

# HICKOK

## CALIBRATION DATA FOR 600A TESTER

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THIS PROCEDURE ASSUMES THE TESTER IS IN NORMAL OPERATING CONDITION. ALL MEASUREMENTS LISTED BELOW ARE MADE WITH A 1,000 OHMS/VOLT METER AND A 20,000 OHMS/VOLT METER. BE SURE THAT READING FOR TYPE OF METER USED AGREES WITH READING STATED FOR THAT TYPE OF METER, AND TEST METER HAS BEEN CHECKED FOR ACCURACY.

1. CHECK ENGLISH AND BIAS DIALS FOR INDEXING AT ZERO WHEN SET ON ZERO.
2. WITH THE CATHODE AND SUPPRESSOR SWITCHES IN THE SAME POSITION (EXAMPLE 1-1, 3-3) THROUGH THE RANGE OF POSITIONS, AND WITH THE EXCEPTION OF POSITION 2-2, THE SHORT TEST INDICATION SHOULD SHOW SHORTS WHEN THE SHORT SELECTOR SWITCH IS PLACED ON POSITIONS 2 AND 3.
3. WITH THE SHORT TEST SWITCH IN TUBE TEST POSITION, SET SELECTOR SWITCHES TO JR-5347-2, WHICH IS THE SETTING FOR A 6L6 TUBE. FOR ALL THE FOLLOWING TESTS.
4. WITH METER ON A.C. RANGE AND LEADS ATTACHED TO PIN 2 AND 7 OF THE OCTAL SOCKET, TURN FILAMENT SWITCH THROUGH RANGE AND CHECK FILAMENT VOLTAGES.
5. PUSH P7 AND VARY LINE ADJUST CONTROL SO THAT METER NEEDLE OF TESTERS POINTS TO LINE TEST. NOW, PLACE NEGATIVE LEAD OF D.C. VOLTMETER IN PIN 8 OF OCTAL SOCKET AND THE POSITIVE LEAD IN PIN 3. UPON PUSHING P4, METER SHOULD READ:

$190V \pm 2V$  ON 20,000 OHMS/VOLT METER

$150V \pm 2V$  ON 1,000 OHMS/VOLT METER

WHICH IS THE PLATE VOLTAGE. IF THESE READINGS ARE NOT OBTAINABLE, VARY MAGNETIC SHUNT ON METER FOR SMALL DIFFERENCES AND R7 RESISTOR FOR LARGER DIFFERENCES SO THAT CORRECT VOLTAGE READINGS CAN BE OBTAINED WHEN TESTER METER POINTS TO LINE TEST UPON PUSHING P7.

6. WITH THE BIAS DIAL AT ZERO, PLACE THE LEADS OF AN A.C. VOLTMETER IN PINS 5 AND 8 OF THE OCTAL SOCKET TO OBTAIN THE SIGNAL VOLTAGE READING, THE READINGS SHOULD READ:

$3.2V \pm .2$  ON 20,000 OHMS/VOLT METER

$2.5V \pm .2$  ON 1,000 OHMS/VOLT METER

7. USING THE D.C. METER, PLACE POSITIVE LEAD IN PIN 8 AND NEGATIVE LEAD IN PIN 5. NOW SET BIAS DIAL TO 100. METER SHOULD READ:

$43V \pm 2V$  ON 20,000 OHMS/VOLT METER

$40V \pm 2V$  ON 1,000 OHMS/VOLT METER

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TO VARY THIS VOLTAGE, ADJUST SLIDING TAP OF R15 MOUNTED NEAR THE TRANSFORMER. NOW TURN BIAS DIAL BACK TO 22. METER SHOULD READ:

$3.3V \pm .2V$  ON 20,000 OHMS/VOLT METER

$3.0V \pm .2V$  ON 1,000 OHMS/VOLT METER

TO VARY THIS VOLTAGE, BEND THE ARM OF THE BIAS POTENTIOMETER.

- 8 WITH METER ON D.C. RANGE, PLACE NEGATIVE LEAD IN PIN 8 AND POSITIVE LEAD IN PIN 4. NOW PRESS P4. METER SHOULD READ:

$135V \pm 2V$  ON 20,000 OHMS/VOLT METER

$130V \pm 2V$  ON 1,000 OHMS/VOLT METER

WHICH IS THE HIGH SCREEN VOLTAGE. NOW, PRESS P1 AND P4 TOGETHER. METER SHOULD READ:

$60V \pm 2V$  ON 20,000 OHMS/VOLT METER

$56V \pm 2V$  ON 1,000 OHMS/VOLT METER

WHICH IS THE LOW SCREEN VOLTAGE. THIS CAN BE VARIED BY MOVING THE SLIDING TAP ON THE RIGHT SIDE OF THE RESISTOR MOUNTED ON A PANEL NEAR THE TRANSFORMER (R15).

- 9 TO CALIBRATE ENGLISH RANGE, SET UP TESTER FOR 6L6 TUBE AND PLUG CALIBRATED TUBE IN. LOCK ENGLISH DIAL IN PLACE WITH A PIECE OF CARDBOARD INSERTED UNDER THE DIAL. WHEN TUBE IS WARM, MAKE LINE TEST. NOW: PRESS P4 AND TURN BOTTOM HALF OF POT UNTIL METER REGISTERS CORRECTLY THE ENGLISH VALUE OF THE TUBE, THEN SOLDER THE POTS TOGETHER.
- 10 TO CALIBRATE MICROMHO RANGES, PRESS P4 AND TURN ENGLISH DIAL UNTIL METER READS MICROMHO RATING SHOWN ON CALIBRATED TUBE ON THE 15,000 MICROMHO SCALE ON METER. THIS IS THE INDEX POSITION, MARK DIAL FOR 15,000. ROTATE BIAS DIAL UNTIL TUBE READS 3,000 MICROMHO READING ON 15,000 MICROMHO SCALE. ROTATE ENGLISH DIAL UNTIL THE NEW ESTABLISHED MICROMHO READING OF 3,000 IS INDICATED ON THE 6,000 MICROMHO SCALE. MARK DOT ON 6,000 MICROMHO RANGE. ROTATE ENGLISH DIAL UNTIL 3,000 READING IS INDICATED ON 3,000 SCALE AND MARK DOT FOR 3,000 RANGE.

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