

 **BOEING**  
COMPONENT  
MAINTENANCE MANUAL

TO: ALL HOLDERS OF ENGINE IGNITION & START CONTROL PANEL M49 COMPONENT  
MAINTENANCE MANUAL 74-31-52

REVISION NO. 28 DATED MAR 01/04

HIGHLIGHTS

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

CHAPTER/SECTION

AND PAGE NO.

DESCRIPTION OF CHANGE

TITLE PAGE

Removed P/N 233T3244-8 from the title page and the testing section.

1

101,103-109

101-102,112,

Edited without technical change.

125-130

1032

131-132,134-135

Changed the schematic diagram to show S4 as an alternate action switch.

1002

Added the part interchangeability information for the S231T290 series pushbutton switches.

1024

Added the PRE and POST service bulletin information to the IPL.

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HIGHLIGHTS

01.1

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## ENGINE IGNITION AND START CONTROL PANEL ASSEMBLY, M49

PART NUMBERS 233T3100-130,-227,-239,-290,-326,  
-360 THRU -362,-389,-396,  
-397

233T3244-1,-5 THRU -7,-9 THRU  
-11,-13,-17 THRU -19,-21,  
-23,-25,-300 THRU -304,  
-307 THRU -309,-1001,  
-1005 THRU -1007,-1009,  
-1010,-1011,-1013,-1017  
THRU -1019,-1021,-1023,  
-1025,-1300 THRU -1312

COMPONENT MAINTENANCE MANUAL  
WITH  
ILLUSTRATED PARTS LIST

**74-31-52**

TITLE PAGE

01.1

Page 1

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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


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## TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
233T3244-74-01		PRR B10738 PRR B11110-2 PRR C12526 PRR B11632 MC 7323MP6001 MC 7430MP6001	OCT 10/82 JAN 10/86 JAN 10/86 APR 01/88 JAN 01/89 JUL 01/89 OCT 01/90
233T3244-74-02	74-1	PRR B11480-123	DEC 01/94
233T3244-74-03	74-2	PRR B11481-75	DEC 01/94
		PRR B12574	DEC 01/94
			JUN 01/95
233T3244-74-03R1		PRR B12901-10S	NOV 01/01
			JUL 01/02
			JUL 01/03

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TR &amp; SB RECORD

01.1

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PAGE	DATE	CODE	PAGE	DATE	CODE
74-31-52			TESTING & TROUBLE SHOOTING CONT.		
TITLE PAGE			*112	MAR 01/04	01.1
*1	MAR 01/04	01.1	113	JUL 01/03	01.1
2	BLANK		114	JUL 01/03	01.1
REVISION RECORD			115	JUL 01/03	01.1
1	JUL 10/83	01	116	JUL 01/03	01.1
2	BLANK		117	JUL 01/03	01.1
TR & SB RECORD			118	JUL 01/03	01.1
1	JUL 01/03	01.1	119	JUL 01/03	01.1
2	BLANK		120	JUL 01/03	01.1
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THRU LAST PAGE			123	JUL 01/03	01.1
CONTENTS			124	JUL 01/03	01.1
1	DEC 01/94	01.1	*125	MAR 01/04	01.1
2	BLANK		*126	MAR 01/04	01.1
INTRODUCTION			*127	MAR 01/04	01.1
1	JUL 01/89	01.1	*128	MAR 01/04	01.1
2	BLANK		*129	MAR 01/04	01.1
DESCRIPTION & OPERATION			*130	MAR 01/04	01.1
1	JUL 10/83	01	*131	MAR 01/04	01.1
2	BLANK		*132	MAR 01/04	01.1
TESTING & TROUBLE SHOOTING			133	JUL 01/03	01.1
*101	MAR 01/04	01.1	*134	MAR 01/04	01.1
*102	MAR 01/04	01.1	*135	MAR 01/04	01.1
*103	MAR 01/04	01.1	136	BLANK	
*104	MAR 01/04	01.1			
*105	MAR 01/04	01.1	REPAIR-GENERAL		
*106	MAR 01/04	01.1	601	NOV 01/03	01.1
*107	MAR 01/04	01.1	602	BLANK	
*108	MAR 01/04	01.1	ILLUSTRATED PARTS LIST		
*109	MAR 01/04	01.1	1001	JUL 10/83	01
110	JUL 01/03	01.1	*1002	MAR 01/04	01.1
111	JUL 01/03	01.1	1003	NOV 01/02	01.1
			1004	NOV 01/02	01.1
			1005	NOV 01/02	01.1
			1006	NOV 01/02	01.1
			1007	NOV 01/02	01.1
			1008	NOV 01/02	01.1
			1009	NOV 01/02	01.1
			1010	NOV 01/02	01.1
			1011	NOV 01/02	01.1

\* = REVISED, ADDED OR DELETED

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EFFECTIVE PAGES  
CONTINUED Page 1  
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PAGE	DATE	CODE	PAGE	DATE	CODE
ILLUSTRATED PARTS LIST		CONT.	ILLUSTRATED PARTS LIST		CONT.
1012	JUL 01/03	01.1	1054	BLANK	
1013	JUL 01/03	01.1			
1014	JUL 01/03	01.1			
1015	JUL 01/03	01.1			
1016	JUL 01/03	01.1			
1017	JUL 01/03	01.101			
1018	BLANK				
1019	JUL 01/03	01.1			
1020	JUL 01/03	01.1			
1021	JUL 01/03	01.1			
1022	JUL 01/03	01.1			
1023	JUL 01/03	01.1			
*1024	MAR 01/04	01.1			
1025	JUL 01/03	01.1			
1026	JUL 01/03	01.1			
1027	NOV 01/03	01.1			
1028	JUL 01/03	01.1			
1029	JUL 01/03	01.1			
1030	NOV 01/03	01.1			
1031	JUL 01/03	01.1			
*1032	MAR 01/04	01.1			
1033	NOV 01/03	01.1			
1034	NOV 01/03	01.1			
1035	NOV 01/03	01.1			
1036	NOV 01/03	01.1			
1037	NOV 01/03	01.1			
1038	NOV 01/03	01.1			
1039	JUL 01/03	01.1			
1040	JUL 01/03	01.101			
1041	JUL 01/03	01.101			
1042	JUL 01/03	01.101			
1043	JUL 01/03	01.101			
1044	JUL 01/03	01.101			
1045	JUL 01/03	01.101			
1046	JUL 01/03	01.101			
1047	JUL 01/03	01.101			
1048	JUL 01/03	01.101			
1049	JUL 01/03	01.1			
1050	JUL 01/03	01.1			
1051	JUL 01/03	01.1			
1052	JUL 01/03	01.1			
1053	JUL 01/03	01.1			

\* = REVISED, ADDED OR DELETED

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\*[1] Use applicable procedures in SOPM (Standard Overhaul Practices Manual) 20-11-05 and standard industry practices.

\*[2] Special instructions not required.



## 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 Revisions &<br>Service Bulletin Record | 6. Introduction                |
|   | 7. Procedures and 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 of 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:

Testing/TS                      Nov. 28, 1984

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INTRODUCTION

01.1

Page 1

Jul 01/89





ENGINE IGNITION AND START CONTROL PANEL ASSEMBLY M49

DESCRIPTION AND OPERATION

1. Description

- A. The engine ignition and start control panel assembly consists of a baseplate assembly, connectors, and relays. The baseplate assembly includes switches and indicators. The connectors and relays are mounted on a bracket which is attached to the baseplate assembly by standoffs. A wire bundle assembly interconnects the switches and indicators with the connectors and relays.

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DESCRIPTION & OPERATION

01

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TESTING AND TROUBLE SHOOTING

 1. Test Equipment

- A. Multimeter: Any of the Simpson 260 series multimeters or equivalent
- B. Power Supply: 0-30v dc variable, 0.50 amp  
5v ac, 400 Hz  
(± 5% output voltage or better)
- C. Test Connectors: The test connectors listed below with pigtail leads (Boeing breakout box A33003-2 with the test cables shown below may be used).

<u>Module Connector</u>	<u>Test Connector</u>	<u>Test Cable</u>
J1	BACC45FT12-12S	A33003-9
J2	BACC45FT12-12S6	A33003-167
J3	BACC45FT12-12S7	A33003-10
J4	BACC45FT16-24S	A33003-26

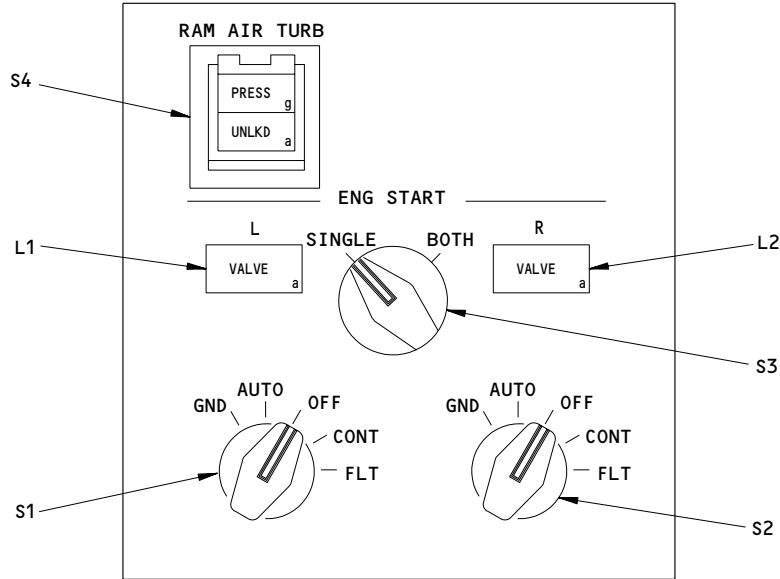
 2. Functional Test

- A. Connect module and test connectors (if Boeing breakout box A33003-2 is used, connect all cables except A33003-10).
- B. Do functional tests as follows:
- (1) Fig. 102: For assemblies P/N 233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005 thru -1007, -1009, -1017, -1301, -1303 thru -1307; 233T3100-130, -227, -239, -290, -326 (with 233T3244-9 installed), -389
  - (2) Fig. 102A: For assemblies P/N 233T3244-10, -11, -13, -1010, -1011 -1013, -1308 thru -1310; 233T3100-360, -361, -362
  - (3) Fig. 102B: For assemblies P/N 233T3244-18, -19, -21, -1018, -1019, -1021, -1311, -1312; 233T3100-396 (with 233T3244-19 installed), -397 (with 233T3244-21 installed)
  - (4) Fig. 102C: For assembly P/N 233T3244-25, -300, -307, -1025, -1300; 233T3100-396 (with 233T3244-25 installed), -397 (with 233T3244-25 installed)
  - (5) Fig. 102D: For assembly P/N 233T3244-23, -302, -308, -1023, -1302; 233T3100-326 (with 233T3244-23 installed)

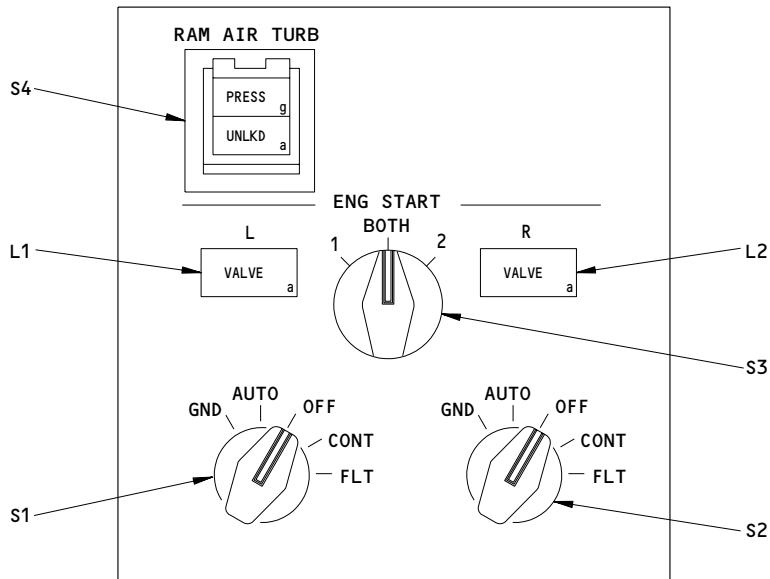
**NOTE:** S4 (RAM AIR TURB) is an alternate action switch. Press once (from the out/released position) to achieve the "Press or Pushed In" state. Press once again to achieve the "Released" state.

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233T3100-360,-361,-362,-396,-397  
 233T3244-10,-11,-13,-18,-19,-21,-25,-300,-307,-1010,-1011,-1013,  
 -1018,-1019,-1021,-1025,-1300,-1307 THRU -1312



233T3100-130,-227,-239,-290,-326,-389  
 233T3244-1,-5 THRU -7,-9,-17,-23,-301 THRU -304,-308,-309  
 -1001,-1005 THRU -1007,-1009,-1017,-1023,-1301 THRU -1307

Component Locations  
 Figure 101

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Test for continuity (less than 3 ohms) or open (greater than 15,000 ohms) between the specified pins.	<u>Continuity</u> <u>Open</u>	
While S4 released:	J4-14 to J4-15      J4-16 to J4-17	S4
While S4 pressed:	J4-16 to J4-17      J4-14 to J4-15	S4
Press then turn S1 to GND, S3 BOTH.	J2-5 to J2-6      J2-5 to J2-8 J1-10 to J1-11      J1-10 to J1-4 J2-11 to J2-10	S1,S3
S1 GND, S3 2 (CW) S1 GND, S3 1 (CCW)	J2-5 to J2-6      J1-10 to J1-11 J1-10 to J1-11      J2-5 to J2-6	S1,S3
S1 AUTO, S3 BOTH	J2-5 to J2-7      J2-5 to J2-6 J1-10 to J1-12      J1-10 to J1-11 J2-10 to J2-11	S1,S3,K1
S1 AUTO, S3 2 (cw)	J2-5 to J2-8      J2-5 to J2-6 J1-10 to J1-4 J1-10 to J1-12 J1-10 to J1-11 J2-10 to J2-11	S1,S3
S1 AUTO, S3 1 (ccw)	J1-10 to J1-4      J1-10 to J1-11 J2-10 to J2-11 J2-5 to J2-8 J2-5 to J2-7 J2-5 to J2-6	S1,S3

233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005  
 thru -1007, -1009, -1017, -1301, -1303 thru -1307;  
 233T3100-130, -227, -239, -290, -326 (w/ 233T3244-9), -389

Functional Test  
 Figure 102 (Sheet 1)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST															
S1 OFF, S3 BOTH	J1-10 to J1-11 J1-10 to J1-4 J1-10 to J1-12 J2-5 to J2-8 J2-5 to J2-7 J2-5 to J2-6	S1,S3															
S1 CONT, S3 BOTH	J1-10 to J1-11 J2-5 to J2-6	S1,S3															
S1 CONT, S3 2 (cw)	J2-5 to J2-6 J1-10 to J1-11	S1,S3															
S1 CONT, S3 1 (ccw)	J1-10 to J1-11 J2-5 to J2-6	S1,S3															
S1 FLT	J1-10 to J1-11 J2-5 to J2-6	S1															
<u>233T3244-17, -301, -1017, -1301; 233T3100-389 only:</u>																	
Measure ohms between the pins shown below with S1 set to the position specified in the required result column: J1-10 to J1-9 J2-5 to J2-4	<table border="0"> <tr> <td><u>GND</u></td> <td><u>AUTO</u></td> <td><u>OFF</u></td> <td><u>CONT</u></td> <td></td> </tr> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>S1</td> </tr> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>S1</td> </tr> </table>	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>		Con	Con	Open	Con	S1	Con	Con	Open	Con	S1	
<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>														
Con	Con	Open	Con	S1													
Con	Con	Open	Con	S1													
Measure ohms between the pins shown below with S3 set to the position specified in the required result column: J2-3 to J1-6 J1-7 to J1-6	<table border="0"> <tr> <td><u>1 (CCW)</u></td> <td><u>BOTH</u></td> <td><u>2 (CW)</u></td> <td></td> </tr> <tr> <td>15K min</td> <td>2K max</td> <td>Con</td> <td>CR1,CR2,S3</td> </tr> <tr> <td>Con</td> <td>2K max</td> <td>15K min</td> <td>CR1,CR2,S3</td> </tr> </table>	<u>1 (CCW)</u>	<u>BOTH</u>	<u>2 (CW)</u>		15K min	2K max	Con	CR1,CR2,S3	Con	2K max	15K min	CR1,CR2,S3				
<u>1 (CCW)</u>	<u>BOTH</u>	<u>2 (CW)</u>															
15K min	2K max	Con	CR1,CR2,S3														
Con	2K max	15K min	CR1,CR2,S3														

233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005  
 thru -1007, -1009, -1017, -1301, -1303 thru -1307;  
 233T3100-130, -227, -239, -290, -326 (w/ 233T3244-9), -389

Functional Test  
 Figure 102 (Sheet 2)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
<u>All assemblies:</u>		
Apply 28v dc between J2-10 (+) and J2-12.		
S1 GND (release), S3 BOTH	J2-5 to J2-6    J2-5 to J2-8 J1-10 to J1-11    J1-10 to J1-4	S1
Remove power.	J2-5 to J2-8    J2-5 to J2-6 J1-10 to J1-4    J1-10 to J1-11	S1
Apply 28v dc between J2-11 (+) and J2-9.		
S1 AUTO, S3 BOTH	J1-10 to J1-4    J1-4 to J1-12 J2-5 to J2-8    J2-8 to J2-7 J1-10 to J1-12 J2-5 to J2-7	S1,K1
Remove power.	J2-5 to J2-8 J2-5 to J2-7 J1-10 to J1-4 J1-10 to J1-12	S1,K1
Apply 28v dc between: J4-3 (+) and J1-8 J1-8 (+) and J4-3	L1 on L1 off	L1 L1
Remove power.		
Disconnect cable A33003-9 and connect cable A33003-10 (For using Boeing breakout box only).		

233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005  
 thru -1007, -1009, -1017, -1301, -1303 thru -1307;  
 233T3100-130, -227, -239, -290, -326 (w/ 233T3244-9), -389

Functional Test  
 Figure 102 (Sheet 3)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST															
S2 CONT, S3 BOTH	J3-10 to J3-11 J4-5 to J4-6	S2,S3															
S2 CONT, S3 2 (cw)	J4-5 to J4-6    J3-10 to J3-11	S2,S3															
S2 CONT, S3 1 (ccw)	J3-10 to J3-11    J4-5 to J4-6	S2,S3															
S2 FLT	J3-10 to J3-11 J4-5 to J4-6	S2															
<u>233T3244-17, -301, -1017, -1301; 233T3100-389 only:</u>																	
Measure ohms between the pins shown below with S2 set to the position specified in the required result column: J3-10 to J3-3 J4-5 to J4-13	<table border="0"> <tr> <td><u>GND</u></td> <td><u>AUTO</u></td> <td><u>OFF</u></td> <td><u>CONT</u></td> <td></td> </tr> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>S2</td> </tr> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>S2</td> </tr> </table>	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>		Con	Con	Open	Con	S2	Con	Con	Open	Con	S2	
<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>														
Con	Con	Open	Con	S2													
Con	Con	Open	Con	S2													
Measure ohms between the pins shown below with S3 set to the position specified in the required result column: J4-22 to J3-6 J3-5 to J3-6	<table border="0"> <tr> <td><u>1 (CCW)</u></td> <td><u>BOTH</u></td> <td><u>2 (CW)</u></td> <td></td> </tr> <tr> <td>15K min</td> <td>2K max</td> <td>Con</td> <td>CR3,CR4,S3</td> </tr> <tr> <td>Con</td> <td>2K max</td> <td>15K min</td> <td>CR3,CR4,S3</td> </tr> </table>	<u>1 (CCW)</u>	<u>BOTH</u>	<u>2 (CW)</u>		15K min	2K max	Con	CR3,CR4,S3	Con	2K max	15K min	CR3,CR4,S3				
<u>1 (CCW)</u>	<u>BOTH</u>	<u>2 (CW)</u>															
15K min	2K max	Con	CR3,CR4,S3														
Con	2K max	15K min	CR3,CR4,S3														

233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005  
 thru -1007, -1009, -1017, -1301, -1303 thru -1307;  
 233T3100-130, -227, -239, -290, -326 (w/ 233T3244-9), -389

Functional Test  
 Figure 102 (Sheet 5)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
<u>All assemblies:</u>		
Apply 28v dc between J4-10 (+) and J4-12.		
S2 GND (release), S3 BOTH	J4-5 to J4-6    J4-5 to J4-8 J3-10 to J3-11    J3-10 to J3-4	S2
Remove power.	J4-5 to J4-8    J4-5 to J4-6 J3-10 to J3-4    J3-10 to J3-11	S2
Apply 28v dc between J4-11(+) and J4-9.		
S2 AUTO, S3 BOTH	J3-10 to J3-4    J3-4 to J3-12 J4-5 to J4-8    J4-8 to J4-7 J3-10 to J3-12 J4-5 to J4-7	S2,K2
Remove power.	J3-10 to J3-4 J3-10 to J3-12 J4-5 to J4-8 J4-5 to J4-7	S2,K2
<del>233T3244-1, -5 thru -7, -9, -17, -1001, -1005 thru -1007, -1009, -1017 only:</del>		
Measure ohms between the pins shown below:		
J1-1 and J5 Center Post	Continuity	J5
J1-2 and Baseplate	Continuity	Wiring
J1-1 and J1-2	Open	Wiring

~~233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005 thru -1007, -1009, -1017, -1301, -1303 thru -1307;  
233T3100-130, -227, -239, -290, -326 (w/ 233T3244-9), -389~~

Functional Test  
Figure 102 (Sheet 6)

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TESTING & TROUBLE SHOOTING  
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 MAINTENANCE MANUAL

TEST PROCEDURE	REQUIRED RESULT	COMP TEST																																				
<u>For all assemblies except 233T3244-1, -5 thru -7, -9, -17, -1001, -1005 thru -1007, -1009, -1017:</u>																																						
Apply 5v ac between J1-1 and J1-2.	All panel lights are on	J5, Lightplate																																				
Remove 5v ac from J1-1 and J1-2.																																						
<u>All assemblies:</u>																																						
Apply +28v dc and ground as specified below.	Indicators (both bulbs) are to be on only when specified.																																					
<table border="0"> <thead> <tr> <th><u>+28v dc</u></th> <th><u>Ground</u></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>J4-3</td> <td>J4-4</td> <td>L1, L2, S4 PRESS, S4 UNLKD</td> <td>L1,L2,S4</td> </tr> <tr> <td>J4-3</td> <td>J3-8</td> <td>L2</td> <td>L2</td> </tr> <tr> <td>J4-3</td> <td>J4-18</td> <td>S4 PRESS</td> <td>S4</td> </tr> <tr> <td>J4-3</td> <td>J4-19</td> <td>S4 UNLKD</td> <td>S4</td> </tr> <tr> <td>J4-4</td> <td>J4-3</td> <td>None</td> <td>L1,L2,S4</td> </tr> <tr> <td>J3-8</td> <td>J4-3</td> <td>None</td> <td>L2</td> </tr> <tr> <td>J4-18</td> <td>J4-3</td> <td>None</td> <td>S4</td> </tr> <tr> <td>J4-19</td> <td>J4-3</td> <td>None</td> <td>S4</td> </tr> </tbody> </table>	<u>+28v dc</u>	<u>Ground</u>			J4-3	J4-4	L1, L2, S4 PRESS, S4 UNLKD	L1,L2,S4	J4-3	J3-8	L2	L2	J4-3	J4-18	S4 PRESS	S4	J4-3	J4-19	S4 UNLKD	S4	J4-4	J4-3	None	L1,L2,S4	J3-8	J4-3	None	L2	J4-18	J4-3	None	S4	J4-19	J4-3	None	S4		
<u>+28v dc</u>	<u>Ground</u>																																					
J4-3	J4-4	L1, L2, S4 PRESS, S4 UNLKD	L1,L2,S4																																			
J4-3	J3-8	L2	L2																																			
J4-3	J4-18	S4 PRESS	S4																																			
J4-3	J4-19	S4 UNLKD	S4																																			
J4-4	J4-3	None	L1,L2,S4																																			
J3-8	J4-3	None	L2																																			
J4-18	J4-3	None	S4																																			
J4-19	J4-3	None	S4																																			
Remove all connections.																																						

233T3244-1, -5 thru -7, -9, -17, -301, -303, -304, -309, -1001, -1005  
 thru -1007, -1009, -1017, -1301, -1303 thru -1307;  
 233T3100-130, -227, -239, -290, -326 (w/ 233T3244-9), -389

Functional Test  
 Figure 102 (Sheet 7)

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TEST PROCEDURE	REQUIRED RESULT		COMP TEST
Test for continuity (less than 3 ohms) or open (greater than 15K ohms) between the specified pins.	<u>Continuity</u>	<u>Open</u>	
While S4 pressed:	J4-16 to J4-17	J4-14 to J4-15	S4
While S4 released:	J4-14 to J4-15	J4-16 to J4-17	S4
Press then turn S1 to GND, S3 BOTH	J2-11 to J2-10 J2-5 to J1-11	J2-5 to J2-6 J2-5 to J1-4	S1,S3
S1 GND, S3 SINGLE	J2-5 to J2-6	J2-5 to J1-11 J2-5 to J2-8	S1,S3
S1 AUTO, S3 SINGLE	J2-5 to J2-8	J2-11 to J2-10 J2-5 to J1-11 J2-5 to J2-6 J2-5 to J1-4	S1,S3
S1 AUTO, S3 BOTH	J2-5 to J1-4	J2-5 to J2-8 J2-5 to J1-11	S1,S3
S1 OFF, S3 BOTH		J2-5 to J1-11 J2-5 to J2-6 J2-5 to J1-4 J2-11 to J2-10	S1,S3
S1 OFF, S3 SINGLE		J2-5 to J2-6 J2-5 to J2-8	S1,S3
S1 CONT, S3 SINGLE	J2-5 to J2-6	J2-11 to J2-10 J2-5 to J1-11 J2-5 to J2-8	S1,S3
S1 CONT, S3 BOTH	J2-5 to J1-11	J2-5 to J2-6 J2-5 to J1-4	S1,S3

233T3244-10, -11, -13, -1010, -1011, -1013, -1308 thru -1310;  
 233T3100-360, -361, -362

Functional Test  
 Figure 102A (Sheet 1)

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TESTING & TROUBLE SHOOTING  
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**BOEING**  
COMPONENT  
MAINTENANCE MANUAL

TEST PROCEDURE	REQUIRED RESULT	COMP TEST												
S1 FLT, S3 BOTH	<table border="0"> <tr> <td></td> <td style="text-align: center;"><u>Continuity</u></td> <td style="text-align: center;"><u>Open</u></td> <td></td> </tr> <tr> <td>J2-5 to J1-11</td> <td></td> <td>J2-11 to J2-10</td> <td></td> </tr> <tr> <td>J2-5 to J2-6</td> <td></td> <td>J2-5 to J1-4</td> <td></td> </tr> </table>		<u>Continuity</u>	<u>Open</u>		J2-5 to J1-11		J2-11 to J2-10		J2-5 to J2-6		J2-5 to J1-4		S1,S3
	<u>Continuity</u>	<u>Open</u>												
J2-5 to J1-11		J2-11 to J2-10												
J2-5 to J2-6		J2-5 to J1-4												
S1 FLT, S3 SINGLE Apply +28 ±0.1v dc to J2-10 and ground to J2-12.	J2-5 to J2-6    J2-5 to J2-8	S1,S3												
S1 GND (release), S3 BOTH	J2-11 to J2-10    J2-5 to J1-4 J2-5 to J1-11	S1												
Remove +28v dc and ground from J2-10 and J2-12.	J2-5 to J1-4    J2-11 to J2-10 J2-5 to J1-11	S1												
Apply +28 ±0.1v dc to J2-10 and ground to J2-12.														
S1 GND (release), S3 SINGLE	J2-5 to J2-6    J2-5 to J2-8	S1												
Remove +28v dc and ground from J2-10 and J2-12.	J2-5 to J2-8    J2-5 to J2-6	S1												
Apply +28 ±0.1v dc to J2-11 and ground to J2-9.		J1-4 to J1-12 K1 J2-7 to J2-8												
Remove +28v dc and ground from J2-11 and J2-9.	J1-4 to J1-12 J2-7 to J2-8	K1												
<u>For 233T3244-10, -11, -13, -1010, -1011, -1013 only:</u>														
Measure continuity or open between following pins: J1-1 and J5 Center Post J1-2 and Baseplate J1-1 and J1-2	Continuity Continuity Open	J5 Wiring Wiring												

233T3244-10, -11, -13, -1010, -1011, -1013, -1308 thru -1310;  
 233T3100-360, -361, -362  
 Functional Test  
 Figure 102A (Sheet 2)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
<u>For 233T3100-360, -361, -362 and 233T3244-1308 thru -1310 only:</u>		
Apply 5v ac between J1-1 (+) and J1-2 (-).	All panel lights are on	J5, Lightplate
<u>All assemblies:</u>		
Apply +28v dc between: J4-3(+) and J1-8(-) J1-8(+) and J4-3(-)	L1 on L1 off	L1 L1
Remove +28v dc and ground from J1-8 and J4-3.		
Disconnect cable A33003-9 and connect cable A33003-10 (For using Boeing breakout box only).		
	<u>Continuity</u> <u>Open</u>	
Press then turn S2 to GND, S3 BOTH	J4-11 to J4-10    J4-5 to J4-6 J4-5 to J3-11    J4-5 to J3-4	S2,S3
S2 GND, S3 SINGLE	J4-5 to J4-6      J4-5 to J3-11 J4-5 to J4-8	S2,S3
S2 AUTO, S3 SINGLE	J4-5 to J4-8      J4-5 to J4-6 J4-11 to J4-10 J4-5 to J3-11 J4-5 to J3-4	S2,S3
S2 AUTO, S3 BOTH	J4-5 to J3-4      J4-5 to J3-11 J4-5 to J4-8	S2,S3

233T3244-10, -11, -13, -1010, -1011, -1013, -1308 thru -1310;  
 233T3100-360, -361, -362

Functional Test  
 Figure 102A (Sheet 3)

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 COMPONENT  
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TEST PROCEDURE	REQUIRED RESULT		COMP TEST
	<u>Continuity</u>	<u>Open</u>	
S2 OFF, S3 BOTH		J4-5 to J4-10 J4-5 to J4-6 J4-5 to J3-11 J4-5 to J3-4	S2,S3
S2 OFF, S3 SINGLE		J4-5 to J4-6 J4-5 to J4-8	S2,S3
S2 CONT, S3 SINGLE	J4-5 to J4-6	J4-11 to J4-10 J4-5 to J3-11 J4-5 to J4-8	S2,S3
S2 CONT, S3 BOTH	J4-5 to J3-11	J4-5 to J3-4 J4-5 to J4-6	S2,S3
S2 FLT, S3 BOTH	J4-5 to J4-6 J4-5 to J3-11	J4-11 to J4-10 J4-5 to J3-4	S2,S3
S2 FLT, S3 SINGLE	J4-5 to J4-6	J4-5 to J4-8	S2,S3
Apply +28 ±0.1v dc to J4-10 and ground to J4-12.			
S2 GND (release), S3 BOTH	J4-11 to J4-10 J4-5 to J3-11	J4-5 to J3-4	S2
Remove +28v dc and ground from J4-10 and J4-12.	J4-5 to J3-4	J4-11 to J4-10 J4-5 to J3-11	S2
Apply +28 ±0.1v dc to J4-10 and ground to J4-12.			
S2 GND (release), S3 SINGLE	J4-5 to J4-6	J4-5 to J4-8	S2
Remove +28v dc and ground from J4-10 and J4-12.	J4-5 to J4-8	J4-5 to J4-6	S2

233T3244-10, -11, -13, -1010, -1011, -1013, -1308 thru -1310;  
 233T3100-360, -361, -362

Functional Test  
 Figure 102A (Sheet 4)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Apply +28 ±0.1v dc to J4-11 and ground to J4-9.	<u>Continuity</u> <u>Open</u> J3-4 to J3-12 J4-7 to J4-8	K2
Remove +28v dc and ground from J4-11 and J4-9.	J3-4 to J3-12 J4-7 to J4-8	K2
Apply +28 ±0.1v dc and ground as specified below:	Indicators (both bulbs) are to be on only when specified:	
<u>+28 ±0.1v dc</u> <u>Ground</u>		
J4-3                                      J4-4	L1,L2,S4 PRESS, S4 UNLKD	L1,L2,S4
J4-3                                      J3-8	L2	L2
J4-3                                      J4-18	S4 PRESS	S4
J4-3                                      J4-19	S4 UNLKD	S4
J4-4                                      J4-3	None	L1,L2,S4
J3-8                                      J4-3	None	L2
J4-18                                     J4-3	None	S4
J4-19                                     J4-3	None	S4
Remove all connections.		

233T3244-10, -11, -13, -1010, -1011, -1013, -1308 thru -1310;  
 233T3100-360, -361, -362

Functional Test  
 Figure 102A (Sheet 5)

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TESTING & TROUBLE SHOOTING  
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**BOEING**  
 COMPONENT  
 MAINTENANCE MANUAL

TEST PROCEDURE	REQUIRED RESULT		COMP TEST
Test for continuity (less than 3 ohms) or open (greater than 15K ohms) between the specified pins.	<u>Continuity</u>	<u>Open</u>	
While S4 pushed in:	J4-16 to J4-17	J4-14 to J4-15	S4
While S4 released:	J4-14 to J4-15	J4-16 to J4-17	S4
Push in then turn S1 to GND, S3 SINGLE	J2-11 to J2-10 J2-5 to J1-11	J2-5 to J2-6 J2-5 to J1-4	S1,S3
S1 GND, S3 BOTH	J2-5 to J2-6	J2-5 to J1-11 J2-5 to J2-8	S1,S3
S1 AUTO, S3 BOTH	J2-5 to J2-8	J2-11 to J2-10 J2-5 to J1-11 J2-5 to J2-6 J2-5 to J1-4	S1,S3
S1 AUTO, S3 SINGLE	J2-5 to J1-4	J2-5 to J2-8 J2-5 to J1-11	S1,S3
S1 OFF, S3 SINGLE		J2-5 to J1-11 J2-5 to J2-6 J2-5 to J1-4 J2-11 to J2-10	S1,S3
S1 OFF, S3 BOTH		J2-5 to J2-6 J2-5 to J2-8	S1,S3
S1 CONT, S3 BOTH	J2-5 to J2-6	J2-11 to J2-10 J2-5 to J1-11 J2-5 to J2-8	S1,S3
S1 CONT, S3 SINGLE	J2-5 to J1-11	J2-5 to J2-6 J2-5 to J1-4	S1,S3

233T3244-18, -19, -21, -1018, -1019, -1021, -1311, -1312;  
 233T3100-396 (w/ 233T3244-19), -397 (w/ 233T3244-21)

Functional Test  
 Figure 102B (Sheet 1)

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TEST PROCEDURE	REQUIRED RESULT		COMP TEST
	<u>Continuity</u>	<u>Open</u>	
S1 FLT, S3 SINGLE	J2-5 to J1-11 J2-5 to J2-6	J2-11 to J2-10 J2-5 to J1-4	S1,S3
S1 FLT, S3 BOTH	J2-5 to J2-6	J2-5 to J2-8	S1,S3
Apply +28 ±0.1v dc to J2-10 and ground to J2-12.			
S1 GND (release), S3 SINGLE	J2-11 to J2-10 J2-5 to J1-11	J2-5 to J1-4	S1
Remove +28v dc and ground from J2-10 and J2-12.	J2-5 to J1-4	J2-11 to J2-10 J2-5 to J1-11	S1
Apply +28 ±0.1v dc to J2-10 and ground to J2-12.			
S1 GND (release), S3 BOTH	J2-5 to J2-6	J2-5 to J2-8	S1
Remove +28v dc and ground from J2-10 and J2-12.	J2-5 to J2-8	J2-5 to J2-6	S1
Apply +28 ±0.1v dc to J2-11 and ground to J2-9.		J1-4 to J1-12 J2-7 to J2-8	K1
Remove +28v dc and ground from J2-11 and J2-9.	J1-4 to J1-12 J2-7 to J2-8		K1

233T3244-18, -19, -21, -1018, -1019, -1021, -1311, -1312;  
 233T3100-396 (w/ 233T3244-19), -397 (w/ 233T3244-21)

Functional Test  
 Figure 102B (Sheet 2)

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TEST PROCEDURE	REQUIRED RESULT		COMP TEST
	<u>Continuity</u>	<u>Open</u>	
S2 AUTO, S3 SINGLE	J4-5 to J3-4	J4-5 to J3-11 J4-5 to J4-8	S2,S3
S2 OFF, S3 SINGLE		J4-5 to J4-10 J4-5 to J4-6 J4-5 to J3-11 J4-5 to J3-4	S2,S3
S2 OFF, S3 BOTH		J4-5 to J4-6 J4-5 to J4-8	S2,S3
S2 CONT, S3 BOTH	J4-5 to J4-6	J4-11 to J4-10 J4-5 to J3-11 J4-5 to J4-8	S2,S3
S2 CONT, S3 SINGLE	J4-5 to J3-11	J4-5 to J3-4 J4-5 to J4-6	S2,S3
S2 FLT, S3 SINGLE	J4-5 to J4-6 J4-5 to J3-11	J4-11 to J4-10 J4-5 to J3-4	S2,S3
S2 FLT, S3 BOTH	J4-5 to J4-6	J4-5 to J4-8	S2,S3
Apply +28 ±0.1v dc to J4-10 and ground to J4-12.			
S2 GND (release), S3 SINGLE	J4-11 to J4-10 J4-5 to J3-11	J4-5 to J3-4	S2
Remove +28v dc and ground from J4-10 and J4-12.	J4-5 to J3-4	J4-11 to J4-10 J4-5 to J3-11	S2
Apply +28 ±0.1v dc to J4-10 and ground to J4-12.			
S2 GND (release), S3 BOTH	J4-5 to J4-6	J4-5 to J4-8	S2
Remove +28v dc and ground from J4-10 and J4-12.	J4-5 to J4-8	J4-5 to J4-6	S2

233T3244-18, -19, -21, -1018, -1019, -1021, -1311, -1312;  
 233T3100-396 (w/ 233T3244-19), -397 (w/ 233T3244-21)

Functional Test  
 Figure 102B (Sheet 4)

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TESTING & TROUBLE SHOOTING  
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TEST PROCEDURE	REQUIRED RESULT	COMP TEST																		
Apply +28 ±0.1v dc to J4-11 and ground to J4-9.	<table border="0"> <tr> <td><u>Continuity</u></td> <td><u>Open</u></td> </tr> <tr> <td></td> <td>J3-4 to J3-12</td> </tr> <tr> <td></td> <td>J4-7 to J4-8</td> </tr> </table>	<u>Continuity</u>	<u>Open</u>		J3-4 to J3-12		J4-7 to J4-8	K2												
<u>Continuity</u>	<u>Open</u>																			
	J3-4 to J3-12																			
	J4-7 to J4-8																			
Remove +28v dc and ground from J4-11 and J4-9.	<table border="0"> <tr> <td>J3-4 to J3-12</td> <td>J4-7 to J4-8</td> </tr> </table>	J3-4 to J3-12	J4-7 to J4-8	K2																
J3-4 to J3-12	J4-7 to J4-8																			
Apply +28 ±0.1v dc and ground as specified below:	Indicators (both bulbs) are to be on only when specified:																			
<table border="0"> <tr> <td><u>+28 ±0.1v dc</u></td> <td><u>Ground</u></td> </tr> <tr> <td>J4-3</td> <td>J4-4</td> </tr> <tr> <td>J4-3</td> <td>J3-8</td> </tr> <tr> <td>J4-3</td> <td>J4-18</td> </tr> <tr> <td>J4-3</td> <td>J4-19</td> </tr> <tr> <td>J4-4</td> <td>J4-3</td> </tr> <tr> <td>J3-8</td> <td>J4-3</td> </tr> <tr> <td>J4-18</td> <td>J4-3</td> </tr> <tr> <td>J4-19</td> <td>J4-3</td> </tr> </table>	<u>+28 ±0.1v dc</u>	<u>Ground</u>	J4-3	J4-4	J4-3	J3-8	J4-3	J4-18	J4-3	J4-19	J4-4	J4-3	J3-8	J4-3	J4-18	J4-3	J4-19	J4-3	<p>L1,L2,S4 PRESS, S4 UNLKD</p> <p>L2</p> <p>S4 PRESS</p> <p>S4 UNLKD</p> <p>None</p> <p>None</p> <p>None</p> <p>None</p>	<p>L1,L2,S4</p> <p>L2</p> <p>S4</p> <p>S4</p> <p>L1,L2,S4</p> <p>L2</p> <p>S4</p> <p>S4</p>
<u>+28 ±0.1v dc</u>	<u>Ground</u>																			
J4-3	J4-4																			
J4-3	J3-8																			
J4-3	J4-18																			
J4-3	J4-19																			
J4-4	J4-3																			
J3-8	J4-3																			
J4-18	J4-3																			
J4-19	J4-3																			
Remove all connections.																				

233T3244-18, -19, -21, -1018, -1019, -1021, -1311, -1312;  
 233T3100-396 (w/ 233T3244-19), -397 (w/ 233T3244-21)  
 Functional Test  
 Figure 102B (Sheet 5)

TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Continuity/Con is defined as less than 3 ohms, and Open is defined as greater than 15K ohms.  Measure ohms between the pins shown below with S4 set to the position specified: J4-16 and J4-17 J4-14 and J4-15  Measure ohms between the pins shown below with S1 set to the position specified: J2-11 and J2-10 J2-11 and J2-2  Set S3 to SINGLE.  Measure ohms between the pins shown below with S1 set to the position specified: J2-5 and J1-12 J2-5 and J1-4 J2-5 and J2-7 J2-5 and J2-8  Set S3 to BOTH.  Measure ohms between the pins shown below with S1 set to the position specified: J2-5 and J1-12 J2-5 and J1-4 J2-5 and J2-7 J2-5 and J2-8  Set S3 to SINGLE.	<p style="text-align: center;"><u>Pressed</u>                      <u>Released</u></p> Continuity                      Open Open                              Continuity  <p style="text-align: center;"><u>GND</u>    <u>AUTO</u>    <u>OFF</u>    <u>CONT</u>    <u>FLT</u></p> Con    Open    Open    Open    Open Open    Open    Open    Con    Open  <p style="text-align: center;"><u>GND</u>    <u>AUTO</u>    <u>OFF</u>    <u>CONT</u>    <u>FLT</u></p> Con    Con    Open    Con    Con Con    Con    Open    Con    Con Open    Open    Open    Open    Con Open    Open    Open    Open    Con  <p style="text-align: center;"><u>GND</u>    <u>AUTO</u>    <u>OFF</u>    <u>CONT</u>    <u>FLT</u></p> Open    Open    Open    Open    Con Open    Open    Open    Open    Con Con    Con    Open    Con    Con Con    Con    Open    Con    Con	S4 S4  S1 S1  S1,S3,K1 S1,S3,K1 S1,S3 S1,S3  S1,S3 S1,S3,K1 S1,S3,K1 S1,S3,K1 S1,S3,K1

233T3244-25, -300, -307, -1025, -1300;  
 233T3100-396 (w/ 233T3244-25), -397 (w/ 233T3244-25)  
 Functional Test  
 Figure 102C (Sheet 1)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Remove ground from J4-4.		
Ground the pin shown below one at a time:		
J1-8	L1 (VALVE) is on	L1
J3-8	L2 (VALVE) is on	L2
J4-18	S4 (PRESS) is on	S4
J4-19	S4 (UNLKD) is on	S4
Remove 28v dc from J4-3 and ground from the pin last tested.		
Ground J4-3 and apply 28v dc to the pin shown below one at a time:		
J4-4	L1, L2 and S4 are off	L1,L2,S4
J1-8	L1 is off	L1
J3-8	L2 is off	L2
J4-18	S4 is off	S4
J4-19	S4 is off	S4
Remove ground from J4-3 and 28v dc from the pin last tested.		
Set S1 to OFF.		
Apply 28v dc to J2-11 and ground to J2-9, and measure ohms between the pins shown below:		
J2-7 and J2-8	Open	K1
J1-12 and J1-4	Open	K1
Remove 28v dc from J2-11 and ground from J2-9, and measure ohms between the pins shown below:		
J2-7 and J2-8	Continuity	K1
J1-12 and J1-4	Continuity	K1
Set S2 to OFF.		

233T3244-25, -300, -307, -1025, -1300;  
 233T3100-396 (w/ 233T3244-25), -397 (w/ 233T3244-25)  
 Functional Test  
 Figure 102C (Sheet 3)

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TESTING & TROUBLE SHOOTING  
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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
<p>Apply 28v dc to J4-11 and ground to J4-9, and measure ohms between the pins shown below:                      J4-7 and J4-8                      J3-12 and J3-4</p>	<p>Open                      Open</p>	<p>K2                      K2</p>
<p>Remove 28v dc from J4-11 and ground from J4-9, and measure ohms between the pins shown below:                      J4-7 and J4-8                      J3-12 and J3-4</p>	<p>Continuity                      Continuity</p>	<p>K2                      K2</p>
<p><u>Switch Holding Test</u></p>		
<p>Apply 28 ±0.1v dc to J2-10 and ground J2-12.</p>		
<p>Press, then turn S1 to GND and release.</p>		
<p>Make sure S1 holds to GND.</p>		<p>S1</p>
<p>Remove Power, then make sure S1 turns to AUTO.</p>		<p>S1</p>

233T3244-25, -300, -307, -1025, -1300;  
 233T3100-396 (w/ 233T3244-25), -397 (w/ 233T3244-25)  
 Functional Test  
 Figure 102C (Sheet 4)



TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Remove the connections.  Apply 28 ±0.1v dc to J4-10 and ground J4-12  Press, then turn S2 to GND and release.  Make sure S2 holds to GND.  Remove power, then make sure S2 turns to AUTO.  Remove the connections.		    S2  S2

233T3244-25, -300, -307, -1025, -1300;  
 233T3100-396 (w/ 233T3244-25), -397 (w/ 233T3244-25)  
 Functional Test  
 Figure 102C (Sheet 5)

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**BOEING**  
 COMPONENT  
 MAINTENANCE MANUAL

TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Continuity/Con is defined as less than 3 ohms, and Open is defined as greater than 15K ohms.  Measure ohms between the pins shown below with S4 set to the position specified: J4-16 and J4-17 J4-14 and J4-15  Measure ohms between the pins shown below with S1 set to the position specified: J2-11 and J2-10 J2-11 and J2-2  Set S3 to B0TH.  Measure ohms between the pins shown below with S1 set to the position specified: J2-5 and J2-7 J2-5 and J2-8 J1-10 and J1-12 J1-10 and J1-4  Set S3 to 1.  Measure ohms between the pins shown below with S1 set to the position specified: J2-5 and J2-7 J2-5 and J2-8 J1-10 and J1-12 J1-10 and J1-4  Set S3 to 2.	<p style="text-align: center;"><u>Pressed</u>                      <u>Released</u></p> Continuity                      Open Open                              Continuity  <p style="text-align: center;"><u>GND</u>    <u>AUTO</u>    <u>OFF</u>    <u>CONT</u>    <u>FLT</u></p> Con    Open    Open    Open    Open Open    Open    Open    Con    Open  <p style="text-align: center;"><u>GND</u>    <u>AUTO</u>    <u>OFF</u>    <u>CONT</u>    <u>FLT</u></p> Con    Con    Open    Con    Con Con    Con    Open    Con    Con Con    Con    Open    Con    Con Con    Con    Open    Con    Con  <p style="text-align: center;"><u>GND</u>    <u>AUTO</u>    <u>OFF</u>    <u>CONT</u>    <u>FLT</u></p> Open    Open    Open    Open    Con Open    Open    Open    Open    Con Con    Con    Open    Con    Con Con    Con    Open    Con    Con	S4 S4  S1 S1  S1,S3,K1 S1,S3,K1 S1,S3,K1 S1,S3,K1  S1,S3 S1,S3,K1 S1,S3,K1 S1,S3,K1

233T3244-23, -302, -308, -1023, -1302; 233T3100-326 (w/ 233T3244-23)

Functional Test  
 Figure 102D (Sheet 1)

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TEST PROCEDURE	REQUIRED RESULT					COMP TEST
Measure ohms between the pins shown below with S1 set to the position specified:	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>	<u>FLT</u>	
J2-5 and J2-7	Con	Con	Open	Con	Con	S1,S3,K1
J2-5 and J2-8	Con	Con	Open	Con	Con	S1,S3,K1
J1-10 and J1-12	Open	Open	Open	Open	Con	S1,S3
J1-10 and J1-4	Open	Open	Open	Open	Con	S1,S3,K1
Measure ohms between the pins shown below with S2 set to the position specified:	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>	<u>FLT</u>	
J4-11 and J4-10	Con	Open	Open	Open	Open	S2
J4-11 and J4-23	Open	Open	Open	Con	Open	S2
Set S3 to BOTH.						
Measure ohms between the pins shown below with S2 set to the position specified:	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>	<u>FLT</u>	
J4-5 and J4-7	Con	Con	Open	Con	Con	S2,S3,K2
J4-5 and J4-8	Con	Con	Open	Con	Con	S2,S3,K2
J3-10 and J3-12	Con	Con	Open	Con	Con	S2,S3,K2
J3-10 and J3-4	Con	Con	Open	Con	Con	S2,S3,K2
Set S3 to 1.						
Measure ohms between the pins shown below with S2 set to the position specified:	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>	<u>FLT</u>	
J4-5 and J4-7	Open	Open	Open	Open	Con	S2,S3
J4-5 and J4-8	Open	Open	Open	Open	Con	S2,S3,K2
J3-10 and J3-12	Con	Con	Open	Con	Con	S2,S3,K2
J3-10 and J3-4	Con	Con	Open	Con	Con	S2,S3,K2
Set S3 to 2.						

233T3244-23, -302, -308, -1023, -1302; 233T3100-326 (w/ 233T3244-23)

Functional Test  
 Figure 102D (Sheet 2)

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**BOEING**  
COMPONENT  
MAINTENANCE MANUAL

TEST PROCEDURE	REQUIRED RESULT	COMP TEST																														
Measure ohms between the pins shown below with S2 set to the position specified: J4-5 and J4-7 J4-5 and J4-8 J3-10 and J3-12 J3-10 and J3-4 J4-5 and J4-8	<table border="1"> <thead> <tr> <th><u>GND</u></th> <th><u>AUTO</u></th> <th><u>OFF</u></th> <th><u>CONT</u></th> <th><u>FLT</u></th> </tr> </thead> <tbody> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>Con</td> </tr> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>Con</td> </tr> <tr> <td>Open</td> <td>Open</td> <td>Open</td> <td>Open</td> <td>Con</td> </tr> <tr> <td>Open</td> <td>Open</td> <td>Open</td> <td>Open</td> <td>Con</td> </tr> <tr> <td>Con</td> <td>Con</td> <td>Open</td> <td>Con</td> <td>Con</td> </tr> </tbody> </table>	<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>	<u>FLT</u>	Con	Con	Open	Con	Con	Con	Con	Open	Con	Con	Open	Open	Open	Open	Con	Open	Open	Open	Open	Con	Con	Con	Open	Con	Con	S2,S3,K2 S2,S3,K2 S2,S3 S2,S3,K2 S2,S3,K2
<u>GND</u>	<u>AUTO</u>	<u>OFF</u>	<u>CONT</u>	<u>FLT</u>																												
Con	Con	Open	Con	Con																												
Con	Con	Open	Con	Con																												
Open	Open	Open	Open	Con																												
Open	Open	Open	Open	Con																												
Con	Con	Open	Con	Con																												
<p><u>233T3244-23, -1023 only:</u></p>																																
Measure ohms between the pins shown below: J1-1 and J5 Center Post J1-2 and Baseplate	Continuity Continuity	Wiring Wiring																														
<p><u>233T3244-302, -308, -1302 and 233T3100-326 only:</u></p>																																
Apply 5v ac between J1-1 and J1-2.	All panel lights are on	Lightplate, J5																														
Remove 5v ac between J1-1 and J1-2.																																
<p><u>All assemblies:</u></p>																																
Apply 28v dc to J4-3 and ground to J4-4.	L1 (VALVE) is on, L2 (VALVE) is on, S4 (PRESS and UNLKD) is on	L1 L2 S4																														
Remove ground from J4-4.																																
Ground the pin shown below one at a time:																																
J1-8	L1 (VALVE) is on	L1																														
J3-8	L2 (VALVE) is on	L2																														
J4-18	S4 (PRESS) is on	S4																														
J4-19	S4 (UNLKD) is on	S4																														
Remove 28v dc from J4-3 and ground from the pin last tested.																																

233T3244-23, -302, -308, -1023, -1302; 233T3100-326 (w/ 233T3244-23)  
 Functional Test  
 Figure 102D (Sheet 3)

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TEST PROCEDURE	REQUIRED RESULT	COMP TEST
<p>Remove 28v dc from J4-11 and ground from J4-9, and measure ohms between the pins shown below:                      J4-7 and J4-8                      J3-12 and J3-4</p> <p><u>Switch Holding Test</u></p> <p>Apply 28 ±0.1v dc to J2-10 (+) and J2-12 (-).</p> <p>Press, then turn S1 to GND and release.</p> <p>Make sure S1 holds to GND.</p> <p>Remove power, then make sure S1 turns to AUTO.</p> <p>Remove the connections.</p> <p>Apply 28 ±0.1v dc to J4-10 (+) and J4-12 (-).</p> <p>Press, then turn S2 to GND and release.</p>	<p>Continuity Continuity</p>	<p>K2 K2</p> <p>S1</p> <p>S1</p>

233T3244-23, -302, -308, -1023, -1302; 233T3100-326 (w/ 233T3244-23)

Functional Test  
Figure 102D (Sheet 5)

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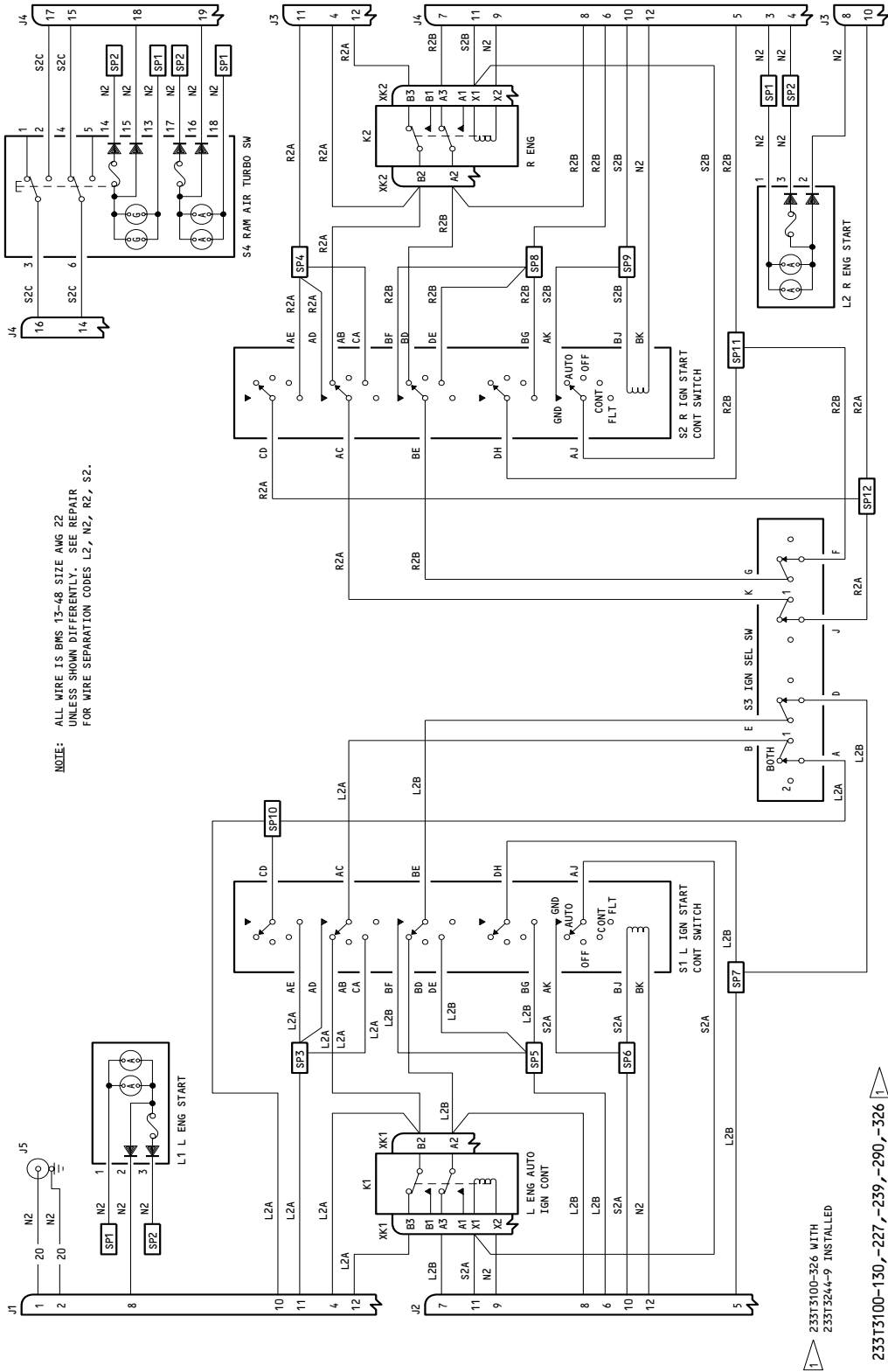
TEST PROCEDURE	REQUIRED RESULT	COMP TEST
Make sure S2 holds to GND.  Remove power, then make sure S2 turns to AUTO.  Remove the connections.		S2  S2

233T3244-23, -302, -308, -1023, -1302; 233T3100-326 (w/ 233T3244-23)  
 Functional Test  
 Figure 102D (Sheet 6)

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# BOEING COMPONENT MAINTENANCE MANUAL



NOTE: ALL WIRE IS BMS 13-48 SIZE ANG 22 UNLESS SHOWN DIFFERENTLY. SEE REPAIR FOR WIRE SEPARATION CODES L2, N2, R2, S2.

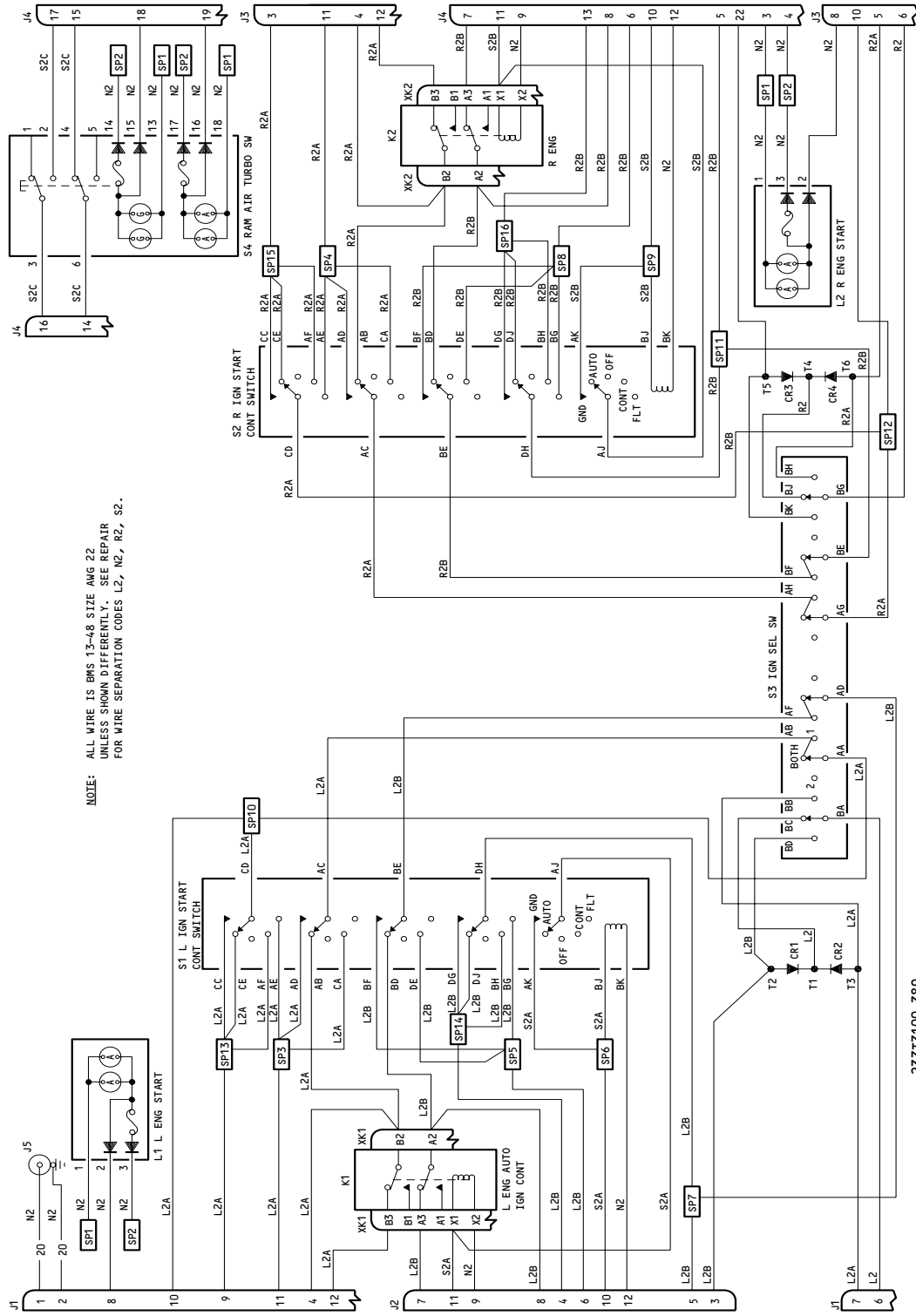
233T3100-326 WITH 233T324-9 INSTALLED

233T3100-130,-227,-239,-290,-326  
233T3244-1,-5 THRU -7,-9,-303,-304,-309,-1001,-1005 THRU -1007,-1009,-1303 THRU -1307

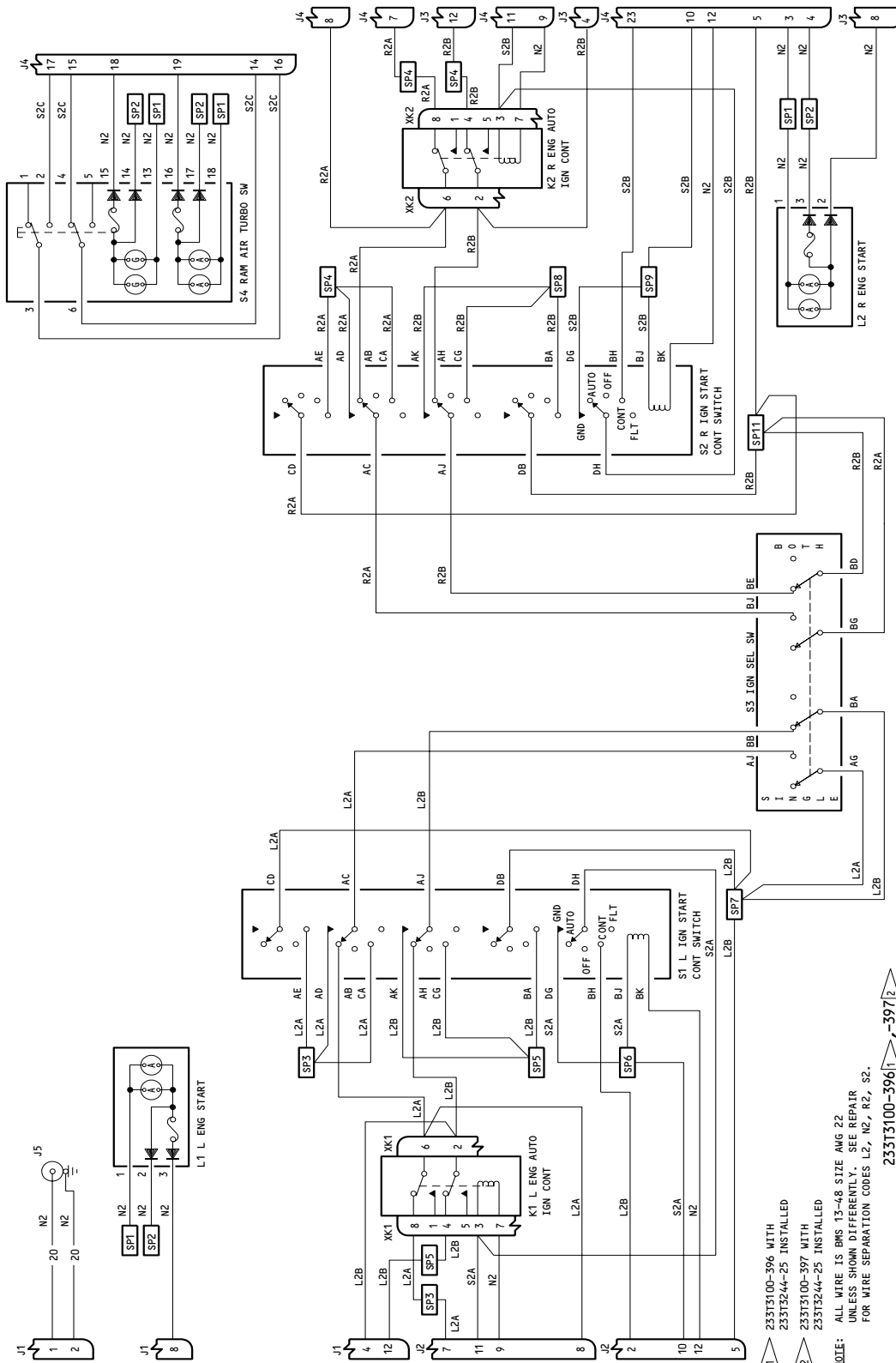
Schematic Diagram  
Figure 105







233T3100-389  
233T3244-17,-301,-1017,-1301  
Schematic Diagram  
Figure 105



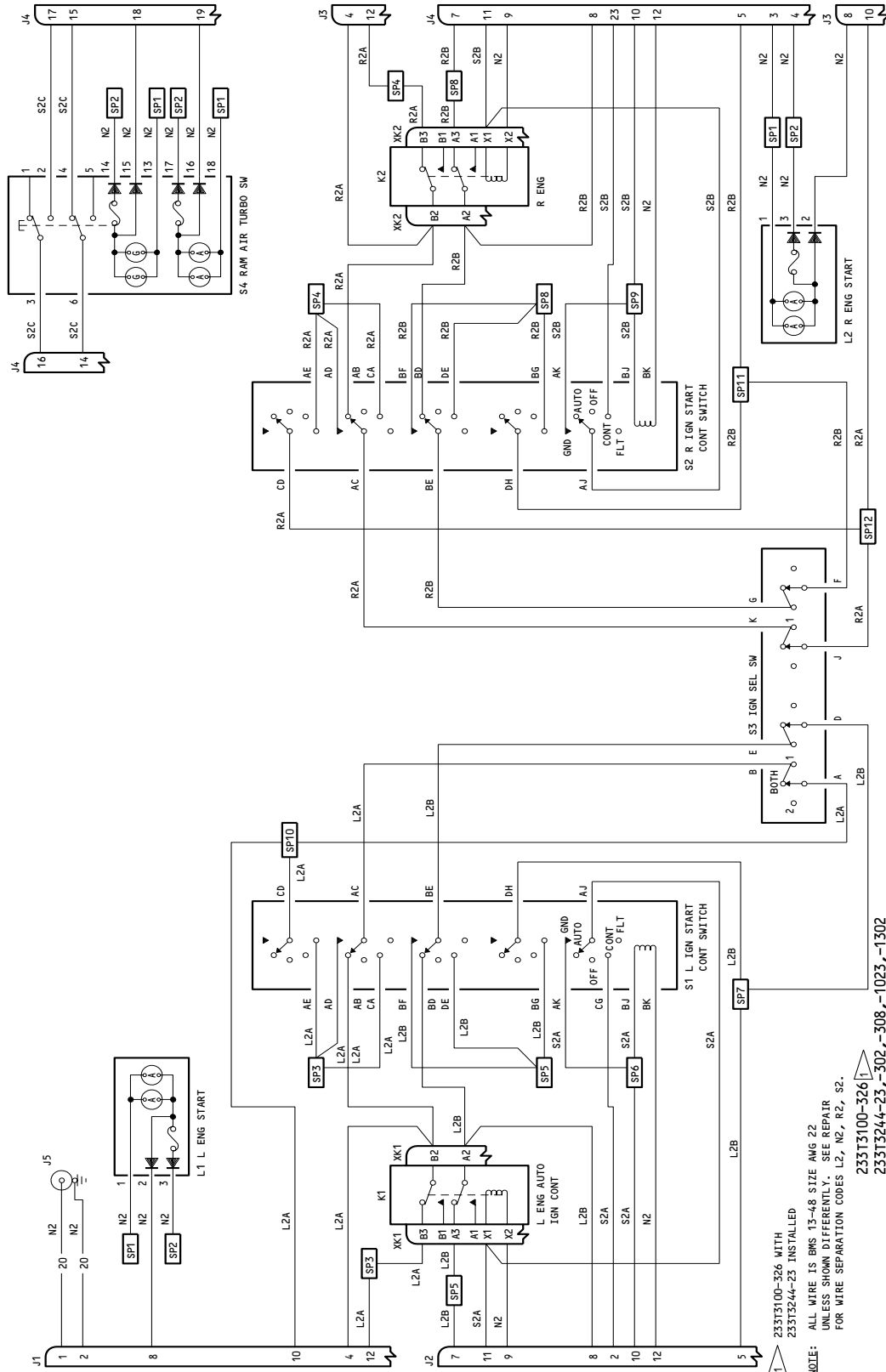
233T3100-396 WITH  
 233T3244-25 INSTALLED  
 233T3100-397 WITH  
 233T3244-25 INSTALLED

NOTE: ALL WIRE IS BMS 13-48 SIZE AWG 22 UNLESS SHOWN DIFFERENTLY. SEE REPAIR FOR WIRE SEPARATION CODES L2, N2, R2, S2.

233T3100-396  
 233T3244-25, -300, -307, -1025, -1300

Schematic Diagram  
 Figure 106

# BOEING COMPONENT MAINTENANCE MANUAL



NOTE: 233T3100-326 WITH 233T3244-23 INSTALLED ALL WIRE IS BMS 13-48 SIZE AWG 22 UNLESS SHOWN DIFFERENTLY. SEE REPAIR FOR WIRE SEPARATION CODES L2, N2, R2, S2.

233T3100-326  
233T3244-23, -302, -308, -1023, -1302

Schematic Diagram  
Figure 107

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**BOEING**  
COMPONENT  
MAINTENANCE MANUAL

REPAIR

1. Materials

A. Sleeving, nonfray, Type H0 or HP, Varglas (Varflex Corporation, 512 W. Court Street, Rome, New York, 13440)

2. All repairs can be done with the standard industry practices and procedures contained in 20-11-05 except as follows:

A. When wires are replaced, spacing not less than 0.25-inch must be maintained between bundle categories. Wires labeled N2 may be bundled with wires of any category. Separators (63-9273-2) or type H0 or HP nonfray sleeving may be used to assure proper spacing. Bundles are color-coded as follows: A2 (orange), C2 (yellow), L2 (red), N2 (white), R2 (green), and S2 (blue).

B. When switches S1 and S2 (Item 20 thru Item 20C, IPL Fig. 1 and Item 35 thru Item 35C, IPL Fig. 2) or wires are replaced, make sure that one each wire-bundle mounting plate (Item 122, IPL Fig. 1 and Item 155, IPL Fig. 2) is installed on the wire bundle routing from switches S1 and S2 to prevent the wires from contacting the switch edges.

C. When you replace the lighted pushbutton switch S231T290-1079 or -4079 (Korry P/N 433-673-1001-1079 or 433-673-1004-4079) (IPL Fig. 1, item 10K, 10L, 12C and Fig. 2, item 25E, 27C), make sure that you use the switch with the letter "D" imprinted on the master module of the switch. The Korry part number of the master module with the configuration "D" marked is 13205-001.

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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

Detail 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 used 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 are 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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ILLUSTRATED PARTS LIST

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7. The following table may be used to find the interchangeability information for the S231T290 series flight deck pushbutton switches. The corresponding vendor part number is shown in parentheses along with the cage code. The last two digits denoted by 'XX' should match between the old part and interchangeable part numbers. The old part number may be used as a replacement unless noted differently:

<u>Old Part Number</u>	<u>Interchangeable Part Number</u>
S231T290-10XX *[1] (433-673-1001-10XX (V81590))	S231T290-42XX (4336731004-42XX (V81590))
S231T290-11XX *[1] (433-673-1001-11XX (V81590))	S231T290-43XX (4336731004-43XX (V81590))
S231T290-20XX (851-30768-20XX (V96182))	S231T290-42XX (4336731004-42XX (V81590))
S231T290-30XX (851-30768-30XX (V96182))	S231T290-42XX (4336731004-42XX (V81590))
S231T290-31XX (851-30768-31XX (V96182))	S231T290-43XX (4336731004-43XX (V81590))
S231T290-40XX *[1] (433-673-1004-40XX (V81590))	S231T290-42XX (4336731004-42XX (V81590))
S231T290-41XX *[1] 3-673-1004-41XX (V81590))	S231T290-43XX (4336731004-43XX (V81590))

\*[1] The old part number may be used as a replacement where the old part number contains configuration "D" master module. See repair section for additional information.

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**BOEING**  
 COMPONENT  
 MAINTENANCE MANUAL
VENDORS

01526 GENICOM CORP  
 ONE GENICOM DRIVE  
 WAYNESBORO, VIRGINIA 22980-1999  
 FORMERLY GE SPECIALY CONTROL & DATA COMMUNICATIONS PROD DEPT

03743 APPLETON ELECTRIC CO DIV OF EMERSON ELECTRIC CO  
 2205 12TH AVENUE  
 SOUTH MILWAUKEE, WISCONSIN 53172-2541  
 FORMERLY IN CHICAGO, ILLINOIS

05574 VIKING ELECTRONICS INC.  
 5455 ENDEAVOUR CT  
 MOORPARK, CALIFORNIA 93021  
 FORMERLY VIKING IND DATACON DIV; VIKING SPECIAL PROD V53156;  
 FORMERLY VIKING CONN SUB OF CRITON CORP; ARIZONA INTEGRATED  
 ELEC VOP9C6; FORMERLY IN CHATSWORTH, CA

05617 IDD AEROSPACE CORP  
 18225 NORTHEAST 76TH STREET PO BOX 97056  
 REDMOND, WASHINGTON 98073-9756  
 FORMERLY FARWEST ELEC INC; FORMERY IN BELLEVUE, WA;  
 FORMERLY BELL IND FARWEST MFG DIV; FORMERLY BELL IND  
 ILLUMINATED DISPLAYS DIV

06383 PANDUIT CORPORATION  
 17301 RIDGELAND AVENUE  
 TINLEY PARK, ILLINOIS 60477-3048

09026 BABCOCK ELECTRONICS CORP CONTROL PRODUCT DIV SEE  
 ESTERLINE ELECTRONICS CORP V82050

09922 FRAMATOME CONNECTORS FRANCE  
 50 GRUMBACHER ROAD  
 YORK, PENNSYLVANIA 17402  
 FORMERLY BURNDY ENGRG CO V02198; FORMERLY BURNDY CORP  
 FORMERLY NORWALK, CONNECTICUT

12324 DUPREE INC STAKE FASTENER CO  
 14395 RAMONA PO BOX 1797  
 CHINO, CALIFORNIA 91708  
 FORMERLY DUPREE MFG CO IN SOUTH EL MONTE, CALIFORNIA  
 FORMERLY STAKE FASTENER CO DIV OF DUPREE INC

15084 DUPREE INC AEROSPACE KNOB CO DIV  
 14395 RAMONA PO BOX 1797  
 CHINO, CALIFORNIA 91708-1797  
 FORMERLY AEROSPACE KNOB CO DIV OF DUPREE INC  
 FORMERLY IN SOUTH EL MONTE, CALIFORNIA

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ILLUSTRATED PARTS LIST

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VENDORS

- 15653 FAIRCHILD FASTENERS KAYNAR PRODUCTS DIV  
800 S STATE COLLEGE BLVD  
FULLERTON, CALIFORNIA 92831-3001  
FORMERLY VK6405 MICRODOT AEROSP LTD; FORMERLY KAYNAR TECH  
KAYNAR DIV
- 35344 LEACH CORP RELAY DIV SEE LEACH CORP CONTROL PROD DIV V58657
- 51896 SPECTRA LUX CORP  
11825 120TH AVENUE NORTHEAST  
KIRKLAND, WASHINGTON 98034  
FORMERLY IN BELLEVUE, WASHINGTON
- 56623 BABCOCK INC  
14930 E ALONDRA BLVD  
LA MIRADA, CALIFORNIA 90638-5752  
FORMERLY IN COSTS MESA, CA & IN ORANGE, CA
- 58614 COMMUNICATIONS INSTRUMENTS INC  
HWY 74 EAST, PO BOX 520  
FAIRVIEW, NORTH CAROLINA 28730
- 58982 PRECISION CONNECTOR DESIGNS INC  
CENTENNIAL PARK 2 TECHNOLOGY DRIVE  
PEABODY, MASSACHUSETTS 01960  
FORMERLY IN WINCHESTER, MASSACHUSETTS
- 60119 MONADNOCK CO THE  
18301 ARENTH AVENUE PO BOX 1222  
CITY OF INDUSTRY, CALIFORNIA 91749  
FORMERLY UNITED CARR FASTENER CORP VB0051 VB0056 VB0076  
FORMERLY TRW ELECTRONIC COMPONENTS CINCH-MONADNOCK DIV  
FORMERLY CINCH-MONADNOCK DIV OF TRW INC V76530
- 71482 CP CLARE CORP NORTH AMERICA SALES OPERATIONS  
601B CAMPUS DRIVE  
ARLINGTON HEIGHTS, ILLINOIS 60004  
FORMERLY CLARE DIV OF GENERAL INSTRUMENT CORP  
FORMERLY IN CHICAGO, ILLINOIS
- 72794 DZUS FASTENER COMPANY, INCORPORATED  
425 UNION BOULEVARD  
WEST ISLIP, NEW YORK 11795-3123  
FORMERLY IN BABYLON, NEW YORK

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ILLUSTRATED PARTS LIST  
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**BOEING**  
 COMPONENT  
 MAINTENANCE MANUAL
VENDORS

72962 HARVARD INDUSTRIES INC  
 3 WERNER WAY SUITE 210  
 LEBANON, NEW JERSEY 08833  
 FORMERLY AMERACE CORP ESNA DIV  
 FORMERLY ELASTIC STOP NUT IN UNION, NJ

78290 STRUTHERS-DUNN INC  
 SOUTH WINDSOR, CONNECTICUT 06074  
 OBSOLETE - SEE V00213

81590 KORRY ELECTRONIC INC SUB OF CRITON CORP  
 901 DEXTER AVENUE NORTH  
 SEATTLE, WASHINGTON 98109-3515  
 FORMERLY KORRY, BORIS VB0021 AND KORRY MFG CO

88245 WINCHESTER ELECTRONICS LITTON SYSTEMS INC USECO DIV  
 13536 SATICOY STREET  
 VAN NUYS, CALIFORNIA 91409  
 FORMERLY U.S. ENGINEERING CO V88245 AND LITTON PRECISION  
 PRODUCTS INC USECO DIV LITTON IND AND LITTON SYSTEMS  
 INC USECO DIV

91812 JANCO CORPORATION  
 3111 WINONA AVENUE, PO BOX 3038  
 BURBANK, CALIFORNIA 91504-2543

95266 O E C O CORP  
 4607 SE INTERNATIONAL WAY  
 MILWAUKIE, OREGON 97222  
 FORMERLY OSBOURNE ELECTRIC IN PORTLAND, OREGON

96182 EATON CORP AEROSPACE AND COMMERCIAL CONTROLS DIV MSC PROD  
 1640 MONROVIA  
 COSTA MESA, CALIFORNIA 92627-4405  
 FORMERLY MASTER SPECIALITIES CO IN GARDENA, CALIFORNIA

98927 ELECSPEC CORP ELECTRONIC SPECIALITY DIV  
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 FORMERLY DEUTSCH CO ELECTRONIC COMPONENTS DIV DEUTSCH RELAY

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## REFERENCE DESIGNATOR INDEX (SEE SCHEMATIC DIAGRAM)

REFERENCE DESIGNATOR	PART NUMBER	FIG-ITEM
CR1-CR4	JANTX1N5618	1-82
CR1-CR4	JANTX1N5618	2-100
J1	BACC45FN12-12P	1-85
J1	BACC45FN12-12P	2-105
J2	BACC45FN12-12P6	1-90
J2	BACC45FN12-12P6	2-110
J3	BACC45FN12-12P7	1-95
J3	BACC45FN12-12P7	2-115
J4	BACC45FN16-24P	1-100
J4	BACC45FN16-24P	2-120
J5	800-000121-1	45A
J5	800000121-1	1-30A
J5	800000121-1	2-45
K1	3SAV1338A2	1-105A
K1	3SAV1338A2	2-125
K1	61GB19-1A320	1-105
K1	61GB19-1A320	2-125A
K2	3SAV1338A2	1-105A
K2	3SAV1338A2	2-125
K2	61GB19-1A320	1-105
K2	61GB19-1A320	2-125A
L1	BCREF6200	1-25
L1	BCREF6200	25C
L1	BCREF6200	2-40A
L1	BCREF8486	1-25A
L1	BCREF8486	25D
L1	BCREF8486	2-40
L1	BCREF8486	40B
L2	BCREF6200	1-25
L2	BCREF6200	25C
L2	BCREF6200	2-40A
L2	BCREF8486	1-25A
L2	BCREF8486	25D
L2	BCREF8486	2-40
L2	BCREF8486	40B
S1	AC30-0004	1-20
S1	AC30-0004	2-35B
S1	AC30-0004-1	1-20A
S1	AC30-0004-1	2-35C
S1	AC30-0004-3	1-20B
S1	AC30-0004-3	2-35
S2	AC30-0004	1-20
S2	AC30-0004	2-35B
S2	AC30-0004-1	1-20A
S2	AC30-0004-1	2-35C

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REFERENCE DESIGNATOR INDEX (SEE SCHEMATIC DIAGRAM)		
REFERENCE DESIGNATOR	PART NUMBER	FIG-ITEM
S2	AC30-0004-3	1-20B
S2	AC30-0004-3	2-35
S3	AC45-0010-1	1-15
S3	AC45-0010-1	2-30C
S3	AC45-0010-2	1-15A
S3	AC45-0010-2	2-30B
S3	AC45-0010-2	30D
S3	AC45-0032-2	1-15B
S3	AC45-0032-2	2-30
S3	AC45-0083	1-15D
S3	AC45-0083	2-30A
S4	BCREFA0832	1-10D
S4	BCREFA0832	10E
S4	BCREFA0832	10K
S4	BCREFA0832	10L
S4	BCREFA0832	12
S4	BCREFA0832	12C
S4	BCREFA0832	2-25
S4	BCREFA0832	25E
S4	BCREFA0832	27
S4	BCREFA0832	27C
S4	BCREF7684	1-10C
S4	BCREF7684	10J
S4	S231T290-5079	10F
S4	S231T290-5079	10M
S4	S231T290-5079	12A
S4	S231T290-5079	12D
S4	S231T290-5079	2-27A
S4	S231T290-5079	27D
S4	4336731004-4279	25D
S4	851-30768-2079	1-10
S4	851-30768-2079	10G
S4	851-30768-3079	10B
S4	851-30768-3079	10H
S4	851-35100-5079	12B
S4	851-35100-5079	1-12E
S4	851-35100-5079	2-27B
S4	851-35100-5079	27E
T1-T6	4443B9	1-112
T1-T6	4443B9	2-135
XK1	BACS16X1	1-110
XK1	BACS16X1	2-130A
XK1	RSE120026	130
XK1	000300-1538	130B
XK1	451120-026	1-110B

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REFERENCE DESIGNATOR INDEX (SEE SCHEMATIC DIAGRAM)		
REFERENCE DESIGNATOR	PART NUMBER	FIG-ITEM
XK2	BACS16X1	110
XK2	BACS16X1	2-130A
XK2	RSE120026	130
XK2	000300-1538	130B
XK2	451120-026	1-110B

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AC30-0004		1	20	2
		2	35B	2
AC30-0004-1		1	20A	2
		2	35C	2
AC30-0004-3		1	20B	2
		2	35	2
AC45-0010-1		1	15	1
		2	30C	1
AC45-0010-2		1	15A	1
		2	30B	1
AC45-0032-2		1	15B	1
		2	30	1
AC45-0083		1	15D	1
		2	30A	1
BACC45FN12-12P		1	85	1
		2	105	1
BACC45FN12-12P6		1	90	1
		2	110	1
BACC45FN12-12P7		1	95	1
		2	115	1
BACC45FN16-24P		1	100	1
		2	120	1
BACN10NW1		1	80	8
		2	95	8
BACN10PA06-6		1	45	4
		2	60	4
BACP10U0600N		1	55A	1
		2	70A	1
BACR13CD2		1	105A	2
		2	125	2
BACR13CF2A		1	105	2
		2	125A	2
BACS12CK04U5		2	90B	8
BACS12CK06U5		2	75A	3
BACS12HN04-5		2	90C	8

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACS12HN06-5		2	75B	3
BACS16AG1		1	110B	2
		2	130	2
BACS16X1		1	110	2
		2	130A	2
BACS16X1A		2	130B	2
BACS21DX1B		1	50A	4
		2	65A	4
BACW10EC06C		2	80A	3
BCREFA0832		1	10D	1
		1	12	1
		2	25	1
		2	27	1
BCREF6200		1	25	2
		2	40A	2
BCREF7684		1	10C	1
BCREF8486		1	25A	2
		2	40	2
BP248-127		2	5	3
BR16S233		1	105A	2
		2	125	2
BR246S0112		1	105	2
		2	125A	2
BR64S104		1	105	2
		2	125A	2
EE4AA005		1	105A	2
		2	125	2
E210-1631		1	105	2
		2	125A	2
E215-1050		1	105	2
		2	125A	2
FCA210-70		1	105	2
		2	125A	2
FH6C5PL12BN		2	55B	3

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
HFW1204K01		1	105A	2
		2	125	2
HFW1206K03		1	105A	2
		2	125	2
JANTX1N5618		1	82	4
		2	100	4
JD4A017		1	105	2
JD4A017		2	125A	2
K19798-04		1	80	8
		2	95	8
MS35338-41		1	65	3
		2	80	3
M39029-1-101		2	150A	16
M39029-1-16-20		1	125	60
NAS1801-04-5		1	75A	8
		2	90A	8
NAS1801-06-5		1	60A	3
		2	75	3
		2	90	8
NAS514P632-5		1	40	3
		2	55	3
NAS514P632-5P		1	40A	3
		2	55A	3
PFSC35-38ASEMB		1	50A	4
		2	65A	4
RMA4812-160-40		1	80	8
		2	95	8
RSE120026		2	130	2
SF6G6CBB5D		1	45	4
		2	60	4
STBP19M8		1	130A	2
		2	155	2
S231T290-1079		1	10C	1
		1	12	1
		2	25	1
		2	27	1

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
S231T290-5079		1	10F	1
		1	12A	1
		2	27A	1
S231T290-801		1	5A	1
		2	20	1
S231T300-1115		1	25	2
S231T300-2115		2	40A	2
		1	25A	2
S233T100-1078 TM2S6		2	40	2
		2	10C	1
		1	130A	2
000300-1538		2	155	2
		2	130B	2
233N3223-2		1	35	1
233N3223-3		2	50A	1
		1	55	1
233T3100-130		2	70	1
		1	2T	RF
233T3100-227		3	1A	EF
		1	2U	RF
233T3100-239		3	1B	EF
		1	2V	RF
233T3100-326		3	1C	EF
		1	2X	RF
233T3100-360		3	1E	EF
		1	3B	RF
233T3100-361		3	1K	EF
		1	3C	RF
233T3100-362		3	1L	EF
		1	3D	RF
233T3100-389		3	1M	EF
		1	2Y	RF
233T3100-396		3	1F	EF
		1	3E	RF
233T3100-397		3	1N	EF
		1	3F	RF
		3	1P	EF

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
233T3244-1		1	1	RF
		3	15	1
233T3244-10		1	1F	RF
		3	15K	1
233T3244-1001		1	1V	RF
		3	15G	1
233T3244-1005		1	1W	RF
		3	15H	1
233T3244-1006		1	1X	RF
		3	15J	1
233T3244-1007		1	1Y	RF
		2	15M	1
233T3244-1009		1	1Z	RF
		2	15L	1
233T3244-1010		1	2	RF
		2	15J	1
		3	15S	1
233T3244-1011		3	15T	1
233T3244-1013		3	15U	1
233T3244-1018		1	2D	RF
233T3244-1019		1	2S	RF
		2	15K	1
		3	15V	1
233T3244-1021		3	15W	1
233T3244-1025		1	2G	RF
		2	15H	1
233T3244-11		1	1H	RF
		3	15L	1
233T3244-13		3	15M	1
233T3244-1300		1	2H	RF
		2	1G	RF

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
233T3244-1301		1	2J	RF
		2	1H	RF
233T3244-1302		1	2K	RF
		2	1J	RF
233T3244-1303		1	2L	RF
		2	1K	RF
233T3244-1304		1	2M	RF
		2	1L	RF
233T3244-1305		1	2Z	RF
		3	1G	RF
233T3244-1306		1	3	RF
		3	1H	RF
233T3244-1307		1	3A	RF
		3	1J	RF
233T3244-1308		1	3G	RF
		3	1Q	RF
233T3244-1309		1	3H	RF
		3	1R	RF
233T3244-1310		1	3J	RF
		3	1S	RF
233T3244-1311		1	3K	RF
		3	1T	RF
233T3244-1312		1	3L	RF
		3	1U	RF
233T3244-14		1	35A	1
		2	50	1
233T3244-16		1	120B	1
		2	145A	1
233T3244-17		1	1J	RF
		2	15A	1
		3	15F	1
233T3244-18		1	2R	RF
233T3244-19		1	1K	RF
		3	15N	1
233T3244-21		3	15Q	1
233T3244-22		1	120C	1
233T3244-23		1	1T	RF
		2	15B	1
		3	15E	1

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
233T3244-24		2	145B	1
233T3244-25		1	2N	RF
		2	15	1
		3	15P	1
		3	15R	1
233T3244-26		2	145C	1
233T3244-27		1	11	1
		2	26	1
233T3244-28		1	11B	1
		2	26B	1
233T3244-29		1	11A	1
		2	26A	1
233T3244-3		1	120	1
		2	145	1
233T3244-30		1	11C	1
		2	26D	1
233T3244-300		1	1M	RF
		2	1A	RF
233T3244-301		1	1N	RF
		2	1B	RF
233T3244-302		1	1P	RF
		2	1C	RF
233T3244-303		1	1Q	RF
		2	1D	RF
233T3244-304		1	1R	RF
		2	1E	RF
233T3244-307		1	1S	RF
		2	1F	RF
233T3244-308		1	2P	RF
		2	1M	RF
233T3244-309		1	2Q	RF
		2	1N	RF

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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
233T3244-31		2	15F	1
233T3244-5		1	1B	RF
		3	15A	1
233T3244-6		1	1C	RF
		3	15B	1
233T3244-7		1	1D	RF
		2	15D	1
		3	15C	1
233T3244-9		1	1E	RF
		2	15C	1
		3	15D	1
233T6200-158		1	115A	1
		2	140A	1
233T6200-177		1	115B	1
		2	140B	1
233T6200-78		1	115	1
		2	140	1
293162		1	80	8
		2	95	8
3SAV1338A2		1	105A	2
		2	125	2
433-100-003		1	5D	1
		2	20	1
433-673-1001-10		1	10C	1
		1	12	1
		2	25	1
		2	27	1
4336731004-4279		2	25D	1
434-674-1005-11		1	25	2
		2	40A	2
434-674-1031-21		1	25A	2
		2	40	2

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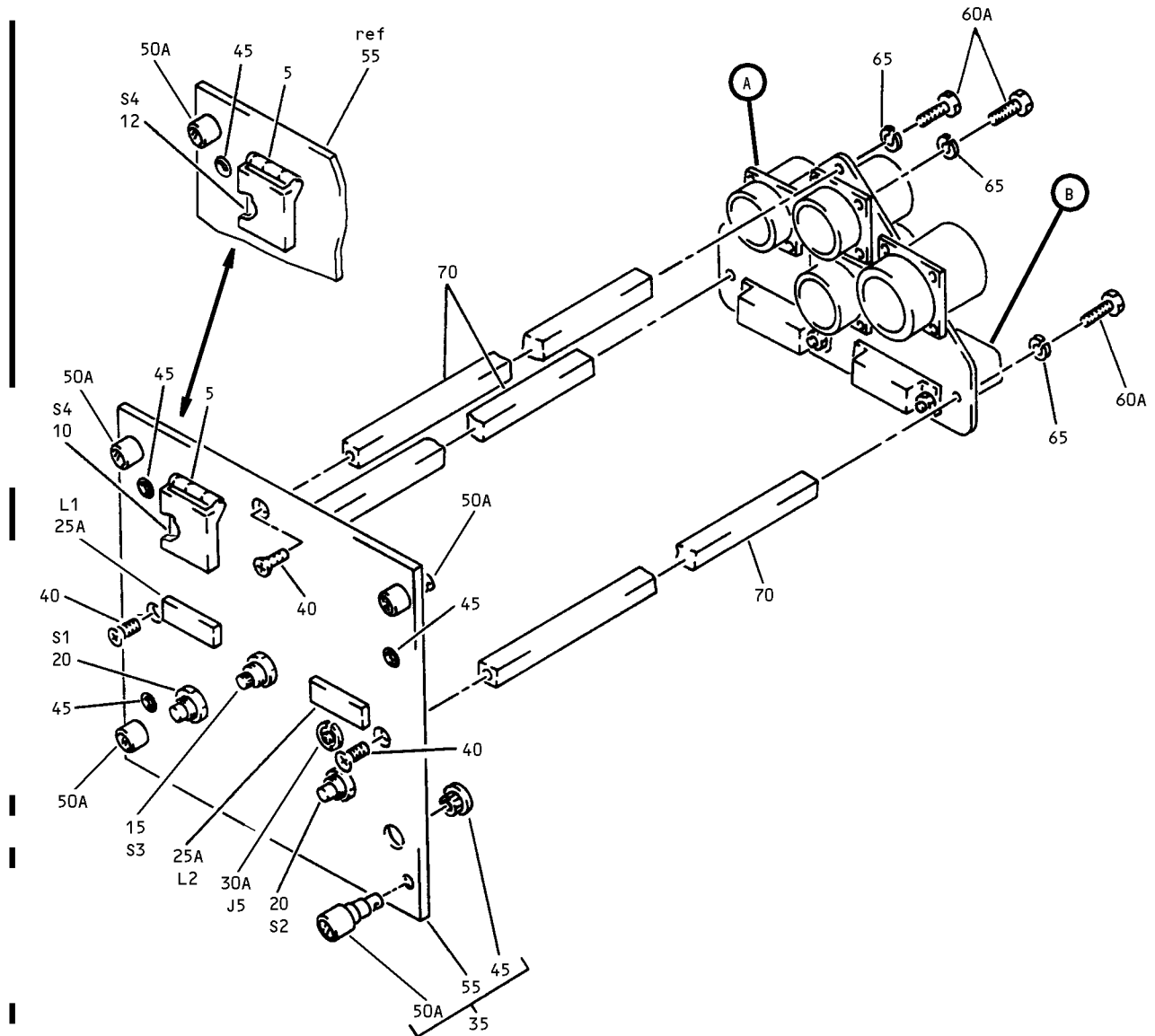
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PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
4443B9		1	112	6
		2	135	6
451120-026		1	110B	2
		2	130	2
61GB19-1A320		1	105	2
		2	125A	2
69B46200-11		1	70	3
		2	85	3
800-000121-1		2	45A	1
800-000923		2	10C	1
800-003145		2	10B	1
800000121-1		1	30A	1
		2	45	1
851-30768-2079		1	10	1
851-30768-801		1	5A	1
851-30768-811		1	5	1
851-35100-5079		1	12B	1
		2	27B	1

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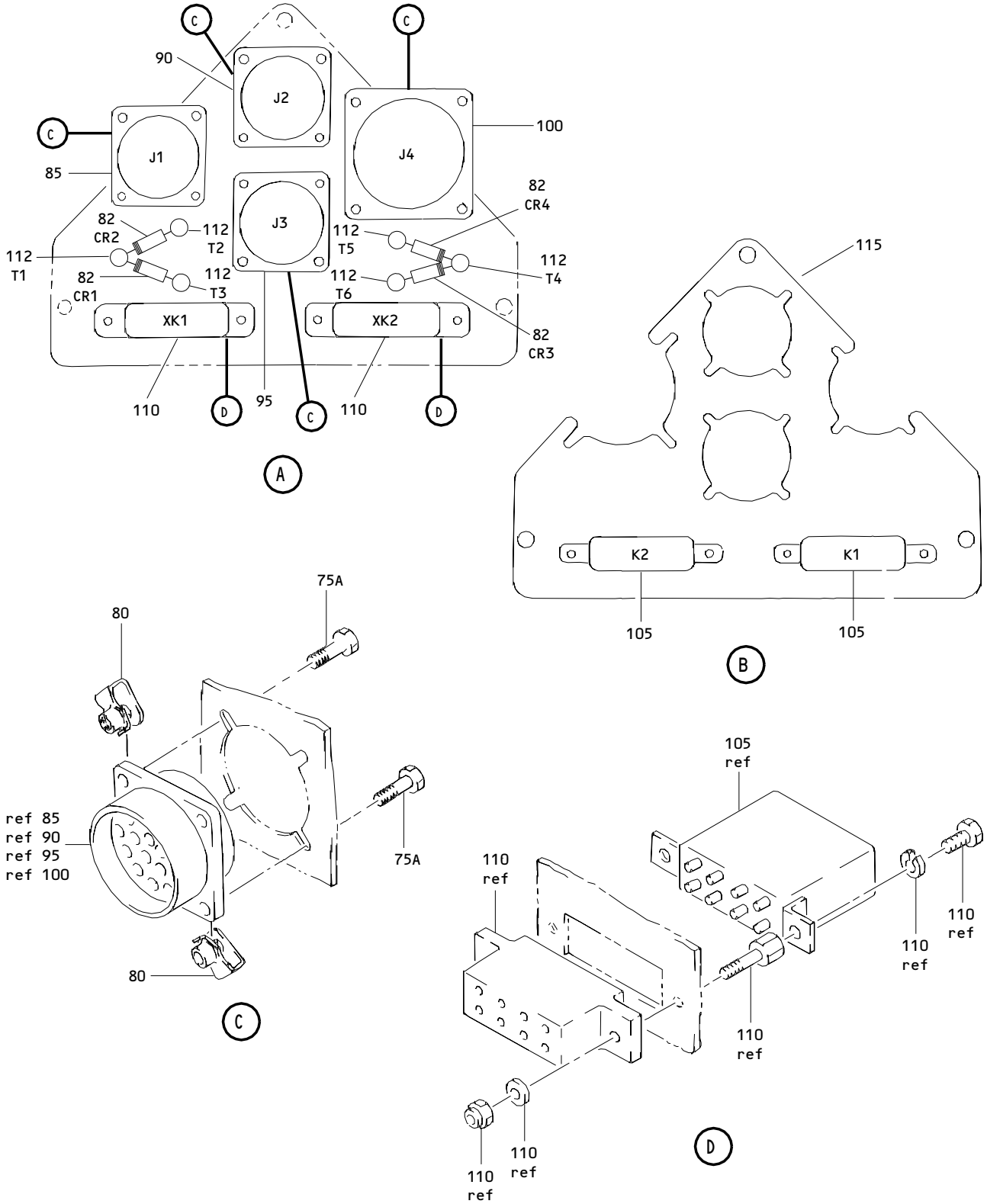
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Engine Ignition and Start Panel Assembly, M49  
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Engine Ignition and Start Panel Assembly, M49  
Figure 1 (Sheet 2)

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -1	233T3244-1		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	A	RF
-1A	233T3244-4		DELETED		
-1B	233T3244-5		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	B	RF
-1C	233T3244-6		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	C	RF
-1D	233T3244-7		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	D	RF
-1E	233T3244-9		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-02) (PRE SB 233T3244-74-03)	E	RF
-1F	233T3244-10		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-01) (PRE SB 233T3244-74-03)	Q	RF
-1G	233T3244-13		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-01) (PRE SB 233T3244-74-03)	R	RF
-1H	233T3244-11		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-01) (PRE SB 233T3244-74-03)	S	RF
-1J	233T3244-17		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	J	RF
-1K	233T3244-19		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-01) (PRE SB 233T3244-74-02) (PRE SB 233T3244-74-03)	K	RF
-1L	233T3244-21		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-01) (PRE SB 233T3244-74-02) (PRE SB 233T3244-74-03)	L	RF

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -1M	233T3244-300		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	F	RF
-1N	233T3244-301		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	G	RF
-1P	233T3244-302		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	H	RF
-1Q	233T3244-303		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	M	RF
-1R	233T3244-304		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	N	RF
-1S	233T3244-307		PANEL ASSY-M49 ENGINE IGNITION AND START (FOR DETAILS SEE FIG. 2)	P	RF
-1T	233T3244-23		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-02) (PRE SB 233T3244-74-03)	T	RF
-1U	233T3242-25		DELETED		
-1V	233T3244-1001		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	V	RF
-1W	233T3244-1005		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	W	RF
-1X	233T3244-1006		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	X	RF
-1Y	233T3244-1007		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	Y	RF
-1Z	233T3244-1009		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	Z	RF

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -2	233T3244-1010		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AA	RF
-2A	233T3244-1011		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AB	RF
-2B	233T3244-1013		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AC	RF
-2C	233T3244-1017		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AD	RF
-2D	233T3244-1019		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AE	RF
-2E	233T3244-1021		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	AF	RF
-2F	233T3244-1023		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AG	RF
-2G	233T3244-1025		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AH	RF
-2H	233T3244-1300		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	AJ	RF
-2J	233T3244-1301		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	AK	RF
-2K	233T3244-1302		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	AL	RF
-2L	233T3244-1303		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	AM	RF
-2M	233T3244-1304		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 2)	AN	RF

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -2N	233T3244-25		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-02) (PRE SB 233T3244-74-03)	U	RF
-2P	233T3244-308		PANEL ASSY-M49 ENGINE IGNITION AND START (FOR DETAILS SEE FIG. 2)	AP	RF
-2Q	233T3244-309		PANEL ASSY-M49 ENG IGNITION AND START (FOR DETAILS SEE FIG. 2)	AQ	RF
-2R	233T3244-18		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-01) (PRE SB 233T3244-74-02) (PRE SB 233T3244-74-03)	AR	RF
-2S	233T3244-1018		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AS	RF
-2T	233T3100-130		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AT	RF
-2U	233T3100-227		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AU	RF
-2V	233T3100-239		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AV	RF
-2W	233T3100-290		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AW	RF

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -2X	233T3100-326		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AX	RF
-2Y	233T3100-389		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AY	RF
-2Z	233T3244-1305		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	AZ	RF
-3	233T3244-1306		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BA	RF
-3A	233T3244-1307		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BB	RF
-3B	233T3100-360		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BC	RF
-3C	233T3100-361		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BD	RF
-3D	233T3100-362		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BE	RF

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -3E	233T3100-396		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BF	RF
-3F	233T3100-397		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BG	RF
-3G	233T3244-1308		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BH	RF
-3H	233T3244-1309		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BJ	RF
-3J	233T3244-1310		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BK	RF
-3K	233T3244-1311		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BL	RF
-3L	233T3244-1312		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03) (FOR DETAILS SEE FIG. 3)	BM	RF
5	851-30768-811		.GUARD-SW (V96182) (SPEC S231T290-811) (OPT ITEMS 5A, 5E)	A,V	1
-5A	851-30768-801		.GUARD-SW (V96182) (SPEC S231T290-801) (OPT ITEMS 5, 5E)	A,V	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-5B	851-30768-812		DELETED		
-5C	851-30768-822		DELETED		
-5D	433-100-003		. GUARD-SW (V81590) (SPEC S231T290-822)	B-E, J-L, Q-U, W-Z, AD-AF AH,AR AS	1
-5E	433-100-003		. GUARD-SW (V81590) (SPEC S231T290-822) (OPT ITEMS 5, 5A)	A,V	1
10	851-30768-2079		. SWITCH-LIGHTED PUSH BUTTON IND (PRESS/UNLKD) (V96182) (S4) (SPEC S231T290-2079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREF7684, BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003)	A	1
-10A	851-30768-1079		DELETED		
-10B	851-30768-3079		. SWITCH-LIGHTED PUSH BUTTON IND (PRESS/UNLKD) (V96182) (S4) (SPEC S231T290-3079) (OPT ITEM 10C)	B,C, Q,AR	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -10C	BCREF7684		.SWITCH-LIGHTED PUSH BUTTON IND (PRESS/UNLKD) (V81590) (S4) (433-673-1001-1079) (SPEC S231T290-1079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREF7684, BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003) (OPT ITEM 10B)	B,C, Q,AR	1
-10D	BCREFA0832		.SWITCH-LIGHTED PUSH BUTTON IND (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003 SWITCHGUARD)	D,K, S-U	1
-10E	BCREFA0832		.SWITCH-LIGHTED PUSH BUTTON IND (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003 SWITCHGUARD) (OPT ITEM 10F)	L,R	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -10F	S231T290-5079		.SWITCH-LIGHTED PUSH BUTTON IND (S4) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003 SWITCHGUARD) (OPT ITEM 10E)	L,R	1
-10G	851-30768-2079		.SWITCH-LIGHTED PUSH BUTTON IND (PRESS/UNLKD) (V96182) (S4) (SPEC S231T290-2079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003)	V	1
-10H	851-30768-3079		.SWITCH-LIGHTED PUSH BUTTON IND (PRESS/UNLKD) (V96182) (S4) (SPEC S231T290-3079) (OPT ITEM 10J)	W,X, AS	1
-10J	BCREFA0832		.SWITCH-LIGHTED PUSH BUTTON IND (PRESS/UNLKD) (USE WITH CONFIGURATION "D" MASTER MODULE. SEE REPAIR FOR ADDITIONAL INFORMATION) (V81590) (S4) (433-673-1001-1079) (SPEC S231T290-1079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003) (OPT ITEM 10H)	W,X, AS	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -10K	BCREFA0832		.SWITCH-LIGHTED PUSH BUTTON IND (USE WITH CONFIGURATION "D" MASTER MODULE. SEE REPAIR FOR ADDITIONAL INFORMATION) (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003 SWITCHGUARD)	Y,AE, AH	1
-10L	BCREFA0832		.SWITCH-LIGHTED PUSH BUTTON IND (USE WITH CONFIGURATION "D" MASTER MODULE. SEE REPAIR FOR ADDITIONAL INFORMATION) (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003 SWITCHGUARD) (OPT ITEM 10M)	AF	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -10M	S231T290-5079		.SWITCH-LIGHTED PUSH BUTTON IND (S4) (851-30768-2079 TOGETHER WITH 851-30768-802 OR -812 SWITCHGUARD I/W BCREFA0832 OR S231T290-5079 TOGETHER WITH 433-100-003 SWITCHGUARD) (OPT ITEM 10L)	AF	1
-11	233T3244-27		.KIT ASSY-SUBSTITUTE (OPT ITEM 11B)	J	1
-11A	233T3244-29		.KIT ASSY-SUBSTITUTE (OPT ITEM 11C)	E	1
-11B	233T3244-28		.KIT ASSY-SUBSTITUTE (OPT ITEM 11)	J	1
-11C	233T3244-30		.KIT ASSY-SUBSTITUTE (OPT ITEM 11A)	E	1
-11D	233T3244-1027		.KIT ASSY-SUBSTITUTE (OPT ITEM 11E)	AD	1
-11E	233T3244-1028		.KIT ASSY-SUBSTITUTE (OPT ITEM 11D)	AD	1
-11F	233T3244-1029		.KIT ASSY-SUBSTITUTE (OPT ITEM 11G)	Z	1
-11G	233T3244-1030		.KIT ASSY-SUBSTITUTE (OPT ITEM 11F)	Z	1
12	BCREFA0832		..SWITCH-LIGHTED PUSHBUTTON IND (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) USED ON ITEMS 11, 11A)	E,J	1
-12A	S231T290-5079		..SWITCH-LIGHTED PUSHBUTTON IND (S4) (OPT ITEM 12B) (USED ON ITEMS 11B, 11C)	E,J	1
-12B	851-35100-5079		..SWITCH-LIGHTED PUSHBUTTON IND (V96182) (S4) (OPT ITEM 12A) (USED ON ITEMS 11B, 11C)	E,J	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -12C	BCREFA0832		..SWITCH-LIGHTED PUSHBUTTON IND (USE WITH CONFIGURATION "D" MASTER MODULE. SEE REPAIR FOR ADDITIONAL INFORMATION) (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) USED ON ITEMS 11D, 11F)	Z,AD	1
-12D	S231T290-5079		..SWITCH-LIGHTED PUSHBUTTON IND (S4) (OPT ITEM 12E) (USED ON ITEMS 11E, 11G)	Z,AD	1
-12E	851-35100-5079		..SWITCH-LIGHTED PUSHBUTTON IND (V96182) (S4) (OPT ITEM 12D) (USED ON ITEMS 11E, 11G)	Z,AD	1
15	AC45-0010-1		.SWITCH- (V91812) (S3) (OPT ITEM 15A)	A-E, V-Z	1
-15A	AC45-0010-2		.SWITCH- (V91812) (S3) (OPT ITEM 15)	A-E, V-Z	1
-15B	AC45-0032-2		.SWITCH- (V91812) (S3)	K,L, Q,R, S,U, AF, AH,AR AS	1
-15C	AC45-0032-2		DELETED		
-15D	AC45-0083		.SWITCH- (V91812) (S3)	J,AD	1
-15E	AC45-0010-2		.SWITCH- (V91812) (S3)	T	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-20	AC30-0004		.SWITCH- (V91812) (S1, S2) (OPT ITEM 20A)	A-E, J,T, V-Z, AD	2
-20A	AC30-0004-1		.SWITCH- (V91812) (S1, S2) (OPT ITEM 20)	A-E, J,T, V-Z, AD	2
-20B	AC30-0004-3		.SWITCH- (V91812) (S1, S2)	K,L, Q,R, S,U, AE,AF AH,AR AS	2
-20C	AC30-0004-3		DELETED		
-20D	AC30-0004-1		DELETED		
25	BCREF6200		.LIGHT ASSY-VALVE IND (V81590) (434-674-1005-1115) (L1, L2) (SPEC S231T300-1115) (OPT ITEM 25A)	C-E, X-Z	2
-25A	BCREF8486		.LIGHT ASSY-VALVE IND (V81590) (434-674-1031-2115) (L1, L2) (SPEC S231T300-2115) (OPT ITEM 25)	C-E, X-Z	2
-25B	BCREF8486		DELETED		
-25C	BCREF6200		.LIGHT ASSY-VALVE IND (V81590) (434-674-1005-1115) (L1, L2) (SPEC S231T300-1115)	A,V	2
-25D	BCREF8486		.LIGHT ASSY-VALVE IND (V81590) (434-674-1031-2115) (L1, L2) (SPEC S231T300-2115)	J-L, Q-U, AD-AF AH,AR AS	2

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-30 30A	800-000121-1 800000121-1		DELETED .CONNECTOR- (V05617) (J5)	A-E, J-L, Q-Z, AD-AF AH,AR AS	1
35	233N3223-2		.BASEPLATE ASSY	A-E,J T,V-Z AD	1
-35A	233T3244-14		.BASEPLATE ASSY	K,L, Q-S,U AE,AF AH,AR AS	1
40	NAS514P632-5		ATTACHING PARTS .SCREW	A-E, T,V-Z	3
-40A	NAS514P632-5P		.SCREW	J-L, Q-S,U AD-AF AH,AR AS	3
45	SF6G6CBB5D		-----*----- .NUT- (V12324) (SPEC BACN10PA06-6)	A-E,J T,V-Z AD	4
-45A	SF6G6CBB5D		.NUT- (V12324)	K,L, Q-S,U AE,AF AH,AR AS	4
50 50A	DBMB1400-6A1 PFSC35-38ASEMB		DELETED .STUD- (V72794) (SPEC BACS21DX1B)	A-E, J-L, Q-Z, AD-AF AH,AR AS	4

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-55	233N3223-3		. .BASEPLATE	A-E, J T, V-Z AD	1
-55A	BACP10U0600N		. .BASEPLATE	K, L, Q-S, U AE, AF AH, AR AS	1
60 60A	BACS12CB06-5 NAS1801-06-5		DELETED . SCREW	A-E, J-L, Q-Z, AD-AF AH, AR AS	3
65	MS35338-41		. WASHER	A-E, J-L, Q-Z, AD-AF AH, AR AS	3
70	69B46200-11		. STANDOFF	A-E, J-L, Q-Z, AD-AF AH, AR AS	3
75 75A	BACS12CB04-5 NAS1801-04-5		DELETED . SCREW	A-E, J-L, Q-Z, AD-AF AH, AR AS	8
80	K19798-04		. NUT- (V15653) (SPEC BACN10NW1) (OPT RMA4812-160-40 (V72962)) (OPT 293162 (V60119))	A-E, J-L, Q-Z, AD-AF AH, AR AS	8

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-82	JANTX1N5618		.DIODE- (CR1-CR4)	J,AD	4
85	BACC45FN12-12P		.CONNECTOR- (J1)	A-E, J-L, Q-Z, AD-AF AH,AR AS	1
90	BACC45FN12-12P6		.CONNECTOR- (J2)	A-E, J-L, Q-Z, AD-AF AH,AR AS	1
95	BACC45FN12-12P7		.CONNECTOR- (J3)	A-E, J-L, Q-Z, AD-AF AH,AR AS	1
100	BACC45FN16-24P		.CONNECTOR- (J4)	A-E, J-L, Q-Z, AD-AF AH,AR AS	1
105	61GB19-1A320		.RELAY- (V98927) (SPEC BACR13CF2A) (OPT JD4A017 (V35344)) (OPT BR64S104 (V56623)) (OPT BR246S0112 (V56623)) (OPT FCA210-70 (V78290)) (OPT E215-1050 (V99699)) (OPT E210-1631 (V99699)) (K1, K2)	A-E,J T,V-Z AD	2

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -105A	3SAV1338A2		.RELAY- (V01526) (SPEC BACR13CD2) (OPT BR16S233 (V09026)) (OPT EE4AA005 (V35344)) (OPT HFW1206K03 (V58614)) (OPT HFW1204K01 (V71482)) (K1, K2)	K,L, Q-S,U AE,AF AH,AR AS	2
110	BACS16X1		.SOCKET- (XK1, XK2)	A-E,J T,V-Z AD	2
-110B	451120-026		.SOCKET- (V03743) (SPEC BACS16AG1) (OPT 451120-026 (V58982)) (XK1, XK2)	K,L, Q-S,U AE,AF AH,AR AS	2
112	4443B9		.TERMINAL- (V88245) (T1-T6)	J,AD	6
115	233T6200-78		.BRACKET-SPRT	A-E, T,V-Z	1
-115A	233T6200-158		.BRACKET-SPRT	K,L, Q-A,U AE,AF AH,AR AS	1
-115B	233T6200-177		.BRACKET-SPRT	J,AD	1
-120	233T3244-3		.WIRE BUNDLE ASSY	A-E, V-Z	1

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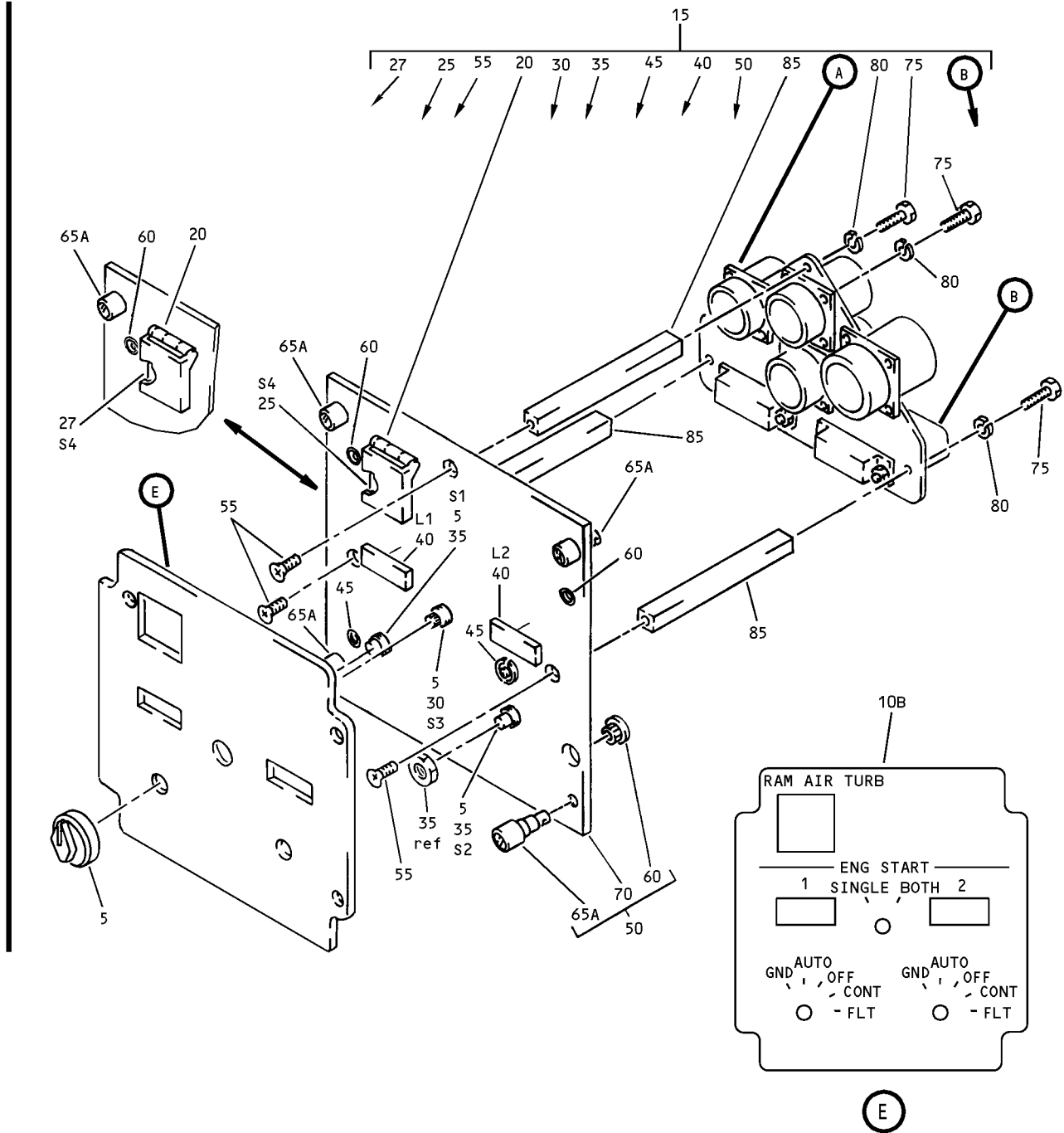
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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-120A	233T3244-15		.WIRE BUNDLE ASSY	Q,R,S	1
-120B	233T3244-16		.WIRE BUNDLE ASSY	J,AD	1
-120C	233T3244-22		.WIRE BUNDLE ASSY	K,L, AE,AF AR,AS	1
-120D	233T3244-24		.WIRE BUNDLE ASSY	T	1
-120E	233T3244-26		.WIRE BUNDLE ASSY	U,AH	1
-125	M39029-1-101		..CONTACT-PIN (V95266)	A-E, J-L, T-Z, AD-AF AH,AR AS	16
-130	M39029-1-16-20		..CONTACT-PIN (V95266)	Q,R,S	16
-130A	TM2S6		..PLATE-TIE (V06383) (SPEC STBP19M8)	J-L, Q-U, AD-AF AH,AR AS	2

- Item Not Illustrated

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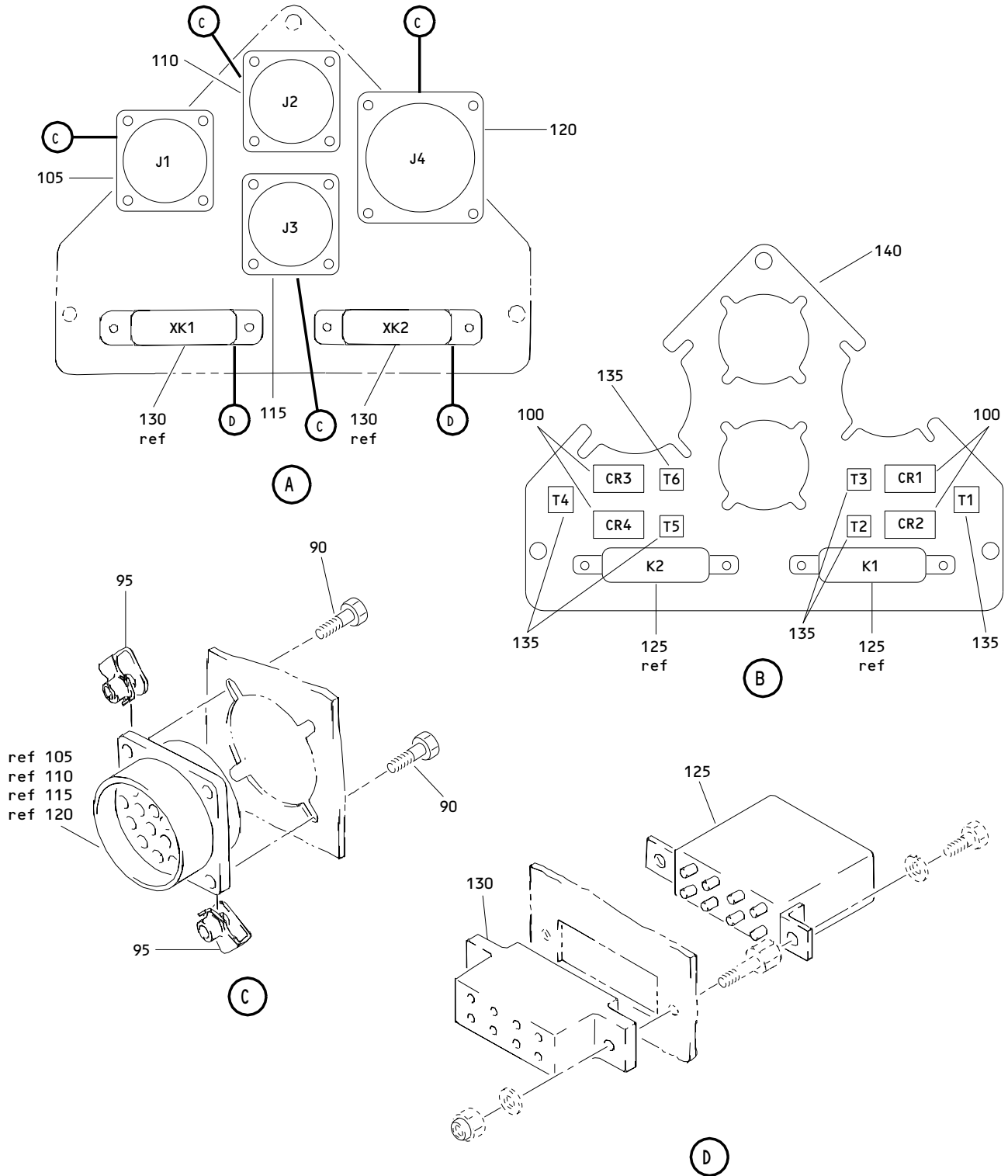
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Engine Ignition and Start Control Panel Assembly, M49  
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Engine Ignition and Start Control Panel Assembly, M49  
 Figure 2 (Sheet 2)

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02- -1A	233T3244-300		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	F	RF
-1B	233T3244-301		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	G	RF
-1C	233T3244-302		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	H	RF
-1D	233T3244-303		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	M	RF
-1E	233T3244-304		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	N	RF
R -1F	233T3244-307		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	P	RF
R -1G	233T3244-1300		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AJ	RF
R -1H	233T3244-1301		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AK	RF
R -1J	233T3244-1302		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AL	RF
R -1K	233T3244-1303		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AM	RF
R -1L	233T3244-1304		PANEL ASSY-M49 ENG IGNITION AND START (POST SB 233T3244-74-03)	AN	RF
R -1M	233T3244-308		PANEL ASSY-M49 ENG IGNITION AND START	AP	RF
R -1N	233T3244-309		PANEL ASSY-M49 ENG IGNITION AND START	AQ	RF
5	BP248-127		.KNOB- (V15084)	F-H, M-P,A J-AQ	3
10	S233T100-1094		DELETED		
-10A	S233T100-1078		DELETED		

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R 02-10B	800-003145		.LIGHTPLATE- (V05617) (SPEC S233T100-1094) (OPT S233T100-1094 (V51896))	F,P,A J	1
R -10C	800-000923		.LIGHTPLATE- (V05617) (SPEC 233T100-1078) (OPT S233T100-1078 (V51896))	G,H,M N,A K-AQ	1
-10D	800-003145		DELETED		
15	233T3244-25		.PANEL ASSY- (PRE SB 233T3244-74-03)	F	1
-15A	233T3244-17		.PANEL ASSY- (PRE SB 233T3244-74-03)	G	1
-15B	233T3244-23		.PANEL ASSY- (PRE SB 233T3244-74-03)	H	1
-15C	233T3244-9		.PANEL ASSY- (PRE SB 233T3244-74-03) (233T3244-9 I/W -7 EXCEPT SUBJECT TO CUSTOMER PREFERENCE)	M	1
-15D	233T3244-7		.PANEL ASSY- (PRE SB 233T3244-74-03) (233T3244-9 I/W -7 EXCEPT SUBJECT TO CUSTOMER PREFERENCE)	N,AN	1
-15E	233T3241-31		DELETED		
R -15F	233T3244-31		.PANEL ASSY	P	1
R -15G	233T3244-32		.PANEL ASSY	AP	1
R -15H	233T3244-1025		.PANEL ASSY- (POST SB 233T3244-74-03)	AJ	1
R -15J	233T3244-1017		.PANEL ASSY- (POST SB 233T3244-74-03)	AK	1
R -15K	233T3244-1023		.PANEL ASSY- (POST SB 233T3244-74-03)	AL	1
R -15L	233T3244-1009		.PANEL ASSY- (POST SB 233T3244-74-03)	AM	1
R -15M	233T3244-1007		.PANEL ASSY- (POST SB 233T3244-74-03)	AN	1
R -15N	233T3244-33		.PANEL ASSY	AQ	1
20	433-100-003		..GUARD-SWITCH (V81590) (SPEC S231T290-822)	F-H, M-P,A J-AQ	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-25	BCREFA0832		..SWITCH-LIGHTED PUSH BUTTON IND (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (PRE SB 233T3244-74-03)	F,H,M	1
-25A	BCREFA0832		DELETED		
-25B	S231T290-5079		DELETED		
-25C	BCREF19463		DELETED		
R -25D	4336731004-4279		..SWITCH-LIGHTED PUSH BUTTON IND (V81590) (S4)	P,AP, AQ	1
R -25E	BCREFA0832		..SWITCH-LIGHTED PUSH BUTTON IND (USE WITH CONFIGURATION "D" MASTER MODULE. SEE REPAIR FOR ADDITIONAL INFORMATION) (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (POST SB 233T3244-74-03)	AJ,AL ,AM	1
R -26	233T3244-27		..KIT ASSY-SUBSTITUTE (OPT ITEM 26B)	G,AK	1
R -26A	233T3244-29		..KIT ASSY-SUBSTITUTE (OPT ITEM 26D)	M,AM, AQ	1
R -26B	233T3244-28		..KIT ASSY-SUBSTITUTE (OPT ITEM 26)	G,AK	1
R -26D	233T3244-30		..KIT ASSY-SUBSTITUTE (OPT ITEM 26A)	M,AM, AQ	1
R 27	BCREFA0832		...SWITCH-LIGHTED PUSH BUTTON IND (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (USED ON ITEMS 26, 26A)	G,M,A Q	1
R -27A	S231T290-5079		...SWITCH-LIGHTED PUSH BUTTON IND (S4) (OPT ITEM 27B) (USED ON ITEMS 26B, 26D)	G,M,A Q	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R 02- -27B	851-35100-5079		...SWITCH-LIGHTED PUSH BUTTON IND (V96182) (S4) (OPT ITEM 27A) (USED ON ITEMS 26B, 26D)	G,M,A Q	1
R 27C	BCREFA0832		...SWITCH-LIGHTED PUSH BUTTON IND (USE WITH CONFIGURATION "D" MASTER MODULE. SEE REPAIR FOR ADDITIONAL INFORMATION) (V81590) (433-673-1004-4079) (S4) (SPEC S231T290-4079) (USED ON ITEMS 26, 26A)	AK,AM	1
R -27D	S231T290-5079		...SWITCH-LIGHTED PUSH BUTTON IND (S4) (OPT ITEM 27E) (USED ON ITEMS 26B, 26D)	AK,AM	1
R -27E	851-35100-5079		...SWITCH-LIGHTED PUSH BUTTON IND (V96182) (S4) (OPT ITEM 27D) (USED ON ITEMS 26B, 26D)	AK,AM	1
30	AC45-0032-2		..SWITCH-ROTARY (V91812) (S3)	F,P,A J	1
-30A	AC45-0083		..SWITCH-ROTARY (V91812) (S3)	G,AK	1
-30B	AC45-0010-2		..SWITCH- (V91812) (S3)	H,AL, AP	1
-30C	AC45-0010-1		..SWITCH- (V91812) (S3) (OPT ITEM 30D)	M,N,A M,AN, AQ	1
-30D	AC45-0010-2		..SWITCH- (V91812) (S3) (OPT ITEM 30C)	M,N,A M,AN, AQ	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-35	AC30-0004-3		..SWITCH-ROTARY (V91812) (S1, S2)	F,P,A J	2
-35A	AC30-0004-1		DELETED		
-35B	AC30-0004		..SWITCH- (V91812) (S1, S2) (OPT ITEM 35C)	G,H,M ,N,A K-AQ	2
-35C	AC30-0004-1		..SWITCH- (V91812) (S1, S2) (OPT ITEM 35B)	G,H,M ,N,A K-AQ	2
40	BCREF8486		..LIGHT ASSY-VALVE IND (V81590) (434-674-1031-2115) (L1, L2) (SPEC S231T300-2115)	F-H,P ,AJ-A L,AQ	2
-40A	BCREF6200		..LIGHT ASSY-VALVE IND (V81590) (434-674-1005-1115) (L1, L2) (SPEC S231T300-1115) (ITEM 40A WITH WHITE DOT IDENTIFIER ON CAP ASSY IS OPTIONAL TO ITEM 40B)	M,N,A M,AN	2
-40B	BCREF8486		..LIGHT ASSY-VALVE IND (V81590) (434-674-1031-2115) (L1, L2) (SPEC S231T300-2115) (ITEM 40A WITH WHITE CAP IDENTIFIER ON CAP ASSY IS OPTIONAL TO ITEM 40B)	M,N,A M,AN	2
45	800000121-1		..CONNECTOR- (V05617) (J5)	F-H,M ,N,A J-AN	1
R -45A	800-000121-1		..CONNECTOR- (V05617) (J5)	P,AP, AQ	1
50	233T3244-14		..BASEPLATE ASSY	F,P,A J	1
-50A	233N3223-2		..BASEPLATE ASSY	G,H,M ,N,A K-AQ	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-			ATTACHING PARTS		
55	NAS514P632-5		..SCREW	H,M,N ,AL-A N	3
-55A	NAS514P632-5P		..SCREW	F,G,A J,AK	3
R -55B	FH6C5PL12BN		..SCREW- (V12324) -----*-----	P,AP, AQ	3
60	SF6G6CBB5D		...NUT- (V12324) (SPEC BACN10PA06-6)	G,H,M ,N,A K-AQ	4
-60A	SF6G6CBB5D		...NUT-PRESS (V12324)	F,P,A J	4
65	DBMB1400-6A1		DELETED		
R 65A	PFSC35-38ASEMB		...STUD- (V72794) (SPEC BACS21DX1B)	F-H, M-P,A J-AQ	4
70	233N3223-3		...BASEPLATE	G,H,M ,N,A K-AQ	1
-70A	BACP10U0600N		...BASEPLATE	F,P,A J	1
75	NAS1801-06-5		..SCREW	F-H,M ,N,A J-AN	3
R -75A	BACS12CK06U5		..SCREW	P	3
R -75B	BACS12HN06-5		..SCREW	AP,AQ	3
80	MS35338-41		..WASHER	F-H,M ,N,A J-AN	3
R -80A	BACW10EC06C		..WASHER	P	3
R -80B	BACW10EC06CD		..WASHER	AP	3
R -80C	BACW10EC06CD		..WASHER- (OPT ITEM 80D)	AQ	3
R -80D	BACW10EC06S		..WASHER- (OPT ITEM 80C)	AQ	3
85	69B46200-11		..STANDOFF	F-H, M-P,A J-AQ	3
90	NAS1801-06-5		..SCREW	F,AJ	8
-90A	NAS1801-04-5		..SCREW	G,H,M ,N,A K-AN	8
R -90B	BACS12CK04U5		..SCREW	P	8

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R	02-90C	BACS12HN04-5	..SCREW	AP,AQ	8
	95	K19798-04	..NUT- (V15653) (SPEC BACN10NW1) (OPT RMA4812-160-40 (V72962)) (OPT 293162 (V60119))	F-H, M-P,A J-AQ	8
	100	JANTX1N5618	..DIODE- (CR1-CR4)	G,AK	4
	105	BACC45FN12-12P	..CONNECTOR- (J1)	F-H, M-P,A J-AQ	1
	110	BACC45FN12-12P6	..CONNECTOR- (J2)	F-H, M-P,A J-AQ	1
	115	BACC45FN12-12P7	..CONNECTOR- (J3)	F-H, M-P,A J-AQ	1
	120	BACC45FN16-24P	..CONNECTOR- (J4)	F-H, M-P,A J-AQ	1
	125	3SAV1338A2	..RELAY- (V01526) (SPEC BACR13CD2) (OPT BR16S233 (V09026)) (OPT EE4AA005 (V35344)) (OPT HFW1206K03 (V58614)) (OPT HFW1204K01 (V71482)) (K1, K2)	F,P,A J	2

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02- -125A	61GB19-1A320		..RELAY- (V98927) (SPEC BACR13CF2A) (OPT JD4A017 (V35344)) (OPT BR64S104 (V56623)) (OPT BR246S0112 (V56623)) (OPT FCA210-70 (V78290)) (OPT E215-1050 (V99699)) (OPT E210-1631 (V99699)) (K1, K2)	G,H,M ,N,A K-AQ	2
130	RSE120026		..SOCKET- (V58982) (SPEC BACS16AG1) (OPT 451120-026 (V58982)) (XK1, XK2)	F,P,A J	2
-130A	BACS16X1		..SOCKET- (XK1, XK2)	G,H,M ,N,A K-AN	2
R -130B	000300-1538		..SOCKET- (V05574) (SPEC BACS16X1A) (OPT 102-006-1 (V09922)) (OPT RSF116200 (V58982)) (XK1, XK2)	AP,AQ	2

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-135	4443B9		..TERMINAL- (V88245) (T1-T6)	G,AK	6
140	233T6200-78		..BRACKET-SPRT	H,M,N ,AL-A Q	1
-140A	233T6200-158		..BRACKET-SPRT	F,P,A J	1
-140B	233T6200-177		..BRACKET-SPRT	G,AK	1
-145	233T3244-3		..WIRE BUNDLE ASSY	M,N,A M,AN, AQ	1
-145A	233T3244-16		..WIRE BUNDLE ASSY	G,P,A K	1
-145B	233T3244-24		..WIRE BUNDLE ASSY	H,AL, AP	1
-145C	233T3244-26		..WIRE BUNDLE ASSY	F,AJ	1
-150	M39029-1-16-20		DELETED		
-150A	M39029-1-101		...CONTACT-PIN (V95266)	F-H, M-P, AJ-AQ	16
-155	TM2S6		...PLATE-MOUNTING (V06383) (SPEC STBP19M8)	F-H, M-P, AJ-AQ	2

- Item Not Illustrated

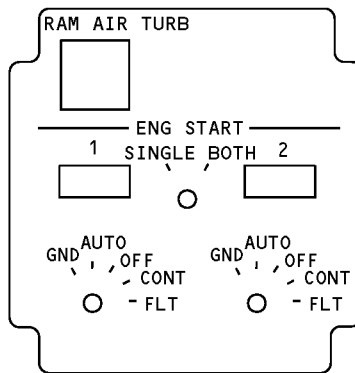
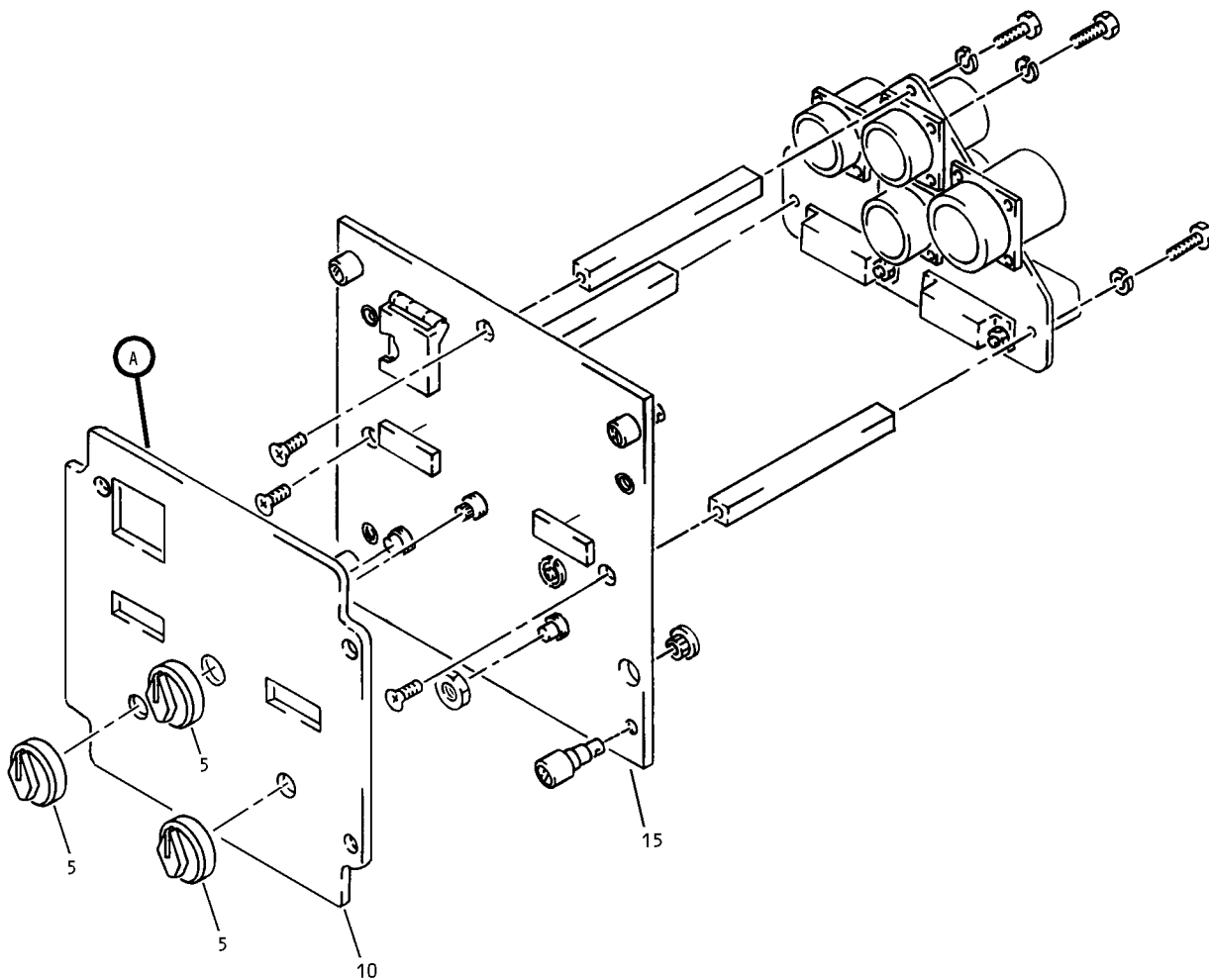
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(A)

Engine Ignition and Start Control Panel Assembly, M49  
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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03- -1A	233T3100-130		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	AT	RF
-1B	233T3100-227		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	AU	RF
-1C	233T3100-239		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	AV	RF
-1D	233T3100-290		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	AW	RF
-1E	233T3100-326		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	AX	RF
-1F	233T3100-389		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	AY	RF
-1G	233T3244-1305		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	AZ	RF
-1H	233T3244-1306		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	BA	RF
-1J	233T3244-1307		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	BB	RF
-1K	233T3100-360		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	BC	RF
-1L	233T3100-361		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	BD	RF
-1M	233T3100-362		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	BE	RF
-1N	233T3100-396		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	BF	RF
-1P	233T3100-397		PANEL ASSY-M49 ENGINE IGNITION AND START (PRE SB 233T3244-74-03)	BG	RF
-1Q	233T3244-1308		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	BH	RF

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03- -1R	233T3244-1309		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	BJ	RF
-1S	233T3244-1310		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	BK	RF
-1T	233T3244-1311		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	BL	RF
-1U	233T3244-1312		PANEL ASSY-M49 ENGINE IGNITION AND START (POST SB 233T3244-74-03)	BM	RF
5	BP248-110		.KNOB- (V15084)	AT-AV AZ-BE BH,BJ	3
-5A	BP248-127		.KNOB- (V15084) (OPT ITEM 5B)	AW-AY BF,BG BL,BM	3
-5B	BP248-110		.KNOB- (V15084) (OPT ITEM 5A)	AW-AY BF,BG BL,BM	3
10	S23AT100-1094		.LIGHTPLATE-	BC-BM	1
-10A	S231T100-1078		.LIGHTPLATE-	AT-BB	1
15	233T3214-1		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	AT	1
-15A	233T3214-5		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	AU	1
-15B	233T3214-6		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	AV	1
-15C	233T3214-7		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	AW	1
-15D	233T3214-9		.MODULE ASSY- (LIMITED) (FOR DETAILS SEE FIG. 1)	AX	1
-15E	233T3214-23		.MODULE ASSY- (LIMITED) (FOR DETAILS SEE FIG. 1)	AX	1
-15F	233T3214-17		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	AY	1
-15G	233T3214-1001		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	AZ	1
-15H	233T3214-1005		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BA	1
-15J	233T3214-1006		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BB	1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03- -15K	233T3214-10		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BC	1
-15L	233T3214-11		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BD	1
-15M	233T3214-13		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BE	1
-15N	233T3214-19		.MODULE ASSY- (LIMITED) (FOR DETAILS SEE FIG. 1)	BF	1
-15P	233T3214-25		.MODULE ASSY- (LIMITED) (FOR DETAILS SEE FIG. 1)	BF	1
-15Q	233T3214-21		.MODULE ASSY- (LIMITED) (FOR DETAILS SEE FIG. 1)	BG	1
-15R	233T3214-25		.MODULE ASSY- (LIMITED) (FOR DETAILS SEE FIG. 1)	BG	1
-15S	233T3214-1010		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BH	1
-15T	233T3214-1011		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BJ	1
-15U	233T3214-1013		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BK	1
-15V	233T3214-1019		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BL	1
-15W	233T3214-1021		.MODULE ASSY- (FOR DETAILS SEE FIG. 1)	BM	1

- Item Not Illustrated

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