

 **BOEING**  
COMPONENT  
MAINTENANCE MANUAL

TO: ALL HOLDERS OF EICAS CONTROL PANEL ASSEMBLY M10411 COMPONENT MAINTENANCE  
MANUAL 31-41-53

REVISION NO. 2 DATED APR 10/85

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. 1 and date on the Record of Revision Sheet.

CHAPTER/SECTION

AND PAGE NO.

DESCRIPTION OF CHANGE

INTRODUCTION

Added verification date.

1

103

Changed switch names.

1009

Changed part number of IPL Fig. 1, item 130, contact pin.

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HIGHLIGHTS

01.1

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**EICAS CONTROL PANEL  
ASSEMBLY M10411**

**PART NUMBER 233T4241-1**

**COMPONENT MAINTENANCE MANUAL  
WITH  
ILLUSTRATED PARTS LIST**

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TITLE PAGE

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01

70025



REVISION RECORD

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

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



TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR C12015	

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TR & SB RECORD

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PAGE	DATE	CODE	PAGE	DATE	CODE
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TITLE PAGE			1006	JUL 10/83	01.1
1	JUL 10/83	01	1007	JUL 10/83	01.1
2	BLANK		1008	JUL 10/83	01.1
REVISION RECORD			*1009	APR 10/85	01.1
1	JUL 10/83	01	1010	BLANK	
2	BLANK				
TR & SB RECORD					
1	JUL 10/83	01			
2	BLANK				
LIST OF EFFECTIVE PAGES					
*1	APR 10/85	01			
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1	JUL 10/83	01			
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1	JUL 10/83	01			
2	BLANK				
TESTING & TROUBLE SHOOTING					
101	JUL 10/83	01			
102	JUL 10/83	01.1			
*103	APR 10/85	01.1			
104	BLANK				
ILLUSTRATED PARTS LIST					
1001	JUL 10/83	01			
1002	JUL 10/83	01.1			
1003	JUL 10/83	01			
1004	JUL 10/83	01			
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\* = REVISED, ADDED OR DELETED

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\*[1] Use applicable procedures in 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 asterisked flagnote \*[ ] in place of the page number indicates that no special instructions are provided since the function can be performed using standard industry practices.

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

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

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

Verification:

| Testing/TS 2-14-83

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INTRODUCTION

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EICAS CONTROL PANEL ASSEMBLY M10411

DESCRIPTION AND OPERATION

1. Description

- A. The engine indication and crew alerting system control panel assembly consists of switches and a rheostat mounted on a baseplate assembly. A connector is attached to the baseplate by standoffs, and the parts are interconnected by a wire bundle assembly.

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DESCRIPTION & OPERATION

01

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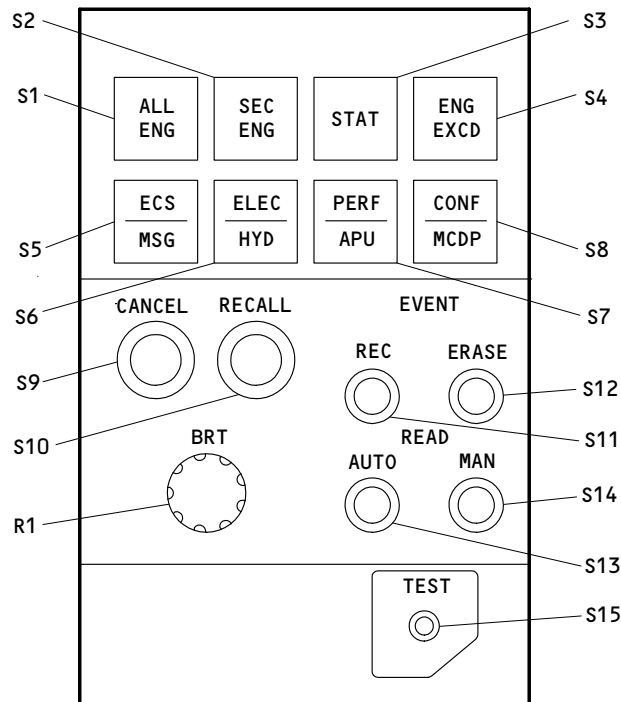
TEST AND TROUBLE SHOOTING

 1. Test Equipment

- A. Multimeter: Simpson 260 or equivalent
- B. Power supply: 0-30 vdc, 0.5 amp
- C. Test connector: BACC45FT20-41S6. Boeing breakout box A33003 with cable A33003-48 may be used.

 2. Functional Test

- A. Connect test connector to J1.
- B. Perform the test steps listed in Figure 102. Component locations are shown in Figure 101.

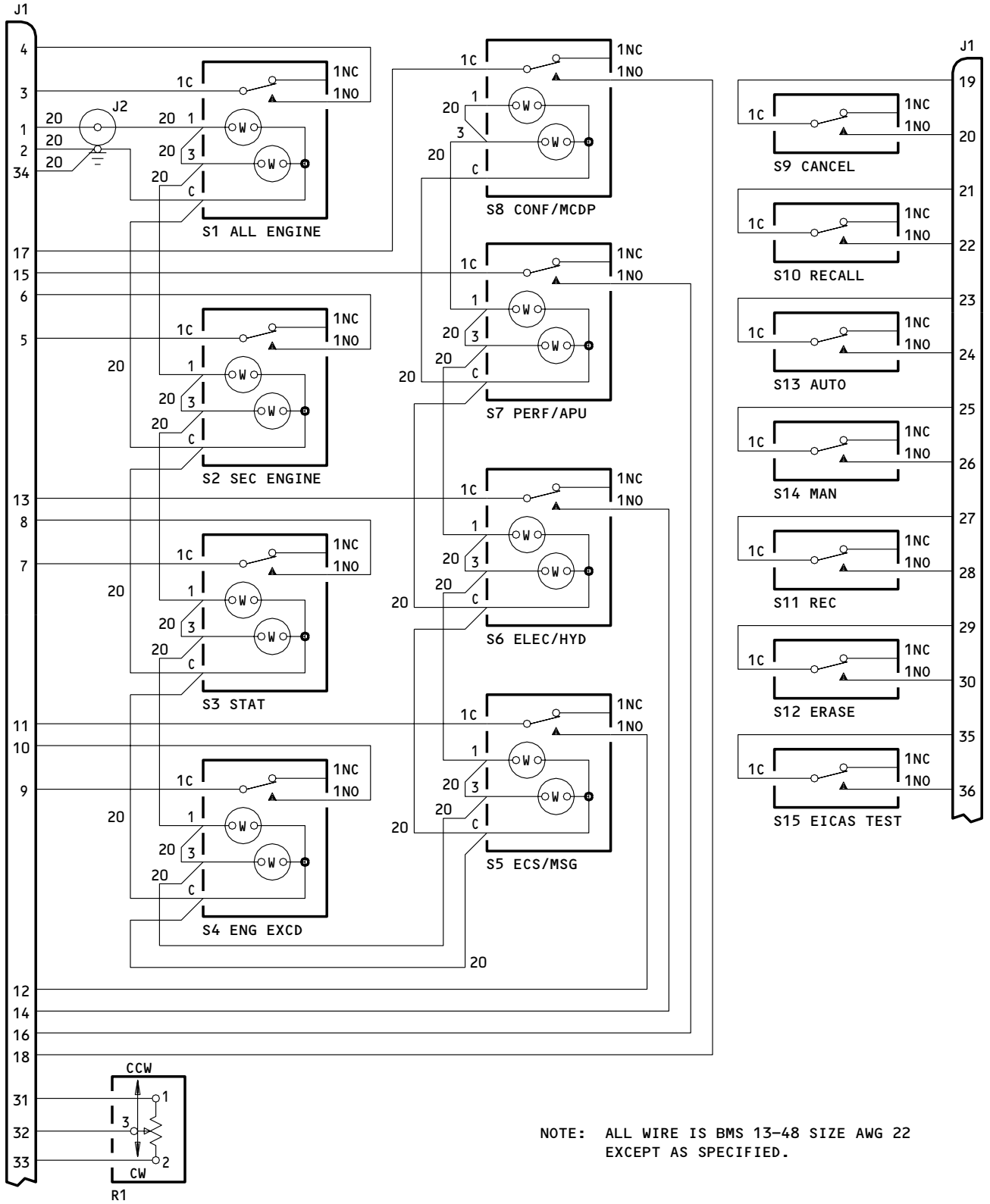


233T4241-1  
 Component Locations  
 Figure 101

TEST PROCEDURE	REQUIRED RESULTS	COMP TEST
Test for continuity (less than 3 ohms) or open circuit (greater than 15,000 ohms) between the following pins with the switches in the specified positions:	<u>Continuity</u> <u>Open</u>	
J1-3 to J1-4	S1 pressed      S1 released	S1
J1-5 to J1-6	S2 pressed      S2 released	S2
J1-7 to J1-8	S3 pressed      S3 released	S3
J1-9 to J1-10	S4 pressed      S4 released	S4
J1-11 to J1-12	S5 pressed      S5 released	S5
J1-13 to J1-14	S6 pressed      S6 released	S6
J1-15 to J1-16	S7 pressed      S7 released	S7
J1-17 to J1-18	S8 pressed      S8 released	S8
J1-19 to J1-20	S9 pressed      S9 released	S9
J1-21 to J1-22	S10 pressed      S10 released	S10
J1-27 to J1-28	S11 pressed      S11 released	S11
J1-29 to J1-30	S12 pressed      S12 released	S12
J1-23 to J1-24	S13 pressed      S13 released	S13
J1-25 to J1-26	S14 pressed      S14 released	S14
J1-35 to J1-36	S15 pressed      S15 released	S15
	J1-2 to baseplate J1-2 to J1-1 J1-1 to center of lightplate connector	J2 J2
	J1-2 to J1-34	wiring
	<u>Less than 3 ohms</u> <u>5K ohms ±10%</u>	
J1-32 to J1-31	R1 full CCW      R1 full CW	R1
J1-32 to J1-33	R1 full CW      R1 full CCW	R1
Apply +5 vdc to J1-1 and ground J1-2.	S1 thru S8: Both bulbs must light.	S1-S8
Remove all connections.		

 Functional Test  
 Figure 102

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NOTE: ALL WIRE IS BMS 13-48 SIZE AWG 22  
 EXCEPT AS SPECIFIED.

233T4241-1 Wiring Diagram  
 Figure 103

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TESTING & TROUBLE SHOOTING  
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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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VENDORS

02660 BUNKER-RAMO CORP AMPHENOL NORTH AMERICAN DIV  
2801 SOUTH 25TH AVENUE  
BROADVIEW, ILLINOIS 60153

05617 BELL INDUSTRIES FARWEST MFG. DIV.  
18225 NORTHEAST 76TH STREET  
REDMOND, WASHINGTON 98052

08524 DEUTSCH FASTENER CORPORATION  
PO BOX 92925 7001 WEST IMPERIAL HIGHWAY  
LOS ANGELES, CALIFORNIA 90045

12324 DUPREE INC STAKE FASTENER CO  
PO BOX 3156 9835 DUPREE STREET  
SOUTH EL MONTE, CALIFORNIA 91733

13556 TRW CINCH CONNECTORS NULINE FACILITY  
8821 SCIENCE CENTER DRIVE  
NEW HOPE, MINNESOTA 55428

15653 KAYNAR MFG COMPANY INC KAYLOCK DIV  
PO BOX 3001 800 SOUTH STATE COLLEGE BLVD  
FULLERTON, CALIFORNIA 92634

18342 AMP INC SYSCOM DIVISION  
3711 PAXTON STREET  
HARRISBURG, PENNSYLVANIA 17101

49367 PYLE-NATIONAL CO SUB OF AKZONA INC  
1334 NORTH KOSTNER AVENUE  
CHICAGO, ILLINOIS 60651

55578 CTS OF WEST LIBERTY  
6800 COUNTY ROAD 189  
WEST LIBERTY, OHIO 43357

72962 AMERACE CORP ESNA DIV  
2330 VAUXHALL ROAD  
UNION, NEW JERSEY 07083

76530 TRW INC TRW ELECTRONIC COMPONENTS CINCH-MONADNOCK DIV  
18301 EAST ARENTH  
CITY OF INDUSTRY, CALIFORNIA 91747

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VENDORS

- 81590 KORRY MANUFACTURING COMPANY  
223 EIGHTH AVENUE NORTH  
SEATTLE, WASHINGTON 98109
  
- 91929 HONEYWELL INC MICRO SWITCH DIV  
11 WEST SPRING STREET  
FREEPORT, ILLINOIS 61032

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ILLUSTRATED PARTS LIST

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REFERENCE DESIGNATOR INDEX (SEE SCHEMATIC DIAGRAM)		
REFERENCE DESIGNATOR	PART NUMBER	FIG-ITEM
J1	ZZWAC1720-41P6	1-115
J2	800-000121-1	55
R1	WF15558	60
S1	BCREF6492	20
S2	BCREF6493	15
S3	BCREF6494	10
S4	BCREF6495	5
S5	BCREF6496	40
S6	BCREF6497	35
S7	BCREF6498	30
S8	BCREF6499	25
S9	2PB11H58	50
S10	2PB11H58	50
S11-S15	1PB573H58	45

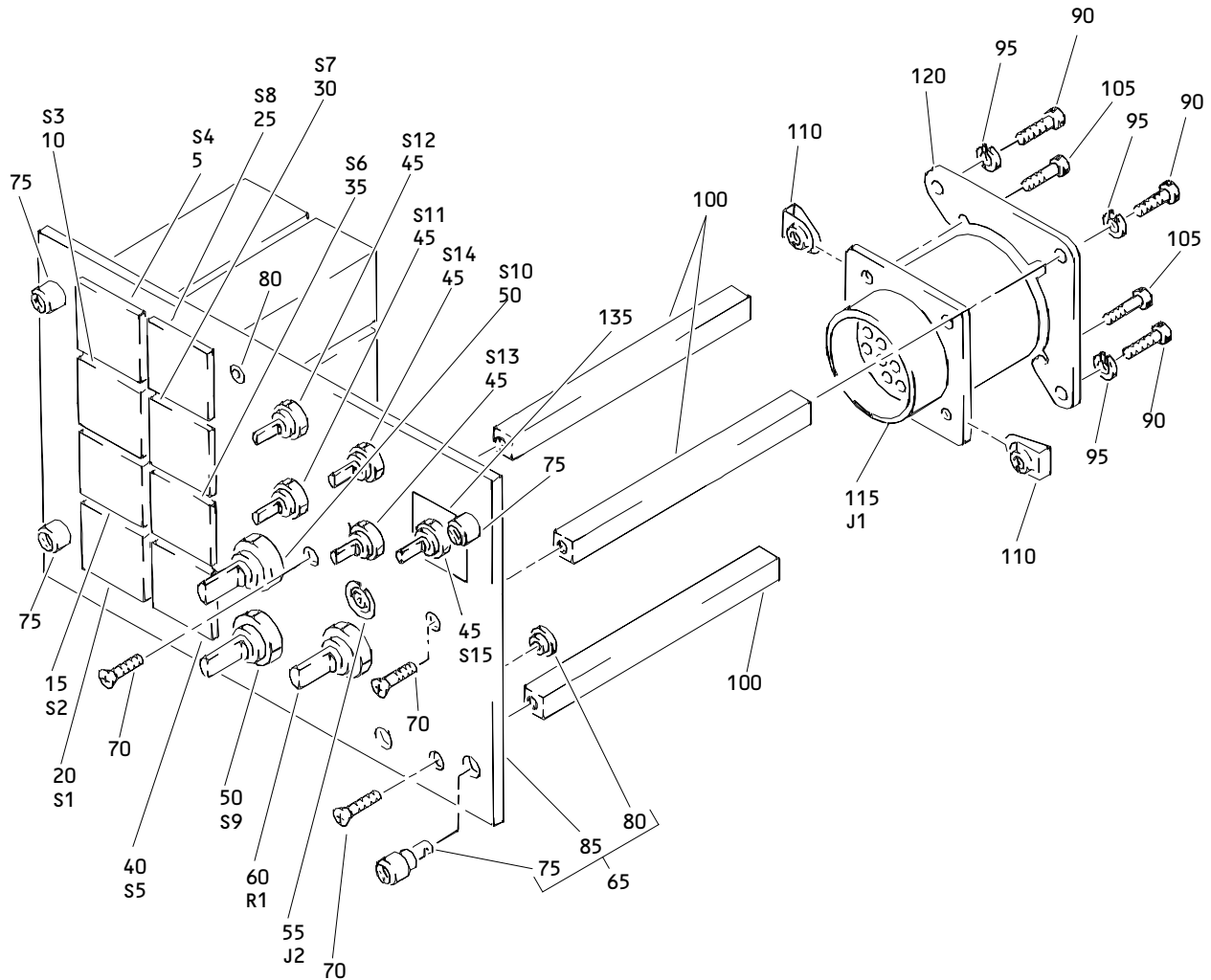
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ILLUSTRATED PARTS LIST

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M10411 Engine Indication and Crew Alerting System Control Panel Assembly  
 Figure 1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- -1	233T4241-1		PANEL ASSY-M10411 ENG INDICATION AND CREW ALERTING SYS CONT		RF
5	BCREF6495		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-015) (S4)		1
10	BCREF6494		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-014) (S3)		1
15	BCREF6493		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-013) (S2)		1
20	BCREF6492		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-012) (S1)		1
25	BCREF6499		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-019) (S8)		1
30	BCREF6498		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-018) (S7)		1
35	BCREF6497		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-017) (S6)		1
40	BCREF6496		.SWITCH ASSY-LIGHTED (V81590) (311-711-1016-016) (S5)		1
45	1PB573H58		.SWITCH-PUSHBUTTON (V91929) (S11-S15)		5

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-50	2PB11H58		.SWITCH-PUSHBUTTON (V91929) (S9, S10)		2
55	800-000121-1		.CONNECTOR- (V05617) (J2)		1
60	WF15558		.RHEOSTAT- (V55578) (R1)		1
65	233T4241-2		.BASEPLATE ASSY ATTACHING PARTS		1
70	NAS514P632-5		.SCREW -----*		3
75	DBMB1400-6A1		..STUD ASSY- (V08524) (SPEC BACS21DD1B)		4
80	SF6G6CBB5D		..NUT- (V12324) (SPEC BACN10PA06-6)		2
85	BACP10U0375		..BASEPLATE		1
90	BACS12CB06-5		.SCREW		3
95	MS35338-41		.WASHER		3
100	69B46200-5		.STANDOFF		3
105	BACS12CB04-5		.SCREW		2
110	K19798-04		.NUT- (V15653) (SPEC BACN10NW1) (OPT RMA4812-160-40 (V72962)) (OPT 293162 (V76530))		2
115	ZZWAC1720-41P6		.CONNECTOR- (V49367) (SPEC BACC45FN20-41P6) (OPT C48-10R20-41P6-10 (V13556)) (OPT 48-10R20-41P6-300 (V02660)) (J1)		1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
120	233T6200-1		.BRACKET-SPRT		1
-125	233T4241-3		.WIRE BUNDLE ASSY		1
-130	60790-1		DELETED		
-130A	60789-2		..PIN-CONTACT (V18342)		14
135	BAC27TFDE0144		.PLACARD-TEST		1

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