REGULATOR

J87279A

-19 VOLTS, 4 AMPERES

OPERATING METHODS

1. GENERAL

1.01 This regulator provides regulated dc power from a dc power source for use in the TD-3 Radio System. The output of the regulator is —19 (±0.2) volts, 0 to 4 amperes dc for an input of —24 (±4.0) volts dc.

1.02 This section is reissued to add a procedure for adjusting the output voltage of the regulator when starting.

1.03 The abbreviations cw and ccw, used throughout the practice, refer to clockwise and counterclockwise, respectively.

1.04 Routine checks should be made during a period when they will cause the least unfavorable reaction to service.

1.05 The instructions given in this practice are based on circuit schematic drawing SD-81783-01. For a detailed description of operation, see the corresponding circuit description.

1.06 For more detailed information on operation and maintenance of individual equipment or apparatus, refer to the appropriate Bell System Practice.

2. LIST OF TEST APPARATUS

2.01 The apparatus required for the tests is as follows:

CODE OR SPEC NO.	DESCRIPTION
TEST APPARATUS	
KS-14510	Volt-Ohm-Milliammeter
KS-8039	DC Volt-Milliammeter
—	Ballantine 300D Voltmeter

3. OPERATION

3.01 This regulator is designed for continuous operation. All connections to external circuits are made through an input-output plug.

3.02 To turn the regulator on, operate the CB1 circuit breaker to the ON position. The output voltage as indicated on the KS-8039 meter, connected to pin jacks J1 (—) and J2 (+), should be —19.0 volts. If not, adjust to —19.0 volts using the ADJ VOLTS (R17) potentiometer. Rotate the potentiometer cw to raise or ccw to lower the voltage.

3.03 To turn the regulator off, operate the CB1 circuit breaker to the OFF position.

4. ROUTINE CHECKS

4.01 *Relay:* As often as local experience demands, the relay should be inspected for proper operation, making sure that it is in accordance with the circuit requirements and the Bell System Practices which apply. The K1 relay is not adjustable and should be replaced when there is a malfunction.

4.02 It is suggested that the following routine checks be made at least every three months. The input voltage should be 24 to 26 volts dc.

Low Voltage Alarm Adjustment

STEP	PROCEDURE
1	Connect ohmmeter between HLV ALM (pin 4 of plug P1) and GRD (pin A4 of plug P1).
2	Connect KS-8039 meter to pin jacks J1 (—) and J2 (+).

STEP	PROCEDURE
3	Operate CB1 circuit breaker to ON.
4	Rotate ADJ VOLTS (R17) potentiometer ccw. ***Requirement:*** KS-8039 meter indicates —18.5 volts.
5	Rotate LV ALM ADJ (R10) and HV ALM ADJ (R13) potentiometers fully cw. ***Requirement:*** Ohmmeter indicates infinity.
6	Rotate LV ALM ADJ (R10) potentiometer very slowly ccw. ***Requirement:*** Ohmmeter indicates zero.
	High Voltage Alarm Adjustment
7	Rotate ADJ VOLTS (R17) potentiometer cw. ***Requirement:*** KS-8039 meter indicates —19.5 volts and ohmmeter indicates infinity.
8	Rotate HV ALM ADJ (R13) potentiometer very slowly ccw. ***Requirement:*** Ohmmeter indicates zero.
9	Disconnect ohmmeter.
	Output Voltage Adjustment
10	Rotate ADJ VOLTS (R17) potentiometer ccw. ***Requirement:*** KS-8039 meter indicates —19.0 volts.
11	Disconnect KS-8039 meter.
	Output Ripple Check
12	Connect the Ballantine 300D Voltmeter to pin jacks J1 (—) and J2 (+). ***Requirement:*** Output ripple does not exceed 1.0 millivolt rms.
13	Disconnect the meter.

5. TROUBLES

5.01 Point-to-point voltages are given in circuit schematic drawing SD-81783-01. The KS-14510 meter is used to check these voltages.

5.02 If any of the requirements in the routine checks are not met, the regulator is to be considered defective and replaced. Defective regulators are to be disposed of in accordance with local instructions.