

(1) If the KILOCYCLE dial reading is incorrect by less than 3 kc in the same direction by the same amount at both ends of the MEGACYCLE dial, correct as follows:

a. Be sure BFO is set at 500 kc as in paragraph 5.3.6.

b. Tune the receiver to zero beat at some 100 kc check point on the dial.

c. Set KILOCYCLE fiducial line to zero-zero on the KILOCYCLE dial by turning the ZERO ADJ knob.

(2) If the KILOCYCLE dial reading is incorrect by more than 3 kc in the same direction by the same amount at both ends of the MEGACYCLE dial, correct as follows:

a. Be sure BFO is set at 500 kc as in paragraph 5.3.6.

b. Tune to zero beat at 1.5 mc.

c. Set KILOCYCLE fiducial line to center index mark on escutcheon opening by turning ZERO ADJ knob.

d. Loosen set screws in the circular KILOCYCLE dial and set to zero-zero. Tighten set screws.

(3) If the two errors in the KILOCYCLE dial reading are either opposite in direction or different in size, it indicates that the VFO end points have drifted. Correct as follows:

a. Be sure BFO is set at 500 kc as in paragraph 5.3.6. Tune receiver to zero beat at 1.5 mc on band 2.

b. If the zero-zero mark on the KILOCYCLE dial lies within the lines on the escutcheon opening, set KILOCYCLE fiducial line to zero-zero on the KILOCYCLE dial by turning the ZERO ADJ knob.

c. If the zero-zero mark lies outside the lines on the escutcheon opening, loosen set screws in the KILOCYCLE dial. Set fiducial to the center line in the escutcheon opening. Rotate KILOCYCLE dial until zero-zero mark lines up with the fiducial. Tighten set screws.

d. Rotate KILOCYCLE knob approximately ten turns to zero beat. This procedure tunes the receiver to 2.5 mc.

e. Now note the error in the KILOCYCLE dial reading.

f. If this error is less than ± 3 kc, set the fiducial to 2.5 mc by turning the ZERO ADJ knob. This procedure sets the point of maximum accuracy at 2.5 mc. If maximum accuracy is desired at some other check point in the band, tune the receiver to zero beat at the desired check point. Then adjust fiducial to zero-zero on the KILOCYCLE dial.

g. If this error is more than ± 3 kc, refer to paragraph 5.3.15. for instructions.

(c) VFO SHAFT. - Check the vfo frequency against a known source to determine whether the vfo shaft has been displaced a full turn and thereby has shifted the vfo frequency exactly 100-kc. Using a signal generator having an accuracy of ± 1 percent of ± 20 kc or another 51J-4 known to be properly aligned, check as follows:

(1) If a signal generator is used set the receiver bfo at exactly 500 kc as in paragraph 5.3.6. Turn the 100-kc oscillator off. Connect the output of the signal generator to pin 7 of V106 with a clip lead. Set the generator at 2.0 mc. Tune the receiver to zero beat with the bfo at about 2.0 mc. (The vfo is now set at approximately 2.5 mc.) If the vfo shaft is displaced a full turn, zero beat will occur at approximately 1.9 mc or 2.1 mc instead of 2.0 mc. For exact setting of the receiver, remove the signal generator and connect a clip lead from pin 7 of V106 to the 100-kc oscillator output at C173. Turn on the 100-kc oscillator and tune receiver to zero beat with the bfo.

(2) If an accurately aligned 51J-4, hereafter called the test receiver, is used, couple the antenna of the test receiver to the output of the vfo being tested. Set test receiver bfo at 500 kc as in paragraph 5.3.6. Tune test receiver dials to 2.5 mc by zero beating with the bfo. Tune the receiver containing the vfo being checked to where zero beat is observed in the test receiver output. If the shaft of the vfo being checked has been displaced a full turn, the zero beat will occur when the receiver being checked is tuned to 1.9 or 2.1 mc instead of 2.0 mc.

(3) If steps (1) or (2) above reveal that the vfo shaft is displaced a full turn, note whether the zero beat observed was above or below 2.0 mc. and loosen the set screws in the vfo coupler. The set screws are accessible from the bottom of the chassis. NOTE--The vfo shaft will have to be turned to gain access to the screws. The point at which the second