CHAPTER 52

DOORS

TABLE OF CONTENTS

Subject	Subject No.
DOORS	52-0
DOOR LOCATION AND MATERIALS DIAGRAM	52-1-1
DOOR ALLOWABLE DAMAGE	52-2-1
DOOR REPAIRS	52-3-1

Figure 1 - Main Gear Door Skin Between Ribs - Flush Repair
Figure 2 - Main Gear Door Skin at Ribs - External Repair
Figure 3 - Main Gear Door Skin at Ribs - Flush Repair
Figure 4 - Door Skin Between Beams Flush Repair
Figure 5 - Door Skin at Beam Flush Repair
Figure 6 - Access Panel - Outboard Main Landing Gear Door
Figure 7 - Access Panel - Main Landing Gear Inboard Door
Figure 8 - Main Cargo Door Window Zone Skin Repair
Figure 9 - Main Landing Gear Inboard Door Repair
Figure 10 - Nose Wheel Well Fairing Repair

DOORS

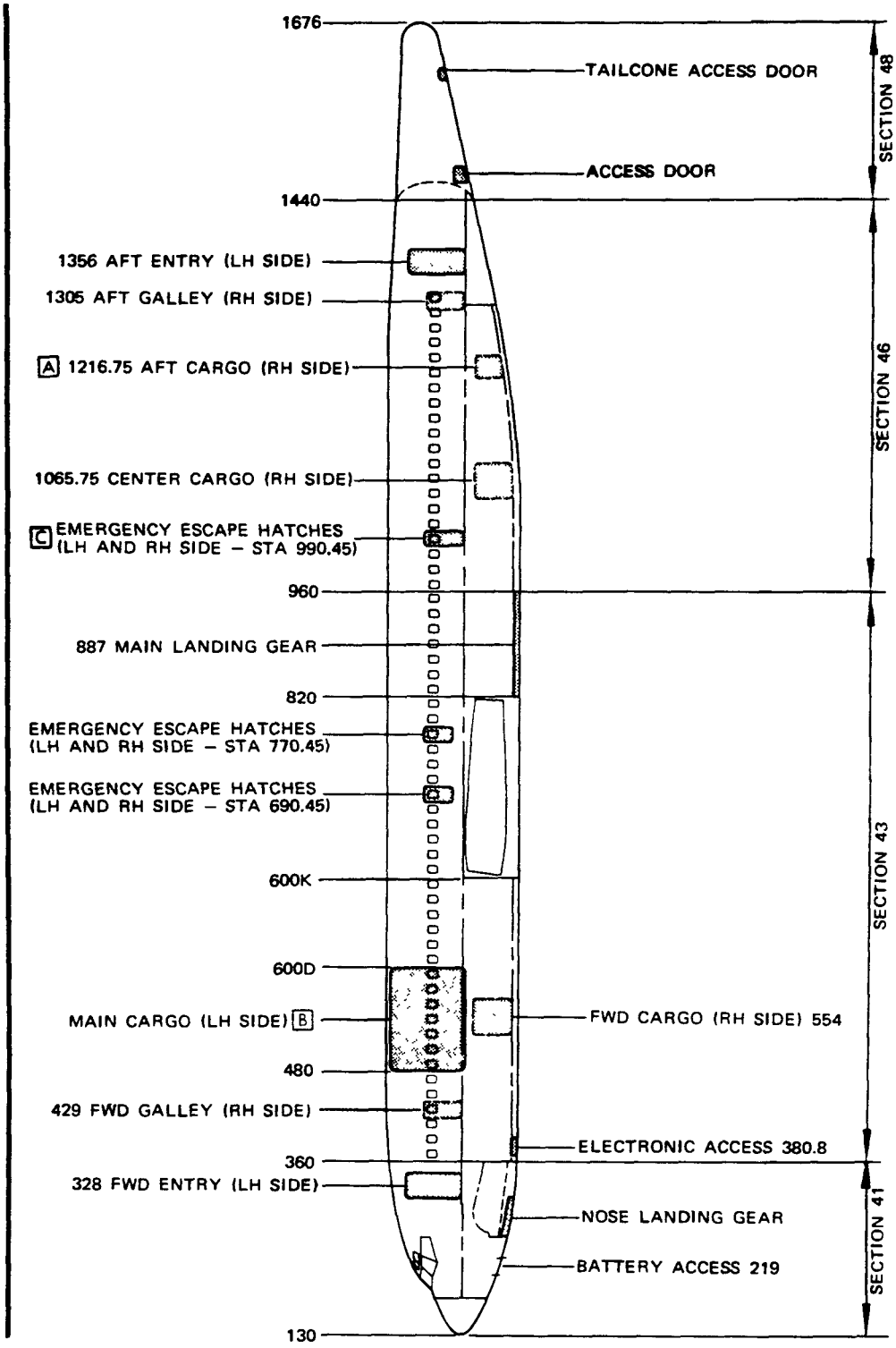
1. General

A. This chapter contains information pertaining to entry doors, cargo doors, galley doors, emergency hatches, equipment access doors and landing gear doors.

B. Materials of these structural components are tabulated, and their location and arrangement shown by illustrations.

C. Allowable damage to doors is defined and illustrated in 52-2-1.

END



NOTE

A THE FOLLOWING AIRPLANES DO NOT HAVE AFT CARGO DOOR.
TW ALL AIRPLANES
PA 17674, 17677, 17680, 17683, 17686 AND 17689

B FOR ALL CARGO AIRPLANES.

C FOR ALL CARGO AIRPLANES EXCEPT NW.

Door Location Diagram
Figure 1

ITEM	MATERIAL	REPAIR FIG. NO.
1	BAC1506-992 7075-T6	51-14-4 FIG. 1
2	0.071 CLAD 7075-T6	51-14-2 FIG. 1
3	BAC1517-1099 CLAD 7075-T6	51-14-3 FIG. 1
4	INNER CHORD 0.071 CLAD 7075-T6	51-14-3 FIG. 1
	OUTER CHORD BAC1506-992 7075-T6	51-14-4 FIG. 1
5	BAC1506-993 7075-T6	51-14-4 FIG. 1
6	0.063 CLAD 7075-T6	51-14-2 FIG. 1
7	0.10 CLAD 7075-T6	51-14-2 FIG. 1
8	0.125 CLAD 7075-T6	51-14-2 FIG. 1
9	0.080 CLAD 7075-T6	51-14-2 FIG. 1
10	0.090 CLAD 2024-T3	
11	0.056 CLAD 2024-T3	
12	0.050 CLAD 2024-T42	
13	0.091 CLAD 2024-T42	

NOTE

[A] FOR AIRPLANES:
AA 18689 THRU 18692, 18938 THRU 18940
AF 18881
BA 18924, 18925
CO 18825, 18826, 18886, 18887
LA 19000
LH 18932, 18937
FT 18975, 18976
IN 18737, 18880, 19001
NW 18584 THRU 18586, 18693, 18710, 18746 THRU 18748, 18888, 18889, 18921, 18922, 18964, 19034
PA 18579, 18580, 18591, 18714 THRU 18718, 18765 THRU 18767, 18790, 18824
QF 18808 THRU 18810, 18953 THRU 18955
SN 18890, 19162
TW 18709, 18711 THRU 18713, 18756, 18757
WY 18582, 18583, 18707, 18991

[B] FOR AIRPLANES:
IR 20741
CA 20718 THRU 20723
MS 20760 THRU 20763
VM 20629
WT 20669

[C] FOR AIRPLANES WITH SB 2999 INCORPORATED AND FOR FOLLOWING AIRPLANES:
KU 20547
VM 20629
WT 20669

[D] FOR STATIONS 520, 530, 540, 550, 560, 570, AND 580.

[E] FOR STATIONS 510 AND 590.

[F] FOR STATIONS 530, 550 AND 570.

[G] RESIN BONDED DOUBLER TO SKIN.

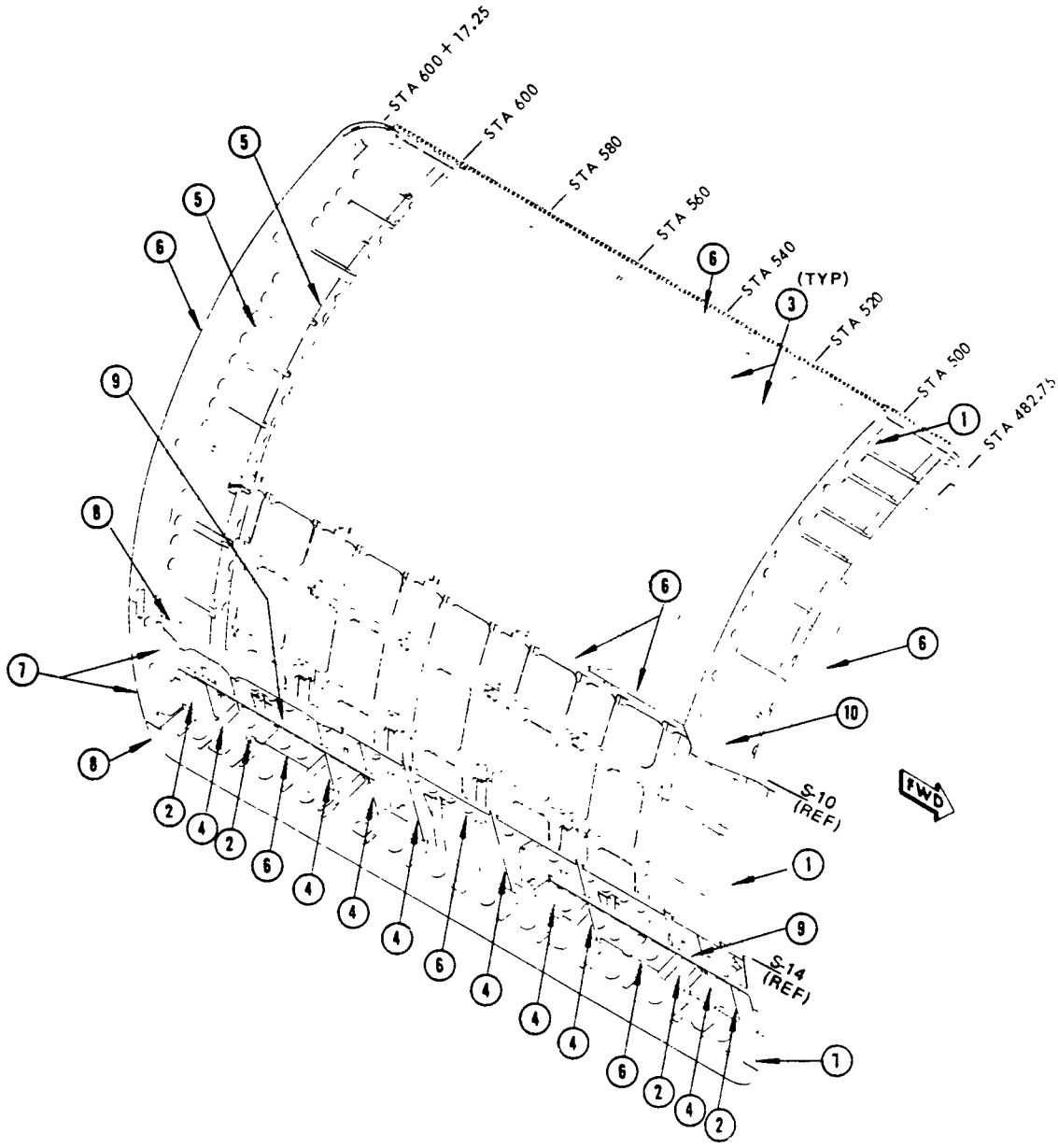
Main Cargo Door Material Identification
Figure 2 (Sheet 1)

NOTE (CONTINUED)

[H] FOR AIRPLANES:

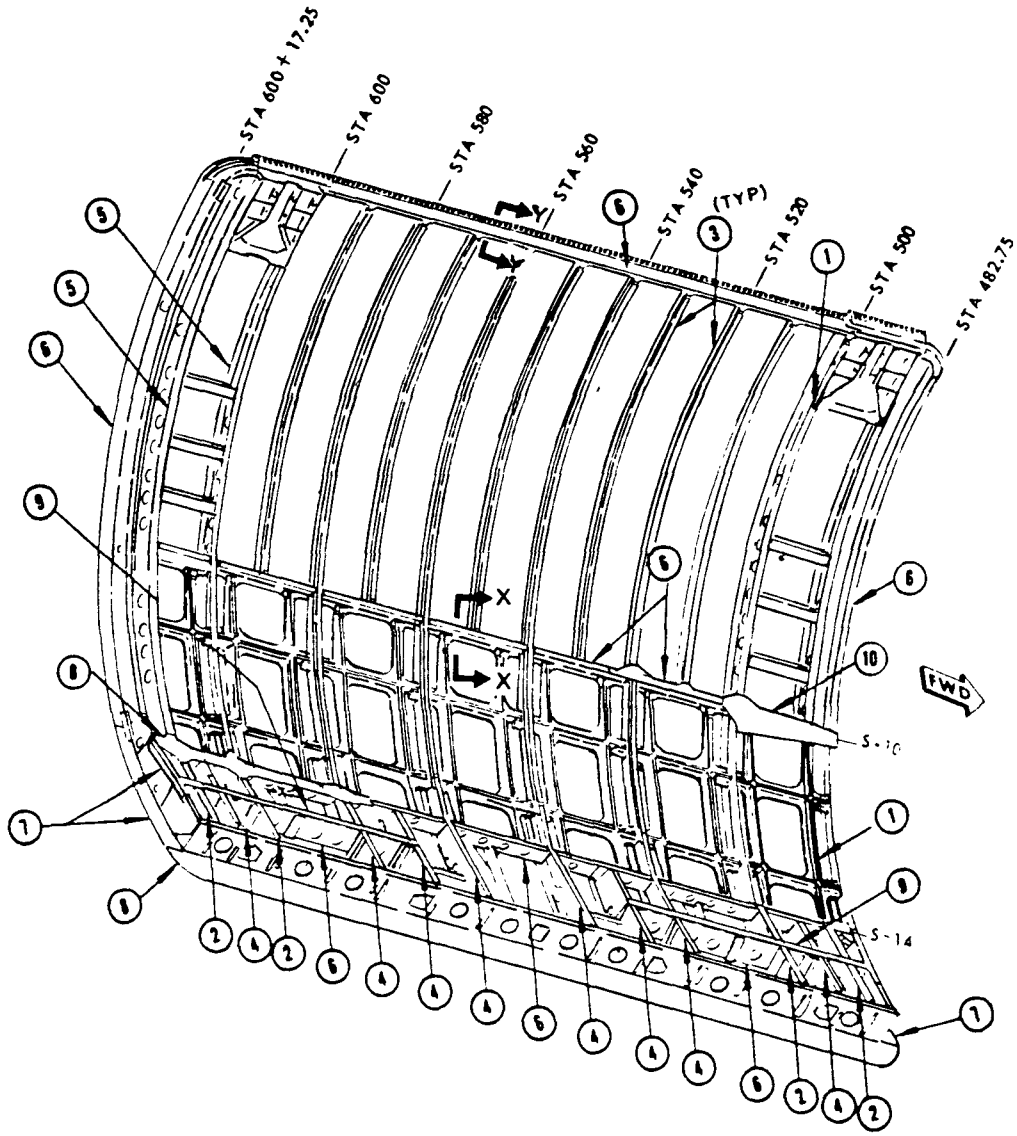
AA 19235 THRU 19237, 19380 THRU 19384, 19515 THRU 19519, 19581 THRU 19589, 19574 THRU 19577, 20087 THRU 20089
AF 19292, 19521 THRU 19724, 19821, 19916, 19917
AI 19248, 19988
AR 19961, 19962
BA 19498, 19843, 20374, 20375, 20517
BN 19104, 19105, 19107, 19108, 19440, 19531
BR 19415, 19767
CI 20261, 20262
CO 19177, 19178, 19350 THRU 19353, 19869, 19870
DC 20315 THRU 20319
EG 19590
EJ 19417, 19664, 19986
ET 19736, 19820
FT 19354, 19355
GR 19997 THRU 2000
IN 19410
IR 20287, 20288
KE 20522
KU 20084 THRU 20086, 20546
LH 19317, 20123, 20124, 20395
LV 20122, 20301
ME 20224, 20225, 20259, 20260
MS 19844, 19845, 20341, 20342
NW 19163, 19164, 19168, 19209, 19210, 19263, 19411, 19412, 19434, 19443, 19631, 19632, 193773 THRU 193777
OA 18948 THRU 18950, 19760
PA 19267 THRU 19274, 19367 THRU 19373, 19375, 19377, 19379, 20016 THRU 20018
PK 19284 THRU 19286, 19866, 20475, 20487, 20488
PQ 20514, 20415
QF 19293 THRU 19297, 19621, 19622 THRU 19630
RD 19416, 20076, 20077
RG 19106, 19320 THRU 19322, 19433, 19822, 19840, 19841, 19842, 19871, 20008
RJ 20494, 20495
SA 19705, 19706, 20230, 20283, 20110
SN 19211, 19996, 29198 THRU 20200
SQ 19529, 19530
SV 19809, 19810
TW 19212 THRU 19214, 19435, 19566, 19567, 20068, 20069, 20428, 20229
WA 19963 THRU 19967
WD 19789, 20043
WT 20474
WY 19179, 19441, 19442, 19715, 19716

Main Cargo Door Material Identification
Figure 2 (Sheet 2)



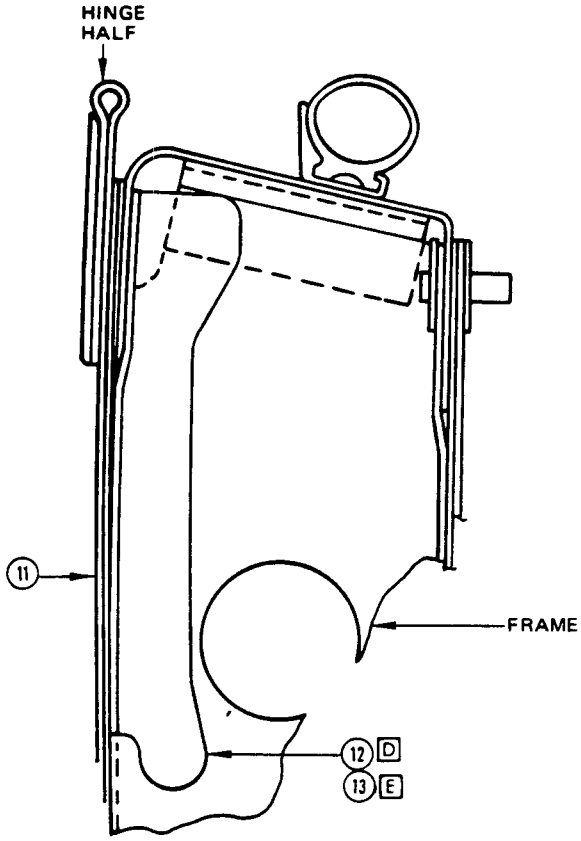
STRUCTURE FOR ALL CARGO AIRPLANES LISTED IN [A]

Main Cargo Door Material Identification
Figure 2 (Sheet 3)



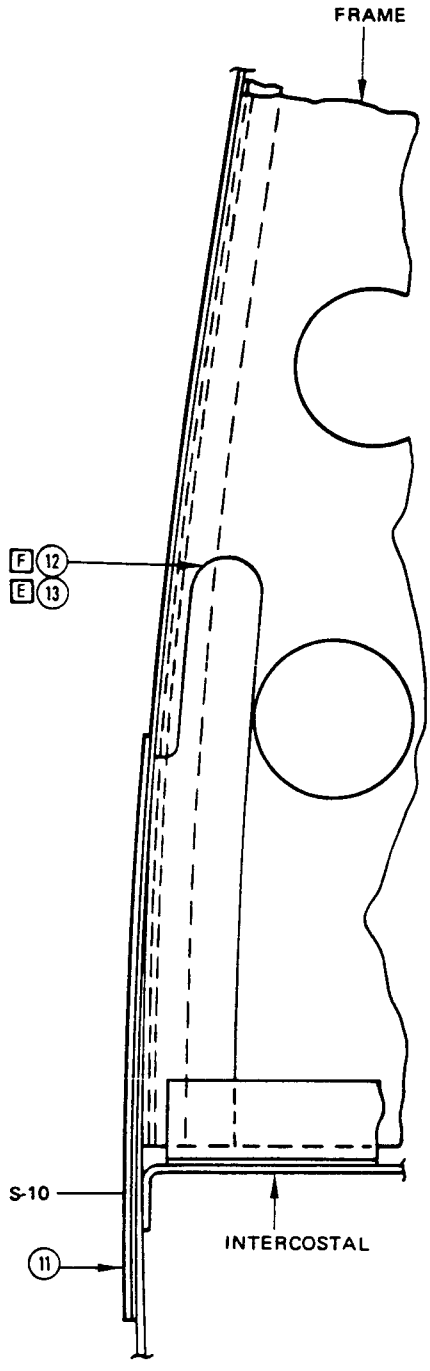
STRUCTURE FOR ALL CARGO AIRPLANES NOT LISTED IN [A]

Main Cargo Door Material Identification
Figure 2 (Sheet 4)



SECTION THRU HINGE

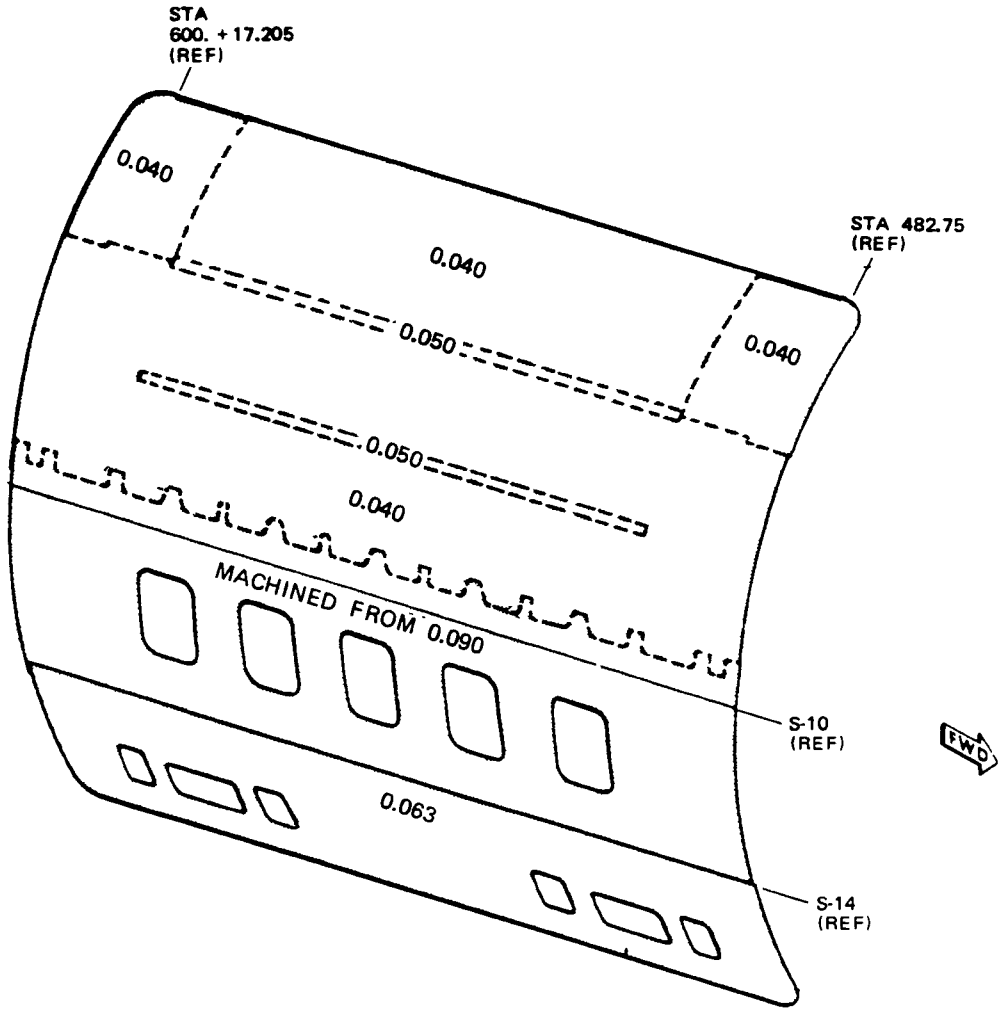
SECTION Y–Y C



SECTION THRU S-10

SECTION X–X C

Main Cargo Door Material Identification
Figure 2 (Sheet 5)

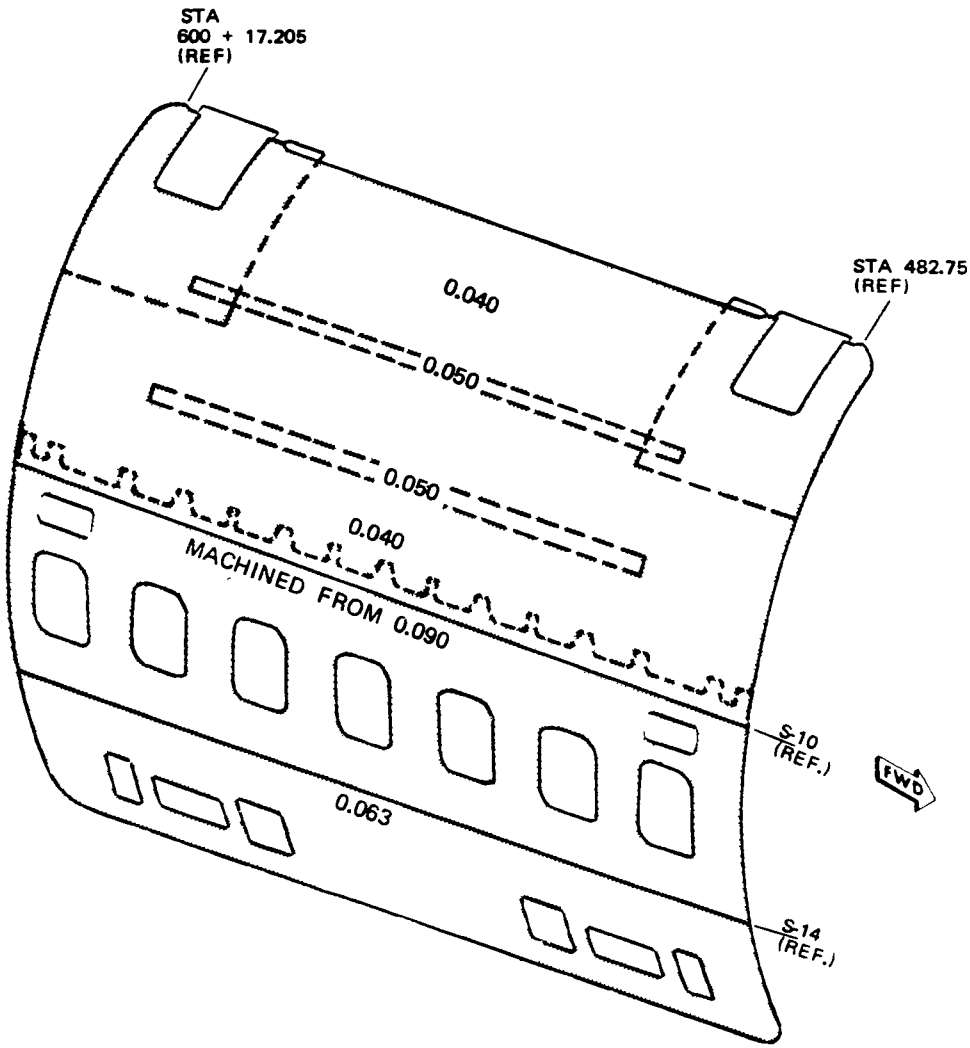


SKIN ASSEMBLY FOR ALL CARGO AIRPLANES LISTED IN [A]

SKIN REPAIR INDEX	
LOCATION OF DAMAGE	REPAIR FIG NO.
MACHINED SKIN	52-3-1 FIG. 8
NON MACHINED SKIN	52-3-1 FIG. 4,

	CLAD 2024-T3 CLAD 2024-T4

Main Cargo Door Material Identification
Figure 2 (Sheet 6)

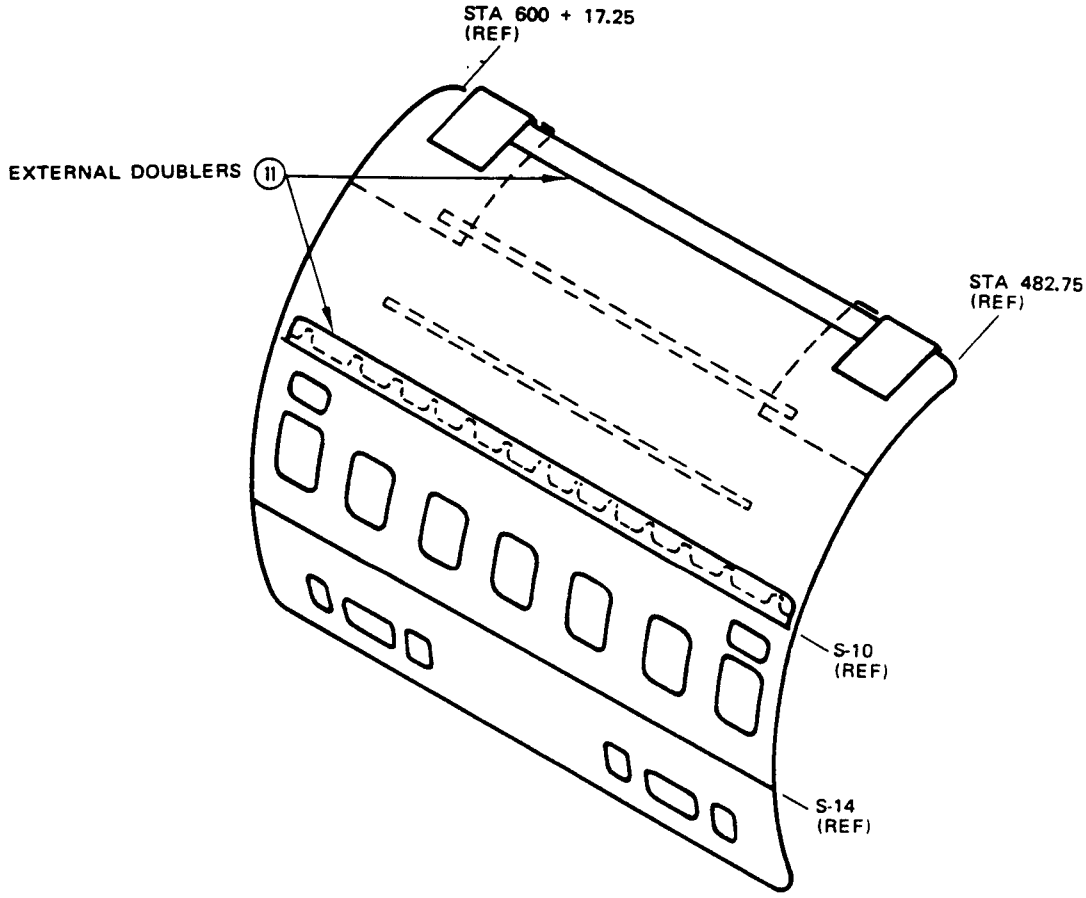


SKIN ASSEMBLY FOR ALL CARGO AIRPLANES LISTED IN [H]

SKIN REPAIR INDEX	
LOCATION OF DAMAGE	REPAIR FIG NO.
MACHINED SKIN	52-3-1 FIG. 8
NON MACHINED SKIN	52-3-1 FIG. 4, 5

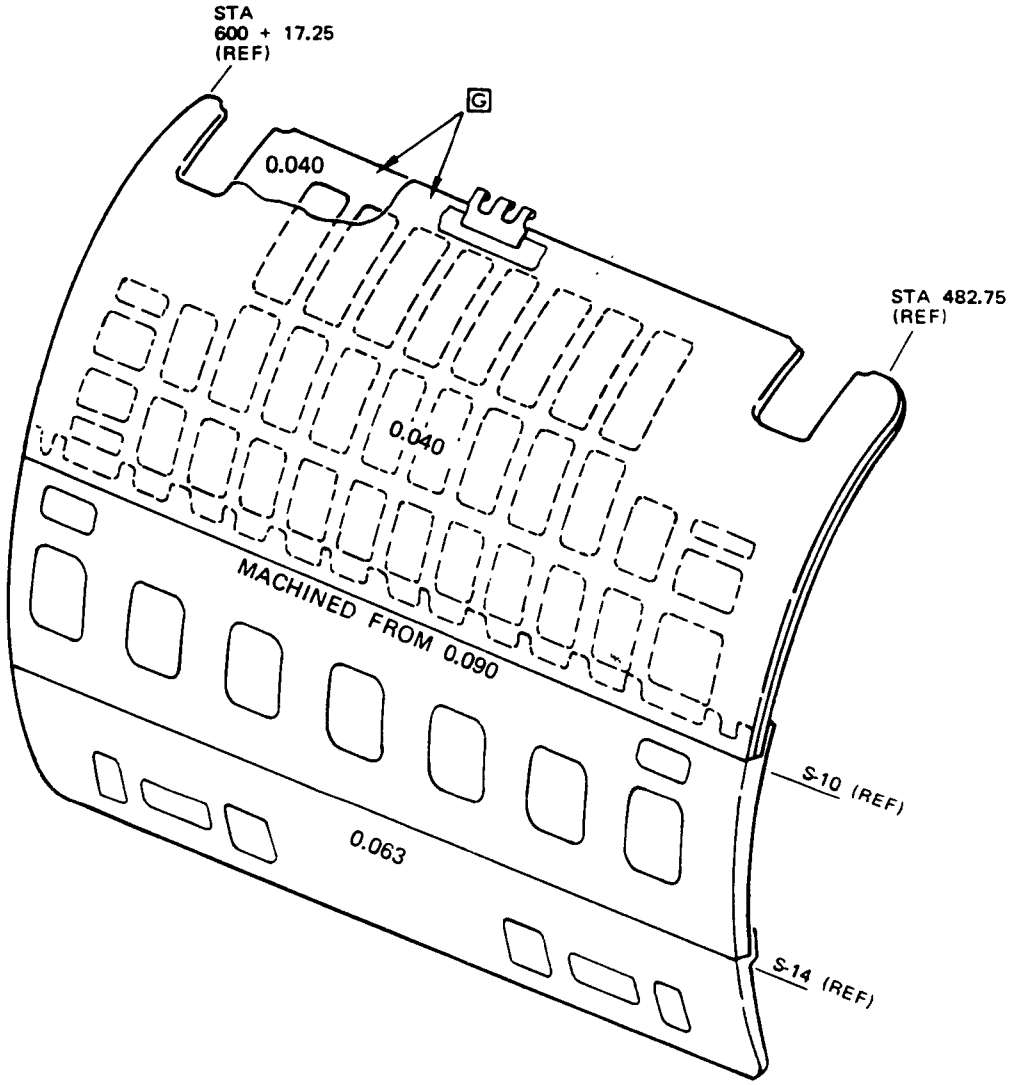
	CLAD 2024-T3 CLAD 2024-T4

Main Cargo Door Material Identification
Figure 2 (Sheet 7)



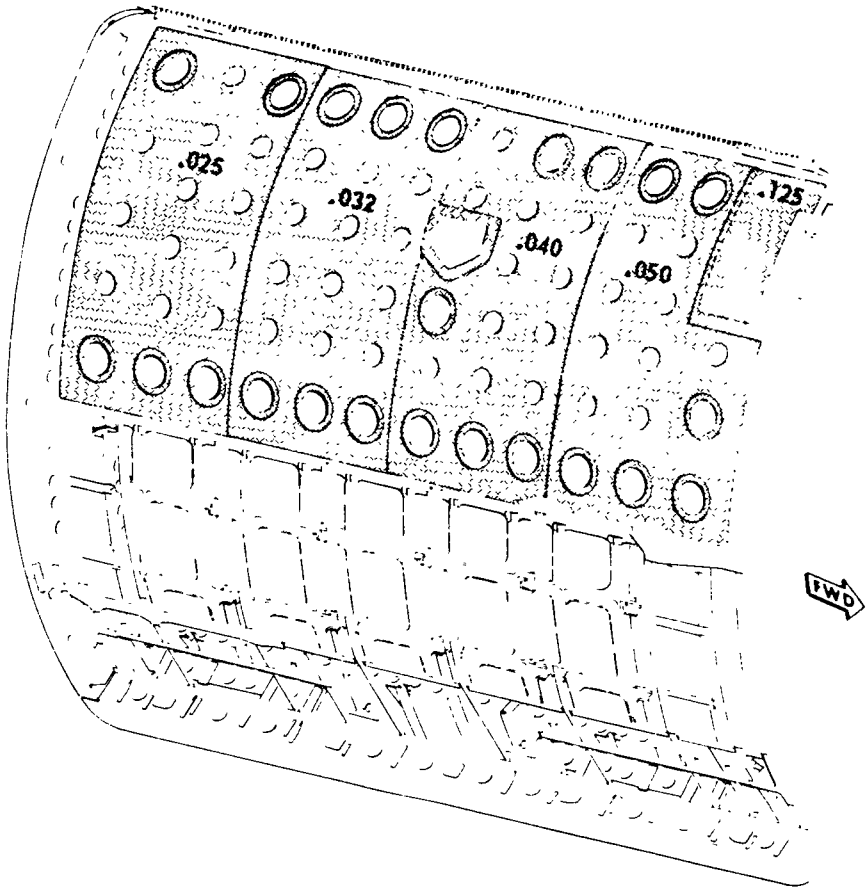
SKIN ASSEMBLY FOR CARGO AIRPLANES LISTED IN NOTE [C]

Main Cargo Door Material Identification
Figure 2 (Sheet 8)



SKIN ASSEMBLY FOR ALL CARGO AIRPLANES
NOT LISTED IN A AND H

Main Cargo Door Material Identification
Figure 2 (Sheet 9)

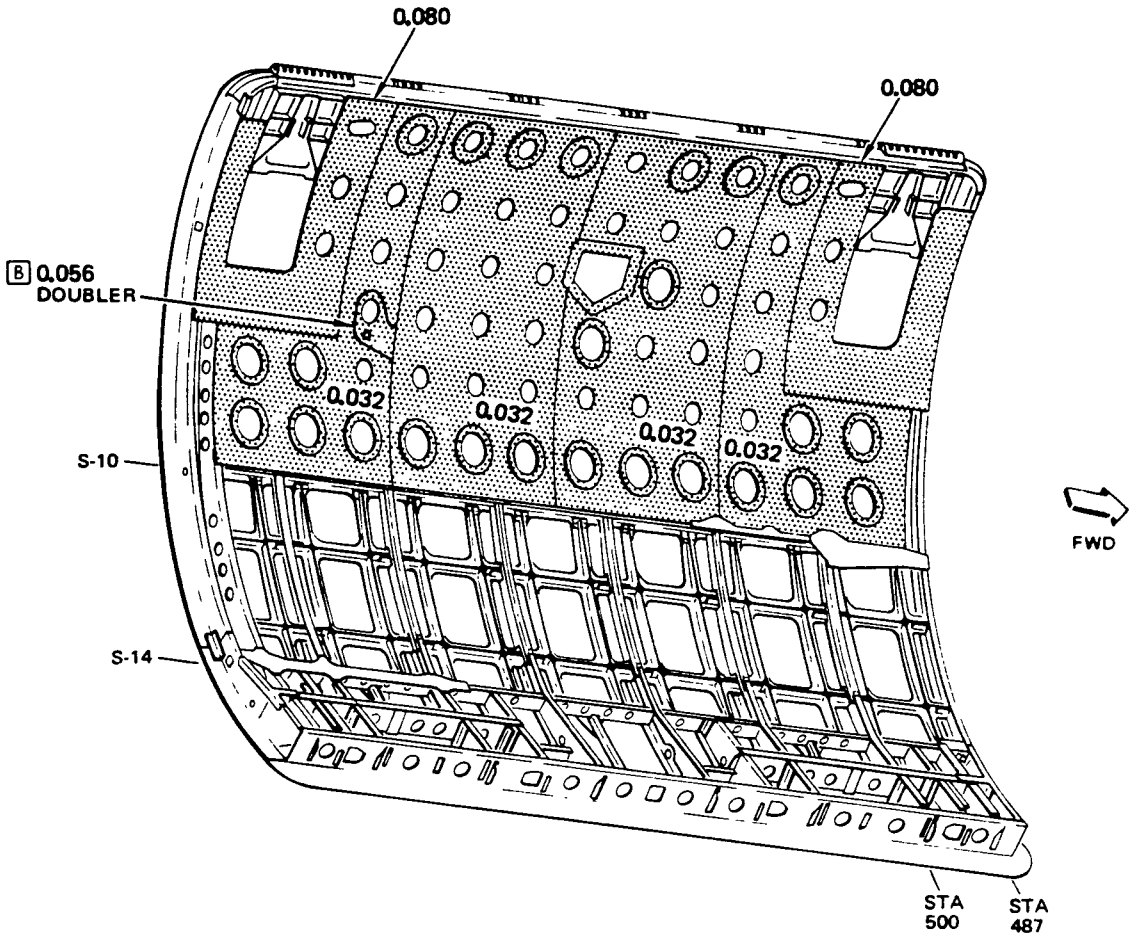


FOR ALL CARGO AIRPLANES LISTED IN [A]

SKIN REPAIR INDEX	
LOCATION OF DAMAGE	REPAIR FIG NO.
NON MACHINED SKIN	52-3-1 FIG. 4, 5

	CLAD 7075-T6

Main Cargo Door Material Identification
Figure 2 (Sheet 10)



FOR ALL CARGO AIRPLANES NOT LISTED IN A

CLAD 7075-T6

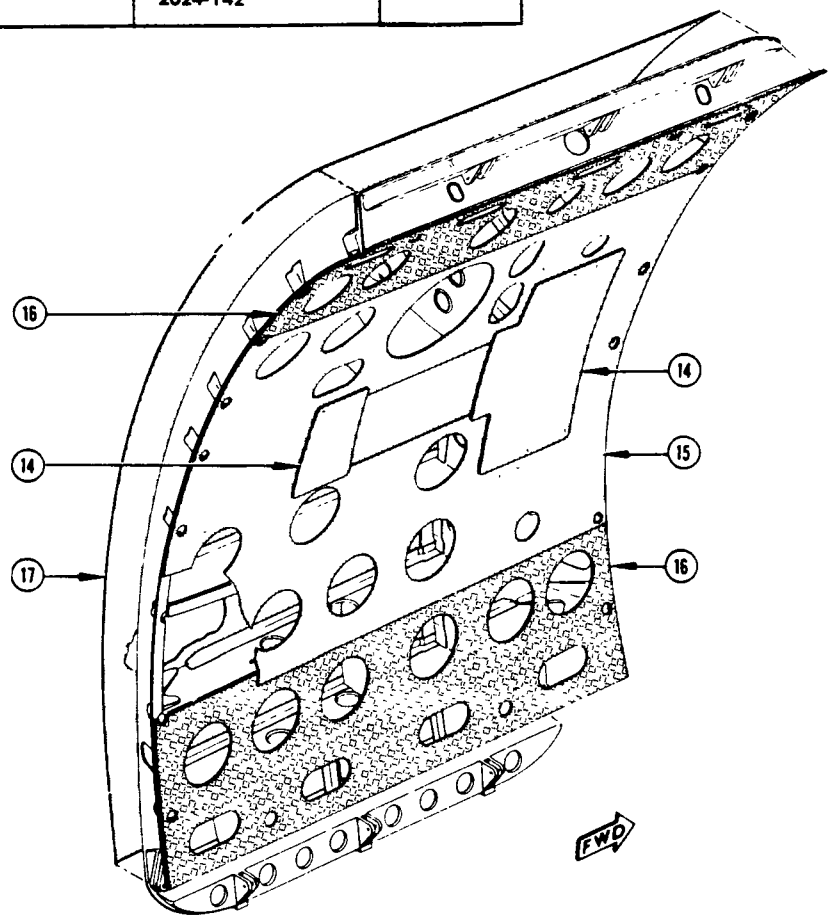
SKIN REPAIR INDEX	
LOCATION OF DAMAGE	REPAIR FIG. NO.
NON-MACHINED SKIN	52-3-1 FIG. 4, 5

Main Cargo Door Material Identification
Figure 2 (Sheet 11)

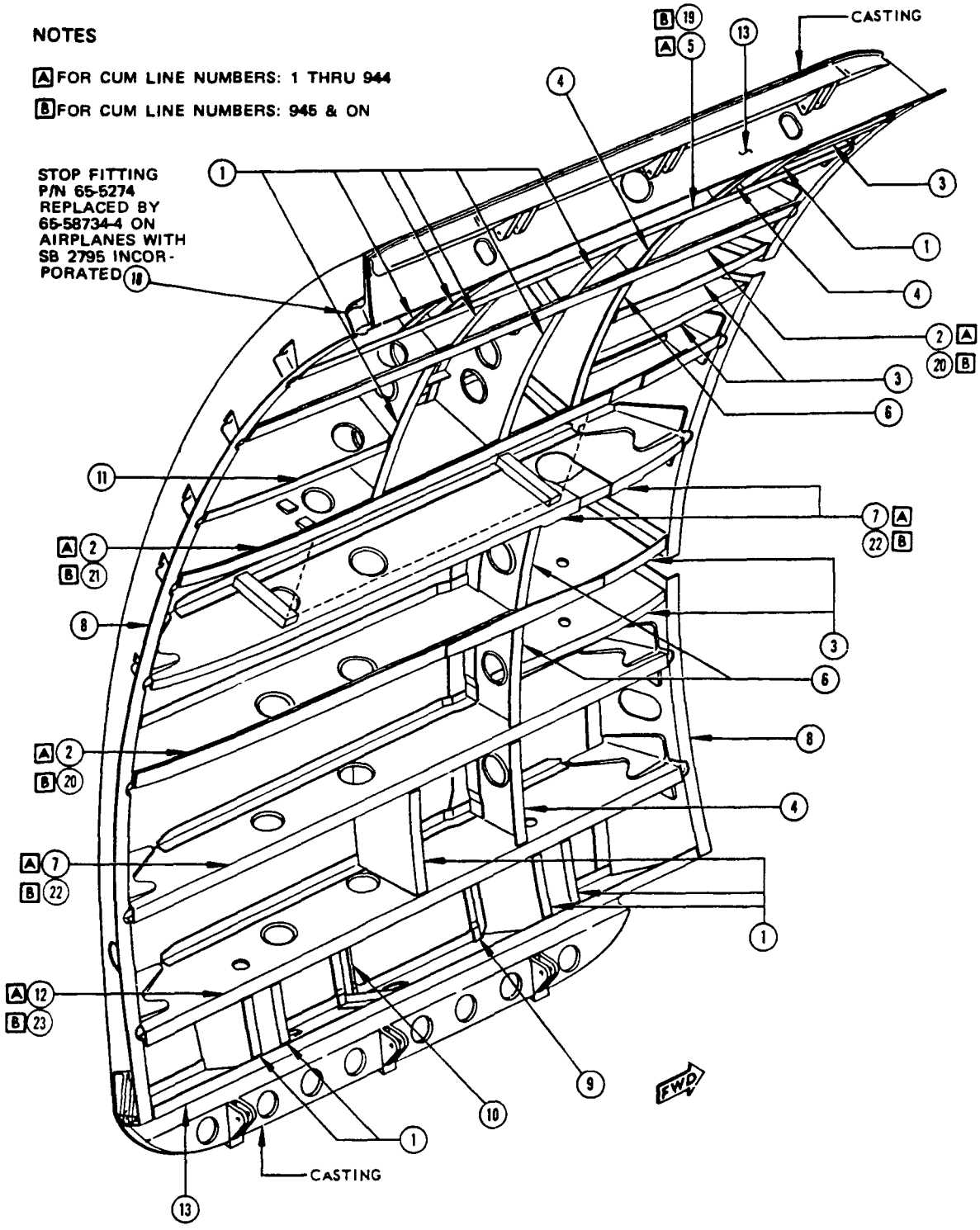
ITEM	WEB OR FORMED SECTION		OUTBOARD CHORD	
	MATERIAL	REPAIR FIG. NO.	MATERIAL	REPAIR FIG. NO.
1	0.040 CLAD 2024-T4	51-14-3 FIG. 1		
2	0.050 CLAD 7075-T6	51-14-2 FIG. 1	0.040 CLAD 2024-T4	51-14-3 FIG. 1
3	0.056 CLAD 2024-T4	51-14-3 FIG. 1		
4	0.040 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-2630 CLAD 7075-T6	51-14-3 FIG. 1
5	0.045 CLAD 7075-T6	51-14-3 FIG. 1	0.040 CLAD 2024-T4	51-14-3 FIG. 1
6	0.040 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-2548 CLAD 7075-T6	51-14-3 FIG. 1
7	0.056 CLAD 7075-T6	51-14-3 FIG. 1	0.040 CLAD 2024-T4	51-14-3 FIG. 1
8	0.063 CLAD 7075-T6			
9			BAC1490-2630 CLAD 7075-T6	51-14-3 FIG. 1
10			AND10141-1402 7075-T6	51-14-4 FIG. 1
11	0.040 CLAD 7075-T6	51-14-3 FIG. 1		
12	0.040 CLAD 7075-T6	51-14-3 FIG. 1	0.040 CLAD 2024-T4	51-14-2 FIG.
13	0.050 CLAD 7075-T6			
14	0.040 CLAD 2024-T3	51-14-2 FIG. 1		
15	0.032 CLAD 2024-T4	51-14-2 FIG. 1		
16	0.050 CLAD 7075-T6	51-14-2 FIG. 1		

Forward Entry Door Material Identification
Figure 3 (Sheet 1)

ITEM	WEB OR FORMED SECTION		OUTBOARD CHORD	
	MATERIAL	REPAIR FIG. NO.	MATERIAL	REPAIR FIG. NO.
17	0.045 CLAD 2024–T4	52–3–1 FIG.4&5		
18	7079–T6 FORGING			
19	0.045 CLAD 7075–T6	51–14–3 FIG. 1	BAC1505–100117 2024–T42	51–14–4 FIG. 1
20	0.050 CLAD 7075–T6	51–14–3 FIG. 1	BAC1505–100117 2024–T42	51–14–4 FIG. 1
21	0.050 CLAD 7075–T6	51–14–3 FIG. 1	BAC1505–100442 2024–T42	51–14–4 FIG. 1
22	0.056 CLAD 7075–T6	51–14–3 FIG. 1	BAC1505–100442 2024–T42	51–14–4 FIG. 1
23	0.040 CLAD 7075- T6	51–14–3 FIG. 1	BAC 1505–100117 2024-T42	51–14–4 FIG. 1



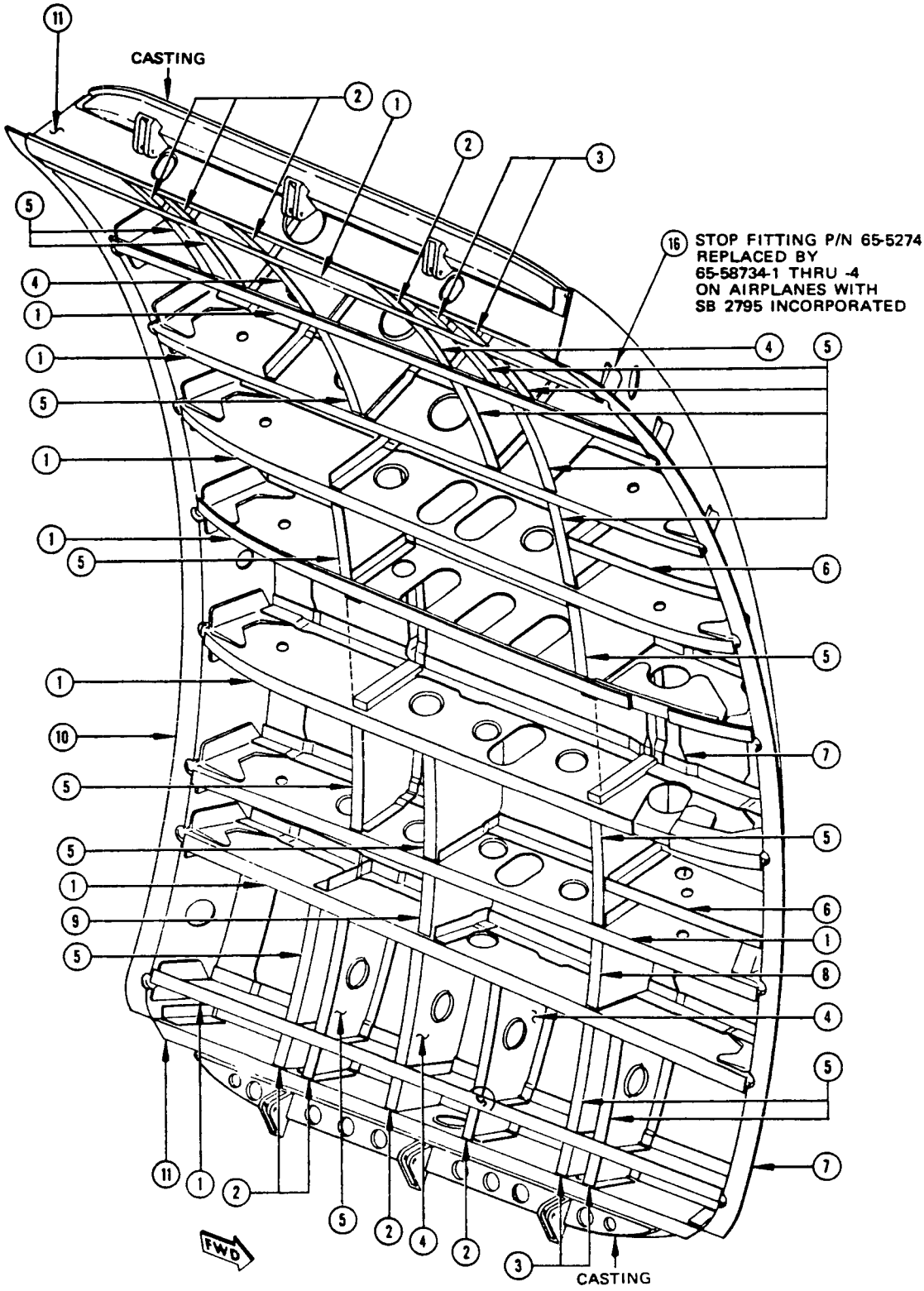
Forward Entry Door Material Identification
Figure 3 (Sheet 2)



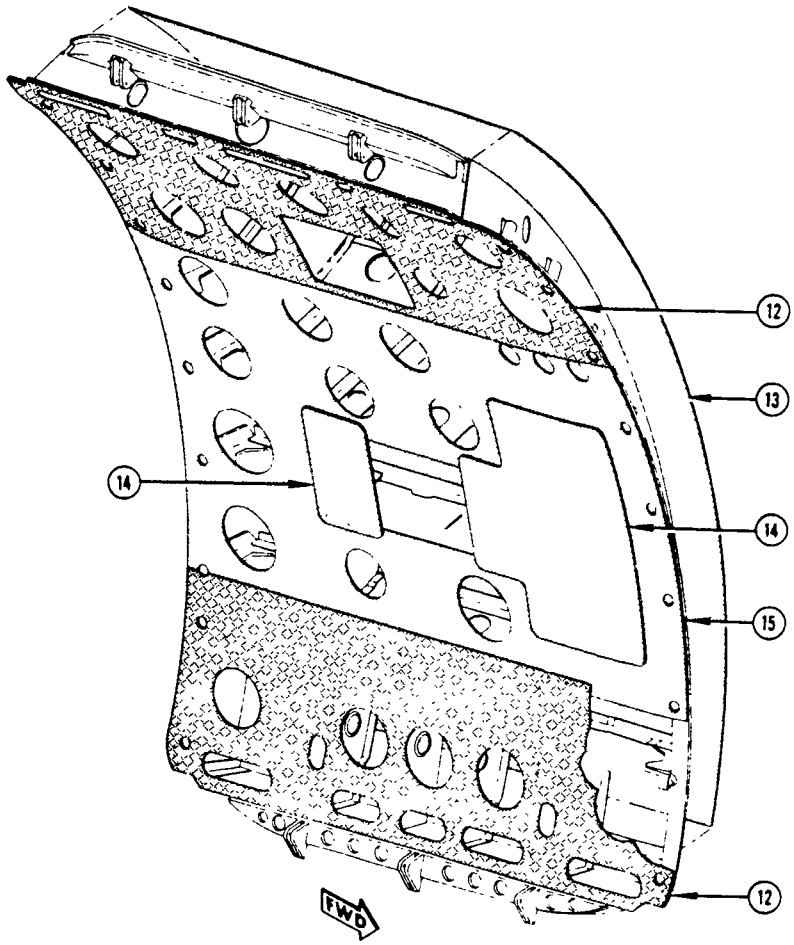
Forward Entry Door Material Identification
Figure 3 (Sheet 3)

ITEM	WEB FORMED SECTION OR DOUBLER		CHORD	
	MATERIAL	REPAIR FIG. NO.	MATERIAL	REPAIR FIG. NO.
1	0.050 CLAD 7075-T6	51-14-3 FIG. 1	0.040 CLAD 7075-T6	51-14-3 FIG. 1
2	0.050 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-2609 CLAD 2024-T4	51-14-3 FIG. 1
3	0.050 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-2759 CLAD 2024-T4	51-14-3 FIG. 1
4	0.040 CLAD 2024-T4	51-14-2 FIG. 1		
5	0.040 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-53 CLAD 2024-T4	51-14-3 FIG. 1
6	0.050 CLAD 2024-T4	51-14-3 FIG. 1		
7	0.063 CLAD 7075-T6			
8	0.040 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-53 CLAD 7075-T6	51-14-3 FIG. 1
9	0.040 CLAD 2024-T4	51-14-3 FIG. 1	BAC1490-2759 CLAD 2024-T4	51-14-3 FIG. 1
10	0.071 CLAD 7075-T6			
11	0.050 CLAD 7075-T6			
12	0.056 CLAD 7075-T6	51-14-2 FIG. 1		
13	0.045 CLAD 2024-T4	52-3-1 FIG. 4&5		
14	0.040 CLAD 2024-T4	51-14-2 FIG. 1		
15	0.032 CLAD 2024-T4	51-14-2 FIG. 1		
16	7079-T6 FORGING			

Aft Entry Door Material Identification
Figure 4 (Sheet 1)

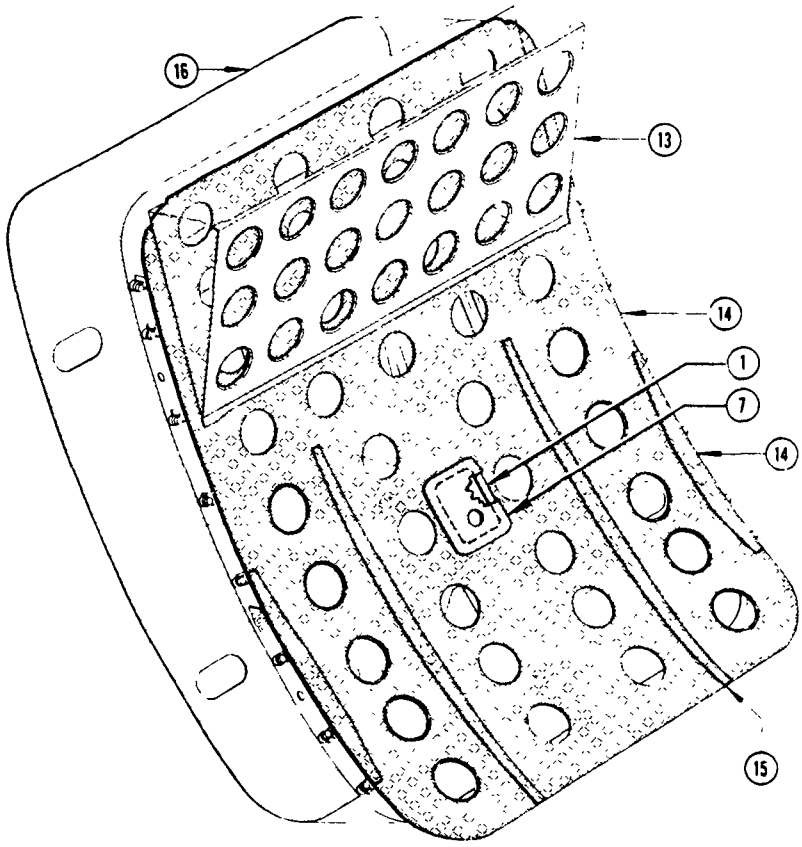


Aft Entry Door Material Identification
Figure 4 (Sheet 2)

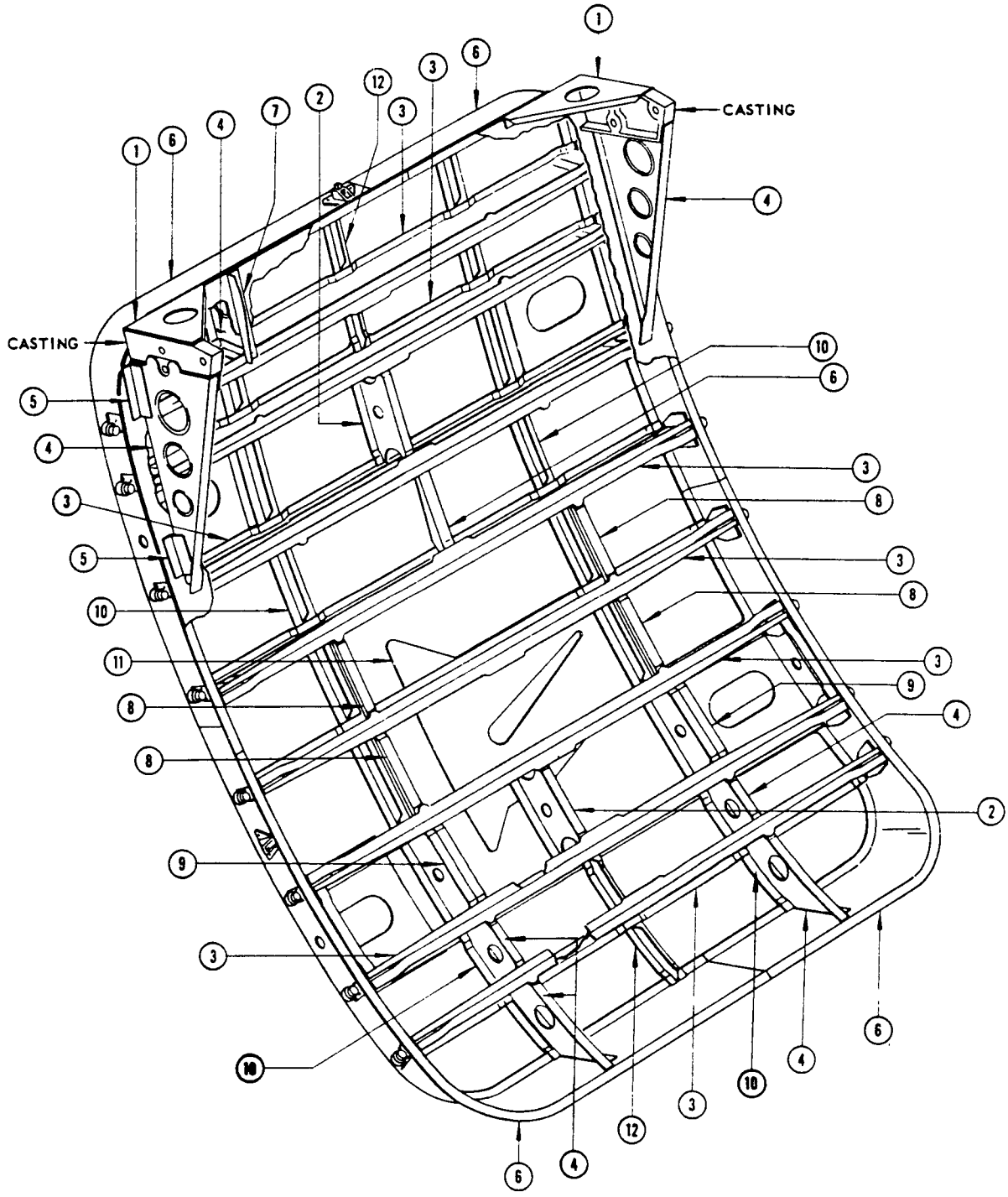


Aft Entry Door Material Identification
Figure 4 (Sheet 3)

ITEM	WEB OR FORMED SEC		INBD CHORD		OUTBD CHORD	
	MATERIAL	REPAIR FIG NO.	MATERIAL	REPAIR FIG NO.	MATERIAL	REPAIR FIG NO.
1	.050 CLAD 2024-T4					
2	.050 CLAD 7075-T6	51-14-3 FIG. 1				
3	.063 CLAD 7075-T6	51-14-3 FIG. 1	BAC 1514-944 7075-T6	51-14-4 FIG. 1	BAC 1490-2740 CLAD 2024-T4	51-14-3 FIG. 1
4	.040 CLAD 7075-T6	51-14-3 FIG. 1				
5					AND 10136-1302 7075-T6	51-14-4 FIG. 1
6	.063 CLAD 7075-T6					
7	.040 CLAD 2024-T4	51-14-3 FIG. 1				
8			AND 10134-0601 7075-T6	51-14-4 FIG. 1		
9	.040 CLAD 7075-T6	51-14-3 FIG. 1	BAC 1503-100027 7075-T6	51-14-4 FIG. 1		
10					AND 10136-2003 7075-T6	51-14-4 FIG. 1
11	.032 CLAD 2024-T3	51-14-2 FIG. 1				
12	AND 10134-1005 2024-T4	51-14-4 FIG. 1				
13	.040 CLAD 2024-T4	51-14-2 FIG. 1				
14	.040 CLAD 7075-T6	51-14-2 FIG. 1				
15	.063 CLAD 7075-T6	51-14-2 FIG. 1				
16	.045 CLAD 2024-T3	52-3-1 FIG. 4&5				

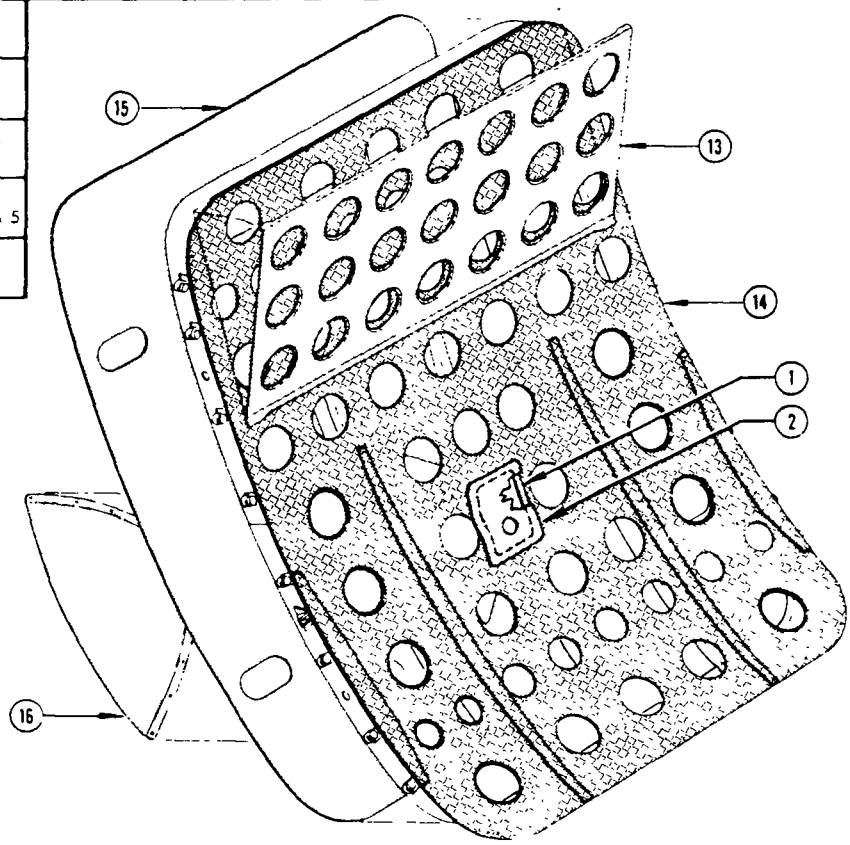


Forward Cargo Door Material Identification
Figure 5 (Sheet 1 of 2)

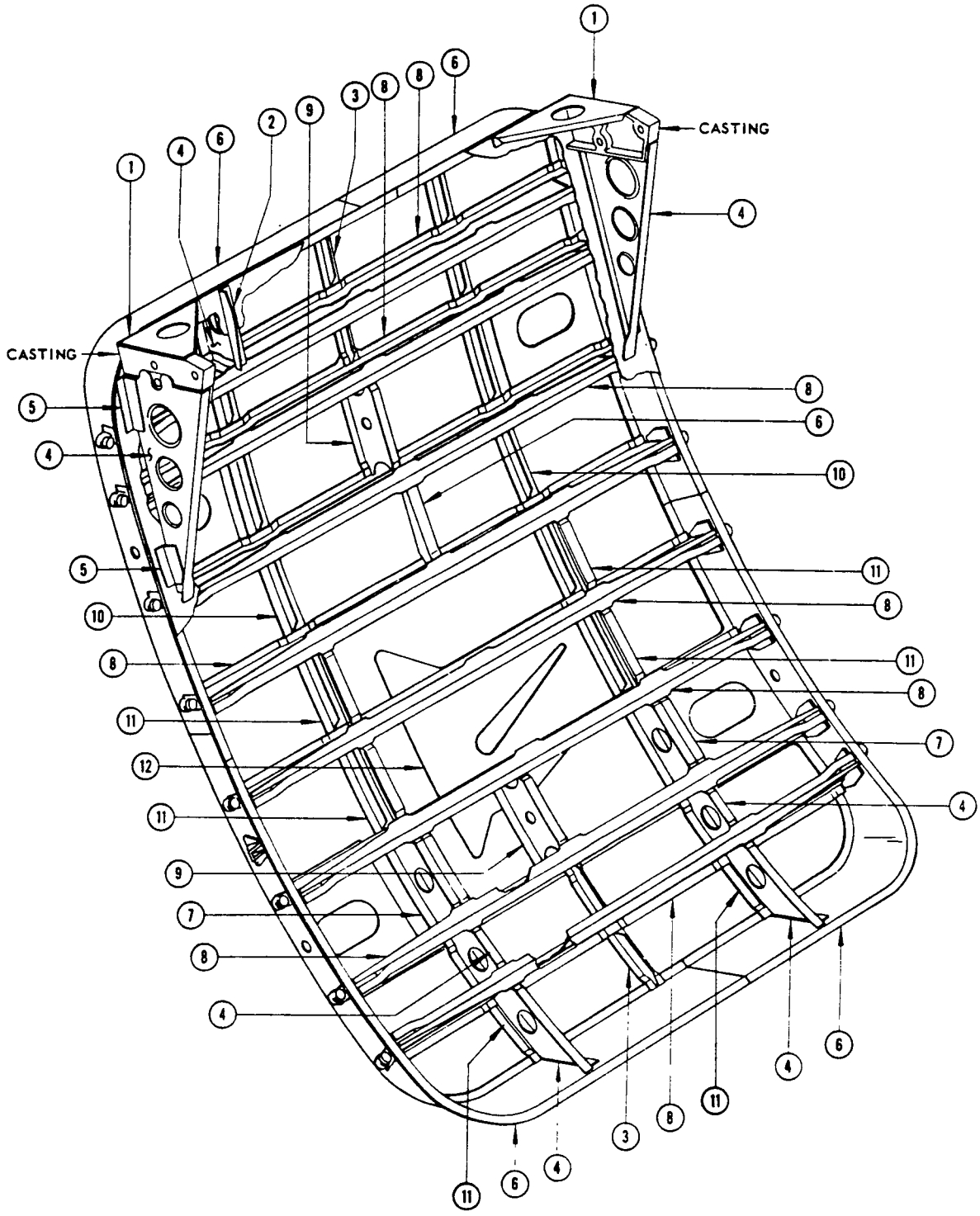


Forward Cargo Door Material Identification
Figure 5 (Sheet 2 of 2)

ITEM	WEB OR FORMED SEC		INBD CHORD		OUTBD CHORD	
	MATERIAL	REPAIR FIG NO.	MATERIAL	REPAIR FIG NO.	MATERIAL	REPAIR FIG NO.
(1)	.050 CLAD 2024-T4					
(2)	.040 CLAD 2024-T4					
(3)					AND 10136-1302 7075-T6	51-14-4 FIG. 1
(4)	.040 CLAD 7075-T6	51-14-3 FIG. 1				
(5)	AND 10134-1005 2024-T4	51-14-4 FIG. 1				
(6)	.063 CLAD 7075-T6					
(7)	.040 CLAD 7075-T6	51-14-3 FIG. 1	AND 10134-1003 7075-T6	51-14-4 FIG. 1		
(8)	.063 CLAD 7075-T6	51-14-3 FIG. 1	BAC 1514-944 7075-T6	51-14-4 FIG. 1	.050 CLAD 2024-T4	51-14-3 FIG. 1
(9)	.050 CLAD 2024-T4	51-14-3 FIG. 1	BAC 1490-2715 7075-T6	51-14-3 FIG. 1		
(10)					AND 10136-2003 7075-T6	51-14-4 FIG. 1
(11)			AND 10133-0601 7075-T6	51-14-4 FIG. 1		
(12)	.032 CLAD 2024-T3	51-14-2 FIG. 1				
(13)	.040 CLAD 2024-T3	51-14-2 FIG. 1				
(14)	.040 CLAD 7075-T6	51-14-3 FIG. 1				
(15)	.045 CLAD 2024-T3	52-3-1 FIG. 4 & 5				
(16)	.040 2024-T4					

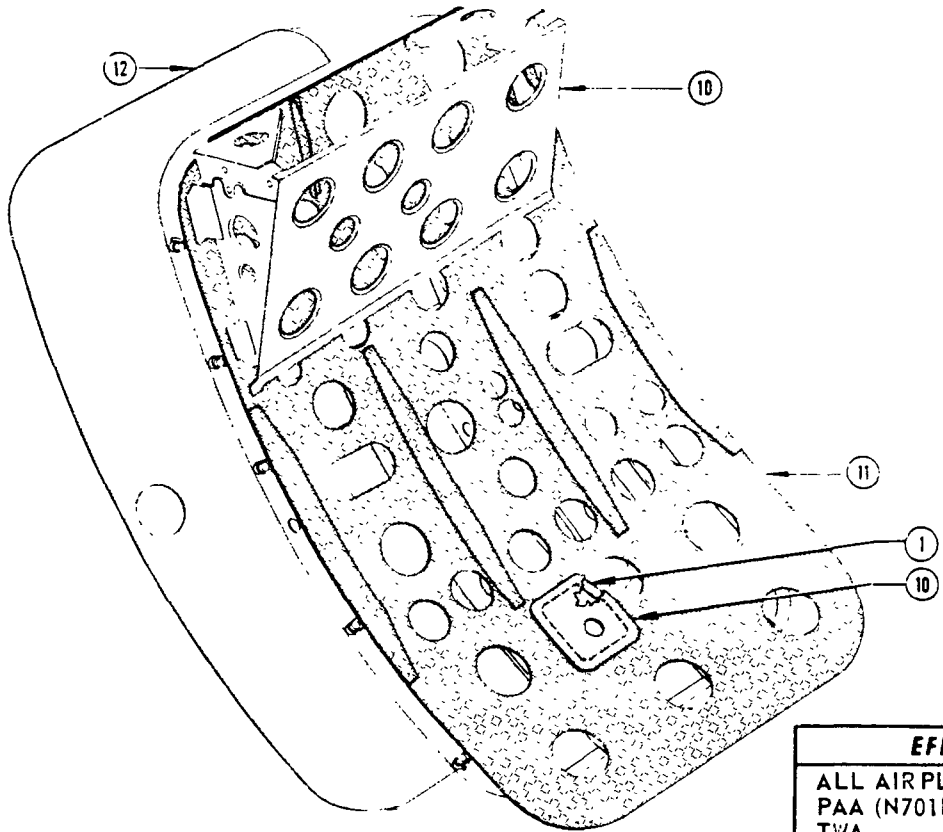


Center Cargo Door Material Identification
Figure 6 (Sheet 1 of 3)



Center Cargo Door Material Identification
Figure 6 (Sheet 2 of 2)

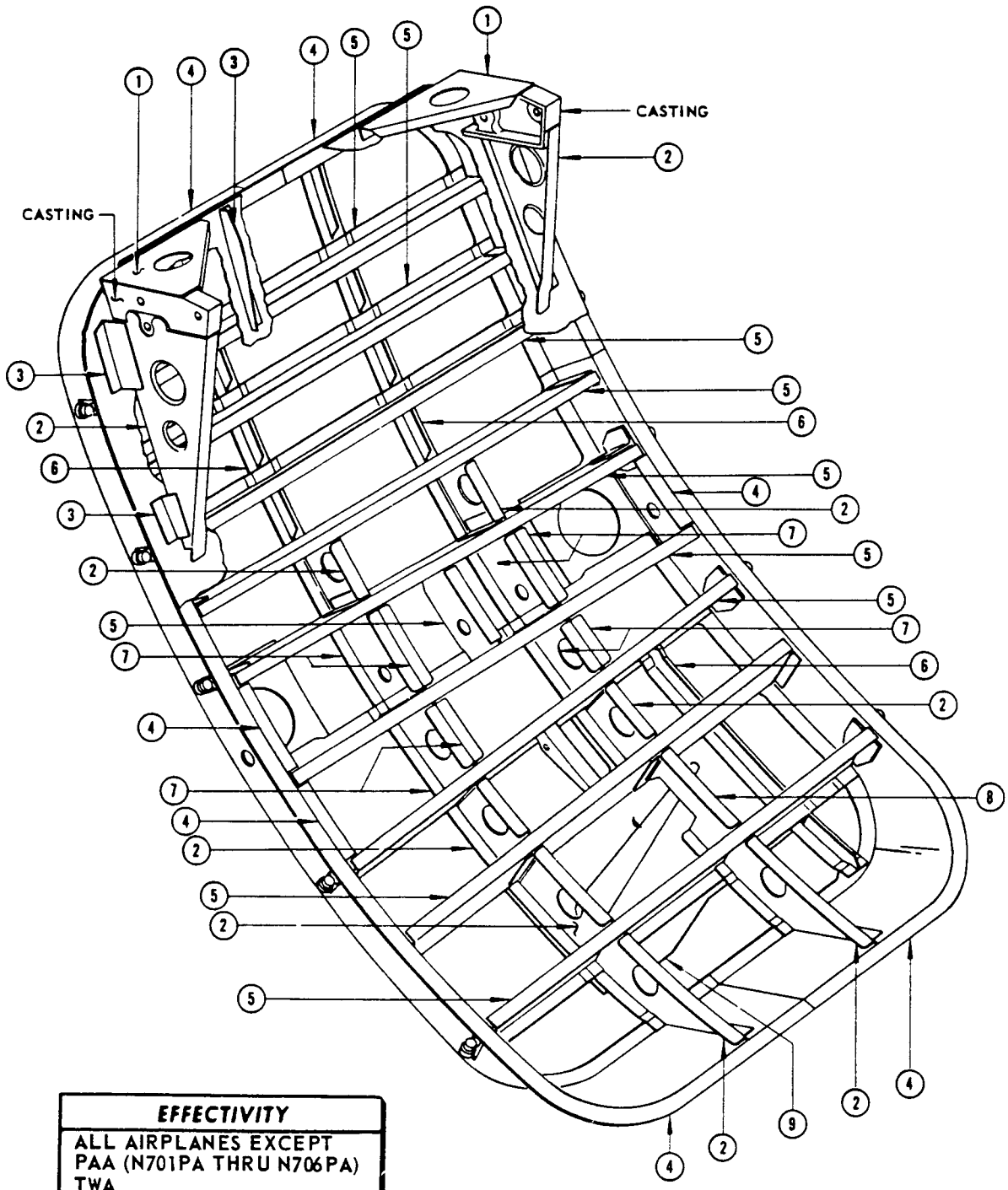
ITEM	MATERIAL	REPAIR FIG NO.	ITEM	MATERIAL	REPAIR FIG NO.
(1)	.050 CLAD 2024-T4		(7)	.040 CLAD 7075-T6	51-14-3 FIG. 1
(2)	.040 CLAD 7075-T6	51-14-3 FIG. 1	(8)	.040 CLAD 7075-T6	51-14-3 FIG. 1
(3)	.063 CLAD 2024-T4	51-14-3 FIG. 1	(9)	.032 CLAD 2024-T3	51-14-2 FIG. 1
(4)	.063 CLAD 7075-T6		(10)	.040 CLAD 2024-T3	51-14-2 FIG. 1
(5)	.050 CLAD 7075-T6	51-14-3 FIG. 1	(11)	.036 CLAD 7075-T6	51-14-2 FIG. 1
(6)	BAC 1505-18641 7075-T6	51-14-4 FIG. 1	(12)	.045 CLAD 2024-T3	52-3-1 FIG. 4 & 5



EFFECTIVITY

ALL AIRPLANES EXCEPT PAA (N701PA THRU N706PA) TWA

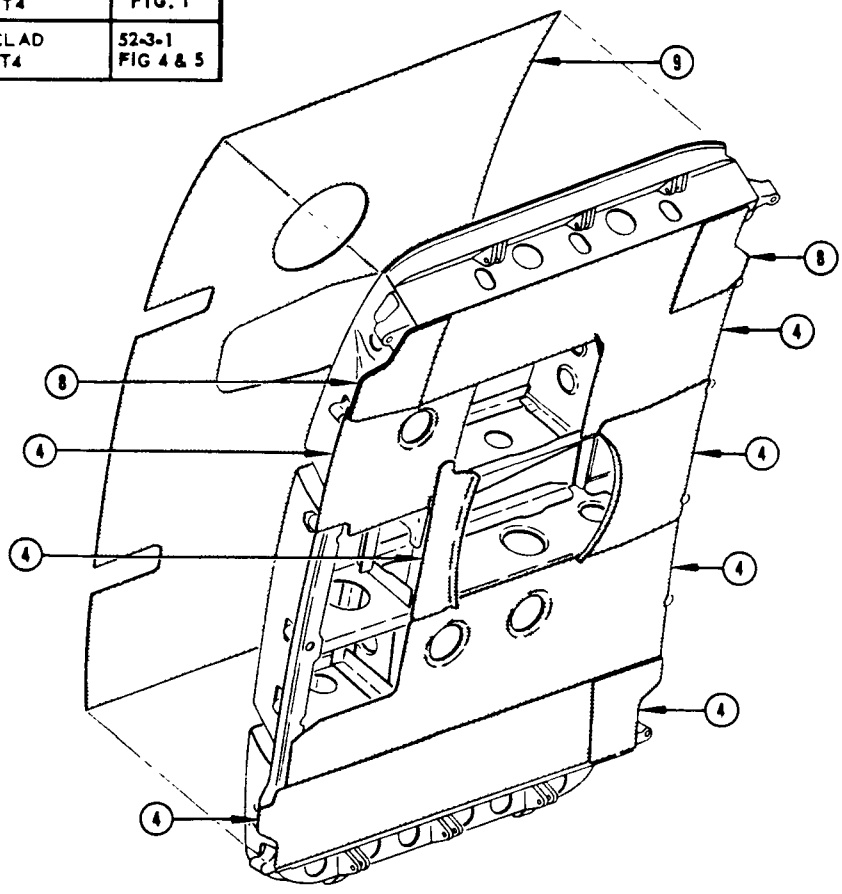
Aft Cargo Door Material Identification
Figure 7 (Sheet 1 of 2)



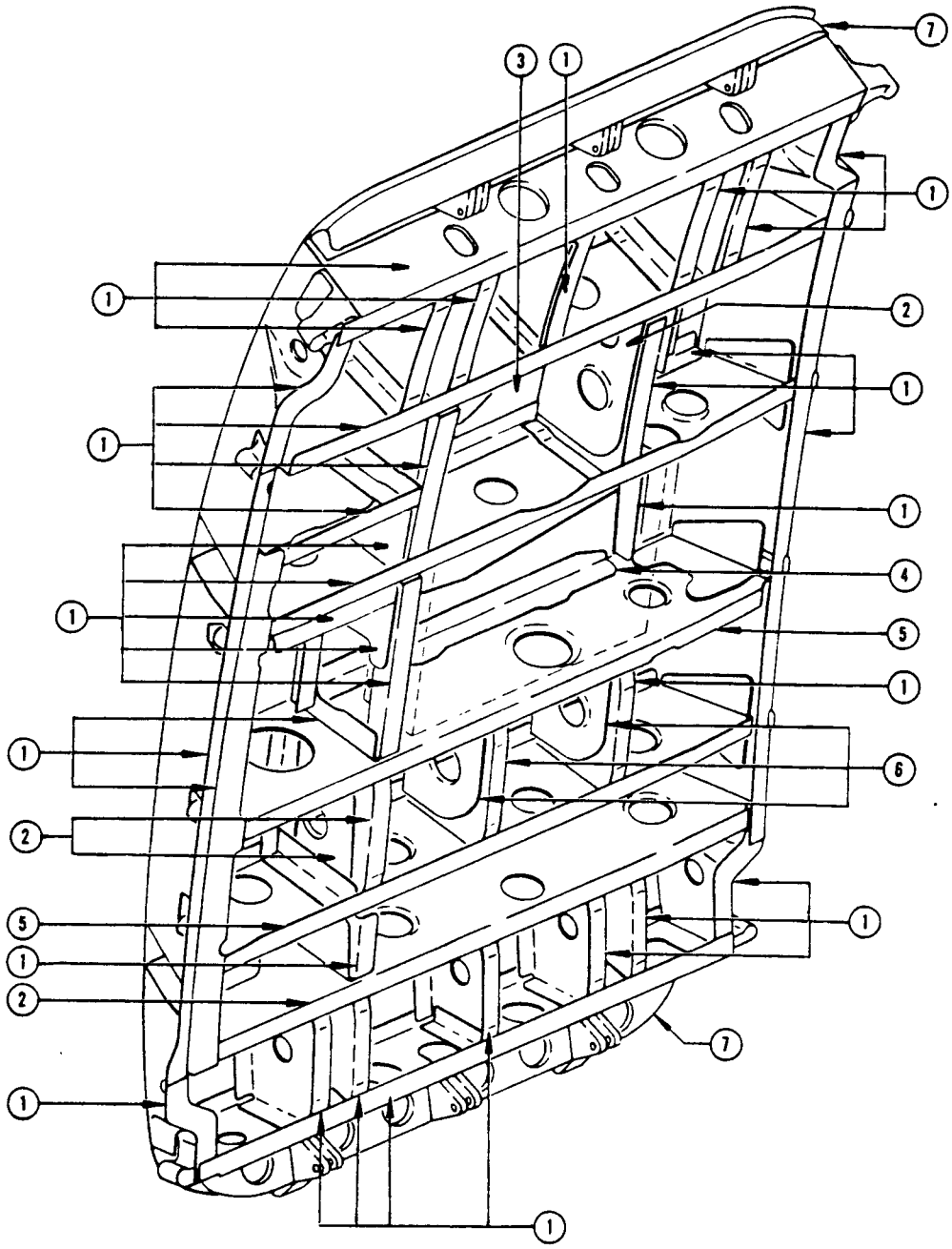
EFFECTIVITY
ALL AIRPLANES EXCEPT PAA (N701PA THRU N706PA) TWA

Aft Cargo Door Material Identification
Figure 7 (Sheet 2 of 2)

ITEM	MATERIAL	REPAIR FIG NO.
1	.063 CLAD 7075-T6	
2	.040 CLAD 7075-T6	51-14-3 FIG. 1
3	.080 CLAD 2024-T3	
4	.040 CLAD 2024-T3	51-14-2 FIG. 1
5	.056 CLAD 7075-T6	51-14-3 FIG. 1
6	.050 CLAD 7075-T6	51-14-3 FIG. 1
7	MAG. COND. A AZ91C	
8	.050 CLAD 2024-T4	51-14-2 FIG. 1
9	.040 CLAD 2024-T4	52-3-1 FIG 4 & 5

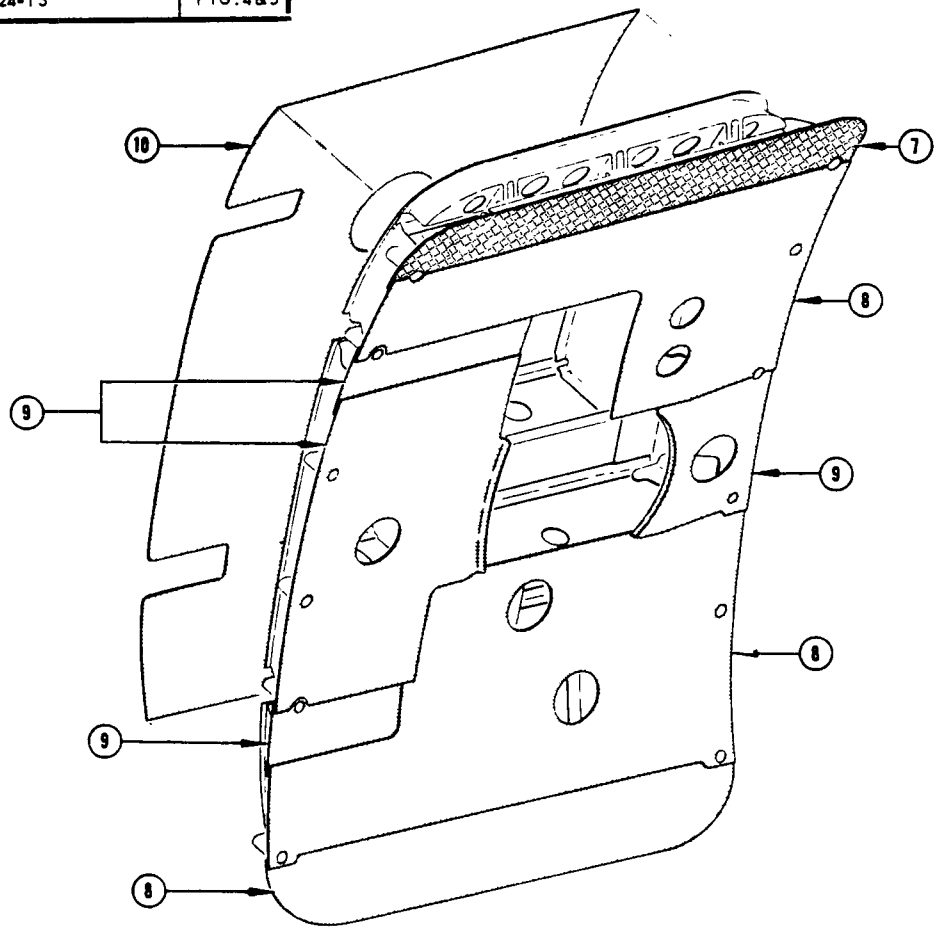


Forward Galley Door Material Identification
Figure 8 (Sheet 1 of 4)

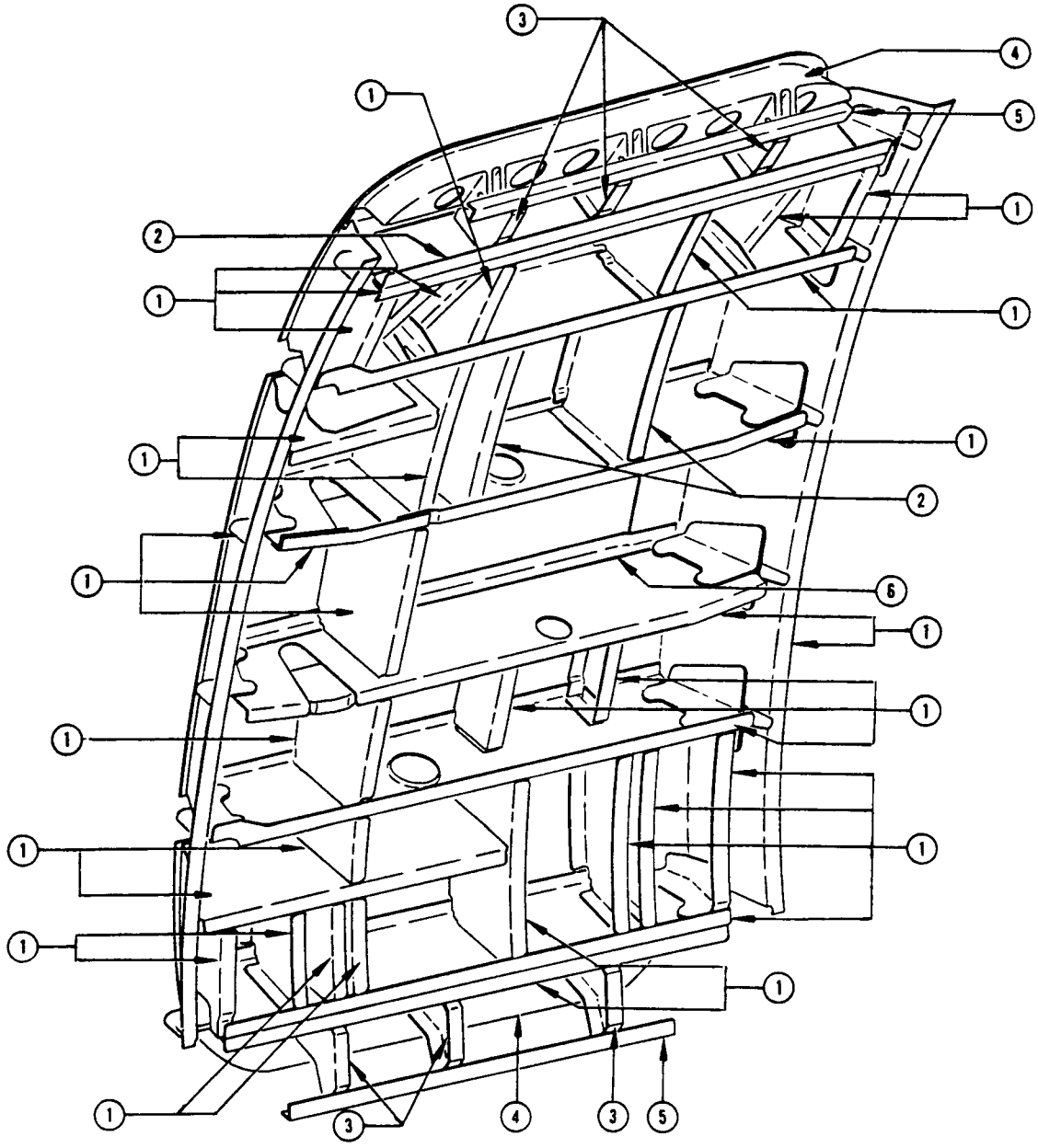


Forward Galley Door Material Identification
Figure 8 (Sheet 2 of 2)

ITEM	MATERIAL	REPAIR FIG NO.
1	.063 CLAD 7075-T6	51-14-3 FIG. 1
2	.050 CLAD 7075-T6	51-14-3 FIG. 1
3	.040 CLAD 7075-T6	51-14-3 FIG. 1
4	MAG. COND. A AZ91C	
5	BAC 1490-45 CLAD 7075-T6	51-14-3 FIG. 1
6	BAC 1490-2594 CLAD 7075-T6	51-14-3 FIG. 1
7	.032 CLAD 7075-T6	51-14-2 FIG. 1
8	.032 CLAD 2024-T3	51-14-2 FIG. 1
9	.040 CLAD 2024-T3 OR 2024-T4	51-14-2 FIG. 1
10	.045 CLAD 2024-T3	52-3-1 FIG. 4&5



Aft Galley Door Material Identification
Figure 9 (Sheet 1 of 2)



Aft Galley Door Material Identification
Figure 9 (Sheet 2 of 2)

ITEM	MATERIAL	REPAIR FIG. NO.
1	.063 CLAD 7075-T6	
2	.050 CLAD 7075-T6	51-14-2 FIG. 1
3	.056 CLAD 7075-T6	51-14-3 FIG. 1
4	.090 CLAD 7075-T6	
5	.080 CLAD 7075-T6	51-14-3 FIG. 1
6	AND10141-1402 7075-T6	51-14-4 FIG. 1
7	.063 CLAD 2024-T3	51-14-3 FIG. 1
8	.045 CLAD 2024-T3	52-3-1 FIG.4&5
9	.071 CLAD 7075-T6	
10	.063 CLAD 7075-T6	51-14-3 FIG. 1
11	.063 CLAD 2024-T4	51-14-2 FIG. 1
12	17-4 PH STAINLESS STEEL [D]	
13	.071 2024-T3 CLAD	52-3-1 FIG.4&5
14	ALTER BAC1505-100246 2024-T3511 OR 2024-0 HT-T42	
15	.050 7075-0 CLAD	
16	.071 7075-0 HT-T6	
17	.125 7075-T6 CLAD	
18	.040 2024-0 CLAD	
19	BAC1506-2181 7075-T6	
20	.080 7075-T6	
21	.080 2024-0 HT-T42	
22	AND10134-1204 7075-T6511	
23	.056 7075-T6 CLAD	
24	.080 2024-0 HT-T42	
25	AND10134-1204 7075-T6511	
26	.056 7075-T6	
27	AND1506-1401 7075-T6511	
28	.056 7075-0 HT-T6	
29	BAC1506-1920 7075-T6511	
30	.056 7075-0 HT-T6	
31	INNER CHORD BEAM 0.063 CLAD 7075-T6	51-14-3 FIG. 1
	OUTER CHORD BEAM BAC 1505-101134 7075-T6511	51-14-4 FIG. 1
32	BEAM 0.063 CLAD 7075-T6	51-14-3 FIG. 1
	OUTER ANGLE DOUBLER 0.063 CLAD 7075-T6	51-14-3 FIG. 1

Emergency Hatch Material Indentification
Figure 10 (Sheet 1)

NOTES

- SEE DETAIL I FOR EMERGENCY HATCHES ON ALL CARGO AIRPLANES EXCEPT THOSE LISTED IN [C] . SEE DETAIL II FOR OUTWARD OPENING EMERGENCY HATCH
- OUTWARD OPENING HATCHES AT STA 990.45 ARE INSTALLED AS OPERATOR CONFIGURATION OPTION

[A] FOR CUM LINE NUMBERS:
13, 20, 35, 58, 61, 62, 65, 68, 70, 71, 73 THRU 76, 78 THRU 84, 86, 88, 89, 91 THRU 94, 98 THRU 101, 103 THRU 105, 107, 110 THRU 118, 121 THRU 126, 135, 138

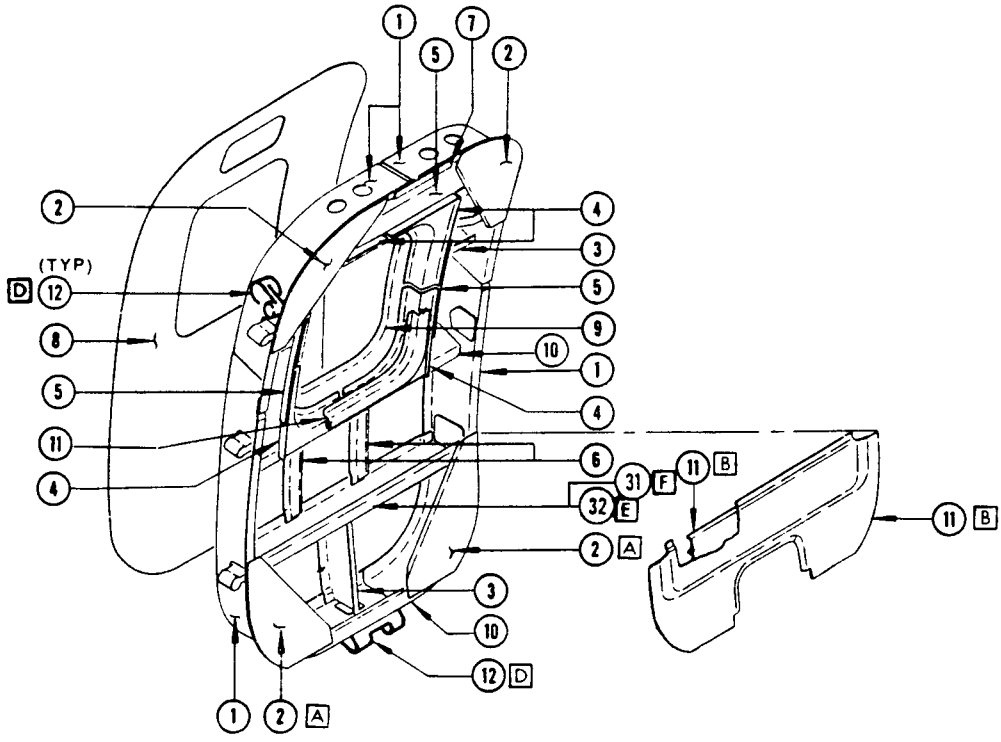
[B] FOR ALL AIRPLANES NOT LISTED IN [A]

[C] FOR CUM LINE NUMBERS:
367, 369, 379, 425, 428, 440, 444, 453, 463, 494, 505, 508, 510, 515, 516, 540, 563, 566, 611, 634, 649, 705, 708, 729, 732, 740

[D] ATTACHMENT FITTING

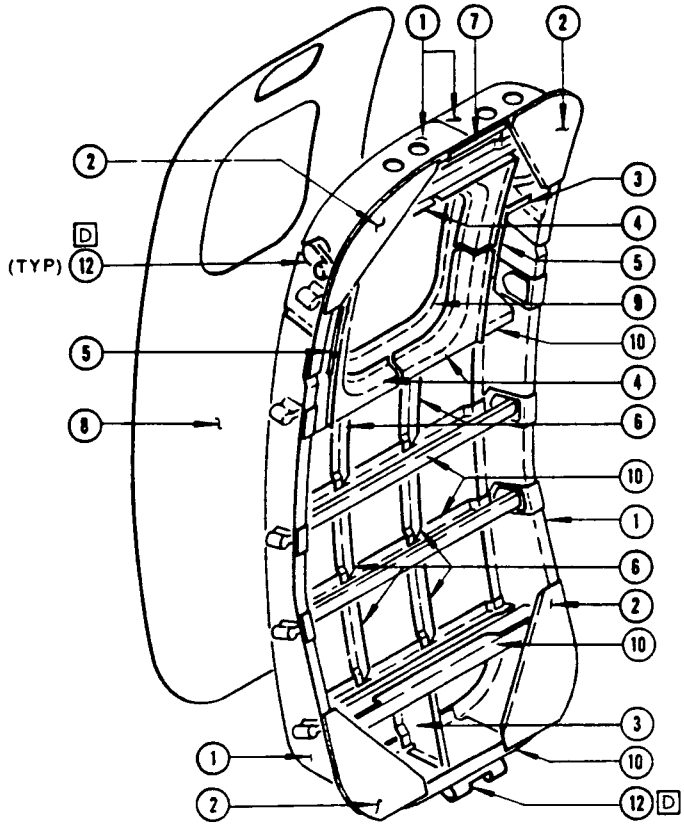
[E] FOR CUM LINE NUMBERS:
1-944

[F] FOR CUM LINE NUMBERS:
945 AND ON



INWARD OPENING HATCH

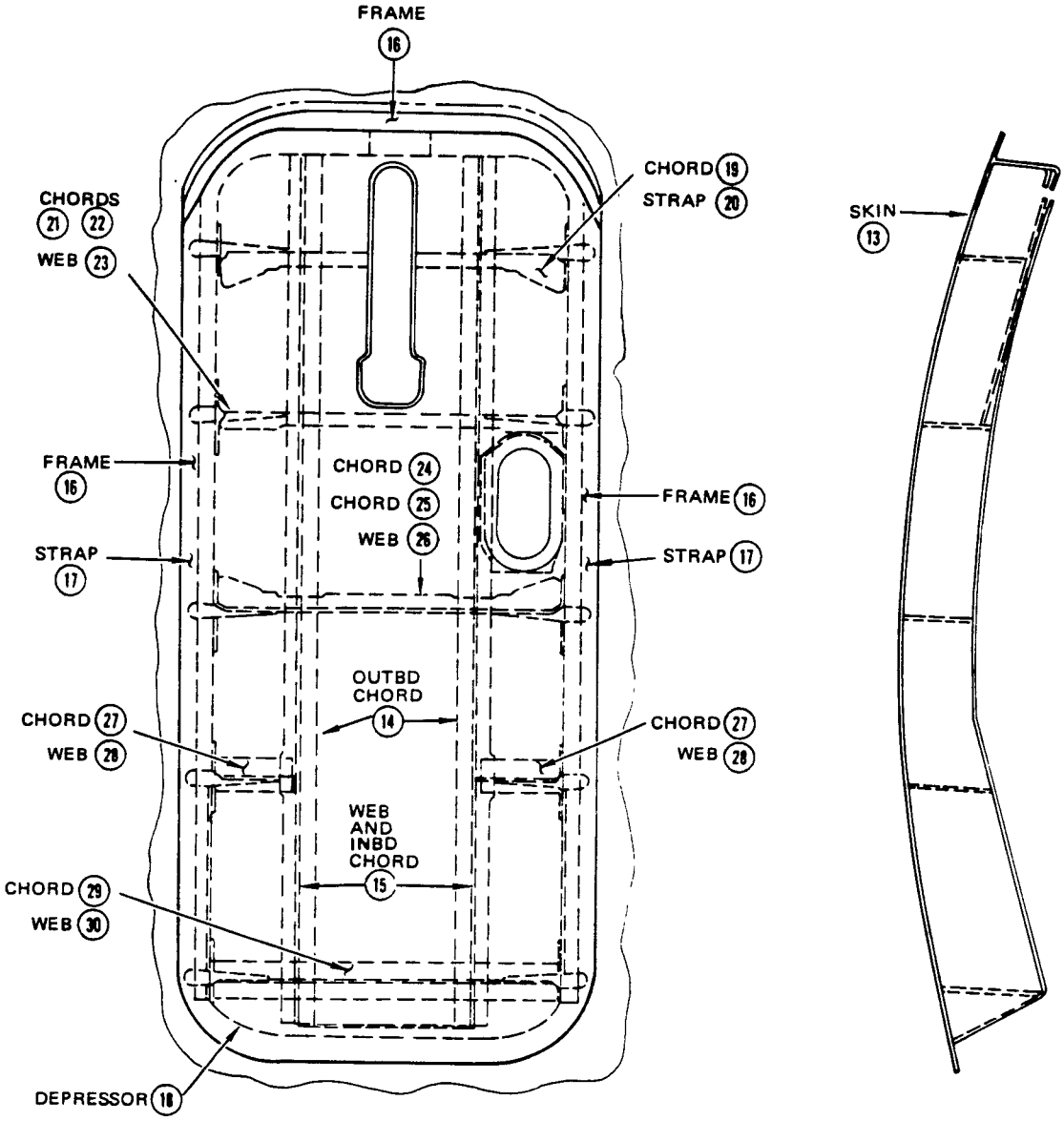
Emergency Hatch Material Identification
Figure 10 (Sheet 2)



INWARD OPENING HATCH
FOR ALL CARGO AIRPLANES EXCEPT NW

DETAIL I

Emergency Hatches Material Identification
Figure 10 (Sheet 3 of 4)



OUTWARD OPENING HATCH
DETAIL II

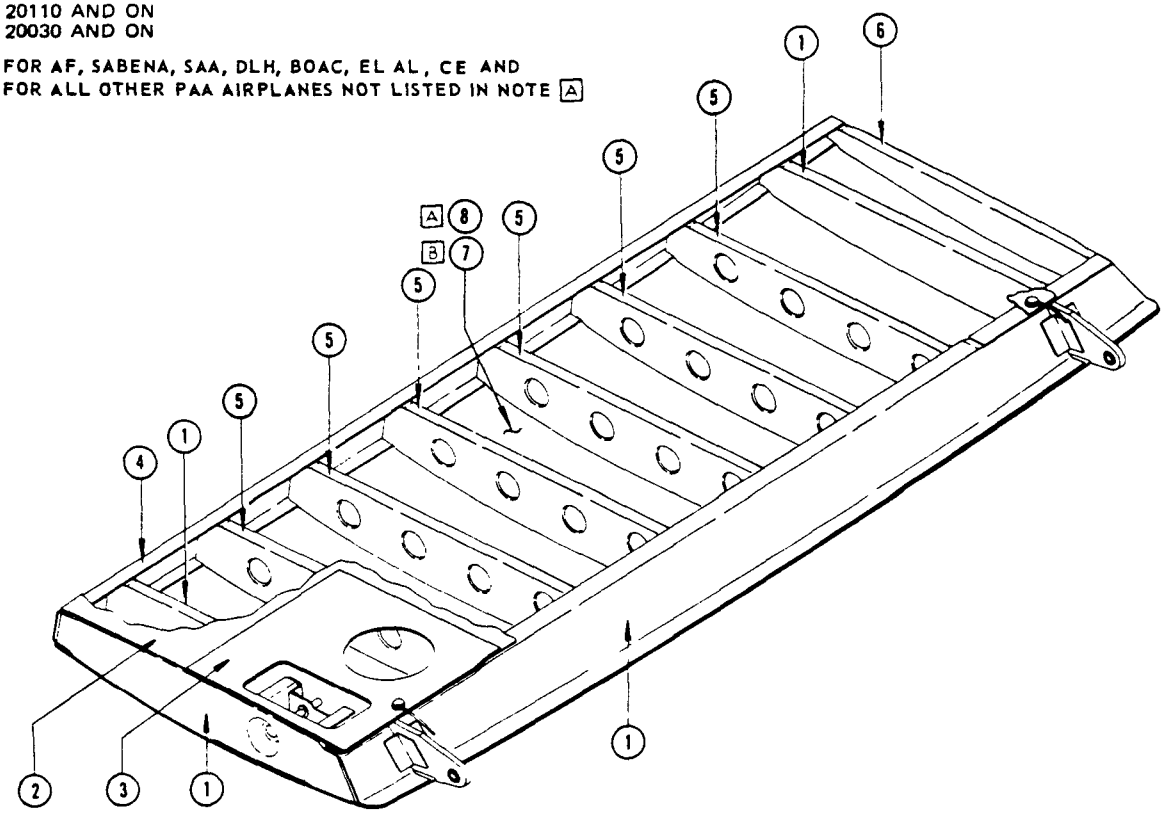
Emergency Hatch Material Identification
Figure 10 (Sheet 4)

ITEM	MATERIAL	REPAIR FIG NO.
1	.063 CLAD 7075-T6	51-14-3 FIG. 1
2	.025 CLAD 2024-T3	51-14-2 FIG. 1
3	.032 CLAD 2024-T3	51-14-2 FIG. 1
4	.050 CLAD 7075-T6	51-14-3 FIG. 1
5	.032 CLAD 2024-T4	51-14-3 FIG. 1
6	.050 CLAD 2024-T4	51-14-3 FIG. 1
7	.050 MAG ALLOY	52-3-1 FIG. 1, 2 & 3
8	.040 CLAD 2024 – T3	52-3-1 FIG. 1, 2 & 3

NOTE

[A] EFFECTIVE FOR THE FOLLOWING
TWA ALL AIRPLANES
PA 17674 THRU 17689
VA ALL AIRPLANES
AI ALL AIRPLANES
20110 AND ON
20030 AND ON

[B] FOR AF, SABENA, SAA, DLH, BOAC, EL AL, CE AND FOR ALL OTHER PAA AIRPLANES NOT LISTED IN NOTE [A]



Nose Gear Door Material Identification
Figure 11

ITEM	MATERIAL	REPAIR FIG NO.
1	.032 CLAD 2024-T4	51-14-3 FIG 1
2	.040 CLAD 2024-T3	52-3-1 FIG 1,2,3,6,7
3	.040 MAG COND H	52-3-1 FIG 1,2,3,6,7
4	.040 CLAD 2024-T4	52-3-1 FIG 1,2,3,6,7
5	.050 CLAD 2024-T4	52-3-1 FIG 1,2,3
6	.080 CLAD 7075-T6	51-14-3 FIG 1
7	.063 CLAD 7075-T6	51-14-3 FIG 1
8	.071 CLAD 7075-T6	51-14-3 FIG 1
9	.040 CLAD 2024-T3	
10	.025 CLAD 2024-T4	51-14-3 FIG 1
11	.032 CLAD 7075-T6	51-14-3 FIG 1
12	.025 CLAD 7075-T6	51-14-3 FIG 1
13	.040 CLAD 7075-T6	51-14-2 FIG 1
14	.040 CLAD 2024-T4	51-14-3 FIG 1
15	BAC 1510-363 7075-T6	
16	AND10134-1005 7075-T6	51-14-4 FIG 1
17	AND10134-1204 7075-T6	51-14-4 FIG 1
18	.032 CLAD 7075-T6	51-14-2 FIG 1
19	AND10134-1406 7075-T6	51-14-4 FIG 1
20	AND10134-1202 7075-T6	51-14-4 FIG 1
21	BAC 1503-1831 7075-T6	51-14-4 FIG 1
22	BAC 1503-1531 7075-T6	51-14-4 FIG 1
23	AND10133-1202 7075-T6	51-14-4 FIG 1
24	.100 CLAD 7075-T6	51-14-3 FIG 1
	AND10136-2006 2024-T4	51-14-4 FIG 1
25	.032 CLAD 2024-T4	51-14-2 FIG. 1
26	.032 CLAD 2024-T3	51-14-2 FIG. 1
27	.036 CLAD 2024-T3	51-14-2 FIG. 1
28	.040 CLAD 2024-T3	51-14-2 FIG. 1
29	.040 MAG COND H	51-14-2 FIG.1

NOTE

[A] FOR N701PA THRU N706PA, N757PA THRU N759PA (PAA), AF, OO-SJE AND ON (SABENA), TWA, SAA, D-ABOF AND D-ABOG (DLH), AII, G-APFF THRU G-APFP (BOAC), VARIG GHANA, CE AND EL AL AIRPLANES

[B] FOR N714PA THRU N730PA (PAA), OO-SJA THRU OO-SJD (SABENA), D-ABOB THRU D-ABOD (DLH), AND G-APFB THRU G-APFE (BOAC) AIRPLANES

[C] FOR N714PA THRU N730PA (PAA), F-BHSA THRU F-BHSF (AF), OO-SJA THRU OO-SJD (SABENA), D-ABOB THRU D-ABOD (DLH), AND G-APFB THRU G-APFE (BOAC) AIRPLANES

[D] FOR N701PA THRU N706PA, N757PA THRU N759PA (PAA), F-BHSG AND ON (AF), OO-SJE AND ON (SABENA), TWA, SAA, D-ABOF AND D-ABOG (DLH), AII, G-APFF THRU G-APFP (BOAC), VARIG,EL AL, GHANA AND CE AIRPLANES

[E] FOR N701PA THRU N705PA, N714PA THRU N730PA (PAA), F-BHSA THRU F-BHSF (AF), OO-SJA THRU OO-SJD (SABENA), N761TW THRU N769TW (TWA), D-ABOB THRU D-ABOD (DLH), VT-DJI AND VT-DJK (AII), G-APFB THRU G-APFE (BOAC), AND PP-VJA (VARIG) AIRPLANES

[F] FOR N706PA, N757PA THRU N759PA (PAA), F-BHSG AND ON (AF), OO-SJE AND ON (SABENA), N770TW THRU N772TW (TWA), SAA, D-ABOF AND D-ABOG (DLH), VT-DMN (AII), G-APFF THRU G-APFP (BOAC), PP-UJB (VARIG), EL AL, GHANA AND CE AIRPLANES

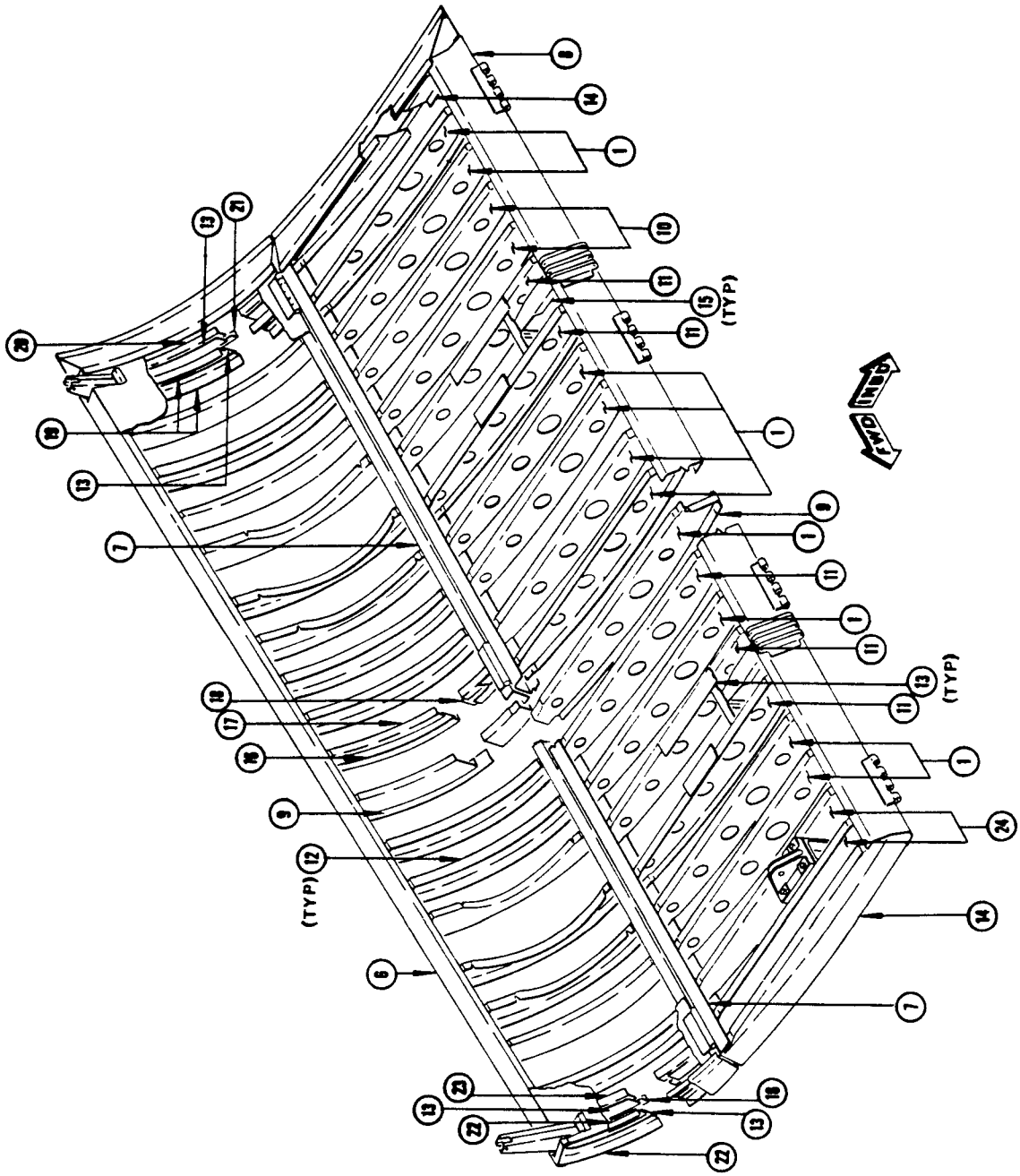
[G] FOR N714PA THRU N730PA (PAA), F-BHSA THRU F-BHSF (AF), OO-SJA THRU OO-SJD (SABENA), G-APFB THRU G-APFE (BOAC) AND D-ABOB THRU D-ABOD (DLH) AIRPLANES

[H] FOR N701PA THRU N706PA, N757PA THRU N759PA (PAA), F-BHSG AND ON (AF), OO-SJE AND ON (SABENA) TWA, SAA, D-ABOF AND D-ABOG (DLH), AII, G-APFE THRU G-APFP (BOAC), VARIG, EL AL, GHANA AND CE AIRPLANES

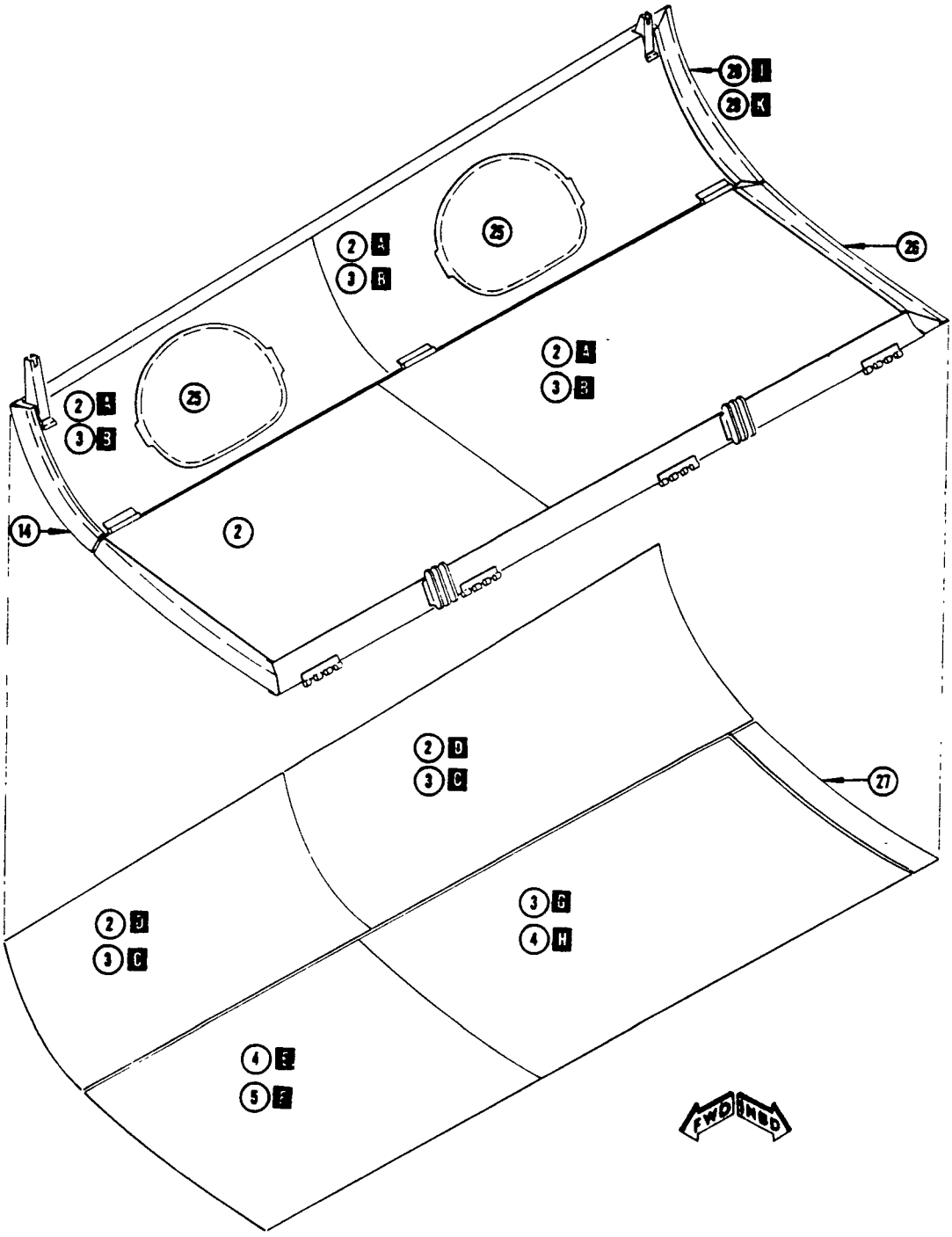
[J] FOR AF, TWA, N701PA THRU N706PA (PAA), AII, AND VARIG AIRPLANES

[K] FOR N714PA THRU N730PA, N757PA THRU N759PA (PAA), SABENA, SAA, DLH, EL AL, BOAC, CE AND GHANA AIRPLANES

Main Landing Gear Door Material Identification
Figure 12 (Sheet 1 of 3)



Main Landing Gear Door Material Identification
Figure 12 (Sheet 2 of 3)



Main Landing Gear Door Material Identification
Figure 12 (Sheet 3 of 3)

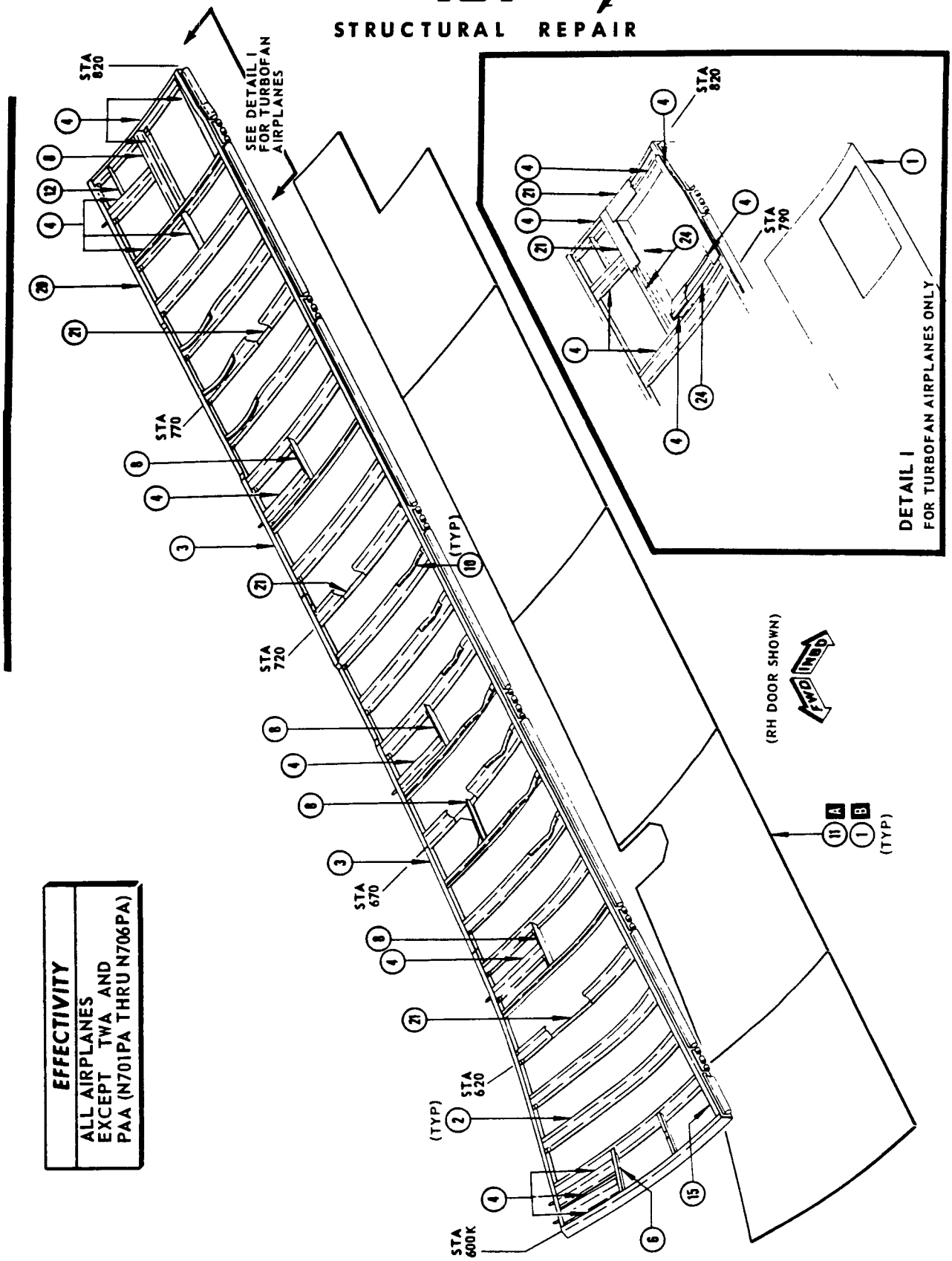
ITEM	MATERIAL	REPAIR FIG NO.
①	.040 CLAD 2024-T4	52-3-1 FIG. 1, 2, 3
②	BAC 1517-1316 2024-T4 CLAD	51-14-3 FIG. 1
③	.064 7075-T6	51-14-3 FIG. 1
④	.040 CLAD 2024-T4	51-14-3 FIG. 1
⑤	.032 CLAD 2024-T4	51-14-3 FIG. 1
⑥	BAC 1517-1107 2024-T4 CLAD	51-14-3 FIG. 1
⑦	.071 CLAD 7075-T6	51-14-3 FIG. 1
⑧	.040 CLAD 2024-T3	51-14-3 FIG. 1
⑨	.063 CLAD 2024-T4	51-14-3 FIG. 1
⑩	BAC 1493-547 2024-T4 CLAD	51-14-3 FIG. 1
⑪	.040 MAGNESIUM	52-3-1 FIG. 1, 2, 3
⑫	BAC 1490-2585 2024-T3 CLAD	51-14-3 FIG. 1
⑬	.040 CLAD 7075-T6	51-14-3 FIG. 1
⑭	BAC 1493-408 2024-T4	51-14-3 FIG. 1
⑮	BAC 1493-548 7075-T6 CLAD	51-14-3 FIG. 1
⑯	BAC 1517-107 2024-T4 CLAD	51-14-3 FIG 1
⑰	.050 CLAD 7075-T6	51-14-3 FIG. 1
⑱	.063 CLAD 7075-T6	51-14-3 FIG. 1
⑲	.090 7075-T6	51-14-3 FIG. 1
⑳	.125 7075-T6	51-14-3 FIG. 1
㉑	.040 CLAD 2024-T3	
㉒	.050 CLAD 2024-T4	51-14-3 FIG. 1
㉓	.080 6061-0	51-14-3 FIG. 1
㉔	BAC1493-492 CLAD 2024-T4	51-14-3 FIG. 1

NOTE

A FOR F-BHSA THRU F-BHSQ (AF), OO-SJA THRU OO-SJE (SABENA), G-APFB THRU G-APFP (BOAC), D-ABOB THRU D-ABOG (DLH) AND SAA AIRPLANES

B FOR ALL TURBOFAN AIRPLANES AND FOR THOSE TURBOJET AIRPLANES NOT LISTED IN NOTE **A**

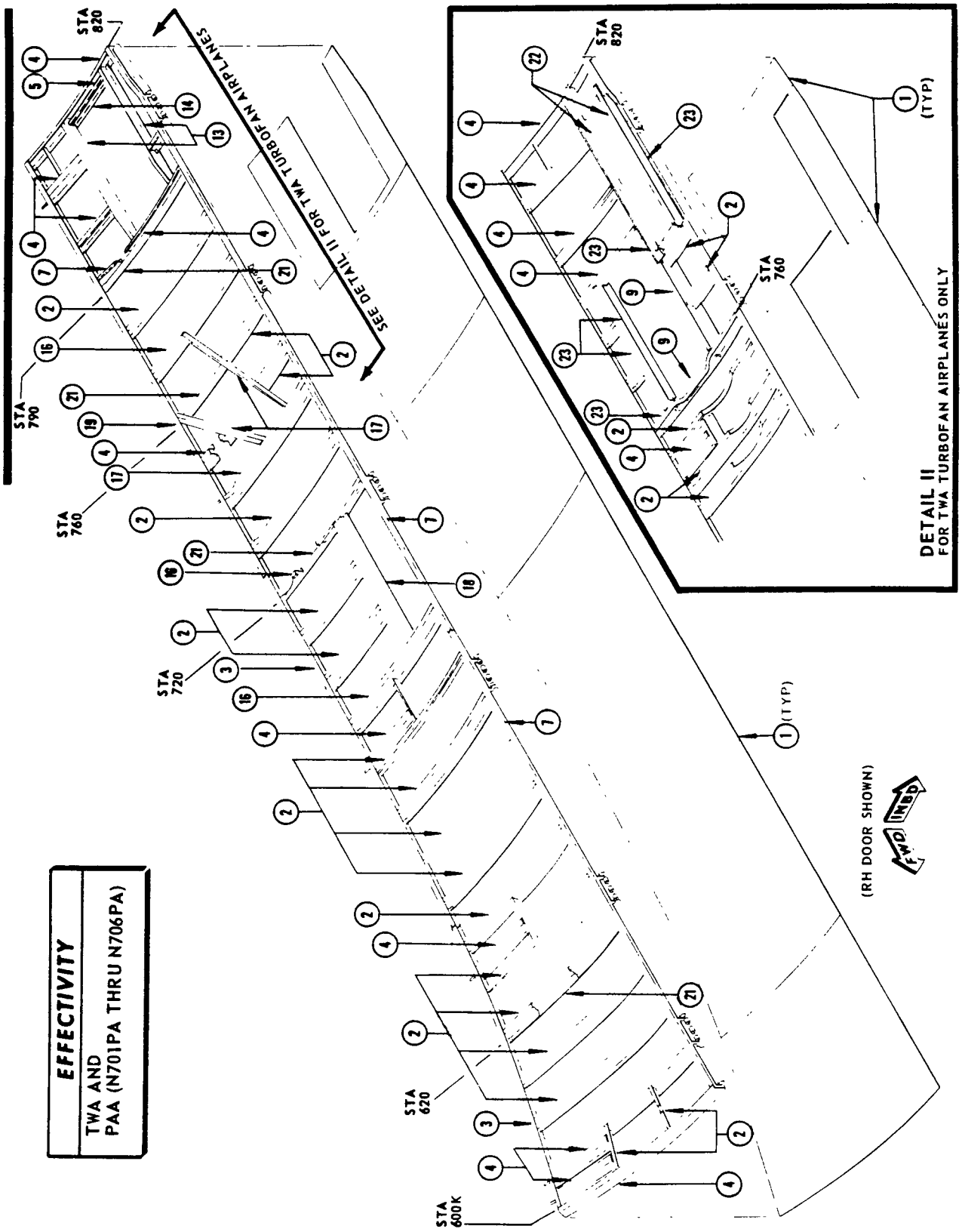
Air Conditioning Equipment Access Doors Material Identification
Figure 13 (Sheet 1 of 3)



EFFECTIVITY

ALL AIRPLANES EXCEPT TWA AND PAA (N701PA THRU N706PA)

Air Conditioning Equipment Access Doors Material Identification
Figure 13 (Sheet 2 of 3)



Air Conditioning Equipment Access Doors Material Identification
Figure 13 (Sheet 3 of 3)

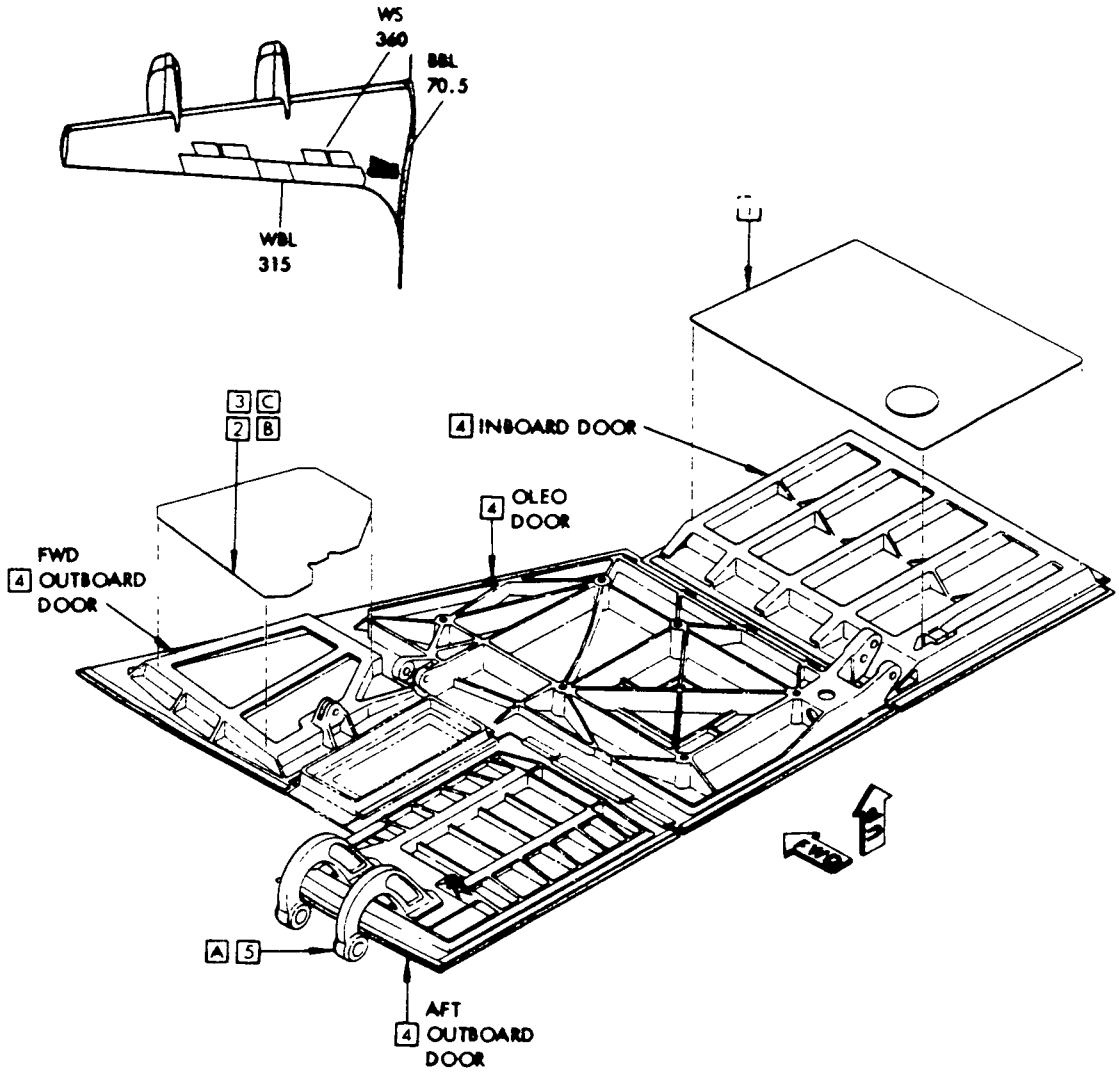
ITEM	MATERIAL	REPAIR FIG. NO.
1	.050 CLAD 2024-T3	
2	.063 CLAD 2024-T3	
3	.064 AZ31B MAGNESIUM ALLOY	
4	MAGNESIUM CASTING AZ91C	
5	7075-T6 FORGING QQA-367	

NOTE REF. DWG. 65-1056

[A] ATTACHMENT FITTING

[B] AIR INDIA (S/N 18708, 18873, 19247, 19248)
AEROLINEAS (S/N 19238 THROUGH 19241)
EL AL (S/N 19004, 19502)
TWA (S/N 18405 THROUGH 18409, 18711 THROUGH 18713, 18756, 18757, 18764, 18913 THROUGH 18918, 18978 THROUGH 18985, 19212 THROUGH 19214, 19224 THROUGH 19227, 19435, 19566, 19567, 19570 THROUGH 19573)

[C] A/P NOT LISTED IN [B]



Main Landing Gear Wing Door Structure Identification
Figure 14

DOOR ALLOWABLE DAMAGE

1. Doors Subject to Pressurization

   A. Holes, cracks, scratches or gouges in exterior skin panels of pressurized door assemblies must not exceed that given in Fig. 2.

   B. Scratches or gouges in exterior skin panels of unpressurized door assemblies must not exceed 20% of material thickness. Smooth out and treat all such skin damage as shown in Fig. 1.

   C. Nicks up to 0.15 inch depth at edges of frames are allowable. Round out to 1.0 inch min. radius.

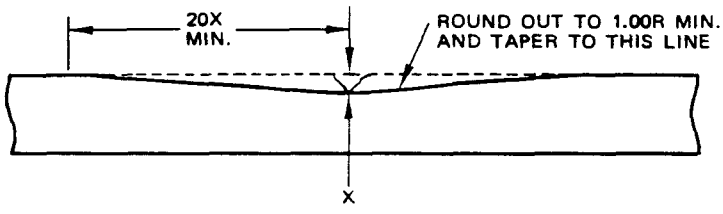
   D. Holes not greater than 0.25 inch in overall dimension and not closer to each other than 1 inch are permitted in door frames. Such holes after cleanup must not be in the bend areas of formed frame parts.

   E. Dents in external skins of forward entry, forward cargo and forward galley doors which are smooth as defined by the curve of Dent Limitations (53-2-1, Fig. 4) and exhibit no pulled or loose rivets, sharp creases, gouges or cracks are considered allowable. Repair dents which exhibit pulled or loose rivets sharp creases, gouges, scratches or cracks per Fig. 2.

   F. Dents in external skins of doors aft of BS 620 which are smooth (use curve of 53-2-1, Fig. 4 as reference) and which have no pulled or loose rivets, sharp creases, gouges, scratches or cracks are considered allowable. Repair dents which exhibit pulled or loose rivets, sharp creases, gouges, scratches or cracks per Fig. 2.

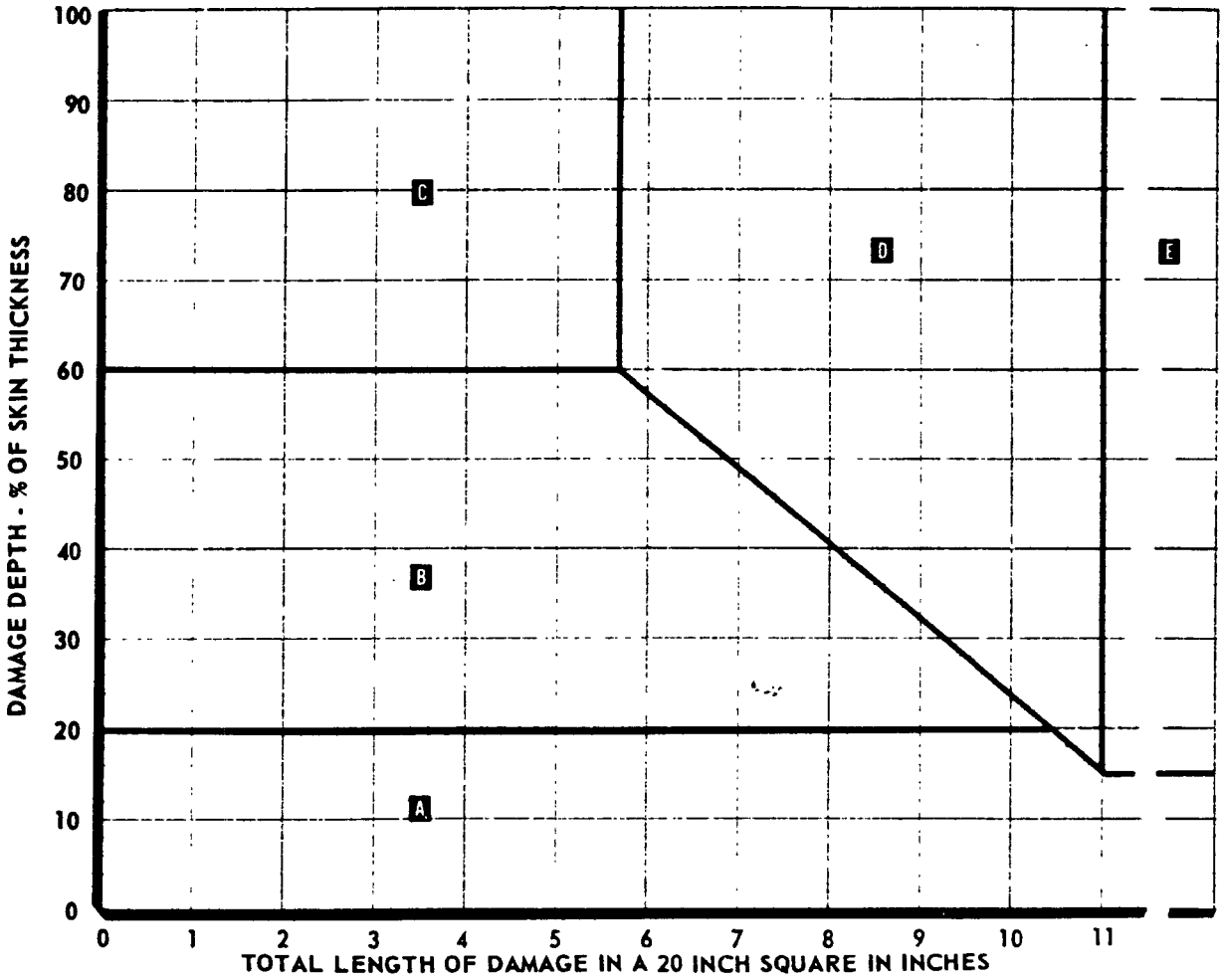
   G. For allowable dimensions of nicks, scratches, gouges, or abrasions, after cleanup in areas of window frame forging cross section in main cargo door, refer to 56-2-1, Fig. 1.

   H. Cracks in the door frame up to 1.0 inch long are permitted provided 0.25 inch diameter stop holes are drilled at the extremities. Cracks in the door frame or backup stiffeners at the stop fittings of the electronic access door are not allowed and must be repaired prior to the next pressurized flight.



NOTE: For general repair procedures, refer to 51-13-1.

Section Through Gouge - Round Out
Figure 1



NOTE

A CLEAN UP PER 52-2-1 FIGURE 1 PERMITS UNLIMITED OPERATION.

B CLEAN UP PER 52-2-1 FIGURE 1 PERMITS OPERATION LIMITED TO 50 HOURS. AFTER 50 HOURS, REPAIR PER 52-3-1 FIGURES 4 AND 5.

C CLEAN UP DAMAGE. STOP DRILL .25 INCH MINIMUM DIAMETER THE ENDS OF ALL CRACKS OR TEARS. IT IS PERMISSIBLE TO FLY THE AIRPLANE ON A NONREVENUE FERRY FLIGHT FOR REPAIRS, WITH A MAXIMUM CABIN PRESSURE DIFFERENTIAL OF 5.8 PSIG. REPAIR PER 52-3-1 FIGURES 4 AND 5.

D CLEAN UP DAMAGE. STOP DRILL .25 INCH MINIMUM DIAMETER, THE ENDS OF ALL CRACKS OR TEARS. IT IS PERMISSIBLE TO FLY THE AIRPLANE ON A NONREVENUE FERRY FLIGHT FOR REPAIRS, PROVIDED THE FOLLOWING ARE COMPLIED WITH:

1. NOTIFY BOEING AIRPLANE COMPANY, TRANSPORT DIVISION, STRUCTURES STAFF, PRIOR TO THE FLIGHT.
2. MAXIMUM CABIN PRESSURE DIFFERENTIAL IS NOT TO EXCEED ZERO PSIG.
3. REPAIR PER 52-3-1 FIGURES 4 AND 5 AFTER FLIGHT.

E APPROVAL OF BOEING AIRPLANE COMPANY TRANSPORT DIVISION, STRUCTURES STAFF IS REQUIRED PRIOR TO ANY FLIGHT.

Damage Limits for Pressurized Door Exterior Skin Panels
Figure 2

NOTE

THIS REPAIR IS ALSO APPLICABLE TO NOSE GEAR DOORS AND AIR CONDITIONING EQUIPMENT DOORS.

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT

SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

ORIGIONAL FASTENER LOCATIONS

REPAIR FASTENER LOCATIONS

[A] SAME MATERIAL AND ONE GAGE GREATER THAN THE ORIGINAL SKIN.

[B] SAME MATERIAL AND GAGE AS ORIGINAL SKIN.

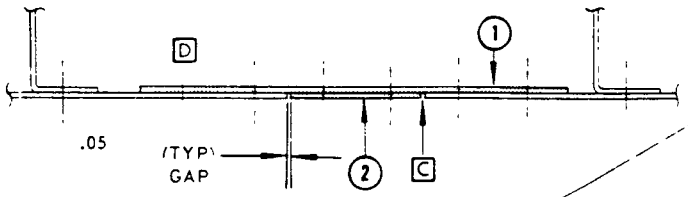
[C] APPLY AERODYNAMIC SMOOTHER BMS5-13B TO GAP FOR NOSE GEAR DOOR AND AIR CONDITIONING EQUIPMENT DOORS ONLY.

[E] SEE 51-4-1 PARAGRAPHS 4 AND 5 AND 51-2-3 PARAGRAPH I.D. FOR AERODYNAMIC FLUSHNESS OF FASTENERS.

REPAIR INSTRUCTIONS

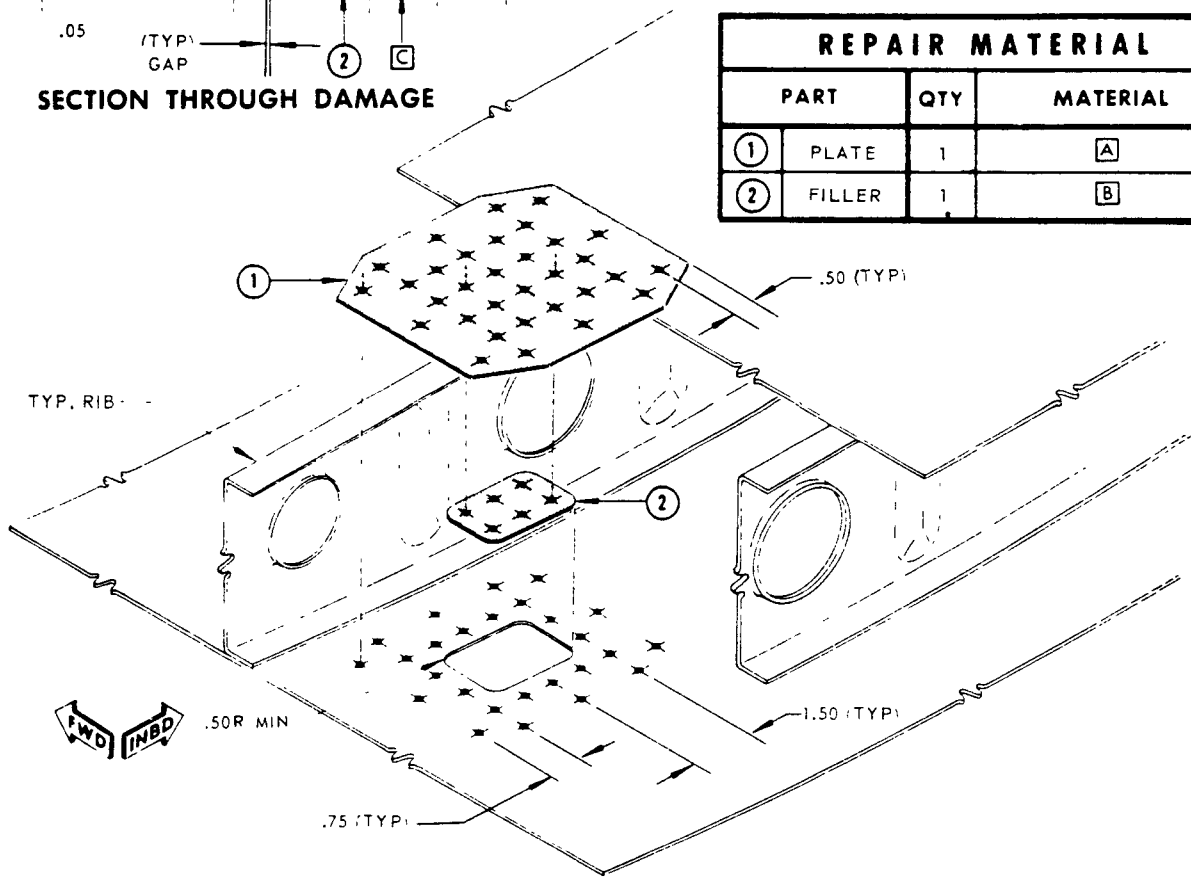
1. Remove external plate used to effect a repair such as figure 2, or perform operations 1 through 2 of figure 2 as applicable.
2. Remove door inner skin as required to obtain access to damaged area.
3. Install repair parts.
4. For repairs to magnesium skin, paint the faying surface with zinc chromate primer: Three coats on magnesium and at least one coat on the aluminum surface.
5. Restore the required surface finish. See 707 Maintenance Manual, Section 51 - 2 - 0.

TYPE OF SKIN	[D] FASTENER	
	PREFERRED	ALTERNATE
ALUMINUM	BAC-R15CE-5D	[E] AN426D-5 AN470D-5
MAGNESIUM	BAC-R15CE-5B	AN470B-5



SECTION THROUGH DAMAGE

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	[A]
2	FILLER	1	[B]



Main Gear Door Skin between Ribs - Flush Repair
Figure 1

REPAIR INSTRUCTIONS

1. Trim the damaged skin to form a rectangular shape. Make the cutout parallel to a rib center line. Do not cut the rib.
2. Return all indented or projecting skin to contour. Remove all burrs, nicks, scratches, sharp edges or corners from damaged area. Brush alodize all trimmed edges of cutout and chamfered edges of part 1 and edges of part 2 .
3. Install the repair parts.
4. For repair to magnesium skin, paint the faying surface with zinc chromate primer: Three coats on magnesium and at least one coat on the aluminum surface.
5. Restore the required finish. See 707 Maintenance Manual, Section 51 - 2 - 0.
6. This repair may be replaced by Figure 3.

NOTE

THIS REPAIR IS APPLICABLE TO NOSE DOOR AND AIR CONDITIONING EQUIPMENT DOOR.

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT

SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

SEE 51-13-1 FOR DEFINITION OF AN EXTERNAL REPAIR

SEE 51-4-1 FOR PERFORMANCE CONSIDERATIONS IN REGIONS OF CRITICAL SMOOTHNESS

+ ORIGINAL FASTENER LOCATIONS

✦ REPAIR FASTENER LOCATIONS

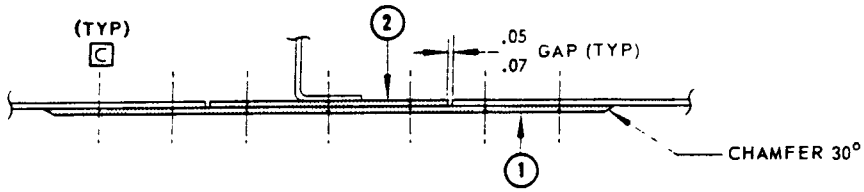
[A] 2024 - T3 CLAD AND ONE GAGE GREATER THAN ORIGINAL SKIN.

[B] 2024 - T3 CLAD AND SAME GAGE AS ORIGINAL SKIN

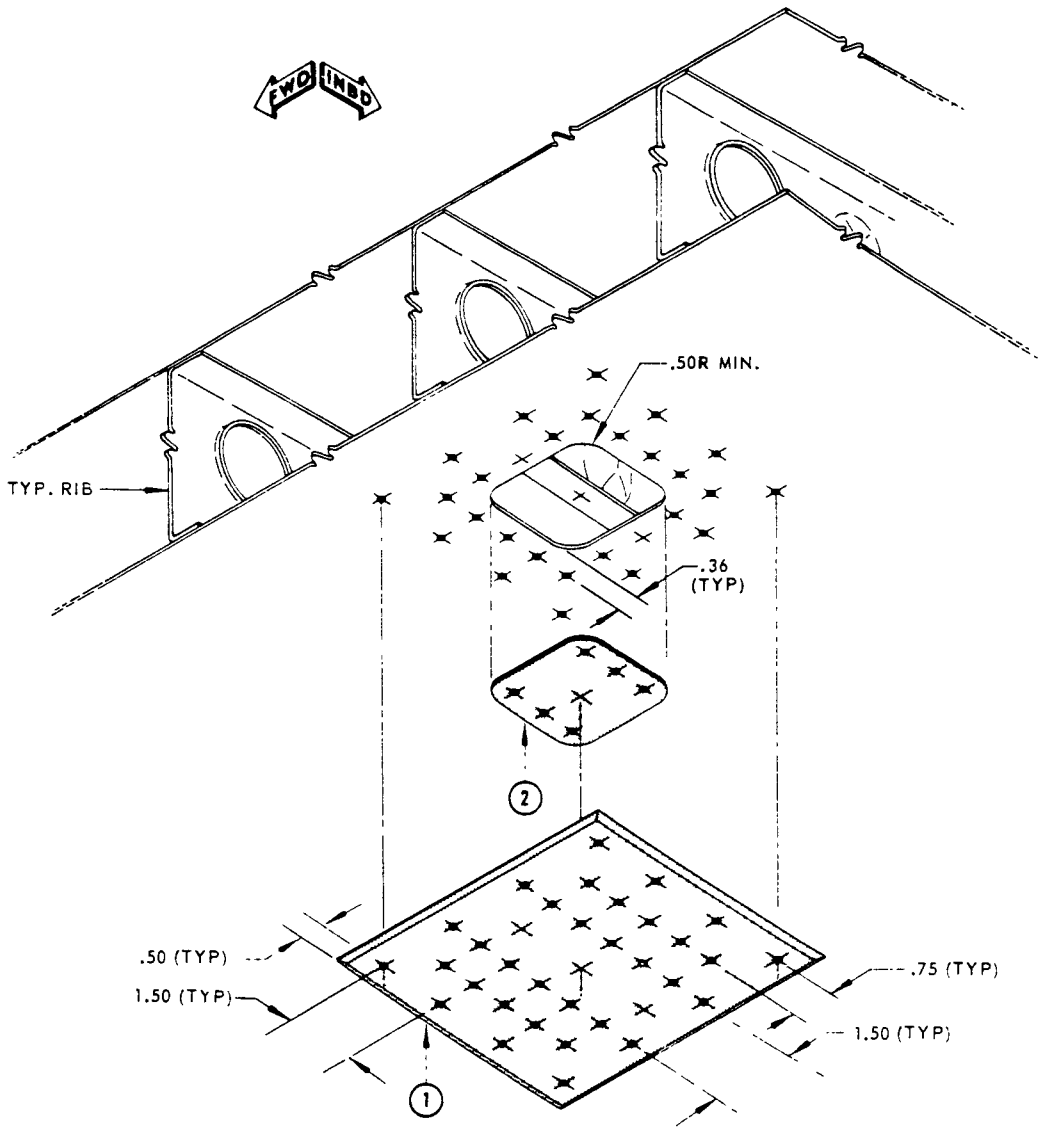
TYPE OF SKIN	[C] FASTENER	
	PREFERRED	ALTERNATE
ALUMINUM	BAC-R15CE-5D	AN426D-5 AN470D-5
MAGNESIUM	BAC-R15CE-5P	AN470B-5

REPAIR MATERIAL			
PART		QTY	MATERIAL
(1)	PLATE	1	[A]
(2)	FILLER	1	[B]

Main Gear Door Skin at Ribs - External Repair
Figure 2 (Sheet 1 of 2)



SECTION THROUGH DAMAGE



Main Gear Door Skin at Ribs - External Repair
Figure 2 (Sheet 2 of 2)

REPAIR INSTRUCTIONS

1. Remove patch plate of external repair as in figure 2, or perform operations 1 through 2 of figure 2, except trim the rib as required.
2. Remove door inner skin panel as required to obtain access to damaged area.
3. Install repair parts.
4. For repairs to magnesium skin, paint the faying surface with zinc chromate primer: three coats on magnesium and at least one coat on the aluminum surface.
5. Restore the required finish. See 707 Maintenance Manual, Section 51 - 2 - 0.

NOTE

THIS REPAIR IS ALSO APPLICABLE TO NOSE GEAR DOORS AND AIR CONDITIONING EQUIPMENT DOORS.

SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT.

+ ORIGINAL FASTENER LOCATIONS.

+ REPAIR FASTENER LOCATIONS.

[A] SAME MATERIAL AND GAGE AS ORIGINAL SKIN.

[B] SAME MATERIAL AND ONE GAGE GREATER THAN ORIGINAL SKIN.

[C] SAME MATERIAL AND ONE GAGE GREATER THAN ORIGINAL RIB.

[D] NOT LESS THAN FOUR SKIN FASTENERS AND THREE WEB FASTENERS THROUGH PART 3 AND BEYOND PART 2

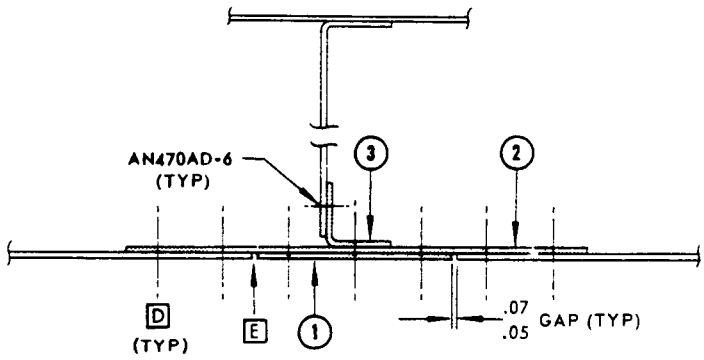
[E] APPLY AERODYNAMIC SMOOTHER TO GAP FOR NOSE GEAR DOORS AND AIR CONDITIONING EQUIPMENT DOORS ONLY.

[F] SEE 51-4-1 PARAGRAPHS 4 AND 5 AND 51-2-3 PARAGRAPH I.D. FOR AERODYNAMIC FLUSHNESS OF FASTENERS

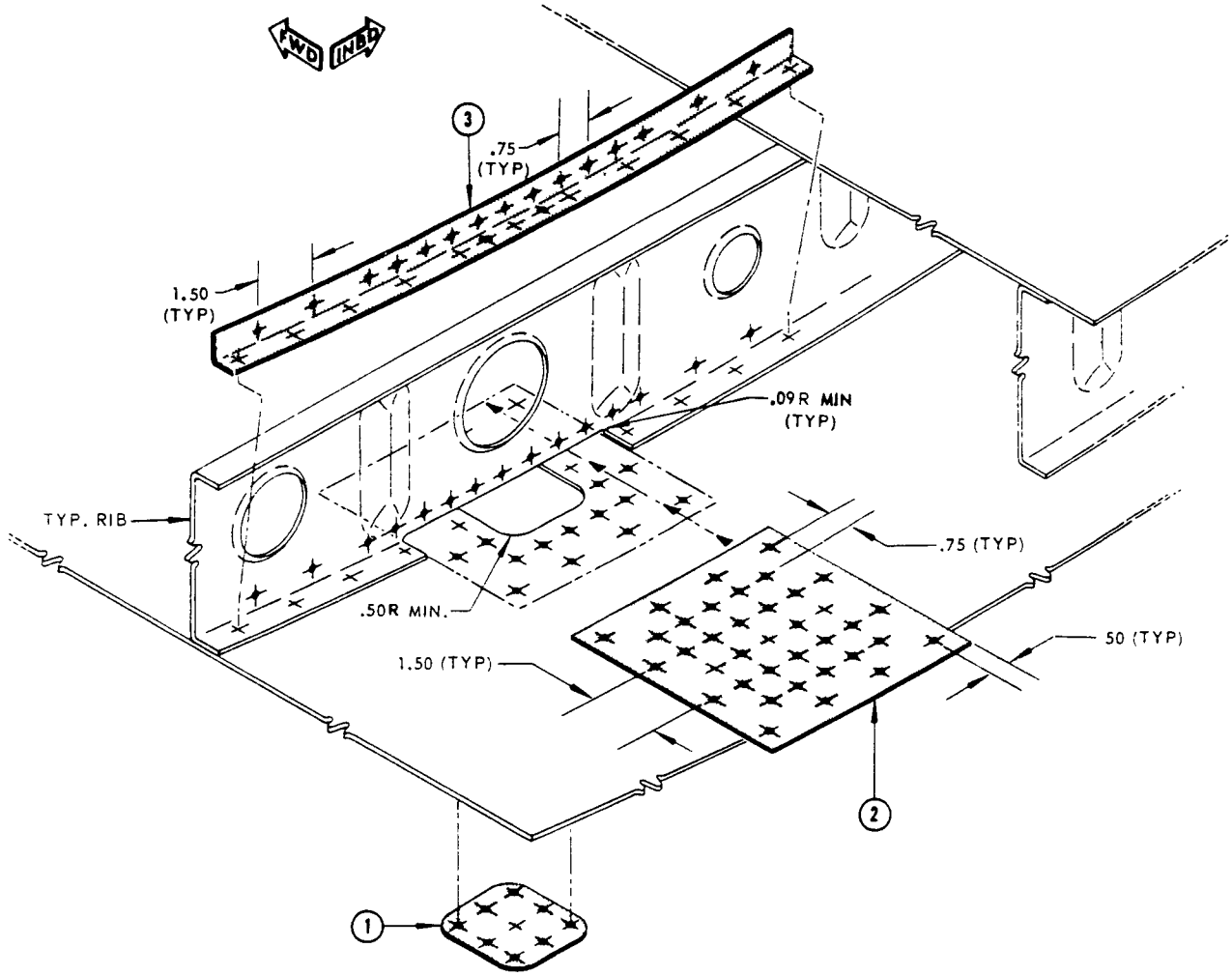
TYPE OF SKIN	[D] FASTENER	
	PREFERRED	ALTERNATE
ALUMINUM	BAC-R15CE-5D	[F] AN426D-5 AN470D-5
MAGNESIUM	BAC-R15CE-B5	AN470B-5

REPAIR MATERIAL			
PART		QTY	MATERIAL
(1)	PLATE	1	[A]
(2)	PLATE	1	[B]
(3)	ANGLE	1	[C]

Main Gear Door Skin at Ribs - Flush Repair
Figure 3 (Sheet 1 of 2)



SECTION THROUGH DAMAGE



Main Gear Door Skin at Ribs - Flush Repair
Figure 3 (Sheet 2 of 2)

REPAIR MATERIAL			
PART		QTY	MATERIAL
(1)	PLATE	1	[A]
(2)	FILLER	1	[B]

REPAIR FASTENER		
ORIGINAL SKIN	PREFERRED	OPTIONAL OR ALTERNATE
.040,.045 2024-T4	BAC R15CE -5	AN470-D5 [C]

NOTE

APPLICABLE TO ENTRY, GALLEY, EMERGENCY AND CARGO DOORS.

SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

SEE 51-7-1 PARAGRAPH 5 FOR SUPPORT OF REMOVABLE STRUCTURAL COMPONENTS.

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT.

REPAIR FASTENER LOCATIONS

[A] SAME MATERIAL AS ORIGINAL SKIN; ONE GAGE GREATER THAN ORIGINAL SKIN.

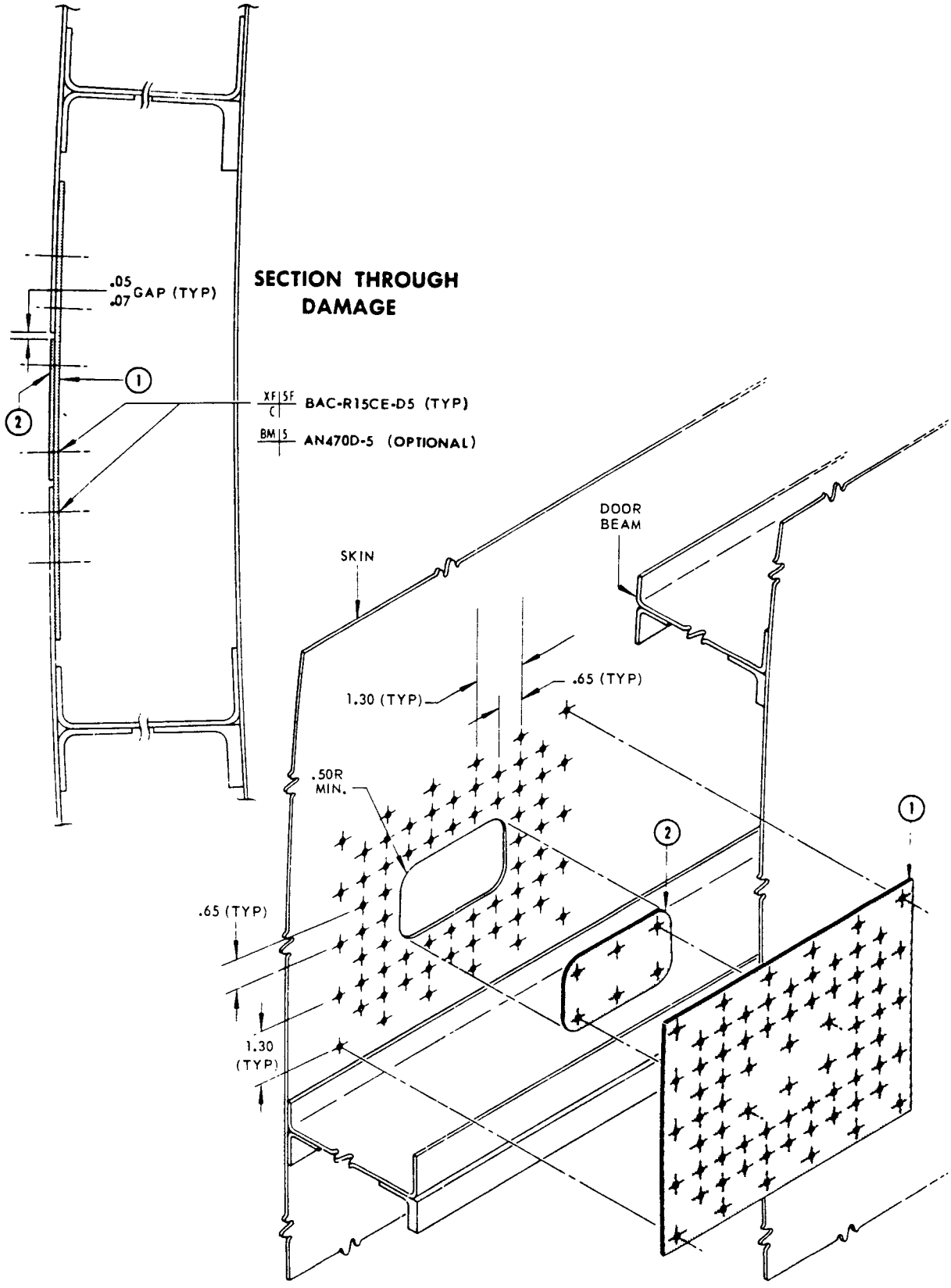
[B] SAME MATERIAL AS ORIGINAL SKIN; SAME GAGE AS ORIGINAL SKIN.

[C] FOR PERFORMANCE CONSIDERATIONS IN REGIONS OF CRITICAL SMOOTHNESS, SEE 51-4-1.

REPAIR INSTRUCTIONS:

1. Trim the damaged skin to form a rectangular shape. Make the cutout parallel to a beam center line.
2. Remove door inner skin panel as required to obtain access to damaged area. Return all indented or projecting skin to contour. Remove all burrs, nicks, scratches, sharp edges or corners from damaged area.
3. Install plate and filler. Make fillet and fastener sealant applications on the pressurized side of the skin, for an absolute seal using BMS 5-12D, per 51-3-0 of the 707 Maintenance Manual.
   An external 30 degree chamferred patch type of doubler may be used if a flush type repair is not made; use same material and one gage greater than original skin.
4. Apply Aerodynamic Smoother BMS5-13B per paragraph 9 of 51-3-0, 707 Maintenance Manual, in critical areas. If an external patch doubler is used, make a faying surface seal between skin and doubler per 53-1-3.
5. Restore the required surface finish. See 707 Maintenance Manual, section 51-2-0.

Door Skin Between Beams Flush Repair
Figure 4 (Sheet 1 of 2)



Door Skin Between Beams Flush Repair
Figure 4 (Sheet 2 of 2)

REPAIR MATERIAL			
PART		QTY	MATERIAL
(1)	PLATE	1	A
(2)	FILLER	1	B
(3)	ANGLE	1	A
(4)	ANGLE	1	A

NOTE

APPLICABLE TO ENTRY, GALLEY, EMERGENCY AND CARGO DOORS.

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT.

SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

ORIGINAL FASTENER LOCATIONS

REPAIR FASTENER LOCATIONS

A SAME MATERIAL, HEAT TREAT AND ONE GAGE GREATER THAN THE ORIGINAL SKIN OR ANGLE.

B SAME MATERIAL, HEAT TREAT AND GAGE AS ORIGINAL SKIN.

C FILLET AND FASTENER SEALING.

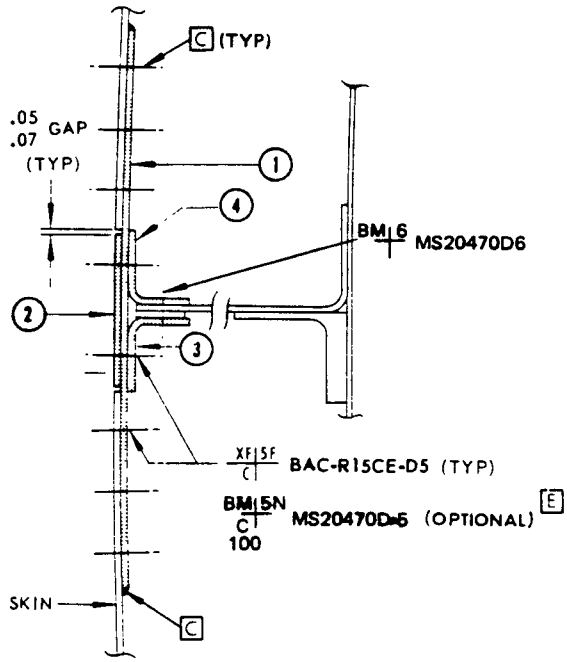
D MINIMUM OF 3 FASTENERS PER LINE BETWEEN REPAIR ANGLE AND ORIGINAL ANGLES.

E FOR PERFORMANCE CONSIDERATIONS IN REGIONS OF CRITICAL SMOOTHNESS SEE 51-4-1

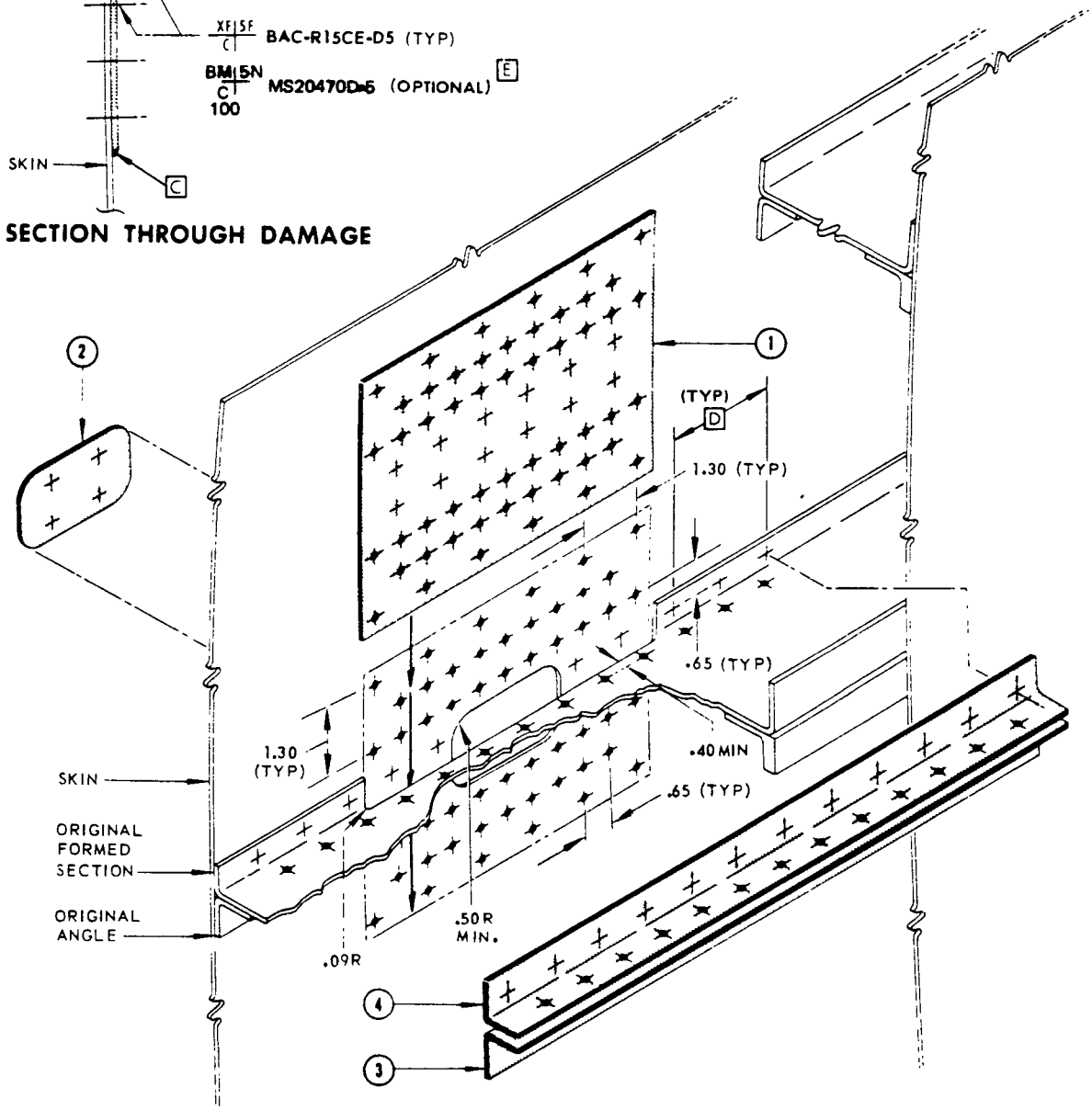
REPAIR INSTRUCTIONS

1. Trim the damaged outer skin on each side and across the damaged beam in such a manner as to obtain a rectangularly shaped cutout parallel to the beam, drill out existing rivets which attach skin to beam. Return all indented or projecting skin to contour. Remove all burrs, nicks, scratches, sharp edges or corners from damaged area.
2. Remove door inner skin panel to obtain access to damaged skin and beam section.
3. Cut out beam flanges next to damaged skin to gain adequate clearance for installation of part 1 .
4. Alodize the entire surfaces and holes of repair parts and all trimmed surfaces including holes of original skin which have no original finish, per 51-8-0 prior to installation.
5. Install parts 3 and 4 with original fasteners on the beam web.
6. Install parts 1 and 2 with original and repair fasteners.
7. Make fillet and fastener seals per 51-3-0 of the 707 Maintenance Manual.
8. Apply Aerodynamic Smoother BMS 5-13B per 51-3-0, 707 Maintenance Manual.
9. Replace door inner skin panel.
10. Replace original finish per 51-2-0 of 707 Maintenance Manual.

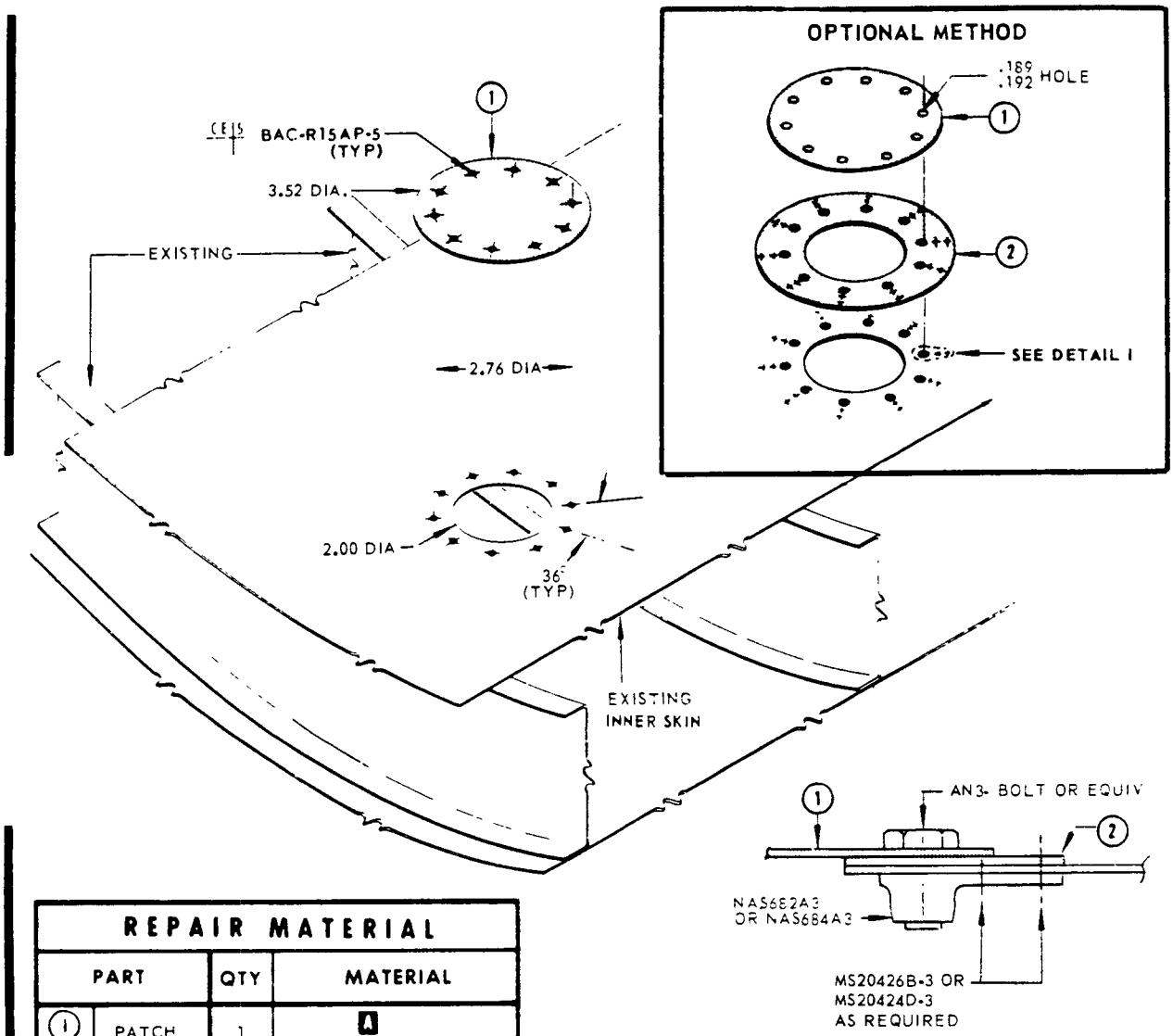
Door Skin at Beam Flush Repair
Figure 5 (Sheet 1 of 2)



SECTION THROUGH DAMAGE



Door Skin at Beam Flush Repair
Figure 5 (Sheet 2 of 2)



DETAIL I

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PATCH	1	A
2	DOUBLER	1	.040 B

REPAIR INSTRUCTIONS

1. Make a cut-out in inner skin.
2. The access hole must be located so that no frame, stiffener, rivet or interfering structure falls within 2 inches from center of access hole.
3. Alodize access hole and part 1 (or part 2) per 51-8-0 prior to installation.
4. Install part 1 to access hole with BAC-R15AP-5 or optionally, use doubler part 2, installed with nutplates.
5. Replace original finish per 51-2-0 of Maintenance Manual.

NOTE

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT

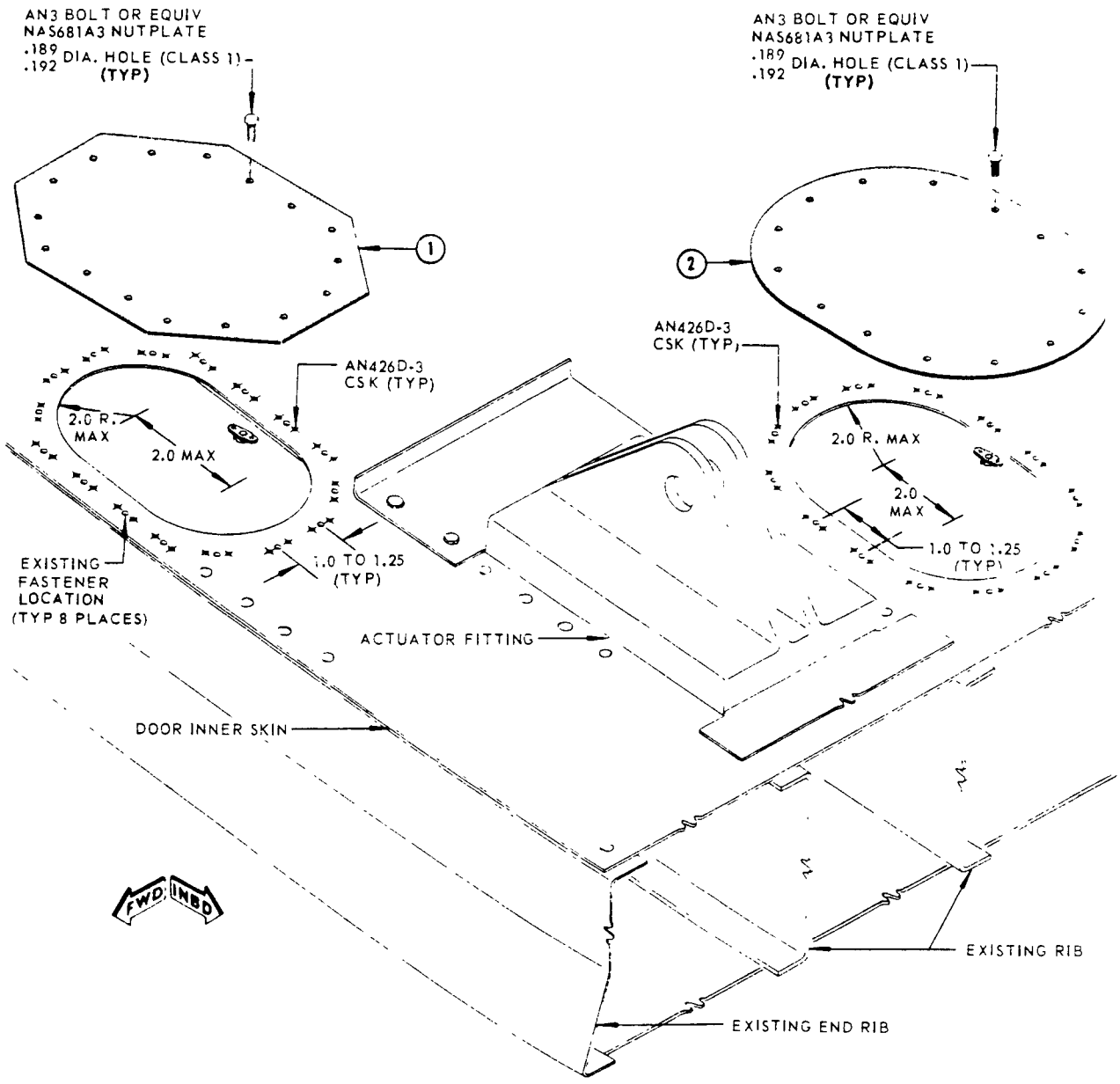
SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS

REPAIR FASTENER LOCATIONS

A SAME GAGE, MATERIAL AND FINISH AS MATERIAL CUT-OUT

B SAME MATERIAL AND FINISH AS MATERIAL CUT-OUT

Access Panel - Outboard Main Landing Gear Door
Figure 6



Access Panel - Main Landing Gear Inboard Door
Figure 1 (Sheet 1 of 2)

REPAIR INSTRUCTIONS:

1. Make cutouts in the inner skin as small as practical with generous radii in the corners.
2. If the cutout extends from rib to rib, pick up the existing rib fastener locations.
3. Assemble NAS681A3 (or equivalent) nut plate to existing door inner skin.
4. Install part 1 or 2 to door inner skin with AN3 bolts (or equivalent) of proper grip length.
5. Replace original finish per 51-2-0 of the 707 Maintenance Manual.

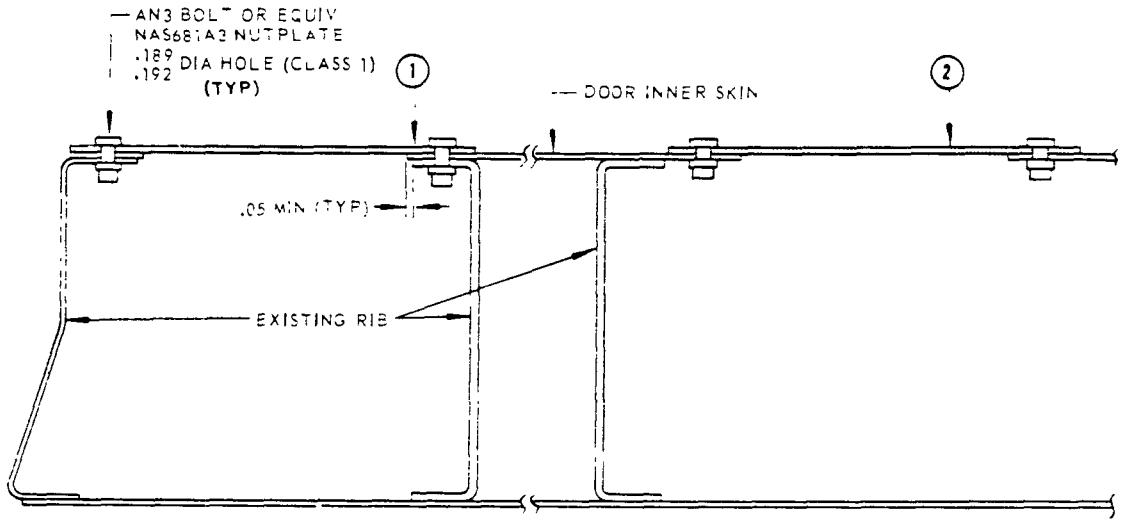
REPAIR MATERIAL			
PART		QTY	MATERIAL
(1)	PLATE	1	.050 CLAD 2024-T3
(2)	PLATE	1	.050 CLAD 2024-T3

NOTE

SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT

REPAIR FASTENER LOCATIONS



SECTION THROUGH ACCESS PANEL

REPAIR INSTRUCTIONS

1. Remove lining per Maintenance Manual as required to obtain access to damaged area.
2. Return all indented or projecting skin to contour. Drill .50 dia stop hole at each end of crack. Remove all burrs, nicks, scratches, sharp edges, or corners from damaged area.
3. Install countersink repair washers per 51-2-8, Figure 4.
4. Install part (1), make a faying surface seal between the skin and the plate per 53-1-3. Fastener sealant applications on the pressurized side of the skin for a seal using BMS 5-12D per 51-3-0 of the Maintenance Manual is optional.
5. Restore the required surface finish. See Maintenance Manual, Section 51-2-0.

NOTE

+ EXISTING FASTENER LOCATIONS
REPLACE EXISTING SHEAR LOCK BOLTS WITH HI-LOK (HL-19) FASTENERS OR BAC-B30EL BOLTS OF THE SAME NOMINAL SIZE OR OVERSIZE

+ ADDITIONAL REPAIR FASTENER LOCATIONS
HL-19 OR BAC-B30EL

SEE 51-2-0 FOR FASTENER CODE, REMOVAL & INSTALLATION, HOLE SIZES AND EDGE MARGINS

SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT

SEE 51-2-8, FIG. 4 FOR COUNTERSINK REPAIR WASHERS FOR SKIN

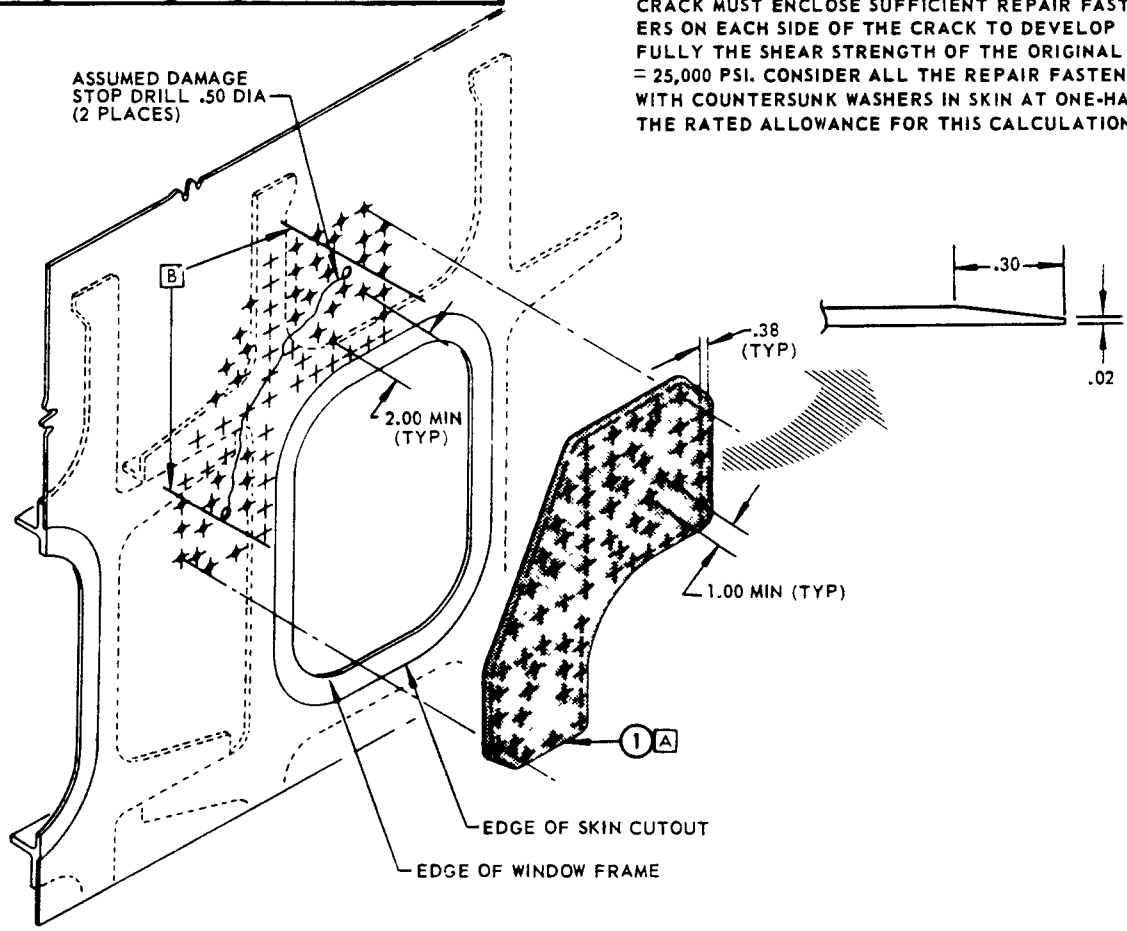
SEE 51-4-1 FOR PERFORMANCE CONSIDERATIONS IN REGIONS OF CRITICAL SMOOTHNESS

IF CRACK PROPOGATES BEYOND STOP HOLE, REPLACE SKIN

[A] MORE THAN ONE PATCH MAY BE USED BUT IN NO CASE MAY THEY ABUT ONE ANOTHER

[B] TWO PARALLEL LINES NORMAL TO AND SPANNING THE CRACK MUST ENCLOSE SUFFICIENT REPAIR FASTENERS ON EACH SIDE OF THE CRACK TO DEVELOP FULLY THE SHEAR STRENGTH OF THE ORIGINAL SKIN = 25,000 PSI. CONSIDER ALL THE REPAIR FASTENERS WITH COUNTERSUNK WASHERS IN SKIN AT ONE-HALF THE RATED ALLOWANCE FOR THIS CALCULATION

REPAIR MATERIAL			
PART		QTY.	MATERIAL
(1)	PLATE	1	.10 CLAD/ 2024-T4



Main Cargo Door Window Zone Skin Repair
Figure 8

REPAIR INSTRUCTIONS

1. Stop drill at end of crack per 51-2-10, paragraph I.C.(1).
2. Remove fasteners as required to gain access to cracked casting.
3. Fabricate repair parts.
4. Layout and drill repair fastener holes in door casting and doubler midway between existing fastener holes as illustrated. Countersink in doubler.
5. Drill existing fastener holes in doubler and tapered shims.
6. Remove all foreign matter.
7. Brush allodize all raw areas of original and repair parts per 51-8-0.
8. Make faying surface seal between doubler and casting. Prepare for bonding the mating surface of doubler and this door structure per 51-9-1.
9. Install repair fasteners attaching doubler to casting.
10. Install tapered shims and CR2249-6 fasteners in original fastener locations.
11. Restore finish per 51-2-0 of Maintenance Manual.

NOTE

- DAMAGE IS ASSUMED TO BE A CRACK IN THE FLANGE OF THE CASTING.
- BREAK SHARP EDGES 0.03 ALL REPAIR PARTS AND TRIMMED ORIGINAL EDGES.
- SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.
- SEE 51-8-0 FOR METAL PROTECTIVE TREATMENT.

┼ ORIGINAL FASTENER LOCATION, USE CR2249-6 FASTENERS

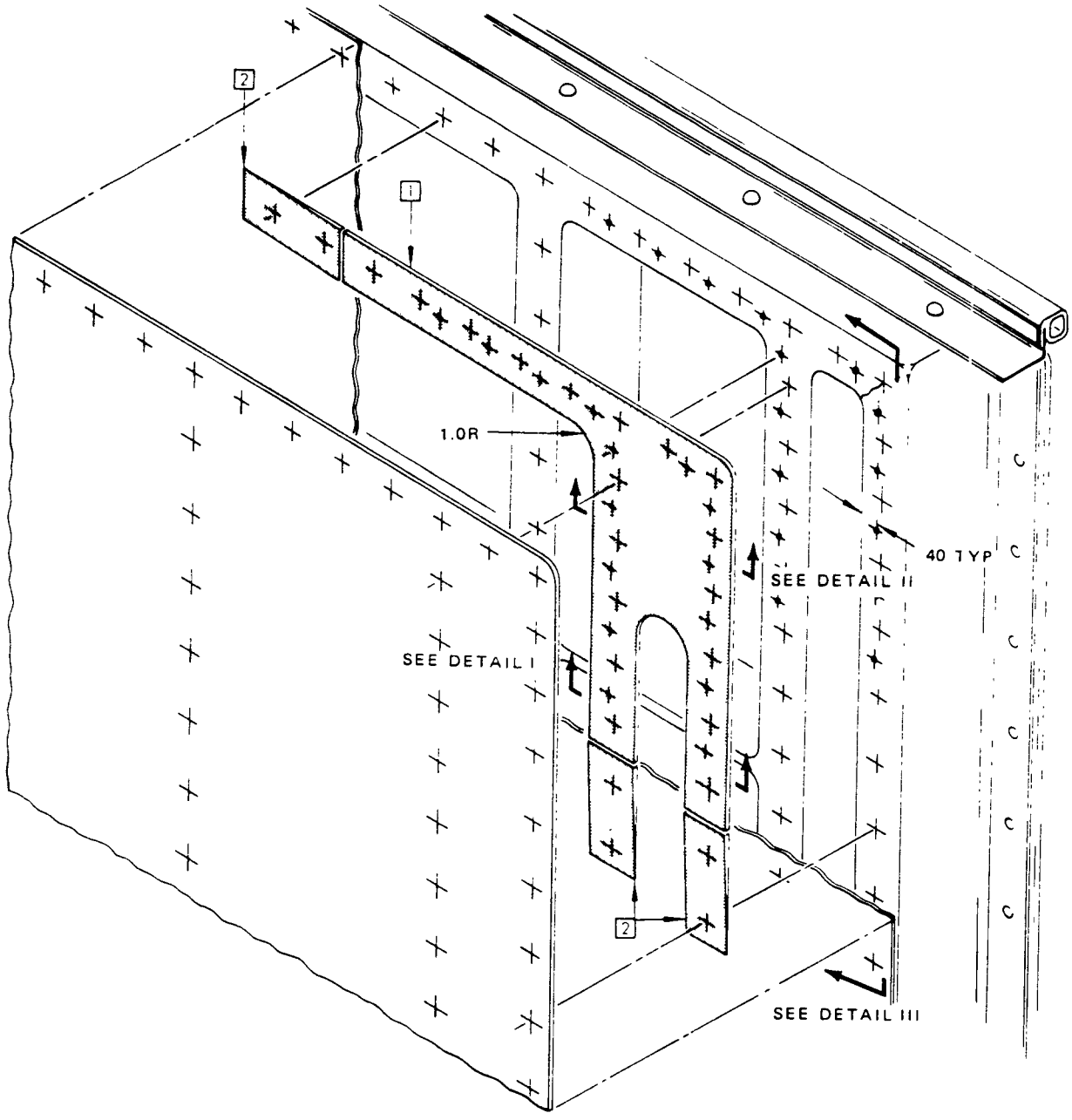
✦ REPAIR FASTENER LOCATION, USE MS20426B5 FASTENERS.

[A] THALCO 196
THALCO GLASS FIBER CLOTH PRODUCTS
LOS ANGELES, CALIFORNIA

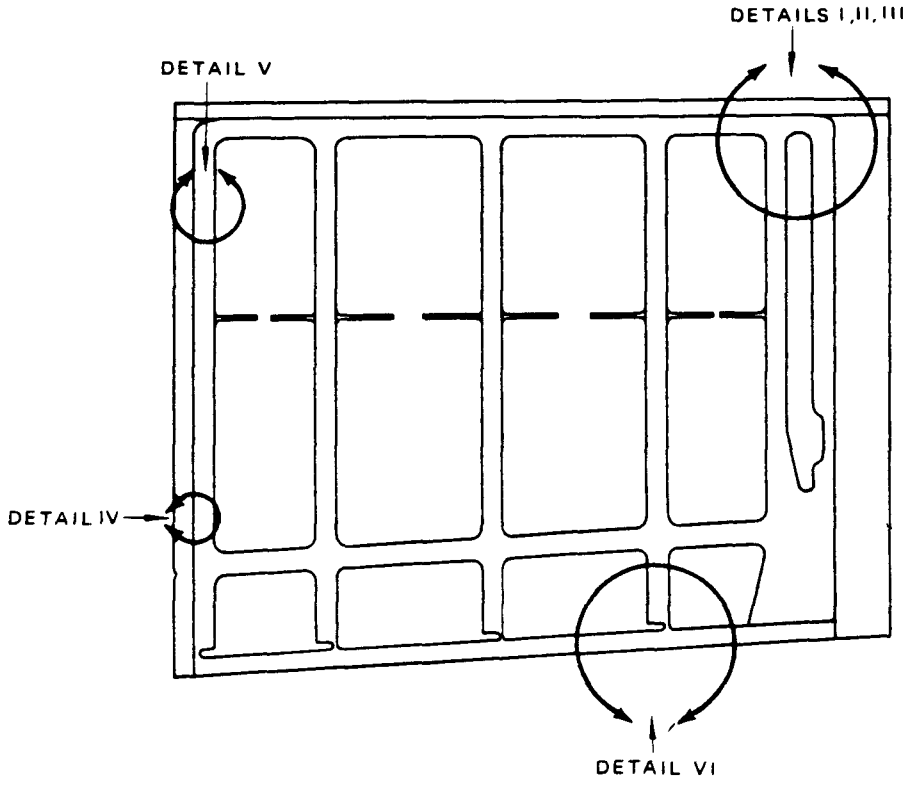
[B] NOT REQUIRED WHEN BONDING PER 51-9-1 DATED MAY 5/70 IS EMPLOYED. EXISTING BONDED REPAIRS WHICH UTILIZED SCRIM CLOTH ARE SATISFACTORY AND NEED NOT BE REWORKED.

	PART	QTY	MATERIAL
[1]	DOUBLER	1	.063 ALUM CLAD 7075-T6
[2]	TAPERED SHIM	3	.063 ALUM 2024-O TEMPER
[3]	DOUBLER	1	.063 7075-T6 CLAD
[4]	FILLER	1	.160 2024-T3
[5]	TAPERED FILLER	1	.250 2024-T3
[6]	SCRIM CLOTH	AS RQD	[A][B]
[7]	DOUBLER	1	.063 7075-T6 CLAD
[8]	ANGLE	1	.071 2024-T4 CLAD

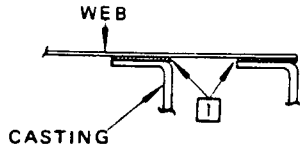
Main Landing Gear Inboard Door Repair
Figure 9 (Sheet 1 of 6)



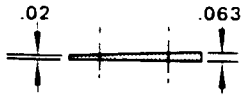
Main Landing Gear Inboard Door Repair
Figure 9 (Sheet 2 of 6)



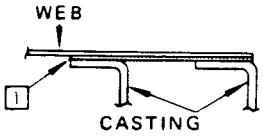
REPAIR LOCATION DIAGRAM



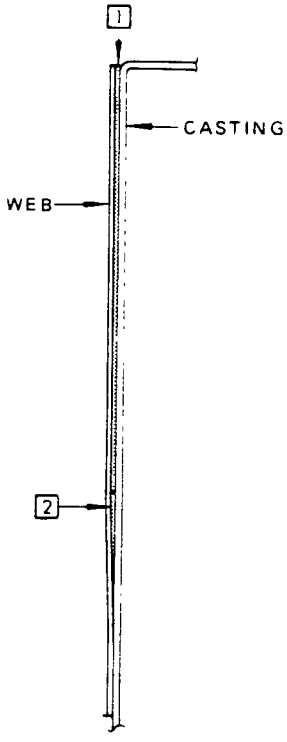
DETAIL I



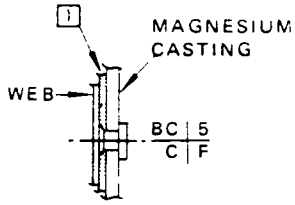
TYPICAL PART 2



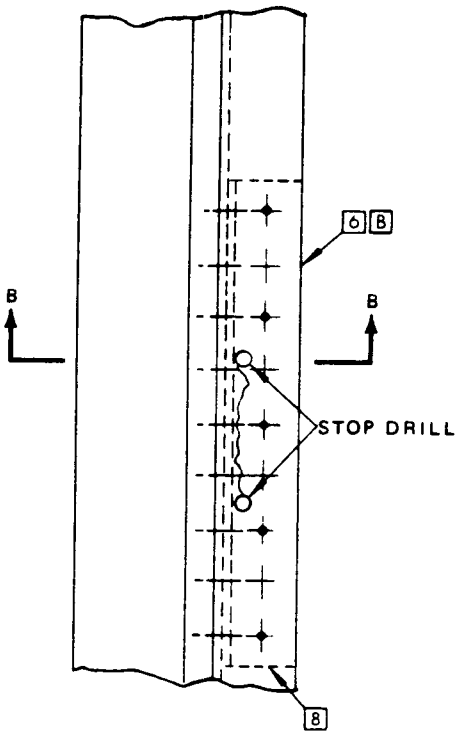
DETAIL II



DETAIL III

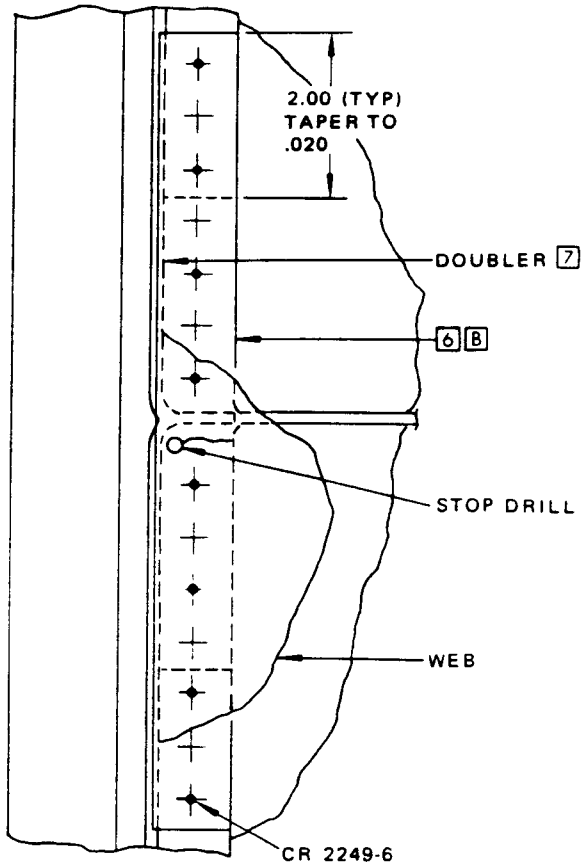


TYPICAL SECTION
REPAIR FASTENER



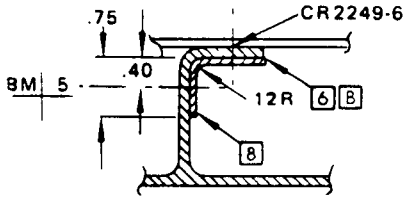
TYPICAL REPAIR FOR
RADIUS CRACKS

DETAIL IV



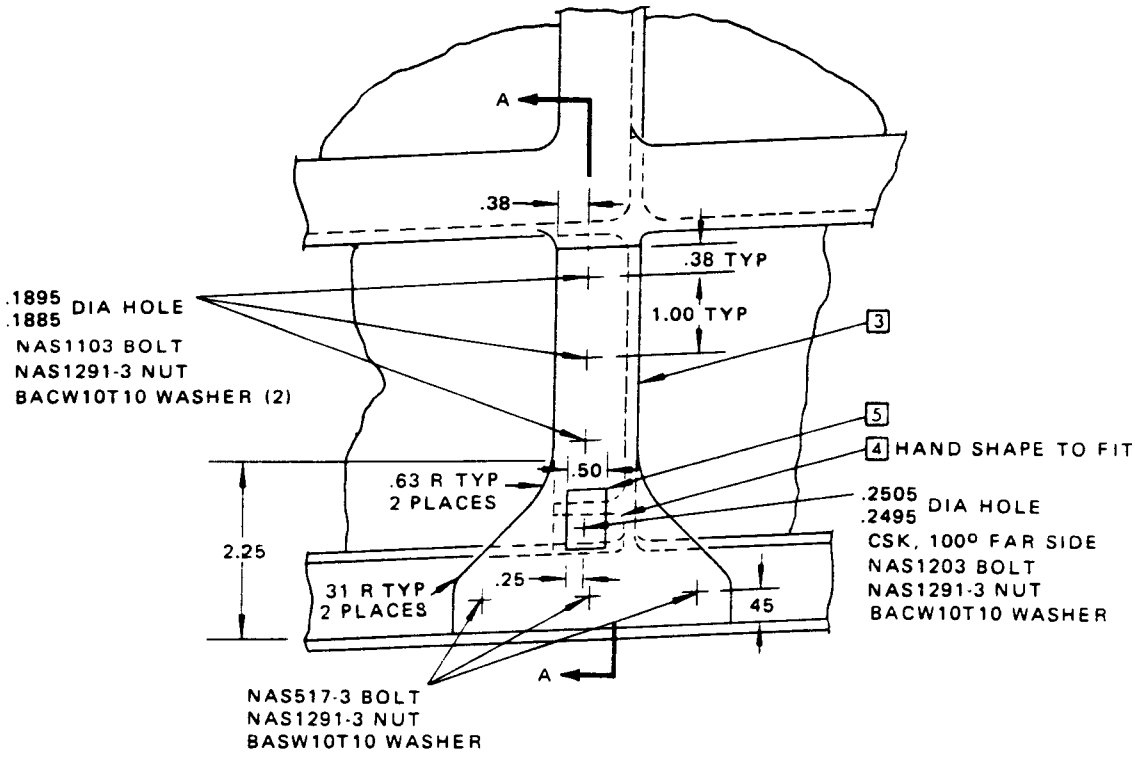
TYPICAL REPAIR FOR
CROSS FLANGE CRACKS

DETAIL V



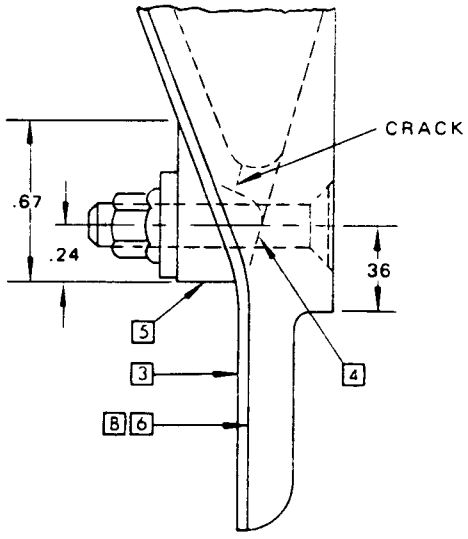
SECTION THROUGH REPAIR

SECTION B-B



TYPICAL REPAIR AT END OF HINGE GUSSETS

DETAIL VI



SECTION THROUGH REPAIR

SECTION A-A

REPAIR INSTRUCTIONS

1. Remove fastener bolts and fairing attach angles.

2. Stop-drill cracks that do not exceed 2 inches in length in flange and web of rib with .25 dia holes at the end of all cracks that do not end in fastener holes. If the crack exceeds 2 inches in length then replace the damaged rib with a new rib. Cracks or damage to the boundary angle must be repaired by cutting out the damaged section and replacing it with a filler section as shown.

3. Fabricate and form repair parts.

4. Locate and drill fastener holes in repair parts to match original fastener holes in webs and chords.

5. Remove all burrs, nicks, scratches, sharp edges and corners on all repair parts and original parts.

6. Break all sharp edges and corners .03 radius.

7. Apply metal protective treatment per 51-8-0 to all repair parts and original parts that have been cut or damaged.

8. Prepare the faying surfaces of parts [1] [3] [6] [7] and [10] and the matching surfaces of existing structure per 51-9-1 of the Structure Repair Manual.

9. Install parts and rivet fasteners.

10. Restore original finish per Maintenance Manual 51-2-0.

11. Replace abrasion strip.

NOTE

- SEE 51-2-0 FOR FASTENER CODE, REMOVAL AND INSTALLATION, HOLE SIZES AND EDGE MARGINS.

+ ORIGINAL FASTENER LOCATIONS - SAME SIZE AND TYPE AS ORIGINAL

✦ REPAIR FASTENER LOCATIONS

[A] THALCO NO. 196
THALCO GLASS CLOTH FIBER PRODUCTS
LOS ANGELES, CALIFORNIA

[B] THIS EXTRUSION MAY BE OBTAINED FROM THE BOEING SPARES DEPARTMENT

[C] USE ORIGINAL PART OR FABRICATE NEW PART SAME AS ORIGINAL

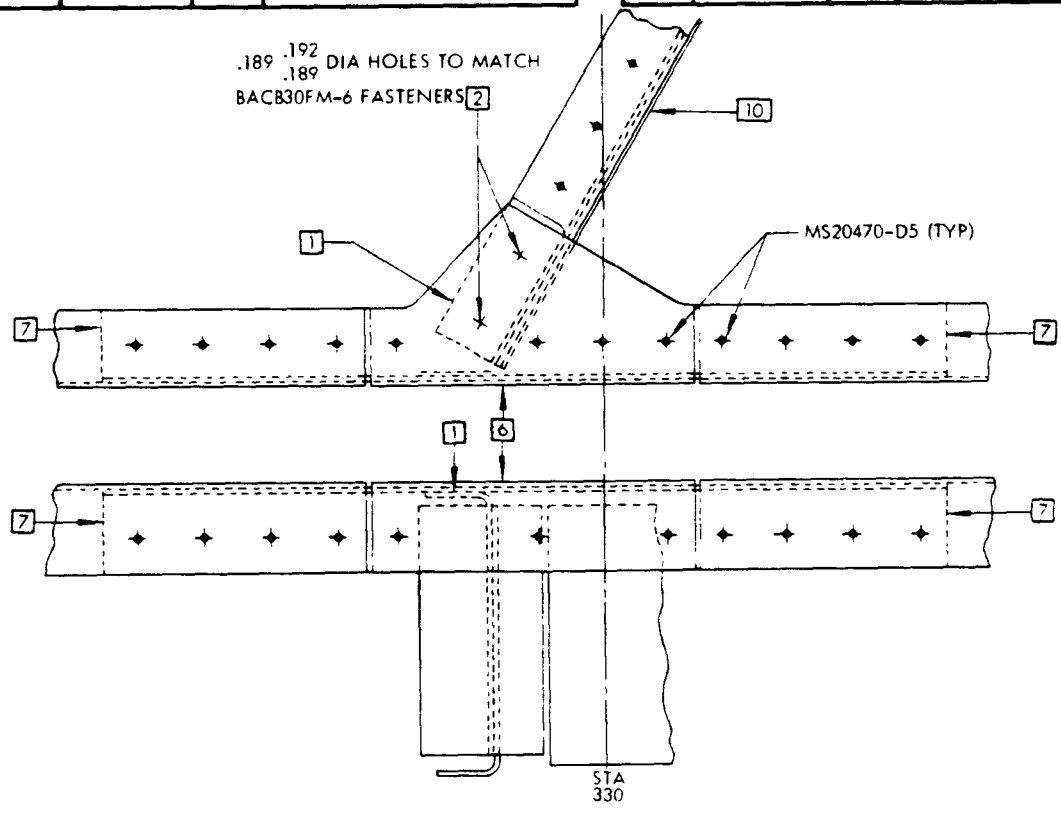
[D] IN THE EVENT OF DAMAGE BEING INCURRED IN ONE OR MORE OF THESE AREAS IT IS PREFERRED THAT ALL REPAIRS AS SHOWN BE DONE AT THE SAME TIME.

[E] NOT REQUIRED WHEN BONDING PER 51-9-1 DATED MAY 5/70 IS EMPLOYED. EXISTING BONDED REPAIRS WHICH UTILIZED SCRIM CLOTH ARE SATISFACTORY AND NEED NOT BE REWORKED.

Nose Wheel Well Fairing Repair
Figure 10 (Sheet 1 of 5)

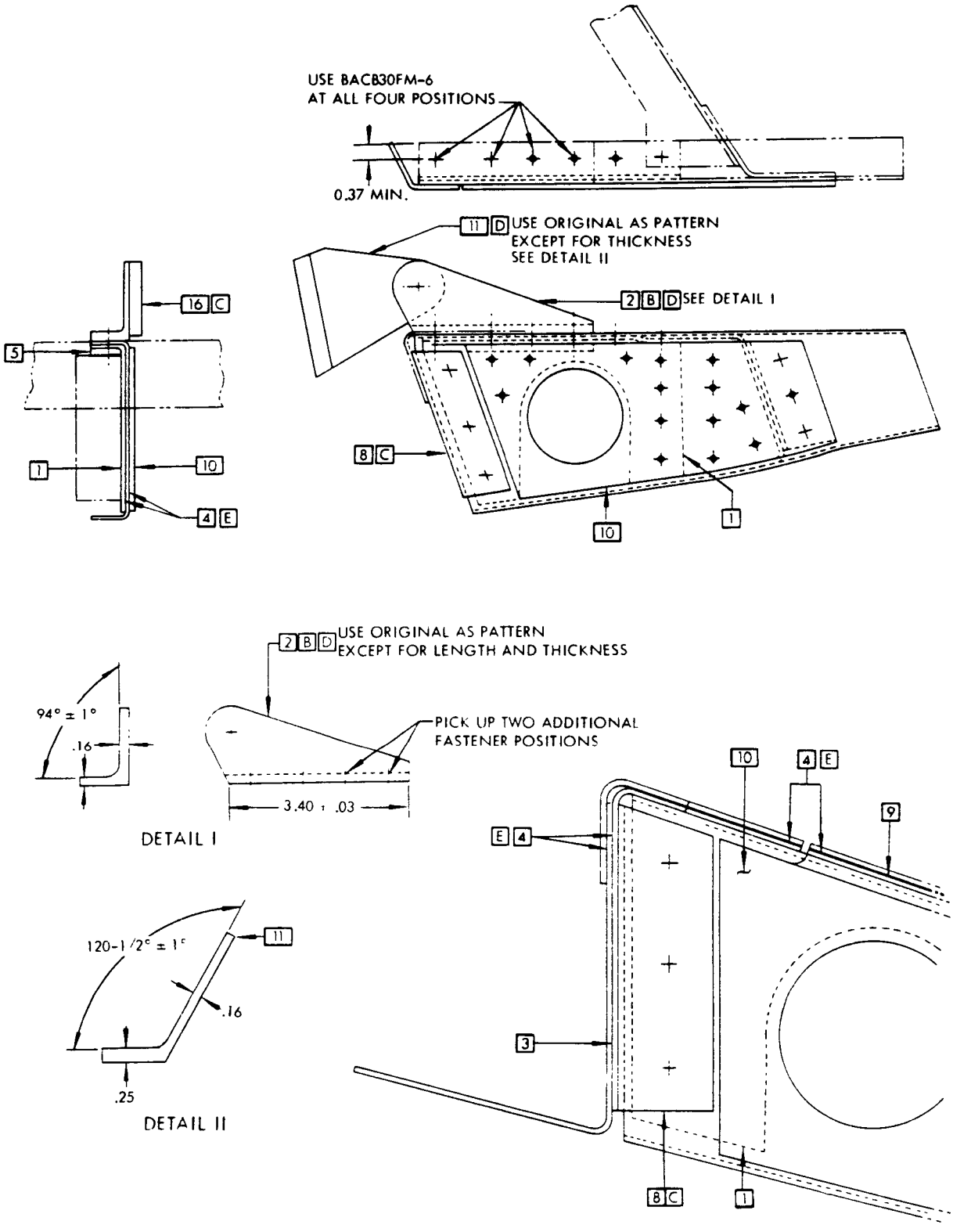
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	ANGLE	1	2024-T4 CLAD x .071
2	ATTACH BRACKET	1	BAC1514-1172 2024-T4 EXT
3	FILLER	1	2024-T4 CLAD x .050
4	SCRIM CLOTH		A E
5	RADIUS FILLER	1	BAC1512-323 2024-T4 EXT
6	ANGLE	1	.051 x 2.10 2024-T4 CLAD
7	ANGLE	1	.063 2024-T4 CLAD

REPAIR MATERIAL			
PART		QTY	MATERIAL
8	ANGLE	1	2024-T4 CLAD .050
9	FILLER	1	2024-T4 x .050 CLAD
10	PLATE	1	2024-T4 x .071
11	ANGLE	1	BAC1514-1246 2024-T4 EXT
12	ANGLE	1	BAC1514-157 B 2024-T4 EXT
13	PLATE	1	.160 x 7075-T6
14	PLATE	1	.160 x 7075-T6
15	PLATE	1	.160 x 7075-T6
16	ABRASION STRIP	1	GEN'L PURPOSE .25 THK NYLON



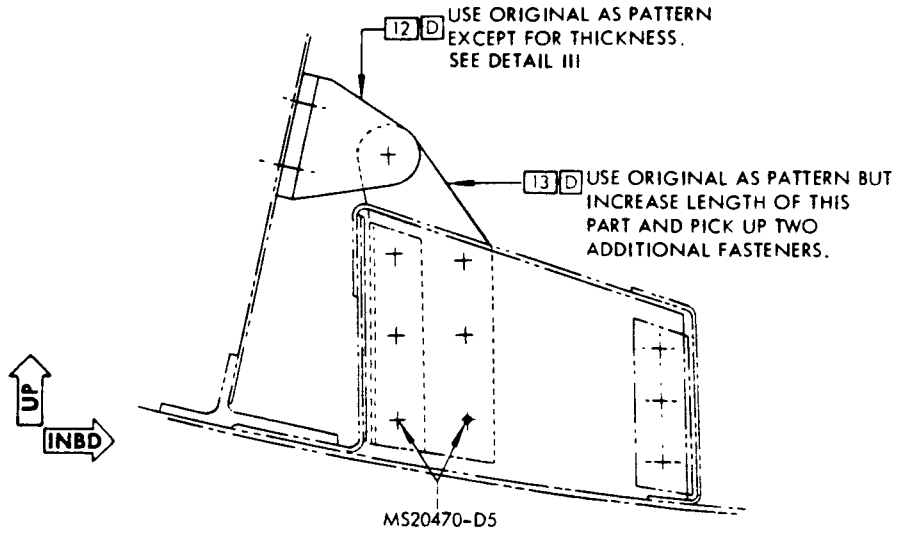
REPAIR AT STA 330 D

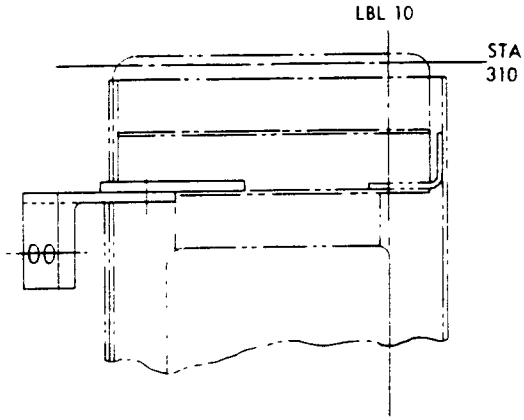
Nose Wheel Well Fairing Repair
Figure 10 (Sheet 2 of 5)

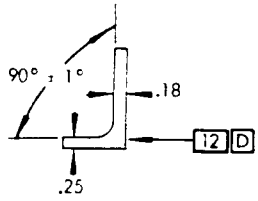


REPAIR AT STA 330

Nose Wheel Well Fairing Repair
Figure 10 (Sheet 3 of 5)



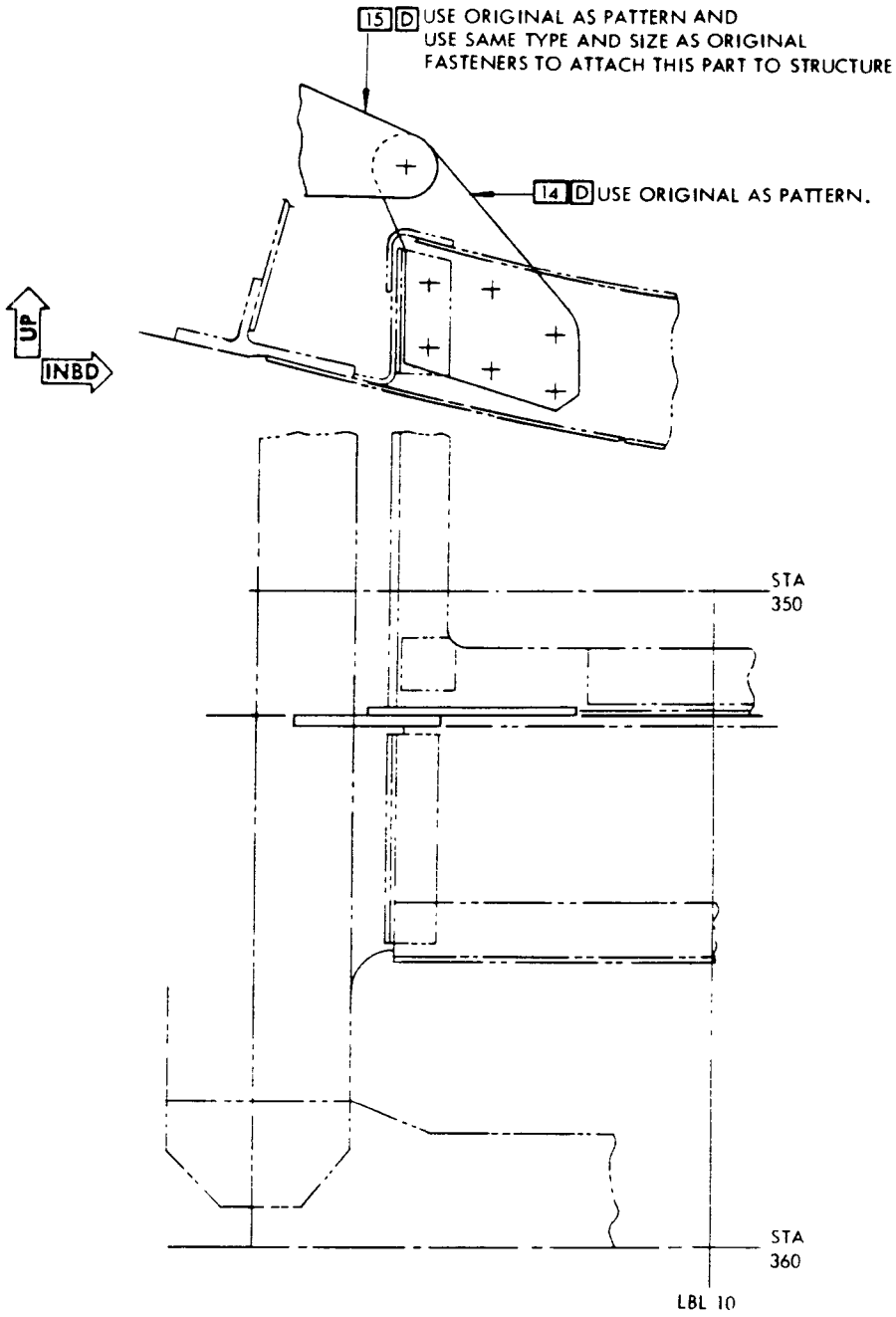




DETAIL III

REPAIR AT STA 310 D

Nose Wheel Well Fairing Repair
Figure 10 (Sheet 4 of 5)



REPAIR AT STA 350 D

Nose Wheel Well Fairing Repair
Figure 10 (Sheet 5 of 5)