

## **NO. 3B TRAFFIC USAGE RECORDER CIRCUIT**

### **METHOD OF LOCATING TROUBLE**

#### **1. GENERAL**

**1.01** This section describes a method of locating trouble in a No. 3B traffic usage recorder (TUR) circuit (SD-99359-01).

**1.02** This section is reissued to advise replacement of entire 100-second (cs) timer instead of replacing timer microswitch(s) for correcting a trouble condition.

This reissue does not affect the Equipment Test List.

**1.03** ♦ Defective timers should be returned to the local Service Center or to the Western Electric

Purchased Products Engineering Organization in accordance with instructions in the section covering KS timers in the 030 Division of Bell System Practices. Under no circumstances should field repairs be attempted as this will void any warranty.♦

#### **2. METHOD**

**2.01** Table A (Trouble Guide 3B TUR) provides a list of difficulties which may be encountered while operating the 3B TUR. Table A describes the symptom of trouble and gives with it the possible cause of the trouble and the suggested corrective action.

TABLE A

## TROUBLE GUIDE 3B TUR SD-99359-01

TROUBLE SYMPTOM	SECONDARY SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. All registers do not score.	A. Cycle count register also fails.	1. Program timer not plugged in.	Plug in ac cord.
		2. Program timer microswitch defective.	Replace switch.
		3. Program timer tabs not set.	Set proper tabs.
		4. Pins placed in wrong position on program timer day wheel.	Place pins in proper holes.
		5. CS timer cams slipping.	Adjust or replace cams.
		6. CS timer microswitches defective.	→ Replace CS timer.←
	B. Cycle count register OK. No horizontal scan in use.	1. SW1 or SW2 selector stuck.	Adjust or replace selectors.
		2. Cross-connections from REG-punchings made to G- instead of R-punchings.	Change cross-connections to R-punchings.
		3. CS timer microswitch B defective.	→ Replace CS timer.←
		4. Cross-connections missing between R- and REG- and/or G- and REG-punchings.	Install cross-connections.
		5. One or more high impedance detectors defective.	Check high impedance detectors; replace defective units. Refer to Section 252-120-501
	C. Cycle count register OK. Horizontal scan in use.	1. Horizontal scan circuit defective.	Check horizontal scan circuit. Refer to Section 252-120-501.
		2. SW1 or SW2 selector stuck.	Adjust or replace selectors.
		3. CS timer microswitch B defective.	→ Replace CS timer.←

TABLE A

## TROUBLE GUIDE 3B TUR SD-99359-01 (Cont)

TROUBLE SUMPTOM	SECONDARY SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
		4. Cross-connections missing between R- and REG- and/or G- and REG-punchings.	Install cross-connections.
		5. One or more high impedance detectors defective.	Check high impedance detectors; replace defective units. Refer to Section 252-120-501.
2. Cycle count register reads low.	A. Camera clock indicates exposure taken on time.	1. Defective register.	Replace register.
		2. CS timer micro-switch A defective.	→ Replace CS timer.←
	B. Camera clock indicates an extra exposure.	1. Accidental firing of camera.	Investigate if this occurs more than once.
		2. Unscheduled ground pulse on camera control lead.	
C. Camera clock indicates an early exposure.	1. CC selector skipping.	Adjust or replace CC selector.	
3. Cycle count register reads high.	A. Camera clock indicates a missing exposure.	1. CC selector stuck or skipping.	Adjust or replace CC selector.
		2. CS timer micro-switch B defective.	→ Replace CS timer.←
	B. Camera clock indicates exposure taken on time.	1. Defective register.	Replace register.
4. Certain registers not scoring (cycle count correct).	A. Registers are associated with same arc of all switches.	1. One or more high impedance detectors defective.	Check high impedance detectors; replace defective units. Refer to Section 252-120-501.
	B. Registers may or may not be associated with same arc of all switches.	1. SW1 or SW2 selector stuck.	Adjust or replace selectors.
		2. Cross-connections missing between R- and REG- and/or G- and REG-punchings.	Install cross-connections.
		3. Defective register.	Replace register.

TABLE A

## TROUBLE GUIDE 3B TUR SD-99359-01 (Cont)

TROUBLE SYMPTOM	SECONDARY SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
5. Usage on all registers unusually low (cycle count correct).		1. CS timer micro-switch B defective.	→Replace CS timer.←
		2. Accidental firing of camera.	Investigate if this occurs more than once.
6. Usage on certain registers unusually low (cycle count correct).		1. Horizontal scan circuit defective.	Check horizontal scan circuit. Refer to Section 252-120-501.
		2. Defective register.	Replace register.
		3. One or more high impedance detectors defective.	Check high impedance detectors; replace defective units. Refer to Section 252-120-501.
		4. Grouping of outputs incorrect.	Check grouping and correct if necessary.
7. Usage on all registers unusually high (cycle count correct).		1. CC selector stuck or skipping.	Adjust or replace CC selector.
8. Usage on certain registers unusually high (cycle count correct).		1. Grouping of outputs incorrect.	Check grouping and correct if necessary.