TO: ALL HOLDERS OF DOOR WARNING ANNUNCIATOR MODULE ASSEMBLY OVERHAUL MANUAL, 31-36-03

REVISION NO. 8, DATED MAR 1/05

HIGHLIGHTS

DESCRIPTION OF CHANGE	TOPICS AFFECTED												
	D&O	D/Assy	Cleaning	Insp/Chk	Repair	Assy	F/C	Test	T/Shooting	S/Tools	Storage	IPL	L/Overhaul
Updated the test equipment list and the IPL								X				X	

DOOR WARNING ANNUNCIATOR MODULE ASSEMBLY P5-20

31-36-03

BOEING P/N 69-37326-9, -11 thru -19
69-77055-3

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
		PRR 30648	May 15/69
33-1013		PRR 31143	May 15/69
		PRR 31253	May 15/69
52-1091		PRR 33410-59	Sep 5/88
52-1091 Rev 2		PRR 33410-59R	Sep 5/91
69-37326-31-01		PRR 34766R	Mar 5/92

LIST OF EFFECTIVE PAGES

* Indicates pages revised, added or deleted in latest revision
F Indicates foldout pages - print one side only

	PAGE	DATE	PAGE	DATE	PAGE	DATE
	31-36-03					
	T-1	Mar 5/92				
	T-2	BLANK				
*	LEP-1	Mar 1/05				
	LEP-2	BLANK				
	T/C-1	Sep 5/88				
	T/C-2	BLANK				
	1	Mar 5/92				
*	2	Mar 1/05				
	3	Sep 5/91				
	4	Sep 5/88				
	5	Sep 5/91				
	6	Jul 1/99				
	7	Sep 5/88				
	8	BLANK				
	9	Mar 5/92				
	10	BLANK				
	11	BLANK				
	12	Mar 5/92				
	13	Mar 5/92				
	14	Jul 1/99				
*	15	Mar 1/05				
	16	Jul 1/99				

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*[1] Use applicable procedures in 20-11-04, 31-10-01 and standard industry practices.

*[2] Special instructions not required.

DOOR WARNING ANNUNCIATOR MODULE ASSEMBLY

CAUTION: OBEY THE PROCEDURES IN 20-12-02, HANDLING OF ELECTROSTATIC SENSITIVE DEVICES, WHEN HANDLING P/N 69-37326-15 THRU -19. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THIS COMPONENT.

1. Description and Operation

A. Description

(1) The door warning annunciator module assembly consists of a printed circuit assembly, indicator light assemblies, and a wire bundle assembly. The module assembly is located in the pilot's forward overhead panel and may be easily removed for inspection or repair by loosening four quick-release screws on the baseplate and disconnecting the primary power connector.

B. Operation

(1) The door warning annunciator module assembly alerts the crew if the entry, cargo, or service doors are not properly secured.

C. Functional Description

(1) External switches provide ground paths to the module assembly when the doors are not properly secured. This causes the warning laps to illuminate and cause A1 logic circuit to operate. A1 causes the master caution lamp to illuminate.

(a) Circuit power for all lamps is applied at P1-5 (to pin 1 of lamps). All lamps require a ground path for illumination. P1-6 is connected to pins 3 of all lamps such that when the external master press-to-test feature is used, all lamps will illuminate. P1-7 is connected to external ground and to pins 4 of all lamps such that the individual press-to-test feature can be used to illuminate individual lamps. P1-7 also furnishes a ground path for the printed circuit assembly at P2-16. Pin 2 of individual lamps is grounded for lamp illumination when the external switches are operated. (See schematic diagram for pin number to lamp correlation.)

(b) (69-37326-9, -11 thru -14; 69-77055-3) The printed circuit assembly is a multiple input "OR" gate. When any lamp is illuminated by a ground input to lamp pin 2, or when all lamps are illuminated by the master press-to-test, the OR gate is also activated. The output is a ground at P1-9 from P2-17. This ground path completes the master caution lamp circuit. The ground path within the printed circuit assembly consists of a transistor and silicon controlled rectifier in series. The master caution circuit can be reset by interrupting the circuit external to pin P1-9. After reset, the indication can be recalled (if the OR input is still present) by re-triggering the SCR. This is accomplished by pressing the master caution annunciator to provide a temporary ground at P1-10 (P2-8). Power for the printed circuit assembly (+ 28 volt dc) is received at P1-8 (P2-18).

(c) Refer to Subject 31-36-07 (69-37326-9, -11 thru -14; 69-77055-3) or 33-15-11 (69-37326-15 thru -19) for printed circuit assembly schematic and theory.

2. Repair

A. Use standard industry practices for repair of this component, and additional procedures in following steps.

B. When replacing keying plug, install new keying plug into contact position number 6 of connectors P2.

C. When replacement is required, bond new foam and insulator to covers per Subject 20-50-12, using type 48 adhesive.

3. Testing

A. Test Equipment

(1) Power Supply: 28 volts dc, ±10%, 2 amperes

(2) Multimeter: Any of the Simpson 260 series multimeters or equivalent:

(3) Test Setup, consisting of the following equipment:

(a) Connector: BACC45FT16-24S, with pigtail leads

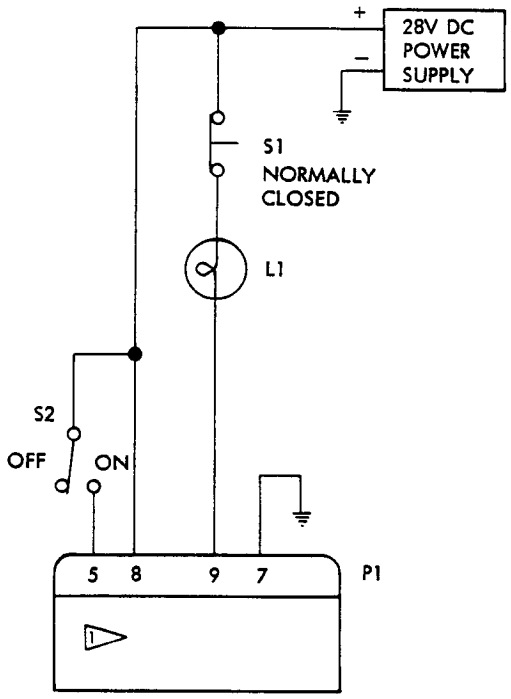
(b) Test lamp: 28 volts dc, minimum 400ma.

(c) Switch: pushbutton, NCMO (S1)

(d) Switch: SPDT (S2)

B. Function Test

(1) Mate test connector to connector P1 of module assembly and connect test setup per Fig. 1.



1 DOOR WARNING ANNUNCIATOR MODULE ASSEMBLY

Test Setup
Figure 1

(2) Set test switch S2 to OFF.

(3) Turn on power supply and set test switch S2 to ON. All module assembly indicators and test lamp shall be extinguished.

(4) Press and release each module indicator. Each indicator shall illuminate when pressed and extinguish when released.

(5) Verify lamp indications per Fig. 2. Leave test switches in last specified position.

(6) Remove + 28 volts dc and grounds.

(7) Measure electrical resistance between pins listed and verify resistances as specified in Fig. 3.

(8) Remove module assembly from test setup.

Step	Test Switch		Ground (P1)		Lamp Indications	
	Number	Position	Apply	Remove	Illuminated	Not Illuminated
1	S2	ON	10		Test lamp	L1 thru L8
2				10		All
3			18		Test lamp and L8	L1 thru L7
4				18		All
5			11		Test lamp and L1	L2 thru L8
6				11		All
7			12		Test lamp and L2	L1, L3 thru L8
8				12		All
9			15		Test lamp and L5	L1 thru L4, L6, L7, L8
10				15		All
11			13		Test lamp and L3	L1, L2, L4 thru L8
12				13		All
13			14		Test lamp and L4	L1, L2, L3, L5 thru L8
14				14		All
15			16		Test lamp and L6	L1 thru L5, L7, L8
16				16		All
17			17		Test lamp and L7	L1 thru L6, L8
18				17		All
19			6		All	
20				6		All
21			11 thru 18		All	
22	S2	OFF			Test lamp	L1 thru L8
23	S1	Press and release				All
24	S2	ON		18	L1 thru L7	Test lamp and L8
25			18		All	

Functional Test
Figure 2 (Sheet 1)

Step	Test Switch		Ground (P1)		Lamp Indications	
	Number	Position	Apply	Remove	Illuminated	Not Illuminated
26	S1	Press and release			L1 thru L8	Test lamp
27				11	L2 thru L8	Test lamp and L1
28			11		All	
29	S1	Press and release			L1 thru L8	Test lamp
30				12	L1, L3 thru L8	Test lamp and L2
31			12		All	
32	S1	Press and release			L1 thru L8	Test lamp
33				15	L1 thru L4, L6, L7, L8	Test lamp and L5
34			15		All	
35	S1	Press and release			L1 thru L8	Test lamp
36				13	L1, L2, L4 thru L8	Test lamp and L3
37			13		All	
38	S1	Press and release			L1 thru L8	Test lamp
39				14	L1, L2, L3, L5 thru L8	Test lamp and L4
40			14		All	
41	S1	Press and release			L1 thru L8	Test lamp
42				16	L1 thru L5, L7, L8	Test lamp and L6
43			16		All	
44	S1	Press and release			L1 thru L8	Test lamp
45				17	L1 thru L6, L8	Test lamp and L7
46			17		All	
47	S1	Press and release			L1 thru L8	Test lamp

Functional Test
Figure 2 (Sheet 2)

Component Tested	Measure Between Pins (P1)	25 Ohms Max With + at Pin	15 K Min With + at Pin
A1CR3	6 to 10	10	6
A1CR6	7 to 10	7	10
A1CR18	7 to 11	7	11
A1CR15	7 to 12	7	12
A1CR27	7 to 13	7	13
A1CR30	7 to 14	7	14
A1CR12	7 to 15	7	15
A1CR33	7 to 16	7	16
A1CR9	7 to 17	7	17
A1CR21	7 to 18	7	18

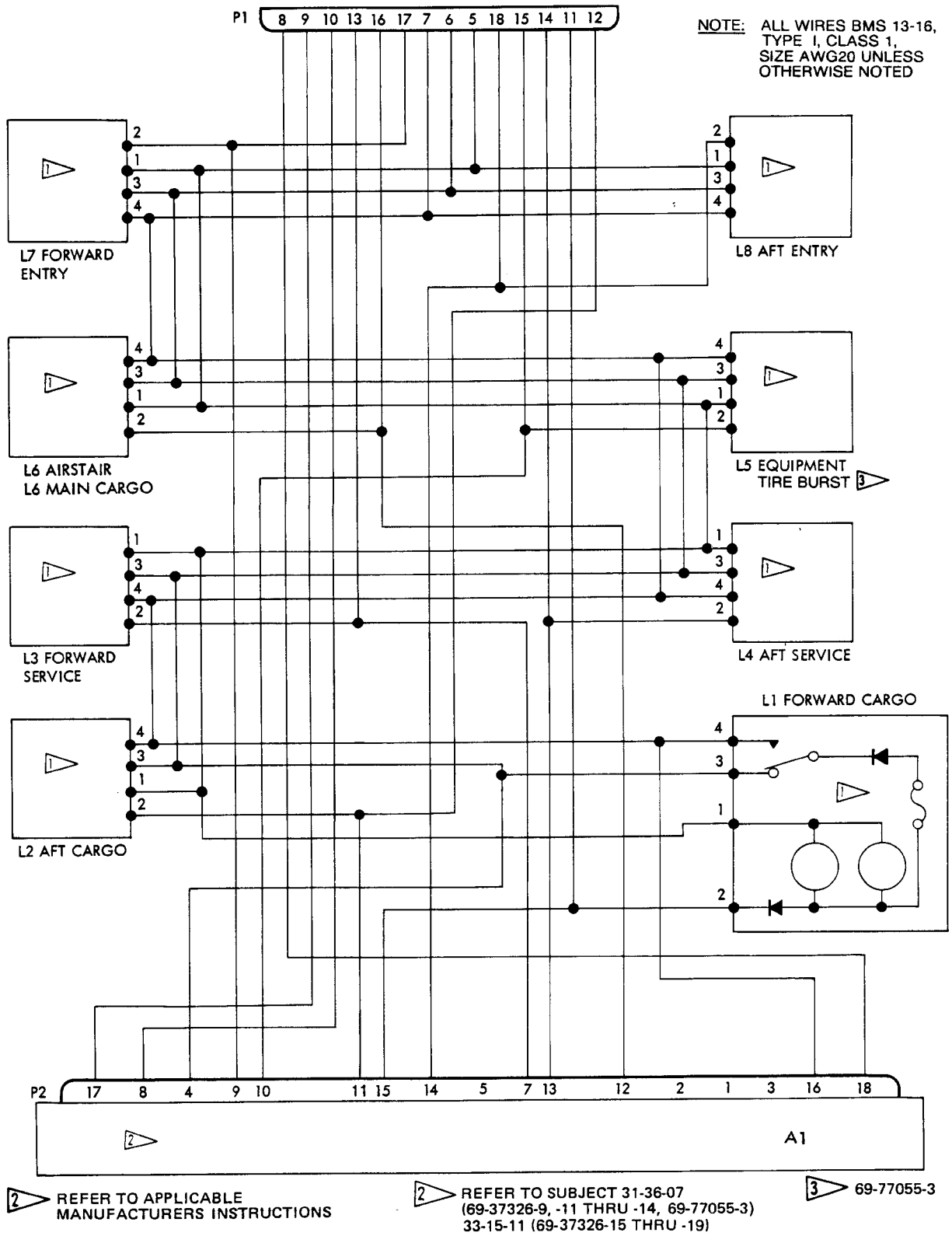
Diode Resistance Test
(69-37326-9, -11 thru -14, 69-77055-3 only)
Figure 3

4. Trouble Shooting

A. When failure of a test occurs, check for faulty connections, incorrect wiring, and damaged component. Refer to schematic diagram.

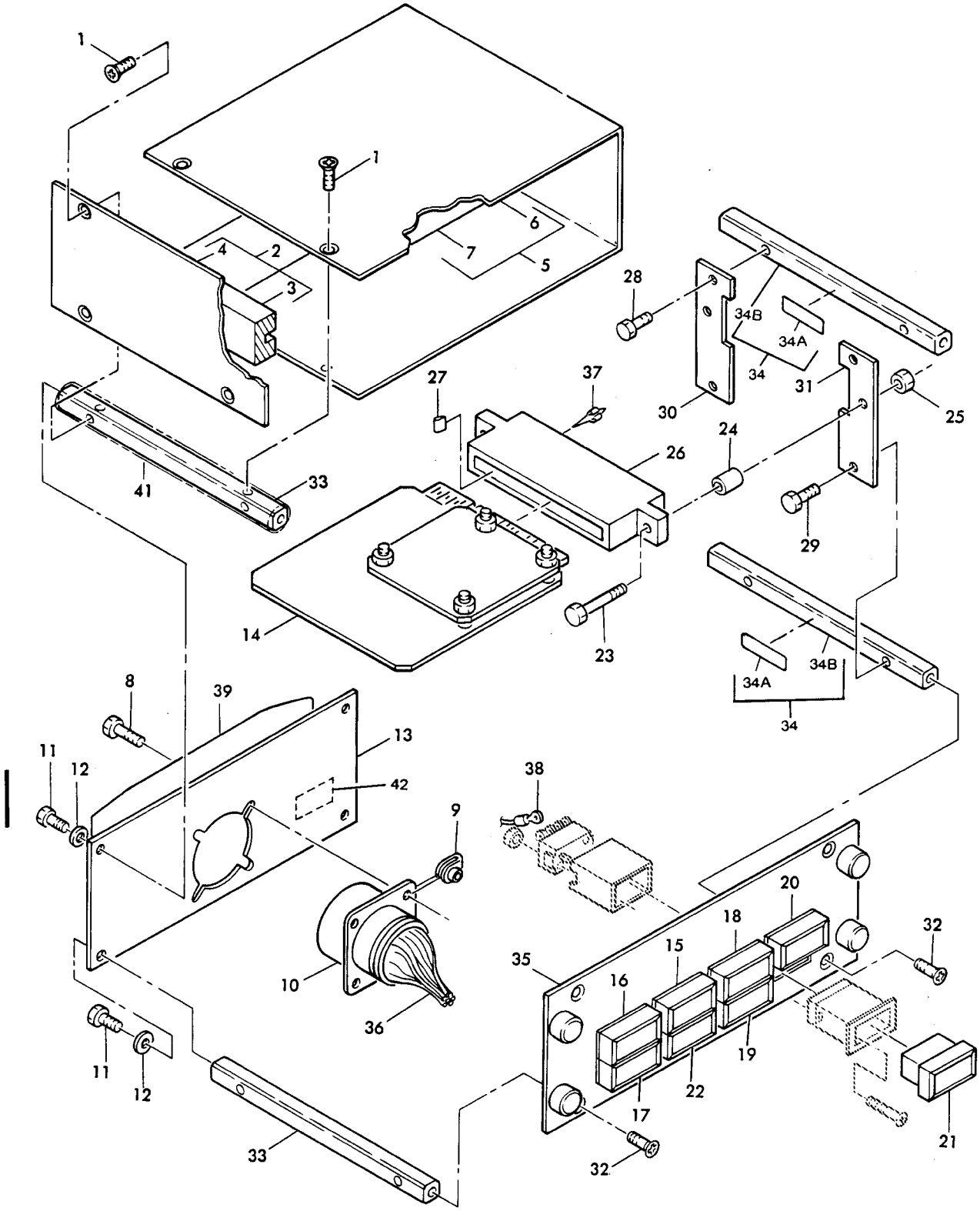
NOTE: Trouble shooting is keyed to steps of functional test procedures. Trouble shooting is written with the assumption that all previous steps of the functional test were satisfactorily completed.

	Trouble	Possible Cause	Correction
(1)	Failure of test par. 3.B.(3)	A1 defective	Replace A1
(2)	Failure of test par. 3.B.(4)	Indicator defective	Replace indicator
(3)	Failure of test in Fig. 2		
	Step 1	A1 defective	Replace A1
	Steps 3 thru 21: Test lamp does not illuminate	A1 defective	Replace A1
	Indicator does not illuminate	Indicator defective	Replace indicator
	Step 22 or 23	A1 defective	Replace A1
	Steps 24 thru 27: Test lamp indication not as specified	A1 defective	Replace A1
	Indicator indication not as specified	Indicator defective	Replace indicator
(4)	Failure of test in Fig. 3	A1 defective	Replace A1



Schematic Diagram
Figure 4

5. Illustrated Parts List



Door Warning Annunciator Module Assembly
Figure 5

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
5-					
	69-37326-9		DOOR WARNING ANNUNCIATOR MODULE ASSY (PRE SB 52-1091)(PRE SB 69-37326-31-01)	A	
	69-37326-11		DOOR WARNING ANNUNCIATOR MODULE ASSY (PRE SB 52-1091)(PRE SB 69-37326-31-01)	B	
	69-37326-12		DOOR WARNING ANNUNCIATOR MODULE ASSY (PRE SB 52-1091)(PRE SB 69-37326-31-01)	C	
	69-37326-13		DOOR WARNING ANNUNCIATOR MODULE ASSY (PRE SB 52-1091)(PRE SB 69-37326-31-01)	D	
	69-37326-14		DOOR WARNING ANNUNCIATOR MODULE ASSY (PRE SB 52-1091)(PRE SB 69-37326-31-01)	E	
	69-77055-3		DOOR WARNING ANNUNCIATOR MODULE ASSY (POST SB 52-1091)	F	
	69-37326-15		DOOR WARNING ANNUNCIATOR MODULE ASSY (POST SB 69-37326-31-91)	G	
	69-37326-16		DOOR WARNING ANNUNCIATOR MODULE ASSY (POST SB 69-37326-31-91)	H	
	69-37326-17		DOOR WARNING ANNUNCIATOR MODULE ASSY (POST SB 69-37326-31-91)	J	
	69-37326-18		DOOR WARNING ANNUNCIATOR MODULE ASSY (POST SB 69-37326-31-91)	K	
	69-37326-19		DOOR WARNING ANNUNCIATOR MODULE ASSY (POST SB 69-37326-31-91)	L	
1	NAS514P440-4		. SCREW		8
2	69-39431-2		. SIDE COVER ASSY		1
3	69-39431-10		. . FOAM		1
4	69-39431-7		. . SIDE COVER		1
5	69-39431-11		. COVER ASSY (OPT)		1
5	69-39431-13		. COVER ASSY		1
6	69-39431-8		. . COVER		1
7	69-39431-12		. . INSULATOR		2
8	BACS12CB04-5		. SCREW		2
9	BACN10NW1		. CLIP NUT		2
10	BACC45FN16-24P		. CONNECTOR		1
11	BACS12CB06-5		. SCREW		4
12	MS35337-41		. WASHER		4
13	69-39431-3		. BACKPLATE		1
14	69-51813-8		. PRINTED CIRCUIT ASSY (REF 31-36-07)	AB	1
14	69-51813-1		. PRINTED CIRCUIT ASSY (REF 31-36-07) (OPT)	AB	1
14	69-51813-8		. PRINTED CIRCUIT ASSY (REF 31-36-07)	C-F	1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
1101-					
14	69-78285-1		. PRINTED CIRCUIT ASSY (REF 33-15-11) (STATIC SENSTIVE PART)	G-L	1
15	319-619-1001-009		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-14)	BDHK	1
15	319-619-1001-117		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-143)	ACGJ	1
15	318-630-1001-010		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61803-14)	EFL	1
16	319-619-1001-010		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-15)	A-DG-K	1
16	318-630-1001-011		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61803-15)	EFL	1
17	319-619-1001-022		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-34)	A-DG-K	1
17	318-630-1001-021		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61803-34)	EFL	1
18	319-619-1001-023		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-35)	A-DG-K	1
18	318-630-1001-022		. INDICATOR LIGHT ASSY, V81590 (BOEING10-61803-35)	EFL	1
19	319-619-1001-024		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-36)	A-DG-K	1
19	318-630-1001-023		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61803-35)	EFL	1
20	319-619-1001-025		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-37)	A-DG-K	1
20	318-630-1001-024		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61803-37)	EFL	1
21	319-619-1001-026		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-38)	A-DG-K	1
21	318-630-1001-025		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-38)	EFL	1
22	319-619-1001-131		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61305-160) (OPT)	ABCD G-K	1
22	318-630-1001-125		. INDICATOR LIGHT ASSY, V81590 (BOEING 10-61803-160)	A-EG-L	1
22	318-630-1001-026		. INDICATOR LGIHT ASSY, V81590 (BOEING 10-61803-39)	F	1
23	BACS12CB06-14		. SCREW		2
24	NAS43DDQ-17		. SPACER		2
25	NAS679A06W		. NUT		2
26	582555-1		. CONNECTOR, V00779		1
27	58207-1		. KEYING PLUG, V00779		1
28	BACS12CB04-4		. SCREW		2
29	NAS514P440-4		. SCREW		2

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
5-					
30	69-39431-5		. SUPPORT		1
31	69-39431-6		. SUPPORT		1
32	NAS514P632-5		. SCREW		4
33	69-37268-7		. STANDOFF		2
34	69-37326-4		. STANDOFF		2
34A	BACM10L00-1CU		. . MARKER		1
34B	69-37268-8		. . STANDOFF		1
35	69-37326-2		. BASEPLATE		1
36	69-37326-8		. WIRE BUNDLE ASSY		1
37	66144-2		. . TAB TERMINAL, V00779		13
38	BACT12AC		. TERMINAL LUG		AR
39	BAC27DCC240		. MARKER		1
40	BACM10L00-1CU		DELETED		
41	BACT63A57-9		. TUBING	CJ	1
41	BACT63A57-9		. TUBING	D-FKL	1
41	BACT63A56-2		. TUBING (OPT)	D-FKL	1
42	BAC27EEX510		. MARKER	G-L	1

REFERENCE DESIGNATION INDEX (SEE SCHEMATIC DIAGRAM)		
REFERENCE DESIGNATION	PART NUMBER	ITEM NO.
A1	69-51813-1	14
A1	69-51813-8	14
A1	69-78285-1	14
L1	319-619-1001-023	18
L1	318-630-1001-022	18
L2	319-619-1001-024	19
L2	318-630-1001-023	19
L3	319-619-1001-025	20
L3	318-630-1001-024	20
L4	319-619-1001-026	21
L4	318-630-1001-025	21
L5	319-619-1001-131	22
L5	318-630-1001-125	22
L5	318-630-1001-026	22
L6	319-619-1001-009	15
L6	319-619-1001-117	15
L6	318-630-1001-010	15
L7	319-619-1001-010	16
L7	318-630-1001-011	16
L8	319-619-1001-022	17
L8	318-630-1001-021	17
P1	BACC45FN16-24P	10
P2	582555-1	26

VENDORS

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