MICROWAVE ANTENNAS
KS-16320 PASSIVE REFLECTORS
MAINTENANCE
IMMOBILIZATION OF LISTS 1 AND 2

1. GENERAL

1.01 This section is reissued:

(a) To specify the tightening torque requirements and refer to the use of Palnuts for locking connections.

(b) To detail the tool requirements.

1.02 This section describes the final check to be made on the condition of all passive reflector connections and locking devices after all necessary elevation, azimuth and curvature adjustments have been made. It is assumed that all "U" bolt connections between the tower and the 4-inch OD support pipe and between this pipe and the reflector support brackets were checked prior to the adjustments for maximum signal level. During the operation of this final check the received signal level should be occasionally checked to insure that no tightening operation has caused a depreciation in signal level, and if so, the cause may be immediately localized and corrected.

1.03 To perform the work described in this section the following tools will be required:

QUANTITY	ITEM
1	3/4" socket, wrench, torque
1	15/16" socket, wrench, torque
1	1" socket, wrench, torque
1	1-1/16" socket, wrench, torque
1	1-1/2" socket, wrench, torque
1	3/4" wrench, box or open end
1	7/8" wrench, box or open end
1	1-1/8" wrench, end, open
1	1-1/2" wrench, end, open
1	1-3/4" wrench, end, open
1	Wrench, end, adjustable (open to 1-1/2")
1	Wrench, pipe (open to 5")
1 (or more)	Wrenches, torque (with a range of 20- to 90 foot-pounds)

2. PROCEDURE

2.01 Examine each nut or bolt for tightness by use of the torque wrench and extend to the required torque. If movement is detected at any nut or bolt, watch the received signal level and make suitable readjustments if required.

2.02 It is highly recommended that each connection be legibly marked with crayon, chalk, or quick drying paint, after being checked, to insure that nothing is missed.

2.03 The following check list is provided to assist in the procedure. Unless otherwise specified, the subassembly item numbers are common to both the 6- by 8-foot and 8- by 12-foot reflectors.

(a) The back-stay (strut) bracket on the tower has two 5/8-inch bolted connections. Torque-wrench check at 65 foot-pounds and install Palnuts on each, snugly drawn up. If these connections are not found tight watch the signal level when tightening and make suitable readjustments for maximum signal level after they have been tightened.

(b) The two 1-inch pivot bolts at the 3B and 5B brackets of the elevation platform assembly shall be torque-wrench checked at 90 foot-pounds. The associated 5/8-inch bolt on the 4B bracket shall be torque-wrench checked at 65 foot-pounds. After checking apply Palnuts to each and draw up until snug.

(c) The 1-inch vertical pivot bolt and the 1-inch horizontal pivot bolt at the 2B bracket and bearing assembly shall be torque-wrench checked at 90 foot-pounds and the nearby 7/8-inch horizontal bearing bolt between the twin channels and the top reflector casting shall be checked at 75 foot-pounds. Apply Palnuts to each and draw up snugly.

(d) There are eight 1/2-inch nuts on the clamp assembly holding the reflector to the elevation platform, and in the same vicinity are

two 1/2-inch bolts in each 33B clamp. These nuts should be torque-wrench checked at 25 foot-pounds and Palnuts snugly drawn up on each.

(e) On the List 2 (8- by 12-foot) reflector each of the three curvature adjustment struts has a 3/4-inch left hand and a 3/4-inch right hand lock nut on the threaded adjustment stud. These nuts should be carefully checked with an open-end wrench to insure they are tightly seated.

(f) ***Back Stays (Watch Signal Level During Tightening Operations)***

(1) The 1-inch bolt and lock washer at each end of the back stay should be checked with an open-end wrench to insure that the lock washer is completely flattened and there is no looseness.

(2) Check the 1-inch jam nut located on the threaded strut length adjustment between the ball joint and the strut, at the tower end of the strut. In checking the seating of this nut use care to hold the square end of the strut with a 1-1/8 inch open-end wrench (or equivalent) to insure that the strut does not turn during firm seating of the jam nut.

(3) Check the large serrated caps on the ball joints at each end of the strut for looseness. If loose, loosen the set screw with an Allen wrench (1/8-inch across flats); tighten cap with a pipe wrench until firm, then tighten set screw.

(4) Check tightness of the 3/8-inch bolt on each of the three clamps at 20 foot-pounds. After checking, recheck again, in the same order. Install a Palnut on each bolt to a snug seating.

2.04 After the reflector adjustments have been locked and checked, and the signal level is satisfactory, the readings of the elevation and azimuth angle scales (and the curvature strut scales on the 8- by 12-foot unit) should be read and recorded for future reference.