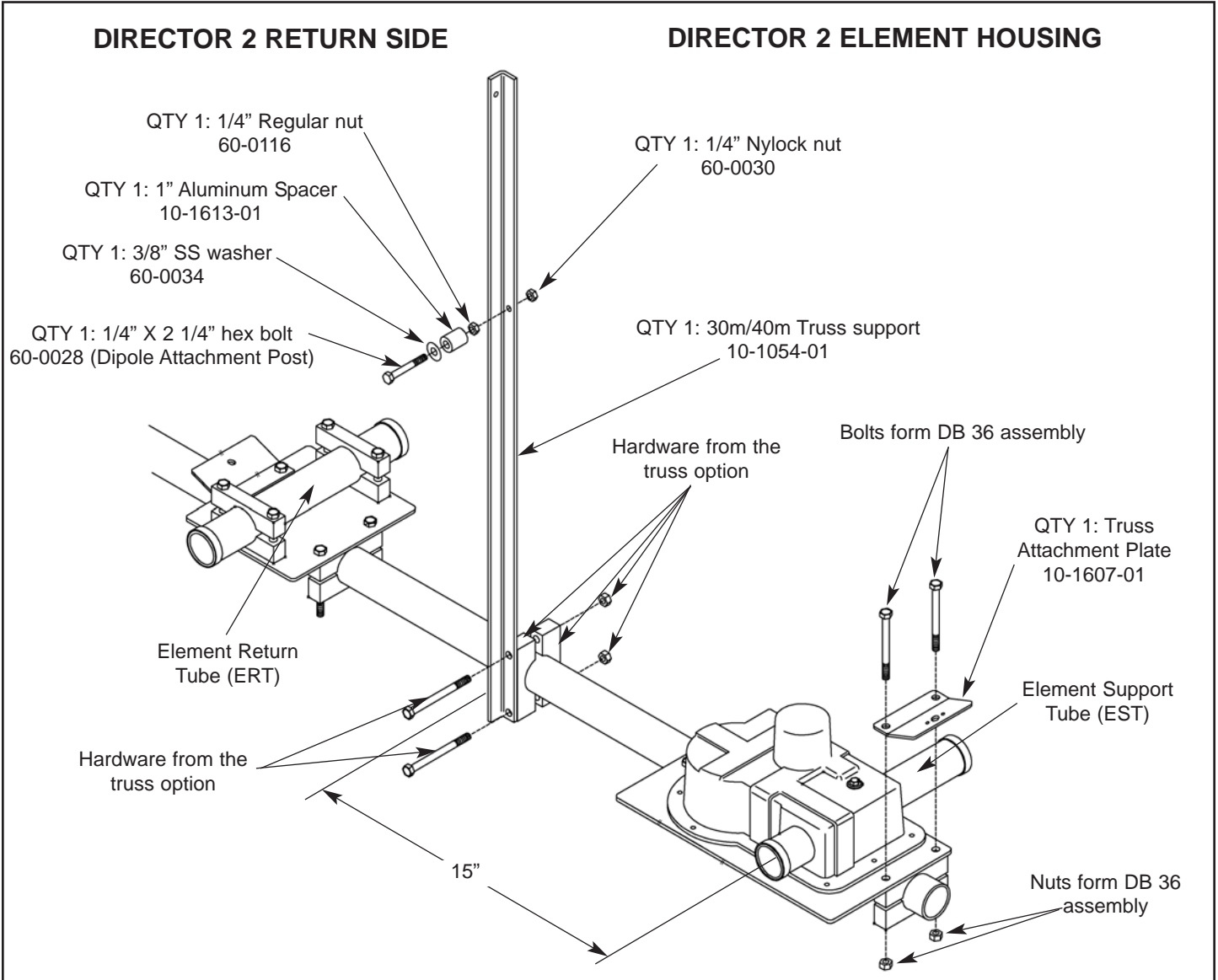
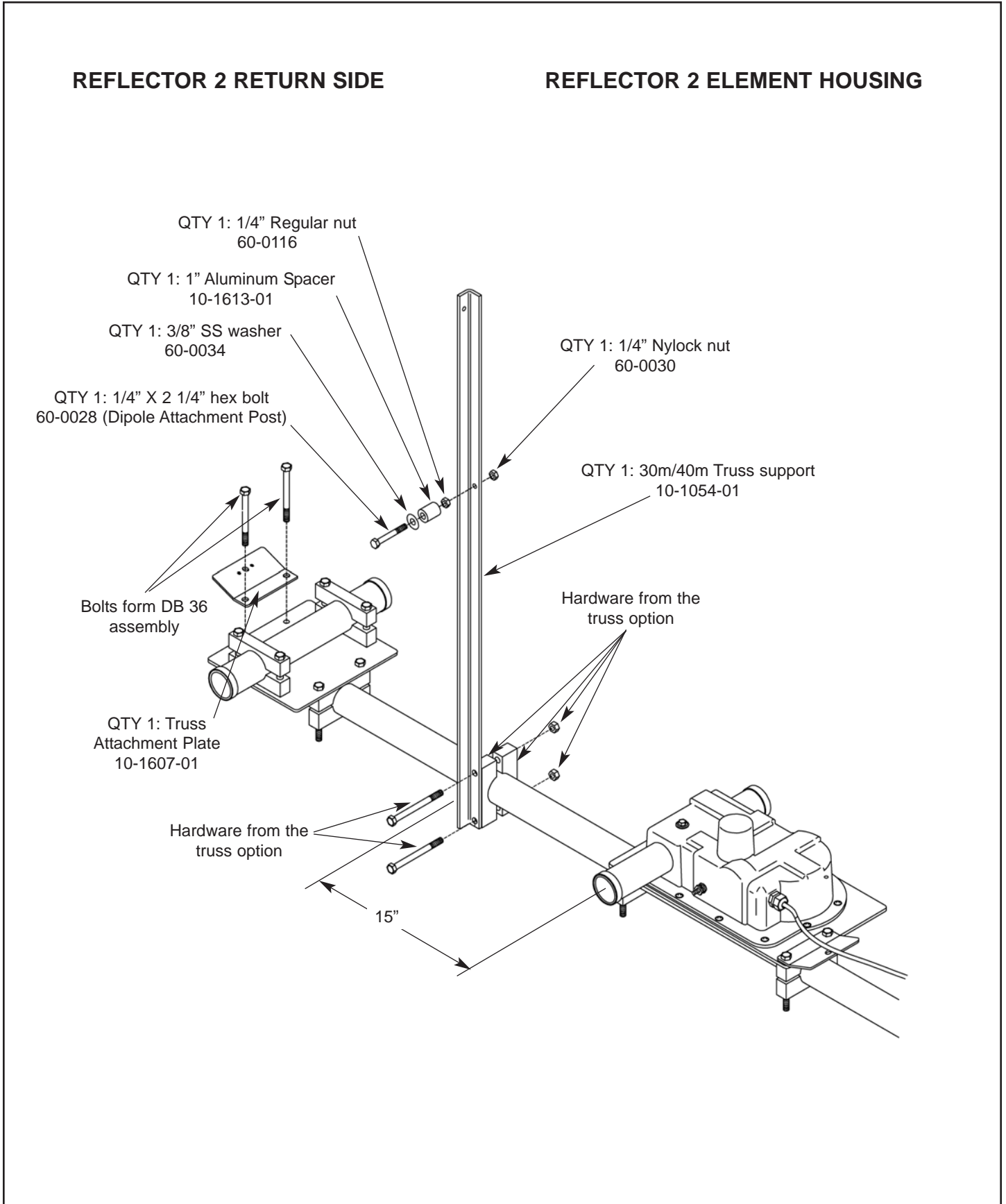


Figure 3

Installing Attachment Post and Plate



DACRON ROPE INSTALLATION

Locate 80m coil Hardware Kit Bag 1 72-0028-01 (located in Antenna box)

Locate 80m coil Hardware Kit Bag 2 72-0028-11 (located in Antenna box)

Notes:

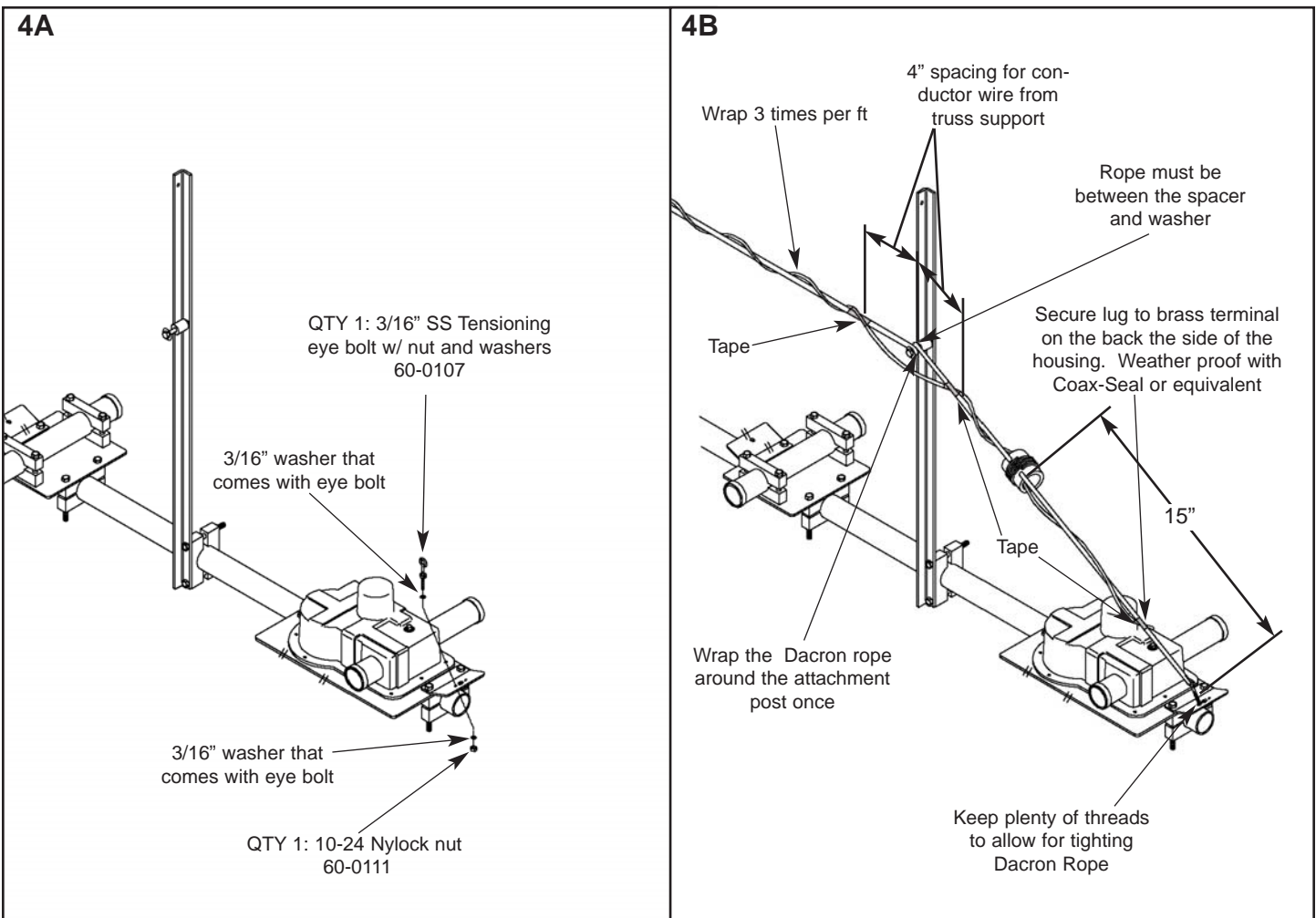
All rope terminations must be done with three half hitches and covered with electrical tape. Melt the ends of the Dacron rope to prevent fraying.

For mounting the Dacron rope to the DB 36 work from either end of the boom to the mast. Before securing the first end of the rope to the boom, you must first mount the inductance coil to the Dacron rope. This process is only possible while the rope is loose.

- First mount the tension eye bolt to the truss mounting plate as shown in **Figure 4A**. Secure it loosely by engaging 2-3 threads.
- Slide the Dacron rope through the mounting holes in the inductance coil so that it will be positioned as shown in **Figure 4B**.
- Tie the short end of the Dacron rope to the Tension Eye Bolt using three half hitches.
- Pull the rope very tight and wrap one turn around the Attachment Post. While continuing to hold the tension tight run the rope all the way to the antenna switch and tie it to the Quick Link as shown in **Figure 6**

Figure 4A and Figure 4B

Mounting the 80m Dipole for the Director 2 Element



- First mount the tension eye bolt to the truss mounting plate as shown in **Figure 5A**. Secure it loosely by engaging 2-3 threads.
- Thread the dacron rope through the inductance coil before securing the rope to the thimble on the boom truss.
- Run the rope up and over the attachment post then down through the tensioning eye bolt. Once through the eye bolt the Dacron rope must be ran back up to the attachment post. Wrap the Dacron rope completely around the attachment post and then continue on to the antenna switch while keeping tension on the rope. Secure the rope to the Quick Link using three half hitches

Figure 5A and Figure 5B

Mounting the 80m Dipole for the Reflector Element

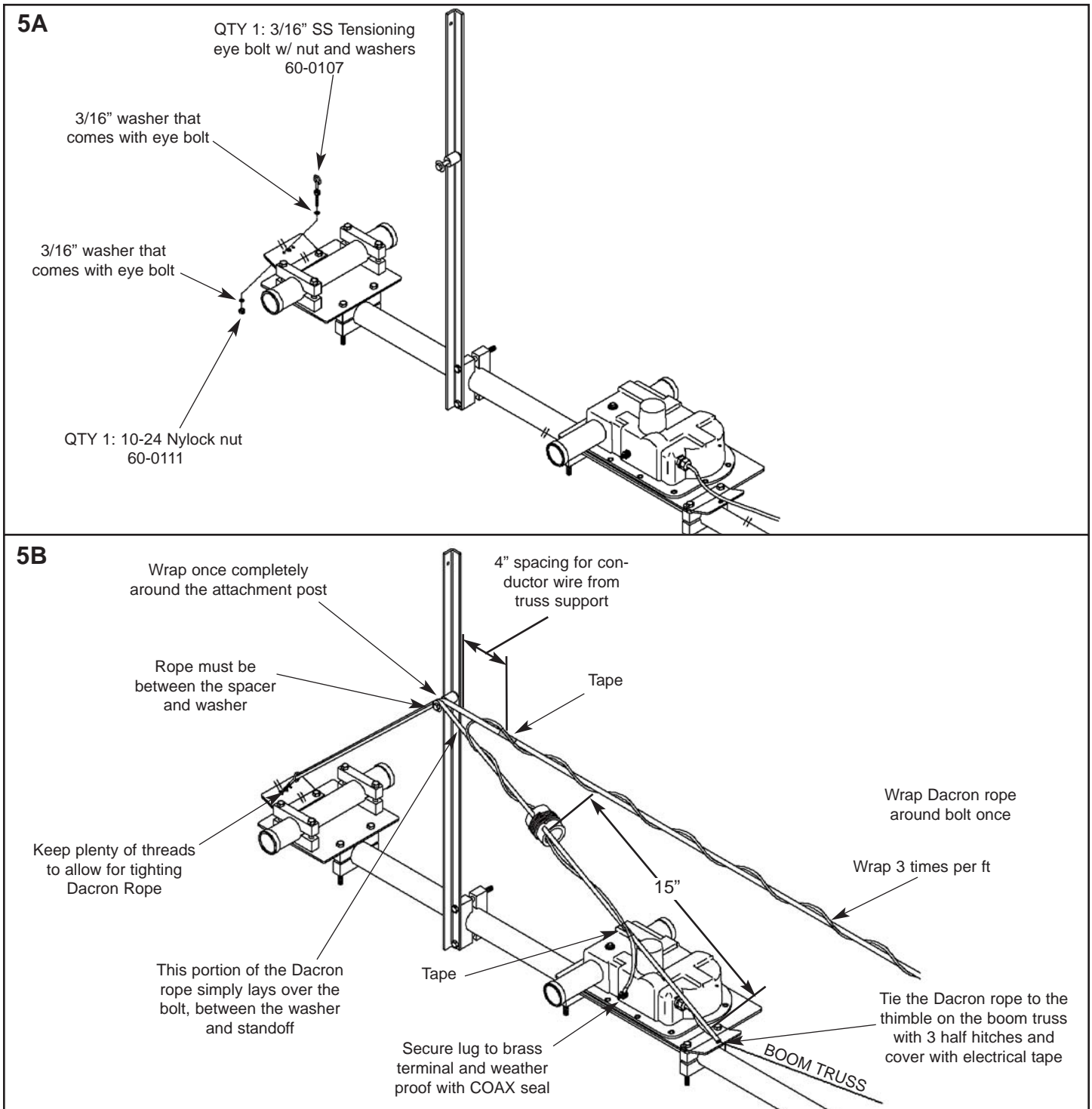
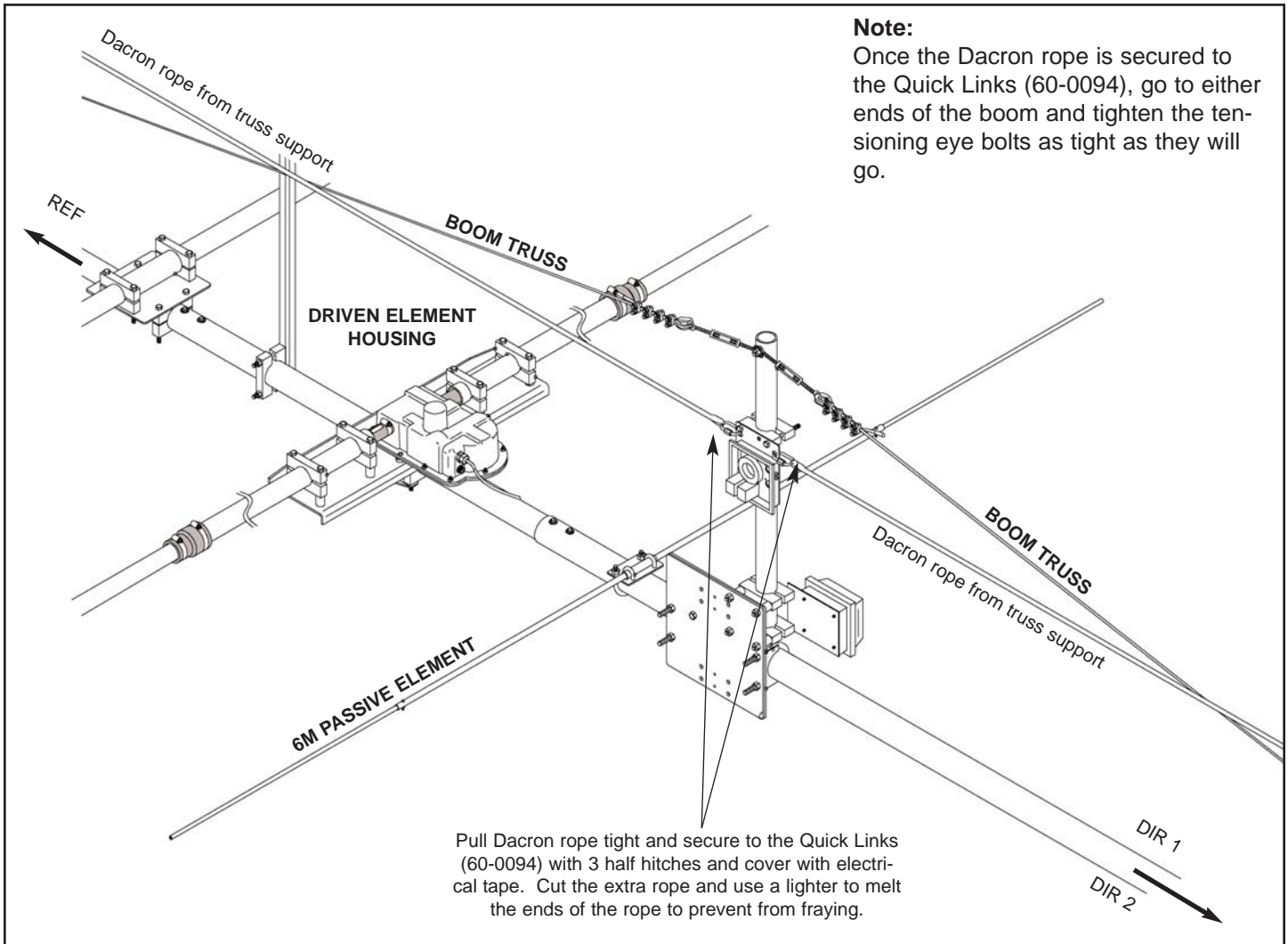


Figure 6

Securing the rope to the Antenna Switch



Notes:

Pull the rope tight to the quick links and terminate using three half hitches and cover with electrical tape. To completely tighten the rope go to either ends of the boom and tighten down the eye bolts completely. Tighten the regular nut to the truss plate to lock the eye bolt in place.

Once the dacron rope has been secured to the Quick Links at the antenna switch finish wrapping the 80m dipole conductor around the dacron rope. Wrap the conductor approximately 3 times around the dacron rope per foot. This will prevent any sagging of the conductor.

Make sure to tighten the brass nut on the Element Housing Units and weather proof with Coax-Seal or equivalent.

The next step will be to connect the conductors to the antenna switch box.

CONNECTING DIPOLE CONDUCTOR TO ANTENNA SWITCH

Locate 80m coil Hardware Kit Bag 2 72-0028-11 (located in Antenna box)

Notes:

The figures are showing the Dream Beam 36 with the 80m dipole option along with the connector box option. If the connector box option was not purchased then the antenna came with the terminal housing tube. This tube can be mounted in a variety of places and will work fine with the provided 80m dipole option

Always use the provided Connector Protector when securing wires, this will prevent corrosion.

- Refer to **Figure 7** for correct installation of the 80m dipole conductor.
- Insert the Blue Ultra Flex wire through the grommets on the side of the 80m Dipole switch. The conductor on the Director 2 side of the dipole will be inserted into the top grommet. The conductor on the Reflector side of the dipole will be inserted into the bottom grommet.
- Refer to **Figure 8** for wiring the 80m dipole if you do not have the connector box option. Refer to **Figure 9** for wiring the 80m dipole if you have the connector box option.

Figure 7

80m Dipole Conductor Configuration

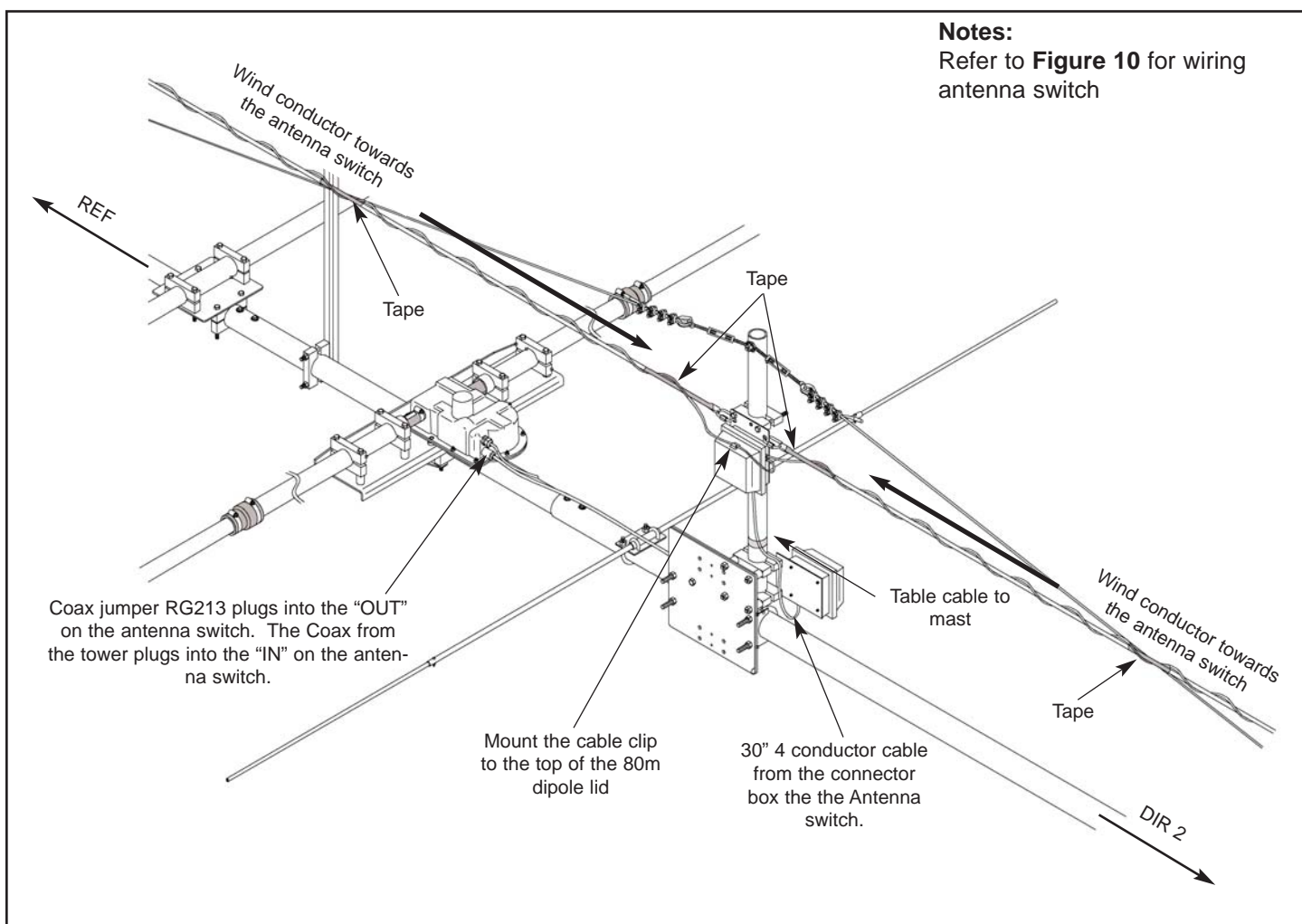


Figure 8

Wiring Diagram for non connector box installations

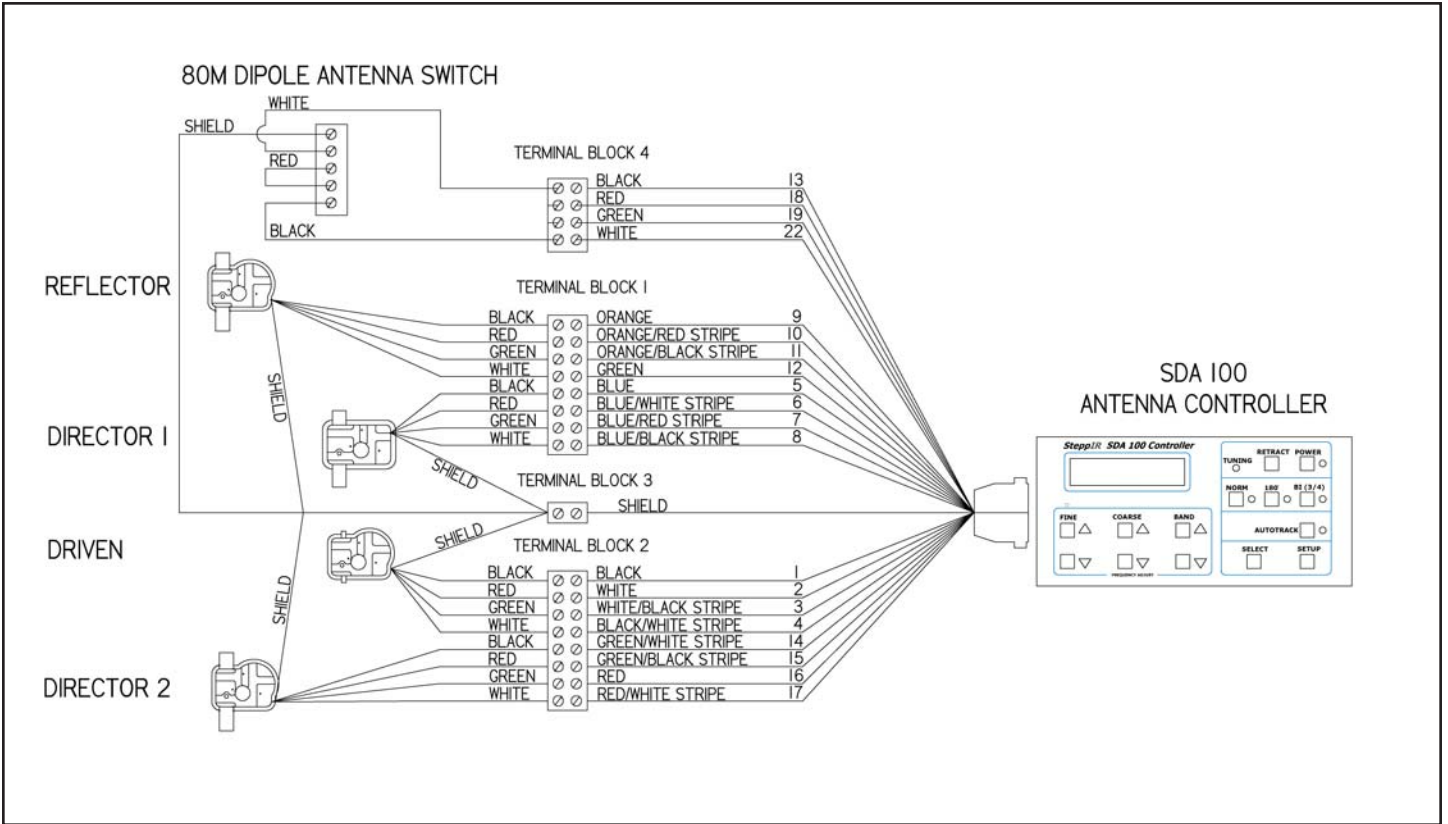
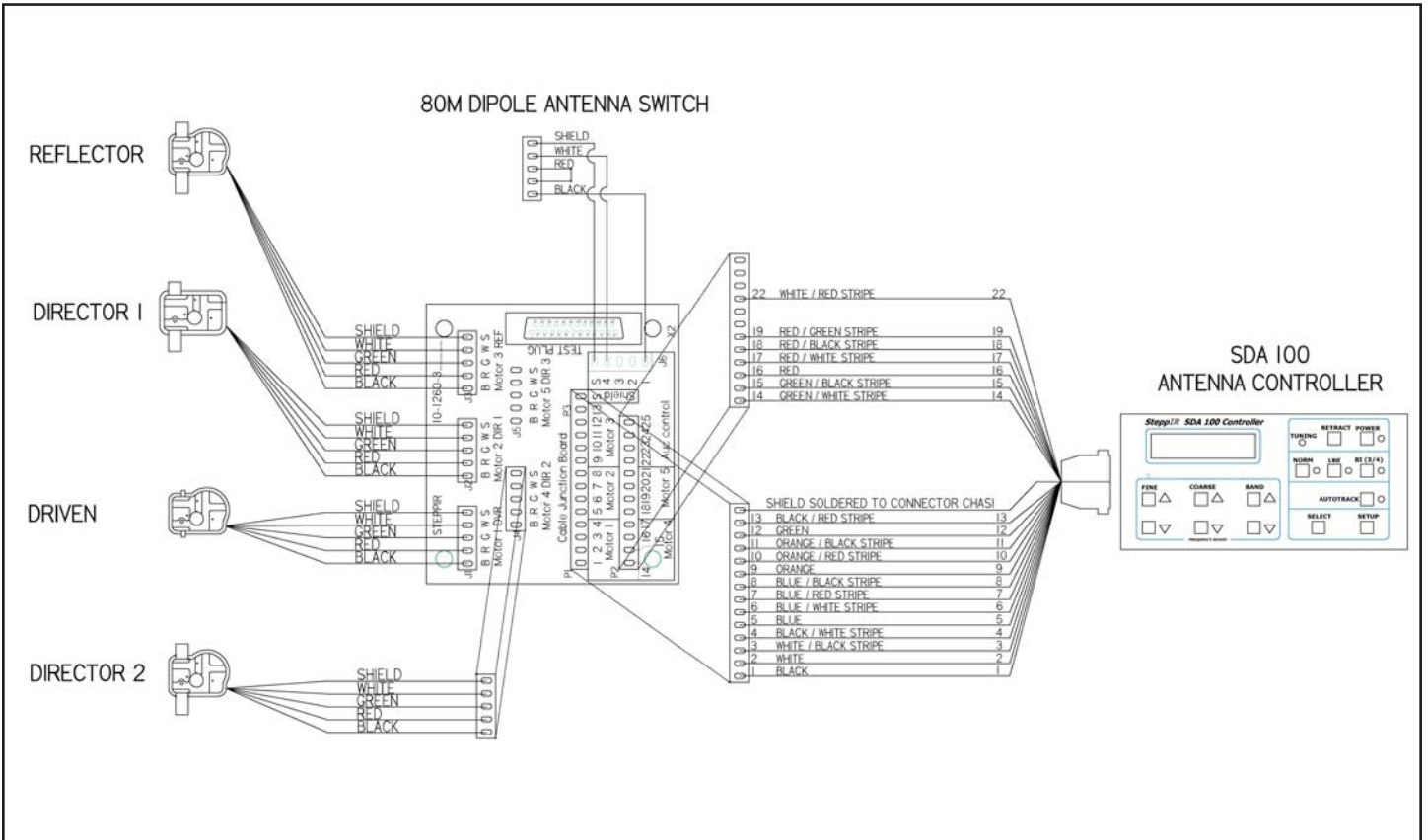


Figure 9

Wiring Diagram for connector box installations



CONNECTING COAX JUMPER

Locate the 6 ft Coax jumper from 80m coil Hardware Kit Bag 2 72-0028-11

Notes:

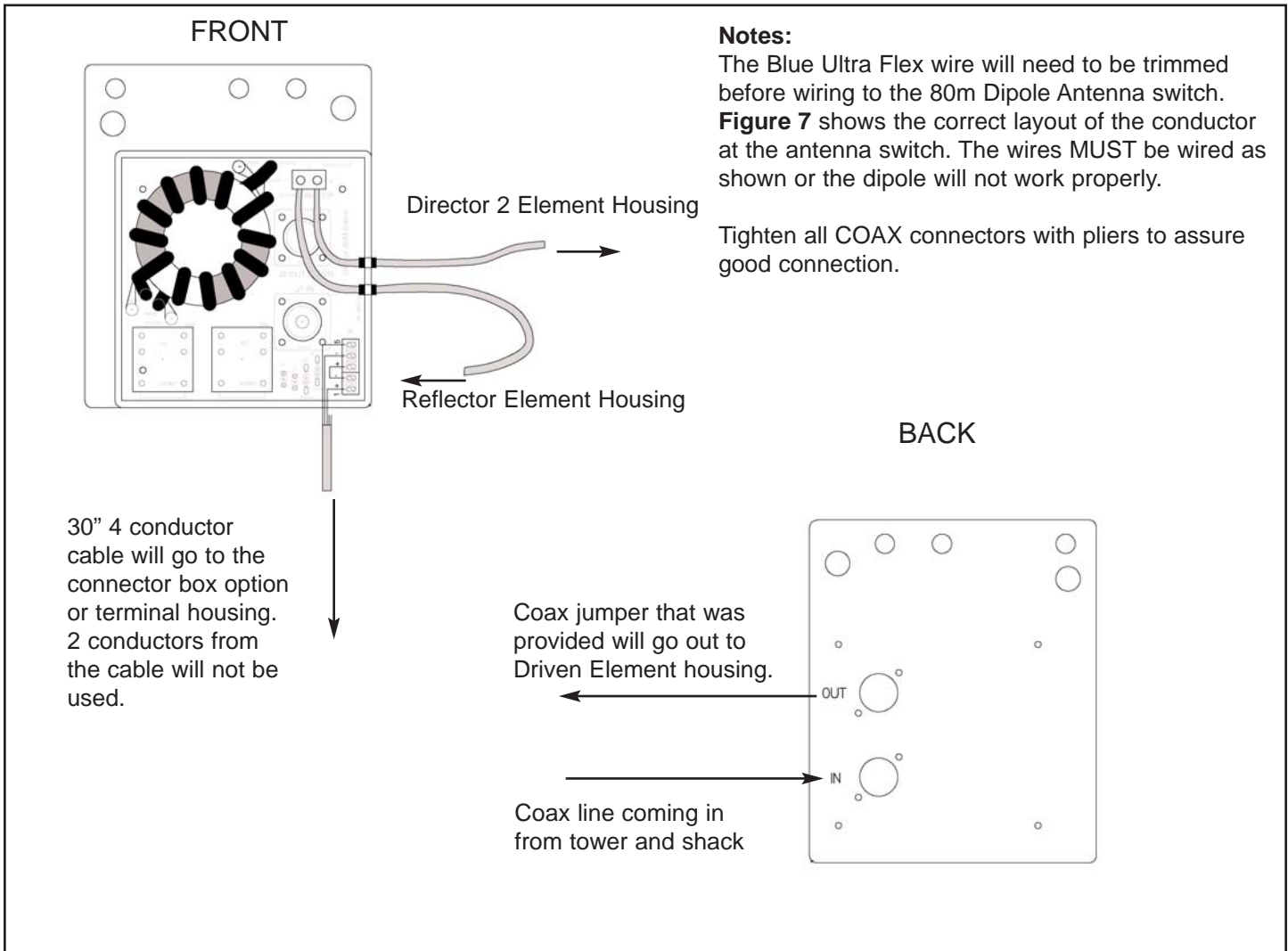
Make sure to tighten all COAX connectors very snug and weather proof with either electrical tape or Coax-seal or equivalent.

Tape down all cables to prevent sagging. DO NOT kink or curve the cable to a radius of less than 3". Allow for natural bends and secure cables to the boom or mast of the antenna.

- Plug the 6 ft COAX jumper from the driven element on the DB 36 to the "OUT" plug on the 80m dipole Antenna Switch.
- Plug the COAX cable coming up the tower in the "IN" plug on the 80m dipole antenna switch.
- Refer to **Figure 10** for correct installation.
- Once wiring has been completed inside the 80m dipole antenna switch secure the lid to the antenna switch housing. The lid should close in a downward motion if installation has been done correctly. Refer to **Figure 7** for applying the cable clip onto the lid of the antenna switch.

Figure 10

Wiring Diagram for 80m Dipole switch, Front & Back



80m Dipole Full Layout

80m Dipole Full Layout

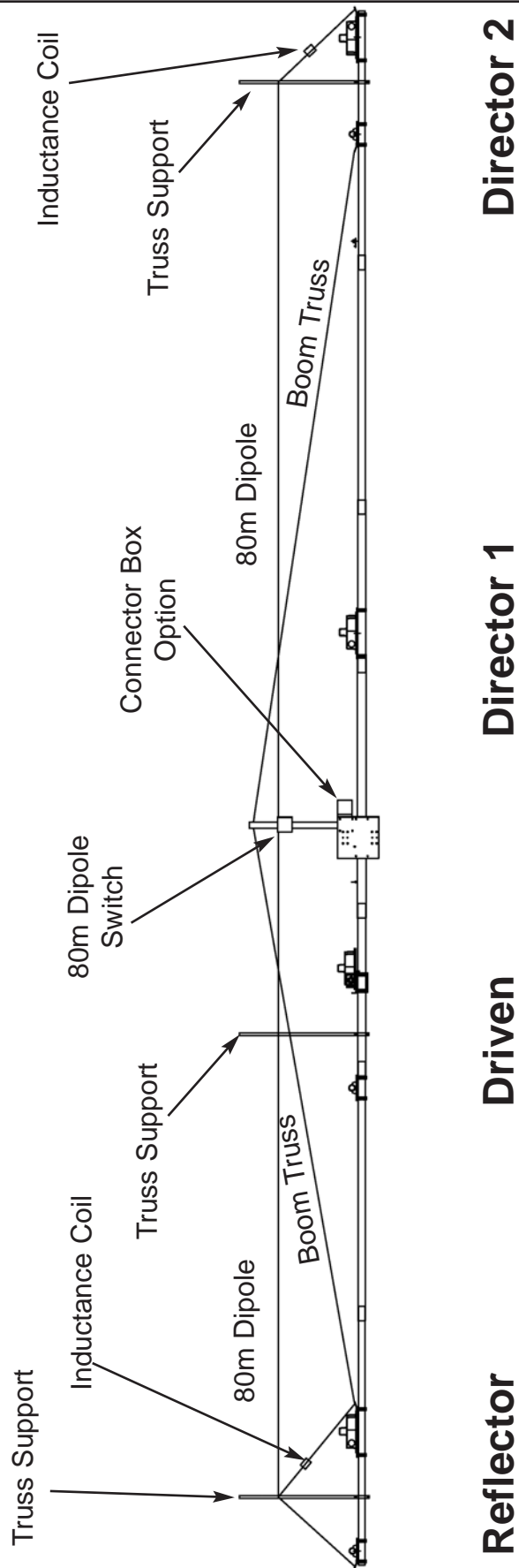


Figure 11

