

AB-155 Set up Instruction

d. Mast AB-155/U Erection. Determine the position for the antenna to be erected. Determine the direction the antenna is to radiate. Stretch an assembled antenna along the ground in the desired position and direction. Place the antenna in a position (consider lead-in length) to allow proper connection of the antenna to the equipment shelter after it is raised. Plan to erect the end masts several feet beyond the end insulators. The center mast should be at the coaxial connector and offset 3 feet from the line of the antenna (fig. 2-2.5). A center mast will not be required if the overall antenna is less than 120 feet long. Erect each Mast AB-155/U as follows:

- (1) Place Mast AB-155/U at each mast location and remove Cover CW-124/GRA-4 from Carrying Device MX-387/GRA-4.

- (2) Drive the stake of Mast Base AB-154/U into the ground at the desired mast location with the swivel end pointing 45 degrees from the line of the antenna (fig. 2-2.3). If the ground is soft or sandy, place the mast base plate (fig. 2-2.5) on the ground and push it down firmly; then drive the stake of Mast Base AB-154/U through the hole in the mast baseplate.

- (3) Align the female ends of Mast Sections MS-44 toward the mast base. Connect the first mast section (fig. 2-2.3) to Mast Base AB-154/U; add the second and third mast sections. Place a Guy Plate MX-378/U over the third section. Add the fourth and fifth sections; place a second MX-378/U over the fifth section. Add three more mast sections, and place a third MX-378/U over the last section.

- (4) Slip a Guy Fastener MX-379/U over each guy stake before it is driven into the ground. Drive a guy stake (back guy stake) into the ground at the junction of the fifth and sixth MX-44 (25 feet from Mast Base AB-154/U). Place the front and side guy stakes 90 degrees apart as shown in figure 2-2.3. Use

a guy rope to measure the distance between the mast base and the front and side guy stakes. If the ground is soft or sandy, use the wooden stakes instead of the aluminum stakes, and loop the guys over the stakes. Do not use the MX-379/U.

(5) Fasten four Guys MX-383/GRA-4 to top Guy Plate MX-378/U, four Guys MX-381/GRA-4 to center Guy Plate MX-378/U, and the remaining four Guys MX-382/GRA-4 to bottom Guy Plate MX-378/U. Fasten the guys by snapping the fastener at the end of each guy into one of the four holes located 90 degrees apart on the MX-378/U. Next, carry the free ends of the three back guys to a side guy stake to measure their correct length. Fasten these guys to the back guy stake with Guy Fastener MX-379/U. Connect both sets of side guys to their respective side guy stakes, and remove slack by adjusting Slide Fastener FT-9 (fig. 2-2.3). Do not overtighten because the mast may bend. Keep the three front guys together, and stretch them along the mast toward the front guy stake.

(6) Remove Halyard MX-516/GRA-4 from the carrying device, and attach the snap fastener on the pulley to the unused hold in the top Guy Plate MX-378/U. Slip the rope through the pulley (fig. 2-2.5), and tie the ends of the rope near the mast base to keep the rope from running through the pulley when raising the mast.

(7) To raise the mast (fig. 2-2.4), three men are required. Man No. 1 holds the front guys and pulls steadily on them, keeping slightly more tension on the top guy to bow the mast slightly while being raised. Man No. 2 takes a position near the mast base and holds Mast Base AB-154/U in the designated position as the mast is raised. Man No. 3 stands near the top end of the mast and raises it as he walks toward the mast base.

(8) Adjust the guys until the mast is vertical. Whenever a guy is tightened, the opposite one may have to be loosened slightly to keep the mast from bowing.

e. Antenna Raising. When operating within the frequency range of 2.0 to 4.0 MHz, the length of the antenna wire requires the use of three 40-ft Masts AB-155/U or other convenient supports for each antenna. At frequencies above 4.0 MHz, only two masts or supports are required for each antenna. Each antenna should be positioned broadside to the

direction of transmission or reception.

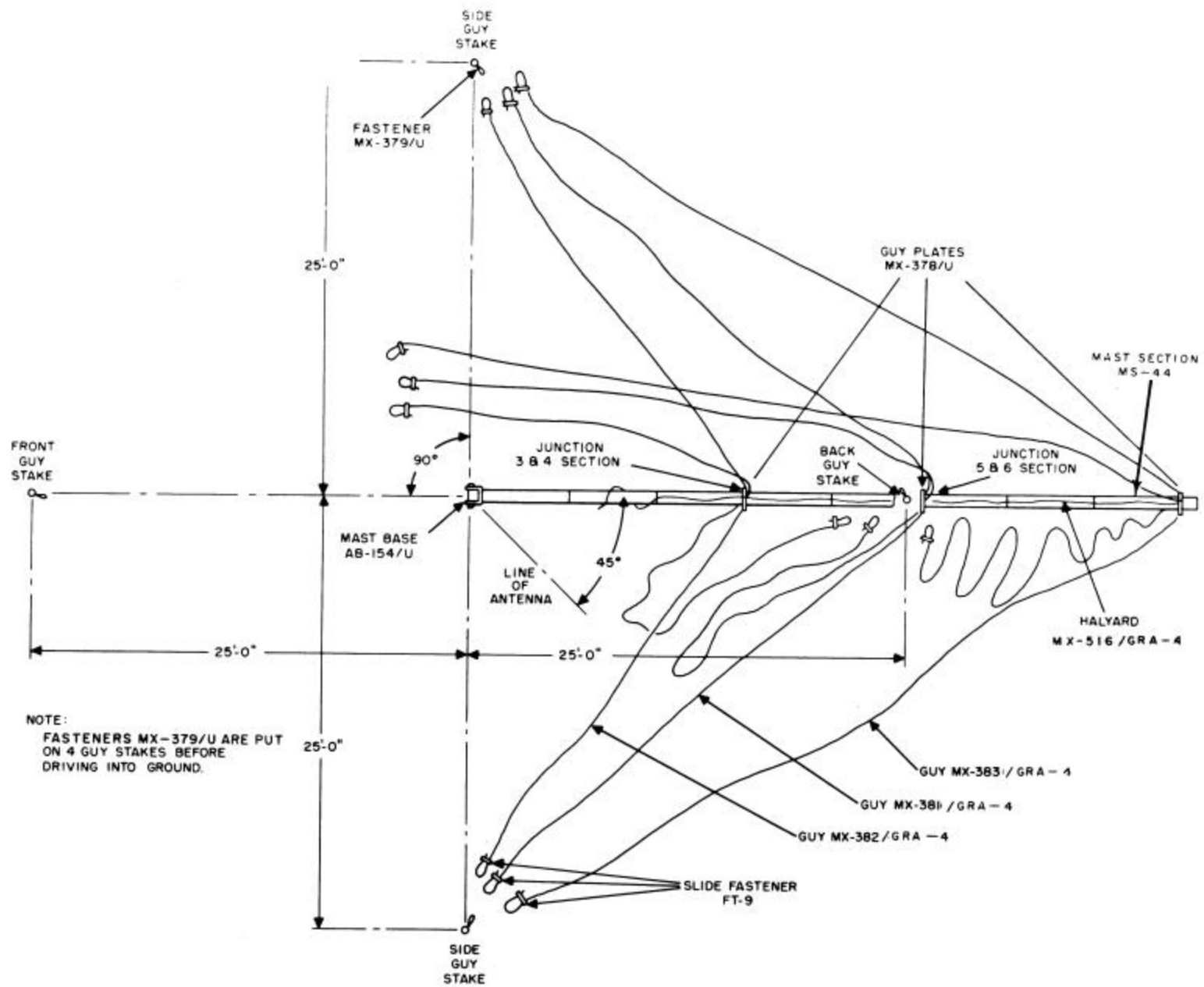
(1) If a center (AB-155/U) mast is used, attach the fastener on Halyard MX-516/GRA-4 to the coaxial connector.

(2) Fasten Halyard (if used) MX-516/GRA-4 on each end mast to the antenna wire by attaching one end of a wire (approximately 15 inches of antenna wire) to the end strain insulator, and the other end to the fastener assembly on Halyard MX-516/GRA-4.

(3) Pull the antenna wire into position with Halyards X-516/GRA-4. Tie the rope to the mast to prevent the weight of the antenna wire from pulling the loose end of the rope back through the pulley. Figure 2-2.5 shows a doublet antenna completely erected.

NOTE

The antenna lead-in should be raised off the ground on poles if possible. In cold weather, raising the lead-in prevents the antenna lead-in from freezing to the ground, and at all times, minimizes damage which might result from lying in the ground. In addition, the antenna lead-in should be taped to both the mast and the shelter to relieve the tension on the coaxial connector.



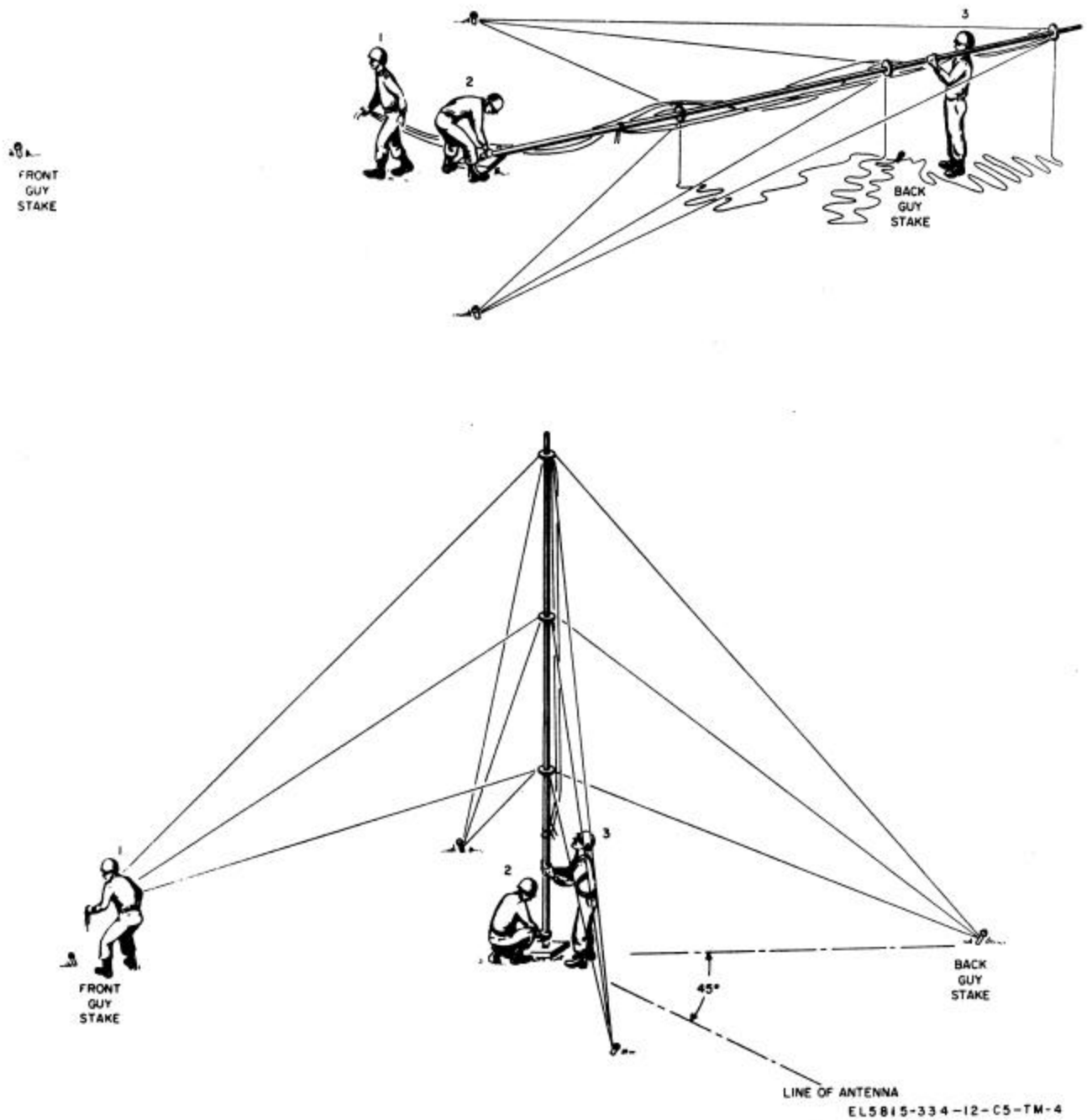
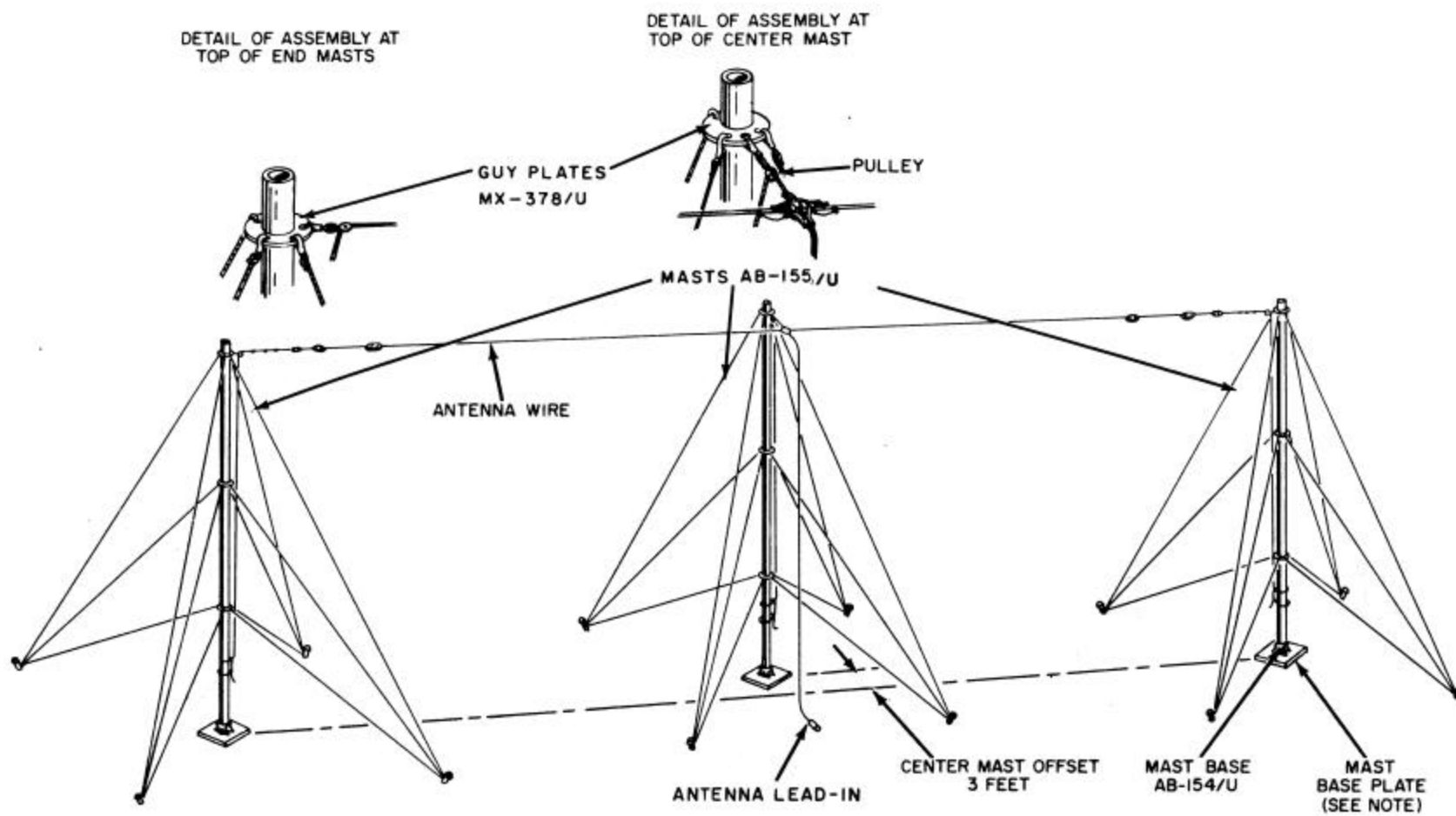


Figure 2-2.4. Raising assembled Mast AB-155/U.



NOTE:
THE MAST BASE PLATE IS
USED ONLY WHEN GROUND
IS SOFT OR SANDY.

Figure 2-2.5. Doublet antenna, erection completed.