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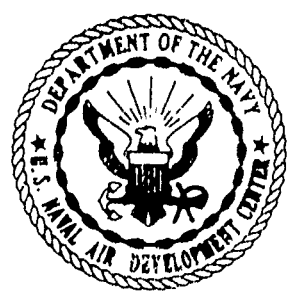
# U. S. NAVAL AIR DEVELOPMENT CENTER

JOHNSVILLE, PENNSYLVANIA

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ENGINEERING DEVELOPMENT LABORATORY  
REPORT NO. NADC-ED-L6280 20 SEPTEMBER 1962  
COMPONENT RELIABILITY TEST  
Of  
AUTOMATIC LANDING SYSTEM RELAY BOX  
BUREAU OF NAVAL WEAPONS  
WEPTASK NO. RM-42-1-000-205-1-011-0000  
PROGRAM ASSIGNMENT RM-43-1

REPRODUCED FROM THE ORIGINAL  
AS SUPPLIED TO THE BUREAU OF NAVAL WEAPONS  
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U. S. NAVAL AIR DEVELOPMENT CENTER  
ENGINEERING DEVELOPMENT LABORATORY  
JOHNSVILLE, PENNSYLVANIA

REPORT NO. NADC-ED-L6280

Subj: BuWeps Weptask No. RM-4201-001/202-1/F017-06-05, Problem  
Assignment No. RM-43-1; Automatic Landing System Relay Box,  
Component Reliability Test of

1. General. This report describes the component reliability test of the automatic landing system (A.L.S.) relay box, NADC part No. D-11967-1. A test setup is to be assembled as shown in figures 1 and 2. The following equipment is required to perform the reliability test of the A.L.S. relay box.

- a. Megger, 500 volt
- b. Ohmmeter, Simpson 260
- c. Test Panel, figures 1 and 2

The following checks and tests are to be performed on each unit under test. Record comments on the Test Data Sheet.

2. Visual Inspection. Insure that relays have been reliability tested. Visually inspect the unit for obvious faults or poor connections.

3. Insulation Check. Check the leakage resistance between all connector pins and case with a 500-volt megger except those shown below. Leakage resistance should be more than 50 megohms.

- J1 - C, D, E, F, N, V, W
- J2 - A, G
- J3 - B

4. Resistance Check. Check the resistance between the points shown below. Resistance shall be within 10% of the values given.

- J1 - C to Case 330 ohms
- J1 - E to Case 330 ohms
- J1 - P to J1 - Q 540 ohms
- J1 - R to J1 - S 300 ohms
- J1 - T to J1 - U 180 ohms
- J1 - V to Case 340 ohms
- J2 - A to Case 340 ohms
- J2 - B to J2 - D 220 ohms
- J4 - A to J4 - B 220 ohms
- J4 - D to J4 - E 180 ohms

5. Continuity Check. Check for continuity between the pins of connectors shown below.

J1 - C to J1 - D	J1 - N to Case
J1 - E to J1 - F	J1 - P to J4 - E
J1 - G to J1 - H	J1 - S to J4 - A
J1 - J to J1 - K	J1 - V to J1 - W
J1 - L to J2 - C	J2 - B to J3 - A
	J2 - G to Case

6. Bench Operation. With all switches off, connect unit and power (28 v.d.c.) to test panel. Perform the operations listed in the left column and verify the desired results shown in the right column.

<u>Operation</u>	<u>Result</u>
1. Turn the STANDBY switch ON.	1. STANDBY 1 and STANDBY 2 lights come ON.
2. Key CORNER REFLECTOR switch to UNCOVERED.	2. CORNER REFLECTOR COVERED light comes ON for 3 minutes then OFF.
3. Key ALS switch to ENFACE.	3. STANDBY 1 and STANDBY 2 lights go OFF and ENFACE 1 and ENFACE 2 lights come ON.
4. Key ALS switch to WAVEOFF.	4. ENFACE 1 and ENFACE 2 lights go OFF and STANDBY 1 and WAVEOFF lights come ON.
5. Turn the STANDBY switch OFF.	5. STANDBY 1 and WAVEOFF lights go OFF.

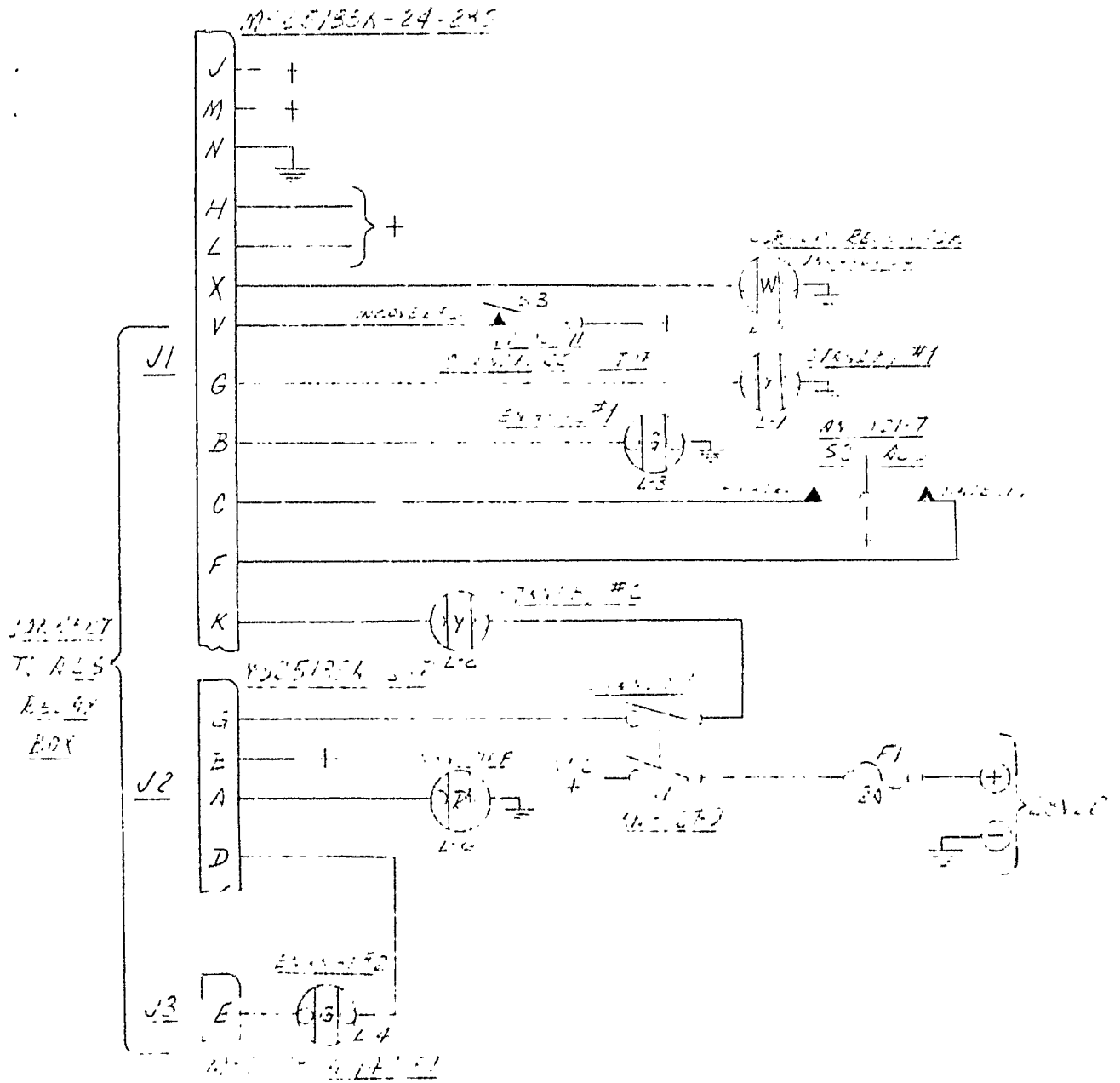
7. Vibration Test. Mount relay box on vibrator table for vibration installation in aircraft.

- a. Vary the vibration frequency from 10 to 45 c.p.m. with an applied double amplitude of 0.01 inch to determine points of resonance. If any
- b. Vibrate at each resonant point for 15 test minutes with an applied vibratory acceleration of 1.5 g.p.m. or less. The total time does not exceed 0.01 inch.
- c. Vibrate at 45 c.p.m. and 0.02 inch double amplitude for 15 minutes.

3. During vibration tests, repeat paragraph 6 every five minutes.
8. Final Tests. Repeat the tests and checks of paragraphs 6 through 7.

Prepared by: George M. Tolson

Approved by: W. Tolson  
Supt., Target System W-11



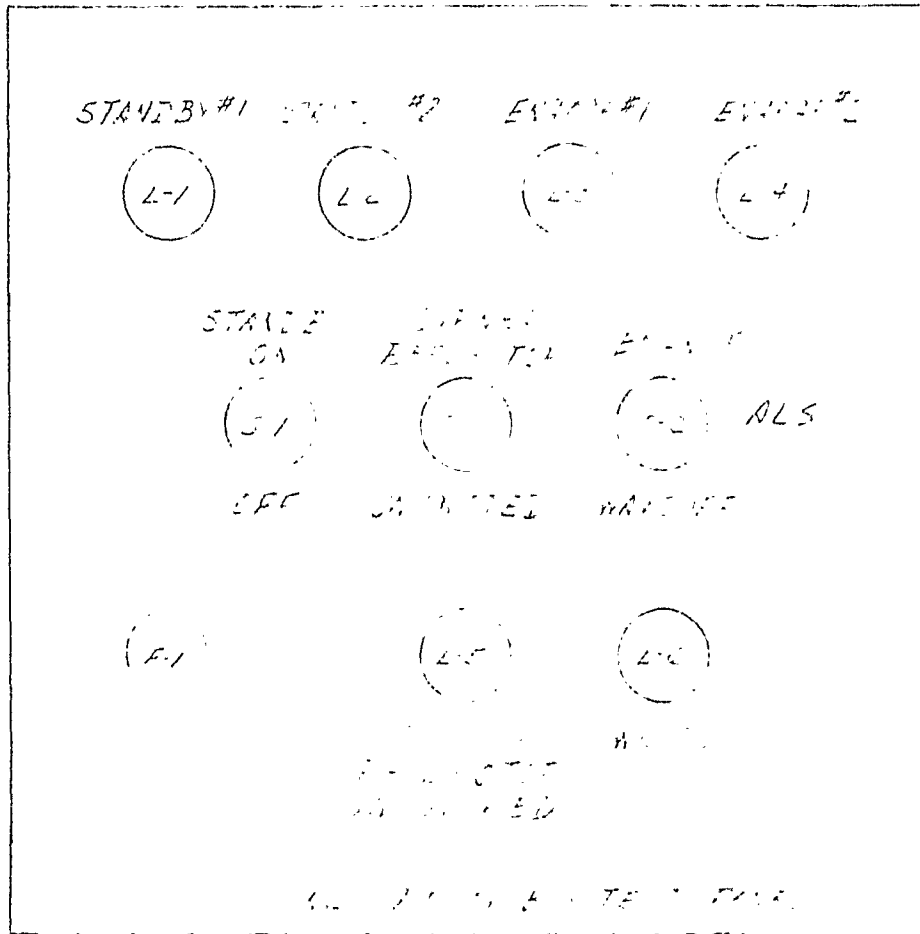


FIGURE 2

TEST DATA SHEET

A.L.S. RELAY B7X NADC-D-11967-1

<u>IDENT. NO</u>	<u>TESTER</u>	<u>DATE</u>	
<u>PAB.</u>	<u>TEST</u>	<u>INITIAL</u>	<u>FINAL</u>
2.	VISUAL INSP		
3	INSULATION CHECK		
4	RESISTANCE CHECK J1-C TO CASE J1-E TO CASE J1-P TO J1-Q J1-R TO J1-S J1-T TO J1-U J1-V TO CASE J2-A TO CASE J2-B TO J2-D J4-A TO J4-B J4-D TO J4-E		

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