4. Set the dials of the receiver and Transceiver to 3.9 megacycles. The receiver should be operated in the CW mode.

5. Adjust coil L5 until the Transceiver signal is heard in the amateur receiver speaker. Check the VFO dial calibration by setting the dials of both the receiver and Tranceiver first to 3.8 megacycles and then to 4.0 megacycles. The calibration should check near these points, and any dial variations should be corrected by adjusting coil L5 at 3.8 megacycles and C131B (the trimmer on the VFO variable capacitor) at 4.0 megacycles.

6. Turn the FUNCTION switch to OFF.

CRYSTAL CALIBRATOR CHECK OF VFO DIAL SETTINGS

The preceding adjustments of the VFO will only be as accurate as the receiver used. The calibration can be accurately checked by using the Heath Model HRA-10-1 Crystal Calibrator as an accessory with the Transceiver. The Crystal Calibrator accuracy should be checked against WWV by using a receiver other than the one in the Transceiver to set the calibrator at 5, 10, or 15 megacycles.

1. Plug the Crystal Calibrator into the calibrator socket of the Transceiver.

2. With the antenna plugged into the ANT socket, place the FUNCTION switch in the PTT position, and the Meter switch in the OPERATE TUNE position.

3. Turn on the Crystal Calibrator by pulling the AF GAIN control knob "out." Allow sufficient time for the Calibrator to warm up.

4. Check the calibration accuracy of the VFO at the 3.8, 3.9, and 4.0 megacycle settings of the VFO dial of the Transceiver. Any dial variations should be corrected by adjusting coil L5 at 3.8 megacycles and C131B (the trimmer on the VFO variable capacitor) at 4.0 megacycles. Repeat until the dial checks with the calibrator signals.

5. Turn the FUNCTION switch to OFF.

TRANSMITTER ALIGNMENT

BIAS SETTING

1. Connect the dummy load to the ANT socket.

2. Remove V5, the 12BY7 tube.

3. Set the FUNCTION switch to TUNE and the Meter switch to BIAS SET.

4. Then adjust the FINAL BIAS control for a reading of S3 on the meter. There is a small triangle above the "3" on the meter to indicate the proper bias setting.

5. Turn the FUNCTION switch OFF, and replace V5, the 12BY7 tube.

RF AMPLIFIER ADJUSTMENT

1. Connect a voltmeter across the dummy load, if your dummy load provides a DC voltmeter connection, or use a VTVM with an RF probe positioned near the dummy load. Do not connect the RF probe to the dummy load as there is sufficient voltage output to burn out the diodes of some RF probes.

2. With the VFO dial set to 3.8, place the FUNCTION switch in the TUNE position and the Meter switch to TUNE-OPERATE. The voltmeter should indicate some output.

3. Adjust the FINAL TUNE control for maximum output, which should give a reading of over S3 on the Transceiver meter. If the meter goes above S9, adjust the CARRIER NULL control to drop the level to S9.

4. Adjust both slugs of transformer T2 for a maximum meter indication.

BALANCED MODULATOR ADJUSTMENT

With the voltmeter lead still connected to the dummy load or with the VTVM RF probe near the dummy load, place the FUNCTION switch in the PTT position. Allow the Transceiver to warm up for at least one-half hour before adjusting the balanced modulator.

1. Press the PTT switch, or ground lug #2 of the MIC socket with a short wire, and adjust the CARRIER NULL control for a minimum signal indication on the test meter.

2. Using the long end of the alignment tool, adjust the bottom slug of transformer T1 to the bottom of its travel (clockwise from the top of the chassis).