

fuses. Invert the transceiver chassis and measure from the low voltage HT rail to chassis (the HT rail is wired in red). A reading of 250V should be obtained. If no voltage is present check the fuses in the PSU. If the heaters are glowing and HT is present but the receiver is still dead check the voltages on the pins of the receiver valves against the values given in Table 2, working from the output stage back to the RF stage. A simple check on the output stage (V17) is to switch on and, with the multimeter set to ohms and one probe to chassis, connect the other probe to the G1 pin of the pentode section (pin 3). A loud pop should be heard as the probe is connected and disconnected from the grid. If not, and all voltages around V17 are correct, check the PHONES socket as this incorporates a switch which disconnects the loudspeaker when headphones are used, and this sometimes gives trouble through wear and tear. Another point to be borne in mind is that, due to a fault in the change-over circuits, the rig may be permanently in transmit. This can be checked by measuring the voltage on pin 6 of V21 (VOX amplifier), which should be approximately 240 volts if the rig is in the receive mode; if it is much lower the 2000 may well be stuck in transmit. Removing V21 from its socket briefly will prove the point, as the rig will then revert to receive. However, do not leave V21 out for more than a few seconds as this unbalances the heater voltages to the other valves. If removal of V21 does bring the receiver to life, and replacement by a new valve does not cure the fault, check all the resistors on pin 7. These resistors are of high value and have a nasty habit of going open circuit. Also check the capacitors in the circuit for leakage. If the receiver persists in remaining dead proceed through the voltage checks of Table 2. The correction of any problems found during the voltage checks will normally cure even the most stubbornly deaf 2000 unless, that is, someone has had a go at the alignment and left it miles out of adjustment! It is worth noting that the RF/IF alignment of an untouched KW2000 receiver will remain extremely stable over a period of many years. At worst a slight "tweak" may be required on the 10, 15 and 20 metre bands only, and then only if com-

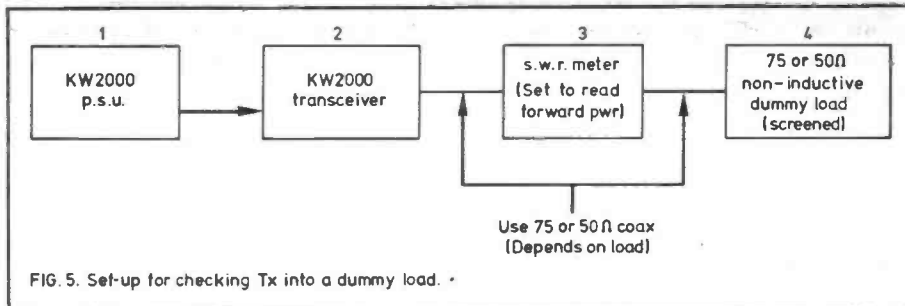


FIG. 5. Set-up for checking Tx into a dummy load. *

Table 3

Voltage check. In TX condition. Control settings — Band 3.5MHz. Mic gain — Minimum, LSB, Int Mox, Mic connected.

| VALVE | PIN NUMBERS | | | | | | | | | COMMENTS |
|-------|-------------|---------|-----|----------|----------|-----|----|------|------------|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| V1 | 70 | 0 | 0.4 | 0 | 0 | 90 | 0 | 0.8 | A/C 6.3 | If pins 1 or 6, low, V1, R3, R4, C2, C145, C3. |
| V2A | — | — | — | 0 | 0 | 150 | 0 | 2.6 | A/C 6.3 | If pin 6 low check, V2, R12, R11, R10, C8. |
| V3 | 1.0 | 0 | 1.0 | A/C 6.3 | A/C 12.6 | 0 | 45 | 50 | 0 | If pin 7 or 8 low, check R18, R19, R21, (+ +) |
| V4 | 170 | 0 | 1.5 | A/C 6.3 | A/C 6.3 | 170 | 0 | 1.45 | A/C 12.6 | If voltage pins 1+6 low check V4, R28, C23. |
| V5 | 210 | 0 | 1.7 | A/C 12.6 | A/C 12.6 | 210 | 0 | 1.7 | A/C 6.3 | If voltages pins 3+8 low check V5, R32, R26. |
| V8 | 0 | A/C 6.3 | 225 | 0 | -50 | 0 | 0 | 0 | TopCap 750 | If no volts on Top Cap check RFC4, HT fuses in P.S.U. wire broken in multi-way connector on back of KW2000 |
| V23 | 0 | 6.3 | 225 | 0 | -50 | 0 | 0 | 0 | TopCap 750 | |

Note: Most of the faults found in KW2000 series on TX ie. low drive or intermittent drive were caused by R18, R19, R21, going very high in value due to ageing.

(+ +) = These resistors are often the cause of low/intermittent TX drive.

Table 4

| STEP | Fit sniffer to: | External RX Frequency | Checking |
|--|-----------------|---|---|
| 1 | V16 | 455KHz approx | Carrier OSC. See xtals in KW2000 for exact frequency |
| 2 | V11 | Depends on VFO setting. 2.5MHz to 2.7MHz | Exact frequency depends on KW2000 VFO setting. Checks VFO |
| 3 | V4 | 2.995 to 3.155MHz Depends on VFO setting | Check 1st TX mixer to see if some output is present ON TX ONLY ie. 455KHz + VFO |
| 4 | V5 | Depends on KW2000 VFO and band selected. But on frequencies dialled up on KW2000. | Checks 2nd TX mixer to see if some output is present ON TX only |
| 5 | V7 | As above | Checks some output is present from driver stage |
| If signals are present in steps 1-5 there is no point in doing step 6. | | | |
| 6 | V10 | Tune RX to LF edge of band selected on KW2000 + 3.155MHz eg. Band selected on KW2000 = 3.5MHz + 3.155MHz = 6.655MHz etc. This checks V10. HF oscillator is working on all bands. | |