



# ENGINE VIBRATION PANEL ASSEMBLY, M1099

## PART NUMBERS 233T4238-1

COMPONENT MAINTENANCE MANUAL  
WITH  
ILLUSTRATED PARTS LIST

**77-31-02**

TITLE PAGE

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788339



REVISION RECORD

- Retain this record in front of manual. On receipt of revision, insert revised pages in the manual, and enter revision number, date inserted and initial.

REVISION NUMBER	REVISION DATE	DATE FILED	BY	REVISION NUMBER	REVISION DATE	DATE FILED	BY

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRRC12015	OCT 01/90

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TR &amp; SB RECORD

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**BOEING**  
 COMPONENT  
 MAINTENANCE MANUAL

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\* = REVISED, ADDED OR DELETED

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\*[1] Use applicable procedures in 20-11-04 and standard industry practices.

\*[2] Special instructions not required.

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## INTRODUCTION

The instructions in this manual provide the information necessary to perform maintenance functions including test, fault isolation, and replacement of defective components.

This manual is divided into separate sections:

- |  |                              |
|--|------------------------------|
| 1. Title Page                                      | 4. List of Effective Pages   |
| 2. Record of Revisions                             | 5. Table of Contents         |
| 3. Temporary Revision &<br>Service Bulletin Record | 6. Introduction              |
|  | 7. Procedures & IPL Sections |

Refer to the Table of Contents for the page location of applicable sections.

An explanation of the use of the Illustrated Parts List is provided in the Introduction to that section.

All weights and measurements used in the manual are in English units, unless otherwise stated. When metric equivalents are given they will be in parentheses following the English units.

Design changes, optional parts, configuration differences and Service Bulletin modifications create alternate part numbers. These are identified in the Illustrated Parts List (IPL) by adding an alphabetical character to the basic item number. The resulting item number is called an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless otherwise indicated.

Verification:

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INTRODUCTION

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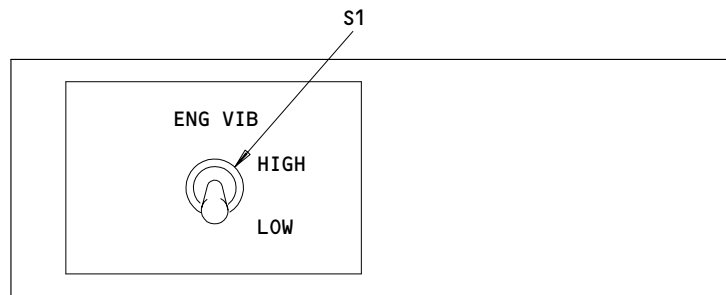
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ENGINE VIBRATION PANEL ASSEMBLY M1099DESCRIPTION AND OPERATION1. Description

- A. The engine vibration panel assembly contains a vibration pickup select switch. A wire bundle connects the switch, through a connector, to the aircraft wiring.

2. Operation

- A. The vibration pickup select switch lets the pilot select the level of vibration pickup.
- B. The switch can toggle between HIGH and LOW engine vibration.



233T4238  
Component Identification  
Figure 1

TESTING AND TROUBLE SHOOTING1. Test Equipment

- A. Multimeter: Simpson 260P, or equivalent
- B. Connector: BACC45FT12-12S8 (P1)

2. Functional Test (Component Location - Fig. 1)

- A. Connect the test connector (P1) to the assembly.
- B. Do the continuity test in Fig. 101.

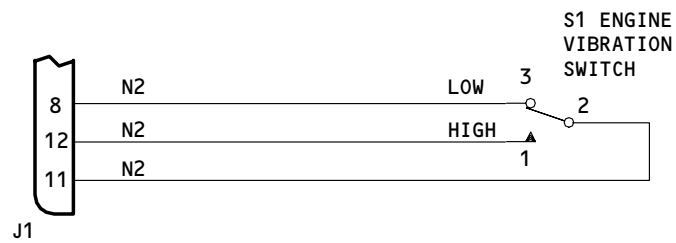
NOTE: Continuity (Con) is less than 3 ohms. Open is more than 15K ohms.

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TEST STEP	PROCEDURE	REQUIRED RESULTS	COMPONENT TESTED								
1	Measure the resistance between the pins below:  P1-11 to P1-8  P1-11 to P1-12  End of the Test	Switch Position  <table border="0"> <tr> <td style="text-align: center;"><u>S1-LOW</u></td> <td style="text-align: center;"><u>S1-HIGH</u></td> </tr> <tr> <td style="text-align: center;">Con</td> <td style="text-align: center;">Open</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td style="text-align: center;">Open</td> <td style="text-align: center;">Con</td> </tr> </table>	<u>S1-LOW</u>	<u>S1-HIGH</u>	Con	Open			Open	Con	  S1  S1
<u>S1-LOW</u>	<u>S1-HIGH</u>										
Con	Open										
Open	Con										

Continuity Test  
 Figure 101



233T4238  
Schematic Diagram  
Figure 102

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REPAIR

1. All repairs can be done with standard industry practices and procedures contained in 31-10-01 except as given below:
  - A. Install heat shrinkable tubing BACT63B03 over switch terminals as referred to in 20-11-03.
  - B. Replace all of the wire with BMS 13-48, type I, class I, size 22 AWG.
  - C. Apply Loctite Sealant to all of the threaded parts.

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REPAIR-GENERAL

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ILLUSTRATED PARTS LIST

1. This section lists and illustrates replaceable or repairable component parts. The Illustrated Parts Catalog contains a complete explanation of the Boeing part numbering system.

2. Indentures show parts relationships as follows:

Assembly

Detailed Parts for Assembly

Subassembly

Attaching Parts for Subassembly

Detail Parts for Subassembly

Detail Installation Parts (Included only if installation parts may be returned to shop as part of assembly.

3. One use code letter (A, B, C, etc.) is assigned in the EFF CODE column for each variation of top assembly. All listed parts are listed on all top assemblies except when limitations are shown by use code letter opposite individual part entries.

4. Letter suffixes (alpha-variants) are added to item numbers for optional parts, Service Bulletin modification parts, configuration differences (except left- and right-hand parts), product improvement parts, and parts added between two sequential item numbers. The alpha-variant is not shown on illustrations when appearance and location of all variants of the part is the same.

5. Service Bulletin modifications are shown by the notations PRE SB XXXX and POST SB XXXX.

A. When a new top assembly part number is assigned by Service Bulletin, the notations appear at the top assembly level only. The configuration differences at detail part level are then shown by use code letter.

B. When the top assembly part number is not changed by the Service Bulletin, the notations appear at the detail part level.

6. Parts Interchangeability

Optional  
(OPT)

The parts are optional to and interchangeable with other parts having the same item number.

Supersedes, Superseded by  
(SUPSDS, SUPSD BY)

The part supersedes and is not interchangeable with the original part.

Replaces, Replaced by  
(REPLS, REPLD BY)

The part replaces and is interchangeable with, or is an alternate to, the original part.

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VENDORS

02660 AMPHENOL CORP INDUSTRIAL TECHNOLOGY DIV  
850 SHERMAN AVENUE  
HAMDEN, CONNECTICUT 06514

06950 SCREWCORP VSI CORP AEROSPACE PRODUCTS DIV FAIRCHILD IND INC  
13001 EAST TEMPLE AVE. PO BOX 730  
CITY OF INDUSTRY, CALIFORNIA 91746-1417

08524 DEUTSCH FASTENER CORP SEE CODE V97928

13556 CINCH CYLINDRICAL DIV OF LABINAL COMPONENTS AND SYSTEM  
8821 SCIENCE CENTER DRIVE  
MINNEAPOLIS, MINNESOTA 55428-3619

15653 KAYNAR MICRODOT AEROSPACE FASTENING SYSTEM  
800 SOUTH COLLEGE BLVD PO BOX 3001  
FULLERTON, CALIFORNIA 92634-3001

49367 PYLE-NATIONAL CO DIV OF BRAND-REX CO  
1334 NORTH KOSTNER AVENUE  
CHICAGO, ILLINOIS 60651-1605

60119 MONADNOCK CO THE  
18301 ARENTH AVENUE PO BOX 1222  
CITY OF INDUSTRY, CALIFORNIA 91749

72962 ELASTIC STOP NUT A DIV OF HARTFORD INDUSTRIES INC  
2330 VAUXHALL ROAD  
UNION, NEW JERSEY 07083-5038

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REFERENCE DESIGNATOR INDEX (SEE SCHEMATIC DIAGRAM)		
REFERENCE DESIGNATOR	PART NUMBER	FIG-ITEM
J1 S1	ZZWAC1712-12P8 MS24523-26	1-15 45

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACC45FN12-12P8		1	15	1
BACN10NW1		1	10	2
BACP10U0187N		1	60	1
BACS12CB04-5		1	5	2
BACS12CB06-5		1	20	3
BACS21DD1B		1	55	4
BAC27TFDE0129		1	75	1
C48-10R12-12P8-		1	15	1
DBMB1400-6A1		1	55	4
K19798-04		1	10	2
MS24523-26		1	45	1
MS35338-41		1	25	3
NAS514P632-5		1	35	3
RMA4812-160-40		1	10	2
ZZWAC1712-12P8		1	15	1
233T4238-1		1	1	RF
233T4238-2		1	50	1
233T4238-3		1	65	1
233T6200-42		1	30	1
293162		1	10	2
48-10R12-12P8-3		1	15	1
69B46200-6		1	40	3

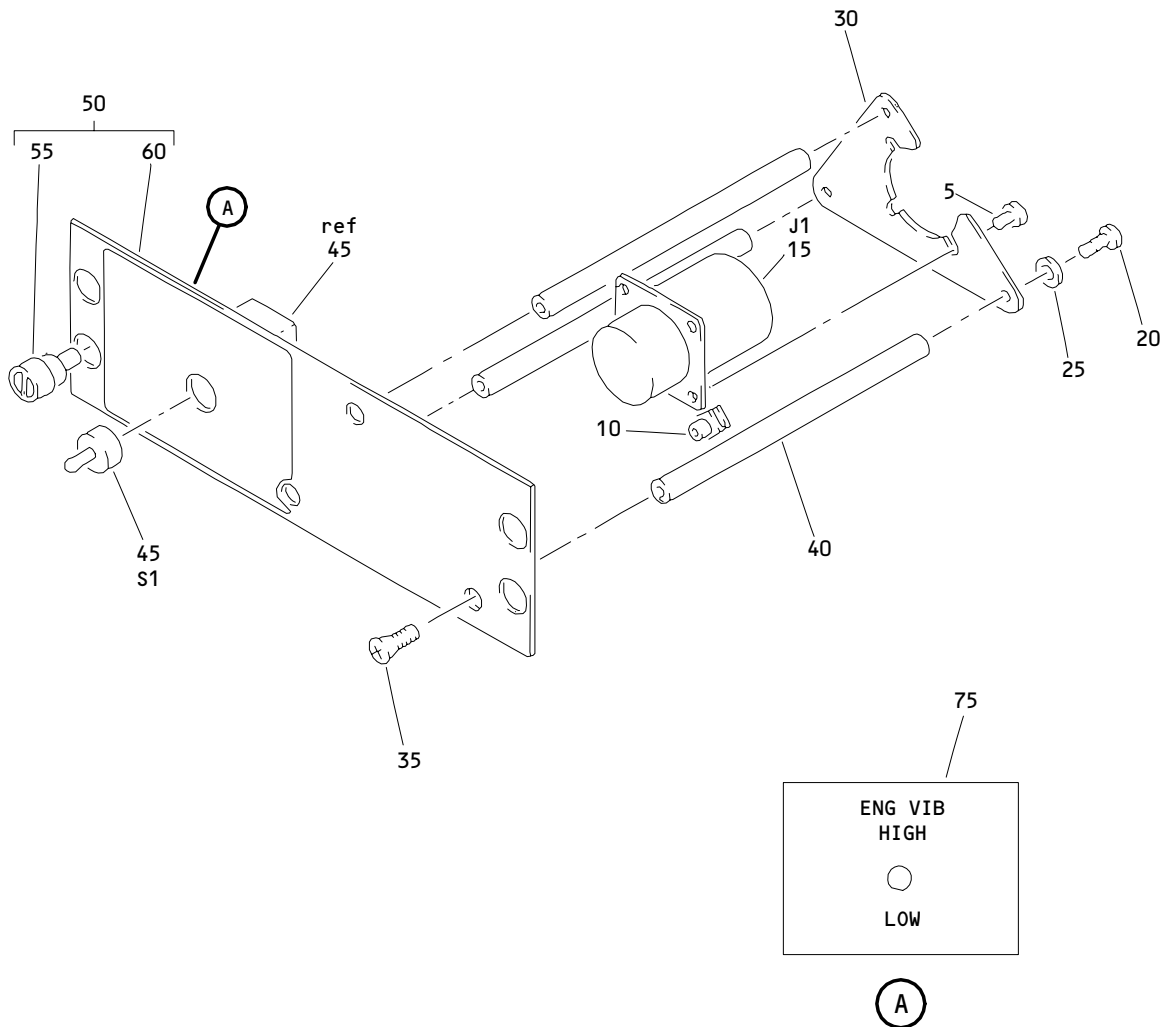
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Engine Vibration Panel Assembly, M1099  
 Figure 1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -1	233T4238-1		PANEL ASSY-ENGINE VIBRATION, M1099		RF
5	BACS12CB04-5		.SCREW- (V06950) (SPEC BACS12CB04-5)		2
10	K19798-04		.NUT- (V15653) (SPEC BACN10NW1) (OPT RMA4812-160-40 (V72962)) (OPT 293162 (V60119))		2
15	ZZWAC1712-12P8		.CONNECTOR- (V49367) (SPEC BACC45FN12-12P8) (OPT C48-10R12-12P8-10 (V13556)) (OPT 48-10R12-12P8-300 (V02660)) (J1)		1
20	BACS12CB06-5		.SCREW- (V06950) (SPEC BACS12CB06-5)		3
25	MS35338-41		.WASHER		3
30	233T6200-42		.BRACKET-SPRT		1
35	NAS514P632-5		.SCREW		3
40	69B46200-6		.STANDOFF		3
45	MS24523-26		.SWITCH- (S1)		1
50	233T4238-2		.BASEPLATE ASSY		1
55	DBMB1400-6A1		..STUD ASSY- (V08524) (SPEC BACS21DD1B)		4
60	BACP10U0187N		..PANEL		1
-65	233T4238-3		.WIRE BUNDLE ASSY		1
70	60789-2		..PIN		3
75	BAC27TFDE0129		.DECAL		1

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