TYPE O AND ON CARRIER TELEPHONE SYSTEMS — TERMINALS AND JUNCTIONS
TESTS AND ADJUSTMENTS — GENERAL
HEATER SUPPLY VOLTAGE ADJUSTMENT — JUNCTIONS

Power for the junction comes from three supplies like the one shown in Fig. 2. One supply furnishes group 1; the other two furnish groups 2 and 3, and 4 and 5. The heater circuit in the junction requires a −38.5-volt battery. To obtain this battery voltage from the −48-volt supply, voltage dropping rheostats 48V FIL (1), 48V FIL (2), and FIL CUR (2) are provided. These rheostats are adjusted with all junction circuits in position so that the voltage measured at the −40V (1) and −40V (2) test jacks is 38.5 volts when the 48-volt supply is at its average value.

It is important to readjust the heater voltage whenever an additional group is added.

The purpose of this test is to set the heater supply voltage to the correct value.

APPARATUS:

1 — Weston Model 931 Voltmeter or equivalent

STEP	PROCEDURE
1	If the average battery supply voltage, as applied to the terminal, is not known, it may be determined as follows: Connect the voltmeter to terminal 2 of the 48V FIL (1) rheostat. Measure the voltage at five-minute intervals for three successive readings during both the heavy and light load periods of the office. The average of the readings is the average supply voltage.
2	Connect the voltmeter between −40V (1) and GRD test jacks. ***Requirement:*** See Fig. 1 for requirement and adjust as described in Step 4.
3	Connect the voltmeter between −40V (2) and GRD test jacks. ***Requirement:*** See Fig. 1 for requirement and adjust as described in Step 4.
4	The actual meter reading required will depend on the relative magnitude of the battery voltage at the time of adjustment with respect to the average battery voltage. If the battery voltage at the time of adjustment differs from the average, a correction should be applied to the −38.5-volt requirement. The corrected voltage is shown in Fig. 1 in terms of the departure from average. The −40V (1) voltage can be adjusted by means of the 48V FIL (1) rheostat and the −40V (2) voltage can be adjusted by means of the 48V FIL (2) and FIL CUR (2) rheostats. Adjust both the 48V FIL (2) and FIL CUR (2) rheostats so that one of the potentiometers will not be adjusted to its end range.

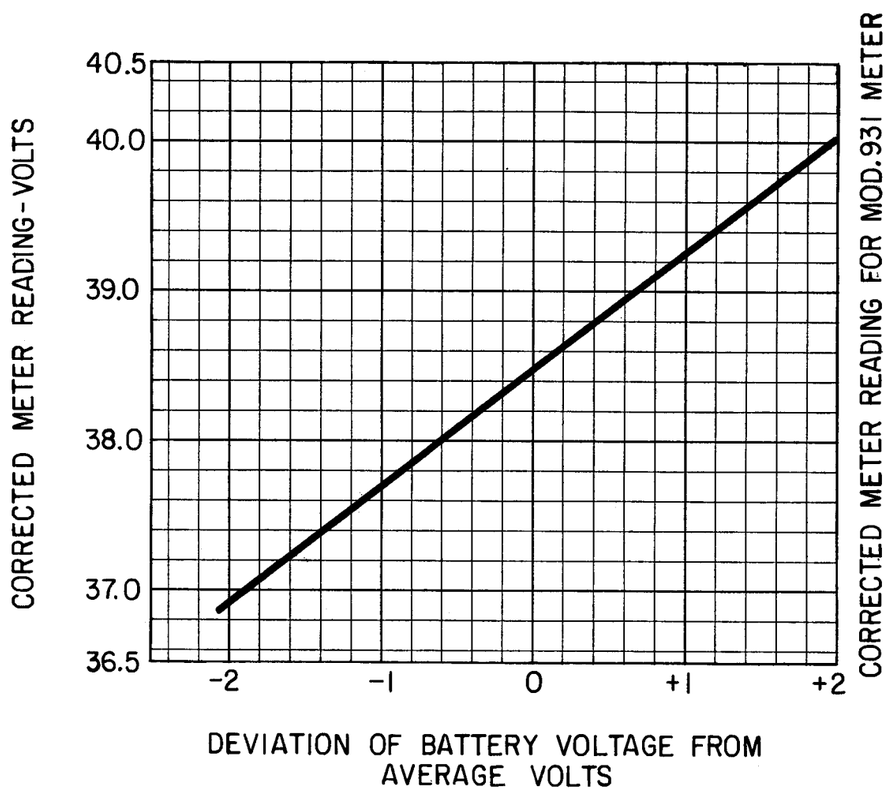
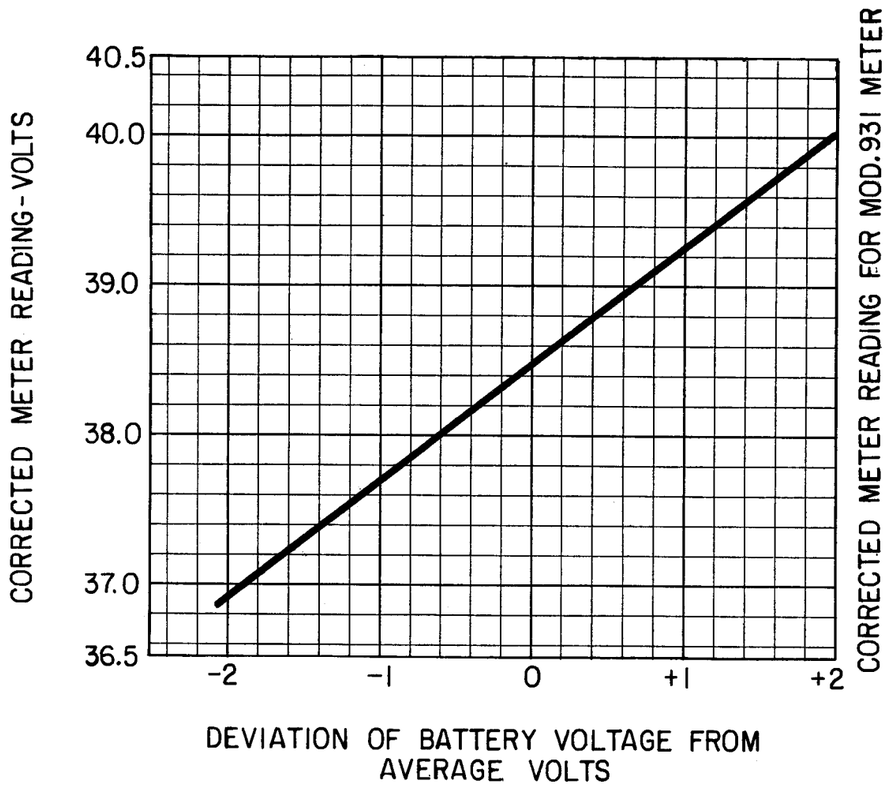


Fig. 1 — Heater Voltage Adjustment — Junctions



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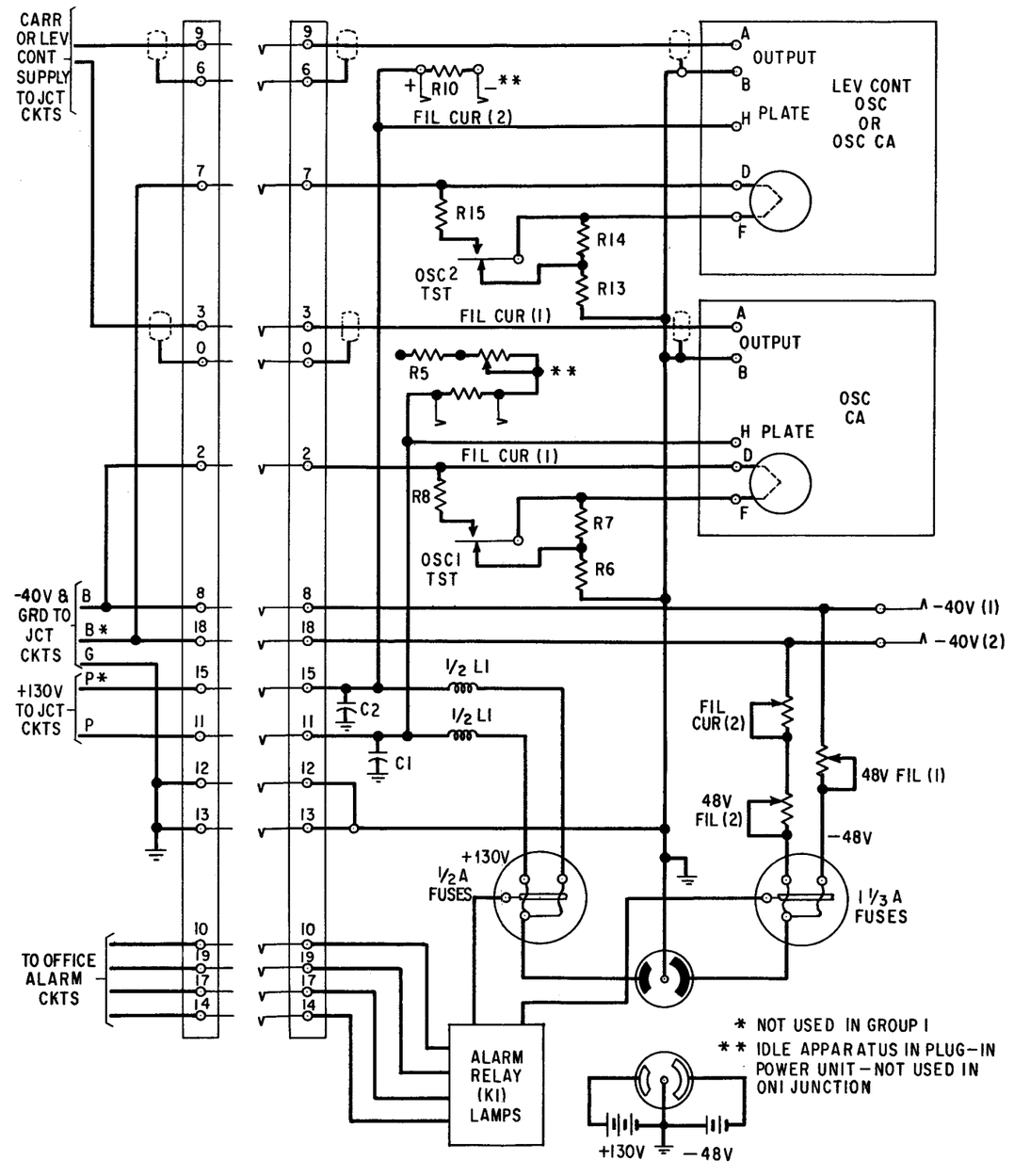

Fig. 2 — Wiring for ON1 Junctions

Fig. 1 and 2