

SAGE DATA TRANSMISSION SYSTEMS—PRIVATE SERVICE SYSTEMS
AIR-GROUND VOICE COMMUNICATION SYSTEM
COMMON USER GROUP EQUIPMENT
CODAN INTERRUPTER TESTS

1. GENERAL

1.01 This section describes tests for the carrier-operated-device-antinoise (CODAN) interrupter. The CODAN interrupter (SD-69279-01) (J53022AH, BA, and BM) is located at ground-air (G/A) radio sites.

1.02 Tests of the CODAN interrupter may be initiated either from the Automatic Test Circuit or from the Radio Supervisory Panel at the Direction Center (DC), or may be initiated from the Patch Test Alarm (PTA) panel at the G/A site.

CODAN Interrupter—Reason Installed

1.03 G/A receivers are susceptible to spurious radio interference which causes constant or intermittent CODAN signals. A number of CODAN signals could busy out all common user group (CUG) trunks and cause unnecessary delay on valid calls from either the control center or an aircraft.

3. METHOD

STEP	ACTION	VERIFICATION
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A. CODAN Interrupter Tests From the DC

Note: The CODAN interrupter can be tested from the Automatic Test Circuit or from the Radio Supervisory Panel.

- 1 Obtain a release on the entire G/A Site.
- 2 Instruct the Dial Restoration Panel (DRP) operators at the DC and G/A Site to disregard CUG trunk alarms on the released Site.

CODAN Interrupter—Brief Operational Description

1.04 To alleviate an "All Trunks Busy" (ATB) condition from the Site end, the CODAN Interrupter opens all CODAN leads after a **continuous** ATB condition of four seconds. The CODAN leads are held open for four seconds, provided the ATB condition still exists. Should the ATB condition cease during the four second open interval, the CODAN leads are returned to normal. Figures 1 and 2 will aid in determining operating sequence.

1.05 A possible cause for the CODAN interrupter not working is that the ATB lead may not be wired to the B lead (at the site) which would not provide a ground on the B lead.

2. APPARATUS

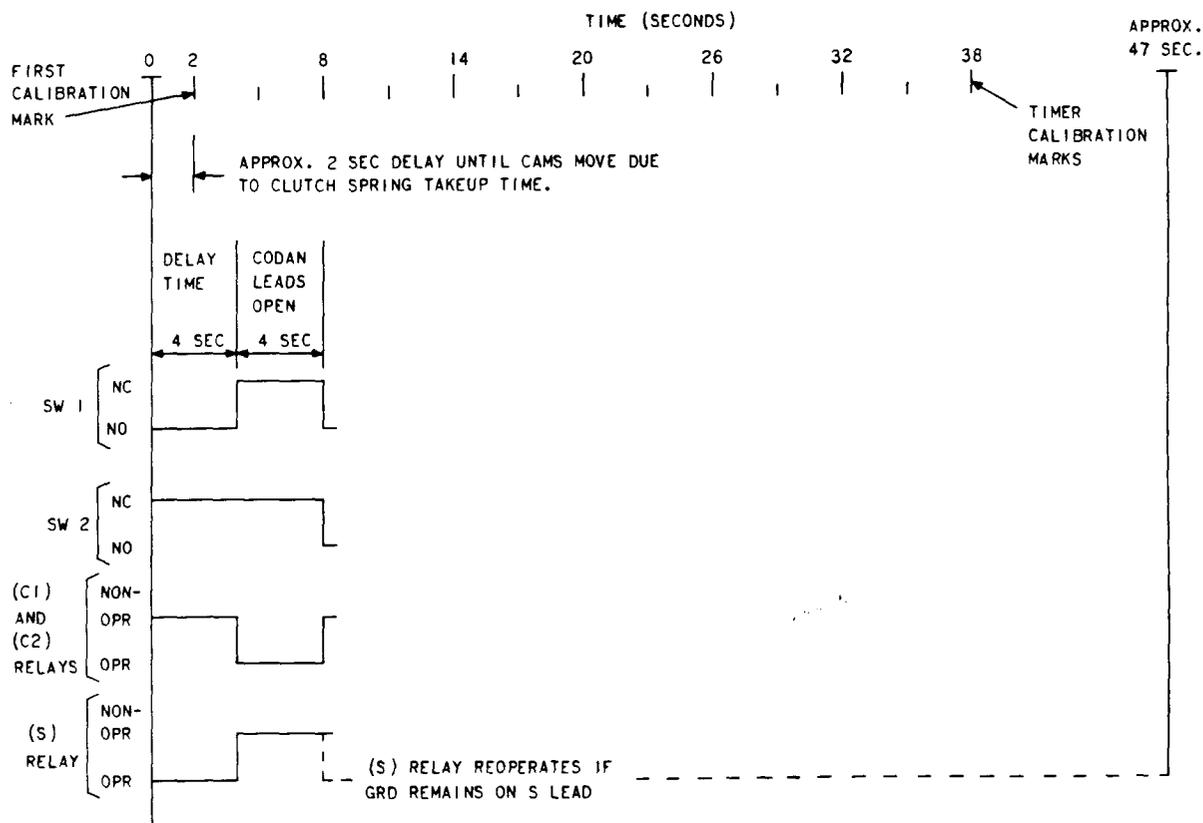
2.01 Blocking tools are used, as required. Use tools and apply as covered in Section 069-020-801.

STEP

ACTION

VERIFICATION

THE HAYDON V-6444 TIMER IS FACTORY ADJUSTED AS SHOWN:



NOTES:

1. "NC" MEANS NORMALLY CLOSED.
"NO" MEANS NORMALLY OPEN.
2. "O" TIME IS THE TIME AT WHICH CLUTCH COIL IS ENERGIZED.
3. TIMING INTERVALS MAY BE CHANGED BY ADJUSTMENT OF TWO CAMS ON TIMER SHAFT.
TO REPOSITION CAM:
A. LOOSEN TWO NO. 440 SET SCREWS IN CAM WITH .050 ALLEN WRENCH.
B. ROTATE TIMER SHAFT MANUALLY UNTIL CALIBRATION POINTER INDICATES DESIRED TIME INTERVAL.
C. ROTATE CAM ON TIMER SHAFT UNTIL ASSOCIATED SWITCH IS HEARD TO OPERATE.
D. RETIGHTEN THE TWO NO. 440 SET SCREWS.
THE POSITION OF CAM 1 DETERMINES DELAY TIME INTERVAL. CAM 1 SHOULD BE POSITIONED SO CALIBRATION POINTER INDICATES DELAY TIME.

Fig. 1—CODAN Interrupter—Timer Adjustments

- 3 At the PTA panel—
Operate the CC key.
- 4 Fail all but one trunk to the selected G/A Site (plug-up the OS jack at the G/A test board).
- 5 Establish a radio call using the G/A Test Frame.

STEP

ACTION

VERIFICATION

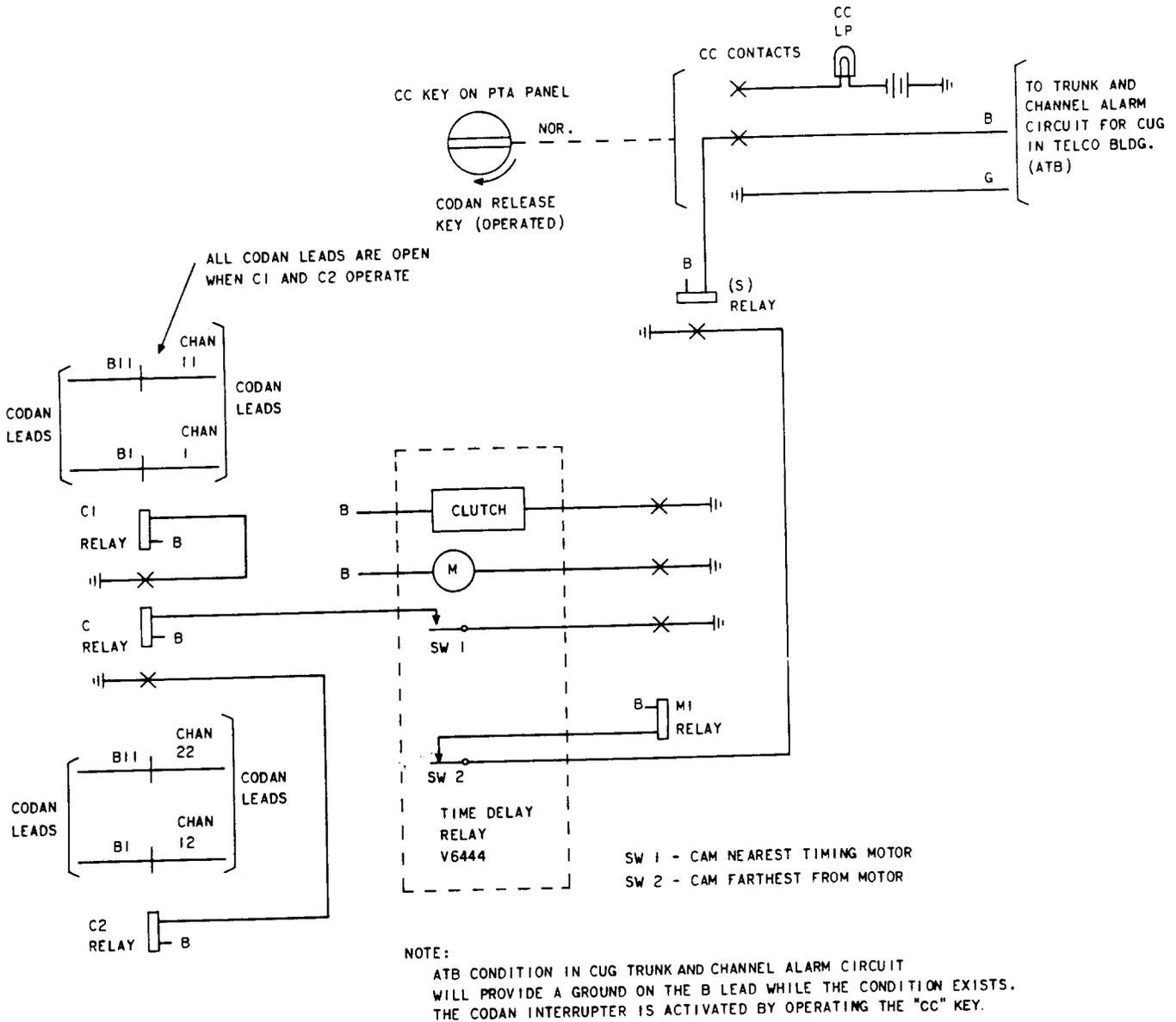


Fig. 2—Simplified CODAN Interrupter (SD-69279-01)

- 6 At test frame—
Operate push-to-talk (PTT) key on test frame.
Observe the corresponding CODAN lamp signal received.

Approximately four seconds from Step 5, the CODAN control of trunks will be removed for four seconds and then reapplied (as indicated by CODAN lamp signals).

Note: The four second "on" "off" interval is normally a factory adjusted interval for the timer (4.01).

STEP	ACTION	VERIFICATION
B. CODAN Interrupter Tests From the G/A Radio Site		
	<i>Note:</i> A test of the CODAN interrupter from the Site end can be more readily made from the PTA panel.	
1	Obtain a release on the entire G/A site.	
2	Simulate several CODAN signals equalling the number of CUG trunks in service by blocking CODAN relays operated.	On J53022AH, BA, or BM unit— Observe operation of C1 and C2 relays. Relays operated will open the CODAN leads. Timing intervals should be the same as set on the timer.
3	Remove blocking tools from CODAN relays. Observe CODAN lamp on PTA panel for indication of proper operation.	
	<i>Note:</i> The DC or NORAD Control Center (NCC) attendant(s) can also observe the operation by noting the CUG trunk busy lamp condition from the G/A testboard.	
4. CODAN INTERRUPTER—TIMING ADJUSTMENTS		
4.01	The timing parameters shown in Fig. 1 may not be applicable to all Ground-Air (radio) Transmitter-Receiver (GATR) sites due to certain variables, such as, the number of CUG trunks installed, traffic load, etc. It may be necessary to rely on experience and observation alone to determine the timing interval required for specific GATR sites.	<i>Cam 2</i>
4.02	The factory setting may be changed by adjustment of two Cams on the timer shaft.	4.04 The time interval between operation of switch 1 and switch 2 determines the time the CODAN Leads are open (1.04). Position Cam 2 so the calibration pointer indicates a total time equal to delay time plus CODAN Lead open time. Refer to Fig. 1 and 2.
	<i>Cam 1</i>	ACCURACY
4.03	The pointer on Cam 1 determines the delay time interval. Cam 1 should be positioned so calibration indicates delay time (See Fig. 1).	4.05 Care in adjustments and supply voltage will determine the accuracy. A normal accuracy of $\pm 15\%$ of set time is expected.
5. RECOMMENDED INTERVAL FOR THIS TEST		
5.01	The recommended interval for this test is once every six months, or as locally required.	