

TRANSMITTER ALIGNMENT

GENERAL:

The receiver must be in complete alignment before commencing the transmitter alignment procedure, because the receiver calibration is used to align the transmitter VFO. Set the controls as listed in the beginning of the alignment section. After turning unit on, wait at least five minutes before starting alignment procedure to allow oscillator frequencies to stabilize.

ALIGNMENT PROCEDURE:

(All alignment should be done with the VFO box cover in place, except as otherwise noted.)

1. Place a crystal of approximately 8750 kc (8.75 mc) in the XTAL socket. Turn the VFO-XTAL switch to XTAL position. Turn the SPOT switch to ON. Turn the LOAD control to 0 (maximum counter-clockwise).
2. Turn the RECEIVER tuning dial to the sixth multiple of the crystal frequency (approximately 52.5 mc) to make sure the crystal is oscillating, as indicated by the presence of the crystal multiple as a signal in the receiver.
3. Turn the TRANSMITTER tuning dial to the approximate crystal multiplied frequency.
4. Connect the 50-70 ohm dummy load to the antenna jack. Turn the RECEIVE-TRANSMIT switch to TRANSMIT. "Dip" the final amplifier plate current to minimum, and load the transmitter into the dummy load in the normal manner, as explained in the front of the manual.

If no resonance point can be found (PA plate current will not dip), tracked transmitter tuned circuits are probably far out of alignment.

Turn off transmitter. Remove the VFO compartment bottom plate. Set the transmitter tuning dial to 52.5 mc. With a grid-dip meter, adjust the slugs of L2, and L3, to the following frequencies:

L2:	26.25 mc
L3:	26.25 mc

Lightly solder ("tack") a 680 ohm 1/2 watt resistor across the coil terminals. Replace the VFO bottom plate.

Connect a VTVM (-3 volt scale) between the junction of R10-R11 and ground. With TRANSMIT-RECEIVE switch in TRANSMIT position, carefully adjust the slug of coil L5 for maximum meter reading. Quickly turn switch back to RECEIVE. Remove the VFO bottom plate. Remove the 680 ohm resistor from T4 and solder it across the terminals of coil L5. Replace the VFO bottom plate. Turn the switch to TRANSMIT and quickly but carefully adjust the slug of L4 (through hole in VFO bottom plate) for maximum meter reading. Turn the switch to RECEIVE. Remove the 680 ohm resistor from L5. Disconnect VTVM. Repeat step 4, first paragraph.

5. Turn the meter switch to GRID position. Adjust the slugs in L2, and L3 for maximum meter reading. With VFO dial (still) set to 52.5 mc repeat the adjustment of these coils until no further increase in meter reading can be obtained. Final meter reading should be between 4 and 6 (with a final amplifier loaded to 5.5 on meter at resonance.)
6. Turn the RECEIVE-TRANSMIT switch to RECEIVE. Turn the XTAL-VFO switch to VFO. Turn the RECEIVER and