

5-0 WAVECHANGE MECHANISM(GENERAL DESCRIPTION - METHOD OF OPERATION - METHOD OF ASSEMBLY)

- 5-1 This mechanism is the same in general form and method of operation in both the Low-Frequency and the High-Frequency Transmitters.
- 5-2 Each wavechange switch is arranged to be operated by a four-position selecting wheel, and the various variable condensers or variometers are positioned to pre-selected spots by an associated actuating lever. The actuating lever has two positions - "lock" being counter clockwise and "unlock" being clockwise. If it is desired to change wavelength, the procedure is to pull out the actuating lever, move it to the "unlock" position, set the selecting wheel to the position desired, then move the actuating lever back to the "lock" position. The operation of pulling out the actuating lever shuts off the h-t, and restores it when the lever is relocked.
- 5-3 It will be observed that attached to each variable condenser or variometer shaft is a device comprising a movable stop, which is set to one of four positions by the selecting wheel, and a group of movable stops or fingers on the condenser shaft which can be unclamped from the shaft and set to any position with reference to the position of the plates of the condenser.
- 5-4 As the actuating lever is moved to the "unlock" position, all condensers move to "zero", i.e. with the plates "full out" or zero capacity. As the actuating lever is moved to the "lock" position, all condensers move towards maximum, but if the fingers are tight on the shaft, motion of the condenser proper will cease, but the drum at the shaft end will continue to turn, winding up a spring within. The tension of this spring keeps the finger tight against the stop so that the condenser is held in that position.
- 5-5 By this arrangement, all condensers can be pre-set to any position between minimum and maximum capacity, and as the actuating lever is moved to its "lock" position, the springs are wound up to a greater or lesser degree.

- (6) Move the fingers up against the stops and tighten them hard against their stops.
- (7) Release the temporary dial lock.

Always see that the temporary dial locks are disengaged before attempting to move the mechanism.

- 5-9 On the low-frequency transmitter, in order to pack units for shipment, the cable and chain will have been removed and tagged for identification. As an aid to reassembling, drawings 91975 for low-frequency and 91931 for high-frequency are included in these instructions (Figs. 9 and 37).
- 5-10 The references below are to drawing 91975 (low frequency) and the instructions here are to supplement the notes presented on the drawing. The outer control number plate is not shown on this drawing.

(I) To assemble switch driving chain, item 36 on drawing:

1. Place chain over upper sprockets so that connector with red mark will be located between p-a unit and m-o unit.
2. Before connecting chain, make certain that all switches agree and correspond with pointer on selector wheel as indicated on control number plate.

(II) To assemble  $3/32$  diam cable, item 38, which operates two condensers and the variometer by means of the actuating lever:

1. Rotate the condensers and the variometer by means of the hexagon knob on forward end of shaft until all dials read from  $3^{\circ}$  to  $5^{\circ}$  less than zero, and maintain these positions by means of knurled thumb nuts.
2. Place actuating lever in extreme clockwise or unlocked position as shown on dwg 91975.
3. This  $3/32$  diam cable is in three pieces joined with connectors (item 20). This is to permit separation of cable and unwrapping from p-a unit or m-o unit to permit removal of these or other units. Take first piece of cable (about 32" long) and fix end in slot

5-6 During preliminary setting up, the fingers are all to be loosened on their shafts. The condenser can then be rotated by hand (using the tool supplied) to obtain the desired setting against the springs, before locking up the fingers. Each condenser carries a subsidiary lock which holds it in position temporarily before the fingers are tightened against the stops, so that the transmitter may be completely tuned throughout to one of its four frequencies. After a channel is completely tuned up, the fingers are locked up tightly against their stops and the temporary locks released.