

Test Report No. 2533A-4723

Issue 2

REPORT OF TEST on

LIMITORQUE CORPORATION
SMB-0-25
VALVE OPERATOR

Report Writer: R. F. Soltis
R. F. Soltis

Test Engineer: W. A. Black *gls*
W. A. Black

LOCKHEED ELECTRONICS COMPANY
PLAINFIELD, NEW JERSEY

Date: September 23, 1970

Approved by: Nat Johnson
N. Johnson, Supervisor
Environmental Laboratory



LEC 197P-1

8808080206 880727
PDR ADOCK 05000315
Q PDC



PURPOSE OF TEST:

To subject the test specimen to the Seismic Test referenced in Limatorque Corporation Purchase Order Number 348572, dated 8/6/70.

MANUFACTURER:

Limatorque Corporation
5114 Woodall Road
Lynchburg, Virginia 24502

SPECIMENS TESTED:

SMB-0-25 Valve Operator

APPLICABLE DOCUMENTS:

Limatorque Corporation Purchase Order Number 348572, dated 8/6/70.

CASE NUMBER:

34-8041-0723

QUANTITY OF
SPECIMENS TESTED:

One (1)

SECURITY CLASSIFICATION
OF SPECIMENS TESTED:

Unclassified

DATE TEST COMPLETED:

8/20/70

TEST CONDUCTED BY:

LOCKHEED ELECTRONICS COMPANY
ENVIRONMENTAL LABORATORY

DISPOSITION OF
SPECIMENS TESTED:

Returned to Limatorque Corporation per LEC Packing Slip Number 66227, dated 8/24/70.

ABSTRACT:

The test specimen was subjected to the Seismic Test referenced in Limatorque Corporation Purchase Order Number 348572, dated 8/6/70.

The 5.3G portion of testing was complete with no discrepancies noted.

The 10 G portion of testing was terminated during the second cycle due to noted fatiguing of the gear limit switch mounting hardware.

TEST APPARATUS:

Reaction-Type Vibration Machine, LAB Company Model RVH-72-5000, S/N 51401.

Vibration Meter, MB Company Model M-6, S/N 423.

Vibration Pickups, MB Company Type 120, S/N 11263 and Type 124, S/N 14074.



TEST PROCEDURE:

The test specimen was secured to the vibration machine, as shown in Figure 1 and subjected to an exploratory scan over the frequency range of 5 to 35 Hz in two (2) axes. The exploratory scans were followed by three (3) cycles of vibration in each axis. Each cycle consisted of two (2) minutes of vibration at a frequency of 35 Hz and an acceleration level of 5.3G's followed by one (1) minute of no vibration.

The test specimen was then set up as shown in Figure 2 and subjected to the above mentioned test in the third axis. At completion of this test, an additional exploratory scan was performed over the frequency range of 5 to 49 Hz and two (2) cycles were performed at a frequency of 48 Hz and an acceleration level of 10 G's.

The test specimen was energized during testing and all electrical monitoring was performed by Limitorque Corporation personnel.

TEST RESULTS:

The 5.3 G portion of testing was completed with no evidence of any discrepancies noted during either axis of test.

During the exploratory scan of the 10 G portion of testing, the gear limit switch mounting hardware loosened. These screws were tightened prior to the start of the first cycle.

The first cycle at 10 G's was then completed with no discrepancies noted. After approximately one (1) minute of the second cycle, the test was terminated due to fatiguing of the gear limit switch mounting hardware.

For additional information, refer to the five (5) attached data sheets.

RECOMMENDATIONS:

None. Data merely submitted.

Test Engineer: W. A. Black
W. A. Black

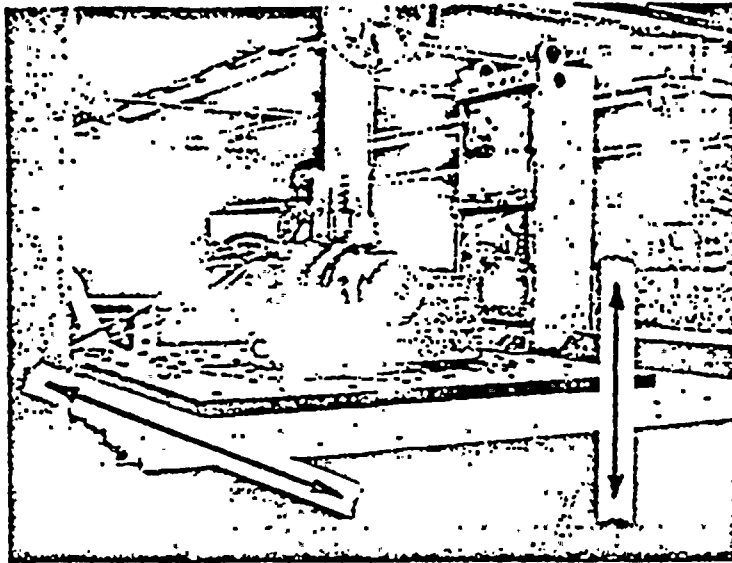


FIGURE 1

VIBRATION TEST SETUP
(HORIZONTAL AND VERTICAL)

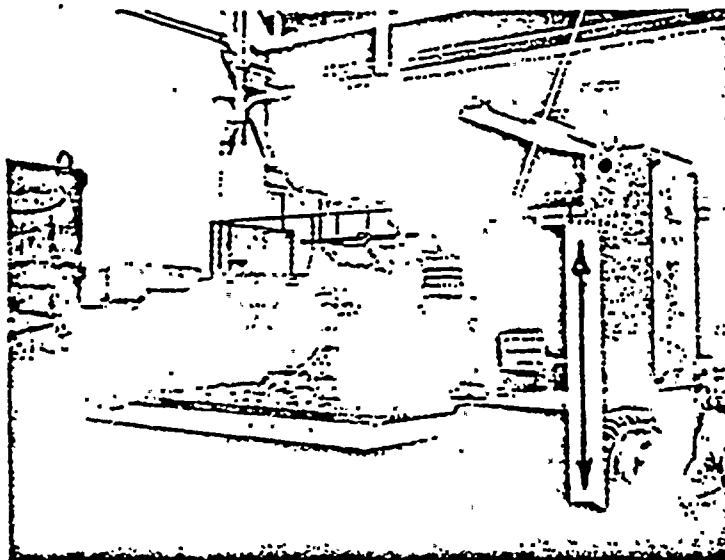


FIGURE 2

VIBRATION TEST SETUP
(VERTICAL)

LOCKHEED ELECTRONICS
ENVIRONMENTAL LABORATORY DATA SHEET 15545 2

Date: 8

2-1-70

Specimen Description

SMB-12-25 VIBRA OPERATOR
PHILIP GEAR

Case: 31

8-01-1703

Technician

L. J. J. J.

Test Condition EXPLOATORY SCAN

SCAN 5-33 CPS. VERTICAL EARTH QUAKE
VIB. TEST

Test Engineer

2/1/70

	VERTICAL			
155	ADN	155	ADN	
5	.076	32	.087	TOTAL SCAN TIME = 5 MIN.
6	.076	33	.066	
7	.076	34	.066	
8	.076	35	.066	
9	.075			
10	.075			
11	.072			
12	.072			
13	.071			
14	.071			
15	.070			
16	.069			
17	.069			
18	.069			
19	.068			
20	.068			
21	.068			
22	.068			
23	.068			
24	.068			
25	.068			
26	.068			
27	.068			
28	.067			
29	.067			
30	.067			
31	.067			

**LOCKHEED ELECTRONICS
ENVIRONMENTAL LABORATORY DATA SHEET** ISSUE 3

Date: 8
20-70

Specimen Description

SNB-0-25 VALVE OPERATOR
PHILIP GARR.

Case: 34
5011-1713

Technician
W. J. [Signature]

Test Condition

EXPLORATORY SCAN
HORIZONTAL
5-35 cps. EARTH QUAKE
VIB. TEST.

Test
Engineer

7/2/66

112	114A	112	114A	
5	.098	32	.084	Total SCAN TIME = 5 MIN. 5.3 G's
6	.098	33	.084	
7	.096	34	.084	
8	.094	35	.084	
9	.092			
10	.092			
11	.092			
12	.090			
13	.090			
14	.090			
15	.090			
16	.088			
17	.090			
18	.090			
19	.088			
20	.088			
21	.088			
22	.088			
23	.088			
24	.088			
25	.088			
26	.088			
27	.088			
28	.086			
29	.086			
30	.086			
31	.086			

100-100000



**LOCKHEED ELECTRONICS
ENVIRONMENTAL LABORATORY DATA SHEET ISSUE 2**

Date: 5-20-70

Specimen Description *SMB-0-25 VALVE OPERATOR.
PH-21 GEAR.*

Case: 35
5-41-07-3

Technician
W. J. Smith

Test Condition *EXPLORATORY SCAN
VERTICAL WITH UNIT STANDING.
DATA. MAKE
V.I.B. TEST.*

Test Engineer

W. J. Smith

									Remarks
<i>Hz</i>	<i>W.D.A.</i>								Total Scan Time = 3 MIN.
5	.1								
6	.1								
7	.1								
8	.1								
9	.098								
10	.096								
11	.091								
12	.088								
13	.082								
14	.082								
15	.072								
16	.082								
17	.070								
18	.070								
19	.090								
20	.090								
21	.070								
22	.088								
23	.088								
24	.085								
25	.088								
26	.088								
27	.088								
28	.088								
29	.088								
30	.086								
31	.086								
32	.086								
33	.086								
34	.086								
35	.086	5.3 G							

**LOCKHEED ELECTRONICS
ENVIRONMENTAL LABORATORY DATA SHEET ISSUE 2**

Date: *8/20*

Specimen Description

*SAIB-0-25 VALVE OPERATOR.
PHIL. GEAR.*

Case: *57
8-11-0723*

Technician
C. J. Fung

Test Condition *EXPLORATORY GUN
VERTICAL WITH UNIT STANDING.*

*GARTH QUART
VIB. TEST*

Test Engineer

W. J. Bell

H.C.									Remarks
	1st		2nd	3rd					
5	1		38	.086					Total SLANTING = 7 MIN.
6	1		39	.086					
7	1		40	.086					
8	.075		41	.086					
9	.095		42	.086					
10	.096		43	.086					
11	.095		44	.086					
12	.094		45	.086					
13	.084		46	.086					
14	.086		47	.086					
15	.085		48	.086	10 5/8				
16	.084		49	.086	10 9/16				
17	.084		50						
18	.084								
19	.084								
20	.084								
21	.082								
22	.082								
23	.082								
24	.082								
25	.082								
26	.082								
27	.082								
28	.082								
29	.081								
30	.086								
31	.086								
32	.086								
33	.087								
34	.087								
35	.087								
36	.086								
37	.086								

Date:
8-29-70

Case: 34-
3071-0723

Technician
R. S. S. S.

**Test
Engineer**

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CYCLING TEST

[illegible]

