CHAPTER

57

WINGS

CHAPTER 57
WINGS

A = Added, R = Revised, O = Overflow, D = Deleted

57-EFFECTIVE PAGES

CHAPTER 57
WINGS

A = Added, R = Revised, O = Overflow, D = Deleted

57-EFFECTIVE PAGES

CHAPTER 57
WINGS

Subject/Page	Date
57-20-10 IDENTIFICATION 1 (cont)	
3	Apr 01/2005
4	Apr 01/2005
5	Apr 01/2005
6	Apr 01/2005
7	Apr 01/2005
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R 2	Aug 15/2009
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102	BLANK
57-20-70 REPAIR 1	
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57-20-90 IDENTIFICATION 1	
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R 103	Aug 15/2009
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103	Apr 01/2005
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202	Apr 01/2005
203	Apr 01/2005
204	Apr 01/2005
57-20-90 REPAIR 2	
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202	Apr 01/2005
203	Dec 15/2007
204	Apr 01/2005
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104	Apr 01/2005
57-30-01 REPAIR 1	
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103	Apr 01/2005
104	Apr 01/2005
105	Apr 01/2005
106	Apr 01/2005
57-41-01 REPAIR 1	
201	Apr 01/2005
202	Apr 01/2005

A = Added, R = Revised, O = Overflow, D = Deleted

57-EFFECTIVE PAGES

CHAPTER 57
WINGS

A = Added, R = Revised, O = Overflow, D = Deleted

57-EFFECTIVE PAGES

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WINGS

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57-EFFECTIVE PAGES

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57-EFFECTIVE PAGES

CHAPTER 57
WINGS

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CHAPTER 57
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GENERAL - WINGS

1. General

A. This chapter contains information on identification, allowable damage, and repairs to the structural components of the wing, leading edge slats, trailing edge flaps, spoilers and the ailerons.

2. References

Reference	Title
51-20-05, GENERAL	Repair Sealing
51-60-00, GENERAL	Control Surface Balance Moment Determination
51-60-01, GENERAL	Outboard Aileron Rebalance Procedure

3. Sealing

A. The outer wing structure between the front and rear spars is sealed to form integral fuel tanks.

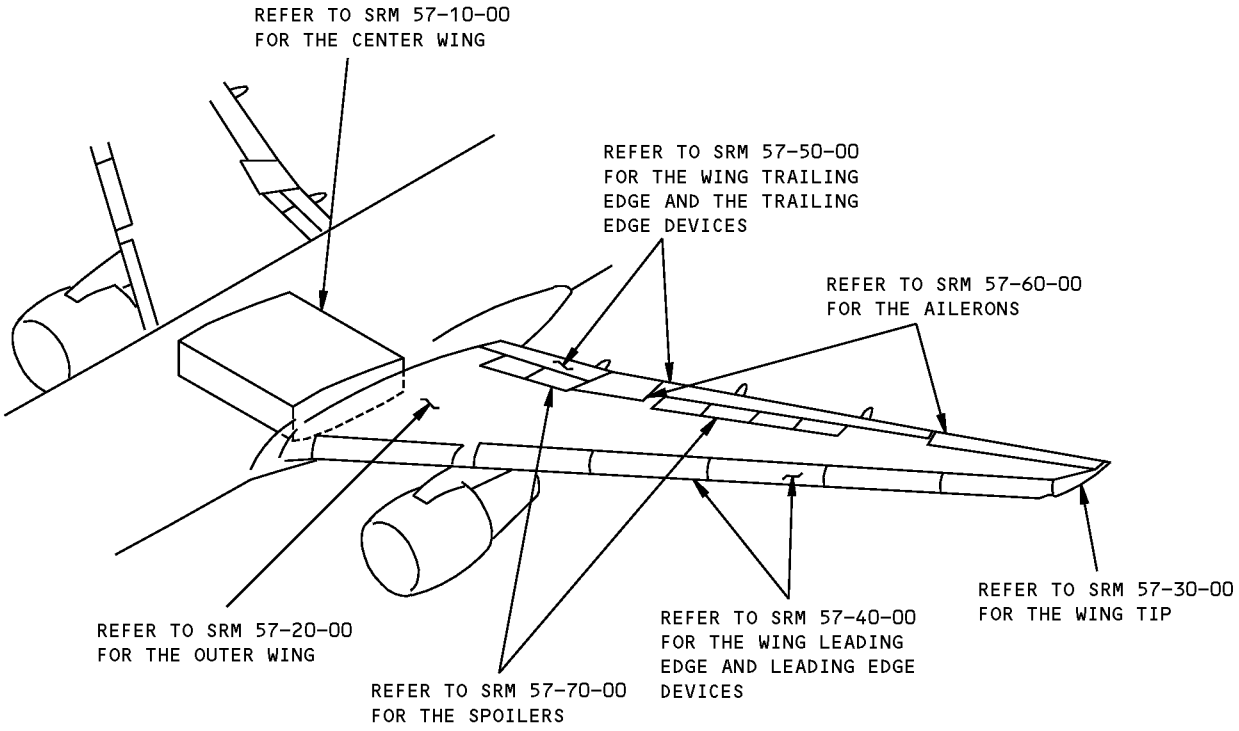
B. The center wing structure may have provisions for sealed, integral fuel tanks.

C. Repairs to the center and outer wings involving the fuel tank areas must be sealed. Refer to 51-20-05, GENERAL for sealing requirements and processes.

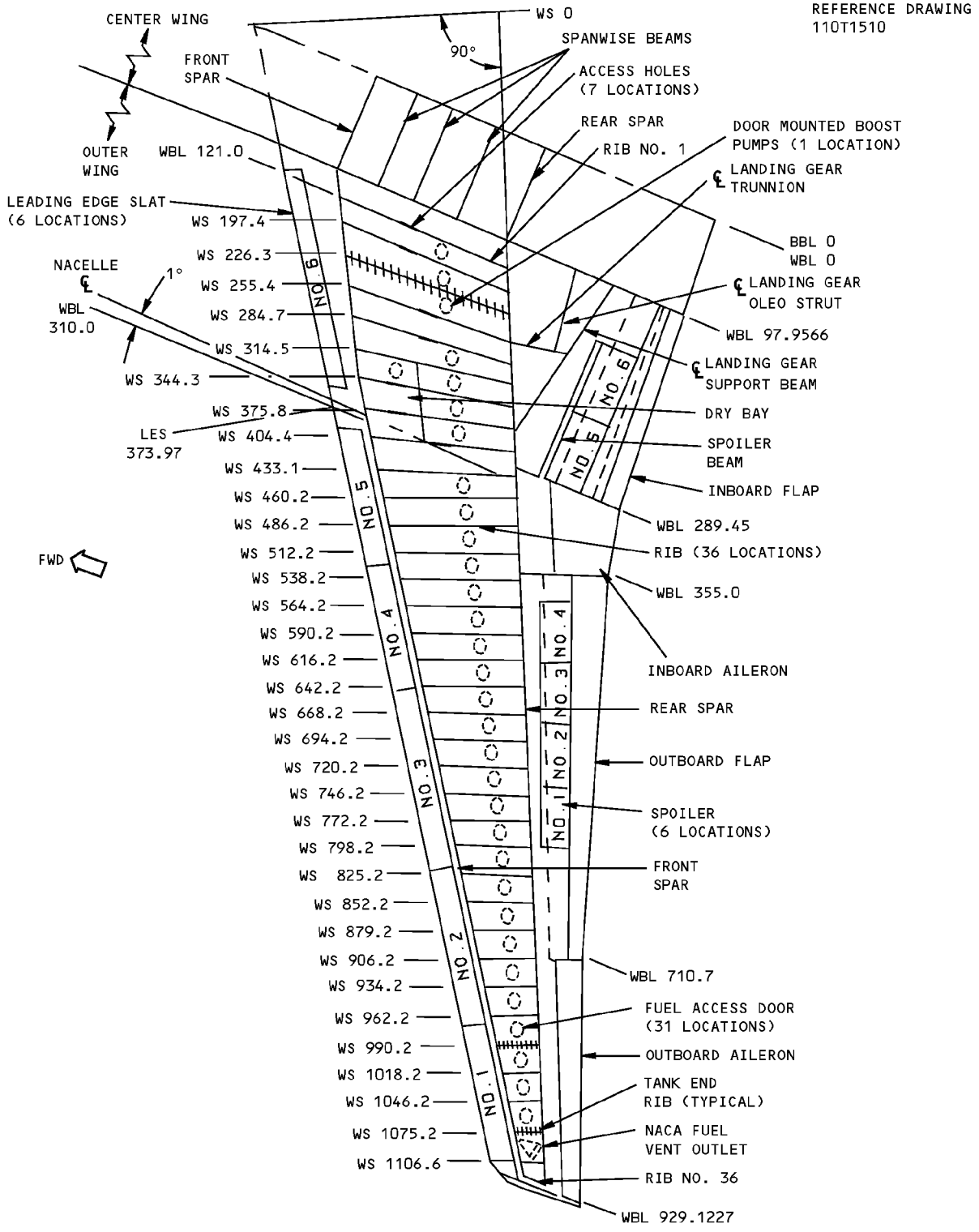
4. Control Surface Balancing

A. Refer to 51-60-00, GENERAL for general information on control surface balancing.

B. Refer to 51-60-01, GENERAL for balance requirements and rebalancing instructions for the outboard aileron. The inboard aileron is not a balanced control surface.

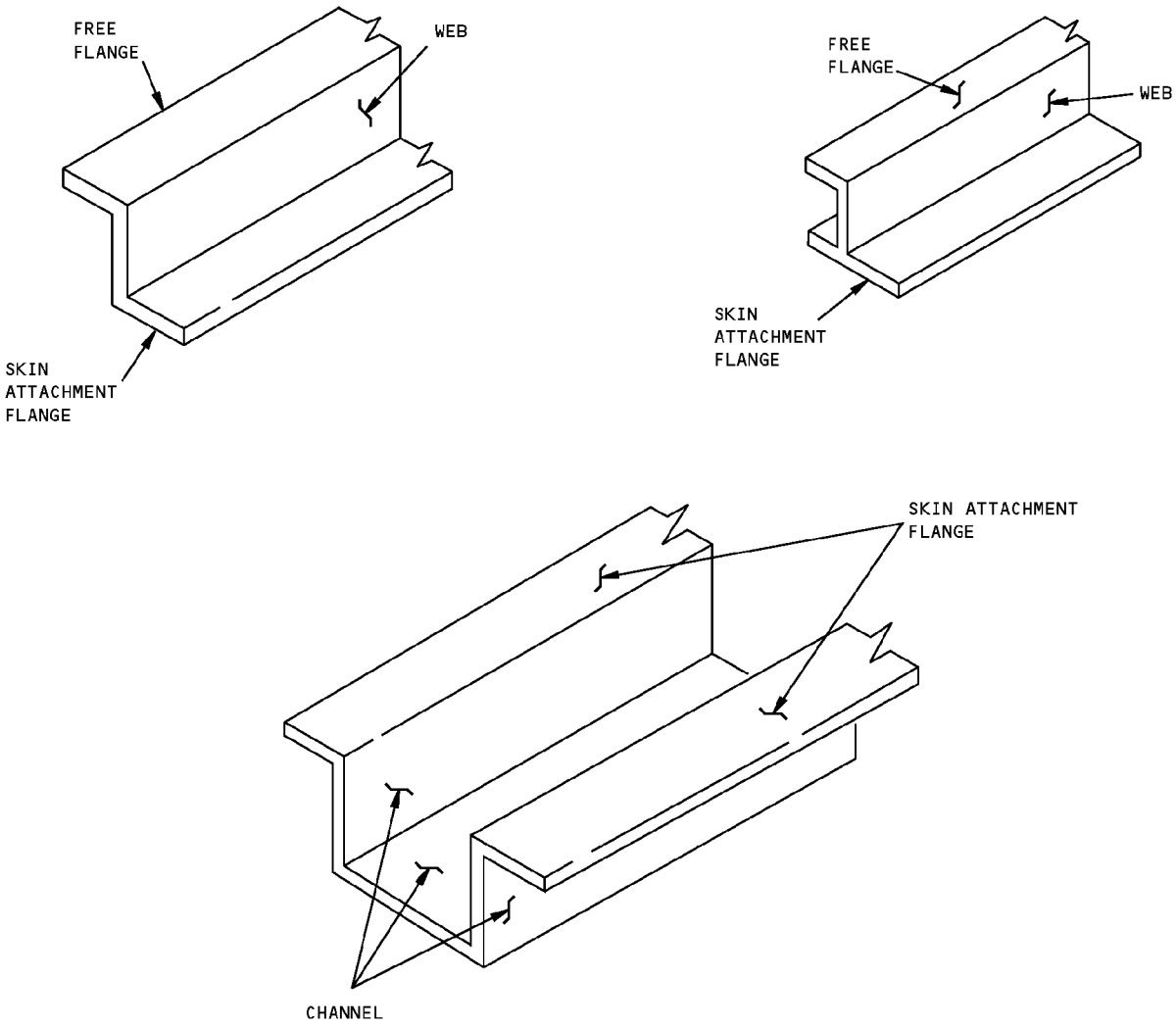


Wing Structure Diagram
Figure 1



Wing Station Diagram
Figure 2

ALLOWABLE DAMAGE 1 - WING STRINGERS



TYPICAL STRINGER SECTIONS

MATERIAL: ALUMINUM

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
FREE FLANGE	[A]	[B]	NOT PERMITTED	[C]
SKIN ATTACHMENT FLANGE	[A]	[B]	NOT PERMITTED	NOT PERMITTED
WEB	NOT PERMITTED	[B]	NOT PERMITTED	[C]
CHANNEL	[D]	[B]	NOT PERMITTED	[C]

Wing Stringers Allowable Damage
Figure 101 (Sheet 1 of 3)

NOTES

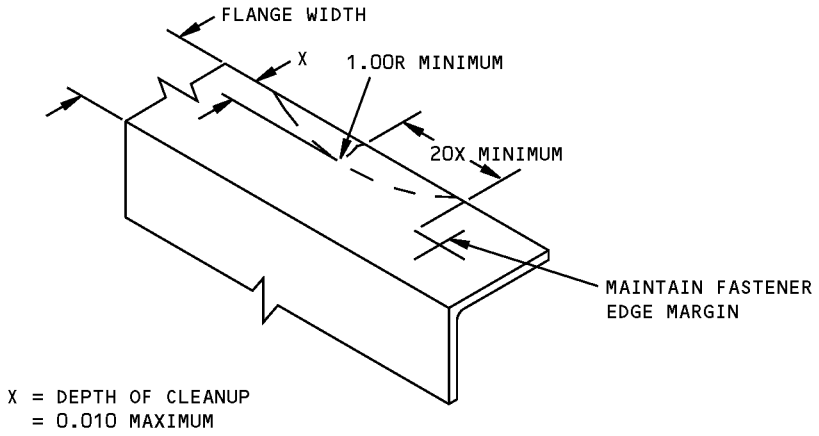
- APPLY THE FINISH TO THE REWORKED AREAS AS GIVEN IN AMM 51-20.
- THE TOTAL CROSS-SECTIONAL AREA REMOVED BY ANY TYPE OF DAMAGE CLEANUP MUST NOT EXCEED 10 PERCENT OF THE INITIAL NET CROSS-SECTIONAL AREA OF THE STRINGER. SEE DETAIL IV.
- SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS I OR III.

[B] REMOVE DAMAGE AS GIVEN IN DETAILS I,II AND III.

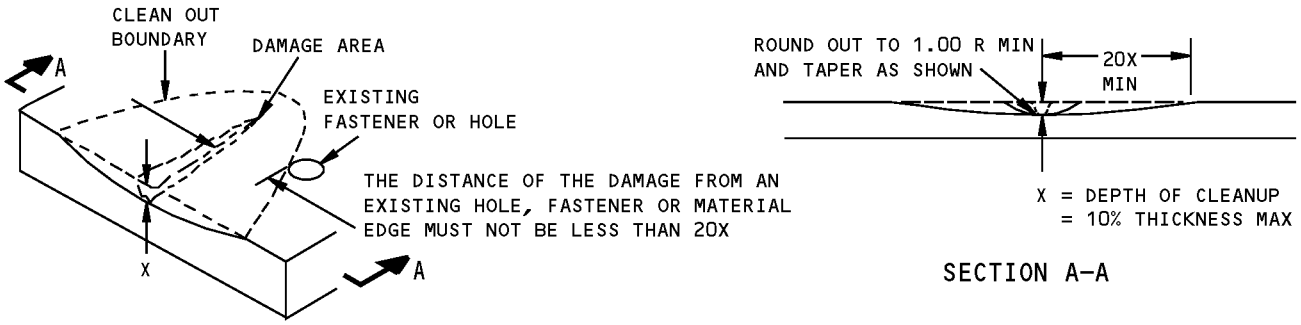
[C] CLEAN OUT DAMAGE UP TO 0.25-INCH DIA MAX, AND NOT CLOSER THAN 1.0 INCH TO A FASTENER HOLE, MATERIAL EDGE OR OTHER DAMAGE. FILL HOLE WITH BACR15BB()AD ALUMINUM RIVET INSTALLED IN LOW INTERFERENCE COLD-WORKED HOLE AS GIVEN IN SRM 51-40-09. ALL OTHER HOLES MUST BE REPAIRED.

[D] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS AT VENT HOLES WHICH MUST BE REMOVED AS GIVEN IN DETAILS I OR III.

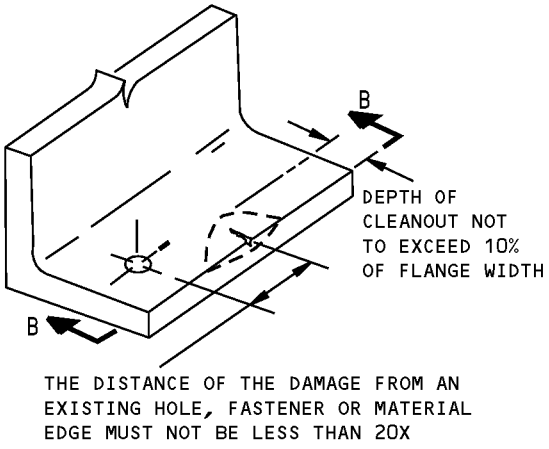


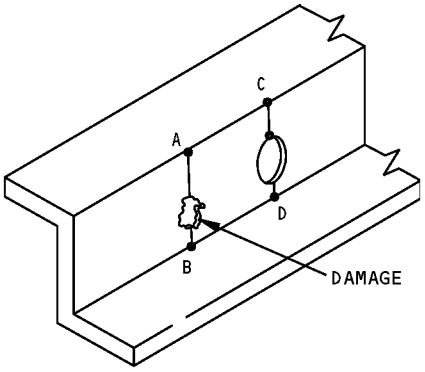
REMOVAL OF NICK OR CRACK ON AN EDGE
DETAIL I

Wing Stringers Allowable Damage
Figure 101 (Sheet 2 of 3)



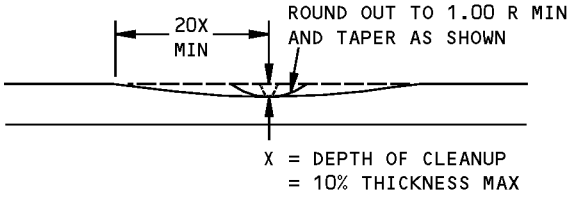
REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL II





THE LOSS IN CROSS–SECTIONAL AREA INCLUDING ANY EXISTING FASTENER HOLES ALONG ANY LINE A–B OR C–D DUE TO REMOVAL OF ANY TYPE OF DAMAGE MUST NOT EXCEED 10 PERCENT OF ORIGINAL NET CROSS–SECTIONAL AREA OF STRINGER BETWEEN A AND B OR BETWEEN C AND D

DETAIL IV



SECTION B–B

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

DETAIL III

Wing Stringers Allowable Damage
Figure 101 (Sheet 3 of 3)

REPAIR 1 - WING UPPER ZEE STRINGER REPAIR

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut and remove the damaged portion of stringer. If skin is damaged see 57-10-01 or 57-20-01.
2. Establish the maximum section of the portion removed (ignore pads at rib stations), and calculate the fastener requirements and dimensions of the repair parts. Determine the fastener type for the web splice plates from the 2.5D maximum stack-up requirement. See note [C].
3. Make the repair parts.
4. Assemble the repair parts and drill the fastener holes.
5. Remove the repair parts.
6. Break sharp edges of original and repair parts 0.015R to 0.030R.
7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
8. Shot peen the cut edges of stringer per 51-20-06.
9. Alodize the repair parts and the cut edges of stringer per 51-20-01.
10. Apply BMS 10-20, type 2 protective coating to the repair parts and the cut edges of stringer in accordance with 28-11-00 of the 767 Maintenance Manual.
11. Install the repair parts with BMS 5-26 faying surface sealant. Install fasteners wet with BMS 5-26 sealant.
12. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE MAINTENANCE MANUAL
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

Wing Upper Zee Stringer Repair
Figure 201 (Sheet 1 of 3)

NOTES (Cont)

- D = FASTENER DIAMETER
- MACHINE REPAIR PARTS TO 125 MICROINCHES

[A] TAPER FROM A POINT BETWEEN THE FIRST AND SECOND FASTENER FROM THE STRINGER JOINT TO 0.060 AT THE EXTREMITY. TAPER MUST BE 20 TO 1 OR GREATER, I.E., 5% MAX ALLOWABLE SLOPE

[B] BACB30FM( )-( ) WITH BACC30AG( ) MAY BE USED AS AN ALTERNATIVE

[C] WHERE THICKNESS TO BE RIVETED IS GREATER THAN 2.5D USE BACB30MY( )K( ) WITH BACC30AG( ) [B]. DO NOT MIX HI-LOKS AND RIVETS IN THE SAME REPAIR STRAP

[D] USE SAME SIZE FASTENER AS ORIGINAL. IF FASTENER HOLE IS DAMAGED USE 1/32 OVERSIZE. WHERE THICKNESS TO BE RIVETED IS GREATER THAN 2.5D USE 1/32 OVERSIZE BACB30NY( )K( ) WITH BACC30AG( )

[E] RIVETS MUST BE DRIVEN PER FLUID TIGHT REQUIREMENTS OF 51-40-02

[F] LOCALLY CHAMFER PLATE TO ELIMINATE INTERFERENCE WITH COLLAR IF NECESSARY

FASTENER SYMBOLS

┼ ORIGINAL FASTENER LOCATION

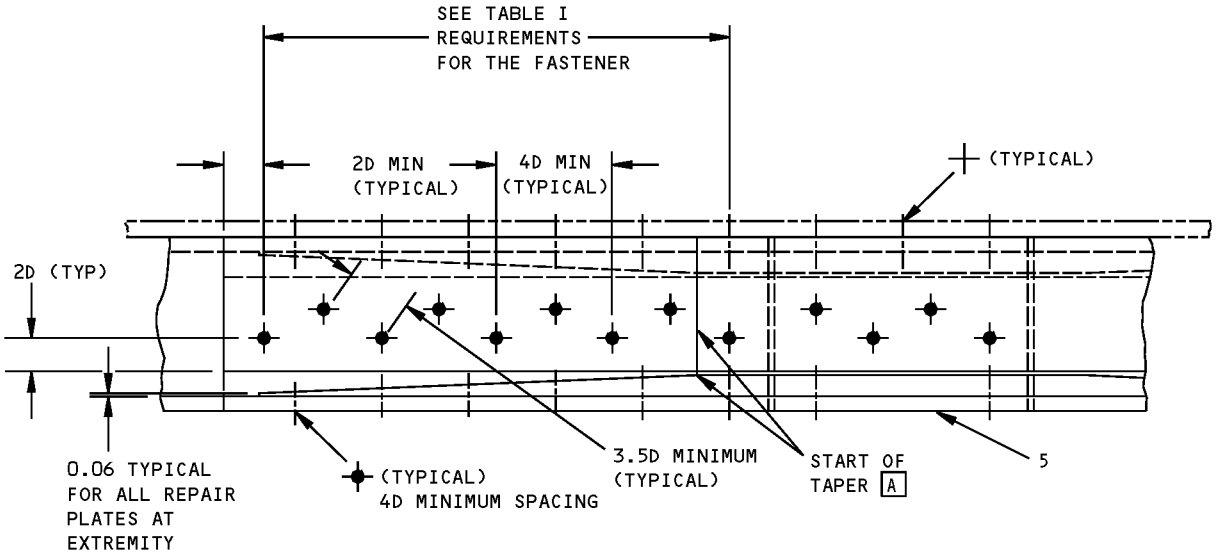
✦ REPAIR FASTENER LOCATION

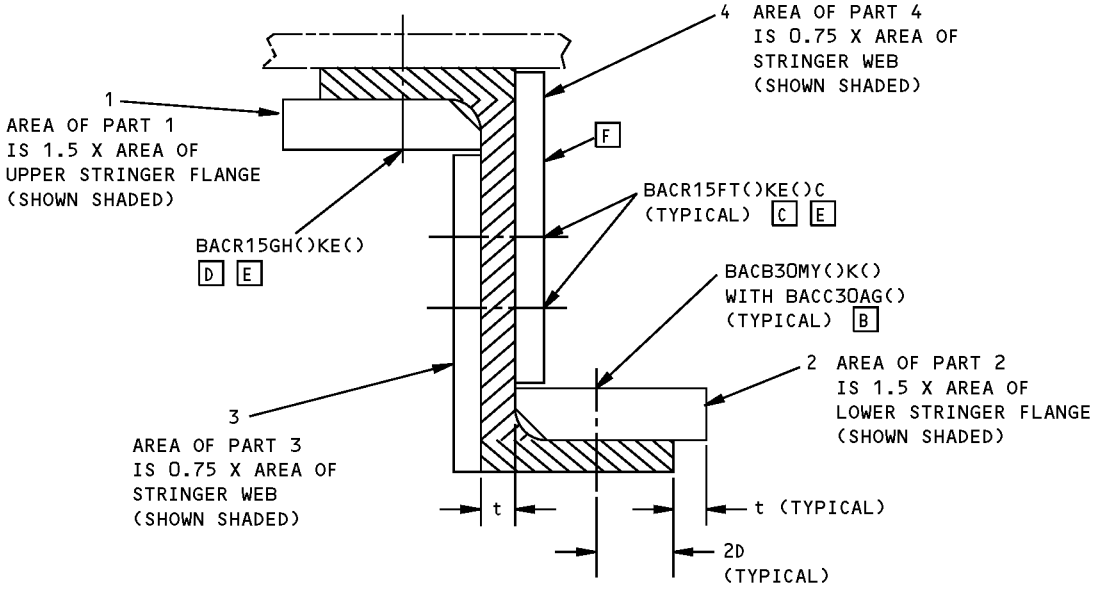
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
2	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
3	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
4	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
5	FILLER	1	SAME AS ORIGINAL STRINGER

ORIGINAL SKIN FASTENER SIZE	REPAIR FASTENER SIZE REQUIRED	NUMBER OF FASTENERS REQUIRED	
		FLANGES	WEB
5/16	1/4	8	10
1/4	1/4	10	12
3/16	3/16	8	11

TABLE I

Wing Upper Zee Stringer Repair
Figure 201 (Sheet 2 of 3)





SECTION THRU REPAIR IN UNTAPERED AREA

Wing Upper Zee Stringer Repair
Figure 201 (Sheet 3 of 3)

REPAIR 2 - WING UPPER "J" STRINGER REPAIR - SKIN SPLICE

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut and remove the damaged portion of stringer. If skin is damaged see 57-10-01 or 57-20-01.

2. Establish the maximum section of the portion removed (ignore pads at rib stations), and calculate the fastener requirements and dimensions of the repair parts. Determine the material for the web splice plates by considering nut interference. Determine the fastener type for the web splice plates from the 2.5D maximum stack up requirement. See note [C].

3. Make the repair parts.

4. Assemble the repair parts and drill the fastener holes.

5. Remove the repair parts.

6. Break sharp edges of original and repair parts 0.015R to 0.030R.

7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.

8. Shot peen the cut edges of stringer per 51-20-06.

9. Alodize the repair parts and the cut edges of stringer per 51-20-01.

10. Apply BMS 10-20, type 2 protective coating to the repair parts and the cut edges of stringer in accordance with 28-11-00 of the 767 Maintenance Manual.

11. Install the repair parts with BMS 5-26 faying surface sealant. Install fasteners wet with BMS 5-26 sealant. Care must be taken to ensure that channels formed at the stringer joints are kept clear for sealant injection.

12. Seal the repair per 51-20-05.

13. Install the fasteners, in the positions indicated, at the stringer joint lines.

14. Restore original finish per 51-21 of the 767 Maintenance Manual.

Wing Upper "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 1 of 4)

NOTES

- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE MAINTENANCE MANUAL
- D = FASTENER DIAMETER
- MACHINE REPAIR PARTS TO 125 MICROINCHES
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - 51-20-05 FOR SEALING OF REPAIRS
  - 51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES
  - 51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING
  - 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] TAPER FROM A POINT BETWEEN THE FIRST AND SECOND FASTENER FROM THE STRINGER JOINT TO 0.060 AT THE EXTREMITY. TAPER MUST BE 20 TO 1 OR GREATER, I.E., 5% MAX ALLOWABLE SLOPE

[B] BACB30FM( )-( ) WITH BACC30AG( ) MAY BE USED AS AN ALTERNATIVE

[C] WHERE THICKNESS TO BE RIVETED IS GREATER THAN 2.5D USE BACB30MY( )K( ) WITH BACC30AG( ). [B] DO NOT MIX HI-LOKS AND RIVETS IN THE SAME REPAIR STRAP

[D] USE SAME SIZE FASTENER AS ORIGINAL. IF FASTENER HOLE IS DAMAGED USE 1/32 OVERSIZE

[E] INSTALL BACB30NW( )K( ) WITH BACC30AG( ). [D]

[F] RIVETS MUST BE DRIVEN PER FLUID TIGHT REQUIREMENTS OF 51-40-02

[G] LOCALLY CHAMFER PLATE TO ELIMINATE INTERFERENCE WITH COLLAR IF NECESSARY

FASTENER SYMBOLS

┼ ORIGINAL FASTENER LOCATION

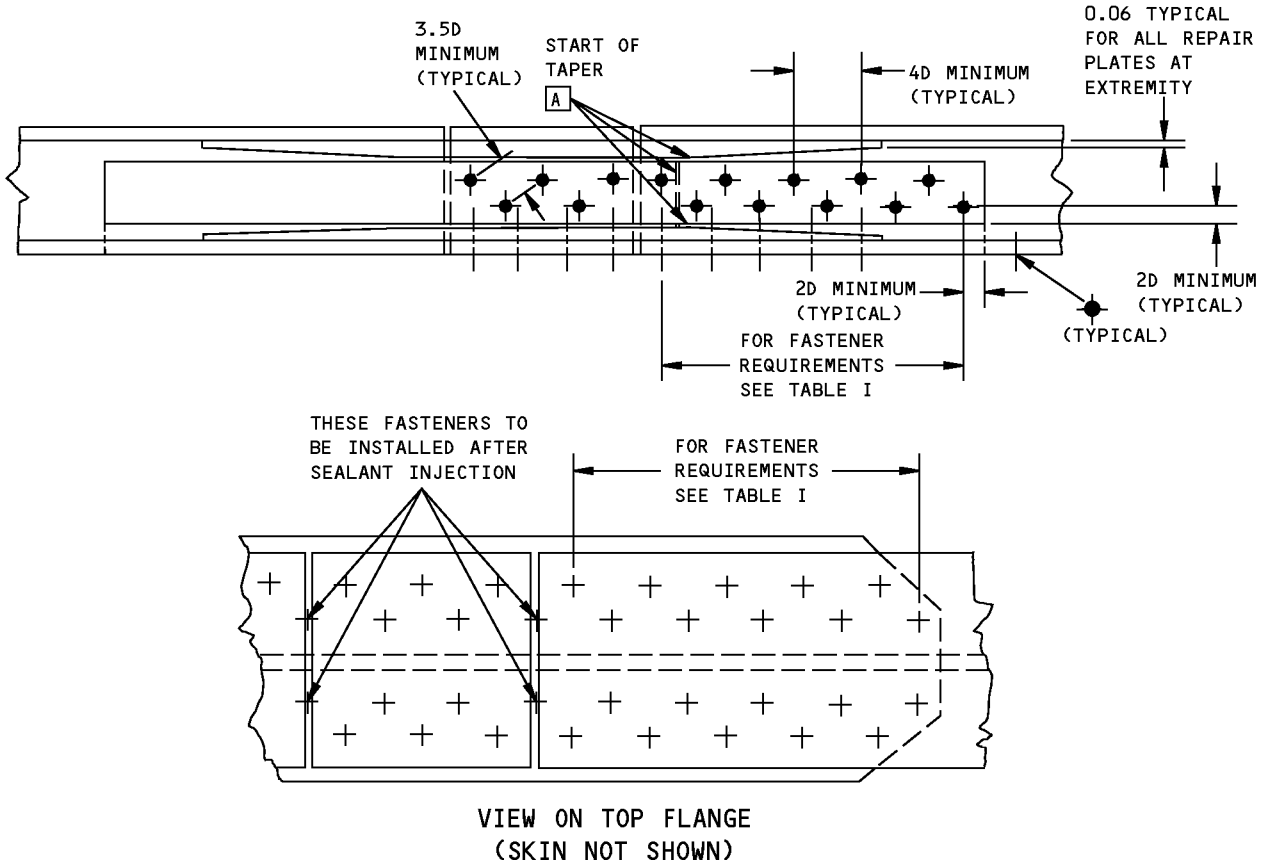
✦ REPAIR FASTENER LOCATION

Wing Upper "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 2 of 4)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
2	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
3	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
4	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
5	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
6	FILLER	1	SAME AS ORIGINAL STRINGER

ORIGINAL SKIN FASTENER SIZE	REPAIR FASTENER SIZE REQUIRED	NUMBER OF FASTENERS REQUIRED	
		FLANGES	WEB
5/16	1/4	8/ROW	9
1/4	1/4	6/ROW	9

Wing Upper "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 3 of 4)



Wing Upper "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 4 of 4)

REPAIR 3 - WING UPPER VENT STRINGER REPAIR

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut and remove the damaged portion of stringer. If skin is damaged see 57-10-01 or 57-20-01.
2. Establish the maximum section of the portion removed (ignore pads at rib stations), and calculate the fastener requirements and dimensions of the repair parts.
3. Make the repair parts.
4. Assemble the repair parts and drill the fastener holes.
5. Remove the repair parts.
6. Break sharp edges of original and repair parts 0.015R to 0.030R.
7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
8. Shot peen the cut edges of stringer per 51-20-06.
9. Alodize the repair parts and the cut edges of stringer per 51-20-01.
10. Apply BMS 10-20, type 2 protective coating to the repair parts and the cut edges of stringer in accordance with 28-11-00 of the 767 Maintenance Manual.
11. Install the repair parts with BMS 5-26 faying surface sealant. Install fasteners wet with BMS 5-26 sealant.
12. Seal the repair per 51-20-05.
13. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE MAINTENANCE MANUAL
- D = FASTENER DIAMETER
- MACHINE REPAIR PARTS TO 125 MICROINCHES
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - 51-20-05 FOR SEALING OF REPAIRS
  - 51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES
  - 51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING
  - 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

Wing Upper Vent Stringer Repair
Figure 201 (Sheet 1 of 4)

NOTES (Cont)

[A] TAPER FROM A POINT BETWEEN THE FIRST AND SECOND FASTENER FROM THE STRINGER JOINT TO 0.060 AT THE EXTREMITY. TAPER MUST BE 20 TO 1 OR GREATER, I.E., 5% MAX ALLOWABLE SLOPE

[B] USE SAME SIZE FASTENER AS ORIGINAL. IF FASTENER HOLE IS DAMAGED USE 1/32 OVERSIZE. WHERE THICKNESS TO BE RIVETED IS GREATER THAN 2.5D USE 1/32 OVERSIZE BACB30NY( )K( ) WITH BACC30AG( )

[C] PARTS 5,6, AND 7 MAY BE MACHINED AS ONE PIECE TO FACILITATE INSTALLATION

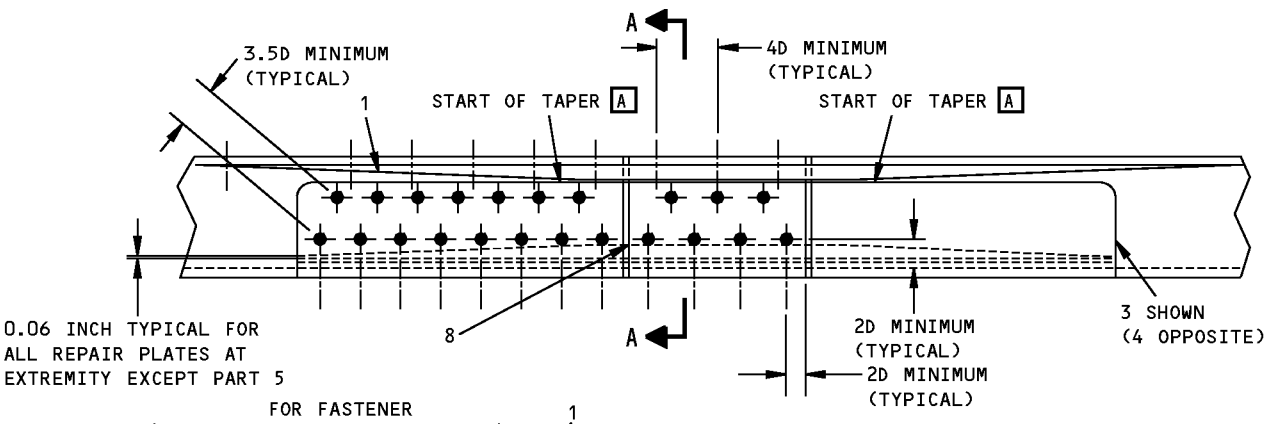
[D] RIVETS MUST BE DRIVEN PER FLUID TIGHT REQUIREMENTS OF 51-40-02

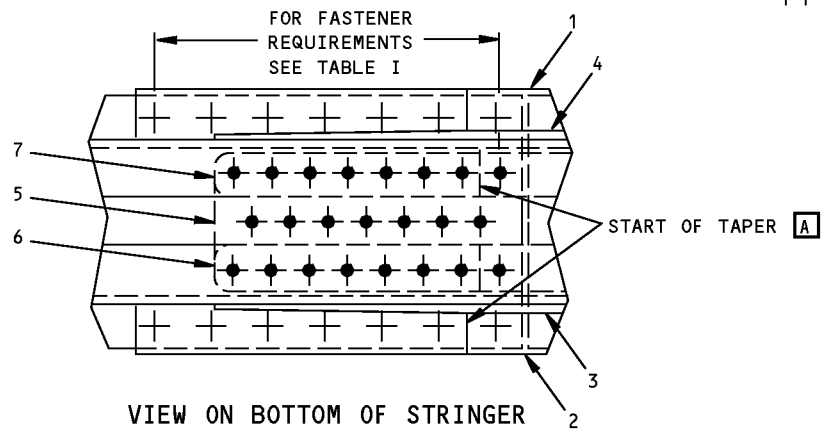
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
2	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
3	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
4	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
5	PLATE	1	0.100 7075-T6
6	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
7	PLATE	1	7150-T6511 OPT: 7075-T6 OR T651
8	FILLER	1	SAME AS ORIGINAL STRINGER
9	ANGLE	1	7150-T6511 OPT: 7075-T651
10	FILLER	1	7075-T6 OR T651

ORIGINAL SKIN FASTENER SIZE	REPAIR FASTENER SIZE REQUIRED	NUMBER OF FASTENERS REQUIRED	
		FLANGES	WEB
5/16	1/4	8/ROW	15
1/4	1/4	10/ROW	15
3/16	3/16	8/ROW	16
5/32	3/16	9/ROW	16

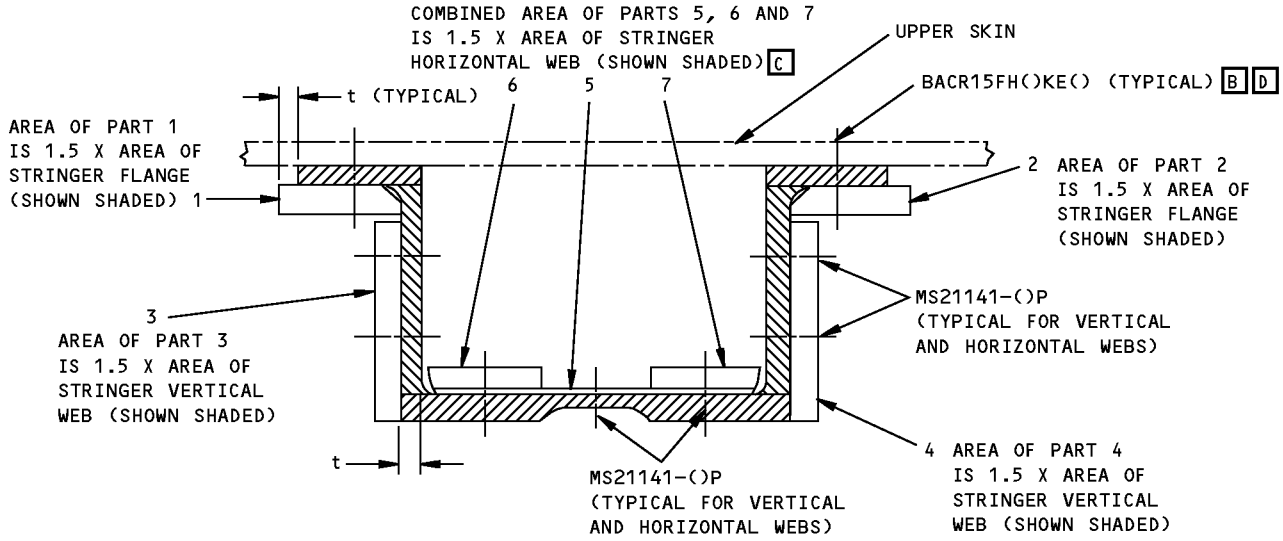
TABLE I

Wing Upper Vent Stringer Repair
Figure 201 (Sheet 2 of 4)





VIEW ON BOTTOM OF STRINGER

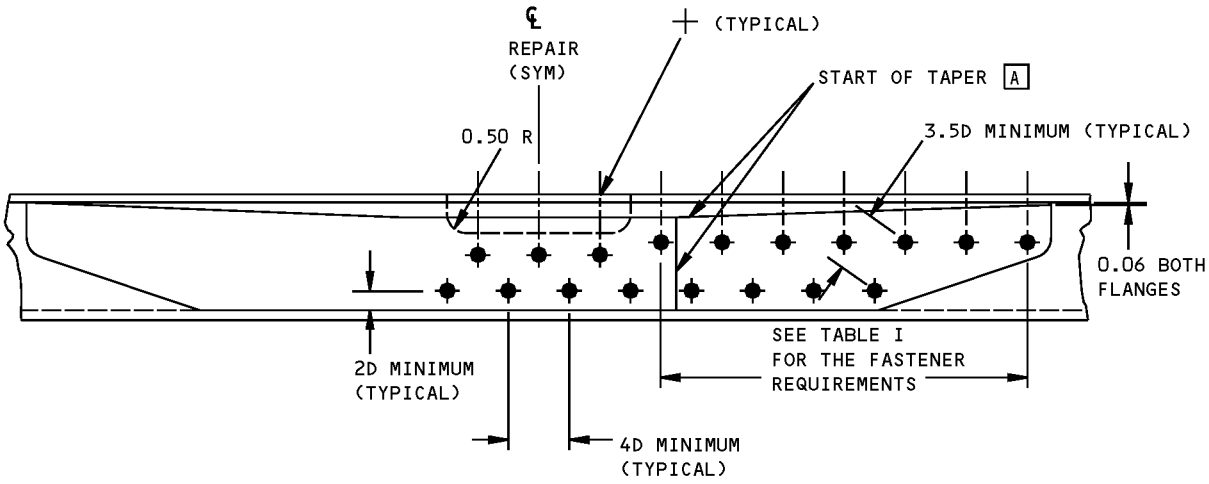


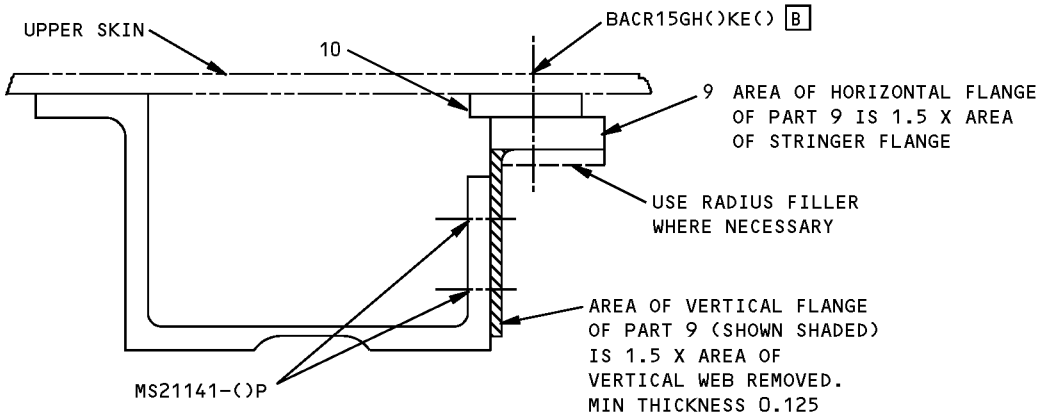
SECTION A-A

REPAIR FOR EXTENSIVE DAMAGE TO STRINGER
(FOR DAMAGE CONFINED TO FLANGE SEE DETAIL II)

DETAIL I

Wing Upper Vent Stringer Repair
Figure 201 (Sheet 3 of 4)





SECTION THRU REPAIR IN UNTAPERED AREA

ALTERNATIVE REPAIR FOR DAMAGE CONFINED TO THE FLANGE

DETAIL II

Wing Upper Vent Stringer Repair
Figure 201 (Sheet 4 of 4)

REPAIR 4 - WING LOWER ZEE STRINGER REPAIR

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut and remove the damaged portion of stringer. If skin is damaged see 57-10-01 or 57-20-01.

2. Establish the maximum section of the portion removed (ignore pads at rib stations), and calculate the fastener requirements and dimensions of the repair parts. Determine the fastener type for the web splice plates from the 2.5D maximum stack up requirement. See note [C].

3. Make the repair parts.

4. Assemble the repair parts and drill the fastener holes. All original and repair fastener holes except those common to the stringer web must be high interference cold worked per 51-40-09.

5. Remove the repair parts.

6. Break sharp edges of original and repair parts 0.015R to 0.030R.

7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.

8. Shot peen the cut edges of stringer per 51-20-06.

9. Alodize the repair parts and the cut edges of stringer per 51-20-01.

10. Apply BMS 10-20, type 2 protective coating to the repair parts and the cut edges of stringer in accordance with 28-11-00 of the 767 Maintenance Manual.

11. Install the repair parts with BMS 5-26 faying surface sealant. Install fasteners wet with BMS 5-26 sealant.

12. Seal the repair per 51-20-05.

13. Restore original finish per 51-21 of the 767 Maintenance Manual.

Wing Lower Zee Stringer Repair
Figure 201 (Sheet 1 of 4)

NOTES

- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE MAINTENANCE MANUAL
- D = FASTENER DIAMETER
- MACHINE REPAIR PARTS TO 125 MICROINCHES
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - 51-20-05 FOR SEALING OF REPAIRS
  - 51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES
  - 51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING
  - 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] TAPER FROM A POINT BETWEEN THE FIRST AND SECOND FASTENER FROM THE STRINGER JOINT TO 0.040 AT THE EXTREMITY. TAPER MUST BE 20 TO 1 OR GREATER, I.E., 5% MAX ALLOWABLE SLOPE

[B] BACB30FM( )-( ) WITH BACC30AG( ) MAY BE USED AS AN ALTERNATIVE

[C] WHERE THICKNESS TO BE RIVETED IS GREATER THAN 2.5D USE BACB30MY( )K( ) WITH BACC30AG( ). [B] DO NOT MIX HI-LOKS AND RIVETS IN THE SAME REPAIR STRAP. RIVETS MUST BE DRIVEN PER FLUID TIGHT REQUIREMENTS OF 51-40-02

[D] USE 1/32 OVERSIZE FASTENER. RIVETS MUST BE DRIVEN PER FLUID TIGHT REQUIREMENTS OF 51-40-02

[E] REPLACE 3/8 DIA RIVETS WITH BACB30NY12K( )Y (1/32 OVERSIZE) PLUS BACC30AG12. (100° CSK)

[F] LOCALLY CHAMFER PLATE TO ELIMINATE INTERFERENCE WITH COLLAR IF NECESSARY

FASTENER SYMBOLS

┼ ORIGINAL FASTENER LOCATION

✦ REPAIR FASTENER LOCATION

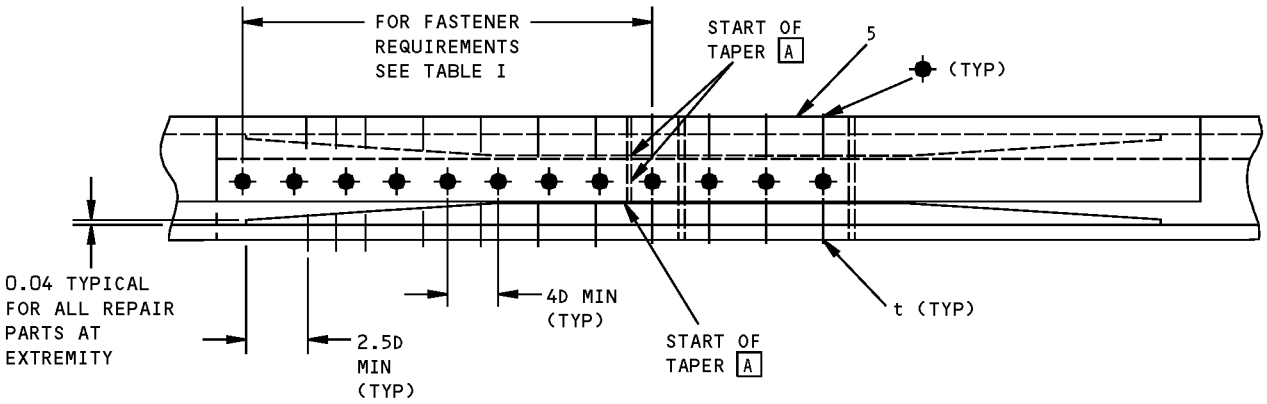
Wing Lower Zee Stringer Repair
Figure 201 (Sheet 2 of 4)

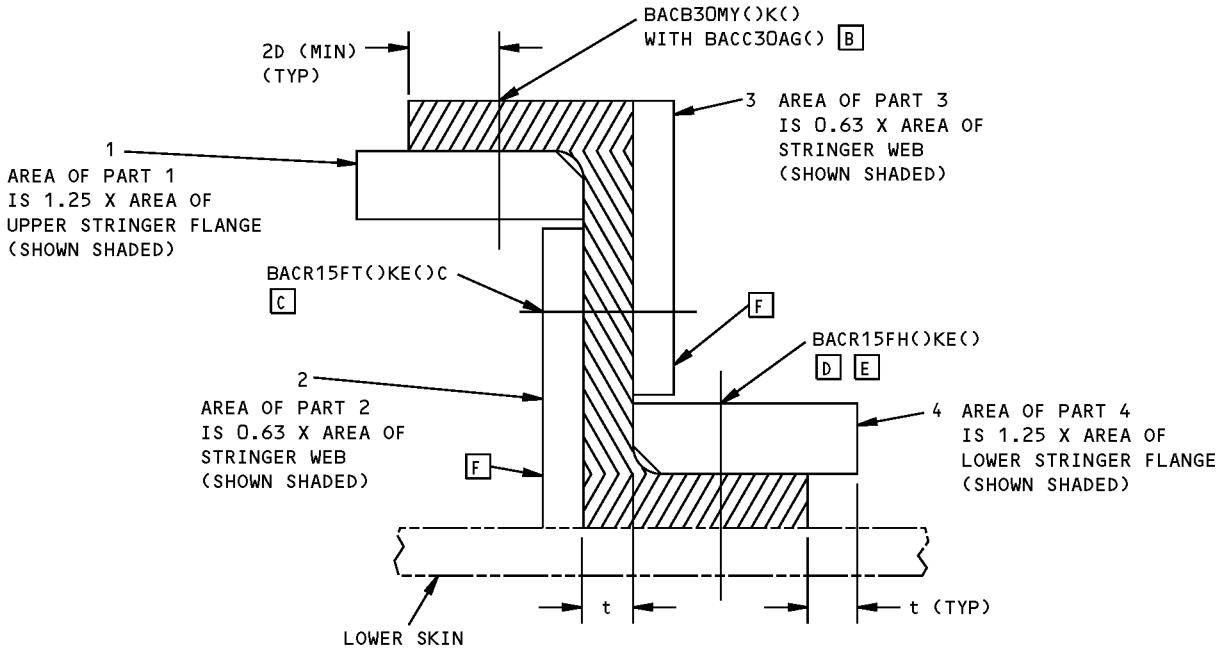
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
2	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
3	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
4	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
5	FILLER	1	SAME AS ORIGINAL STRINGER

ORIGINAL SKIN FASTENER SIZE	REPAIR FASTENER SIZE REQUIRED	NUMBER OF FASTENERS REQUIRED	
		FLANGES	WEB
3/8	1/4	11	11
5/16	1/4	11	11
1/4	1/4	11	11
3/16	1/4	10	10

TABLE I

Wing Lower Zee Stringer Repair
Figure 201 (Sheet 3 of 4)





SECTION THRU REPAIR IN UNTAPERED AREA

Wing Lower Zee Stringer Repair
Figure 201 (Sheet 4 of 4)

REPAIR 5 - WING LOWER "J" STRINGER REPAIR - SKIN SPLICE

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out and remove the damaged portion of stringer. If skin is damaged see 57-10-03 or 57-20-03.

2. Establish the maximum section of the portion removed (ignore pads at rib stations), and calculate the fastener requirements and dimensions of the repair parts.

3. Make the repair parts.

4. Assemble the repair parts and drill the fastener holes. All original and repair hi-lok or lockbolt fastener holes must be high interference cold worked per 51-40-09.

5. Remove the repair parts.

6. Break sharp edges of original and repair parts 0.015R to 0.030R.

7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.

8. Shot peen the cut edges of stringer per 51-20-06.

9. Alodize the repair parts and the cut edges of stringer per 51-20-01.

10. Apply BMS 10-20, type 2 protective coating to the repair parts and the cut edges of stringer in accordance with 28-11-00 of the 767 Maintenance Manual.

11. Install the repair parts with BMS 5-26 faying surface sealant. Install fasteners wet with BMS 5-26 sealant. Care must be taken to ensure that channels formed at the stringer joints are kept clear for sealant injection.

12. Seal the repair per 51-20-05.

13. Install the fasteners, in the positions indicated, at the stringer joint lines.

14. Restore original finish per 51-21 of the 767 Maintenance Manual.

Wing Lower "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 1 of 4)

NOTES

- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE MAINTENANCE MANUAL
- D = FASTENER DIAMETER
- MACHINE REPAIR PARTS TO 125 MICROINCHES
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] TAPER FROM A POINT BETWEEN THE FIRST AND SECOND FASTENER FROM THE STRINGER JOINT TO 0.040 AT THE EXTREMITY. TAPER MUST BE 20 TO 1 OR GREATER, I.E., 5% MAX ALLOWABLE SLOPE

[B] BACB30FM( )-( ) WITH BACC30AG( ) MAY BE USED AS AN ALTERNATIVE

[C] USE SAME TYPE FASTENER AS ORIGINAL, 1/32 OVERSIZE

FOR LOCKBOLTS USE BACB30TY( )K( ) WITH BACC30BE( )

FOR 70° LEAD IN HEAD BOLTS USE BACB30PT( )K( )L WITH BACN10MT( ) AND BACW10AU( )

FOR HI-LOK BOLTS USE BACB30NW( )K( ) WITH BACC30AG( )

[D] LOCALLY CHAMFER PLATE TO ELIMINATE INTERFERENCE WITH COLLAR IF NECESSARY

[E] WHERE THICKNESS TO BE RIVETED IS GREATER THAN 2.5D USE BACB30MY( )K( ) WITH BACC30AG( ) [B]. DO NOT MIX HI-LOKS AND RIVETS IN THE SAME REPAIR STRAP. RIVETS MUST BE DRIVEN PER FLUID TIGHT REQUIREMENTS OF 51-40-02

FASTENER SYMBOLS

+ ORIGINAL FASTENER LOCATION

⊕ REPAIR FASTENER LOCATION

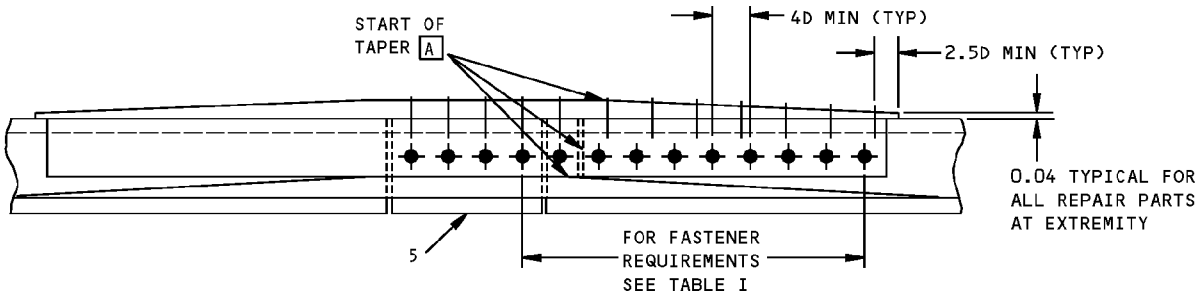
Wing Lower "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 2 of 4)

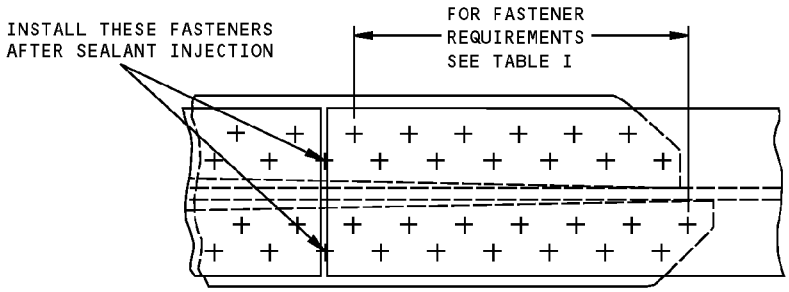
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
2	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
3	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
4	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351
5	FILLER	1	SAME AS ORIGINAL STRINGER
6	PLATE	1	2224-T3511 OPT: 2024-T3 OR T351

ORIGINAL SKIN FASTENER SIZE	REPAIR FASTENER SIZE REQUIRED	NUMBER OF FASTENERS REQUIRED	
		FLANGES	WEB
5/16	1/4	8/ROW	10
1/4	1/4	8/ROW	10

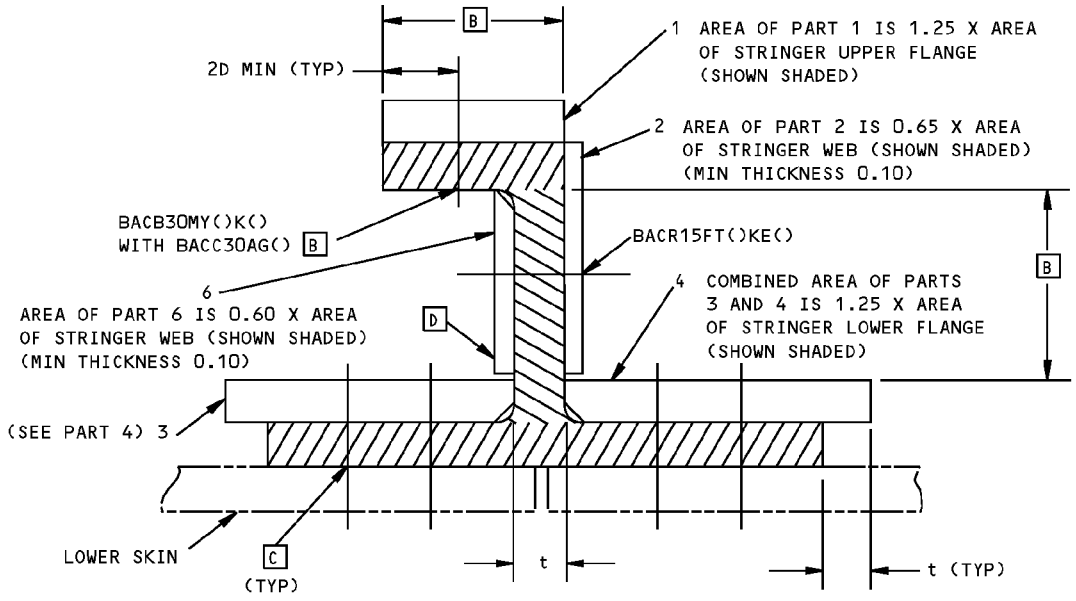
TABLE I

Wing Lower "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 3 of 4)





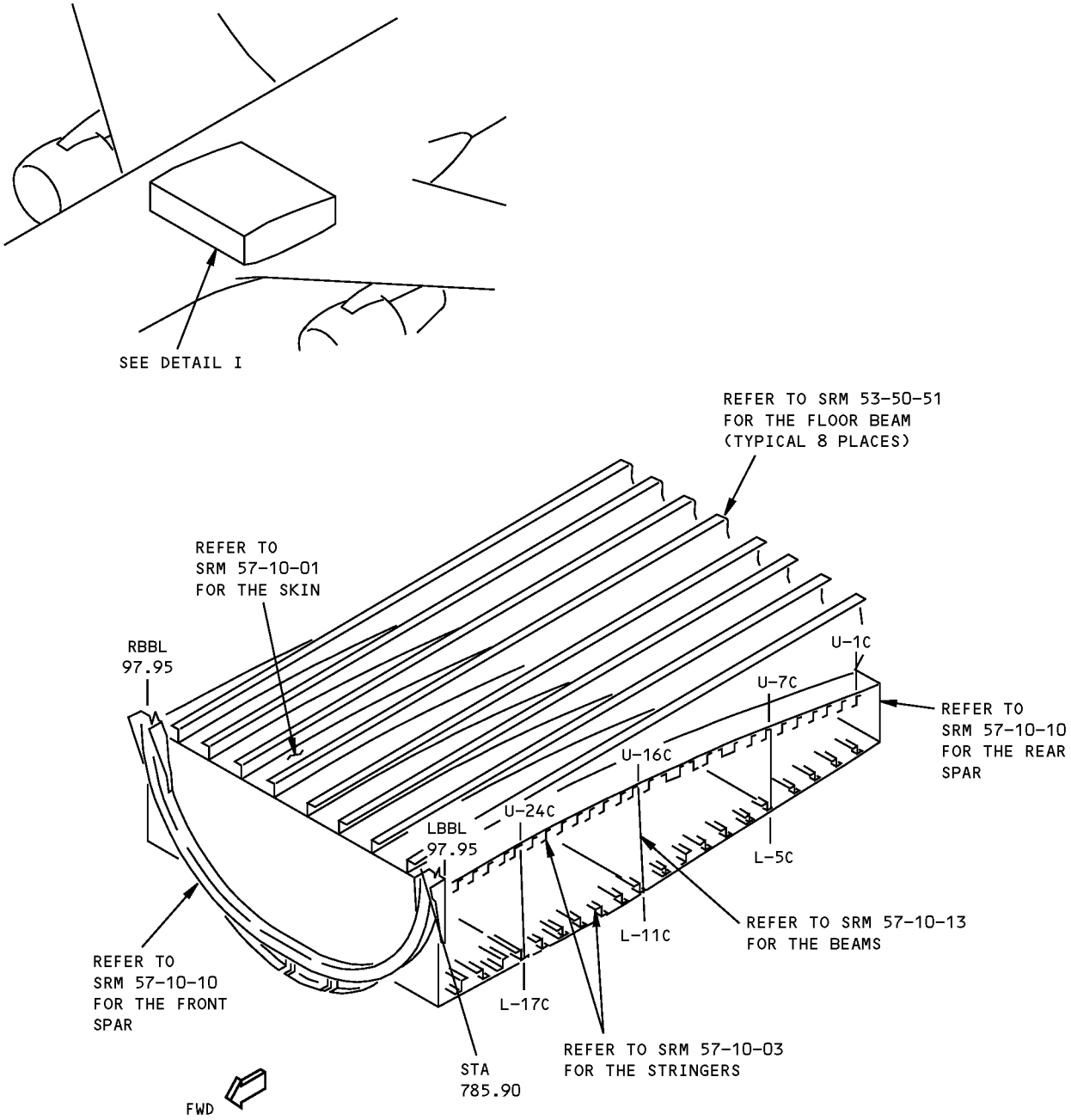
VIEW ON LOWER FLANGE
(SKIN NOT SHOWN)



SECTION THRU REPAIR IN UNTAPERED AREA

Wing Lower "J" Stringer Repair - Skin Splice
Figure 201 (Sheet 4 of 4)

GENERAL - CENTER WING STRUCTURE DIAGRAM

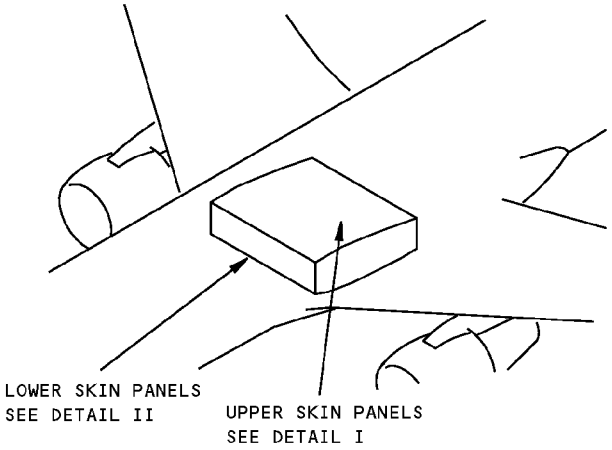


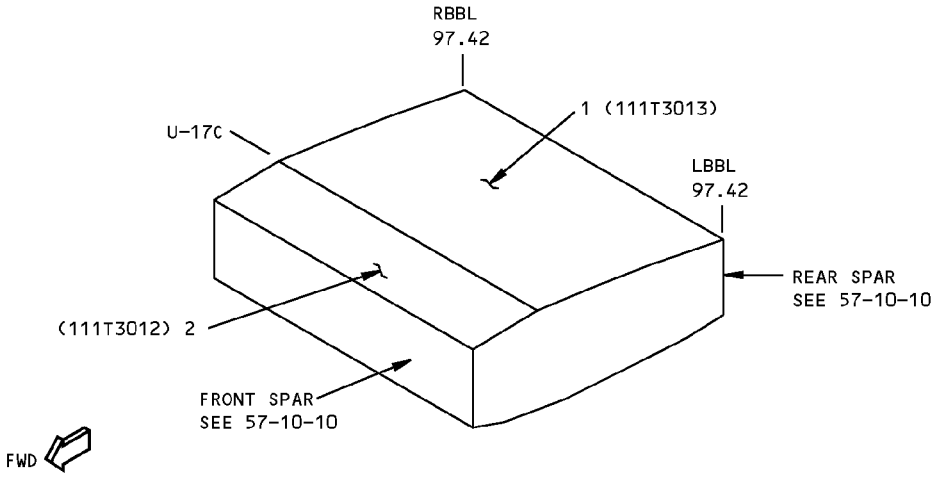
DETAIL I

Center Wing Structure Diagram
Figure 1

IDENTIFICATION 1 - CENTER WING SKIN IDENTIFICATION

REF DWG
111T3000





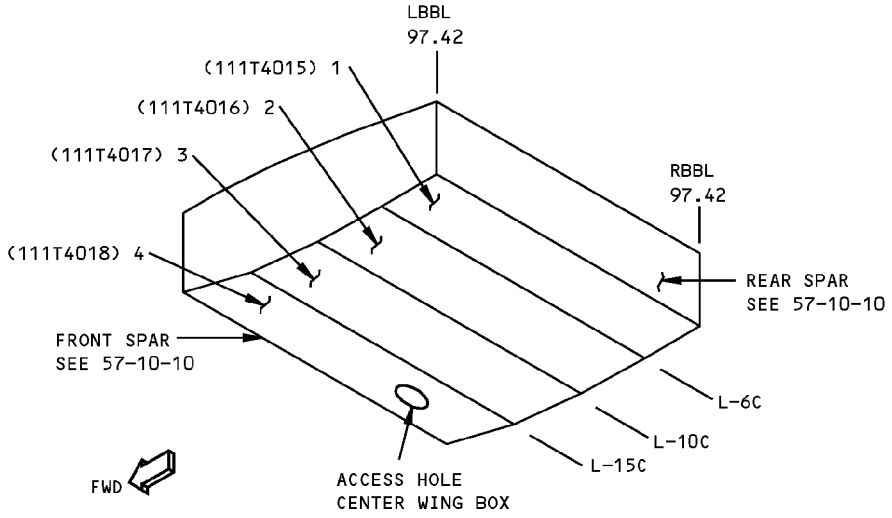
UPPER SKIN PANELS
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL NO. 1	0.750	7150-T651 (MACHINED TO 0.156 MIN)	
2	SKIN PANEL NO. 2	0.750	7150-T651 (MACHINED TO 0.156 MIN)	

LIST OF MATERIAL FOR DETAIL I

Center Wing Skin Identification
Figure 1 (Sheet 1 of 2)

REF DWG
111T4000



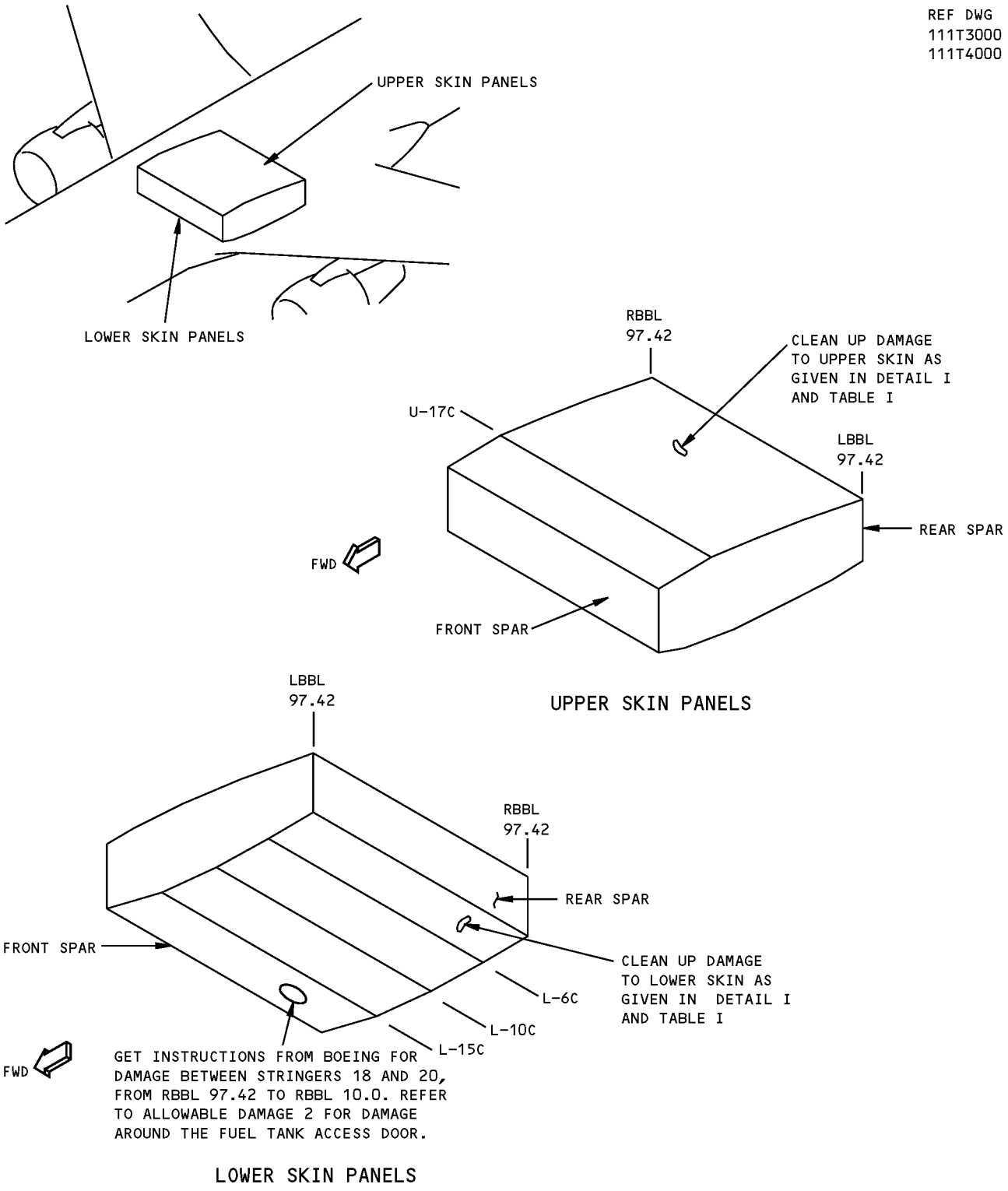
LOWER SKIN PANELS
DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL NO. 1	0.840	2324-T391 (MACHINED TO 0.184 MIN)	
2	SKIN PANEL NO. 2	0.840	2324-T391 (MACHINED TO 0.174 MIN)	
3	SKIN PANEL NO. 3	0.840	2324-T391 (MACHINED TO 0.174 MIN)	
4	SKIN PANEL NO. 4	0.840	2324-T391 (MACHINED TO 0.160 MIN)	

LIST OF MATERIAL FOR DETAIL II

Center Wing Skin Identification
Figure 1 (Sheet 2 of 2)

ALLOWABLE DAMAGE 1 - CENTER WING SKIN



Center Wing Skin Allowable Damage
Figure 101 (Sheet 1 of 4)

ZONE	ALLOWABLE DAMAGE [A]		
	MAX DEPTH OF DAMAGE AFTER CLEANUP IN INCHES (mm)	MAX LOSS OF CROSS-SECTIONAL AREA BETWEEN ADJACENT STIFFENER OR BETWEEN SPAR AND STIFFENER IN SQ IN (mm^2) [B]	TOTAL MAX LOSS OF CROSS-SECTIONAL AREA BETWEEN REAR SPAR AND FRONT SPAR IN SQ IN (mm^2) [B]
UPPER SKIN	0.030 (0.7)	0.040 (26)	0.715 (461)
LOWER SKIN FRONT SPAR TO S-15	0.030 (0.7)	0.060 (39)	0.630 (406)
LOWER SKIN S-15 TO S-10	0.030 (0.7)	0.060 (39)	
LOWER SKIN S-10 TO S-6	0.035 (0.89)	0.065 (42)	
LOWER SKIN S-6 TO REAR SPAR	0.035 (0.89)	0.070 (45)	

TABLE I [C]

NOTES

- DAMAGE TO CENTER WING SKINS BY NICKS, SCRATCHES, GOUGES, CRACKS, ABRASIONS AND CORROSION IS ALLOWABLE PROVIDED THAT ALL OF THE LIMITATIONS IN TABLE I ARE NOT EXCEEDED. DAMAGE DEPTH AND LOSS OF CROSS-SECTIONAL AREA ARE TO BE DETERMINED AFTER CLEANUP (DETAIL I).
- THESE ALLOWABLE DAMAGE LIMITS ARE NOT APPLICABLE IF THERE IS STRINGER DAMAGES CLEANUP IN THE SAME AREA.
- REFER TO DETAIL III FOR TYPICAL SAMPLE CALCULATION.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

[A] ALLOWABLE DAMAGE LIMITATIONS ARE NOT APPLICABLE IN THE FOLLOWING AREAS (GET SPECIFIC INSTRUCTIONS FROM BOEING).

1. WITHIN 1.50 INCHES (38 mm) OF ANY CHORDWISE ROW OF FASTENERS
2. FORWARD OF A LINE THAT IS 1.50 INCHES (38 mm) AFT OF THE AFT ROW OF FASTENERS THAT ATTACHES THE SKIN TO THE FRONT SPAR.
3. AFT OF A LINE THAT IS 1.50 INCHES (38 mm) FORWARD OF THE FORWARD ROW OF FASTENERS THAT ATTACHES THE SKIN TO THE REAR SPAR.
4. WITHIN 1.50 INCHES (38 mm) OF FASTENERS IN THE SPANWISE SKIN SPLICES.

[B] LOSS OF CROSS-SECTIONAL AREA OF A LINE THAT IS PERPENDICULAR TO THE REAR SPAR. MULTIPLE AREAS OF DAMAGE ARE TO BE CONSIDERED ON THE SAME LINE IF THEY ARE LESS THAN 1.50 INCHES (38 mm) FROM EACH OTHER MEASURED SPANWISE (DETAIL II).

[C] SHOT PEEN ALL REWORKED SURFACES AS GIVEN IN SRM 51-20-06.

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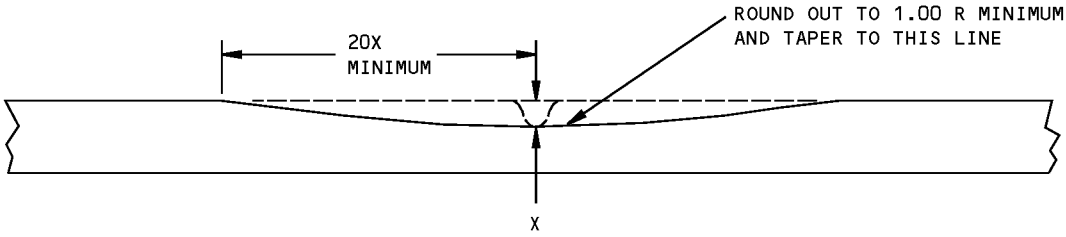
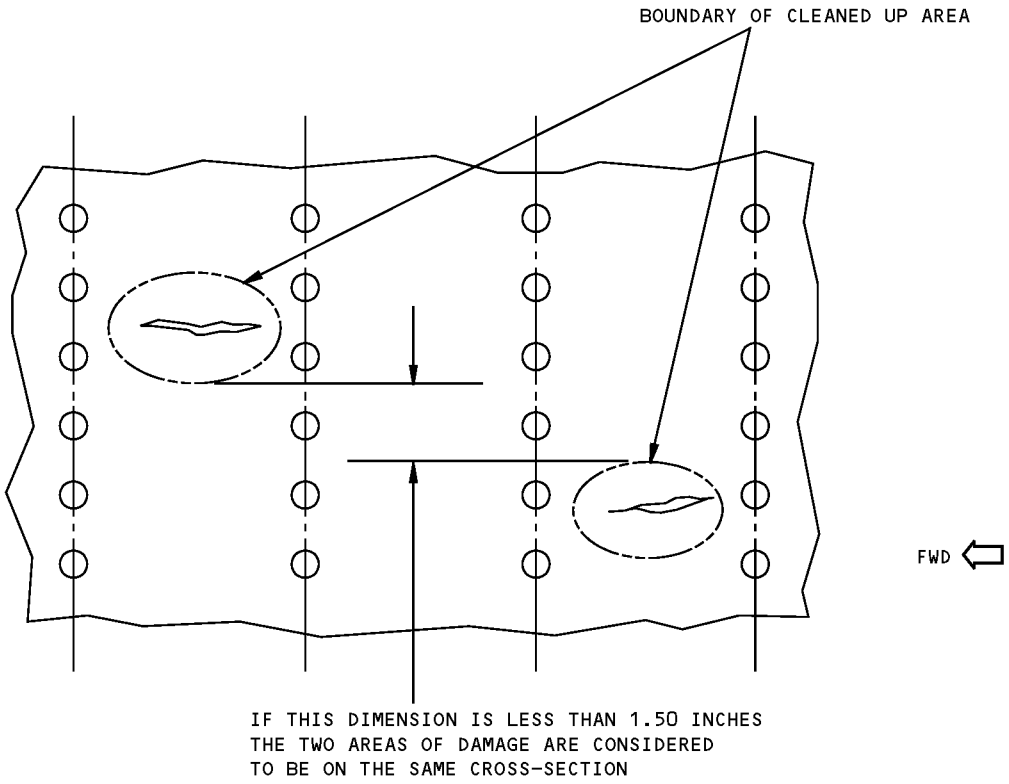
Center Wing Skin Allowable Damage
Figure 101 (Sheet 2 of 4)



SECTION THROUGH CLEANED UP DAMAGE
DETAIL I

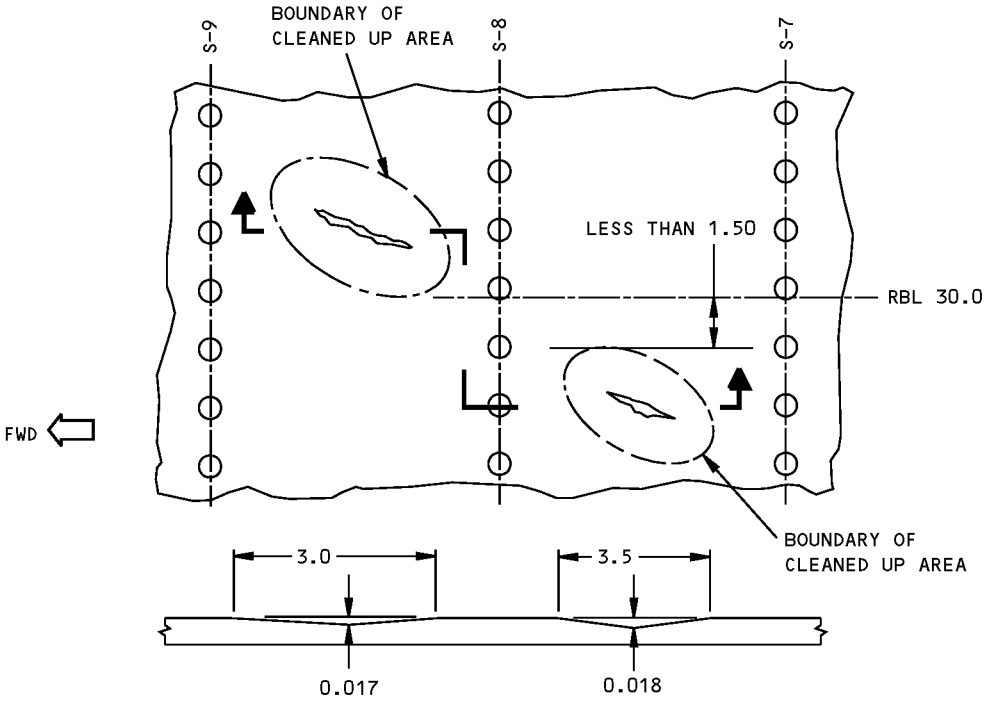


ADDITIVE DAMAGE
DETAIL II

Center Wing Skin Allowable Damage
Figure 101 (Sheet 3 of 4)

SAMPLE CALCULATION

ASSUME THE DAMAGE IS TWO ABRASIONS LOCATED AS SHOWN ON THE LOWER SKIN:



SECTION THROUGH DAMAGE
AFTER CLEANUP PERPENDICULAR TO REAR SPAR

DETAIL III

STEP 1 - CHECK THE DEPTH OF DAMAGE.
FROM TABLE I, THE PERMITTED DEPTH OF DAMAGE BETWEEN S-7 AND S-9 IS 0.035.
BOTH AREAS OF DAMAGE ARE WITHIN THIS LIMITATION.

STEP 2 - CHECK THE LOSS IN AREA BETWEEN STIFFENERS.
LOSS IN AREA OF FORWARD DAMAGE, PERPENDICULAR TO REAR SPAR = $\frac{3.0}{2}$ x 0.017 = 0.025 SQ. IN.
LOSS IN AREA OF AFT DAMAGE = $\frac{3.5}{2}$ x 0.018 = 0.032 SQ. IN.
THESE ARE BOTH WITHIN THE 0.065 LIMITATION OF TABLE I.

STEP 3 - CHECK THE TOTAL LOSS IN AREA BETWEEN THE FRONT AND REAR SPARS.
BECAUSE THE TWO AREAS OF DAMAGE ARE LESS THAN 1.50 INCHES APART (PERPENDICULAR TO REAR SPAR), THE DAMAGE IS CUMULATIVE. 0.025 + 0.032 = 0.057 SQ. IN.
THIS IS WITHIN THE 0.630 LIMITATION OF TABLE I.

CONCLUSION: BECAUSE ALL OF THE CRITERIA ARE WITHIN THE LIMITS OF TABLE I, THE DAMAGE SHOWN WOULD BE PERMITTED.

Center Wing Skin Allowable Damage
Figure 101 (Sheet 4 of 4)

ALLOWABLE DAMAGE 2 - CENTER WING ACCESS DOOR AND LOWER SKIN

NOTES

WARNING: FUEL VAPORS MAY BE PRESENT IN THE CENTER WING BAYS. FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS, AS GIVEN IN AMM 28-11, BEFORE ENTERING THE FUEL TANKS.

- REFER TO ALLOWABLE DAMAGE 1 FOR THE ACCESS DOOR LOCATION.
- REPAIR OR REPLACE THE PART WHEN THE CLEANUP REQUIRES REMOVAL OF MATERIAL THAT IS GREATER THAN THE LIMITS SPECIFIED HERE.
- REMOVE AND INSTALL THE ACCESS DOOR AS GIVEN IN AMM 28-11.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

LOCAL REWORK OF LOWER SKIN AT ACCESS DOOR

1. Remove the damage at the edge of access hole as given in Detail I.
2. Remove the corrosion and fretting damage on the mating surfaces of the access panels as given in Detail II.
3. Shot peen the reworked areas as given in SOPM 20-10-03. Use shot No. 230 and 0.004A/0.007A intensity.
4. Sand the reworked areas to 63 microinches R_a surface finish after shot peening but before you apply the chemical conversion coat or the finish coat. Do not sand below the valleys that were made by shot peening.
5. Apply a chemical conversion coating to the reworked surfaces as given in SRM 51-20-01.

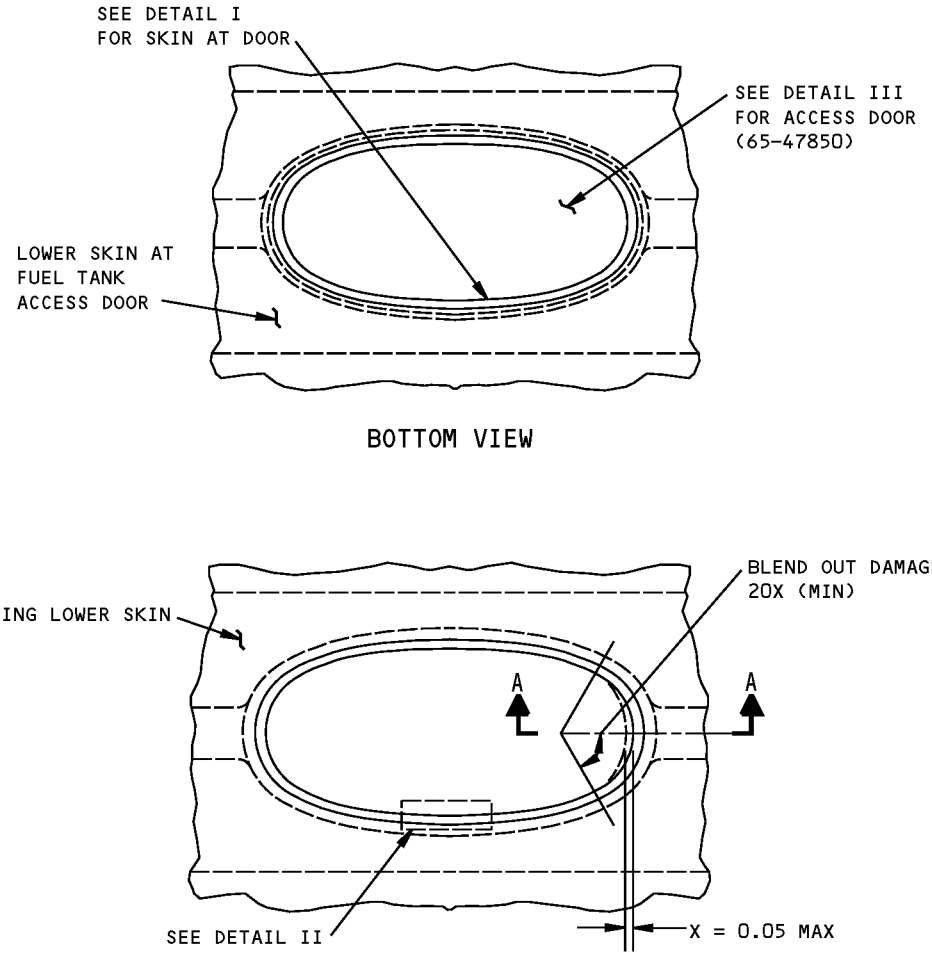
LOCAL REWORK OF ACCESS DOOR

1. Remove the phenolic strip to gain access to the damaged area.
2. Remove corrosion damage as shown in Detail III. Blend out the damage similar to Detail II.
3. Shot peen reworked areas as given in SOPM 20-10-03. Use shot No. 230 and 0.004A/0.007A intensity.
4. Sand reworked areas to 63 microinches R_a surface finish after shot peening but before you apply the chemical conversion coat or the finish coat. Do not sand below the valleys that were made by shot peening.
5. Apply a chemical conversion coating to the reworked surface as given in SRM 51-20-01.
6. Fill blend-out area with BMS 5-28, Type 3 potting compound.
7. Install phenolic strip again, with BMS 5-126 adhesive.
8. Remove the phenolic over the groove. Remove all the bond material that is in the groove and outside of the periphery.
9. On doors that are installed without knit aluminum gaskets, clean up the fastener-hole countersinks in the door to give a bright-metal surface with no oxide or corrosion.

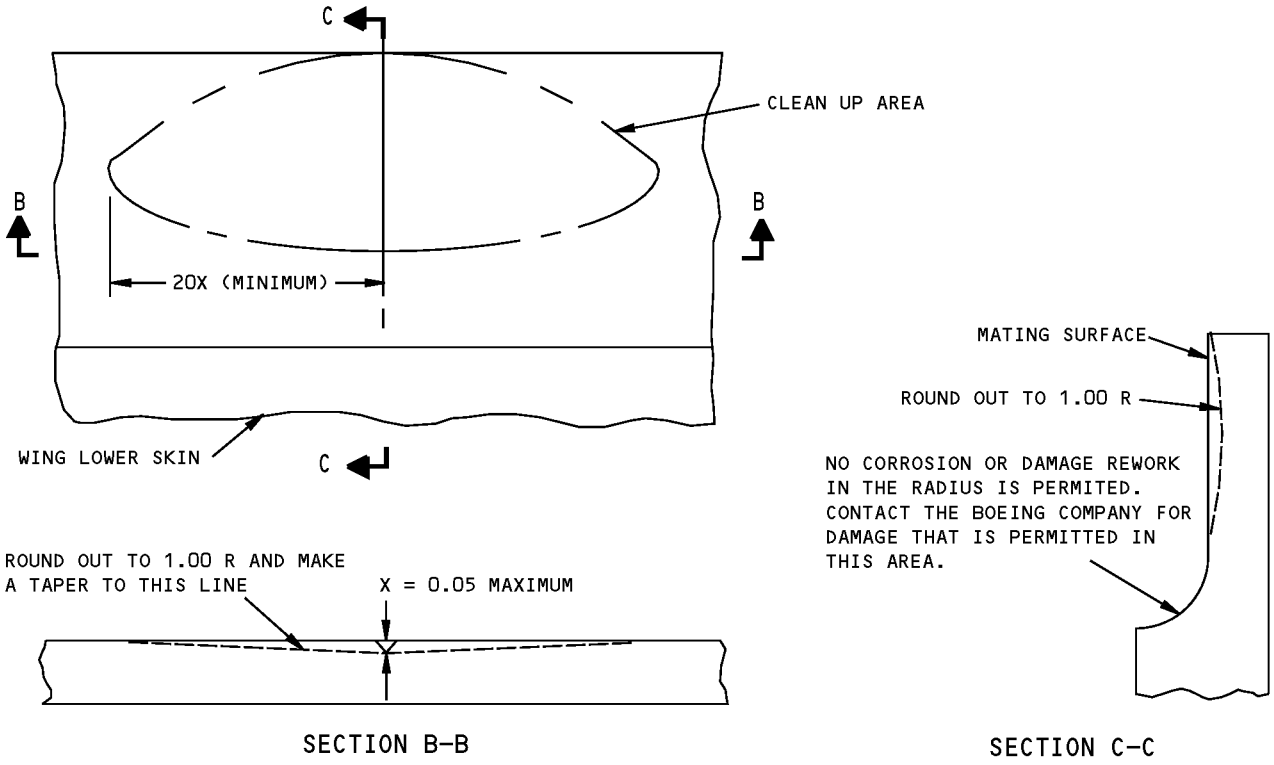
REWORK OF ACCESS DOOR BY MACHINING ENTIRE FLANGE OF DOOR

1. Remove the phenolic strip to gain access to the damaged area.
2. Remove the corrosion by machining the flange to a surface roughness of 250 micro-inches R_a.
3. Shot peen reworked areas as given in SOPM 20-10-03. Use shot No. 230 and 0.004AV/0.007A intensity.
4. Sand reworked areas to 63 microinch R_a surface finish after shot peening but before you apply the chemical conversion coat or the finish coat. Do not sand below the valleys that were made by shot peening.
5. Apply a chemical conversion coating to the reworked surface as given in SRM 51-20-01.
6. Make a new phenolic strip of increased thickness (because of the flange material that was removed). Bond to the machined surface with BMS 5-126 adhesive.
7. Remove the phenolic over the groove. Remove all the bond material that is in the groove and outside of the periphery.
8. On doors that are installed without knit-aluminum gaskets, clean up the fastener-hole countersinks in the door to give a bright-metal surface with no oxide or corrosion.

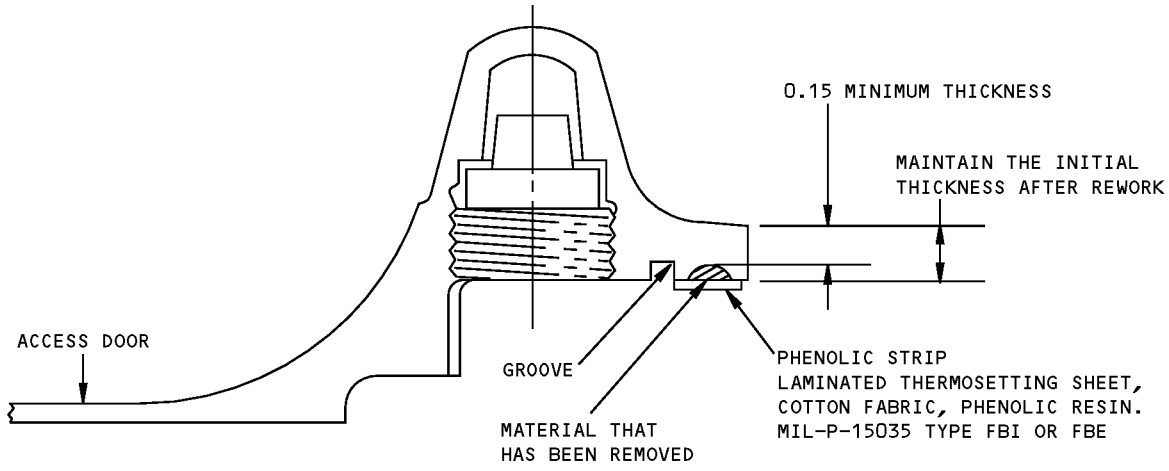
Center Wing Access Door and Lower Skin Allowable Damage
Figure 101 (Sheet 1 of 3)



Center Wing Access Door and Lower Skin Allowable Damage
Figure 101 (Sheet 2 of 3)



DETAIL II



DOOR WITH CLAMP RING
DETAIL III

Center Wing Access Door and Lower Skin Allowable Damage
Figure 101 (Sheet 3 of 3)

REPAIR 1 - CENTER WING UPPER SKIN REPAIR BETWEEN STRINGERS (BETWEEN FLOOR BEAMS)

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS MAY BE PRESENT IN THE CENTER WING BAYS. FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of the skin to give a hole with the major axis parallel to the stringers.
2. Make the repair parts.
3. Assemble the repair parts and drill the fastener holes.
4. Remove the repair parts.
5. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
6. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702.
7. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
8. Apply BMS 10-20 Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
9. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant.
10. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
11. Apply BMS 10-20, Type 2 protective coating to sealant.
12. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.00 INCHES TO SKIN PANEL EDGE
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- D = REPAIR FASTENER DIAMETER
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

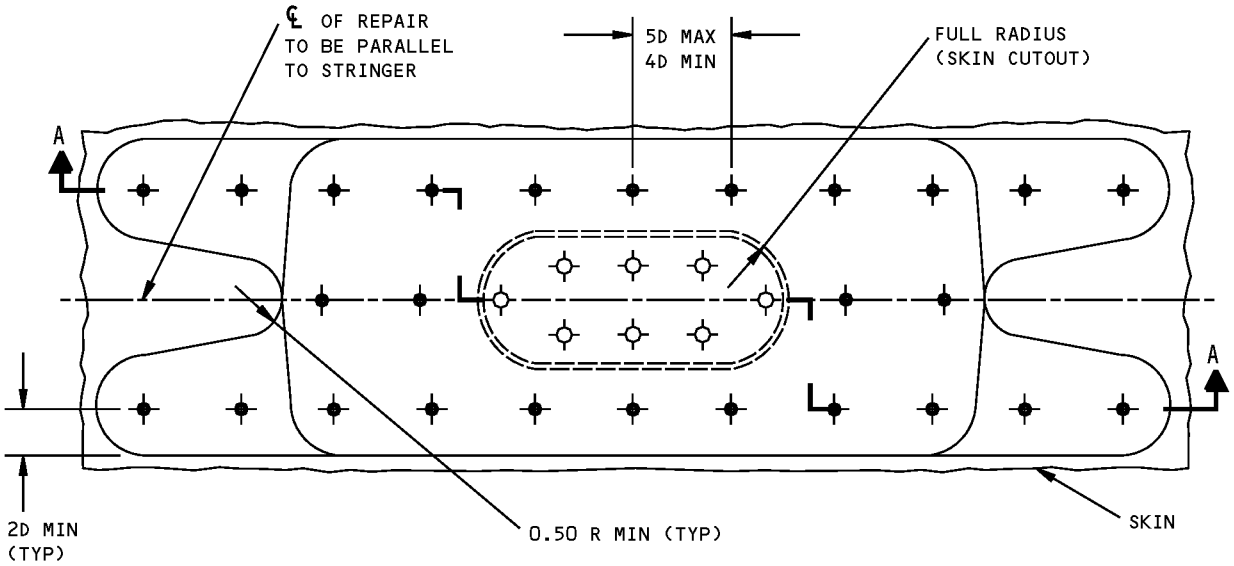
[B] SAME THICKNESS AS SKIN

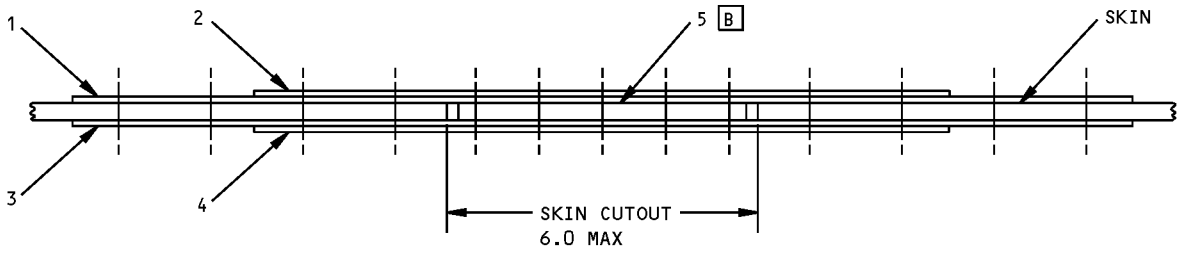
FASTENER SYMBOLS

REPAIR FASTENER LOCATION
INSTALL BACB30MY( )K WITH BACN10WM( )
SEE TABLE I FOR FASTENER SIZE

REPAIR FASTENER LOCATION
INSTALL BACR15FT( )AD
SEE TABLE I FOR FASTENER SIZE

Center Wing Upper Skin Repair Between Stringers (Between Floor Beams)
Figure 201 (Sheet 1 of 3)





SECTION A-A

Center Wing Upper Skin Repair Between Stringers (Between Floor Beams)
Figure 201 (Sheet 2 of 3)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	7150-T651 OPT: 7075-T6 [A]
2	PLATE	1	7150-T651 OPT: 7075-T6 [A]
3	PLATE	1	7150-T651 OPT: 7075-T6 [A]
4	PLATE	1	7150-T651 OPT: 7075-T6 [A]
5	FILLER	1	7150-T651 OPT: 7075-T6 [B]

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
0.156 THRU 0.180	0.050	0.063	0.050	0.063	1/4
OVER 0.180 THRU 0.224	0.063	0.071	0.063	0.071	5/16
OVER 0.224 THRU 0.250	0.071	0.080	0.071	0.080	5/16

TABLE I

Center Wing Upper Skin Repair Between Stringers (Between Floor Beams)
Figure 201 (Sheet 3 of 3)

REPAIR 2 - CENTER WING INTERSPAR UPPER SKIN REPAIR AT A STRINGER (BETWEEN FLOOR BEAMS)

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS MAY BE PRESENT IN THE CENTER WING BAYS. FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of skin to give a rectangular hole with radiused corners. Do not cut into stringers. If stringer is damaged, see 57-20-03.
2. Drill out existing fasteners in the skin to stringer attachment as required.
3. Make the repair parts.
4. Assemble the repair parts and drill the fastener holes.
5. Remove the repair parts.
6. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
7. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702. Do not peen edges closer than 0.50 to a stringer.
8. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
9. Apply BMS 10-20 Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
10. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant.
11. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
12. Apply BMS 10-20, Type 2 protective coating to sealant.
13. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.00 INCHES TO SKIN PANEL EDGE
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- D = REPAIR FASTENER DIAMETER
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - 51-20-05 FOR SEALING OF REPAIRS
  - 51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES
  - 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

[B] SAME THICKNESS AS SKIN

FASTENER SYMBOLS

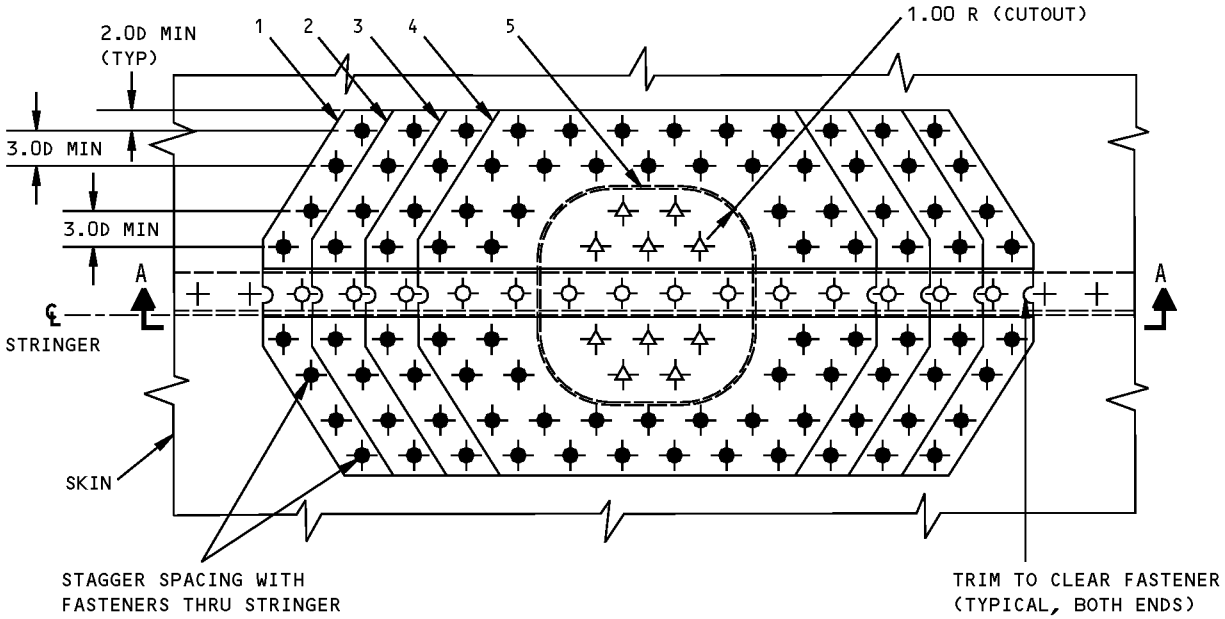
ORIGINAL FASTENER LOCATION

ORIGINAL FASTENER LOCATION. INSTALL 1/32 OVERSIZE BACR15FT( )DD RIVETS

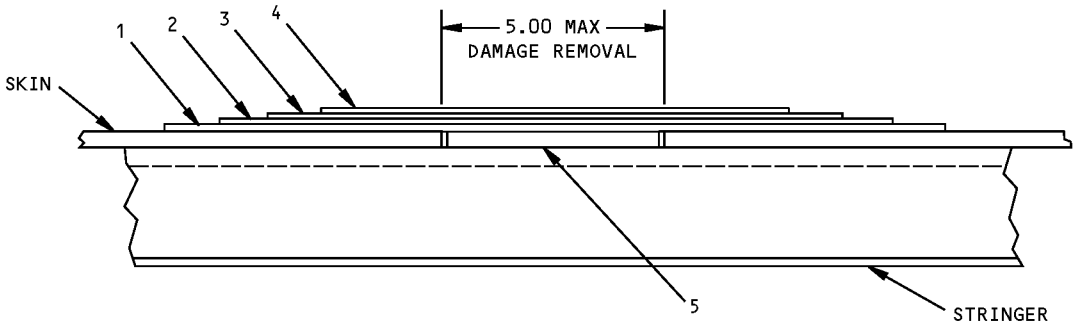
REPAIR FASTENER LOCATION
INSTALL BACB30MY( )K WITH BACN10WM( )
SEE TABLE I FOR FASTENER SIZE

REPAIR FASTENER LOCATION
INSTALL BACR15FT( )DD RIVETS
SEE TABLE I FOR FASTENER SIZE

Center Wing Interspar Upper Skin Repair at a Stringer (Between Floor Beams)
Figure 201 (Sheet 1 of 3)



PLAN VIEW – UPPER SKIN



SECTION A–A

Center Wing Interspar Upper Skin Repair at a Stringer (Between Floor Beams)
Figure 201 (Sheet 2 of 3)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	7150-T651 OPT: 7075-T6 [A]
2	PLATE	1	7150-T651 OPT: 7075-T6 [A]
3	PLATE	1	7150-T651 OPT: 7075-T6 [A]
4	PLATE	1	7150-T651 OPT: 7075-T6 [A]
5	FILLER	1	7075-T6 [B]

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
0.156 THRU 0.224	0.063	0.063	0.063	0.090	1/4
OVER 0.224 THRU 0.250	0.071	0.071	0.071	0.100	5/16
OVER 0.250 THRU 0.282	0.080	0.090	0.090	0.090	5/16

TABLE I

Center Wing Interspar Upper Skin Repair at a Stringer (Between Floor Beams)
Figure 201 (Sheet 3 of 3)

REPAIR 3 - CENTER WING LOWER SKIN REPAIR BETWEEN STRINGERS

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS MAY BE PRESENT IN THE CENTER WING BAYS. FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of the skin to give a hole with the major axis parallel to the stringers.
2. Make the repair parts.
3. Assemble the repair parts and drill the fastener holes.
4. Remove the repair parts.
5. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
6. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702.
7. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
8. Apply BMS 10-20 Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
9. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant. [B]
10. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
11. Apply BMS 10-20, Type 2 protective coating to sealant.
12. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.00 INCHES TO SKIN PANEL EDGE, ACCESS HOLE, MAJOR FITTINGS, KEEL BEAM OR LOWER BEAMS AT BBL 62.05
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- D = REPAIR FASTENER DIAMETER
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - 51-20-05 FOR SEALING OF REPAIRS
  - 51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES
  - 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

[B] FOR SKIN THICKNESS OVER 0.160 COLD WORK FASTENER HOLES PER 51-40-09, HIGH INTERFERENCE METHOD

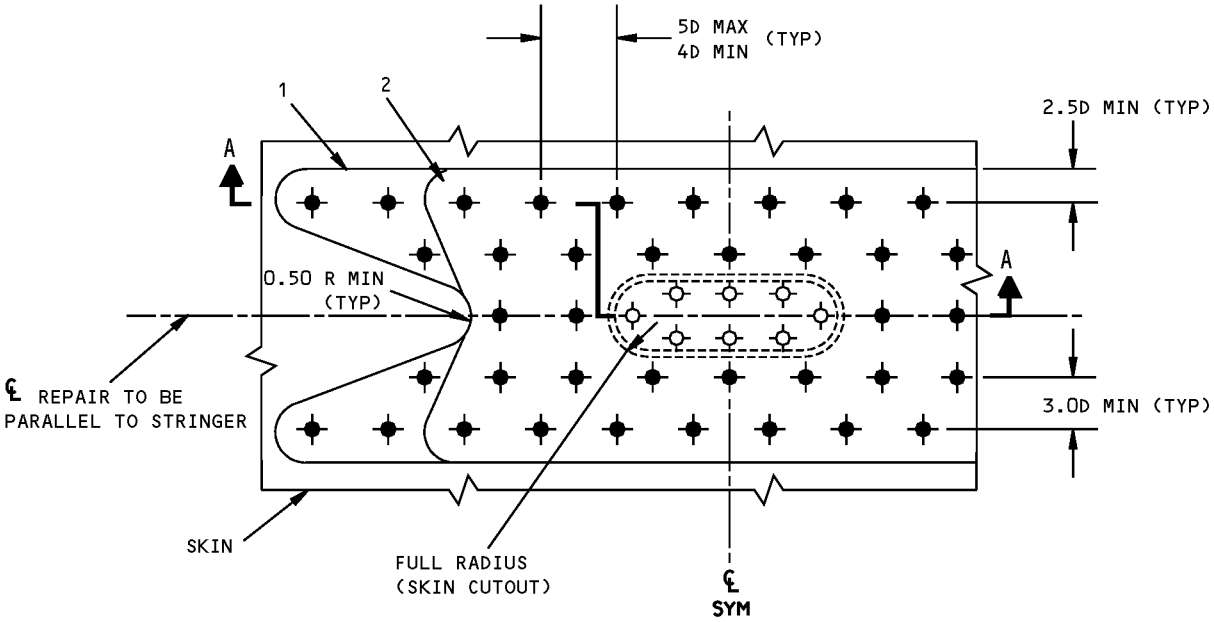
[C] SAME THICKNESS AS SKIN

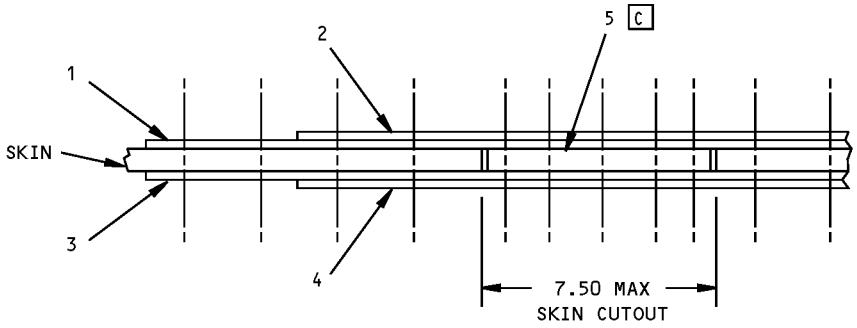
FASTENER SYMBOLS

⊕ REPAIR FASTENER LOCATION
INSTALL BACR15FT( )AD
SEE TABLE I FOR FASTENER SIZE [B]

✚ REPAIR FASTENER LOCATION
INSTALL BACB30MY( )K WITH BACN10WM( ) [B]
SEE TABLE I FOR FASTENER SIZE

Center Wing Interspar Lower Skin Repair Between Stringers
Figure 201 (Sheet 1 of 3)





SECTION A–A

Center Wing Interspar Lower Skin Repair Between Stringers
Figure 201 (Sheet 2 of 3)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	2324-T391 OPT: 2024-T3 [A]
2	PLATE	1	2324-T391 OPT: 2024-T3 [A]
3	PLATE	1	2324-T391 OPT: 2024-T3 [A]
4	PLATE	1	2324-T391 OPT: 2024-T3 [A]
5	FILLER	1	2024-T3 [C]

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
0.160 THRU 0.180	0.050	0.063	0.050	0.063	1/4
OVER 0.180 THRU 0.200	0.063	0.063	0.063	0.063	1/4
OVER 0.200 THRU 0.215	0.063	0.071	0.063	0.071	1/4
OVER 0.215 THRU 0.240	0.071	0.080	0.071	0.080	1/4
OVER 0.240 THRU 0.270	0.080	0.090	0.080	0.090	5/16
OVER 0.270 THRU 0.305	0.090	0.100	0.090	0.100	5/16

TABLE I

Center Wing Interspar Lower Skin Repair Between Stringers
Figure 201 (Sheet 3 of 3)

REPAIR 4 - CENTER WING INTERSPAR LOWER SKIN REPAIR AT A STRINGER

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS MAY BE PRESENT IN THE CENTER WING BAYS. FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of skin to give a rectangular hole with radiused corners. Do not cut into stringers. If stringer is damaged, see 57-20-03.
2. Drill out existing fasteners in the skin to stringer attachment as required.
3. Make the repair parts.
4. Assemble the repair parts and drill the fastener holes.
5. Remove the repair parts.
6. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
7. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702. Do not peen edges closer than 0.50 inch (12.7 mm) to a stringer.
8. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
9. Apply BMS 10-20 Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
10. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant. [D]
11. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
12. Apply BMS 10-20, Type 2 protective coating to sealant.
13. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.00 INCHES TO SKIN PANEL EDGE, ACCESS HOLE, MAJOR FITTINGS, KEEL BEAM, OR LOWER BEAMS AT BBL 62.05
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- D = REPAIR FASTENER DIAMETER
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - 51-20-05 FOR SEALING OF REPAIRS
  - 51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES
  - 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

[B] SAME THICKNESS AS SKIN

[C] USE FILLER AS REQUIRED TO KEEP FASTENER HEAD FROM SEATING ON EXTRUSIN CORNER RADIUS

[D] FOR SKIN THICKNESS OVER 0.160 COLD WORK FASTENER HOLES PER 51-40-09, HIGH INTERFERENCE METHOD

FASTENER SYMBOLS

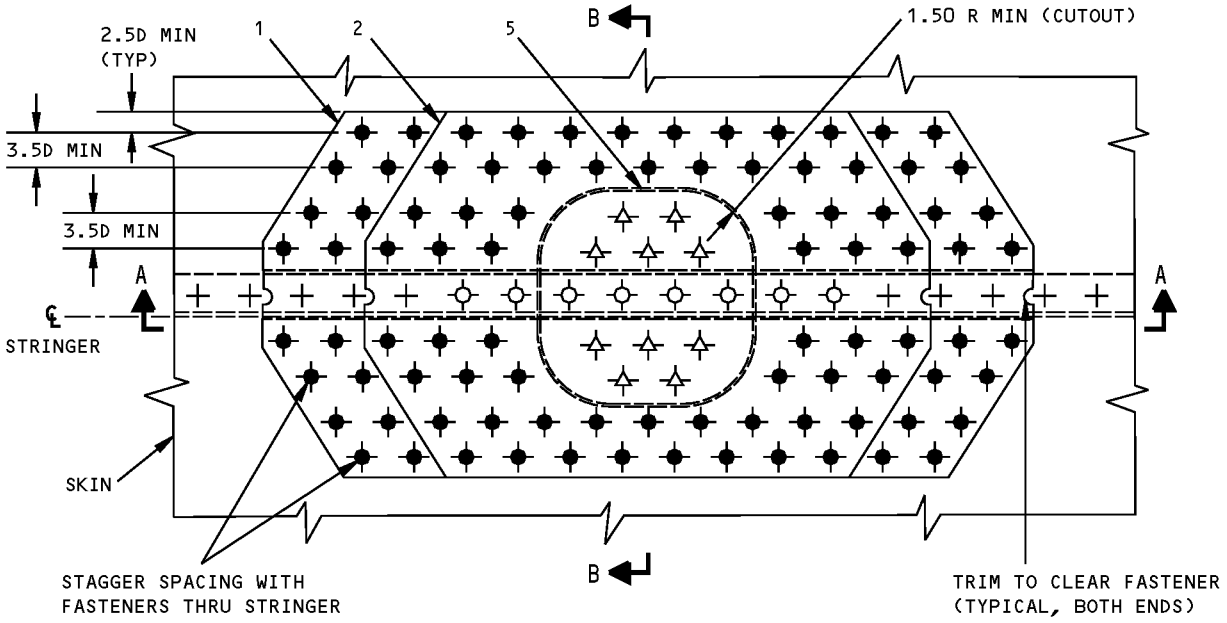
ORIGINAL FASTENER LOCATION
INSTALL BACR15FT( )DD RIVETS
USE SAME SIZE AS ORIGINAL. IF FASTENER HOLE IS DAMAGED, USE 1/32 OVERSIZE RIVETS

ORIGINAL FASTENER LOCATION. INSTALL 1/32 OVERSIZE BACR15FT( )DD RIVETS [D]

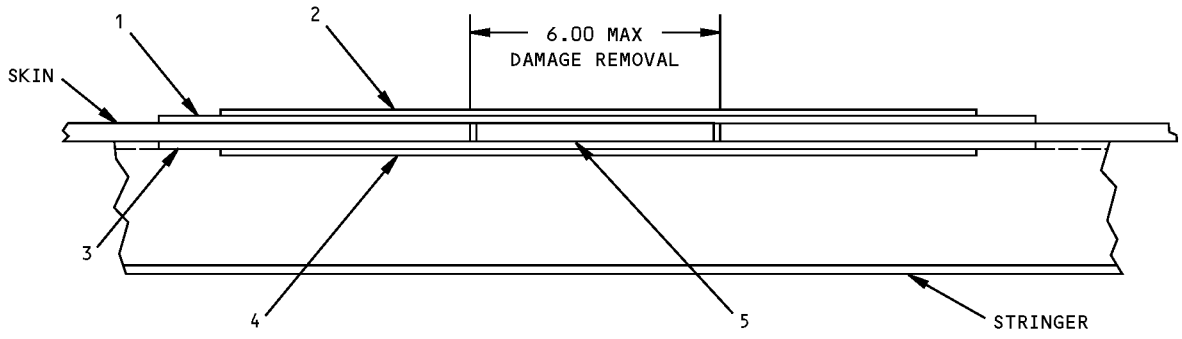
REPAIR FASTENER LOCATION
INSTALL BACB30MY( )K WITH BACN10WM( ) [D]
SEE TABLE I FOR FASTENER SIZE

REPAIR FASTENER LOCATION
INSTALL BACR15FT( )DD RIVETS
SEE TABLE I FOR FASTENER SIZE

Center Wing Interspar Lower Skin Repair at a Stringer
Figure 201 (Sheet 1 of 4)

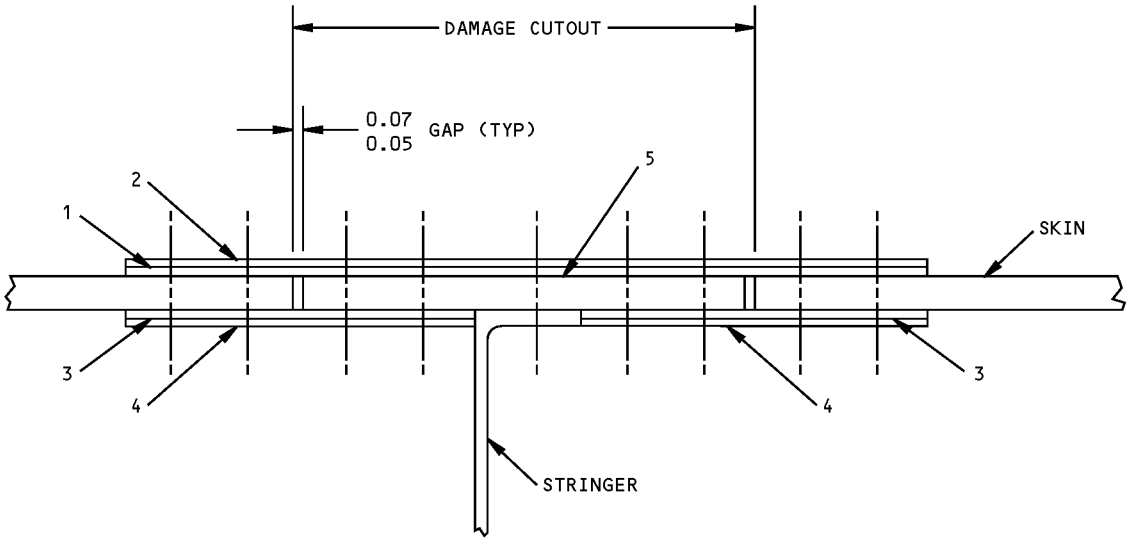


PLAN VIEW – LOWER SKIN



SECTION A–A

Center Wing Interspar Lower Skin Repair at a Stringer
Figure 201 (Sheet 2 of 4)



SECTION B–B
(ROTATED CLOCKWISE 90°)

Center Wing Interspar Lower Skin Repair at a Stringer
Figure 201 (Sheet 3 of 4)

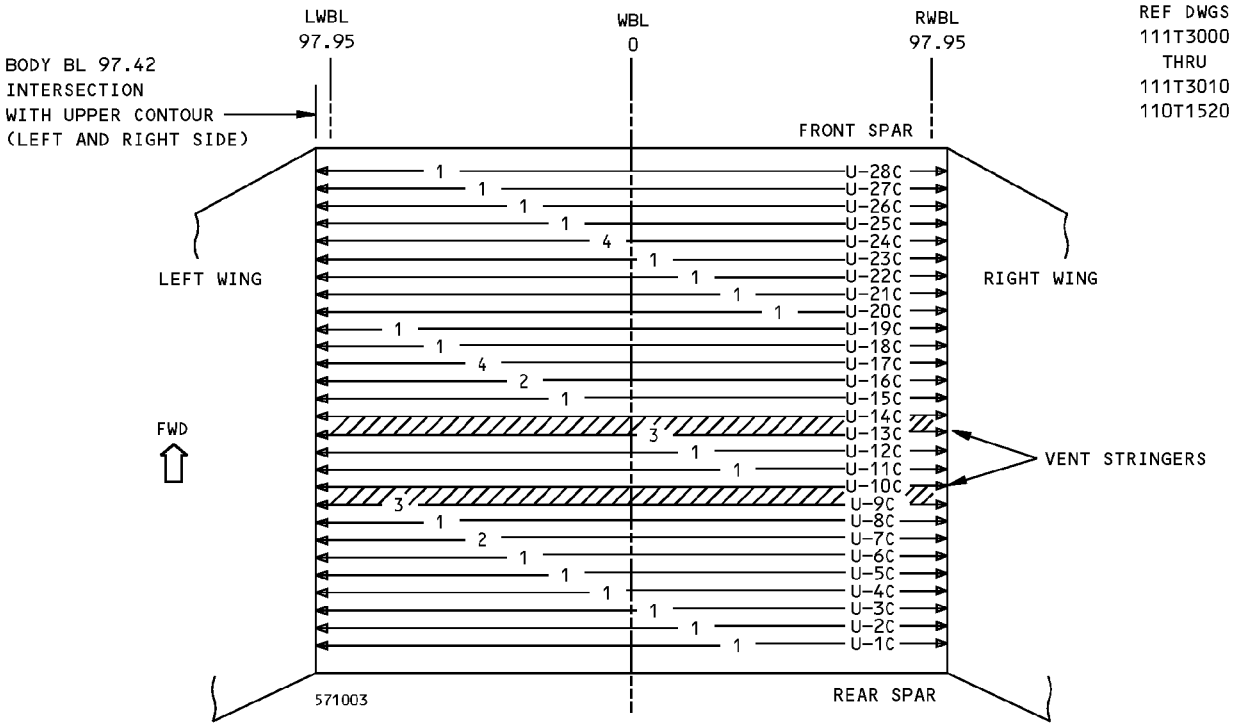
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	2324-T391 OPT: 2024-T3 [A]
2	PLATE	1	2324-T391 OPT: 2024-T3 [A]
3	PLATE	2	2324-T391 OPT: 2024-T3 [A]
4	PLATE	2	2324-T391 OPT: 2024-T3 [A]
5	FILLER	1	2024-T3 [B]
6	RADIUS FILLER	[C]	2024-T3

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
0.160 THRU 0.180	0.050	0.063	0.050	0.063	1/4
OVER 0.180 THRU 0.200	0.063	0.063	0.063	0.063	1/4
OVER 0.200 THRU 0.215	0.063	0.071	0.063	0.071	1/4
OVER 0.215 THRU 0.240	0.071	0.080	0.071	0.080	1/4
OVER 0.240 THRU 0.270	0.080	0.090	0.080	0.090	5/16
OVER 0.270 THRU 0.305	0.090	0.100	0.090	0.100	5/16

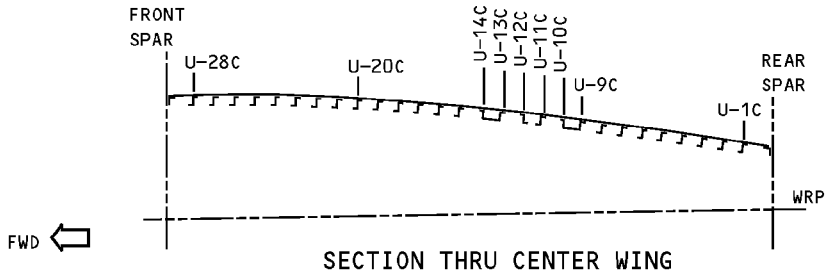
TABLE I

Center Wing Interspar Lower Skin Repair at a Stringer
Figure 201 (Sheet 4 of 4)

IDENTIFICATION 1 - CENTER WING UPPER STRINGERS



PLAN VIEW ON
UPPER SURFACE



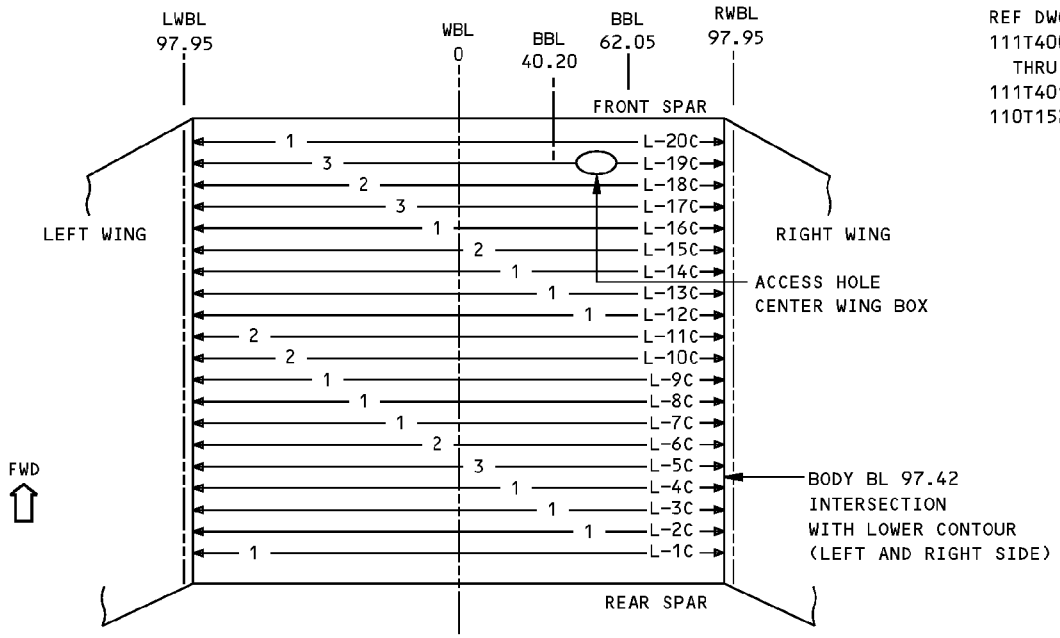
SECTION THRU CENTER WING

ITEM	DESCRIPTION	MATERIAL	TYPE	EFFECTIVITY
1	STRINGER	BAC1518-701 7150-T6511	I	
2	STRINGER	BAC1518-725 7150-T6511	I	
3	STRINGER-VENT	BAC1509-100441 7150-T6511	⊐⊏	
4	STRINGER	BAC1518-702 7150-T6511	I	

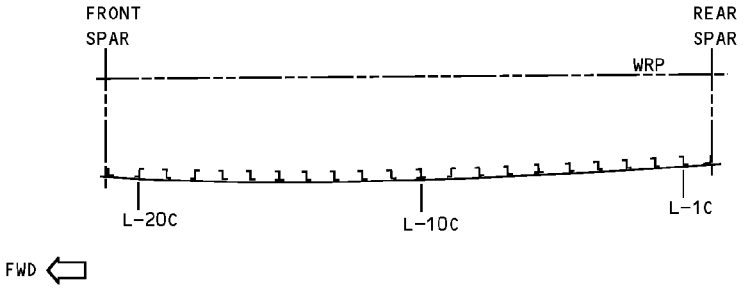
LIST OF MATERIALS

Center Wing Upper Stringer Identification
Figure 1

IDENTIFICATION 2 - CENTER WING LOWER STRINGERS



PLAN VIEW ON LOWER SURFACE



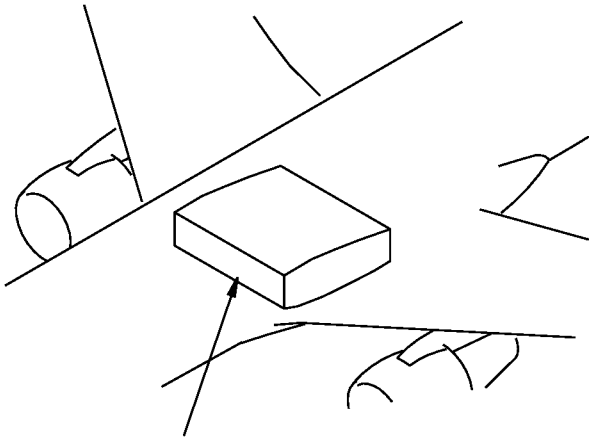
SECTION THRU CENTER WING

ITEM	DESCRIPTION	MATERIAL	TYPE	EFFECTIVITY
1	STRINGER	BAC1518-699 2224-T3511	I	
2	STRINGER	BAC1518-700 2224-T3511	I	
3	STRINGER	BAC1518-703 2224-T3511	I	

LIST OF MATERIAL

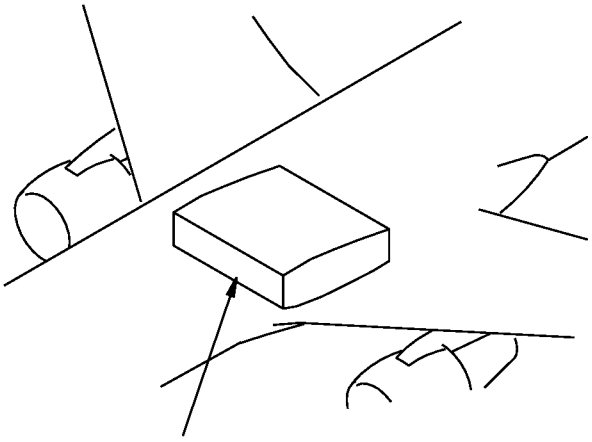
Center Wing Lower Stringer Identification
Figure 1

ALLOWABLE DAMAGE GENERAL - CENTER WING STRINGERS



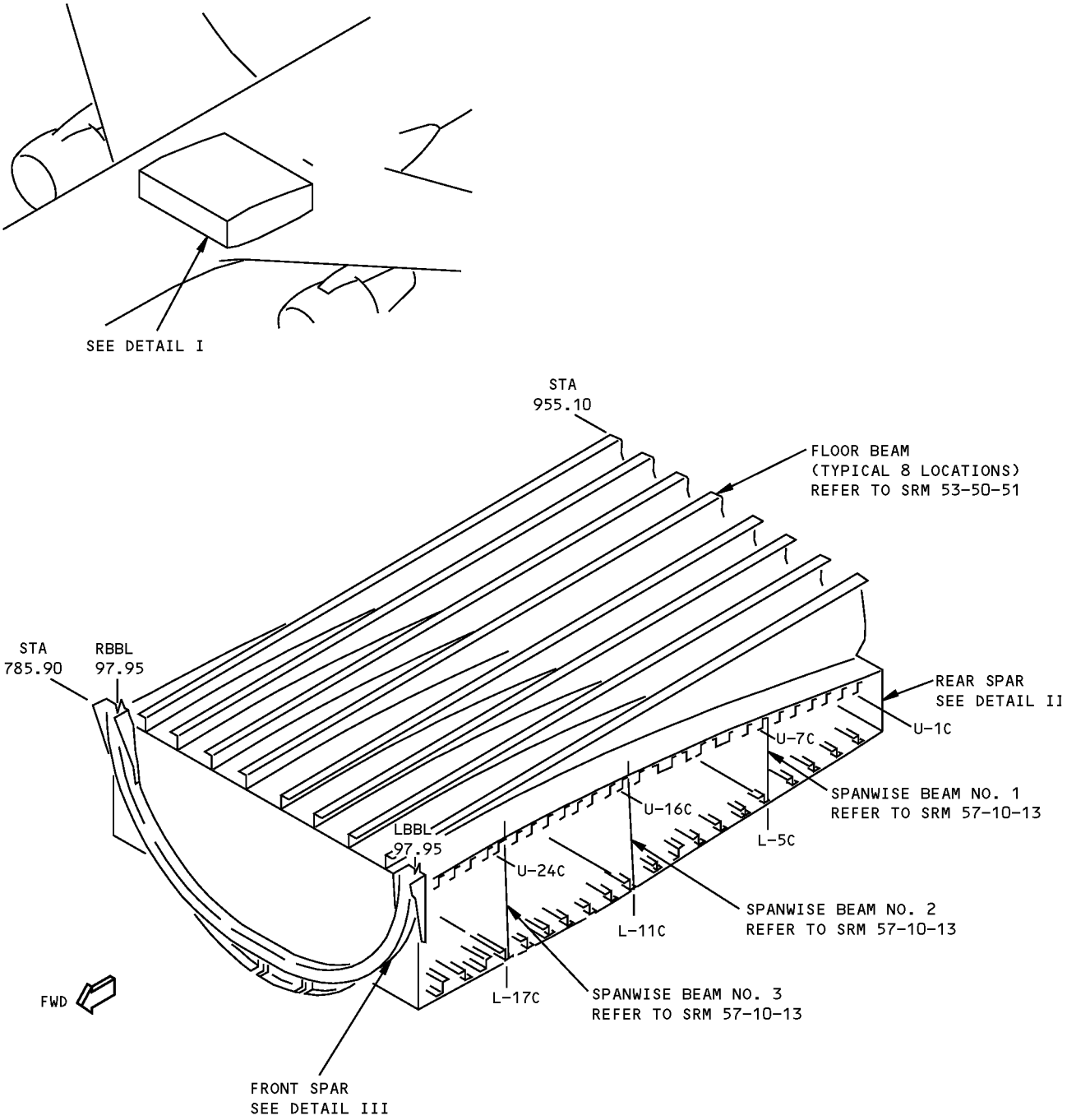
Center Wing Stringers Allowable Damage
Figure 101

REPAIR 1 - CENTER WING STRINGERS



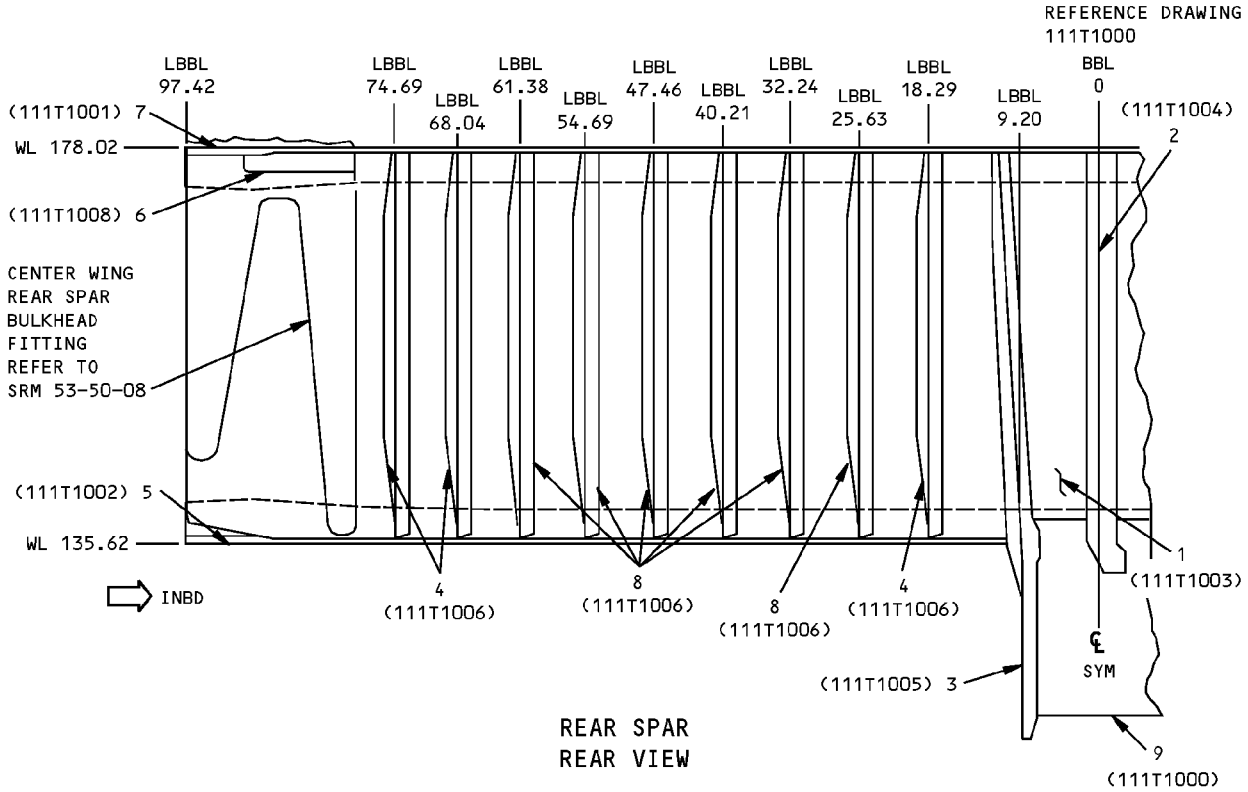
Center Wing Stringer Repair
Figure 201

IDENTIFICATION 1 - CENTER WING REAR AND FRONT SPARS



DETAIL I

Center Wing Rear and Front Spar Identification
Figure 1 (Sheet 1 of 3)



REAR SPAR
REAR VIEW

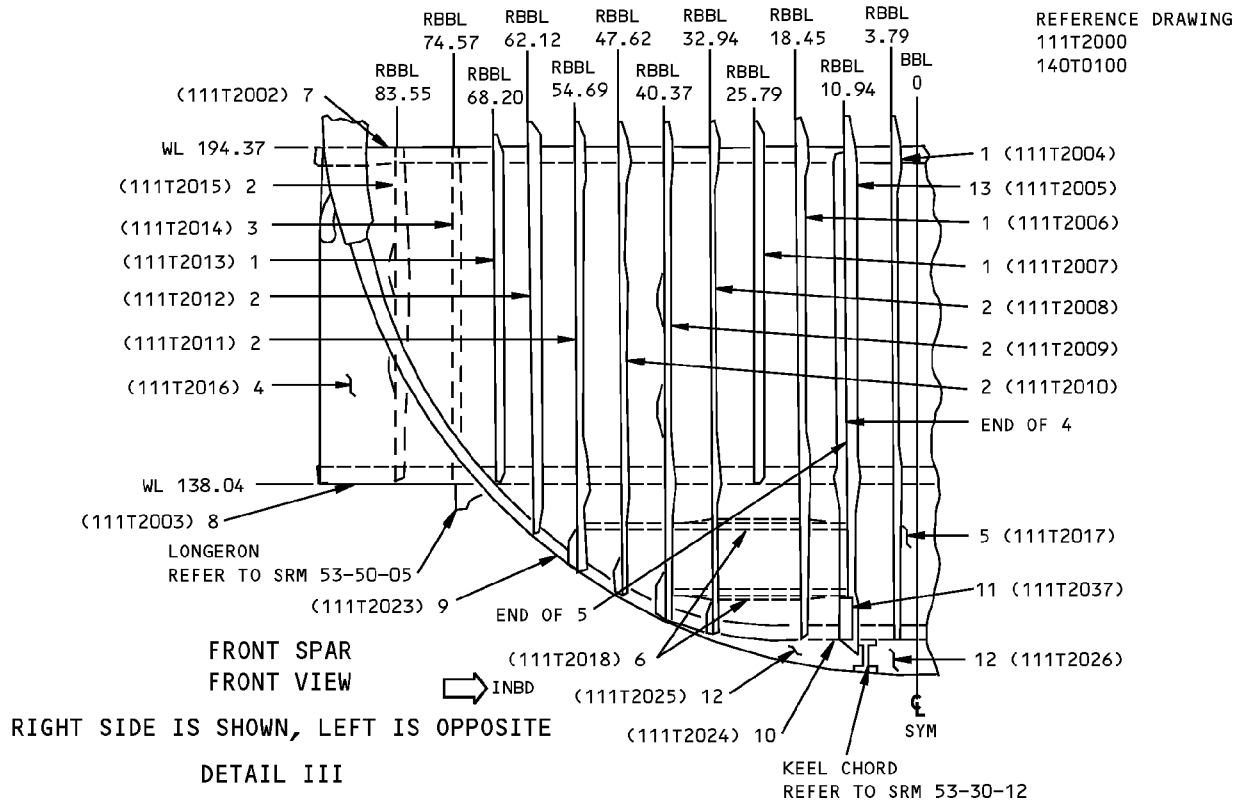
LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE

DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	WEB	0.850	2024-T351 PLATE (MACHINED TO 0.095 INCH MINIMUM)	
2	STIFFENER		BAC1505-101209 7075-T73511	
3	STIFFENER		BAC1517-2126 7075-T73511	
4	STIFFENER		BAC1517-2109 7075-T6511	
5	CHORD		BAC1514-2679 2224-T3511 OPTIONAL: BAC 1514-2425A 2224-T3511	
6	BEARING PLATE		2024-T351 PLATE	
7	CHORD		BAC1514-2678 7075-T73511 OPTIONAL: BAC1514-2424A 7075-T73511	
8	STIFFENER		BAC1517-2317 7075-T6511	
9	WEB	0.160	CLAD 2024-T3	

LIST OF MATERIALS FOR DETAIL II

Center Wing Rear and Front Spar Identification
Figure 1 (Sheet 2 of 3)

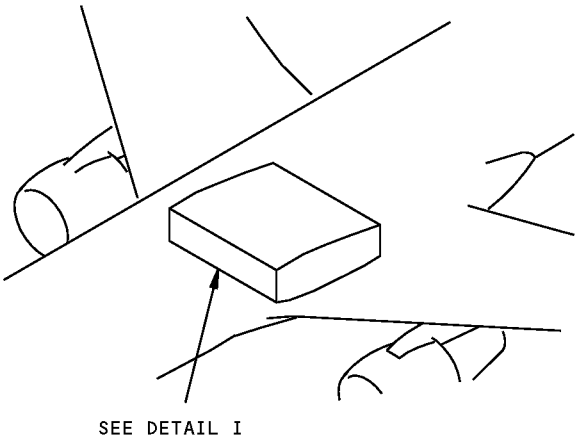


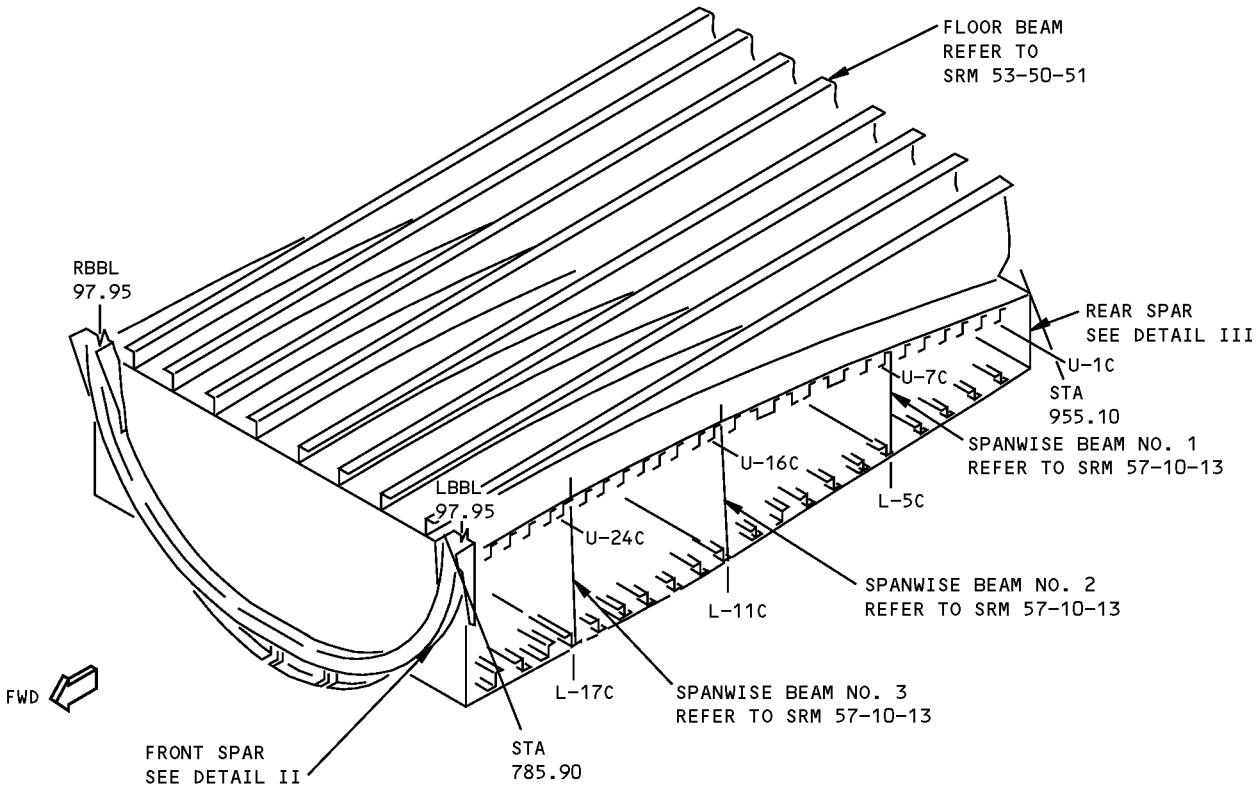
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1506-3189 2024-T3511	
2	STIFFENER		BAC1518-749 2024-T3511	
3	STIFFENER		BAC1518-750 2024-T3511	
4	WEB	0.625	2024-T351 PLATE (MACHINED TO 0.045 INCH MINIMUM)	
5	WEB	0.090	2024-T3 (MACHINED TO 0.045 INCH MINIMUM)	
6	STIFFENER		AND10139-2005 2024-T3511	
7	CHORD		BAC1514-2676 7075-T73511 OPTIONAL: BAC1514-2422 7075-T73511	
8	CHORD		BAC1514-2677 2024-T3511 OPTIONAL: BAC1514-2423 2024-T3511	
9	CHORD		BAC1503-100626 7075-T73	
10	CHORD		BAC1503-100665 7075-T73511 OPTIONAL: 7075-T73 FORGED BLOCK	
11	FITTING	0.112	17-7PH CRES HT TR TO 125-145 KSI	
12	SHEAR TIE	0.080	2024-T42	
13	STIFFENER		BAC1518-912 2024-T3511 OPTIONAL: BAC 1518-749 2024-T3511	

LIST OF MATERIALS FOR DETAIL III

Center Wing Rear and Front Spar Identification
Figure 1 (Sheet 3 of 3)

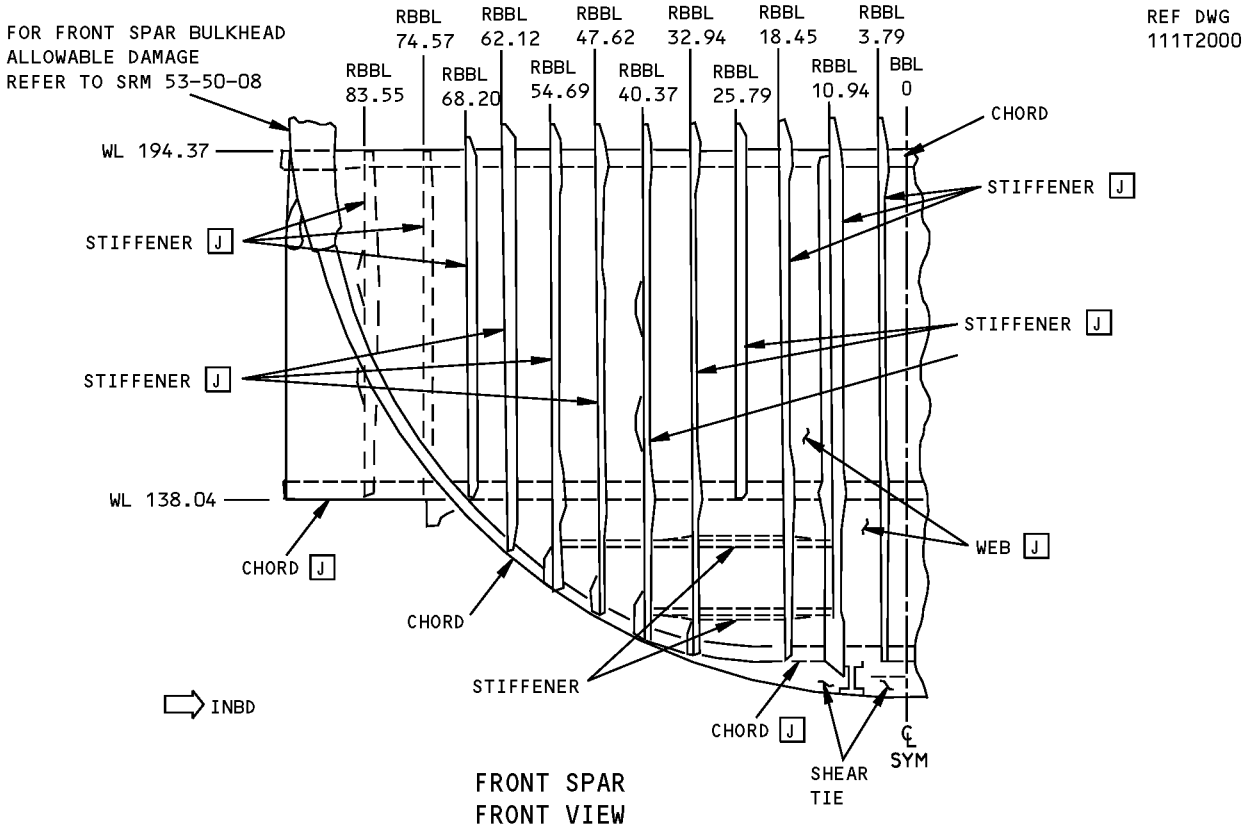
ALLOWABLE DAMAGE 1 - CENTER WING REAR AND FRONT SPARS





DETAIL I

Center Wing Rear and Front Spar Allowable Damage
Figure 101 (Sheet 1 of 5)



Center Wing Rear and Front Spar Allowable Damage
Figure 101 (Sheet 2 of 5)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
WEB [J]	[A]	[C]	SEE DETAIL VI	[F]
CHORD [H]	[A]	[D]	NOT PERMITTED	NOT PERMITTED
STIFFENER [H]	[A]	[D]	NOT PERMITTED	[G]
SHEAR TIE	[B]	[E]	SEE DETAIL VI	[F]

NOTES

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS AS GIVEN IN AMM 28-11 BEFORE YOU ENTER THE FUEL TANKS.

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS IV AND VIII.

[B] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS IV AND IX.

[C] REMOVE DAMAGE AS GIVEN IN DETAILS IV AND V. DAMAGE REMOVAL AS GIVEN IN DETAIL VII IS PERMITTED FOR THE REAR SPAR WEB ONLY.

[D] REMOVE DAMAGE AS GIVEN IN DETAILS IV, VII AND X. DAMAGE REMOVAL AS GIVEN IN DETAIL VII IS NOT PERMITTED AT STIFFENER-TO-CHORD ATTACHMENTS.

[E] REMOVE DAMAGE AS GIVEN IN DETAILS IV,V AND IX.

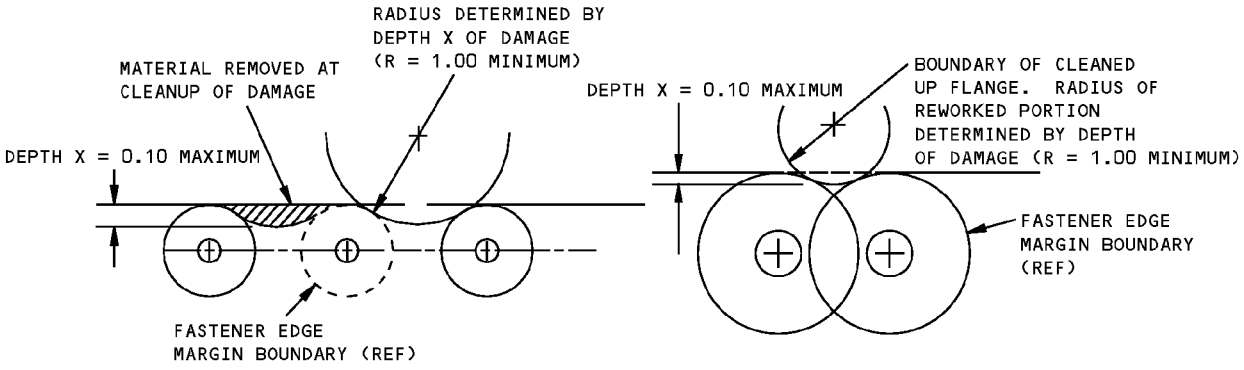
[F] REWORK IS PERMITTED FOR REAR SPAR WEB AND SHEAR TIES ONLY. CLEAN OUT DAMAGE UP TO 0.25-INCH (6 mm) MAX DIA AND NOT CLOSER THAN 1.0 INCH (25.4) TO FASTENER HOLE OR OTHER DAMAGE. DAMAGE REMOVAL HOLES ARE PERMITTED IN THE UNPADDED AREA OF THE WEB ONLY AND AWAY FROM PAD FILLET RADIUS. FILL HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-26 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

[G] PERMITTED IN STIFFENER WEB ONLY. SEE DETAIL XI.

[H] SEE DETAILS II AND III FOR APPLICABLE SHOT PEENING REQUIREMENTS.

[J] SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06.

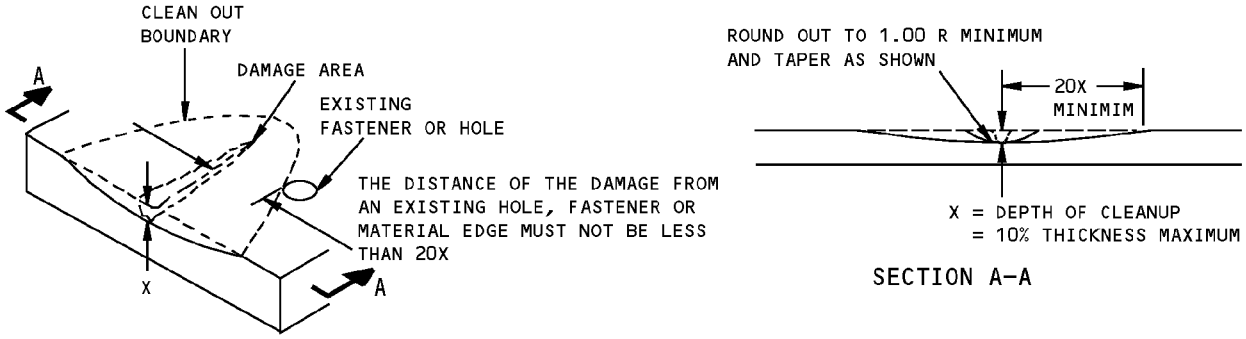
Center Wing Rear and Front Spar Allowable Damage
Figure 101 (Sheet 3 of 5)



DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP

DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

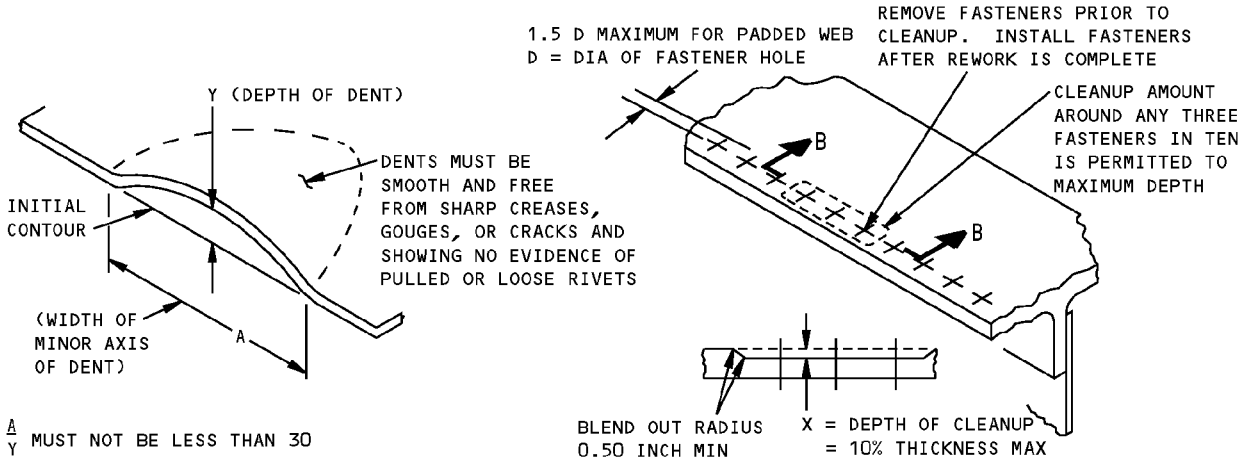
DETAIL IV



SECTION A–A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE

DETAIL V



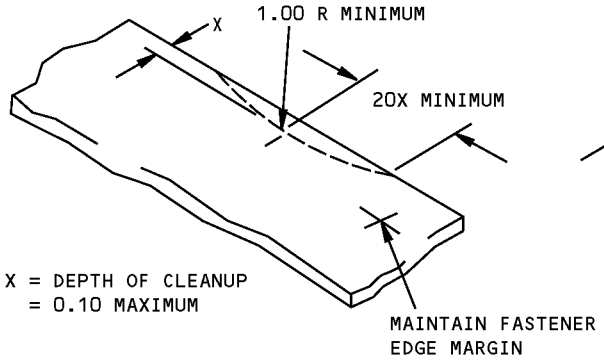
DETAIL VI

SECTION B–B

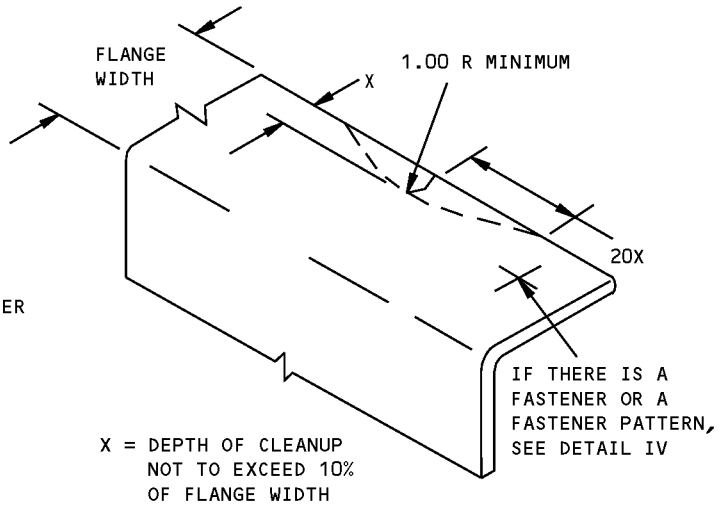
CORROSION CLEANUP

DETAIL VII

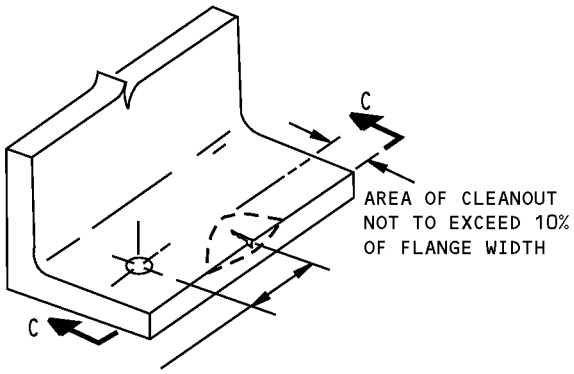
Center Wing Rear and Front Spar Allowable Damage
Figure 101 (Sheet 4 of 5)

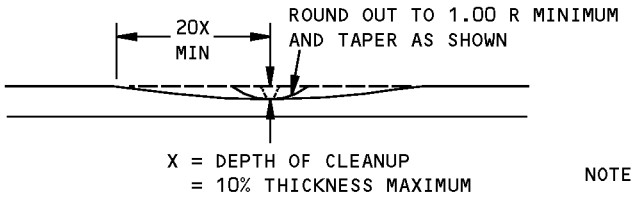


REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL VIII



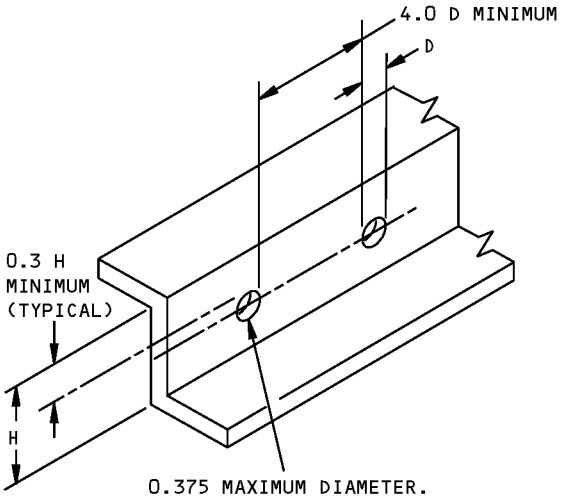
FORMED MEMBER
DETAIL IX





SECTION C–C

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL X

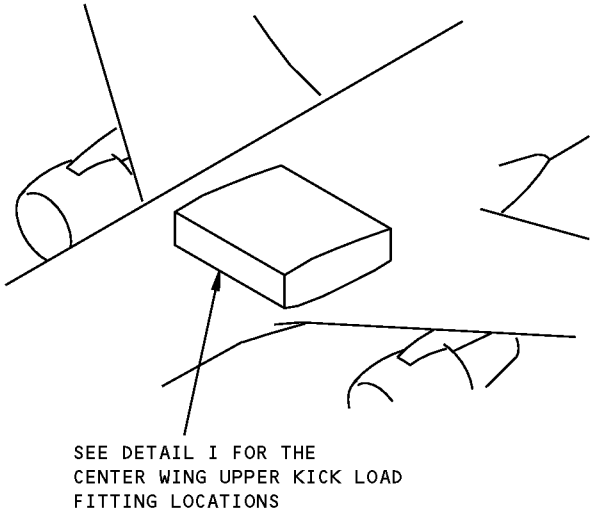


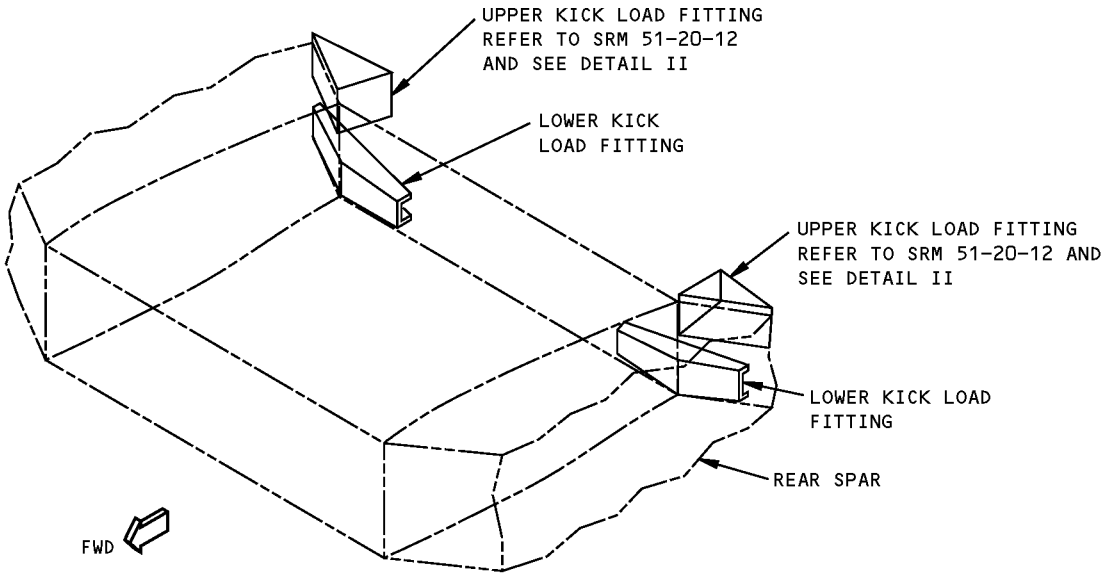
NOTE: HOLE DAMAGE IS NOT PERMITTED IN THE STIFFENER FLANGE THAT IS FASTENED TO THE WEB OR TO THE FREE FLANGE.

ALLOWABLE DAMAGE LIMITS FOR
HOLES IN WEB STIFFENERS
DETAIL XI

Center Wing Rear and Front Spar Allowable Damage
Figure 101 (Sheet 5 of 5)

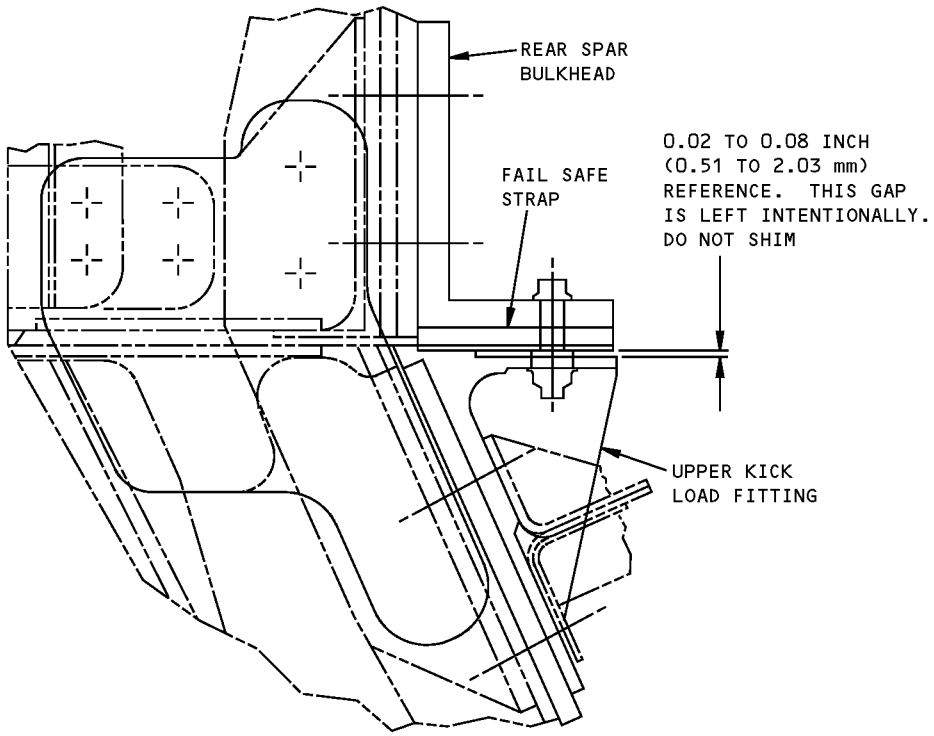
REPAIR 1 - WING CENTER SECTION REAR SPAR BULKHEAD TO UPPER KICK LOAD FITTING SHIM MIGRATION INSPECTION AND REPLACEMENT





UPPER KICK LOAD FITTING LOCATIONS
DETAIL I

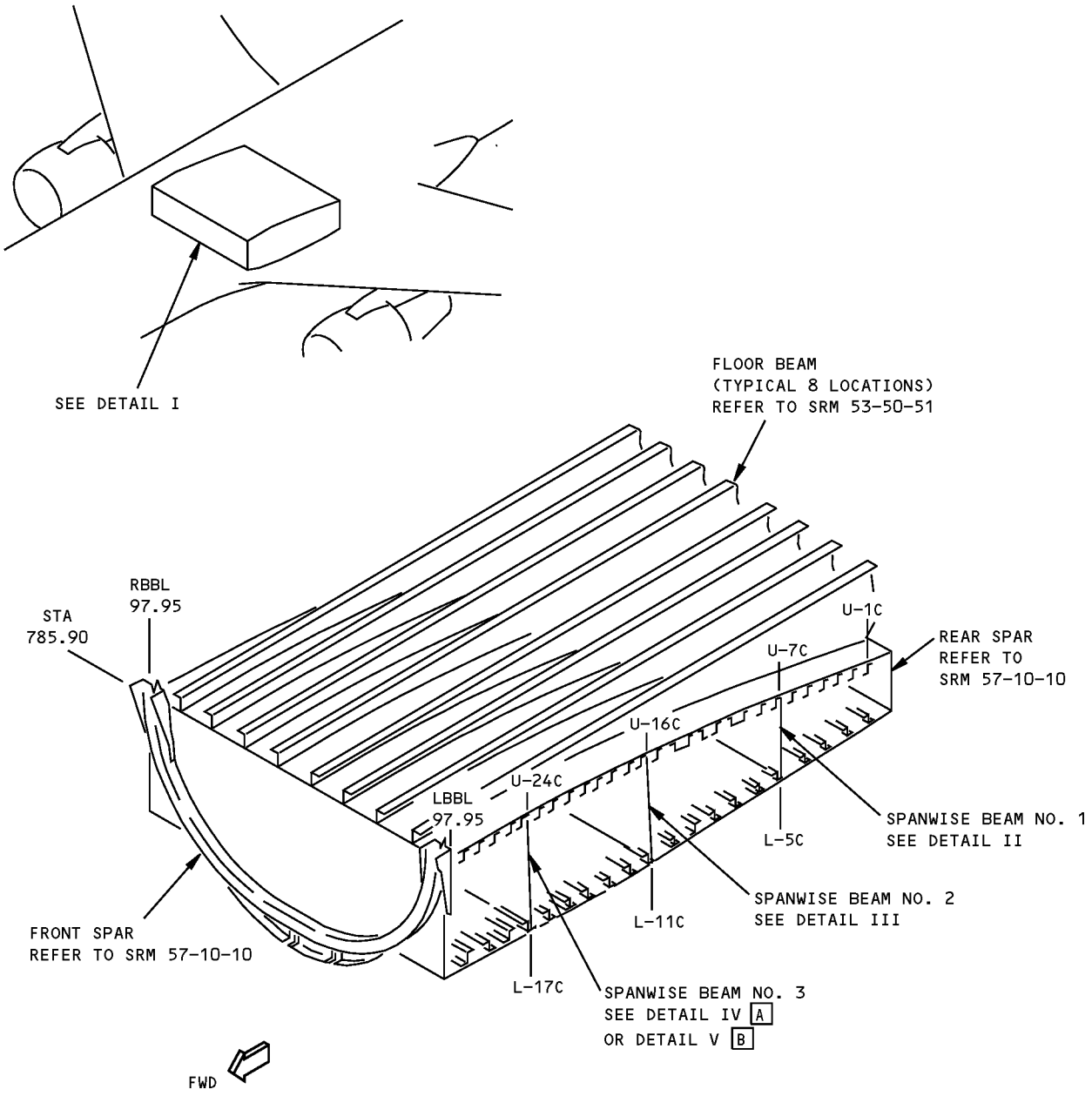
Wing Center Section Rear Spar Bulkhead to Upper Kick Load Fitting Shim Migration Inspection and Replacement
Figure 201 (Sheet 1 of 2)



UPPER KICK LOAD FITTING GAP
DETAIL II

Wing Center Section Rear Spar Bulkhead to Upper Kick Load Fitting Shim Migration Inspection and Replacement
Figure 201 (Sheet 2 of 2)

IDENTIFICATION 1 - CENTER WING SPANWISE BEAMS



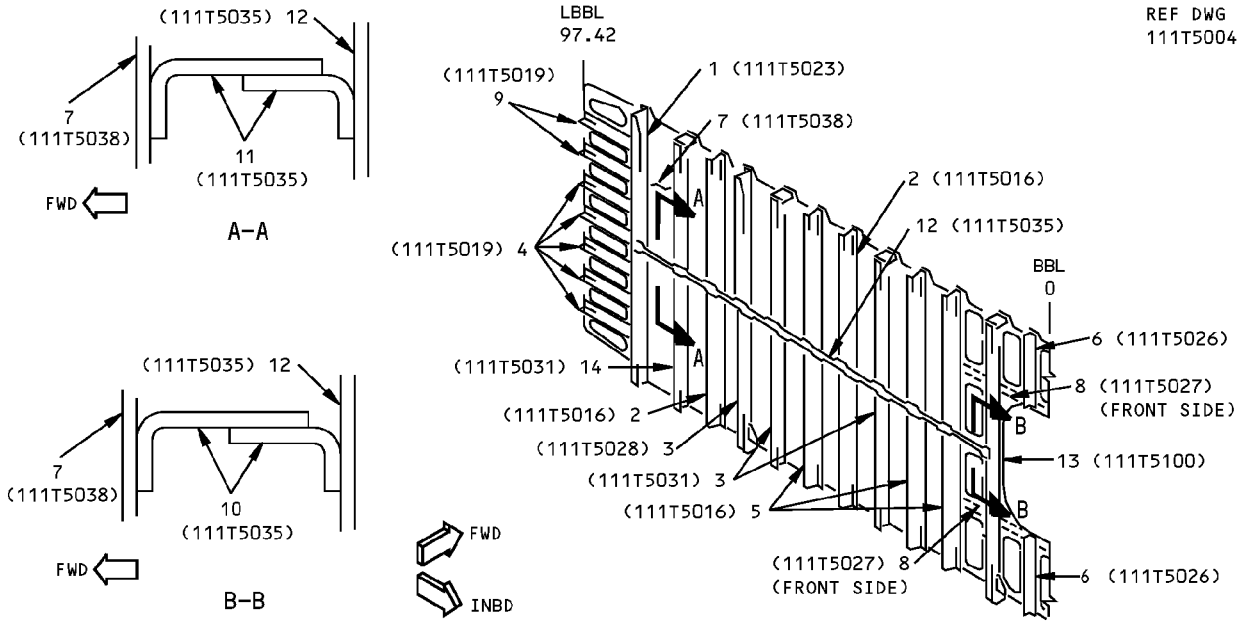
DETAIL I

NOTES

A FOR CUM LINE NUMBERS:
132,136,148,150,151

B FOR CUM LINE NUMBERS 152 AND ON

Center Wing Spanwise Beam Identification
Figure 1 (Sheet 1 of 5)



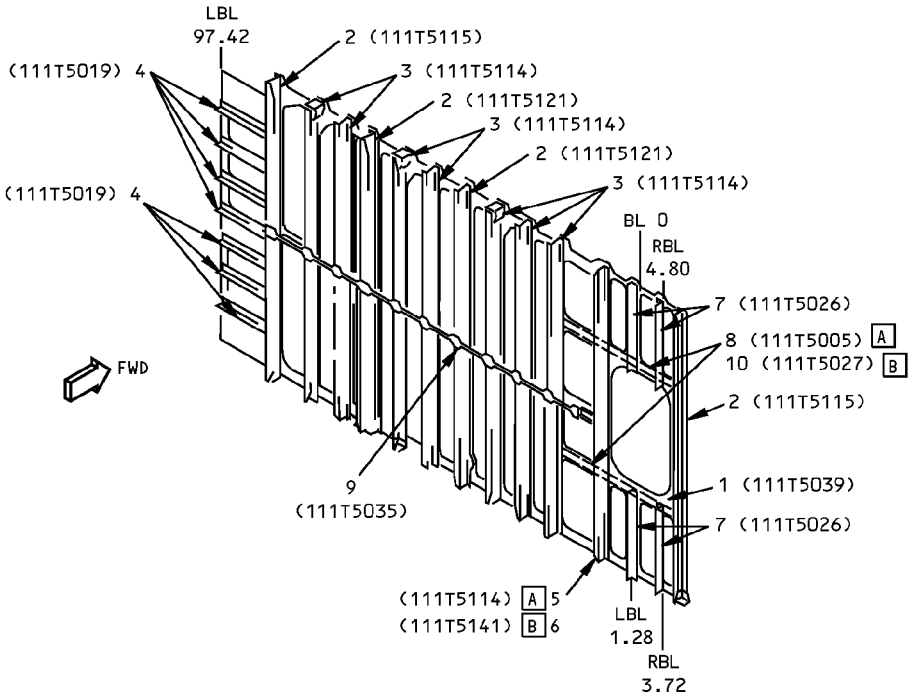
SPANWISE BEAM NO. 1
LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1518-397 7075-T6511 OPTIONAL: BAC1518-697 7150-T6511	
2	STIFFENER		AND10139-2403 7075-T6511	
3	STIFFENER		BAC1506-855 7075-T6511 OPTIONAL: BAC1518-697 7150-T6511	
4	STIFFENER		BAC1503-100019 7075-T6511	
5	STIFFENER		AND10139-2401 7075-T6511	
6	STIFFENER		AND10133-1003 7075-T6511	
7	WEB	0.160	2024-T3 (MACHINED TO 0.050 MIN)	
8	STIFFENER		AND10134-2001 7075-T6511 OPTIONAL: AND 10134-2006 7075-T6511	
9	STIFFENER		AND10133-1204 7075-T6511	
10	STIFFENER	0.063	CLAD 7075-T6	
11	STIFFENER	0.050	CLAD 7075-T6	
12	STRAP	0.050	CLAD 7075-T6	
13	STIFFENER		BAC1518-397 7075-T6511 OPTIONAL: BAC1518-697 7150-T6511	
14	STIFFENER		AND10139-2403 7075-T6511	

LIST OF MATERIALS FOR DETAIL II

Center Wing Spanwise Beam Identification
Figure 1 (Sheet 2 of 5)

REF DWG
111T5005

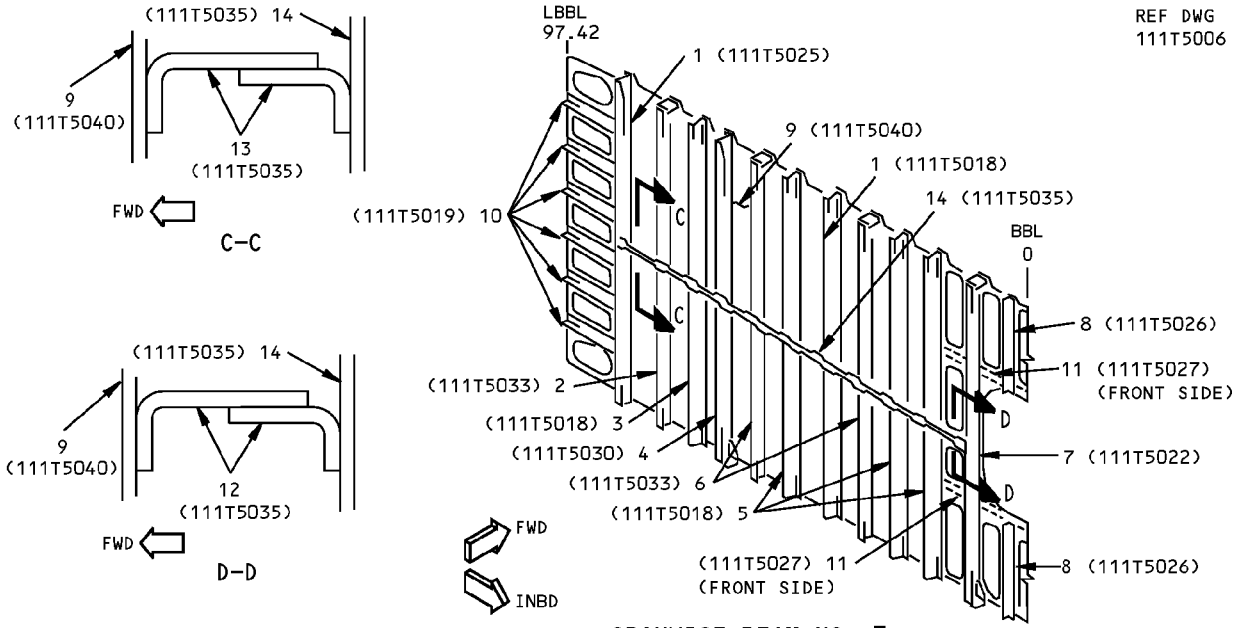


SPANWISE BEAM NO. 2
LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
(EXCEPT AS NOTED)
DETAIL III

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	WEB	0.125	2024-T3 (MACHINED TO 0.050 MIN)	
2	STIFFENER		BAC1506-3547 7075-T6511	
3	STIFFENER		BAC1517-2316 7075-T6511	
4	STIFFENER		BAC1503-100019 7075-T6511	
5	STIFFENER		AND10139-2204 7075-T6511	A
6	STIFFENER		BAC1518-924 7075-T6511	B
7	STIFFENER		AND10133-1003 7075-T6511	
8	STIFFENER		AND10133-2003 7075-T6511 OPTIONAL: BAC1509-100226 7075-T6511	A
9	STABILIZER	0.050 0.071	CLAD 7075-T6 CLAD 7075-T6	A B
10	STIFFENER		AND10134-2006 7075-T6511	B

LIST OF MATERIALS FOR DETAIL III

Center Wing Spanwise Beam Identification
Figure 1 (Sheet 3 of 5)



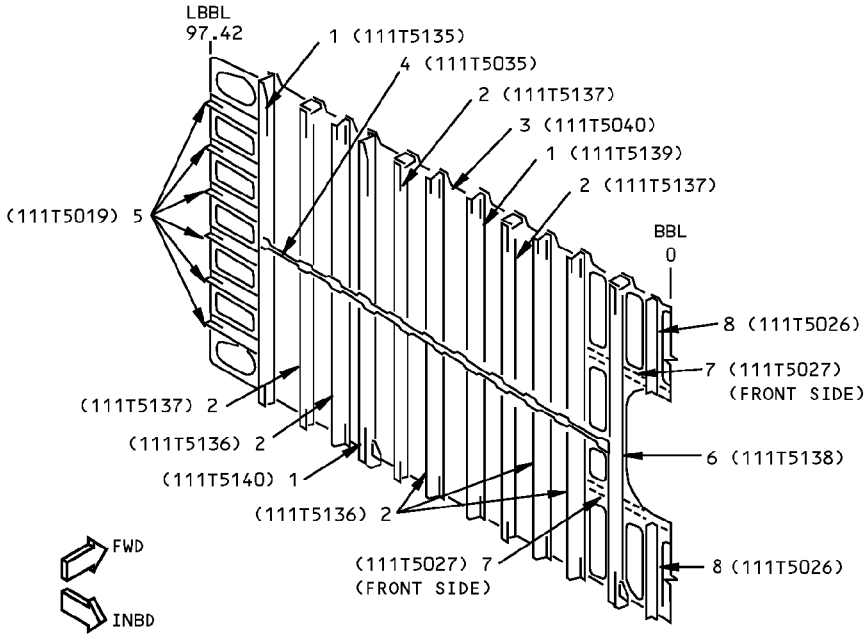
SPANWISE BEAM NO. 3
LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
DETAIL IV [A]

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1518-200 7075-T6511 OPTIONAL: BAC1518-697 7150-T6511	
2	STIFFENER		AND10139-2403 7075-T6511	
3	STIFFENER		AND10138-2403 7075-T6511	
4	STIFFENER		BAC1506-855 7075-T6511 OPTIONAL: BAC1518-697 7150-T6511	
5	STIFFENER		AND10139-2402 7075-T6511	
6	STIFFENER		BAC1518-397 7075-T6511 OPTIONAL: BAC1518-697 7075-T6511	
7	STIFFENER		BAC1518-397 7050-T6511 OPTIONAL: BAC1518-697 7075-T6511	
8	STIFFENER		AND10133-1003 7075-T6511	
9	WEB	0.125	2024-T3 (MACHINED TO 0.050 MIN)	
10	STIFFENER		BAC1503-100019 7075-T6511	
11	STIFFENER		AND10134-2001 7075-T6511 OPTIONAL: AND10134-2006 7075-T6511	
12	STIFFENER	0.063	CLAD 7075-T6	
13	STIFFENER	0.050	CLAD 7075-T6	
14	STRAP	0.050	CLAD 7075-T6	

LIST OF MATERIALS FOR DETAIL IV

Center Wing Spanwise Beam Identification
Figure 1 (Sheet 4 of 5)

REF DWG
111T5006



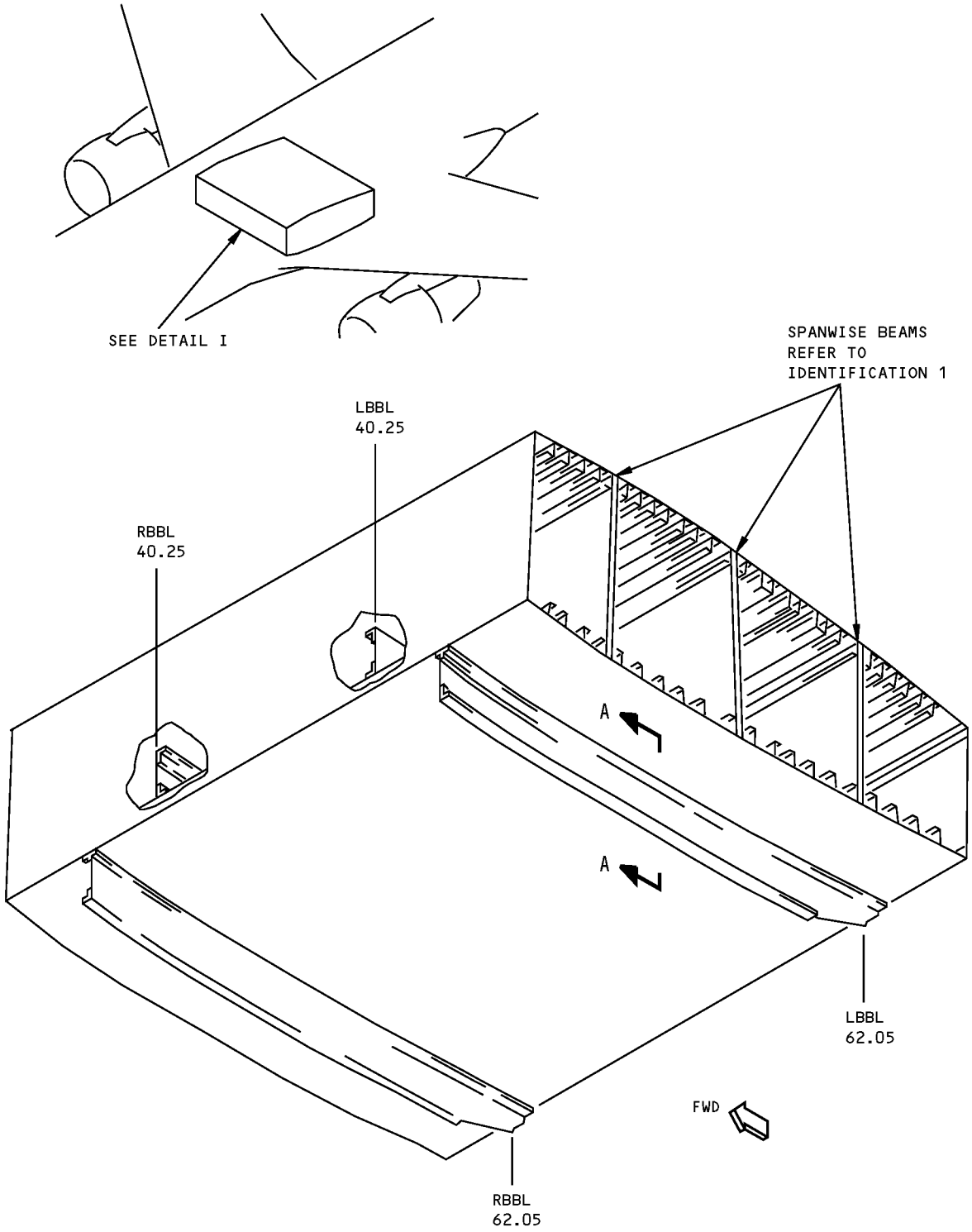
SPANWISE BEAM NO. 3
LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
DETAIL V [B]

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1506-3547 7075-T6511	
2	STIFFENER		BAC1517-2316 7075-T6511	
3	WEB	0.125	2024-T3	
4	STRAP	0.071	CLAD 7075-T6	
5	STIFFENER		BAC1503-100019 7075-T6511	
6	STIFFENER		BAC1518-924 7075-T6511	
7	STIFFENER		AND10134-2006 7075-T6511	
8	STIFFENER		AND10134-1206 7075-T6511	

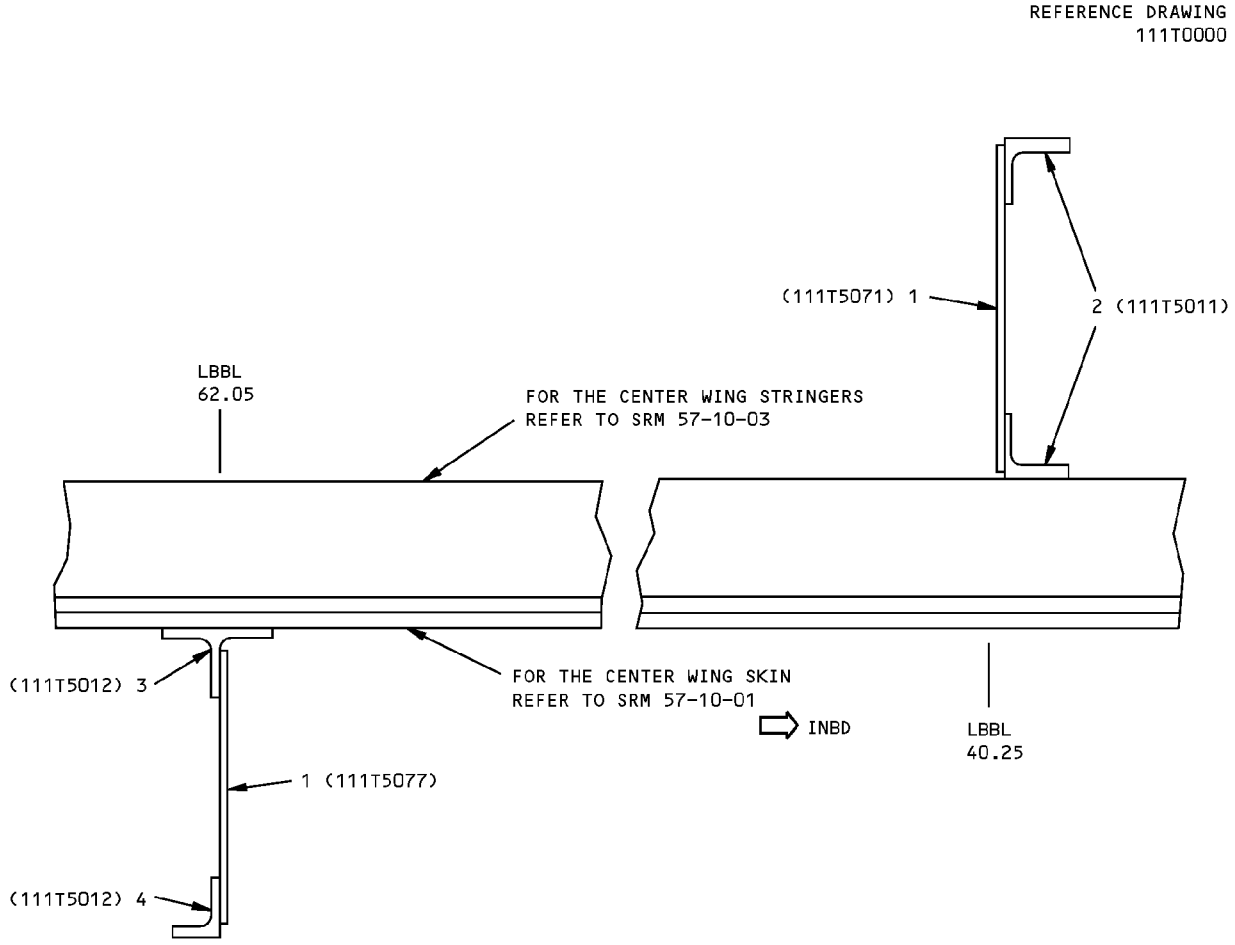
LIST OF MATERIALS FOR DETAIL V

Center Wing Spanwise Beam Identification
Figure 1 (Sheet 5 of 5)

IDENTIFICATION 2 - CENTER WING LOWER BEAMS



Center Wing Lower Beam Identification
Figure 1 (Sheet 1 of 2)



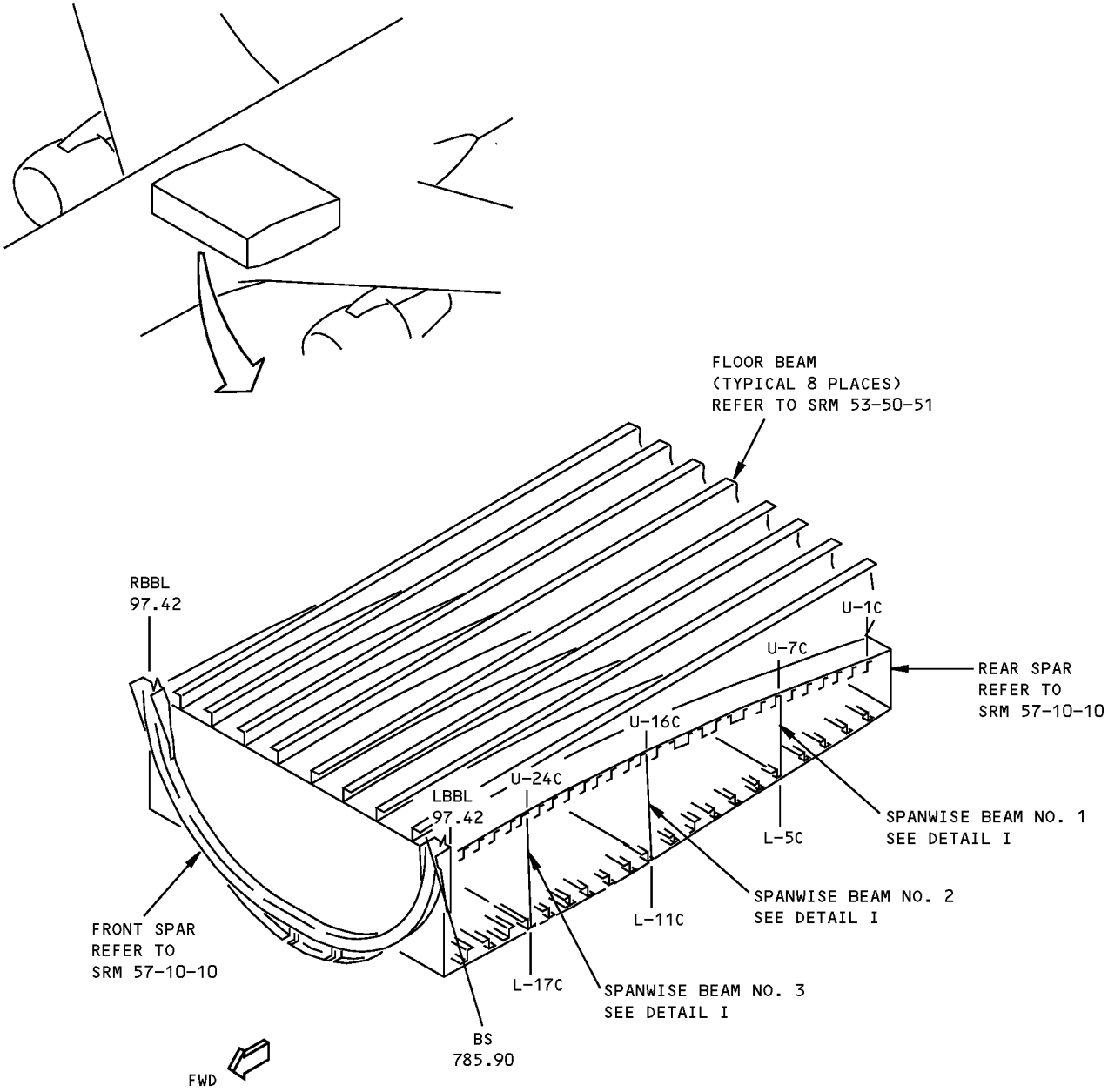
SECTION A-A

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	WEB	0.063	7075-T6 (CHEM-MILLED TO 0.050 INCH MINIMUM)	
2	CHORD		BAC1503-100310 7075-T6	
3	UPPER CHORD		AND10136-3004 7075-T62	
4	LOWER CHORD		AND10133-1404 7075-T62	

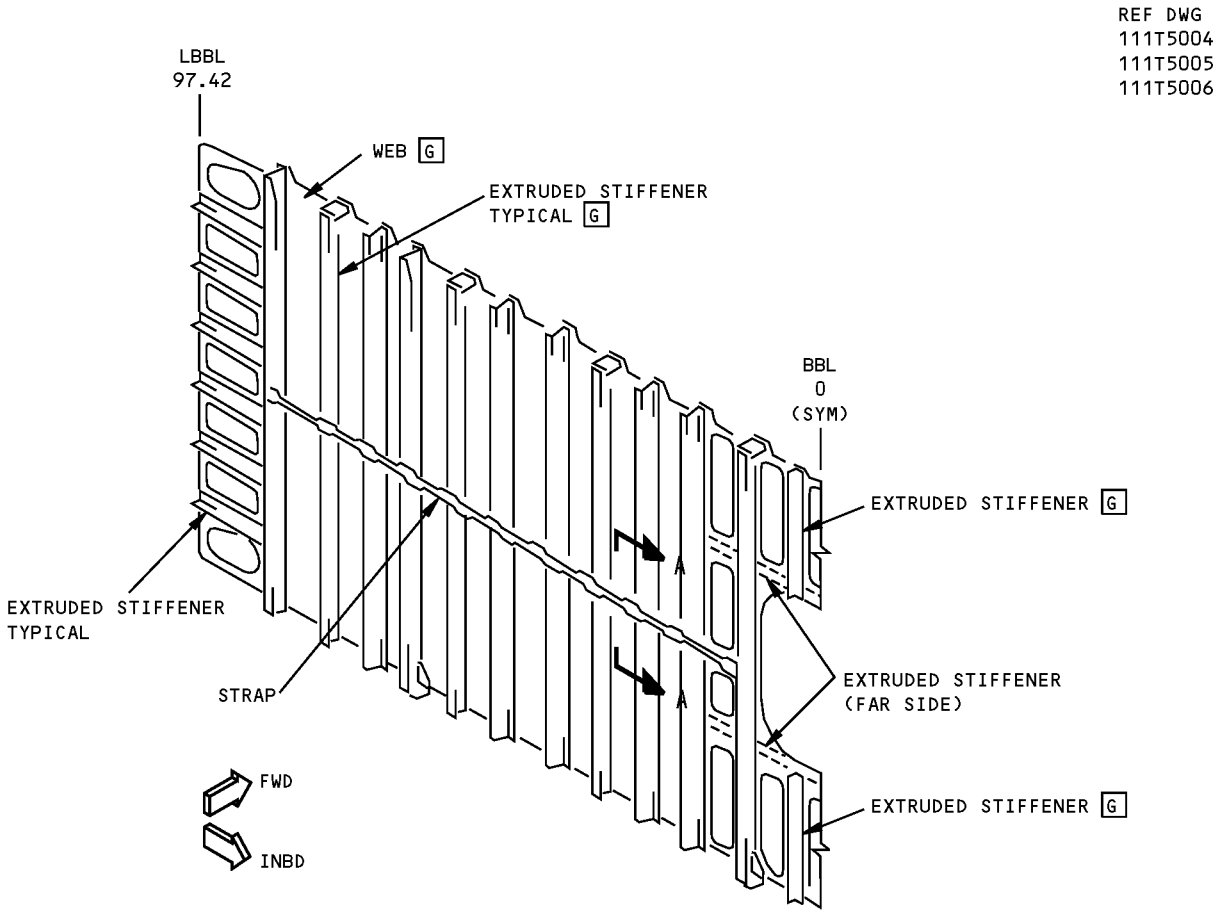
LIST OF MATERIALS

Center Wing Lower Beam Identification
Figure 1 (Sheet 2 of 2)

ALLOWABLE DAMAGE 1 - CENTER WING SPANWISE BEAMS

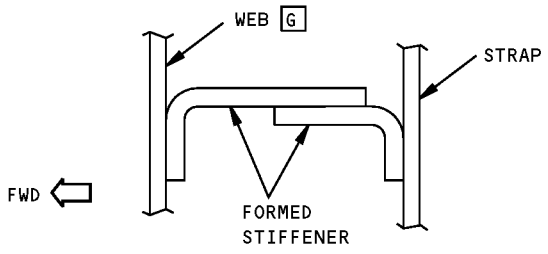


Center Wing Spanwise Beam Allowable Damage
Figure 101 (Sheet 1 of 5)



TYPICAL SPANWISE BEAM
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

DETAIL I



SECTION A–A

Center Wing Spanwise Beam Allowable Damage
Figure 101 (Sheet 2 of 5)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
EXTRUDED STIFFENER [H]	[B]	[C]	NOT PERMITTED	PERMITTED IN WEB ONLY SEE DETAIL IX
FORMED STIFFENER	[A]	[D]	SEE DETAIL IV	[F]
WEB [G]	[B]	[E]	SEE DETAIL IV	[F]
STRAP	[B]	[E]	SEE DETAIL IV	[F]

NOTES

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS AS GIVEN IN AMM 28-11 BEFORE YOU ENTER THE FUEL TANKS.

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS II AND VII.

[B] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS II AND VI.

[C] REMOVE DAMAGE AS GIVEN IN DETAILS II, V AND VIII. DAMAGE REMOVAL AS GIVEN IN DETAIL V IS NOT PERMITTED AT STIFFENER-TO-CHORD ATTACHMENTS.

[D] REMOVE DAMAGE AS GIVEN IN DETAILS II,V AND VIII.

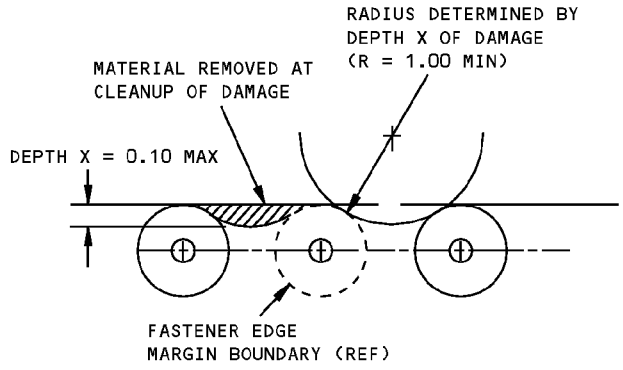
[E] REMOVE DAMAGE AS GIVEN IN DETAILS II,III AND V.

[F] CLEAN OUT DAMAGE UP TO 0.25-INCH (6 mm) MAX DIA (0.19-INCH (2.3 mm) MAX DIA IN STRAP) AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO FASTENER HOLE OR OTHER DAMAGE. HOLES ARE PERMITTED IN UNPADDED AREA OF WEB ONLY AND AWAY FROM PAD FILLET RADIUS.

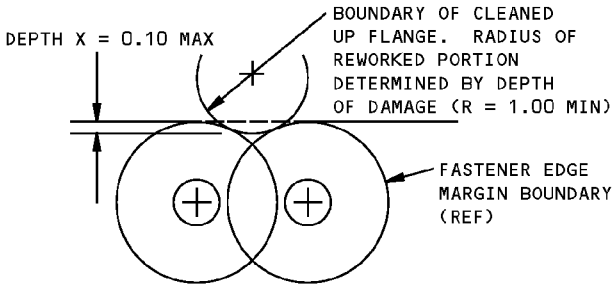
[G] SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06.

[H] SEE DETAIL I FOR APPLICABLE SHOT PEENING REQUIREMENTS.

Center Wing Spanwise Beam Allowable Damage
Figure 101 (Sheet 3 of 5)

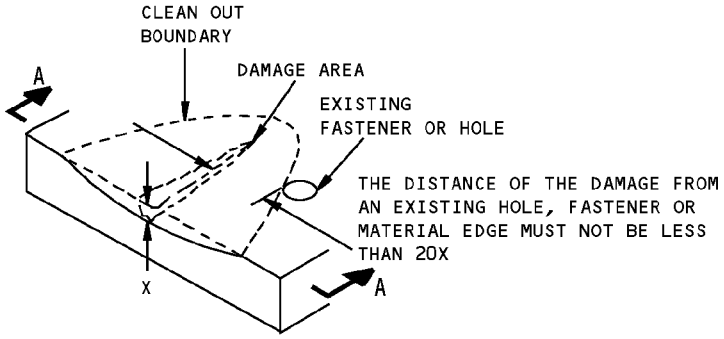


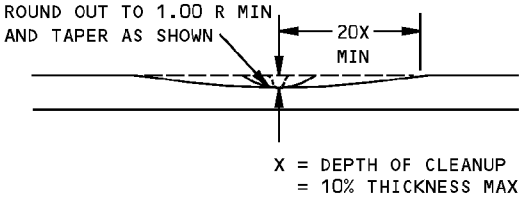
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

DETAIL II

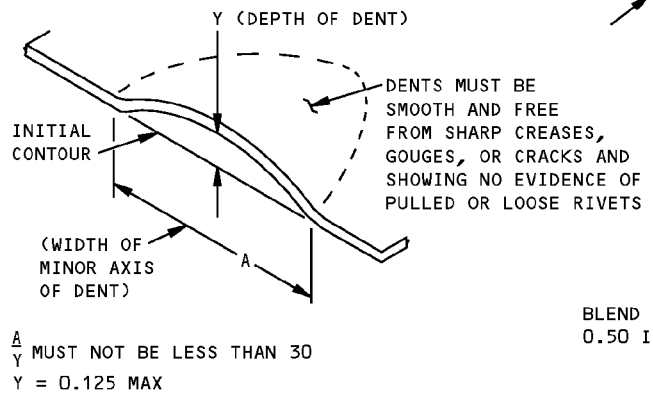




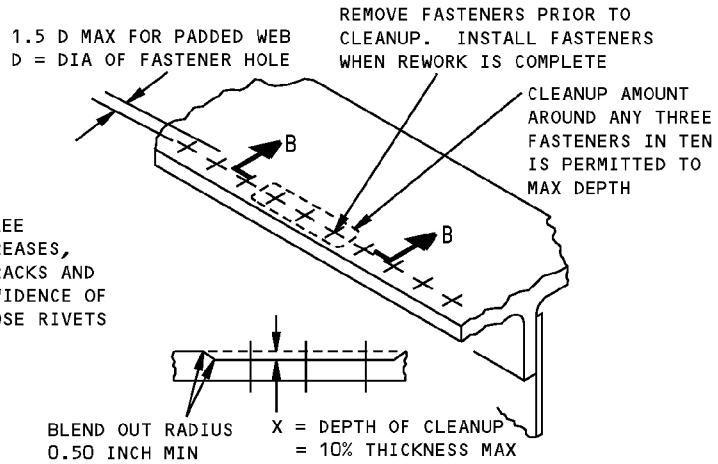
SECTION A–A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE

DETAIL III

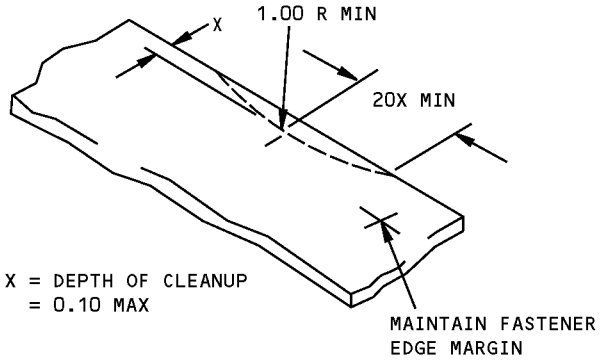


DETAIL IV



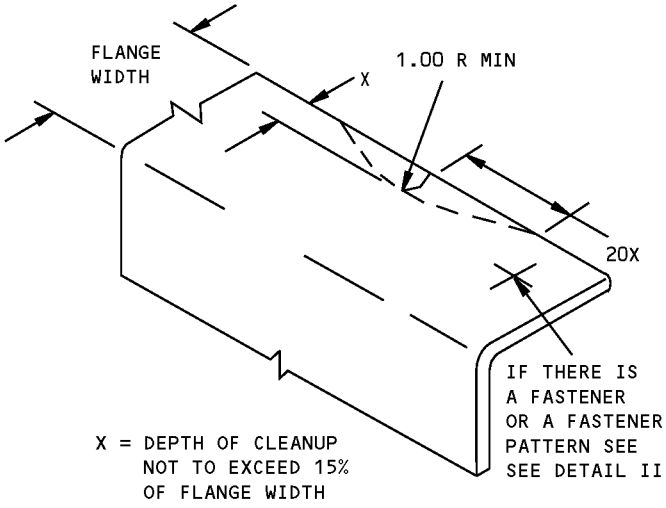
SECTION B–B
CORROSION CLEANUP
DETAIL V

Center Wing Spanwise Beam Allowable Damage
Figure 101 (Sheet 4 of 5)



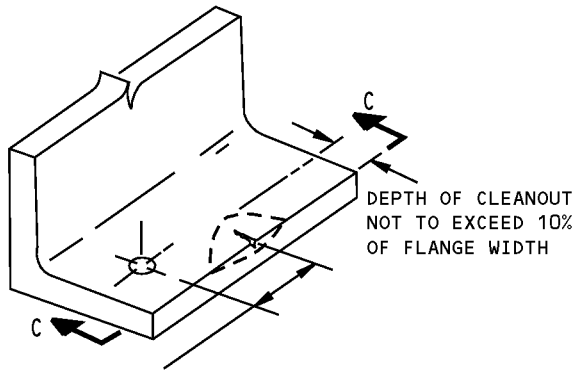
REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

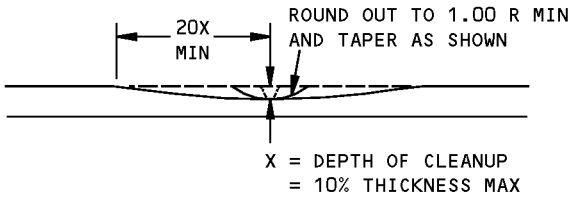
DETAIL VI



FORMED MEMBER

DETAIL VII

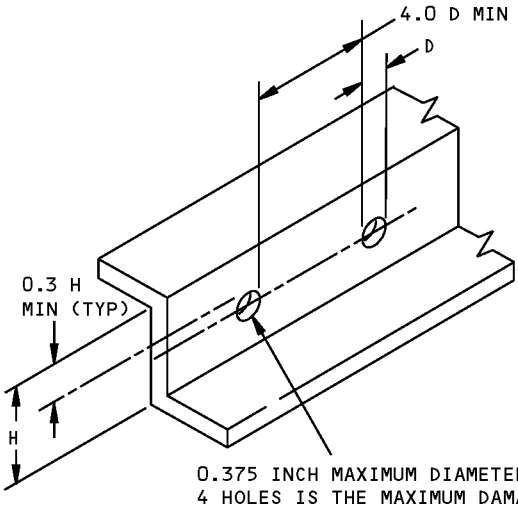




SECTION C–C

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

DETAIL VIII



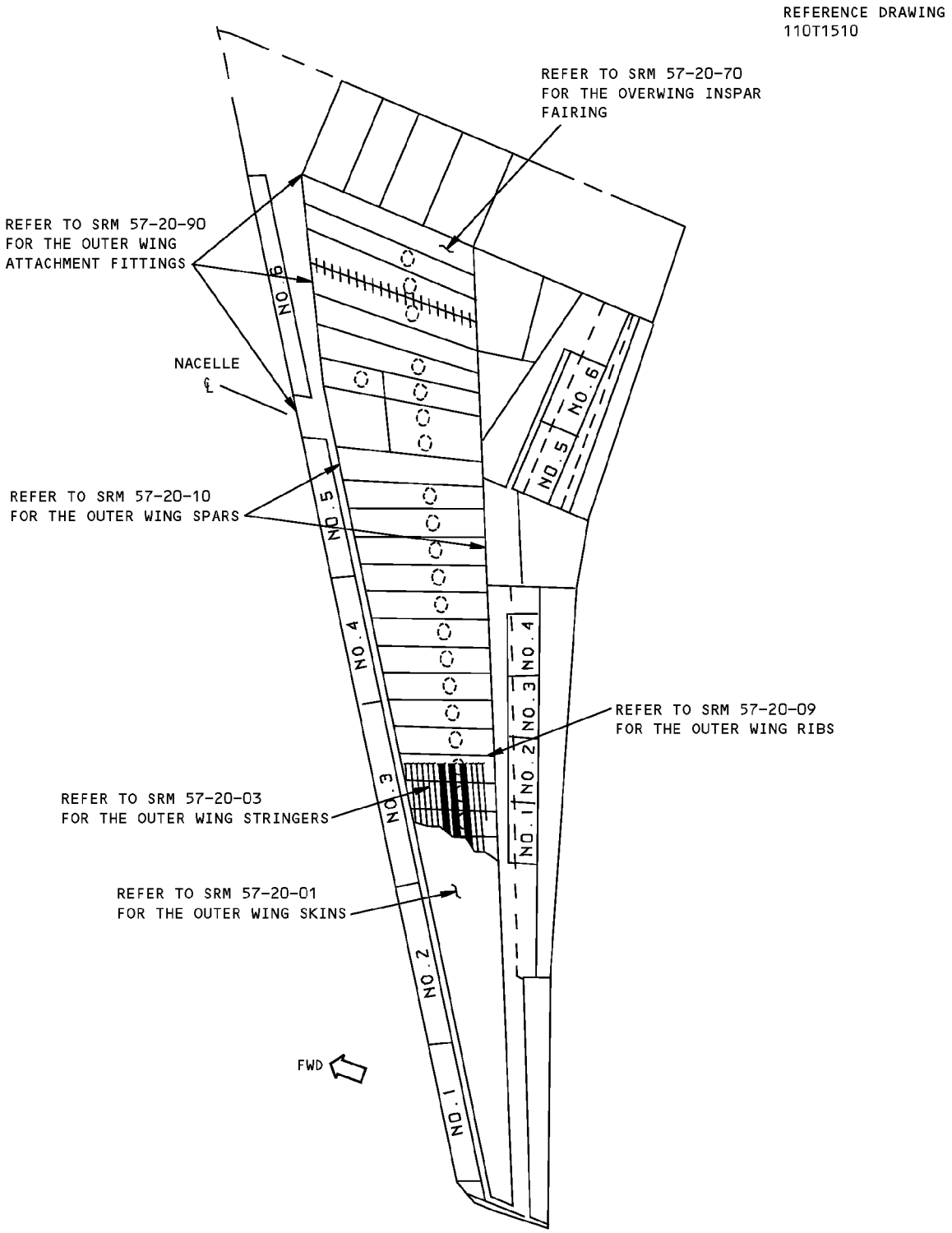
NOTE: NO HOLE DAMAGE IS PERMITTED IN THE STIFFENER FLANGE THAT IS FASTENED TO THE WEB OR IN THE FREE FLANGE.

ALLOWABLE DAMAGE LIMITS FOR
HOLES IN WEB STIFFENERS

DETAIL IX

Center Wing Spanwise Beam Allowable Damage
Figure 101 (Sheet 5 of 5)

GENERAL - OUTER WING STRUCTURE DIAGRAM



Outer Wing Structure Diagram
Figure 1

IDENTIFICATION 1 - WING INTERSPAR UPPER SKINS

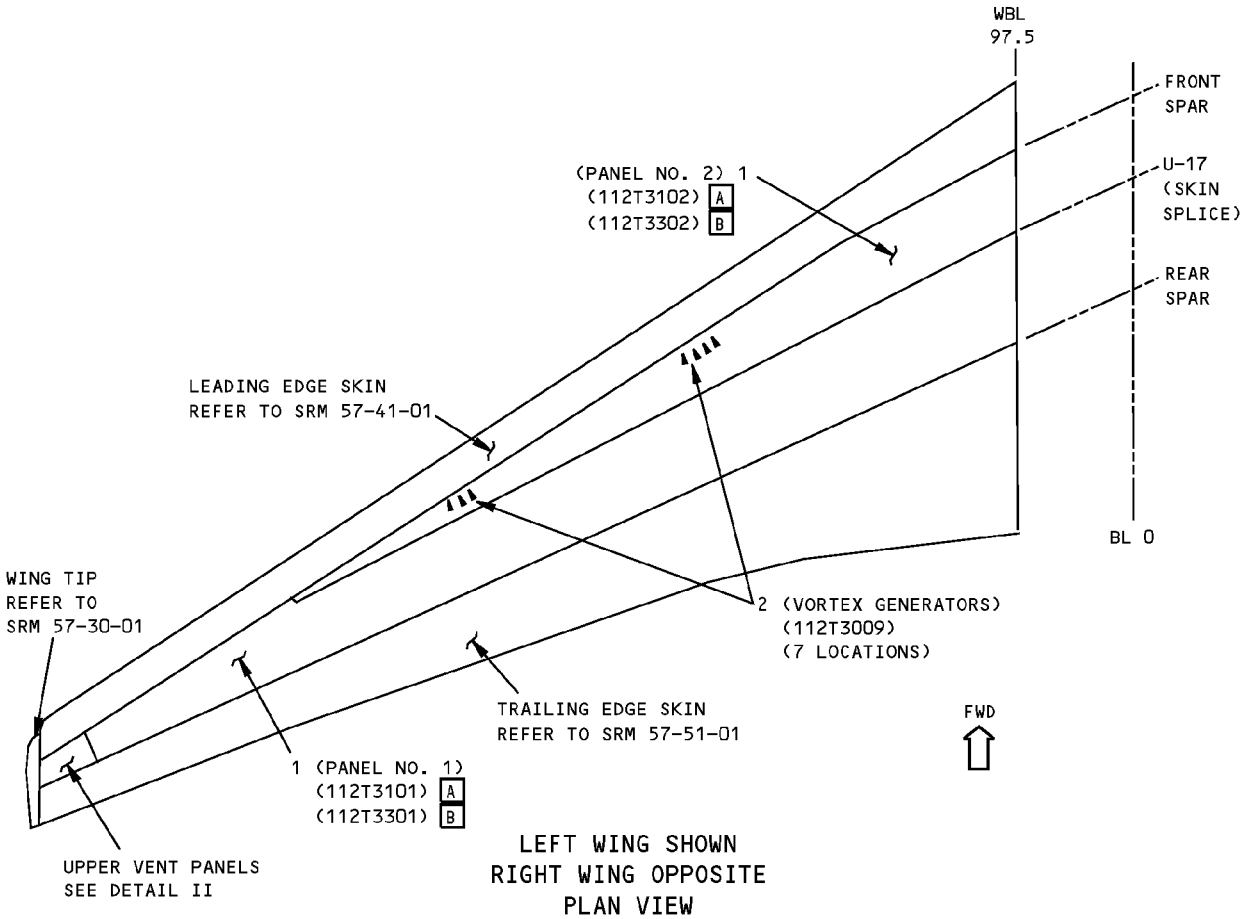
REF DWG
112T3000
112T3001

NOTES

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

[B] FOR CUM LINE NUMBERS: 158,165,176 AND ON.

[C] MACHINED SKIN VARIES IN THICKNESS. REFER TO BOEING DRAWINGS FOR LOCAL SKIN THICKNESS DETERMINATION.



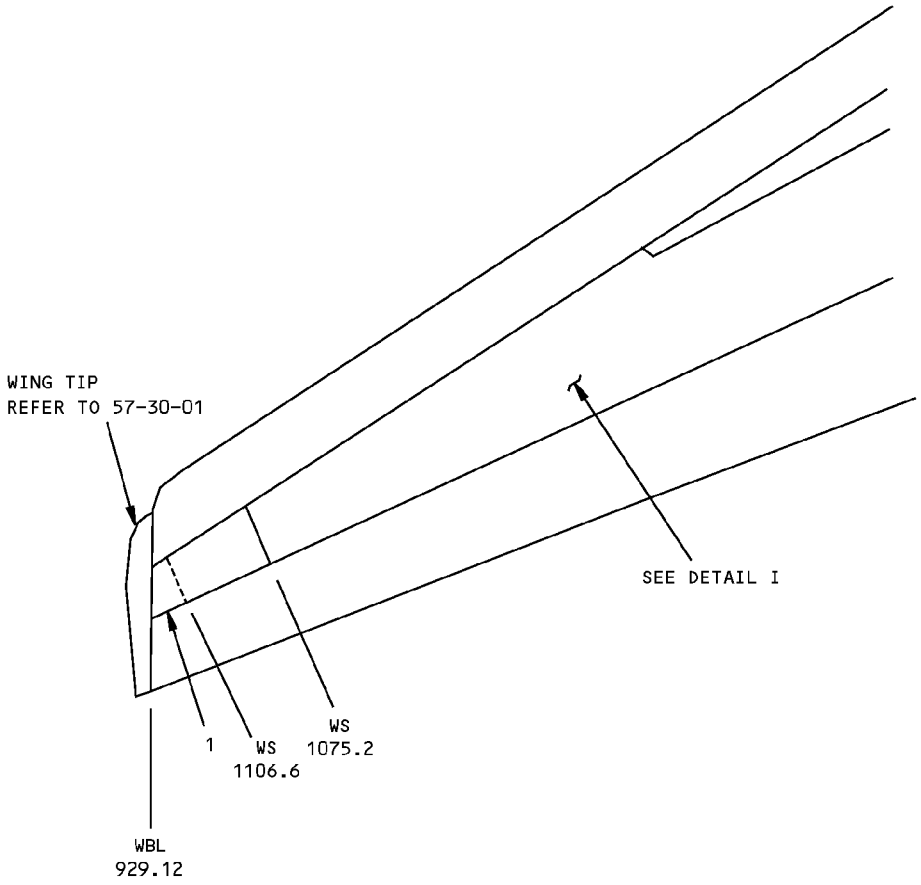
LEFT WING SHOWN
RIGHT WING OPPOSITE
PLAN VIEW
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL	[C]	7150-T651	
2	VORTEX GENERATORS		CASTING A360 OR A380 OPTIONAL: AND10133-701 2024-T3511	

LIST OF MATERIALS FOR DETAIL I

Wing Interspar Upper Skin Identification
Figure 1 (Sheet 1 of 2)

REF DWG
112T3600
112T3601



DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL INNER SKIN CORE OUTER SKIN	 0.016 0.100	 7075-T6 ALUMINUM HONEYCOMB PER BMS 4-4 TYPE 3-15N 7075-T6 (CHEM-MILLED TO 0.020 MIN)	

LIST OF MATERIALS FOR DETAIL II

Wing Interspar Upper Skin Identification
Figure 1 (Sheet 2 of 2)

IDENTIFICATION 2 - WING INTERSPAR LOWER SKINS

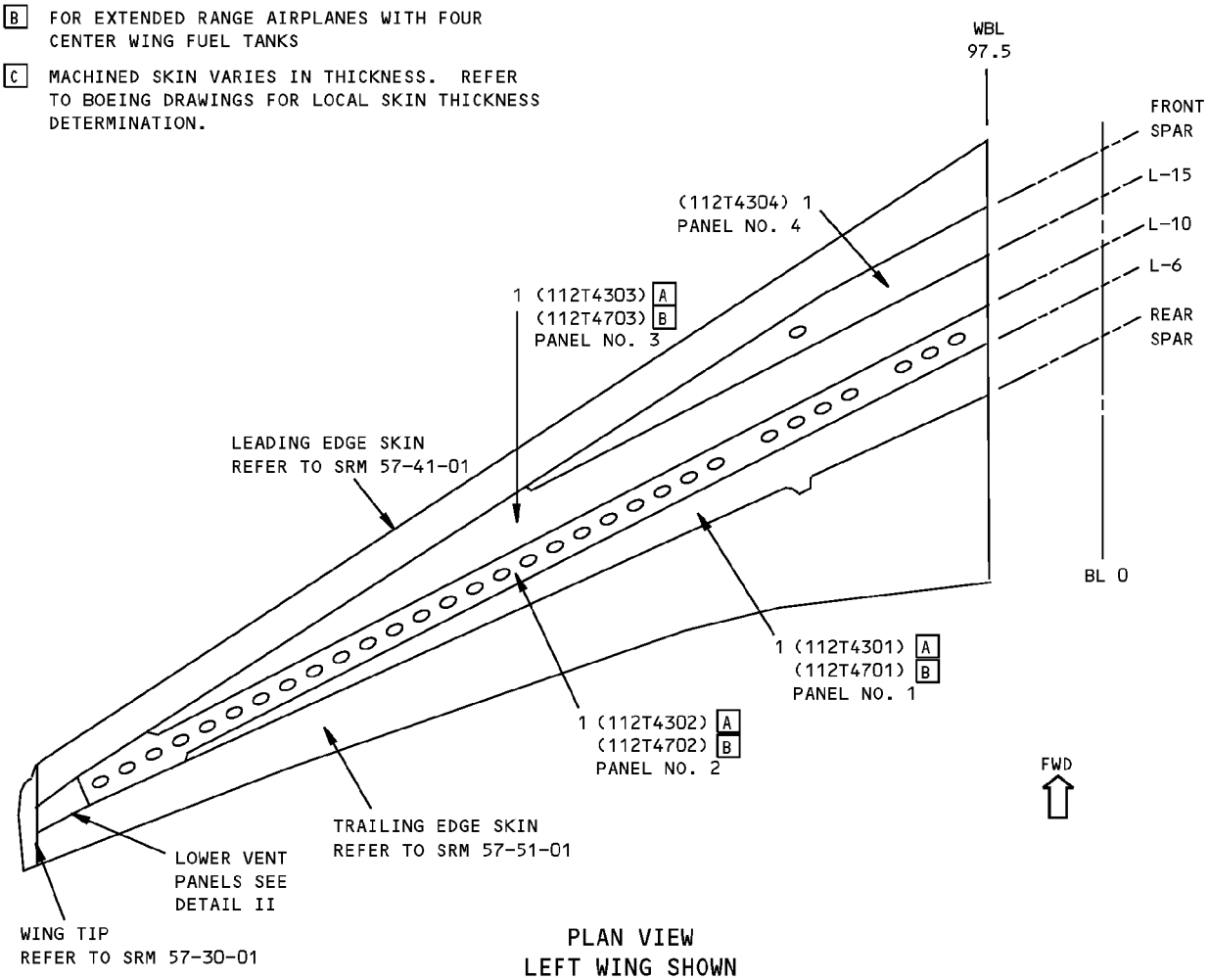
REFERENCE DRAWING
112T4000
112T4001

NOTES

[A] FOR AIRPLANES WITH TWO OR LESS CENTER WING FUEL TANKS

[B] FOR EXTENDED RANGE AIRPLANES WITH FOUR CENTER WING FUEL TANKS

[C] MACHINED SKIN VARIES IN THICKNESS. REFER TO BOEING DRAWINGS FOR LOCAL SKIN THICKNESS DETERMINATION.



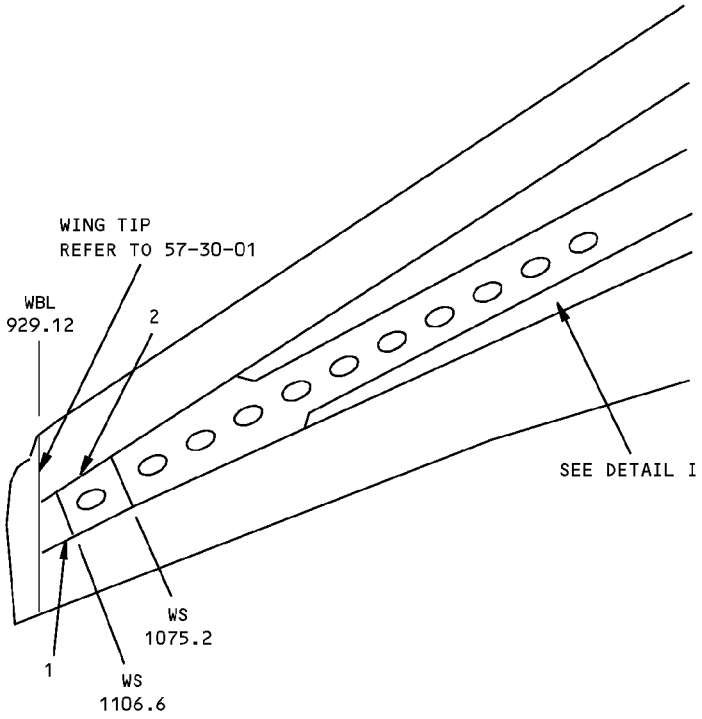
PLAN VIEW
LEFT WING SHOWN
RIGHT WING OPPOSITE
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL	[C]	2324-T391	

LIST OF MATERIALS FOR DETAIL I

Wing Interspar Lower Skin Identification
Figure 1 (Sheet 1 of 2)

REF DWG
112T4600
112T4601



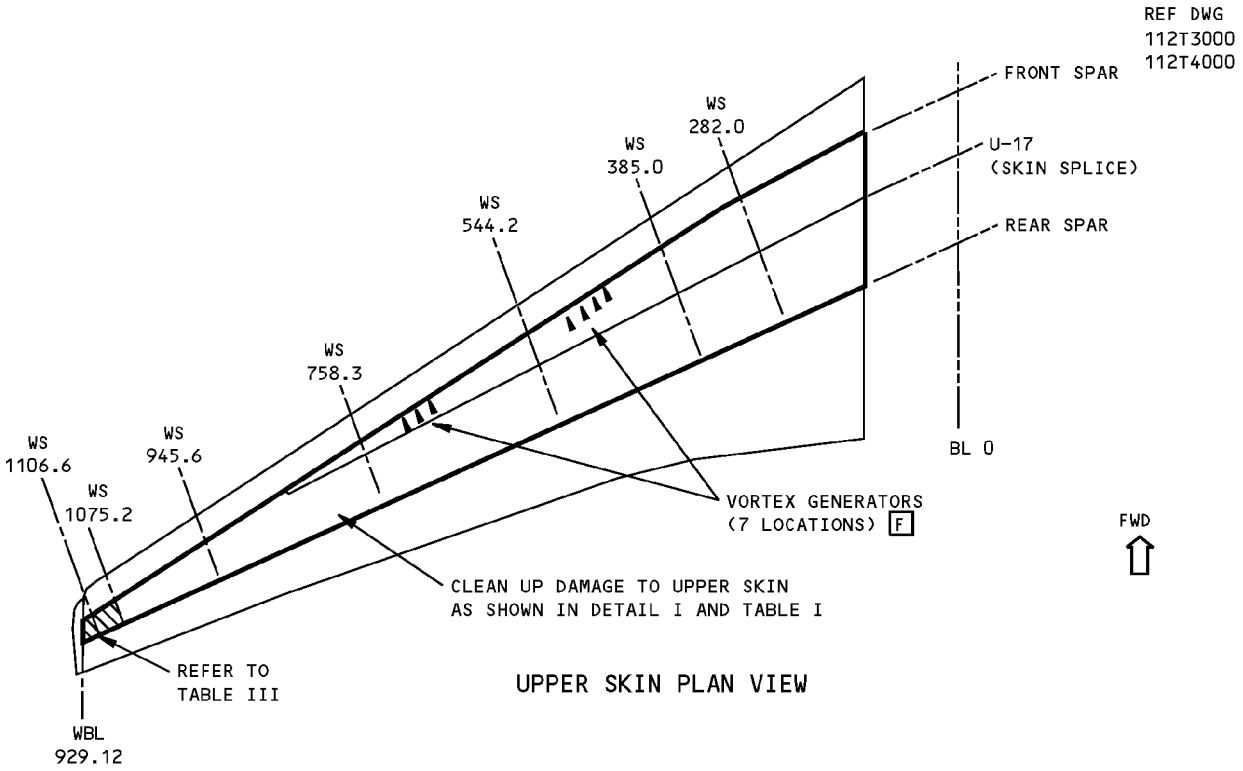
DETAIL II

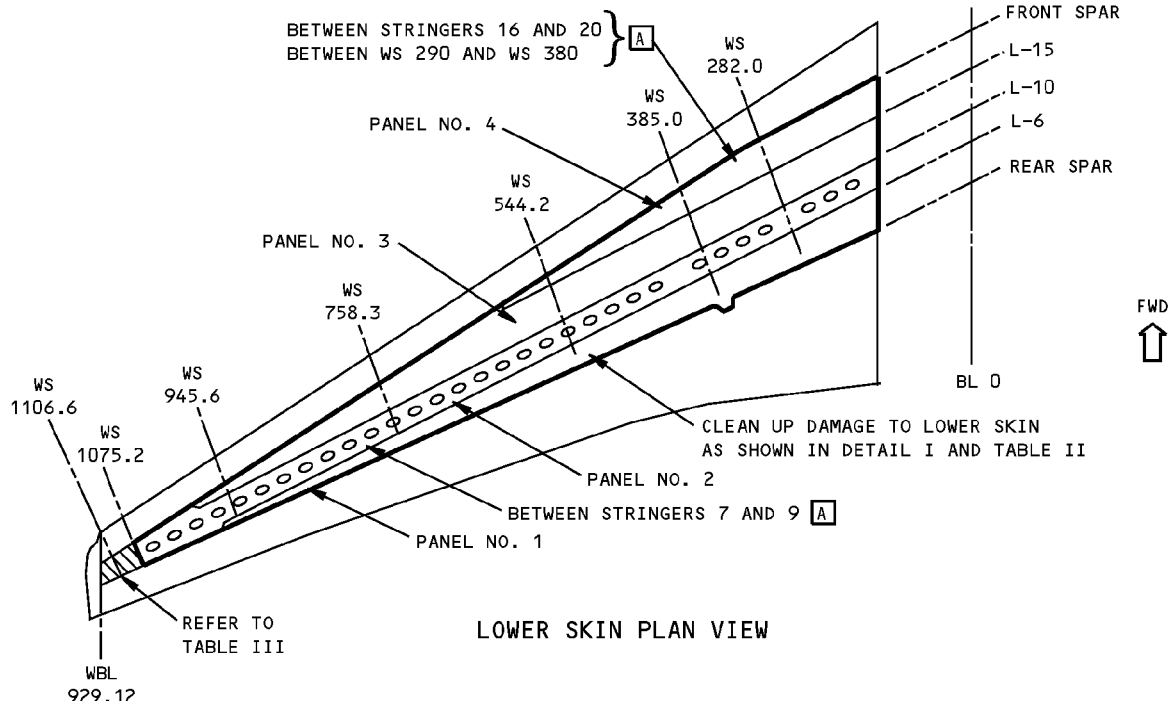
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL			
	INNER SKIN	0.016	7075-T6	
	CORE		ALUMINUM HONEYCOMB PER BMS 4-4 TYPE 3-15N	
	OUTER SKIN	0.100	2024-T3	
2	SKIN PANEL			
	INNER SKIN	0.016	7075-T6 (CHEM-MILLED TO 0.016 MIN)	
	CORE		ALUMINUM HONEYCOMB PER BMS 4-4 TYPE 3-15N	
	OUTER SKIN	0.375	2024-T351 (CHEM-MILLED TO 0.016 MIN)	

LIST OF MATERIALS FOR DETAIL II

Wing Interspar Lower Skin Identification
Figure 1 (Sheet 2 of 2)

ALLOWABLE DAMAGE 1 - OUTER WING SKINS





Outer Wing Skins Allowable Damage
Figure 101 (Sheet 1 of 6)

ZONE (WS)	ALLOWABLE DAMAGE [A]		
	MAX DEPTH OF DAMAGE AFTER CLEANUP (INCHES)	MAX LOSS OF CROSS-SECTIONAL AREA BETWEEN ADJACENT STIFFENERS OR BETWEEN SPAR AND STIFFENER (SQ IN.) [B] [C]	TOTAL MAX LOSS OF CROSS-SECTIONAL AREA BETWEEN REAR SPAR AND FRONT SPAR (SQ IN.) [B]
INBOARD OF 282.0	0.030	0.015	0.250
282.0 TO 385.0	0.045	0.045	0.635
385.0 TO 544.0	0.035	0.020	0.240
544.0 TO 758.0	0.030	0.020	0.145
758.0 TO 945.8	0.025	0.015	0.070
945.8 TO 1075.2	0.015	0.015	0.040

ALLOWABLE DAMAGE - UPPER SKIN [D]
TABLE I

ZONE (WS)	ALLOWABLE DAMAGE [A]		
	MAX DEPTH OF DAMAGE AFTER CLEANUP (INCHES)	MAX LOSS OF CROSS-SECTIONAL AREA BETWEEN ADJACENT STIFFENERS OR BETWEEN SPAR AND STIFFENER (SQ IN.) [B] [C]	TOTAL MAX LOSS OF CROSS-SECTIONAL AREA BETWEEN REAR SPAR AND FRONT SPAR (SQ IN.) [B]
INBOARD OF 282.0	0.035	0.065	0.715
282.0 TO 385.0	0.050	0.175	1.845
385.0 TO 544.2	0.060	0.105	0.830
544.2 TO 758.3	0.040	0.070	0.385
758.3 TO 945.6	0.025	0.040	0.140
945.6 TO 1075.2	0.015	0.040	0.105

ALLOWABLE DAMAGE - LOWER SKIN [D]
TABLE II

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
WING SKIN OUTBOARD OF WS 1075.2 (ALUMINUM HONEYCOMB PANEL)	[G]	FOR EDGE DAMAGE SEE DETAILS IV AND VI FOR OTHERS [H]	[J]	[I]	[L]

ALLOWABLE DAMAGE - UPPER AND LOWER SKINS - WS 1075.2 TO 1106.6
TABLE III

Outer Wing Skins Allowable Damage
Figure 101 (Sheet 2 of 6)

NOTES

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER AMM 28-11-00 BEFORE ENTERING THE FUEL TANKS.

- DAMAGE TO INSPAR WING SKINS BY NICKS, SCRATCHES, GOUGES, CRACKS, ABRASIONS AND CORROSION IS ALLOWABLE PROVIDED THAT ALL OF THE LIMITATIONS IN TABLE I OR TABLE II ARE NOT EXCEEDED. DAMAGE DEPTH AND LOSS OF CROSS-SECTIONAL AREA ARE TO BE DETERMINED AFTER CLEANUP (DETAIL I).
- THESE ALLOWABLE DAMAGE LIMITS ARE NOT APPLICABLE IF THERE IS UNREPAIRED DAMAGE TO ANY STIFFENER IN THE SAME AREA.
- REFER TO SAMPLE CALCULATION SHOWING THE USE OF THE TABULATED LIMITATIONS.
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

[A] ALLOWABLE DAMAGE LIMITATIONS ARE NOT APPLICABLE IN THE FOLLOWING AREAS (CONSULT THE BOEING COMMERCIAL AIRPLANE CO. FOR SPECIFIC INSTRUCTIONS):

1. WITHIN 1.50 INCHES (38 mm) OF ANY CHORDWISE ROW OF FASTENERS
2. FORWARD OF A LINE 1.50 INCHES (38 mm) AFT OF THE AFT ROW OF FASTENERS ATTACHING THE SKIN TO THE FRONT SPAR
3. AFT OF A LINE 1.50 INCHES (38 mm) FORWARD OF THE FORWARD ROW OF FASTENERS ATTACHING THE SKIN TO THE REAR SPAR
4. WITHIN 1.50 INCHES (38 mm) OF FASTENERS IN THE SPANWISE SKIN SPLICES.

[B] LOSS OF CROSS-SECTIONAL AREA ON A LINE PERPENDICULAR TO THE REAR SPAR. MULTIPLE AREAS OF DAMAGE ARE TO BE CONSIDERED ON THE SAME LINE IF LESS THAN 1.50 INCHES (38 mm) FROM EACH OTHER, MEASURED SPANWISE (DETAIL II).

[C] WHERE THE STIFFENER ADJACENT TO A SPAR FORMS A TAPERED PANEL WITH THE SPAR, THE ALLOWABLE DAMAGE LIMITATIONS APPLY TO THE AREA BETWEEN THE SPAR AND THE SECOND STIFFENER, UNLESS THE DISTANCE BETWEEN THE SPAR AND ADJACENT STIFFENER IS EQUIVALENT TO THE LOCAL STIFFENER SPACING.

[D] SHOT PEEN ALL REWORKED SURFACES AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS LEFT AFTER REWORK.

[E] CONSULT THE BOEING COMPANY FOR ALLOWABLE DAMAGE IN THESE AREAS.

[F] REFER TO THE 767 AIRPLANE FLIGHT MANUAL, APPENDIX CDL FOR OPERATIONAL LIMITS ON MISSING VORTEX GENERATORS.

[G] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL IV OR VI. ALL OTHER CRACKS MUST BE REPAIRED.

[H] NICK, GOUGE, OR SCRATCH DAMAGE REMOVED ACCORDING TO DETAIL V IS ALLOWED PROVIDED THE MAXIMUM DEPTH DOES NOT EXCEED 10% OF MATERIAL THICKNESS.

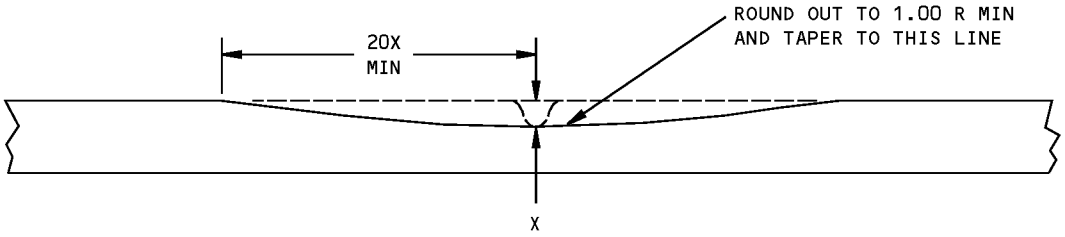
[I] HOLES AND PUNCTURES CLEANED OUT UP TO 0.50 INCHES (13 mm) DIAMETER AND NOT CLOSER THAN 2.5 INCHES (64 mm) TO ANY ADJACENT HOLE, DAMAGE OR PANEL EDGE. PROTECT DAMAGE AS GIVEN IN [K].

[J] MAX ALLOWED DENT DIA A = 2.0 INCH. A DENT MUST E ONE DIA MIN (EDGE TO EDGE) FROM ADJACENT DENTS. MAX ALLOWED DENT DEPTH Y = 0.12 INCH (3 mm) AND A/Y NOT LESS THAN 10. WHERE DENT DEPTH EXCEEDS 0.12 INCH (3 mm), FILL WITH BMS 5-28 POTTING COMPOUND AND INSPECT EACH AIRPLANE 'A' CHECK. REPAIR NO LATER THAN THE NEXT AIRPLANE 'C' CHECK. SMALL DENTS THAT ARE CLOSELY SPACED MAY BE CONSIDERED AS ONE DENT IF WITHIN THE ALLOWABLE LIMITS. DENTS ARE NOT ALLOWED WITHIN 1.0 INCH (25.4 mm) FROM THE PANEL EDGE. SEE DETAIL VII.

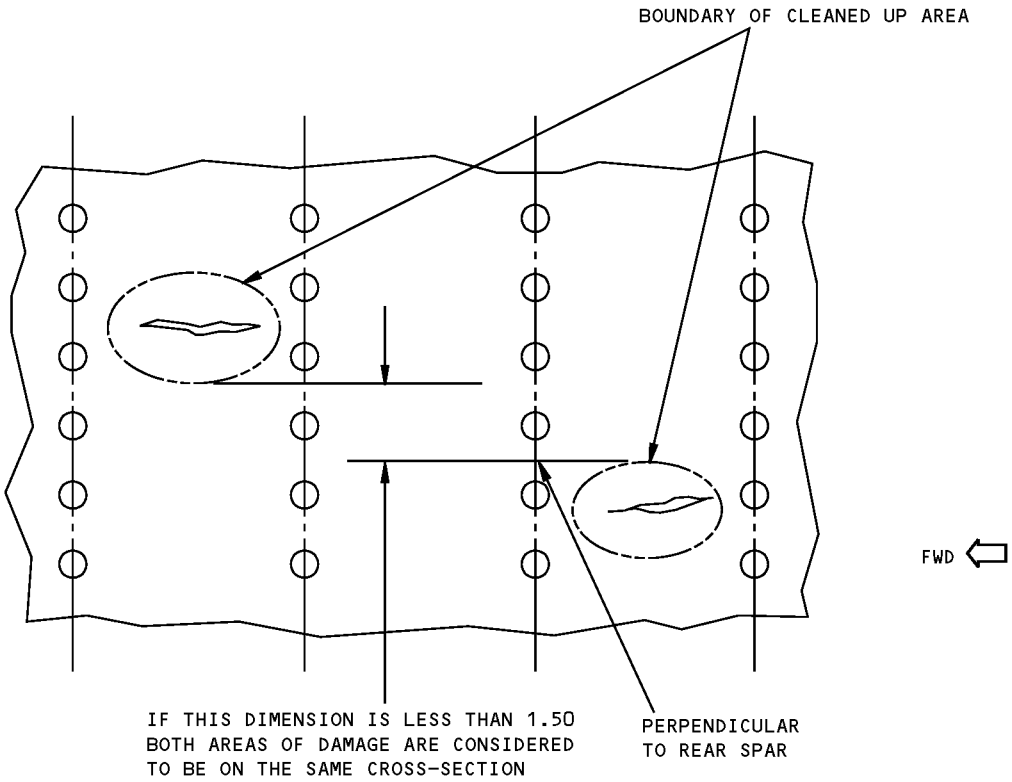
[K] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE 'A'CHECK. REPLACE THE ALUMINUM FOIL TAPE IF ANY PEELING OR DETERIORATION IS EVIDENT. REPAIR NO LATER THAN 1200 FLIGHTS AFTER DAMAGE.

[L] 1.50 INCHES (38 mm) MAX DIMENSION (D) IN HONEYCOMB AREA IS ALLOWED PER SQUARE FOOT OF AREA AND A MINIMUM OF 4 X DIA (EDGE TO EDGE) FROM OTHER DAMAGE, FASTENER HOLE OR PANEL EDGE. A MAXIMUM OF 0.10 INCH (2.5 mm) DELAMINATION FROM AN EDGE IS ALLOWED. PROTECT EDGE DAMAGE AS GIVEN IN [K]. REPAIR DELAMINATION IN THE HONEYCOMB AREA AS GIVEN IN SRM 51-70-10 NO LATER THAN THE NEXT 'C' CHECK.

Outer Wing Skins Allowable Damage
Figure 101 (Sheet 3 of 6)



SECTION THROUGH CLEANED UP DAMAGE
DETAIL I

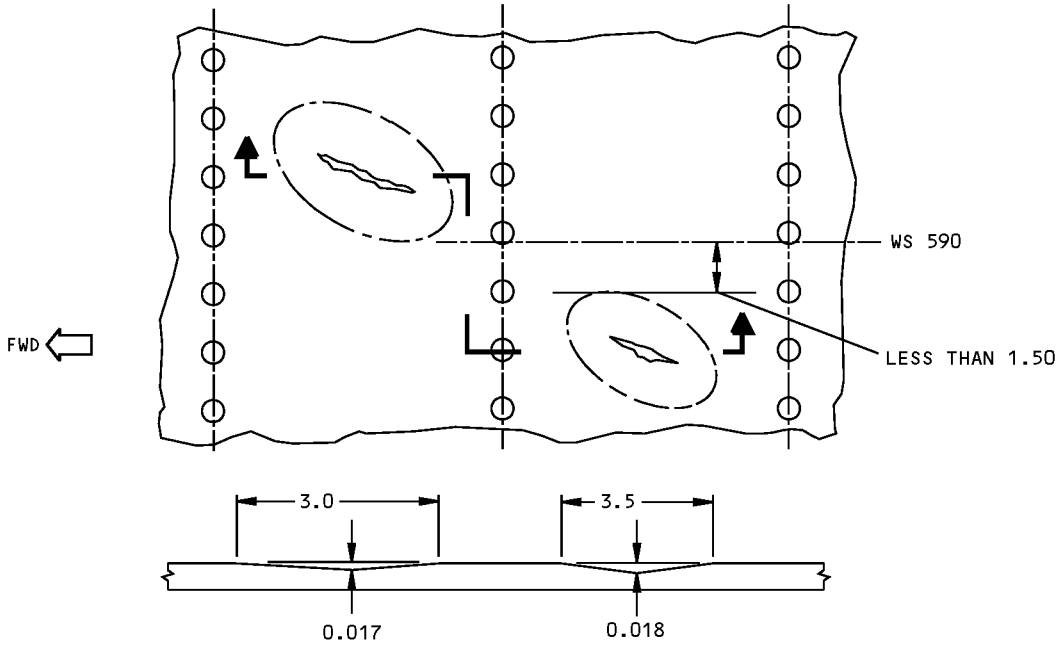


ADDITIVE DAMAGE
DETAIL II

Outer Wing Skins Allowable Damage
Figure 101 (Sheet 4 of 6)

SAMPLE CALCULATION

ASSUME THE DAMAGE IS TWO ABRASIONS LOCATED AS SHOWN ON THE LOWER SKIN:



SECTION THROUGH DAMAGE
AFTER CLEANUP PERPENDICULAR TO REAR SPAR

DETAIL III

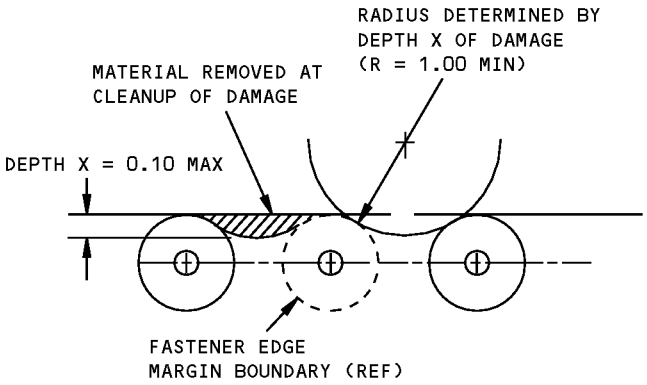
STEP 1 - CHECK DEPTH OF DAMAGE.
FROM TABLE II PERMITTED DEPTH OF DAMAGE BETWEEN WS 554.2 AND WS 758.3 IS 0.040.
BOTH AREAS OF DAMAGE ARE WITHIN THIS LIMITATION.

STEP 2 - CHECK LOSS IN AREA BETWEEN STIFFENERS.
LOSS IN AREA OF FORWARD DAMAGE PERPENDICULAR TO REAR SPAR = $\frac{3.0}{2}$ x 0.017 = 0.025 SQ. IN.
LOSS IN AREA OF AFT DAMAGE = $\frac{3.5}{2}$ x 0.018 = 0.032 SQ. IN.
THESE ARE BOTH WITHIN THE 0.070 LIMITATION OF TABLE II.

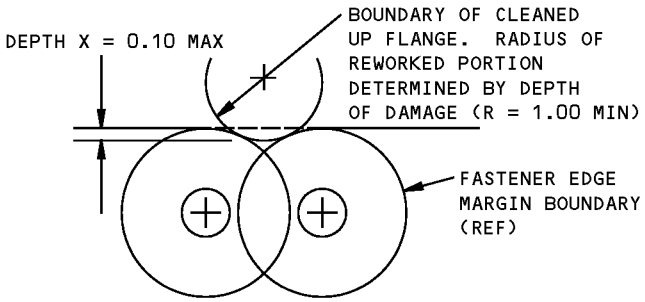
STEP 3 - CHECK THE TOTAL LOSS IN AREA BETWEEN FRONT AND REAR SPARS.
AS THE TWO AREAS OF DAMAGE ARE LESS THAN 1.50 APART (PERPENDICULAR TO REAR SPAR) THE DAMAGE IS CUMULATIVE. 0.025 + 0.032 = 0.057 SQ. IN.
THIS IS WITHIN THE 0.385 LIMITATION OF TABLE II.

CONCLUSION: AS ALL OF THE CRITERIA ARE WITHIN TABLE II LIMITATIONS THE DAMAGE SHOWN WOULD BE ACCEPTABLE.

Outer Wing Skins Allowable Damage
Figure 101 (Sheet 5 of 6)

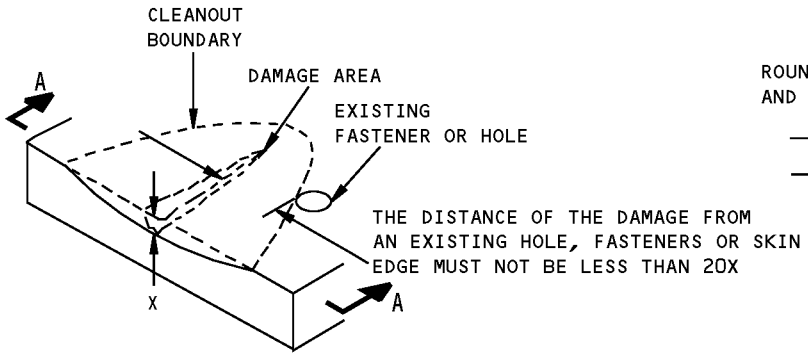


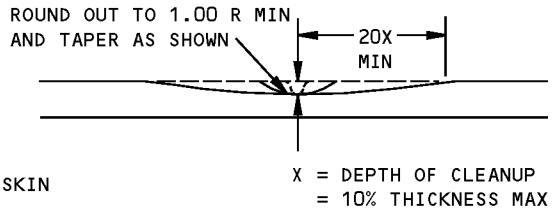
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

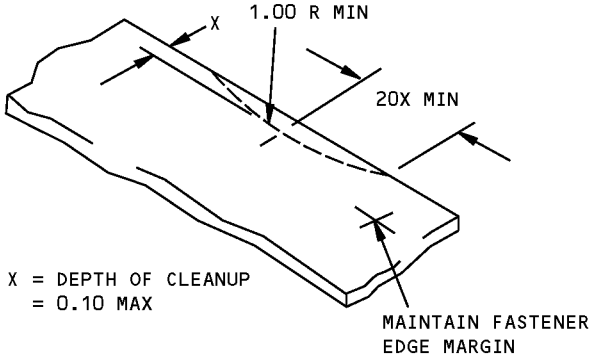
DETAIL IV



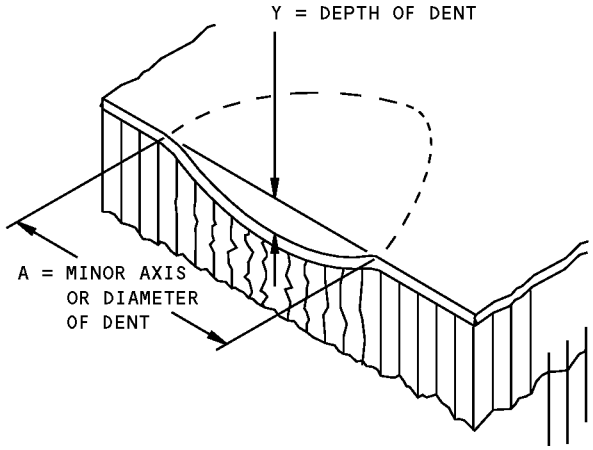


SECTION A–A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL V



REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL VI



ALLOWABLE DAMAGE FOR DENT
DETAIL VII

Outer Wing Skins Allowable Damage
Figure 101 (Sheet 6 of 6)

NOTE: The Wing Lower Skin and Fuel Access Door data that was located in Allowable Damage 2 has been updated and moved to 57-20-01, REPAIR 6.

REPAIR 1 - OUTER WING INTERSPAR UPPER SKIN FLUSH REPAIR BETWEEN STRINGERS

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of the skin to give a hole with the major axis parallel to the stringers.
2. Make the repair parts.
3. Assemble the repair parts and drill the fastener holes.
4. Remove the repair parts.
5. Break sharp edges of original and repair parts 0.015R to 0.03R.
6. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
7. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702.
8. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
9. Apply BMS 10-20 Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
10. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant.
11. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
12. Apply BMS 10-20, Type 2 protective coating to sealant.
13. Fill gap between parts with aerodynamic smoother (BMS 5-95 or BMS 5-79).
14. Restore original finish per 51-21 of the 767 Maintenance Manual.

Outer Wing Interspar Upper Skin Flush Repair Between Stringers
Figure 201 (Sheet 1 of 4)

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.00 INCHES TO MAJOR FITTINGS (ENGINE SUPPORT, LANDING GEAR BEAM, DRAG STRUT, FLAP SUPPORT AND TRUNNION)
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS.

  SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

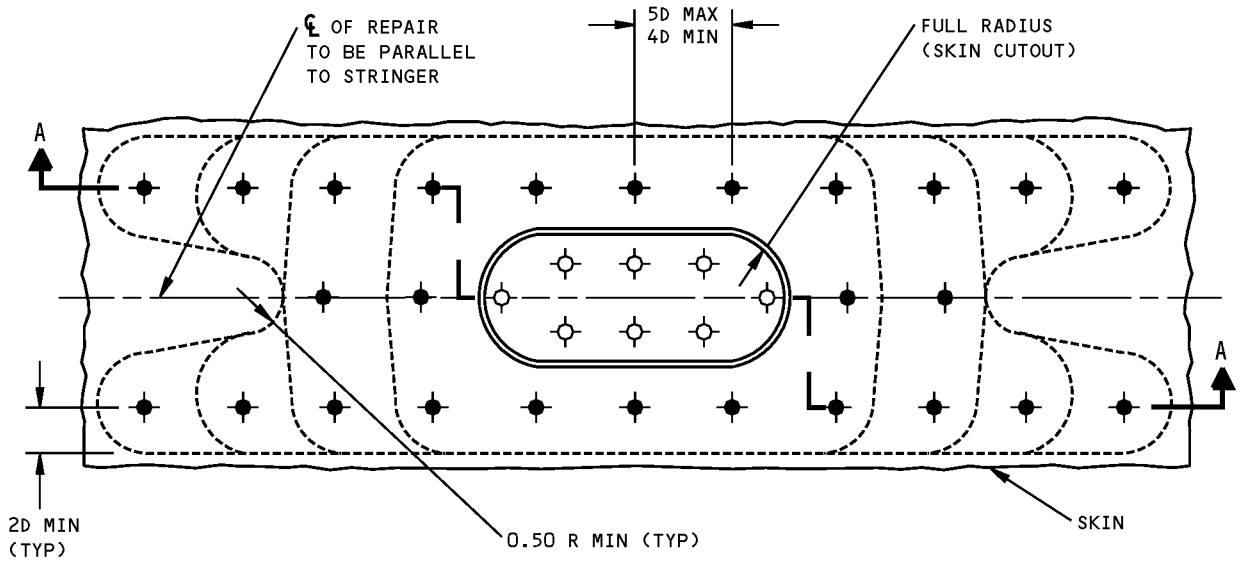
[B] SAME THICKNESS AS SKIN

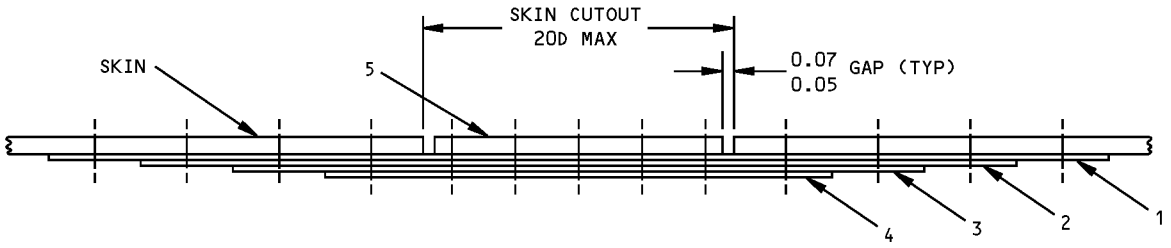
FASTENER SYMBOLS

REPAIR FASTENER LOCATION. INSTALL BACR15FH( )AD. SEE TABLE I FOR FASTENER SIZE

REPAIR FASTENER LOCATION. INSTALL BACB30NW( )K WITH BACN10WM( ). SEE TABLE I FOR FASTENER SIZE

Outer Wing Interspar Upper Skin Flush Repair Between Stringers
Figure 201 (Sheet 2 of 4)





SECTION A-A

Outer Wing Interspar Upper Skin Flush Repair Between Stringers
Figure 201 (Sheet 3 of 4)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	7075-T6 [A]
2	PLATE	1	7075-T6 [A]
3	PLATE	1	7075-T6 [A]
4	PLATE	1	7075-T6 [A]
5	FILLER	1	CLAD 7075-T6 [B]

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR PLATE FASTENER DIAMETER	FILLER FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4		
0.080 THRU 0.100	0.040	0.040	0.040	NOT REQUIRED	3/16	5/32
OVER 0.100 THRU 0.125	0.040	0.040	0.040	0.040	3/16	5/32
OVER 0.125 THRU 0.160	0.050	0.050	0.050	0.050	3/16	3/16
OVER 0.160 THRU 0.190	0.050	0.050	0.050	0.080	1/4	3/16
OVER 0.190 THRU 0.224	0.063	0.063	0.063	0.090	5/16	1/4
OVER 0.224 THRU 0.250	0.071	0.071	0.071	0.100	3/8	1/4
OVER 0.250 THRU 0.282	0.080	0.080	0.080	0.100	3/8	1/4

TABLE I

Outer Wing Interspar Upper Skin Flush Repair Between Stringers
Figure 201 (Sheet 4 of 4)

REPAIR 2 - OUTER WING INTERSPAR UPPER SKIN FLUSH REPAIR AT A STRINGER

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of skin to give a rectangular hole with radiused corners. Do not cut into stringers. If stringer is damaged, see 57-20-03.
2. Drill out existing fasteners in the skin to stringer attachment as required.
3. Make the repair parts.
4. Assemble the repair parts and drill the fastener holes.
5. Remove the repair parts.
6. Break sharp edges of original and repair parts 0.015R to 0.03R.
7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
8. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702. Do not peen edges closer than 0.50 to a stringer.
9. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
10. Apply BMS 10-20, Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
11. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant.
12. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
13. Apply BMS 10-20, Type 2 protective coating to sealant.
14. Fill gap between parts with aerodynamic smoother (BMS 5-95 or BMS 5-79).
15. Restore original finish per 51-21 of the 767 Maintenance Manual.

Outer Wing Interspar Upper Skin Flush Repair at a Stringer
Figure 201 (Sheet 1 of 5)

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.0 INCHES (254 mm) TO ACCESS HOLES, MAJOR FITTINGS (ENGINE SUPPORT, DRAG STRUT, FLAP SUPPORT, LANDING GEAR BEAM, AND TRUNNION) OR BETWEEN STRINGERS 7 AND 9.
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS.

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS
- d = ORIGINAL FASTENER DIAMETER
- D = REPAIR FASTENER DIAMETER

[A] FOR MATERIAL GAGE SEE TABLE I

[B] SAME THICKNESS AS SKIN

[C] SELECT 7075-T6 AND10133 OR AND10134 WITH SAME THICKNESS (-0.03 OR THICKER) AS SKIN AND LEG DIMENSIONS TO GIVE REQUIRED FASTENER EDGE MARGINS

[D] THICKNESS AS REQUIRED

[E] USE FILLER AS REQUIRED TO KEEP FASTENER HEAD FROM SEATING ON EXTRUSION CORNER RADIUS

FASTENER SYMBOLS

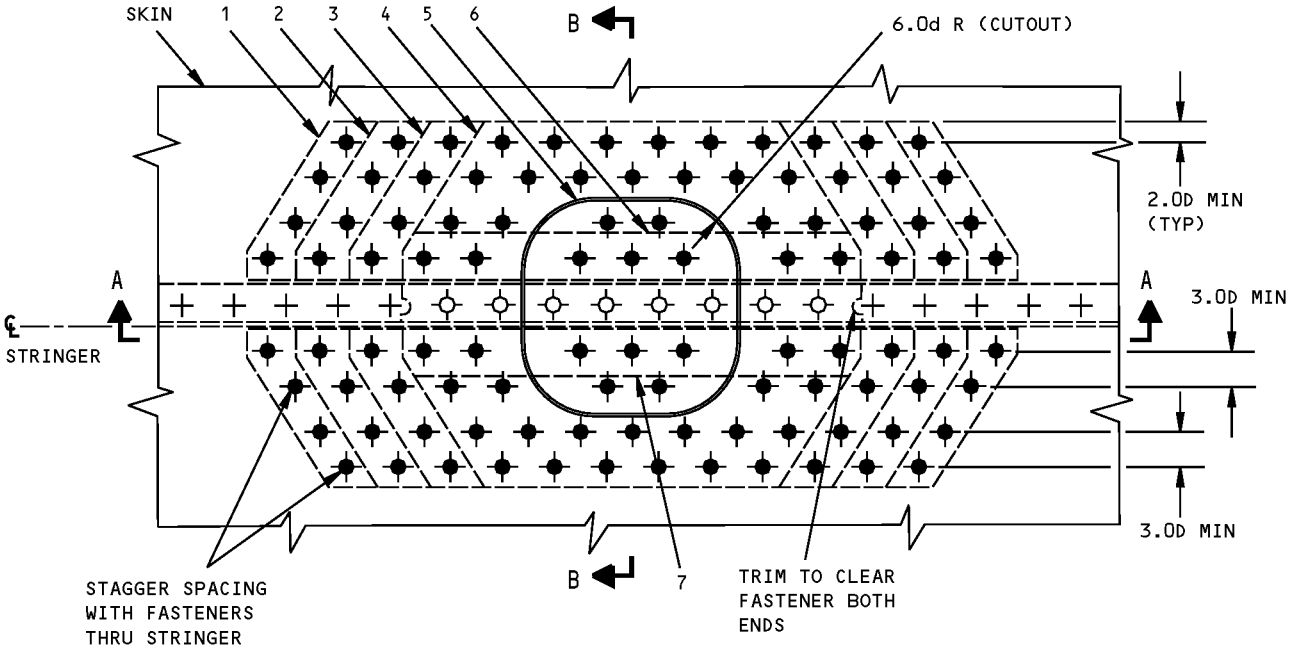
ORIGINAL FASTENER LOCATION. INSTALL BACR15FH( )DD RIVETS. USE SAME SIZE AS ORIGINAL. IF FASTENER HOLE IS DAMAGED USED 1/32 OVERSIZE

ORIGINAL FASTENER LOCATION. INSTALL 1/32 OVERSIZE BACR15FH( )DD RIVETS

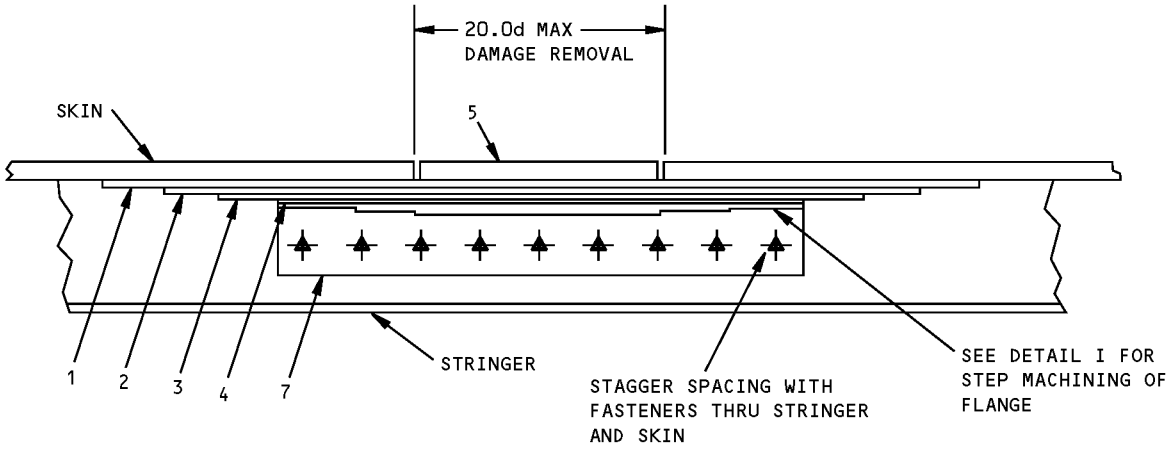
REPAIR FASTENER LOCATION. INSTALL BACB30NW( )K WITH BACN10WM( ). SEE TABLE I FOR FASTENER SIZE

REPAIR FASTENER LOCATION. INSTALL BACB30MY( )K WITH BACC30M( ). SEE TABLE I FOR FASTENER SIZE

Outer Wing Interspar Upper Skin Flush Repair at a Stringer
Figure 201 (Sheet 2 of 5)

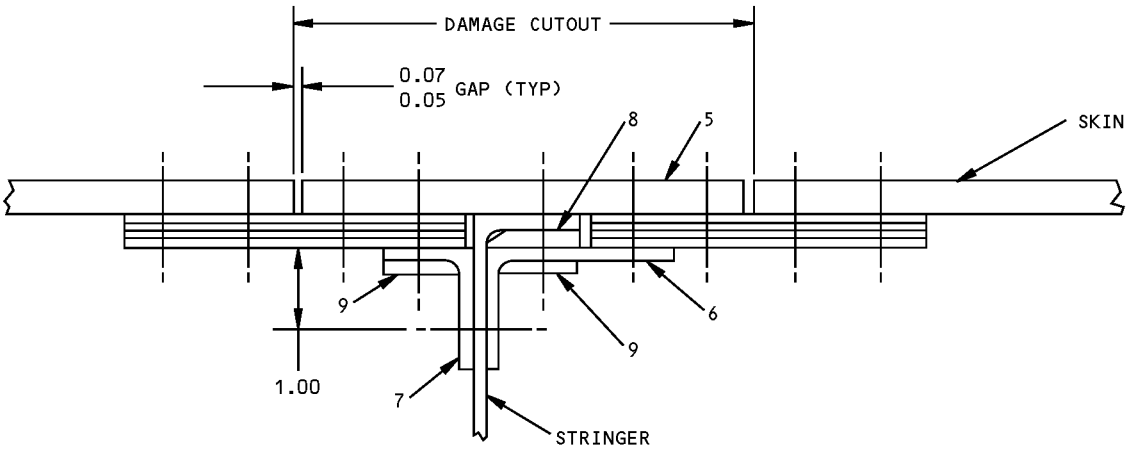


PLAN VIEW – UPPER SKIN

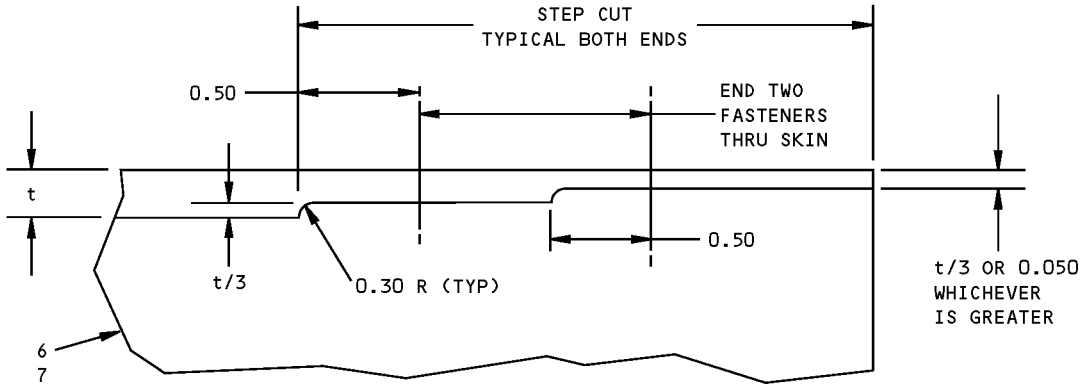


SECTION A–A

Outer Wing Interspar Upper Skin Flush Repair at a Stringer
Figure 201 (Sheet 3 of 5)



SECTION B–B
(ROTATED CLOCKWISE 90°)



DETAIL I

Outer Wing Interspar Upper Skin Flush Repair at a Stringer
Figure 201 (Sheet 4 of 5)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	2	7075-T6 [A]
2	PLATE	2	7075-T6 [A]
3	PLATE	2	7075-T6 [A]
4	PLATE	2	7075-T6 [A]
5	FILLER	1	7075-T6 [B]
6	ANGLE	1	[C]
7	ANGLE	1	[C]
8	FILLER	1	CLAD 7075-T6 [D]
9	RADIUS FILLER	[E]	7075-T6

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
0.080 THRU 0.100	0.040	0.040	0.040	NOT REQUIRED	3/16
OVER 0.100 THRU 0.125	0.040	0.040	0.040	0.040	3/16
OVER 0.125 THRU 0.160	0.050	0.050	0.050	0.050	3/16
OVER 0.160 THRU 0.190	0.050	0.050	0.050	0.080	3/16
OVER 0.190 THRU 0.224	0.063	0.063	0.063	0.090	1/4
OVER 0.224 THRU 0.250	0.071	0.071	0.071	0.100	1/4
OVER 0.250 THRU 0.282	0.080	0.080	0.080	0.100	5/16

TABLE I

Outer Wing Interspar Upper Skin Flush Repair at a Stringer
Figure 201 (Sheet 5 of 5)

REPAIR 3 - OUTER WING INTERSPAR LOWER SKIN FLUSH REPAIR BETWEEN STRINGERS

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of the skin to give a hole with the major axis parallel to the stringers.
2. Make the repair parts.
3. Assemble the repair parts and drill the fastener holes.
4. Remove the repair parts.
5. Break sharp edges of original and repair parts 0.015R to 0.03R.
6. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
7. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702.
8. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
9. Apply BMS 10-20 Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
10. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant. C
11. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
12. Apply BMS 10-20, Type 2 protective coating to sealant.
13. Fill gap between parts with aerodynamic smoother (BMS 5-95 or BMS 5-79).
14. Restore original finish per 51-21 of the 767 Maintenance Manual.

Outer Wing Interspar Lower Skin Flush Repair Between Stringers
Figure 201 (Sheet 1 of 4)

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.00 INCHES (254 mm) TO MAJOR FITTINGS (ENGINE SUPPORT, LANDING GEAR BEAM, DRAG STRUT, FLAP SUPPORT AND TRUNNION).
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS.

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

[B] SAME THICKNESS AS SKIN

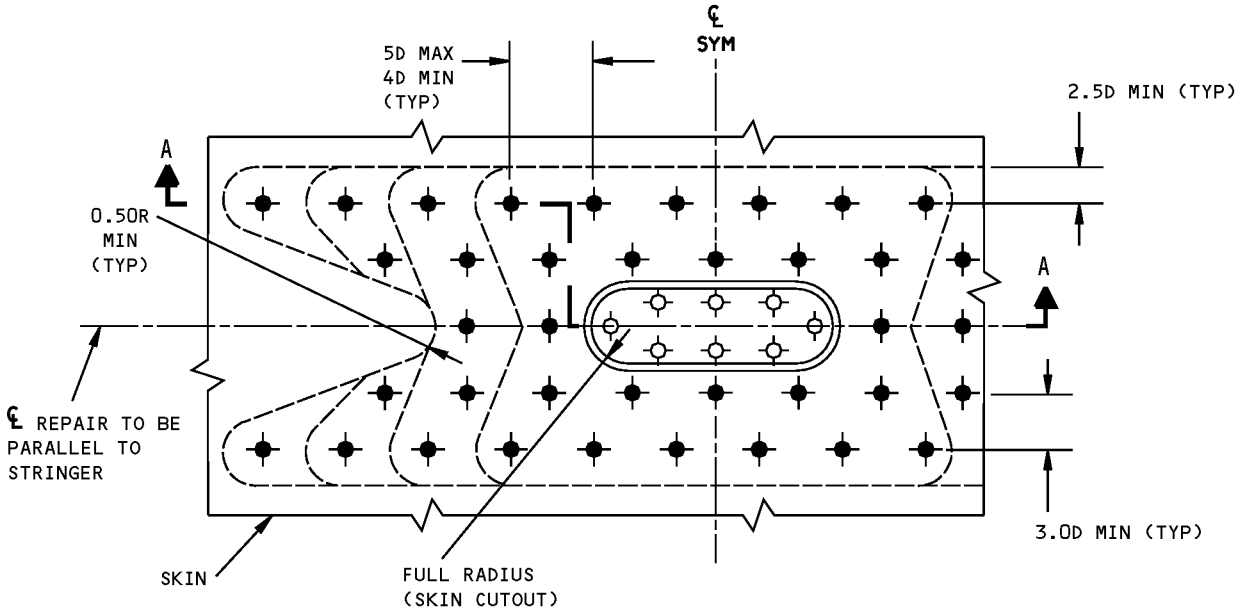
[C] FOR SKIN THICKNESS OVER 0.160 COLD WORK FASTENER HOLES PER 51-40-09, HIGH INTERFERENCE METHOD

FASTENER SYMBOLS

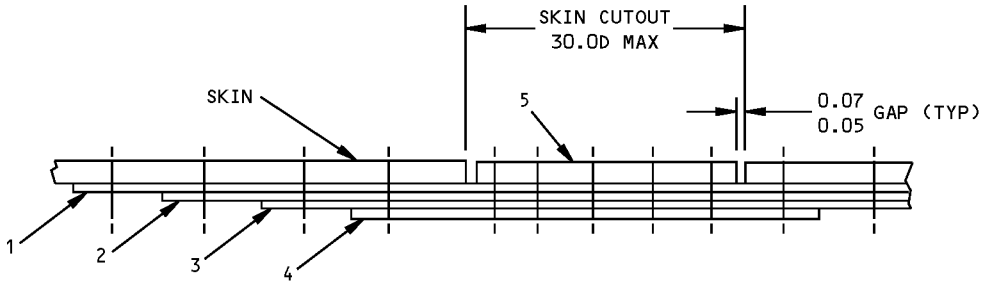
⊕ REPAIR FASTENER LOCATION. INSTALL BACR15FH( )AD. SEE TABLE I FOR FASTENER SIZE [C]

⊕ REPAIR FASTENER LOCATION. INSTALL BACB30NW( )K WITH BACN10WM( ) [C] . SEE TABLE I FOR FASTENER SIZE

Outer Wing Interspar Lower Skin Flush Repair Between Stringers
Figure 201 (Sheet 2 of 4)



BOTTOM VIEW



SECTION A–A

Outer Wing Interspar Lower Skin Flush Repair Between Stringers
Figure 201 (Sheet 3 of 4)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	1	2024-T3 [A]
2	PLATE	1	2024-T3 [A]
3	PLATE	1	2024-T3 [A]
4	PLATE	1	2024-T3 [A]
5	FILLER	1	CLAD 2024-T3 [B]

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
OVER 0.100 THRU 0.125	0.040	0.040	0.040	0.040	3/16
OVER 0.125 THRU 0.160	0.050	0.050	0.050	0.050	3/16
OVER 0.160 THRU 0.170	0.050	0.050	0.050	0.063	3/16
OVER 0.170 THRU 0.200	0.063	0.063	0.063	0.063	1/4
OVER 0.200 THRU 0.224	0.063	0.063	0.063	0.090	1/4
OVER 0.224 THRU 0.250	0.071	0.071	0.071	0.100	1/4
OVER 0.250 THRU 0.270	0.080	0.080	0.080	0.100	1/4
OVER 0.270 THRU 0.300	0.080	0.080	0.080	0.140	1/4
OVER 0.300 THRU 0.343	0.100	0.100	0.100	0.140	1/4

TABLE I

Outer Wing Interspar Lower Skin Flush Repair Between Stringers
Figure 201 (Sheet 4 of 4)

REPAIR 4 - OUTER WING INTERSPAR LOWER SKIN FLUSH REPAIR AT A STRINGER

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out the damaged portion of skin to give a rectangular hole with radiused corners. Do not cut into stringers. If stringer is damaged, see 57-20-03.
2. Drill out existing fasteners in the skin to stringer attachment as required.
3. Make the repair parts.
4. Assemble the repair parts and drill the fastener holes.
5. Remove the repair parts.
6. Break sharp edges of original and repair parts 0.015R to 0.03R.
7. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
8. Rotary peen all edges of skin cutout per 20-10-03 of Standard Overhaul Practices, D6-51702. Do not peen edges closer than 0.50 to a stringer.
9. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
10. Apply BMS 10-20, Type 2 protective coating to the repair parts and the cut edges of the original parts in accordance with 28-11-00 of the 767 Maintenance Manual.
11. Install the repair making faying surface seals with BMS 5-26 sealant. Install fasteners wet with BMS 5-95 sealant. [F]
12. Apply a fillet seal with BMS 5-26 sealant in accordance with 51-20-05.
13. Apply BMS 10-20, Type 2 protective coating to sealant.
14. Fill gap between parts with aerodynamic smoother (BMS 5-95 or BMS 5-79).
15. Restore original finish per 51-21 of the 767 Maintenance Manual.

Outer Wing Interspar Lower Skin Flush Repair at a Stringer
Figure 201 (Sheet 1 of 5)

NOTES

- THIS REPAIR NOT PERMITTED FOR DAMAGE CLOSER THAN 10.0 INCHES (254 mm) TO ACCESS HOLES, MAJOR FITTINGS (ENGINE SUPPORT, DRAG STRUT, FLAP SUPPORT, LANDING GEAR BEAM, AND TRUNNION) OR BETWEEN STRINGERS 7 AND 9.
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS.

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] FOR MATERIAL GAGE SEE TABLE I

[B] SAME THICKNESS AS SKIN

[C] SELECT 2024-T3 AND10133 OR AND10134 WITH SAME THICKNESS (-0.03 OR THICKER) AS SKIN AND LEG DIMENSIONS TO GIVE REQUIRED FASTENER EDGE MARGINS

[D] THICKNESS AS REQUIRED

[E] USE FILLER AS REQUIRED TO KEEP FASTENER HEAD FROM SEATING ON EXTRUSION CORNER RADIUS

[F] FOR SKIN THICKNESS OVER 0.160 COLD WORK FASTENER HOLES PER 51-40-09, HIGH INTERFERENCE METHOD

FASTENER SYMBOLS

ORIGINAL FASTENER LOCATION. INSTALL BACR15FH( )DD RIVETS. USE SAME SIZE AS ORIGINAL. IF FASTENER HOLE IS DAMAGED USED 1/32 OVERSIZE

ORIGINAL FASTENER LOCATION. INSTALL 1/32 OVERSIZE BACR15FH( )DD RIVETS. [F]

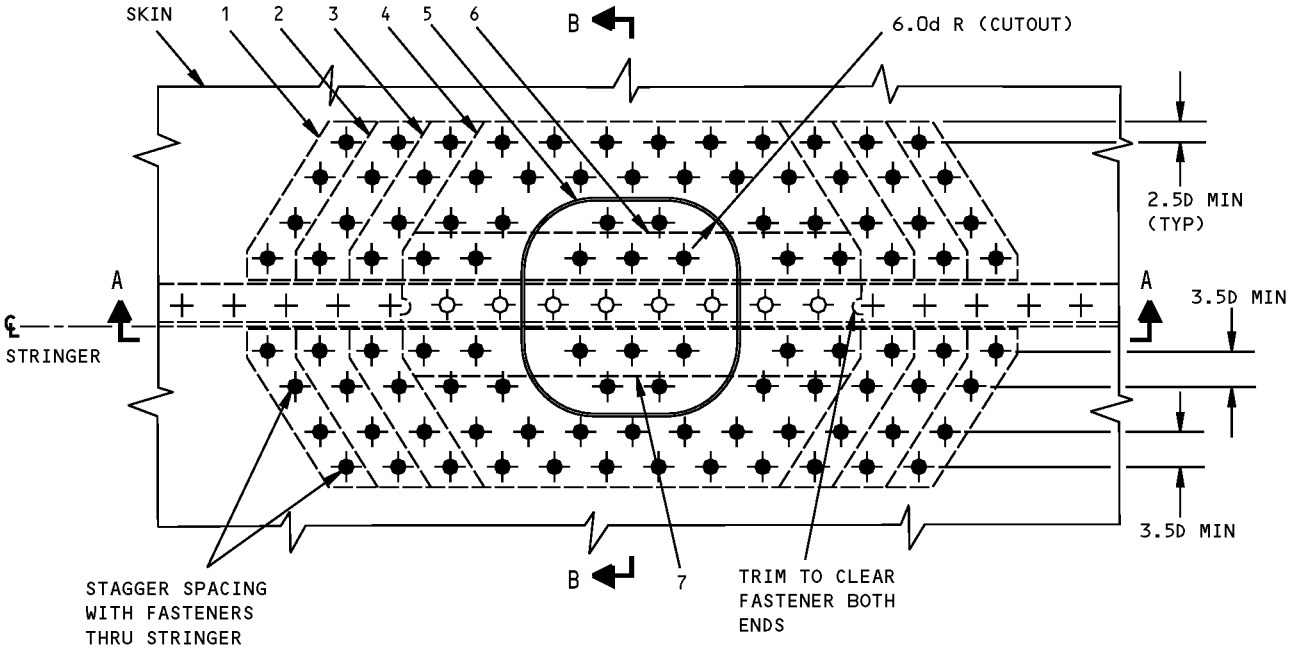
REPAIR FASTENER LOCATION. INSTALL BACB30NW( )K WITH BACN10WM( ). [F] SEE TABLE I FOR FASTENER SIZE

REPAIR FASTENER LOCATION. INSTALL BACB30MY( )K WITH BACC30M( ). [F] SEE TABLE I FOR FASTENER SIZE

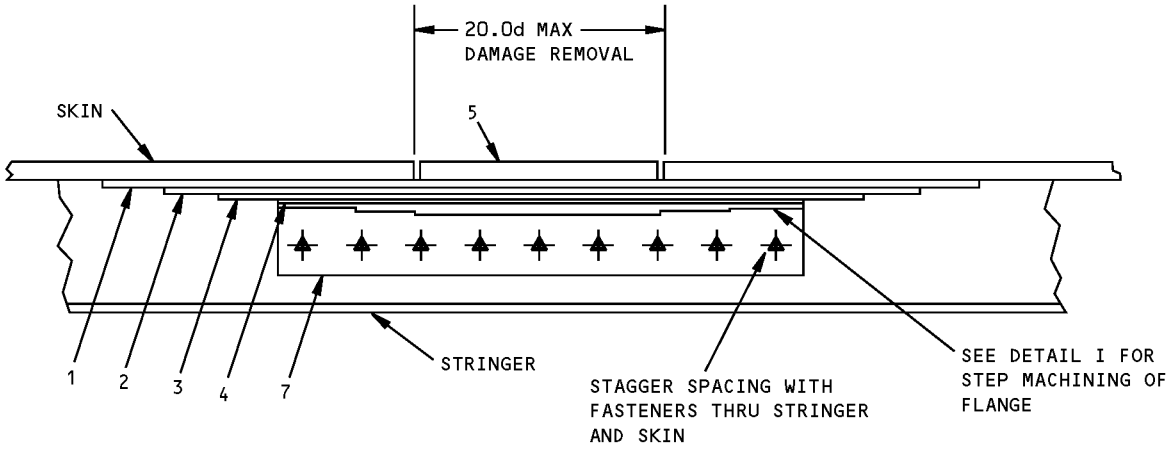
d = ORIGINAL FASTENER DIAMETER

D = REPAIR FASTENER DIAMETER

Outer Wing Interspar Lower Skin Flush Repair at a Stringer
Figure 201 (Sheet 2 of 5)

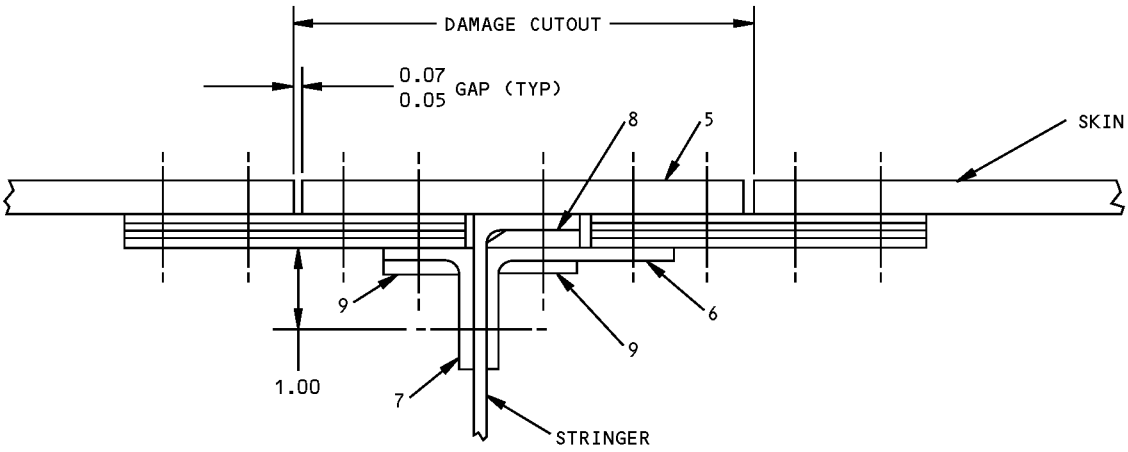


PLAN VIEW – LOWER SKIN

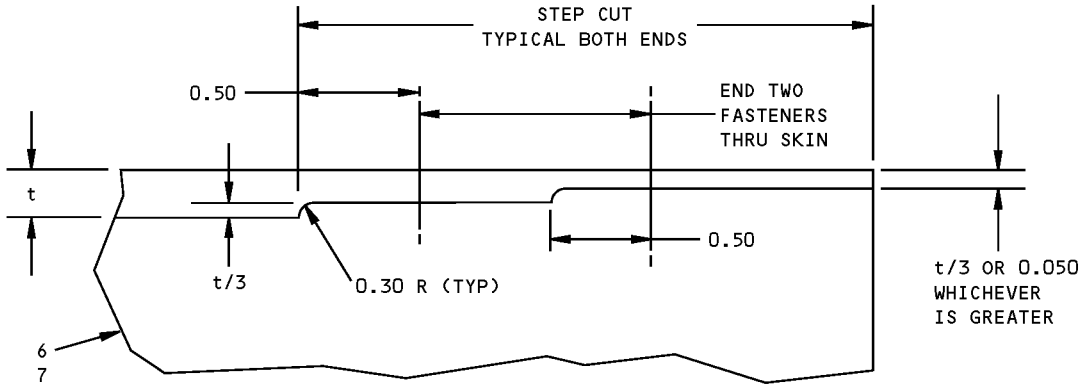


SECTION A–A

Outer Wing Interspar Lower Skin Flush Repair at a Stringer
Figure 201 (Sheet 3 of 5)



SECTION B–B
(ROTATED CLOCKWISE 90°)



DETAIL I

Outer Wing Interspar Lower Skin Flush Repair at a Stringer
Figure 201 (Sheet 4 of 5)

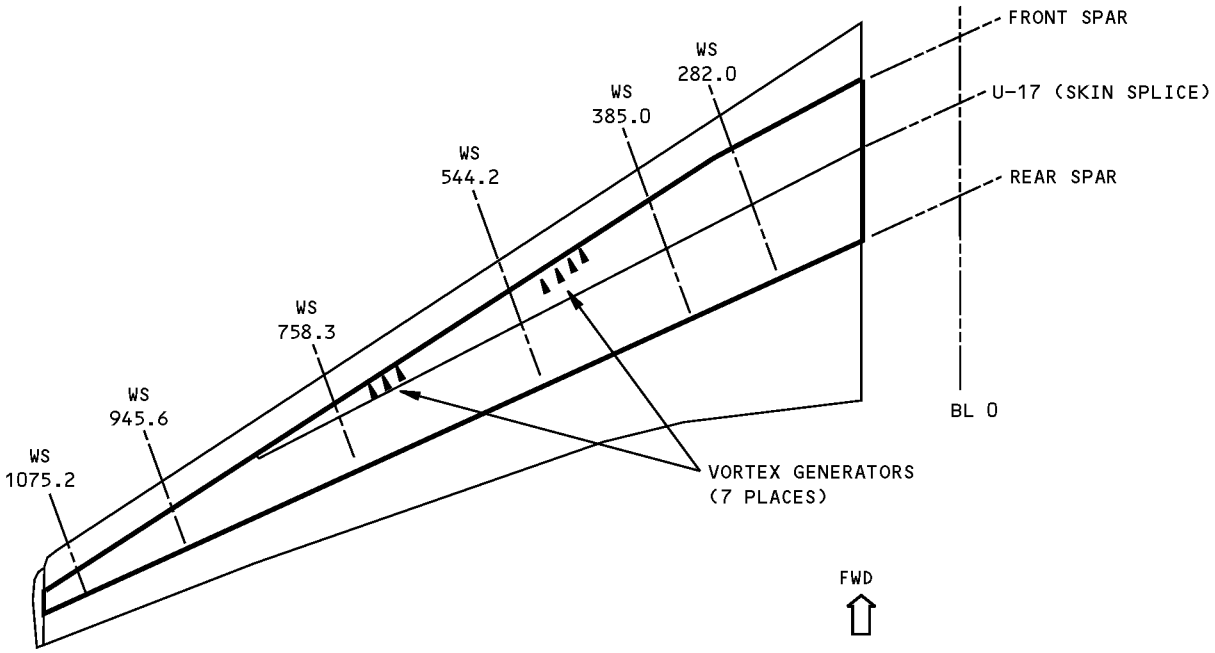
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	PLATE	2	2024-T3 [A]
2	PLATE	2	2024-T3 [A]
3	PLATE	2	2024-T3 [A]
4	PLATE	2	2024-T3 [A]
5	FILLER	1	2024-T3 [B]
6	ANGLE	1	[C]
7	ANGLE	1	[C]
8	FILLER	1	CLAD 2024-T3 [D]
9	RADIUS FILLER	[E]	2024-T3

SKIN THICKNESS	REPAIR PLATE THICKNESS				REPAIR FASTENER DIAMETER
	PLATE 1	PLATE 2	PLATE 3	PLATE 4	
OVER 0.100 THRU 0.125	0.040	0.040	0.040	0.040	3/16
OVER 0.125 THRU 0.160	0.050	0.050	0.050	0.050	3/16
OVER 0.160 THRU 0.170	0.050	0.050	0.050	0.063	3/16
OVER 0.170 THRU 0.200	0.063	0.063	0.063	0.063	3/16
OVER 0.200 THRU 0.224	0.063	0.063	0.063	0.090	1/4
OVER 0.224 THRU 0.250	0.071	0.071	0.071	0.100	1/4
OVER 0.250 THRU 0.270	0.080	0.080	0.080	0.100	5/16
OVER 0.270 THRU 0.300	0.080	0.080	0.080	0.140	5/16
OVER 0.300 THRU 0.343	0.100	0.100	0.100	0.140	5/16

TABLE I

Outer Wing Interspar Lower Skin Flush Repair at a Stringer
Figure 201 (Sheet 5 of 5)

REPAIR 5 - VORTEX GENERATOR REPAIR - UPPER WING SURFACE



NOTES

- FOR TEMPORARY REPAIR, REFER TO 57-25-01 OF THE 767 MAINTENANCE MANUAL
- FOR REPLACEMENT REPAIR:

  REPLACE BROKEN OR MISSING VORTEX GENERATOR WITH AN AND10133-701 2024-T3511 EXTRUSION WITH EDGE TRIM, CHAMFERS, AND FASTENER HOLES TO MATCH EXISTING VORTEX GENERATORS

  ALODIZE THE REPAIR PART PER 51-20-01

  INSTALL THE REPAIR MAKING FAYING SURFACE SEAL WITH BMS 5-26 SEALANT

  INSTALL TWO BACR15CE6AD RIVETS WET WITH BMS 5-95 SEALANT. REFER TO 51-40-02 FOR FASTENER INSTALLATION AND REMOVAL

  APPLY A FILLET SEAL WITH BMS 5-26 SEALANT PER 51-20-05

  RESTORE ORIGINAL FINISH PER 51-21 OF THE 767 MAINTENANCE MANUAL

Vortex Generator Repair - Upper Wing Surface
Figure 201

REPAIR 6 - WING SKIN LOWER SURFACE - CORROSION REPAIR AT FUEL TANK ACCESS DOOR CUTOUTS

REPAIR INSTRUCTIONS

WARNING: FAILURE TO PURGE AND VENTILATE THE FUEL TANKS WILL RESULT IN HAZARDOUS AND EXPLOSIVE FUEL VAPORS.

1. Purge and ventilate the fuel tanks in the repair area as given in AMM 28-11-00.
2. Remove the fuel tank access door.
3. Clean the edge of the skin cutout, and the door and wing skin lower surfaces which contact the clamp ring.
4. Remove damage at the edge of the skin cut-out as given in Details I and II [C]. See Detail IV for electrical bonding requirements [A].
5. Remove corrosion and fretting damage on the milled steps of the skin and fuel tank access door as given in Details I and III [C] [H]. Remove corrosion and fretting damage on the clamp ring as given in Details I and VI [H]. Do not fill the blendouts. See Detail IV for electrical bonding requirements [A].
6. Penetrant inspect the areas to ensure that all corroded material is removed. Refer to SOPM 20-20-02. As an alternative, do a 10X visual inspection and a high frequency eddy current (HFEC) inspection. Refer to 767 NDT manual part 6, 51-00-19 for the HFEC inspection.
7. Shot-peen the area of the damage removal using self-contained shot-peening equipment (45 mil diameter shot and an intensity of 0.010A2 to 0.012A2) or using standard shot-peening equipment (No. 230 shot and an intensity of 0.004A2 to 0.007A2). Refer to SOPM 20-10-03.
8. Sand reworked areas to a surface finish of 125 microinches AA. Do not sand below peen valleys.
9. Apply a protective alodine coating to the reworked surfaces. Refer to SRM 51-20-01.
10. Apply one coat of BMS 10-20, Type II primer to the reworked surfaces. Refer to AMM 28-11-00. [E]
11. Perform a visual inspection to make sure that 50% of the bond perimeter between the fuel tank access door, clamp ring, and the wing lower skin remains intact. See Detail IV [A].

NOTES

- SRM 57-00-00 FOR FUEL TANK ACCESS DOOR LOCATIONS
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC AND GRAPHITE MATERIALS
  - SOPM 20-10-03, D6-51702, FOR SHOT PEENING
  - SOPM 20-20-02, D6-51702, FOR PENETRANT INSPECTION METHODS
  - AMM 51-21 FOR INTERIOR AND EXTERIOR FINISHES
  - NDT PART 6, 51-00-19 FOR HIGH FREQUENCY EDDY CURRENT (HFEC) INSPECTION

[A] THE FUEL TANK ACCESS DOOR AND CLAMP RING MUST BE ELECTRICALLY BONDED TO THE WING SKIN TO PREVENT DIRECT LIGHTNING ATTACHMENT CURRENT FROM CAUSING ARCING IN THE FUEL TANK

[B] THE REPAIR OF A FUEL TANK ACCESS DOOR WITH DAMAGE AT THE DOOR-SKIN FAYING SURFACE SHOWN IN DETAIL I IS NOT ALLOWED. THE DAMAGED DOOR MUST BE REPLACED WITH A NEW DOOR

[C] REPAIRS TO COMPOSITE DOORS ARE NOT PERMITTED. A DAMAGED COMPOSITE DOOR MUST BE REPLACED WITH A NEW COMPOSITE DOOR

[D] A NEW KNITTED ALUMINUM GASKET (PART NO. 65C33095-XX OR 65C33161-XX) MUST BE INSTALLED WITH AERO SHELL NO. 14 GREASE IMPREGNATED INTO THE GASKET CONTINUOUSLY AND EVENLY THROUGHOUT THE KNIT. DO NOT RE-USE THE EXISTING GASKET

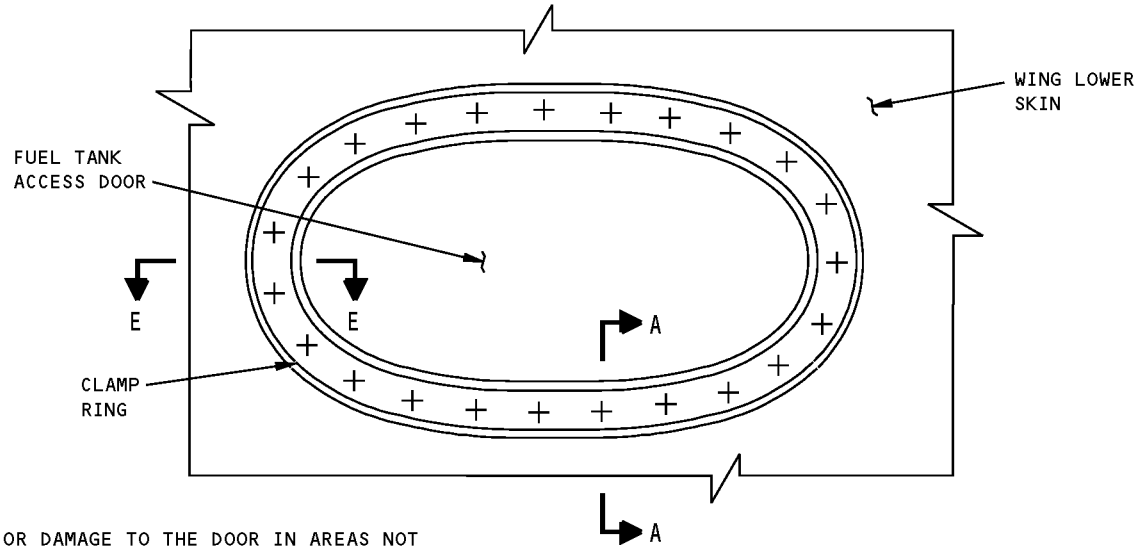
[E] DO NOT APPLY PRIMER TO THE LOWER SURFACE OF THE DOOR OR LOWER SKIN, OR THE UPPER SURFACE OF THE CLAMP RING IN THIS AREA (TYPICAL AROUND THE SKIN CUTOUT AND THE DOOR). IF PRIMER IS APPLIED IN THIS AREA, IT MUST BE REMOVED. THE UNPRIMED SURFACES ARE REQUIRED FOR ELECTRICAL BONDING

[F] AS AN ALTERNATE, APPLY TWO COATS OF BMS 10-79, TYPE III PRIMER TO THE SURFACE. REFER TO SOPM 20-44-04.

[G] REPAIRED DOORS MUST BE MARKED "REPAIRED PER 767 SRM 57-20-01, REPAIR 6".

[H] REMOVAL OF IMPRESSIONS CAUSED BY THE KNITTED ALUMINUM GASKET IS NOT NECESSARY IF THE IMPRESSIONS ARE NOT MORE THAN 0.005 INCH DEEP. THIS IS APPLICABLE TO THE FUEL TANK ACCESS DOORS, CLAMP RINGS AND THE MILLED STEP OF THE SKIN

Wing Skin Lower Surface - Corrosion Repair at Fuel Tank Access Door Cutouts
Figure 201 (Sheet 1 of 6)

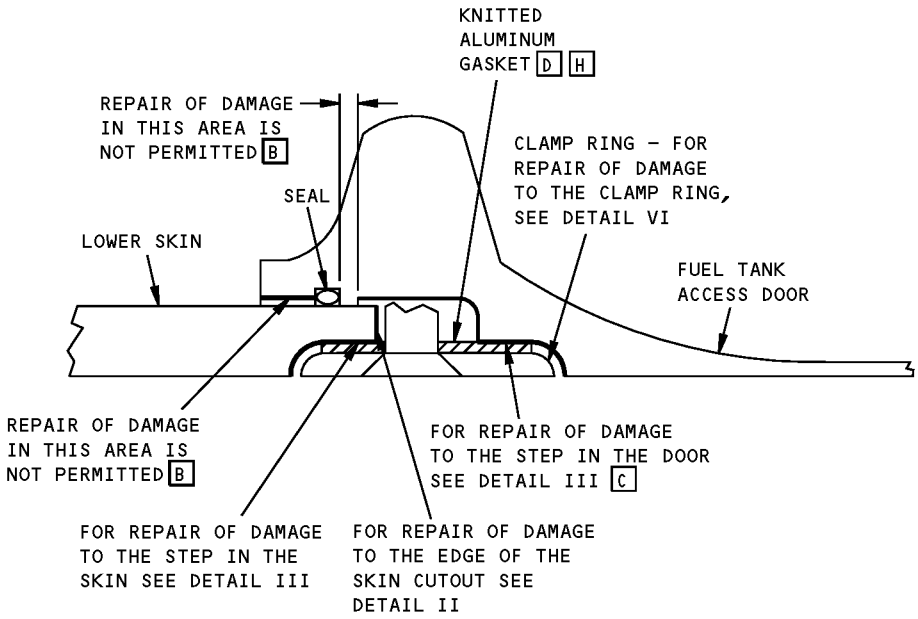


NOTE: FOR DAMAGE TO THE DOOR IN AREAS NOT SHOWN CONTACT THE BOEING COMPANY FOR ALLOWABLE DAMAGE LIMITS. C

SEE DETAIL IV FOR ELECTRICAL BONDING REQUIREMENTS.

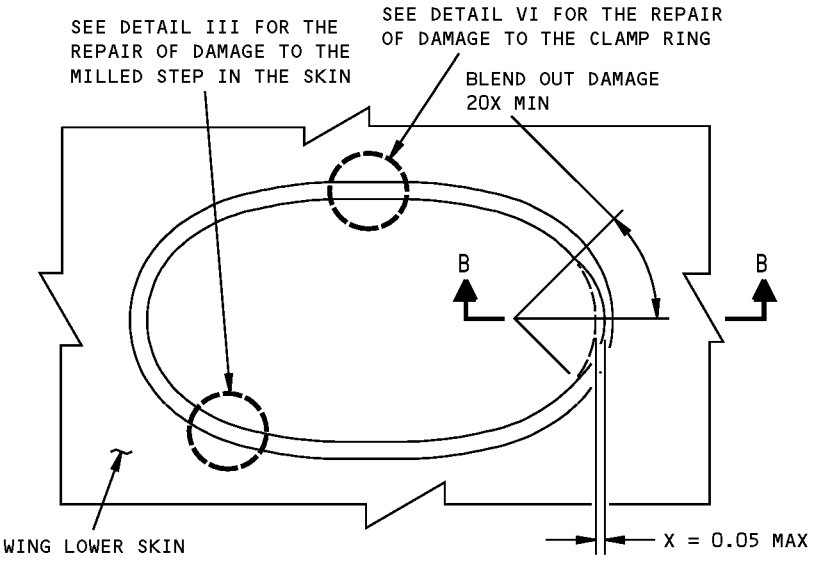
BOTTOM VIEW

FUEL TANK ACCESS DOOR
DETAIL I

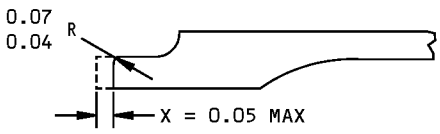


SECTION A–A

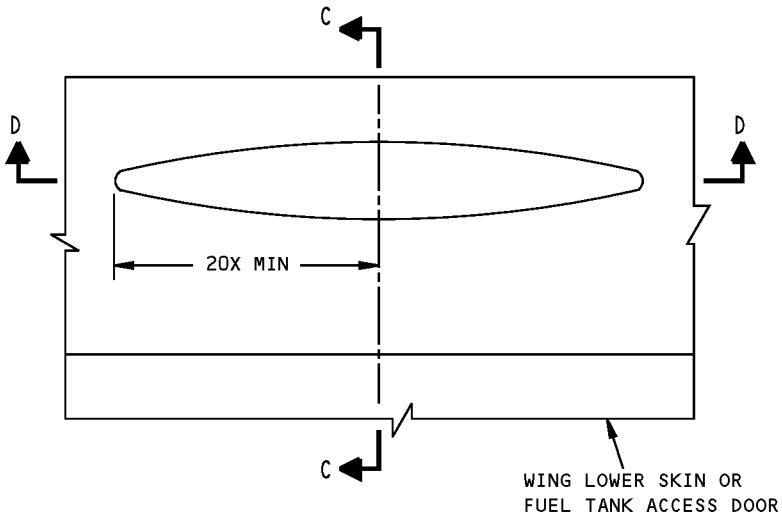
Wing Skin Lower Surface - Corrosion Repair at Fuel Tank Access Door Cutouts
Figure 201 (Sheet 2 of 6)



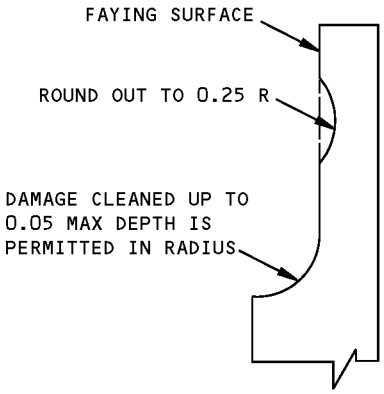
BOTTOM VIEW – DOOR NOT SHOWN
DAMAGE REMOVAL AT THE EDGE OF THE SKIN CUTOUT
DETAIL II



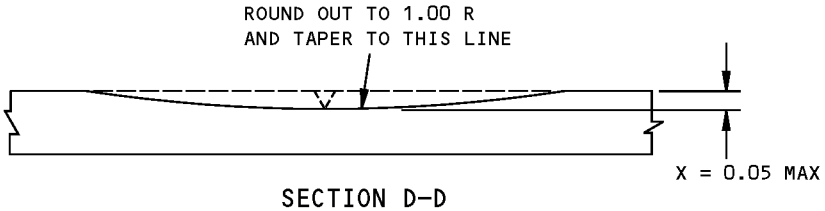
TYPICAL BLENDOUT AROUND
DOOR CUTOUT PERIPHERY
SECTION B–B



DAMAGE REMOVAL ON THE MILLED STEP IN
THE SKIN OR FUEL TANK ACCESS DOOR
DETAIL III C H

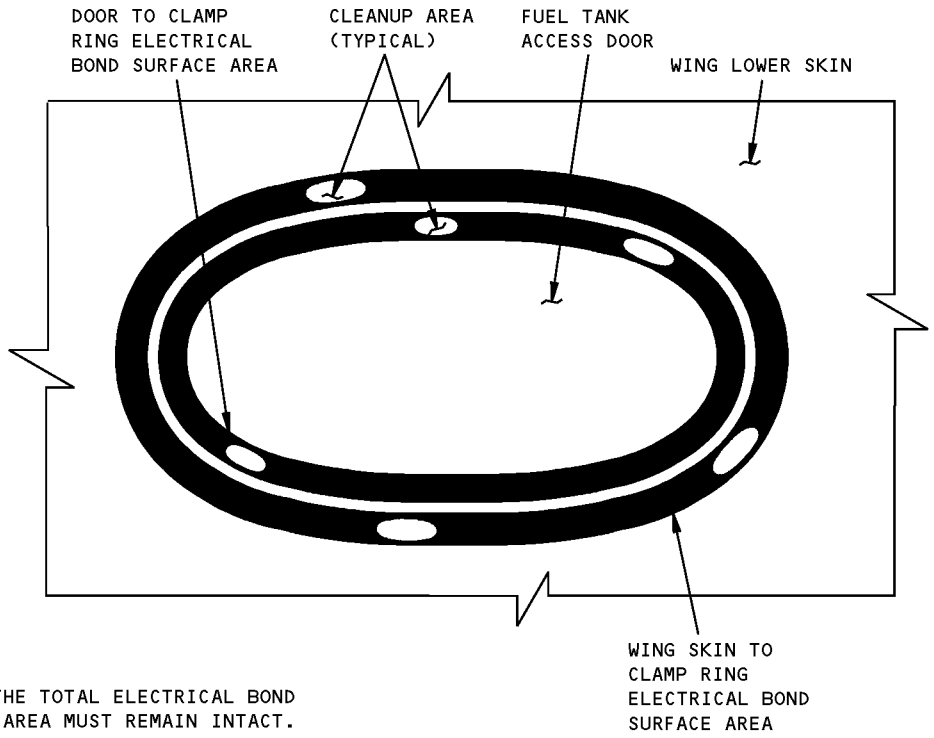


SECTION C–C



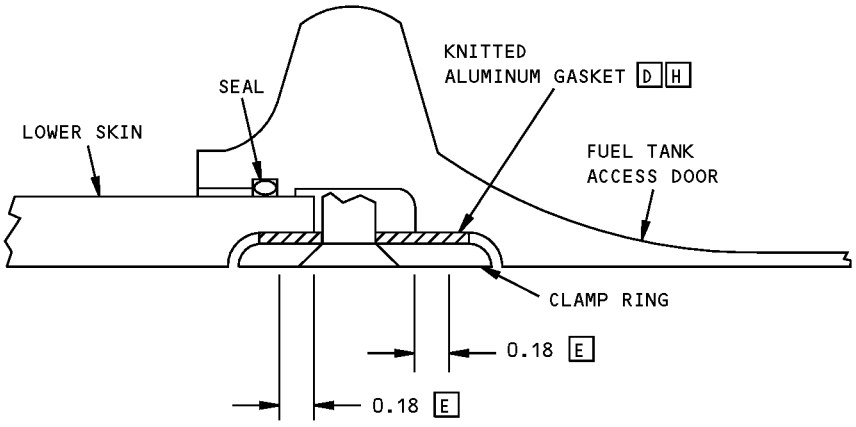
SECTION D–D

Wing Skin Lower Surface - Corrosion Repair at Fuel Tank Access Door Cutouts
Figure 201 (Sheet 3 of 6)



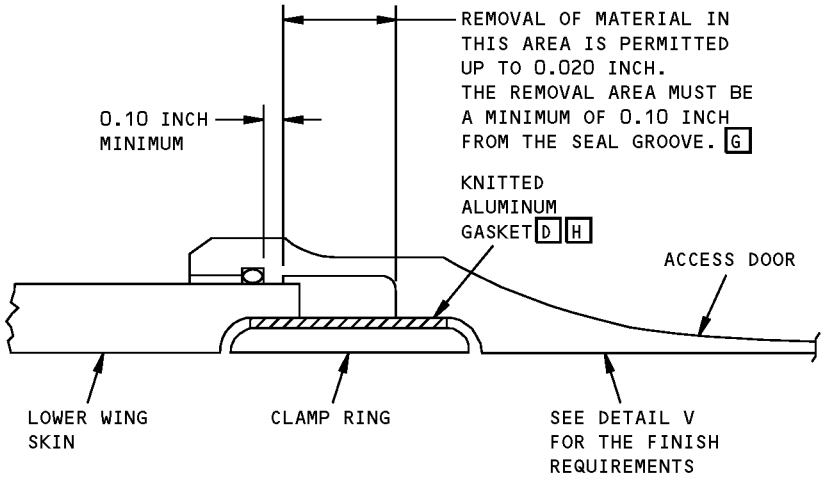
NOTE: 50% OF THE TOTAL ELECTRICAL BOND SURFACE AREA MUST REMAIN INTACT. FOR ELECTRICAL BOND SURFACE AREA LOSS GREATER THAN 50%, CONTACT THE BOEING COMPANY.

BOTTOM VIEW - CLAMP RING NOT SHOWN

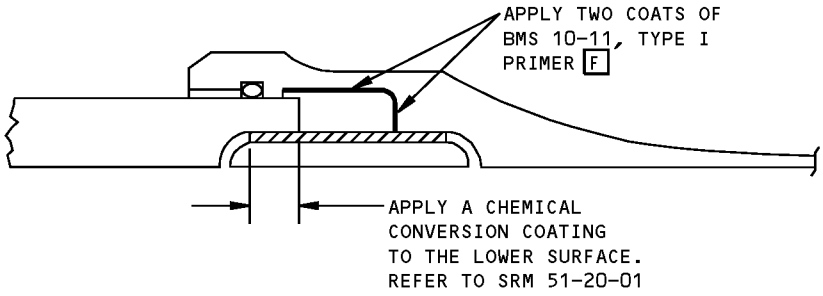


REQUIREMENTS FOR ELECTRICAL BONDING
DETAIL IV A

Wing Skin Lower Surface - Corrosion Repair at Fuel Tank Access Door Cutouts
Figure 201 (Sheet 4 of 6)

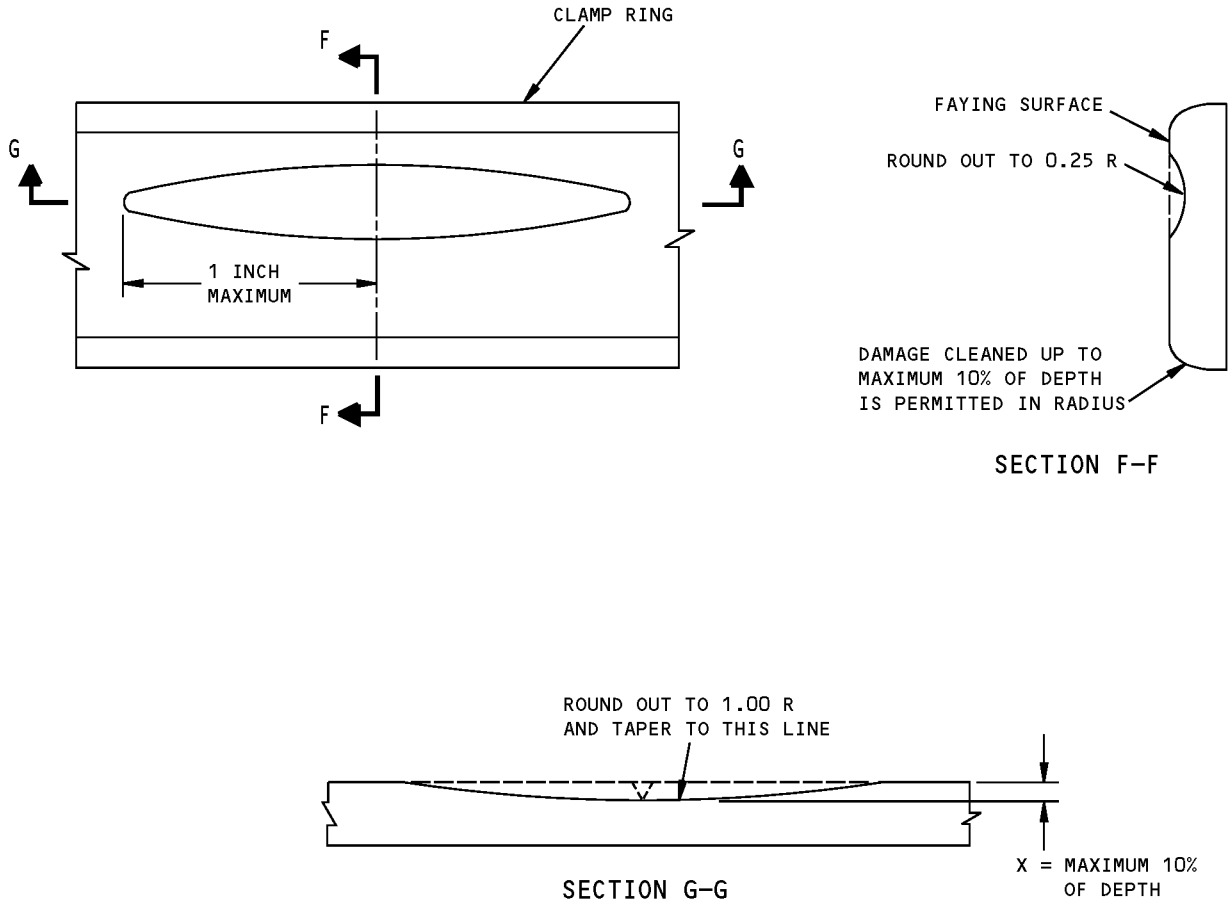


SECTION E-E



FINISH REQUIREMENTS FOR ACCESS DOOR AND LOWER SKIN
DETAIL V

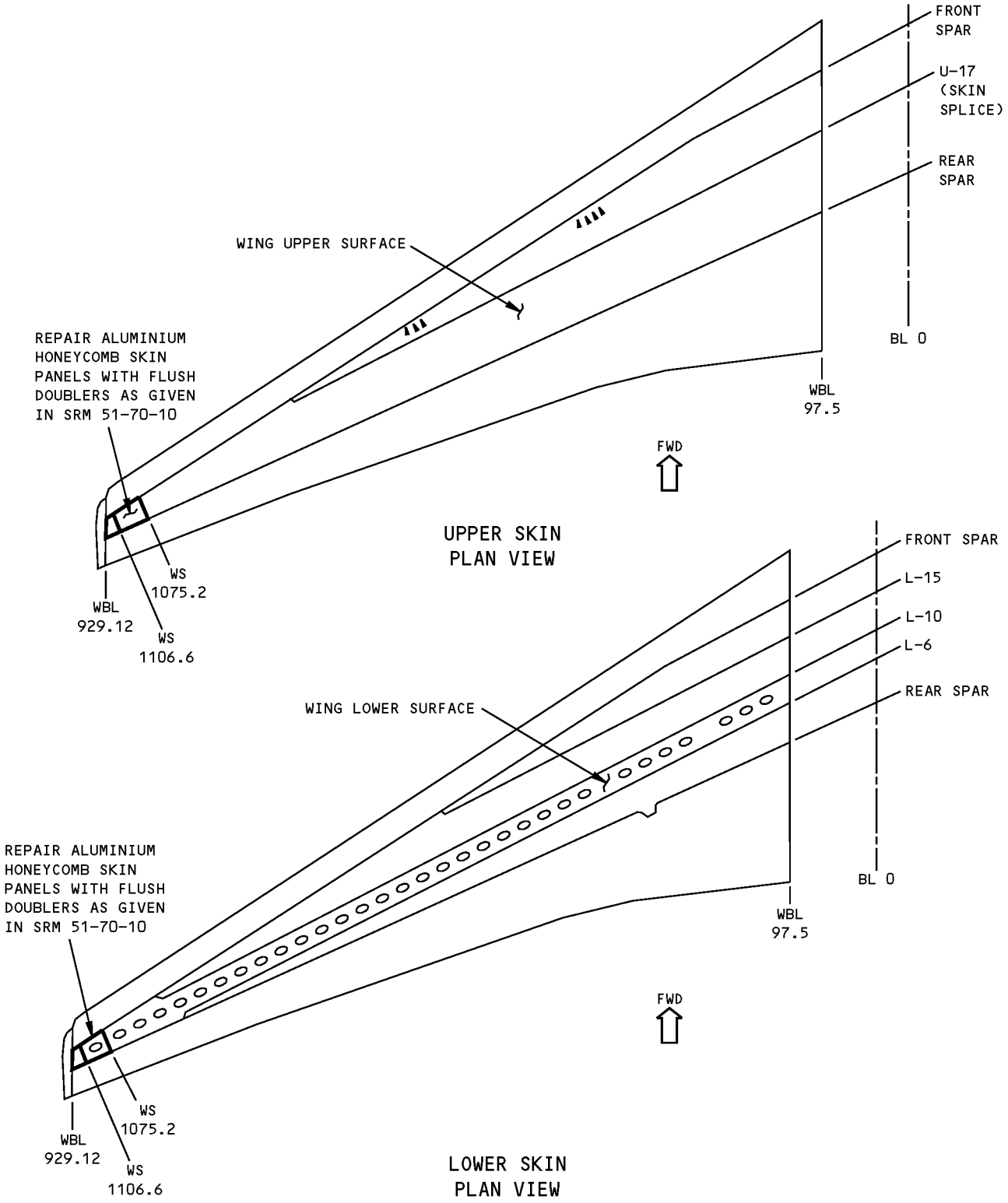
Wing Skin Lower Surface - Corrosion Repair at Fuel Tank Access Door Cutouts
Figure 201 (Sheet 5 of 6)



DAMAGE REMOVAL ON THE CLAMP RING
DETAIL VI [H]

Wing Skin Lower Surface - Corrosion Repair at Fuel Tank Access Door Cutouts
Figure 201 (Sheet 6 of 6)

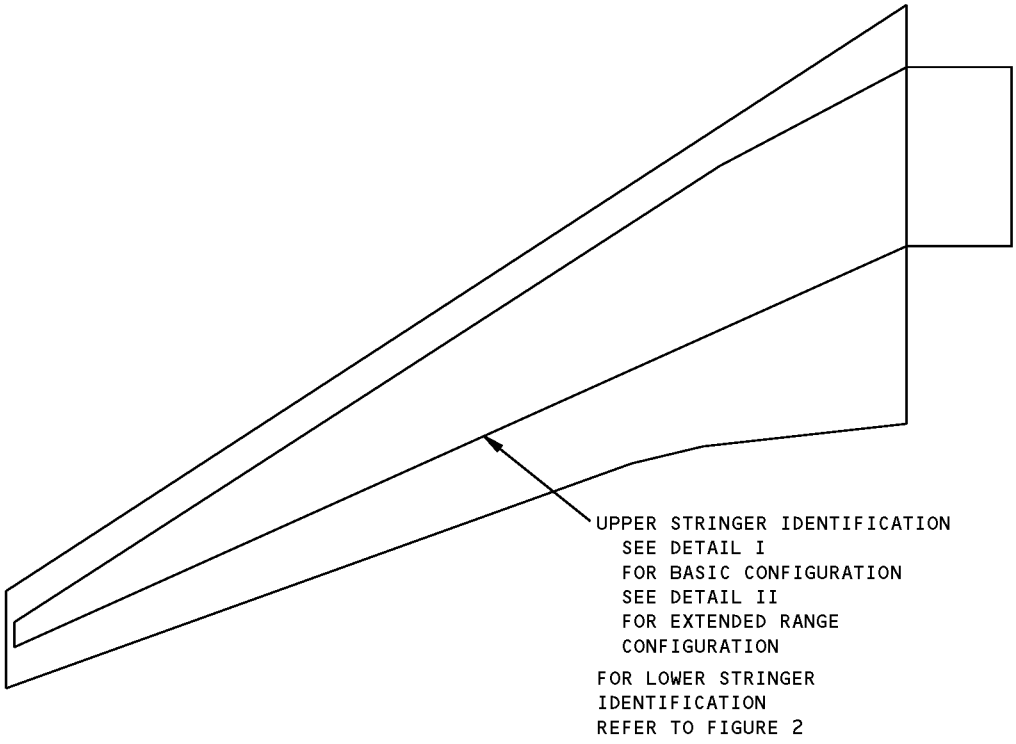
REPAIR 7 - OUTER WING SKIN PANELS



Outer Wing Skin Panel Repair
Figure 201

IDENTIFICATION 1 - OUTER WING UPPER STRINGERS

REF DWG
110T1520
112T3000
112T3201
THRU
112T3228

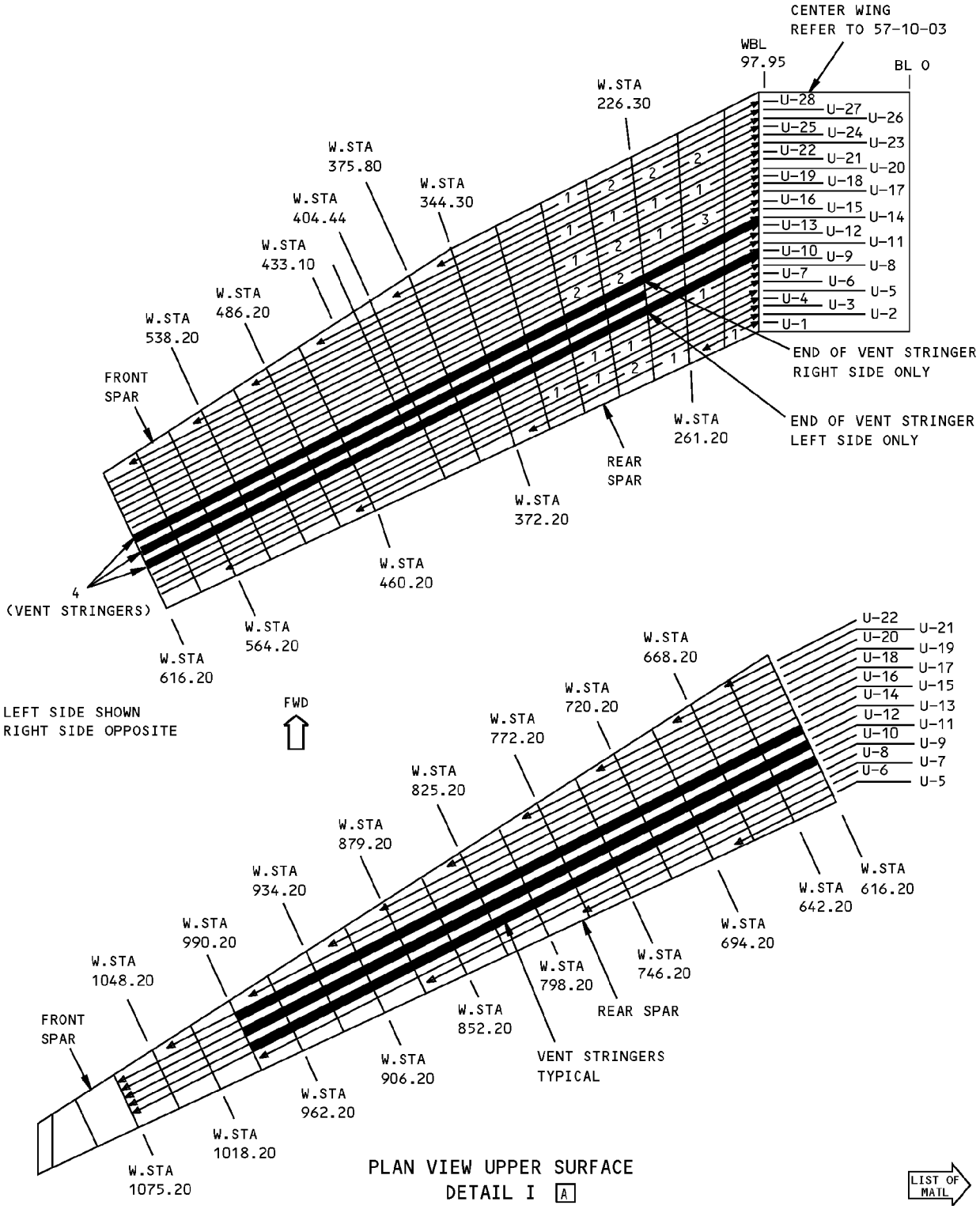


NOTES

[A] FOR AIRPLANES WITHOUT IGW (407K) PROVISIONS

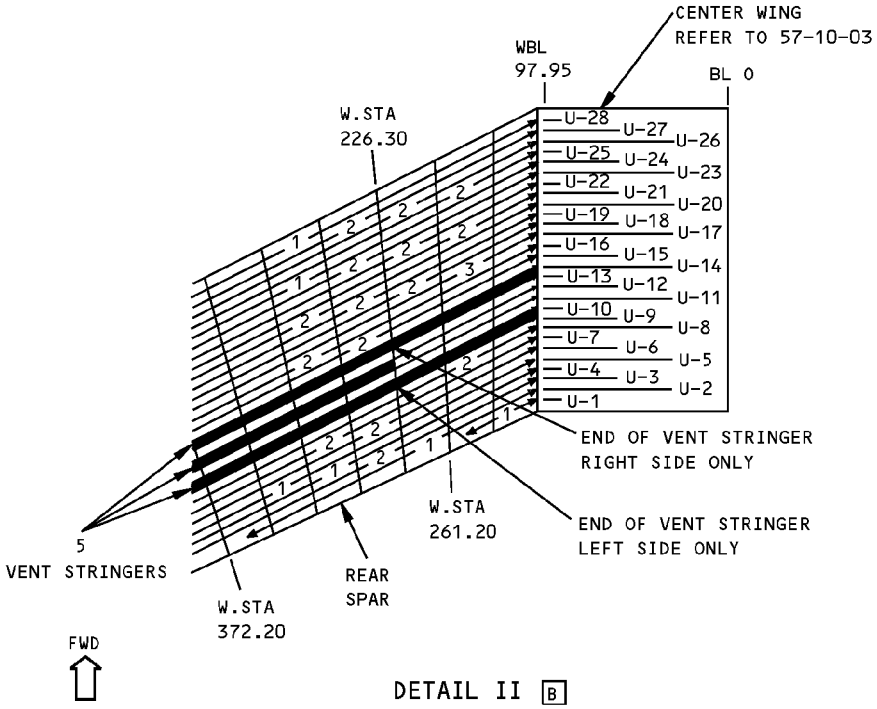
[B] FOR AIRPLANES WITH IGW (407K) PROVISIONS

Outer Wing Upper Stringer Identification
Figure 1 (Sheet 1 of 3)



Outer Wing Upper Stringer Identification
Figure 1 (Sheet 2 of 3)

REF DWG
112T3201
THRU
112T3205
112T3306
THRU
112T3309
112T3210
112T3311
112T3212
112T3313
112T3214
112T3315
THRU
112T3323
112T3224
THRU
112T3228



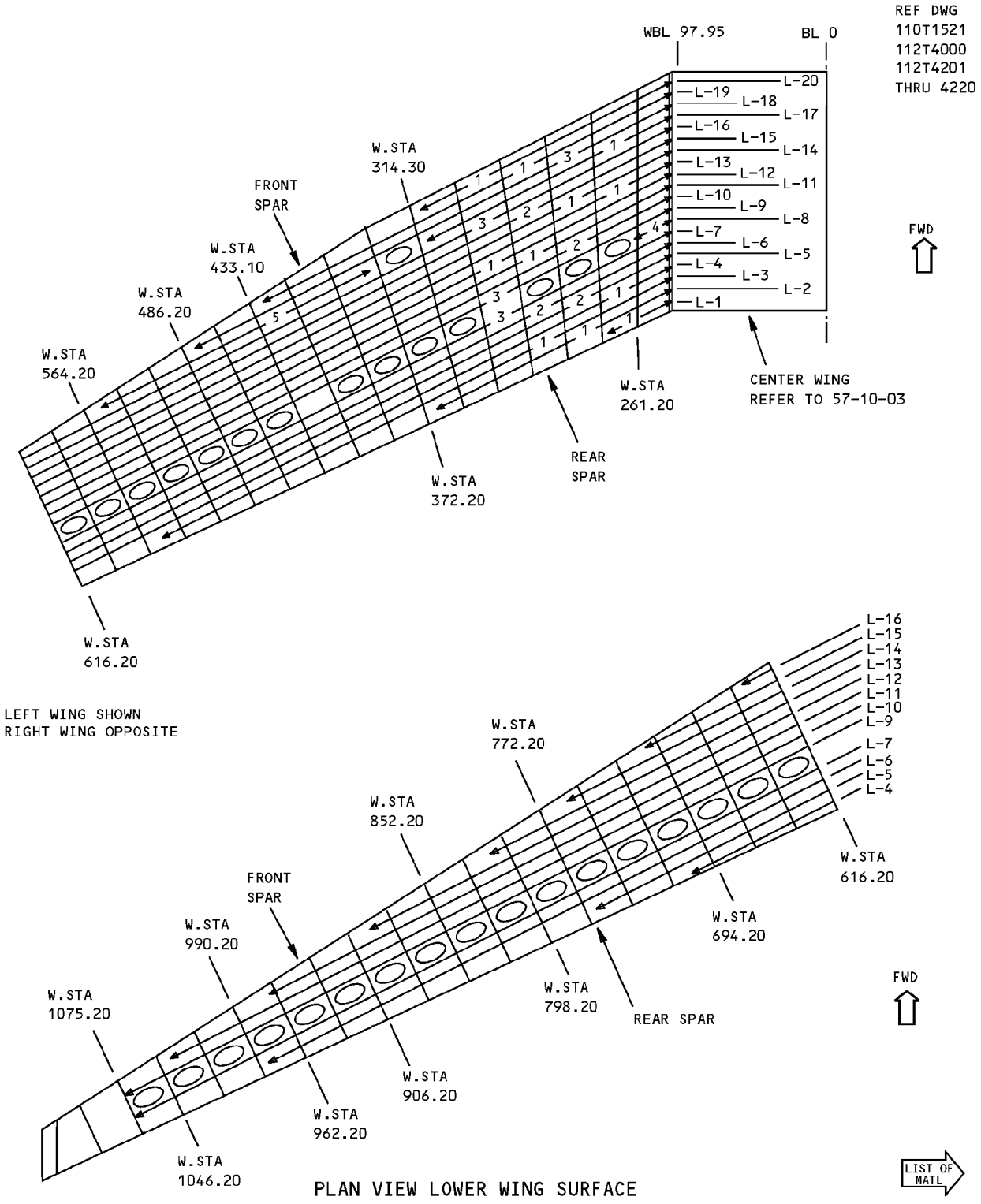
DETAIL II [B]

ITEM	DESCRIPTION	GAGE	MATERIAL	STRINGER TYPE	EFFECTIVITY
1	STRINGER		BAC1518-839 7150-T6511	⌐	
2	STRINGER		BAC1518-837 7150-T6511	⌐	
3	STRINGER		BAC1518-838 7150-T6511	⌐	
4	STRINGER - VENT		BAC1510-1131 7150-T6511	⌐	[A]
5	STRINGER - VENT		BAC1510-1056 7150-T6511 OPTIONL: BAC1510-1131 7150-T6511	⌐	[B]

LIST OF MATERIALS FOR DETAILS I AND II

Outer Wing Upper Stringer Identification
Figure 1 (Sheet 3 of 3)

IDENTIFICATION 2 - OUTER WING LOWER STRINGERS

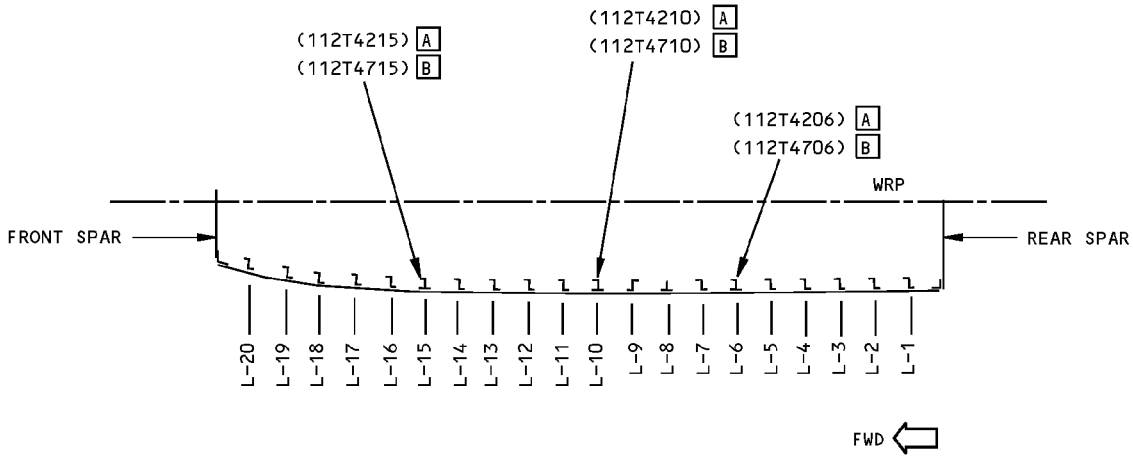


Outer Wing Lower Stringer Identification
Figure 1 (Sheet 1 of 2)

NOTES

[A] FOR AIRPLANES WITHOUT IGW (407K) PROVISIONS

[B] FOR AIRPLANES WITH IGW (407K) PROVISIONS



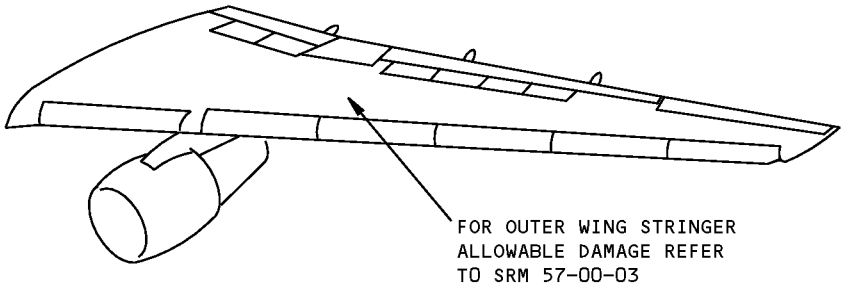
SECTION THRU LOWER PANEL

ITEM	DESCRIPTION	GAGE	MATERIAL	STRINGER TYPE	REF DWG	EFFECTIVITY
1	STRINGER		BAC1518-836 2224-T3511 OPTIONAL: BAC1518-705 2224-T3511	⅂		
2	STRINGER		BAC1518-834 2224-T3511 OPTIONAL: BAC1518-704 2224-T3511	⌶		
3	STRINGER		BAC1518-835 2224-T3511 OPTIONAL: BAC1518-706 2224-T3511			
4	STRINGER		BAC1518-852 2224-T3511 OPTIONAL: BAC1518-705 2224-T3511	⊥	112T4208	
5	STRINGER		BAC1517-2240 2224-T3511 OPTIONAL: BAC1518-705 2224-T3511	⅂	112T4217	

LIST OF MATERIALS

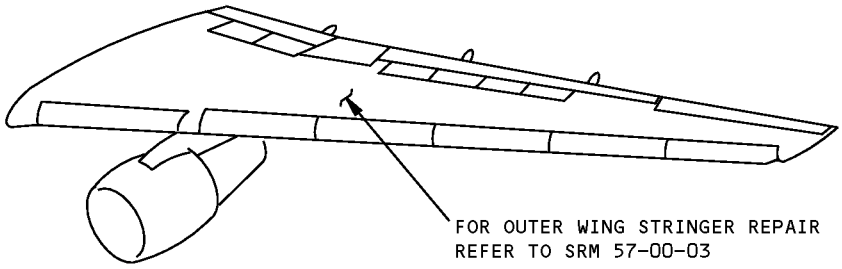
Outer Wing Lower Stringer Identification
Figure 1 (Sheet 2 of 2)

ALLOWABLE DAMAGE GENERAL - OUTER WING STRINGERS



Allowable Damage - Outer Wing Stringers
Figure 101

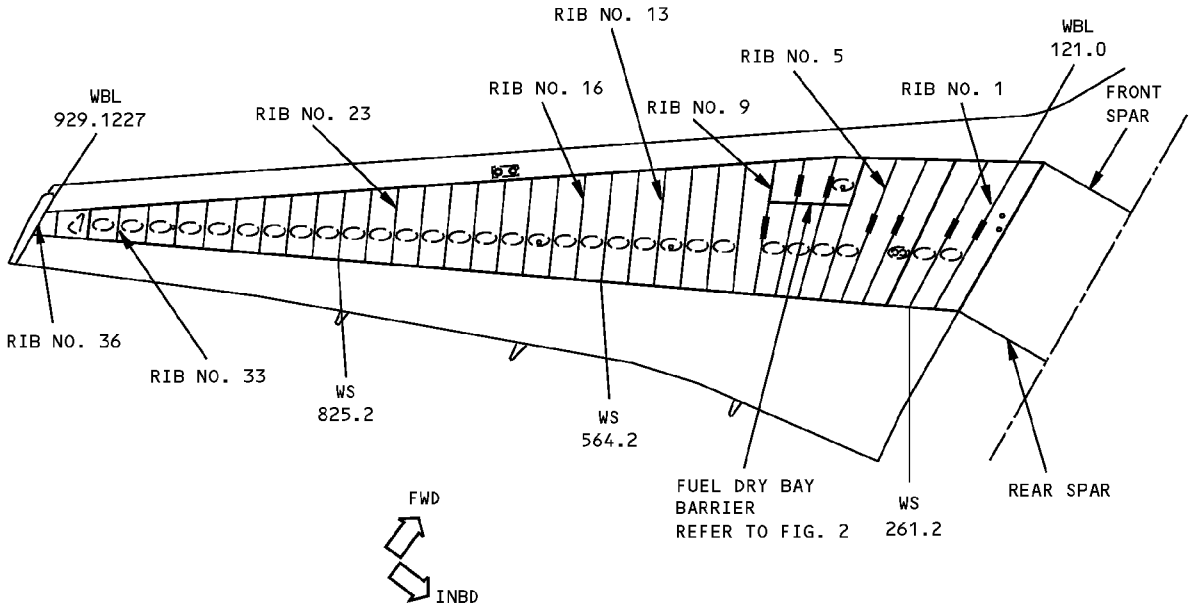
REPAIR GENERAL - OUTER WING STRINGERS



Outer Wing Stringer Repair
Figure 201

IDENTIFICATION 1 - OUTER WING RIBS

REF DWG
110T0900



NOTES

- OUTER WING RIB NO.:
  1 THRU 5 SEE DETAIL I
  6 THRU 9 SEE DETAIL III
  10 THRU 13 SEE DETAIL IV
  14 THRU 16 SEE DETAIL V
  17 THRU 23 SEE DETAIL VI
  24 THRU 33 SEE DETAIL VII
  34 THRU 36 SEE DETAIL VIII

[A] FOR AIRPLANES WITHOUT IGW (407K) PROVISIONS

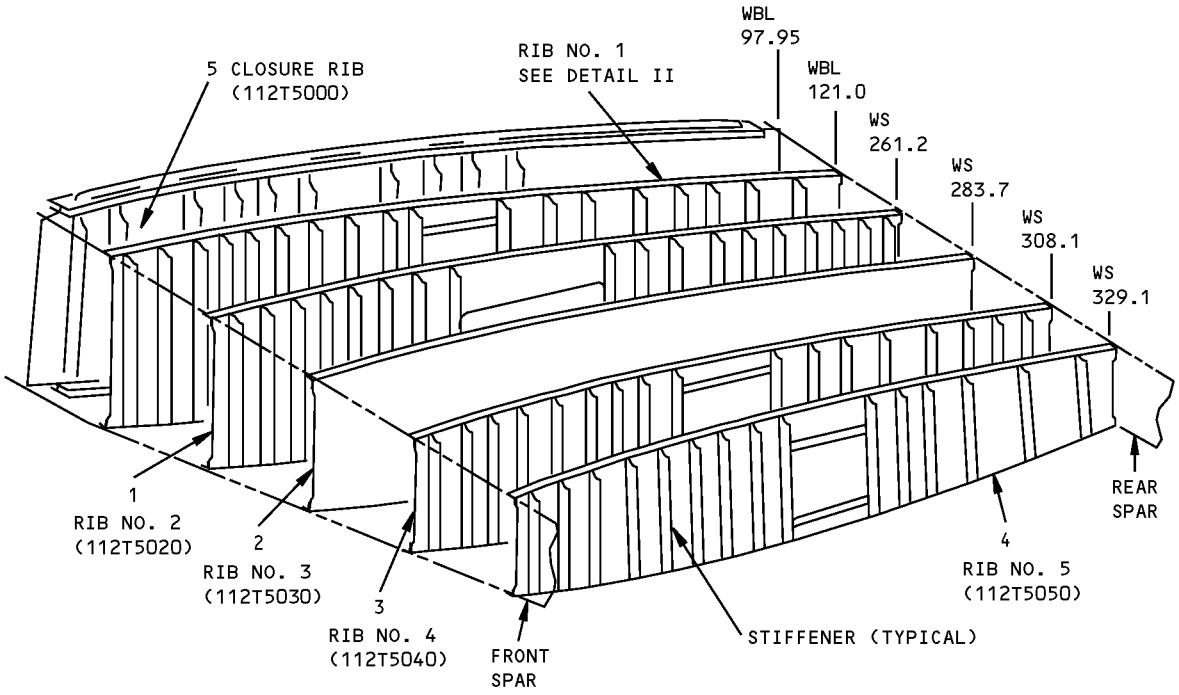
[B] FOR AIRPLANES WITH IGW (407K) PROVISIONS

[C] FOR CUM LINE NUMBERS:
132 THRU 332, 352 AND ON

[D] FOR CUM LINE NUMBERS:
334 THRU 351 WITH SB 767-57-0034 INCORPORATED

[E] FOR CUM LINE NUMBERS:
334 THRU 351 WITHOUT SB 767-57-0034 INCORPORATED

Outer Wing Rib Identification
Figure 1 (Sheet 1 of 12)



CLOSURE RIB AND RIB NO. 1 THRU 5
DETAIL I

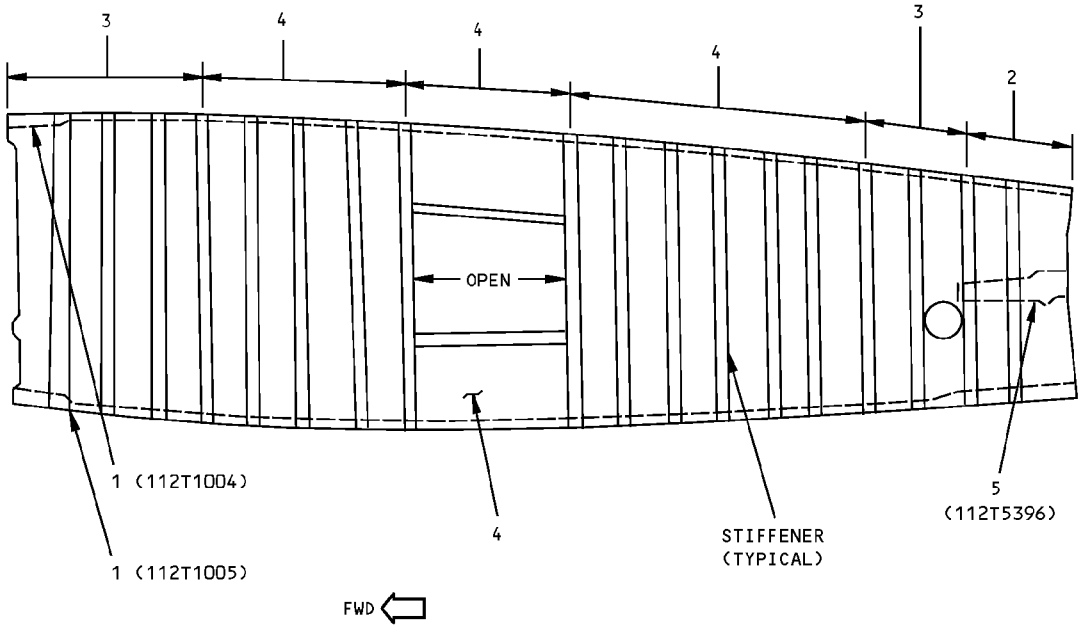
Outer Wing Rib Identification
Figure 1 (Sheet 2 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 2			
	UPPER CHORD		AND10134-2404 7075-T6511	
			OPTIONAL: 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEBS	0.036	CLAD 2024-T3	
	AFT WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND10134-2404 7075-T6511	
			OPTIONAL: 7075-T6	
2	RIB NO. 3			
	UPPER CHORD		AND10134-2409 7075-T6511	
			OPTIONAL: 7075-T6	
	WEBS	0.050	CLAD 2024-T3	
	LOWER CHORD		AND10134-2409 7075-T6511	
			OPTIONAL: 7075-T6	
3	RIB NO. 4			
	UPPER CHORD		BAC1520-2291 7075-T73	A
			BAC1520-2186 7075-T73	B
	FORWARD WEB	0.250	7075-T651 (MACHINED TO 0.060 MIN)	
	CENTER WEB - LWR	0.250	7075-T651 (MACHINED TO 0.095 MIN)	
	CENTER WEB - UPPER	0.250	7075-T651 (MACHINED TO 0.095 MIN)	
	AFT WEB	0.375	7075-T651 (MACHINED TO 0.070 MIN)	
	LOWER CHORD		BAC1520-2285 7075-T73	A
			BAC1520-2187 7075-T73	B
4	RIB NO. 5			
	UPPER CHORD		AND10134-2404 7075-T6511	
			OPTIONAL: 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	AFT WEB	0.045	CLAD 2024-T3	
	LOWER CHORD		AND10134-3003 7075-T6511	
			OPTIONAL: 7075-T6	
5	CLOSURE RIB			
	UPPER CHORD		BAC1520-2316 7075-T6511	
			OPTIONAL: BAC1520-2133 7075-T6511	
	MACHINE WEB	1.120	7150-T651 PLATE (MACHINED TO 0.084 MIN)	
	LOWER CHORD		BAC1520-2460 2024-T3511	
			OPTIONAL: BAC1520-2132 2024-T3511	

LIST OF MATERIALS FOR DETAIL I

Outer Wing Rib Identification
Figure 1 (Sheet 3 of 12)

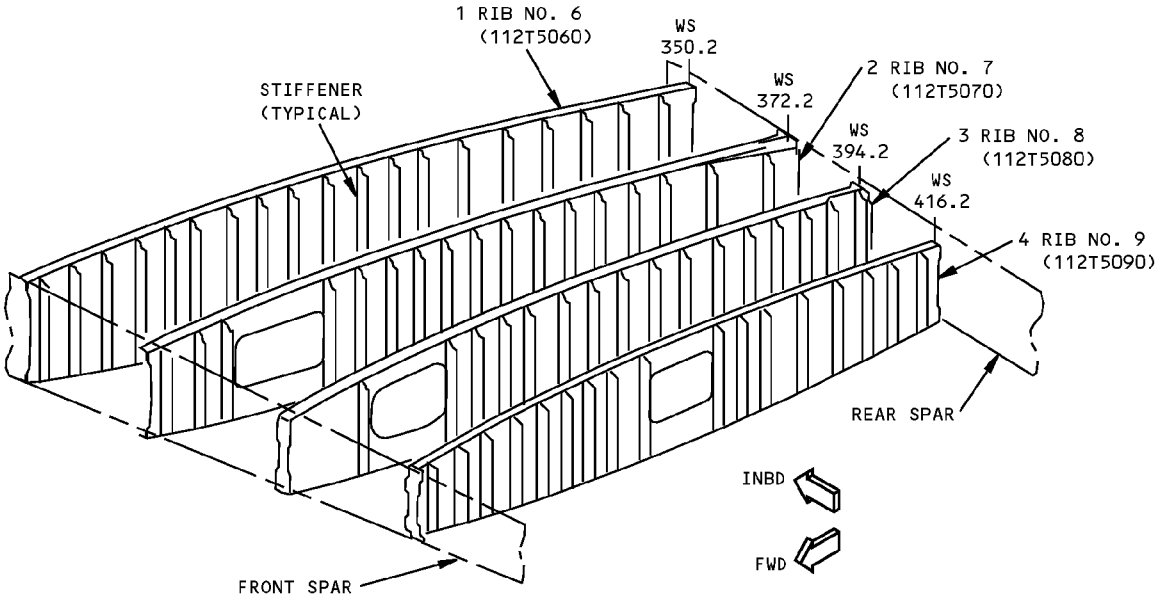
REF DWG
112T5010



RIB NO. 1 - WBL 121.00 VIEW LOOKING INBD
DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	CHORD, UPPER AND LOWER		AND10134-2404 7075-T6511 OPTIONAL: 7075-T6	
2	WEB	0.080	7075-T6	
3	WEB	0.040	CLAD 2024-T3	
4	WEB	0.036	CLAD 2024-T3	
5	BACKUP FITTING		FORGING 7075-T73	

Outer Wing Rib Identification
Figure 1 (Sheet 4 of 12)

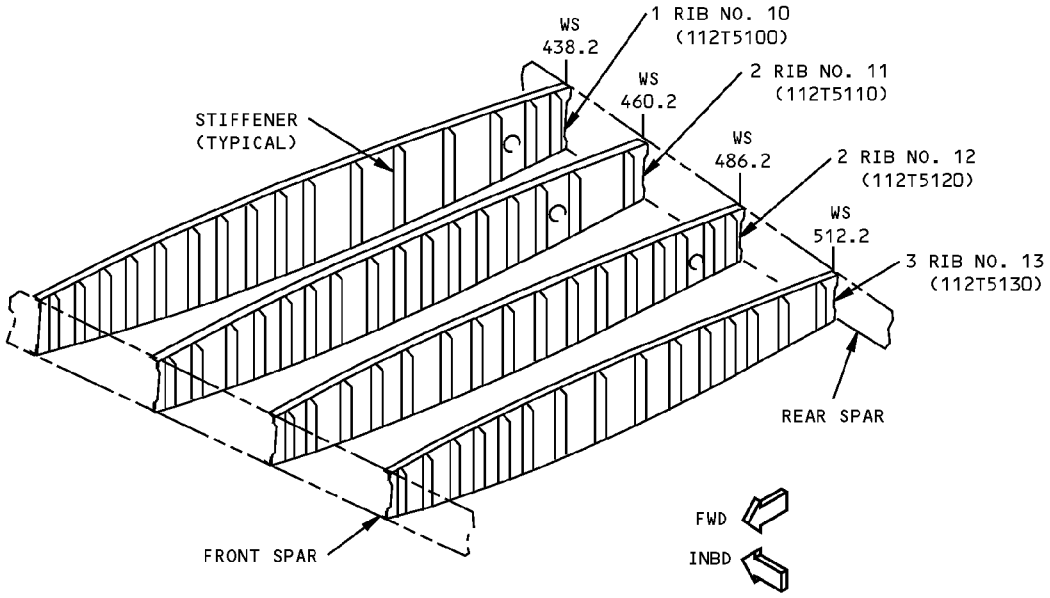


RIB NO. 6 THRU 9
DETAIL III

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 6			
	UPPER CHORD		AND10134-2404 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.050	CLAD 2024-T3	
	CENTER WEBS	0.040	CLAD 2024-T3	
	AFT WEB	0.045	CLAD 2024-T3	
	LOWER CHORD		AND10134-2404 7075-T6511 OR 7075-T6	
2	RIB NO. 7		BAC1520-2350 7075-T73	
	UPPER CHORD/SHEAR TIE		OPTIONAL: BAC1520-2186 7075-T73 OR BAC1520-2290 7075-T73	
	WEB	0.625	7075-T651 (MACHINED TO 0.045 INCH MINIMUM)	
	LOWER CHORD/SHEAR TIE		BAC1520-2285 7075-T73511	
			OPTIONAL: BAC1520-2186 7075-T73511	
3	RIB NO. 8			
	UPPER CHORD		BAC1520-2291 7075-T73	
			OPTIONAL: BAC1520-2186 7075-T73	
	WEB	0.375	7075-T651 (MACHINED TO 0.045 INCH MINIMUM)	
	LOWER CHORD		BAC1520-2290 7075-T73	
			OPTIONAL: BAC1520-2186 7075-T73	
4	RIB NO. 9			
	UPPER CHORD		AND10133-3002 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.080	CLAD 2024-T3	
	UPPER WEB	0.050	CLAD 2024-T3	
	LOWER WEB	0.050	CLAD 2024-T3	
	MID, AFT WEB	0.050	CLAD 2024-T3	
	AFT WEB	0.063	CLAD 2024-T3	
	LOWER CHORD		AND10133-3002 7075-T6511 OR 7075-T6	

LIST OF MATERIALS FOR DETAIL III

Outer Wing Rib Identification
Figure 1 (Sheet 5 of 12)

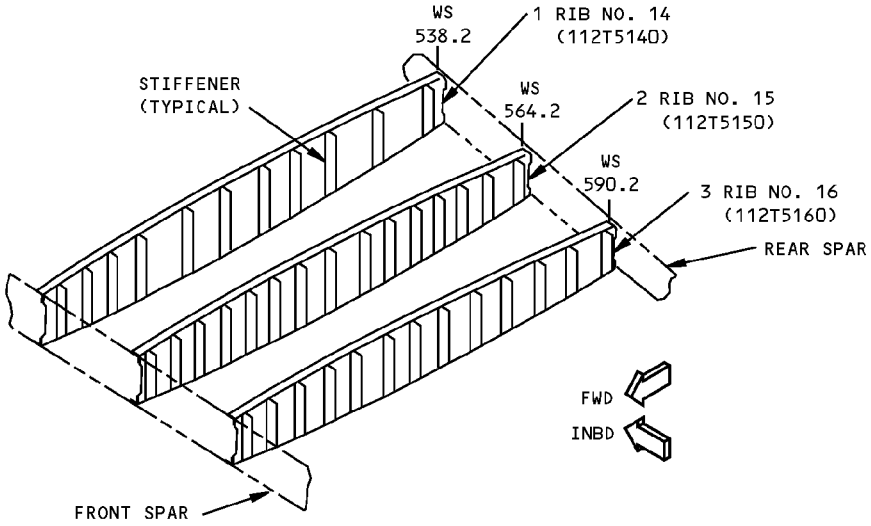


RIB NOS. 10 THRU 13
DETAIL IV

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 10			
	UPPER CHORD/SHEAR TIE		BAC1520-2135 7075-T73	
	WEB	0.056	CLAD 2024-T3	
	LOWER CHORD/SHEAR TIE		BAC1520-2135 7075-T73	
2	RIB NOS. 11,12			
	UPPER CHORD		AND10134-3004 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.071	CLAD 2024-T3	
	CENTER WEB	0.045	CLAD 2024-T3	
	AFT WEB	0.056	CLAD 2024-T3	
	LOWER CHORD		AND10134-3004 7075-T6511 OR 7075-T6	
3	RIB NO. 13			
	UPPER CHORD		AND10134-3004 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.063	CLAD 2024-T3	
	CENTER WEB	0.045	CLAD 2024-T3	
	AFT WEB	0.056	CLAD 2024-T3	
	LOWER CHORD		AND10134-3004 7075-T6511 OR 7075-T6	

LIST OF MATERIALS FOR DETAIL IV

Outer Wing Rib Identification
Figure 1 (Sheet 6 of 12)

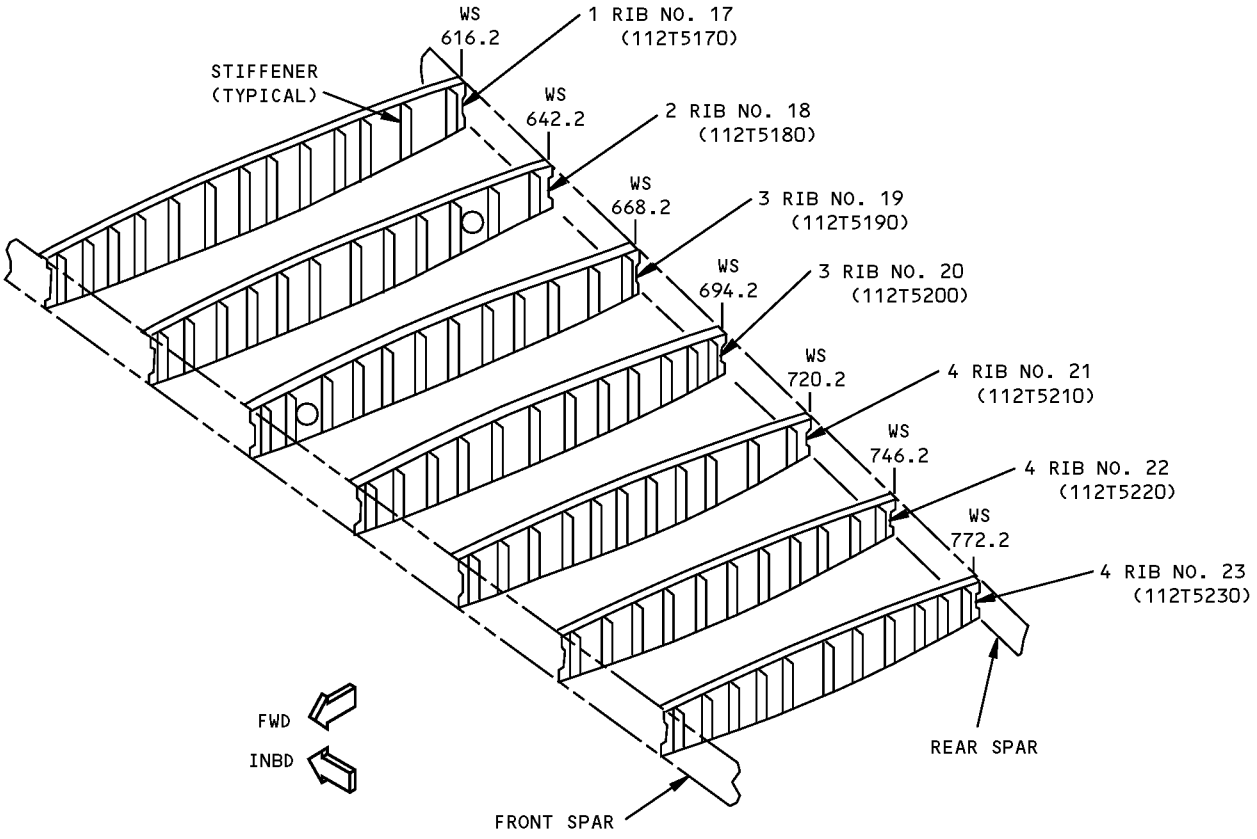


RIB NOS. 14 THRU 16
DETAIL V

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 14			
	UPPER CHORD		AND10134-2403 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.045	CLAD 2024-T3	
	AFT WEB	0.056	CLAD 2024-T3	
	LOWER CHORD		AND10134-2403 7075-T6511 OR 7075-T6	
2	RIB NO. 15			
	UPPER CHORD		AND10134-2403 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.036	CLAD 2024-T3	
	AFT WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND10134-2403 7075-T6511 OR 7075-T6	
3	RIB NO. 16			
	UPPER CHORD		AND10133-2401 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.036	CLAD 2024-T3	
	AFT WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND10133-2401 7075-T6511 OR 7075-T6	

LIST OF MATERIALS FOR DETAIL V

Outer Wing Rib Identification
Figure 1 (Sheet 7 of 12)



RIB NOS. 17 THRU 23
DETAIL VI

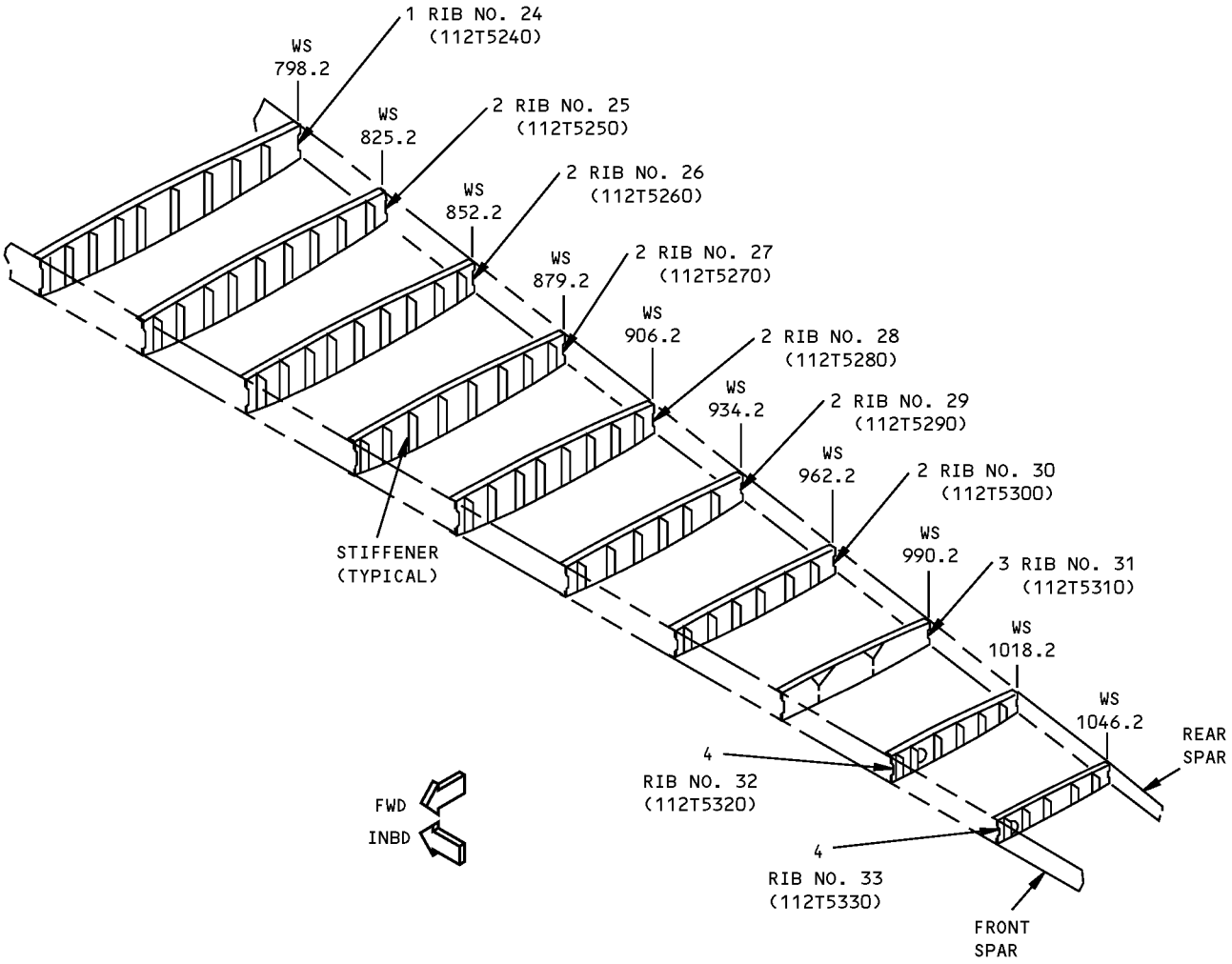
LIST OF MATL

Outer Wing Rib Identification
Figure 1 (Sheet 8 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 17			
	UPPER CHORD/SHEAR TIE		BAC1520-2287 7075-T73 OPTIONAL: BAC1520-2135 7075-T73	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.032	CLAD 2024-T3	
	AFT WEB	0.063	CLAD 2024-T3	
	LOWER CHORD/SHEAR TIE		BAC1520-2286 7075-T73 OPTIONAL: BAC1520-2135 7075-T73	
2	RIB NO. 18			
	UPPER CHORD		AND10134-2009 7075-T6511 OR 7075-T6	
	WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND 10134-2009 7075-T6511 OR 7075-T6	
3	RIB NO. 19, 20			
	UPPER CHORD		AND10134-3004 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.032	CLAD 2024-T3	
	AFT WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND 10134-3004 7075-T6511 OR 7075-T6	
4	RIB NO. 21, 22, 23			
	UPPER CHORD		AND10134-2009 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.028	CLAD 2024-T3	
	AFT WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND 10134-2009 7075-T6511 OR 7075-T6	

LIST OF MATERIALS FOR DETAIL VI

Outer Wing Rib Identification
Figure 1 (Sheet 9 of 12)



RIB NOS. 24 THRU 33
DETAIL VII

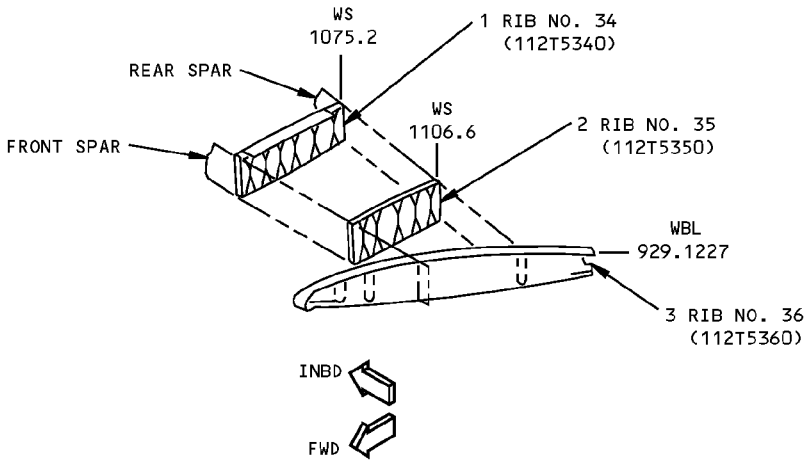
LIST OF MATL

Outer Wing Rib Identification
Figure 1 (Sheet 10 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 24			
	UPPER CHORD/SHEAR TIE		BAC1520-2287 7075-T73 OPTIONAL: BAC1520-2135 7075-T73	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.032	CLAD 2024-T3	
	AFT WEB	0.063	CLAD 2024-T3	C
	AFT WEB	0.050	CLAD 2024-T3	D
	WEB DOUBLER	0.050	CLAD 2024-T3	D
	SPLICED WEB	0.100	CLAD 2024-T3	D
	AFT WEB	0.050 OR 0.063	CLAD 2024-T3	E
	LOWER CHORD/SHEAR TIE		BAC1520-2286 7075-T73 OPTIONAL: BAC1520-2135 7075-T73	
2	RIB NO. 25 THRU 30			
	UPPER CHORD		AND10134-2009 7075-T6511 OR 7075-T6	
	FORWARD WEB	0.040	CLAD 2024-T3	
	CENTER WEB	0.028	CLAD 2024-T3	
	AFT WEB	0.040	CLAD 2024-T3	
	LOWER CHORD		AND10134-2009 7075-T6511 OR 7075-T6	
3	RIB NO. 31			
	CLOSURE RIB	1.750	7075-T7351 OR 7075-T73 (MACHINED TO 0.050 MIN)	
4	RIB NO. 32, 33			
	UPPER CHORD		AND10134-2009 7075-T6511 OR 7075-T6	
	WEB	0.032	CLAD 2024-T3	
	LOWER CHORD		AND10134-2009 7075-T6511 OR 7075-T6	

LIST OF MATERIALS FOR DETAIL VII

Outer Wing Rib Identification
Figure 1 (Sheet 11 of 12)



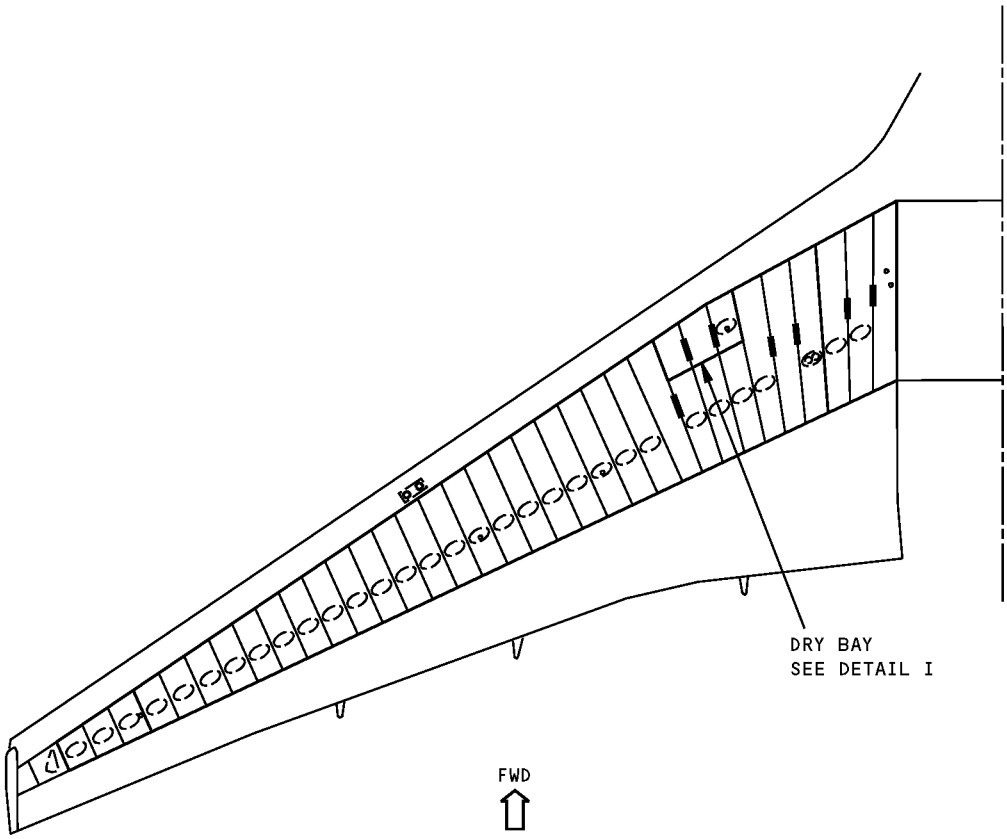
RIB NOS. 34 THRU 36
DETAIL VIII

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB NO. 34			
	UPPER SPLICE PLATE	0.080	CLAD 2024-T4	
	RIB	0.063	CLAD 2024-T42	
	LOWER SPLICE PLATE	0.080	CLAD 2024-T4	
2	RIB NO. 35			
	LOWER SPLICE PLATE	0.080	CLAD 2024-T4	
	RIB	0.050	CLAD 2024-T42	
3	RIB NO. 36			
	UPPER SPLICE PLATE	0.063	CLAD 2024-T42	
	RIB	0.040	CLAD 2024-T42	
	LOWER SPLICE PLATE	0.063	CLAD 2024-T42	

LIST OF MATERIALS FOR DETAIL VIII

Outer Wing Rib Identification
Figure 1 (Sheet 12 of 12)

IDENTIFICATION 2 - FUEL DRY BAY BARRIER



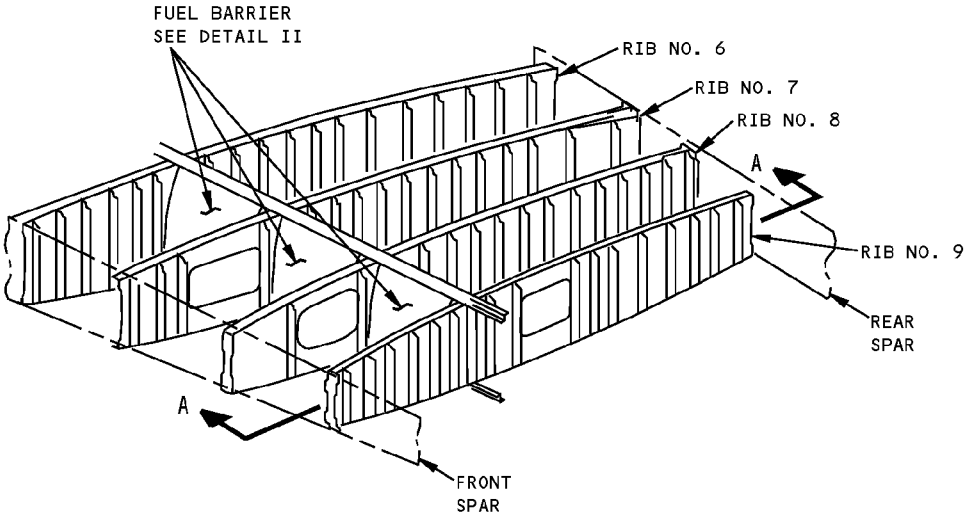
NOTES

[A] ALUMINUM FLAME SPRAYED ON AFT FACE ONLY.

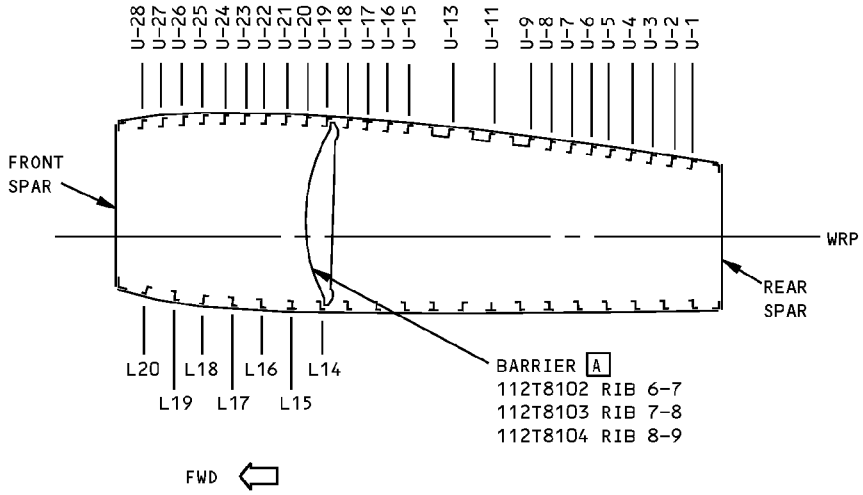
Fuel Dry Bay Barrier Identification
Figure 1 (Sheet 1 of 3)

REF DWG

112T8100
112T8102
112T8103
112T8104



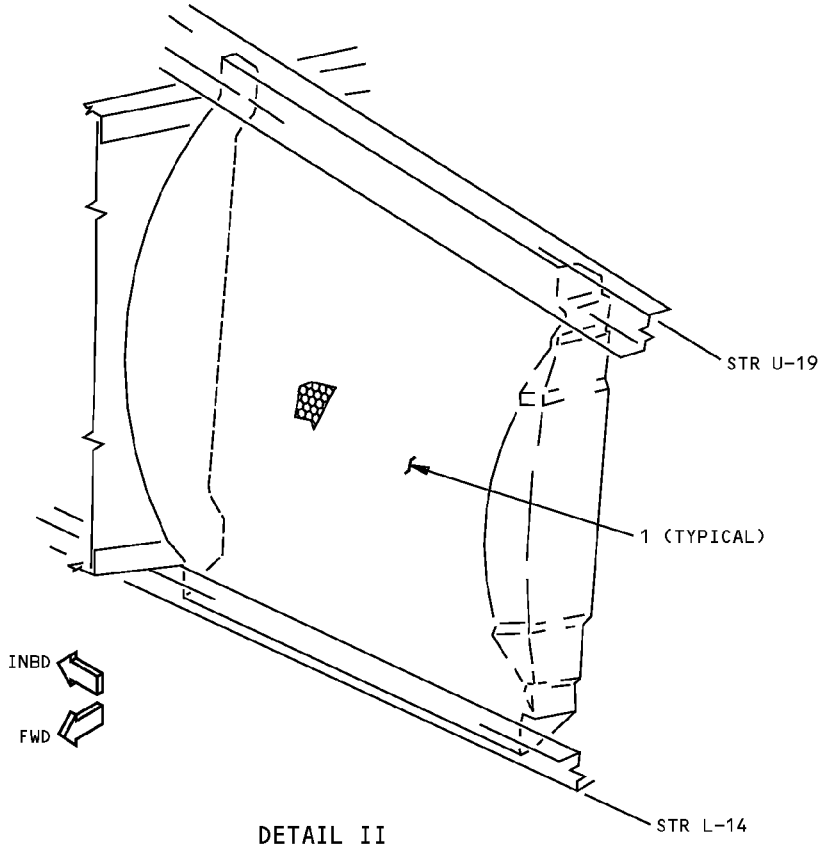
DETAIL I



SECTION THROUGH WING
BETWEEN RIBS 6,7,8 AND 9

SECTION A-A

Fuel Dry Bay Barrier Identification
Figure 1 (Sheet 2 of 3)



DETAIL II

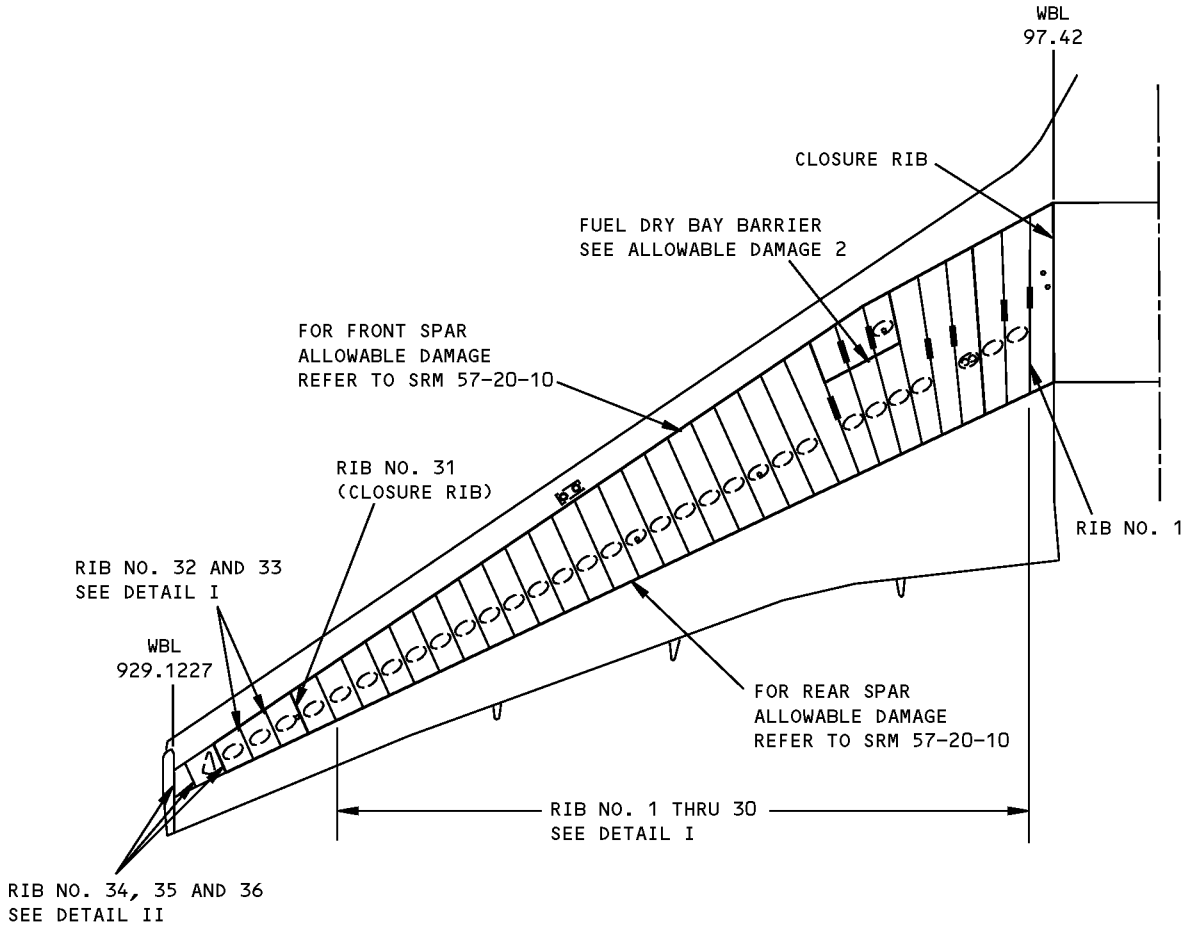
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FUEL BARRIER SKIN [A] HONEYCOMB CORE		FIBERGLASS EPOXY PER BMS 8-79, CLASS III, GRADE 1.0 TYPE 1581 (OPTIONAL TYPE 7781) HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 4.0	

LIST OF MATERIALS FOR DETAILS I,II AND III

Fuel Dry Bay Barrier Identification
Figure 1 (Sheet 3 of 3)

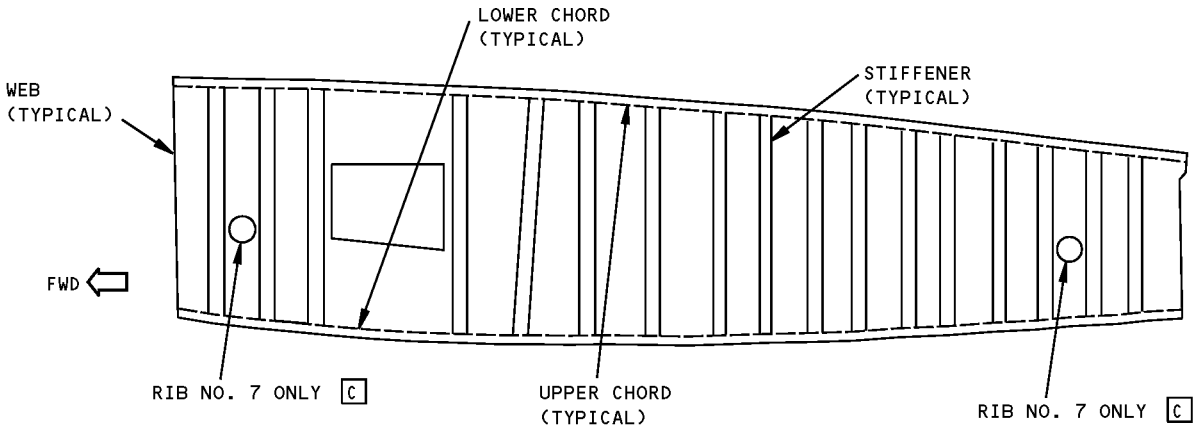
ALLOWABLE DAMAGE 1 - OUTER WING RIBS

REF DWG
112T0000

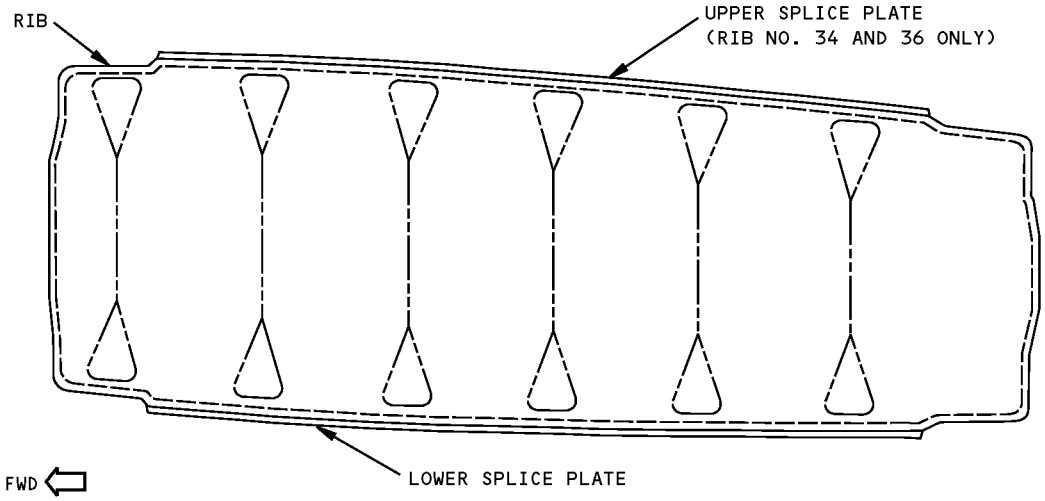


MATERIAL: ALUMINUM

Outer Wing Ribs Allowable Damage
Figure 101 (Sheet 1 of 5)



RIB NO. 7 SHOWN
RIB NO. 1 THRU 6, 8 THRU 30, 32, 33 SIMILAR
DETAIL I



RIB NO. 34, 35, 36
DETAIL II

Outer Wing Ribs Allowable Damage
Figure 101 (Sheet 2 of 5)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
CLOSURE RIB WBL 97.42				
WEB [H]	[A]	[D]	SEE DETAIL V	[F]
UPPER CHORD [H]	[B]	[E]	NOT PERMITTED	NOT PERMITTED
LOWER CHORD [H]	[B]	[E]	NOT PERMITTED	NOT PERMITTED
STIFFENER [H]	[B]	[E]	NOT PERMITTED	[G]
RIB NO. 31 (CLOSURE RIB)	[B]	[E]	NOT PERMITTED	[F]
RIB NO. 34, 35 AND 36				
RIB	[A]	[D]	SEE DETAIL V	PERMITTED IN WEB ONLY [F]
SPLICE PLATE	[A]	[D]	NOT PERMITTED	NOT PERMITTED
RIB NO. 1 THRU 30,32,33				
WEB	[A]	[D]	SEE DETAIL V	[F]
CHORD	[B]	[E]	NOT PERMITTED	NOT PERMITTED
STIFFENER	[B]	[E]	NOT PERMITTED	[G]

NOTES

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS AS GIVEN IN AMM 28-11 BEFORE YOU ENTER THE FUEL TANKS.

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS III AND VII. FOR THE WEB OF RIB NO. 7 SEE DETAIL I. FOR THE WEB OF RIB NO. 8 SEE [H] FOR SHOT PEEN REQUIREMENTS.

[B] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS III AND VIII. FOR THE CHORDS OF RIB NO. 4,7,8,10,17 AND 24 SEE [H] FOR SHOT PEEN REQUIREMENTS.

[C] SHOT PEEN REWORKED AREAS ON THE INSIDE OF THE HOLE AND 2.00 INCHES AROUND THE HOLE, ON BOTH SURFACES AS GIVEN IN SRM 51-20-06.

[D] REMOVE DAMAGE AS GIVEN IN DETAILS III,IV, VI AND VII. FOR THE WEB OF RIB NO. 7 WEB SEE DETAIL I. FOR THE WEB OF RIB NO. 8 SEE [H] FOR SHOT PEEN REQUIREMENTS.

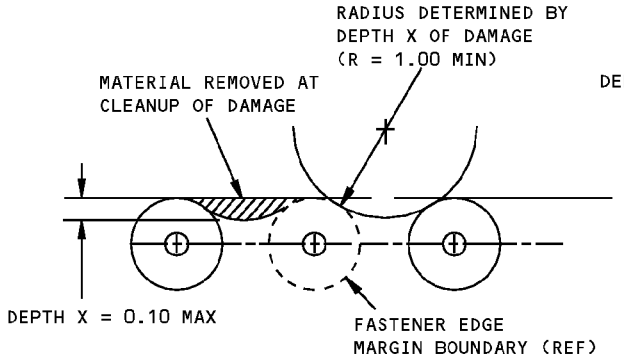
[E] REMOVE DAMAGE AS GIVEN IN DETAILS III,IV,VI AND VIII. FOR THE CHORDS OF RIB NO. 4,7,8, 10,17,24 SEE [H] FOR SHOT PEEN REQUIREMENTS.

[F] CLEAN OUT DAMAGE UP TO 0.25 INCH (6.4 mm) MAXIMUM DIAMETER AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO FASTENER HOLE, MATERIAL EDGE OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-26 SEALANT. ALL OTHER HOLES MUST BE REPAIRED. HOLES IN TANK ENDS MUST BE SEALED.

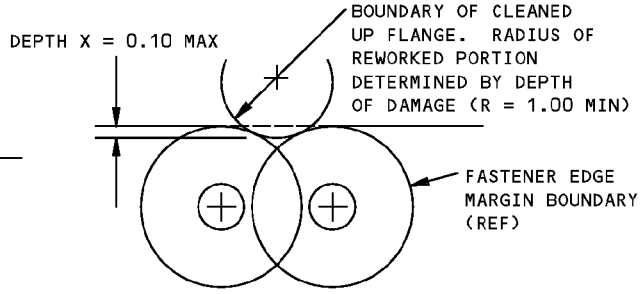
[G] HOLES AND PUNCTURES ARE PERMITTED IN THE WEB AND THE FREE FLANGE ONLY. SEE DETAIL IX.

[H] SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06.

Outer Wing Ribs Allowable Damage
Figure 101 (Sheet 3 of 5)

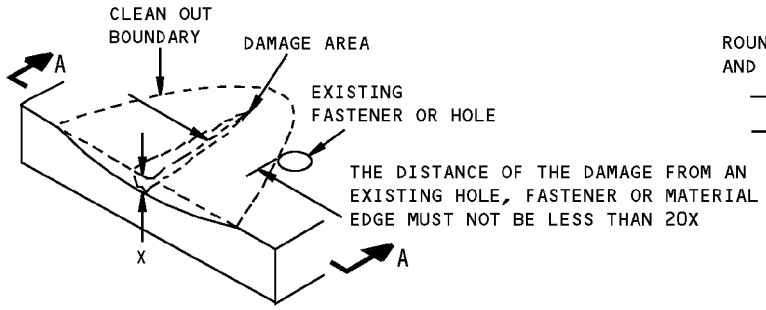


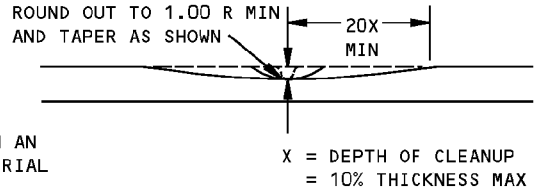
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

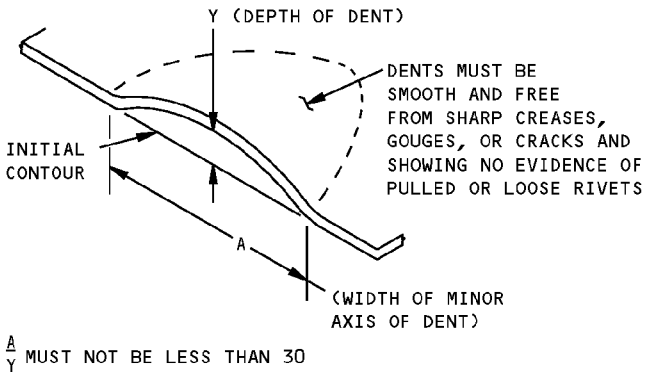
DETAIL III



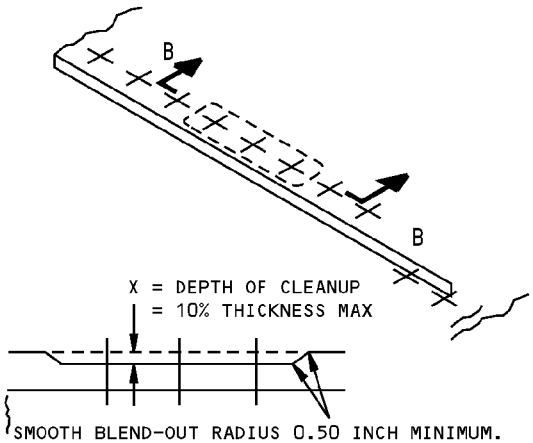


SECTION A-A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL IV



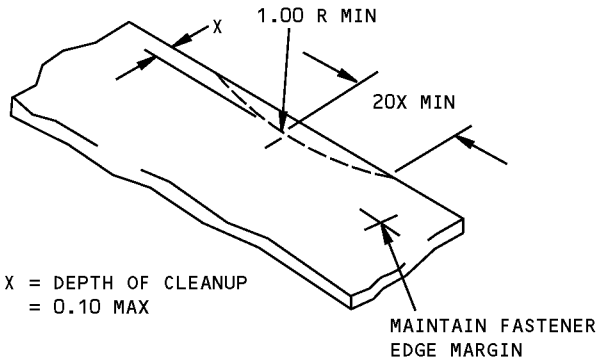
ALLOWABLE DAMAGE FOR DENT
DETAIL V



SECTION B-B

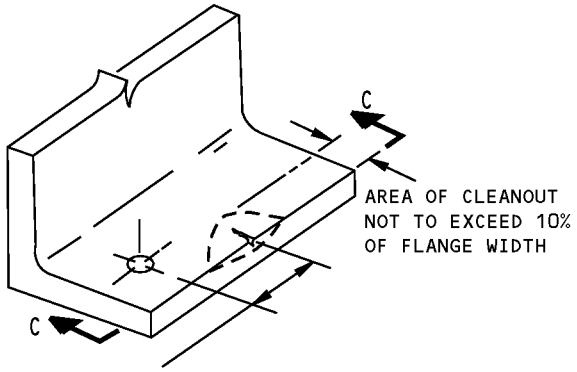
CORROSION CLEANUP
DETAIL VI

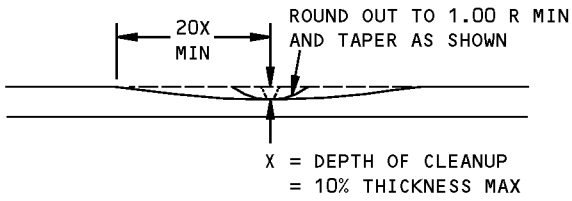
Outer Wing Ribs Allowable Damage
Figure 101 (Sheet 4 of 5)



REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

DETAIL VII

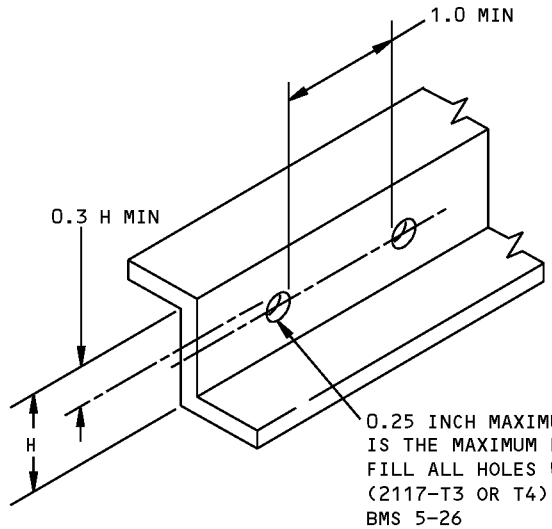




SECTION C–C

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

DETAIL VIII



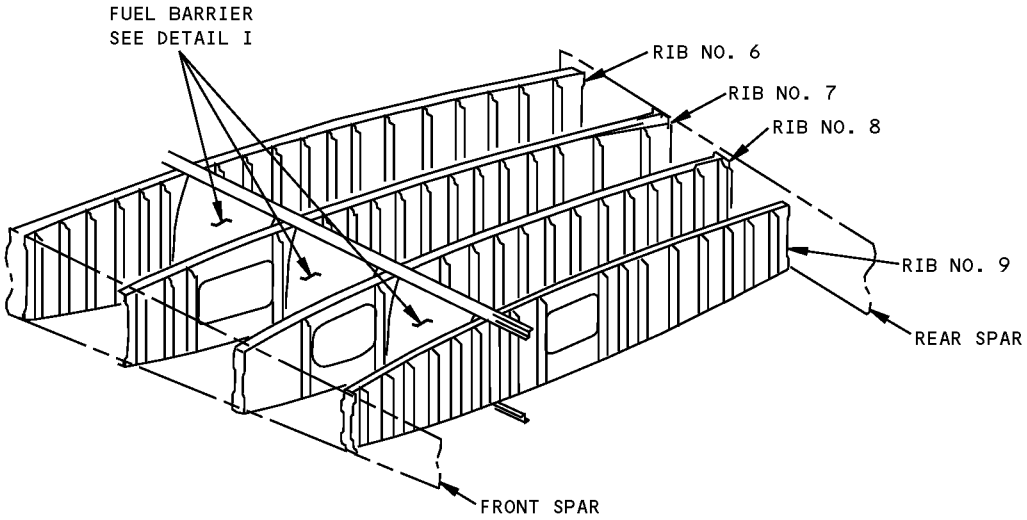
NOTE: NO HOLE DAMAGE IS PERMITTED IN THE STIFFENER FLANGE THAT IS FASTENED TO THE WEB.

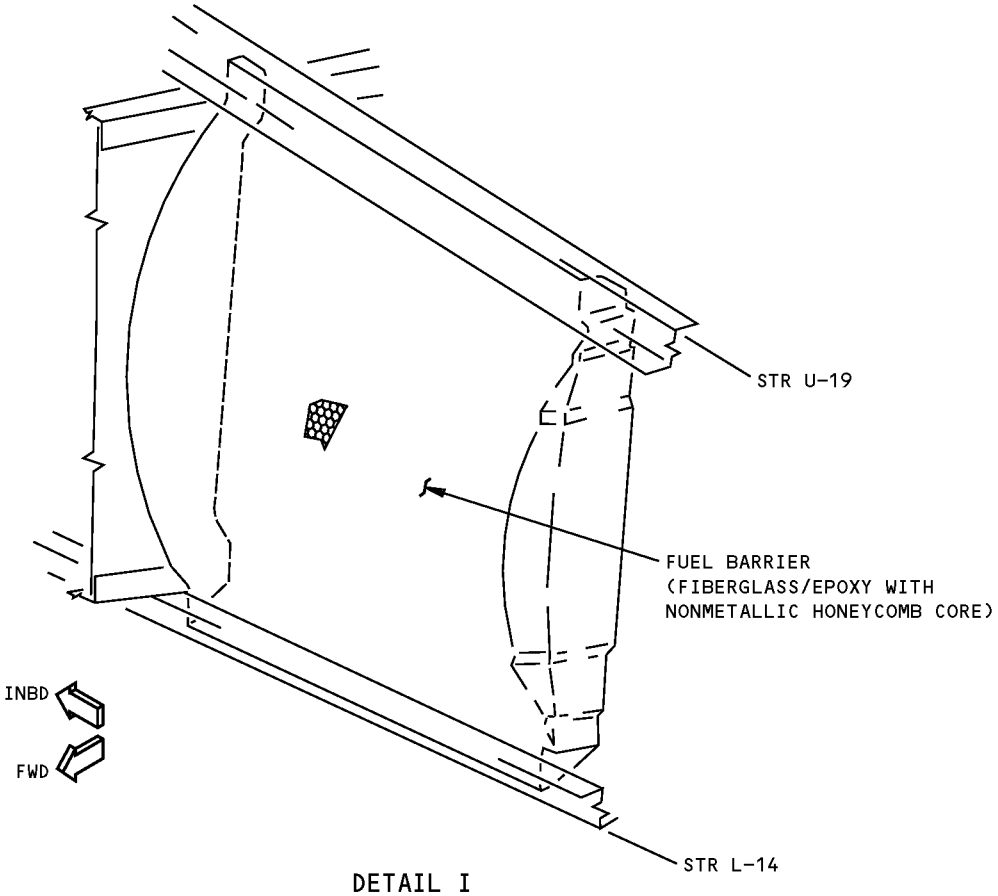
ALLOWABLE DAMAGE LIMITS FOR
HOLES IN WEB STIFFENERS

DETAIL IX

Outer Wing Ribs Allowable Damage
Figure 101 (Sheet 5 of 5)

ALLOWABLE DAMAGE 2 - FUEL DRY BAY BARRIER





DETAIL I

Fuel Dry Bay Barrier Allowable Damage
Figure 101 (Sheet 1 of 2)

LOCATION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
FUEL BARRIER	NOT PERMITTED	[A]	NOT PERMITTED	NOT PERMITTED	NOT PERMITTED

NOTES

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS AS GIVEN IN AMM 28-11 BEFORE YOU ENTER THE FUEL TANKS.

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-70-14, PAR. 2, FOR THE ALLOWABLE DAMAGE TO ALUMINUM FLAME SPRAYED COATINGS [B].
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-21.
- RESTORE DAMAGED FILLET SEALS WITH BMS 5-26 AS GIVEN IN SRM 51-20-06. APPLY BMS 10-20, TYPE 2 PROTECTIVE COATING TO THE SEALANT.

[A] DAMAGE IS PERMITTED ON THE SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED [B].

[B] PROTECT DAMAGE FROM ENTRANCE OF WATER, FUEL, OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). APPLY BMS 10-20, TYPE 2 PROTECTIVE COATING TO SURFACE OF TAPE AND IMMEDIATE AREA AROUND THE TAPE. DO A REPAIR TO DAMAGE THAT IS GREATER THAN THE ALLOWABLE DAMAGE AS GIVEN IN SRM 57-20-09, REPAIR 2.

Fuel Dry Bay Barrier Allowable Damage
Figure 101 (Sheet 2 of 2)

REPAIR 1 - OUTER WING RIB CHORD

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

1. Cut out damaged portion of chord midway between existing chord to web fasteners.
2. Make the repair parts.
3. Assemble the repair parts and drill the fastener holes.
4. Remove the repair parts.
5. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
6. Alodize the repair parts and the cut edges of the original parts per 51-20-01.
7. Apply one coat of BMS 10-20, Type II primer to the repair parts and the cut edges of the original parts in accordance with 51-24 of the 767 Maintenance Manual.
8. Install the repair parts making a faying surface seal with BMS 5-26. Install fasteners wet with BMS 5-26 sealant.
9. Apply BMS 10-20, Type 2 primer to sealant.
10. Restore original finish per 51-21 of the 767 Maintenance Manual.

NOTES

- THIS REPAIR IS APPLICABLE TO BOTH CHORDS ON RIB NO. 1 AND 2, THE LOWER CHORD ON RIB NO. 14 AND 15, THE UPPER CHORD ON RIB NO. 16,18,19,20,21,22,23,25 AND 26
- REMOVE AND INSTALL ACCESS DOORS PER 28-11 OF THE 767 MAINTENANCE MANUAL
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

NOTES (CONT)

51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING

51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] REPAIR PARTS 3 AND 4 MAY BE USED AS AN ALTERNATIVE TO REPAIR PART 2. SEE TABLE I FOR MATERIAL GAGE

[B] SEE TABLE I FOR MINIMUM FASTENER REQUIREMENTS ON EACH SIDE OF SPLICE

[C] USE SAME SIZE FASTENER AS ORIGINAL

[D] USE SAME SIZE FASTENER AS WEB TO CHORD ATTACHMENT FASTENER

[E] WHEN CALCULATING FASTENER REQUIREMENTS FRACTIONS OF A FASTENER SHOULD BE TAKEN TO THE NEXT HIGHER WHOLE NUMBER

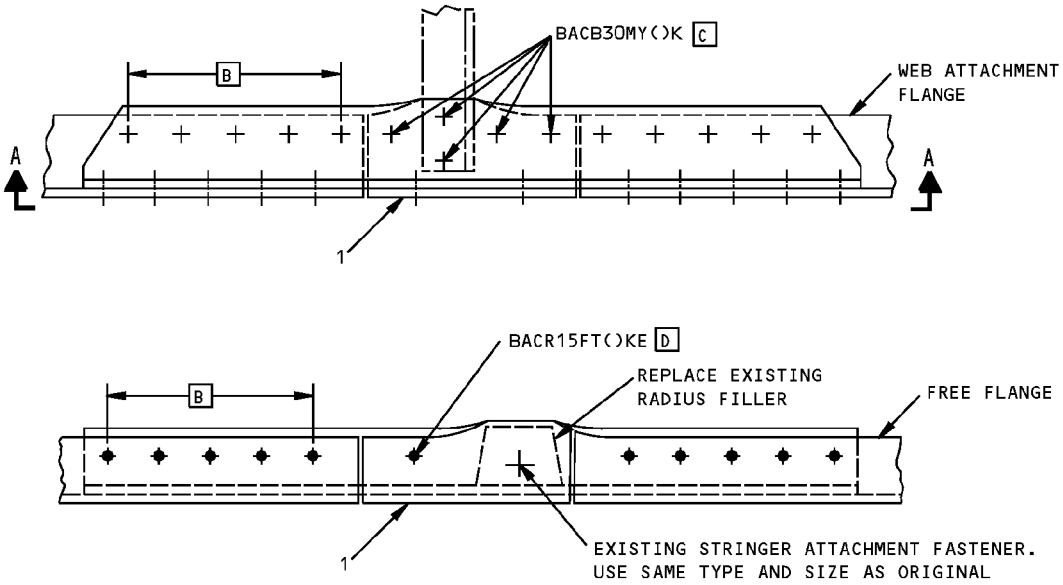
SYMBOLS

+ ORIGINAL FASTENER LOCATION

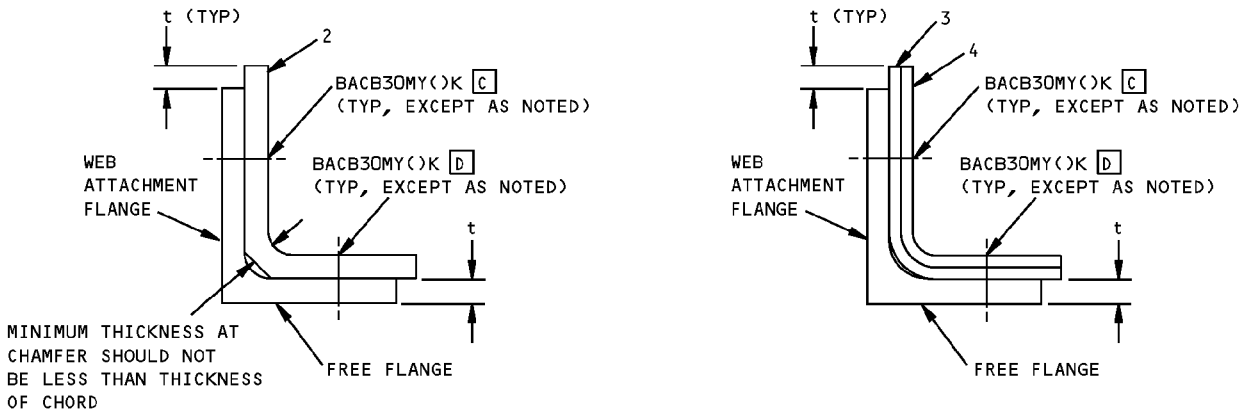
⊕ REPAIR FASTENER LOCATION

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	FILLER	1	MAKE FROM SAME EXTRUSION AS ORIGINAL CHORD 7075-T6
2	ANGLE	1	MAKE FROM SAME EXTRUSION AS ORIGINAL CHORD 7075-T6
3	ANGLE	1	7075-O HT-T6 [A]
4	ANGLE	1	7075-O HT-T6 [A]

Outer Wing Rib Chord Repair
Figure 201 (Sheet 1 of 2)



SECTION A-A



PREFERRED ALTERNATE

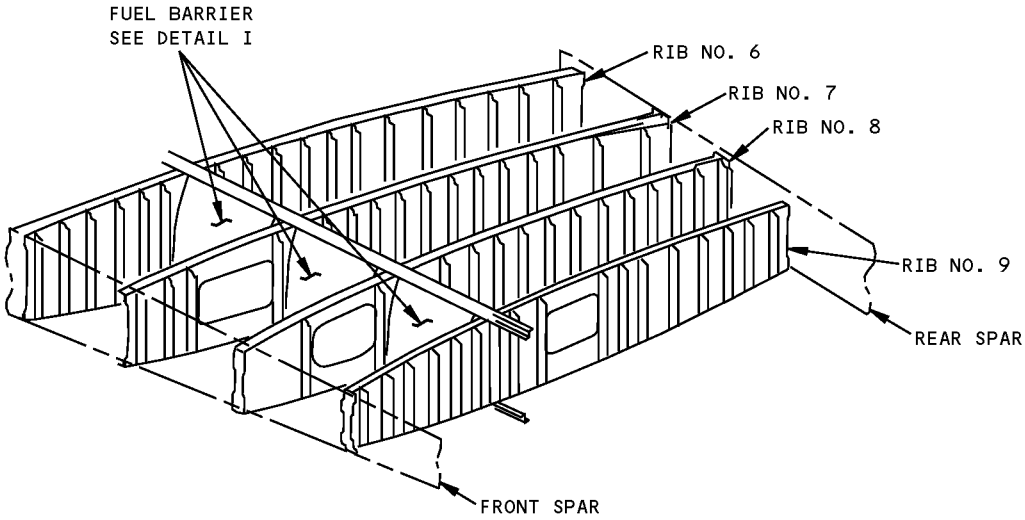
SECTION THROUGH SPLICE

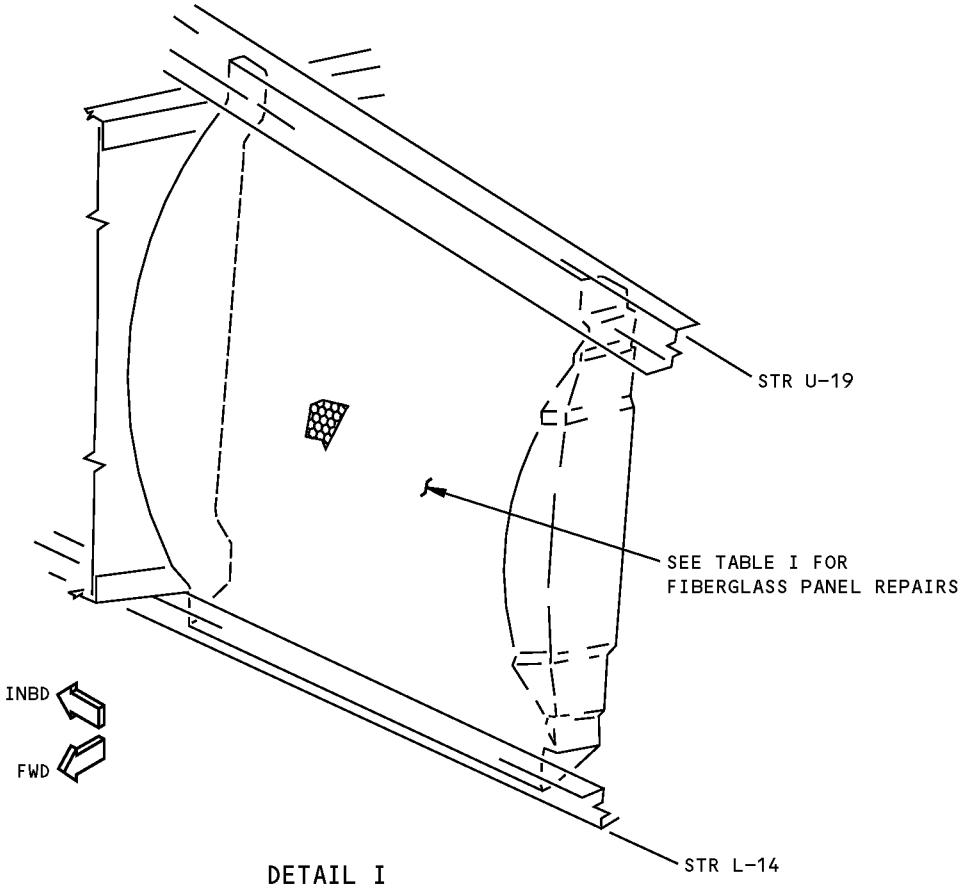
CHORD THICKNESS	GAGE OF REPAIR PARTS 3 AND 4	MINIMUM FASTENER REQUIREMENT PER INCH WIDTH OF FLANGE E	
		5/32 DIA	3/16 DIA
0.125	0.071	4.4	3.5
0.156	0.090	5.5	4.1
0.188	0.112	6.6	4.4

TABLE I

Outer Wing Rib Chord Repair
Figure 201 (Sheet 2 of 2)

REPAIR 2 - FUEL DRY BAY BARRIER





DETAIL I

Fuel Dry Bay Barrier Repair
Figure 201 (Sheet 1 of 2)

DAMAGE	INTERIM REPAIRS [B] [D]	PERMANENT REPAIRS [D]
	WET LAYUP ROOM TEMPERATURE CURE (51-70-06)	WET LAYUP ROOM TEMP/150°F (66°C) CURE (51-70-06)
CRACKS	UP TO 4.0 INCHES (100 mm) LONG, REPAIR WITH PATCH PER 51-70-06, PAR. 5.N. [A]	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (100 mm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.N. [A]	8.0 INCHES (200 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [C]
DELAMI-NATION	CUT OUT AND REPAIR PER 51-70-06 PAR. 5.A.	
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES PER 51-70-06 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR PER 51-70-06 PAR. 5.A.	
DENTS	UP TO 2.0 IN. (50 mm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.L. [C] OVER 2.0 IN. (50 mm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR PER 51-70-06 PAR. 5.A.	

REPAIR DATA FOR 250°F (121°C) CURE FIBERGLASS HONEYCOMB PANELS
TABLE I

REPAIR INSTRUCTIONS

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS PER 28-11 OF THE 767 MAINTENANCE MANUAL BEFORE ENTERING FUEL TANKS.

FLASHPOINT OF FUEL VAPORS CAN BE AS LOW AS 180°F (82°C). DO NOT USE CURE TEMPERATURES HIGHER THAN 150°F (66°C).

NOTES

- REFER TO 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFINISH REWORKED AREAS WITH BMS 10-20, TYPE 2 PROTECTIVE COATING PER 51-21 OF THE 767 MAINTENANCE MANUAL
- RESTORE DAMAGED ALUMINUM FLAME SPRAY PER 51-70-14 PAR. 10.B OR 10.C AND TEDLAR SURFACE PER PAR. 15
- RESTORE FILLET SEALS WITH BMS 5-26 PER 51-20-05

[A] LIMITED TO REPAIR OF DAMAGE TO ONE FACE-SHEET SKIN AND HONEYCOMB CORE. ONE REPAIR PER SQUARE FOOT OF AREA AND MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR EDGE OF PANEL

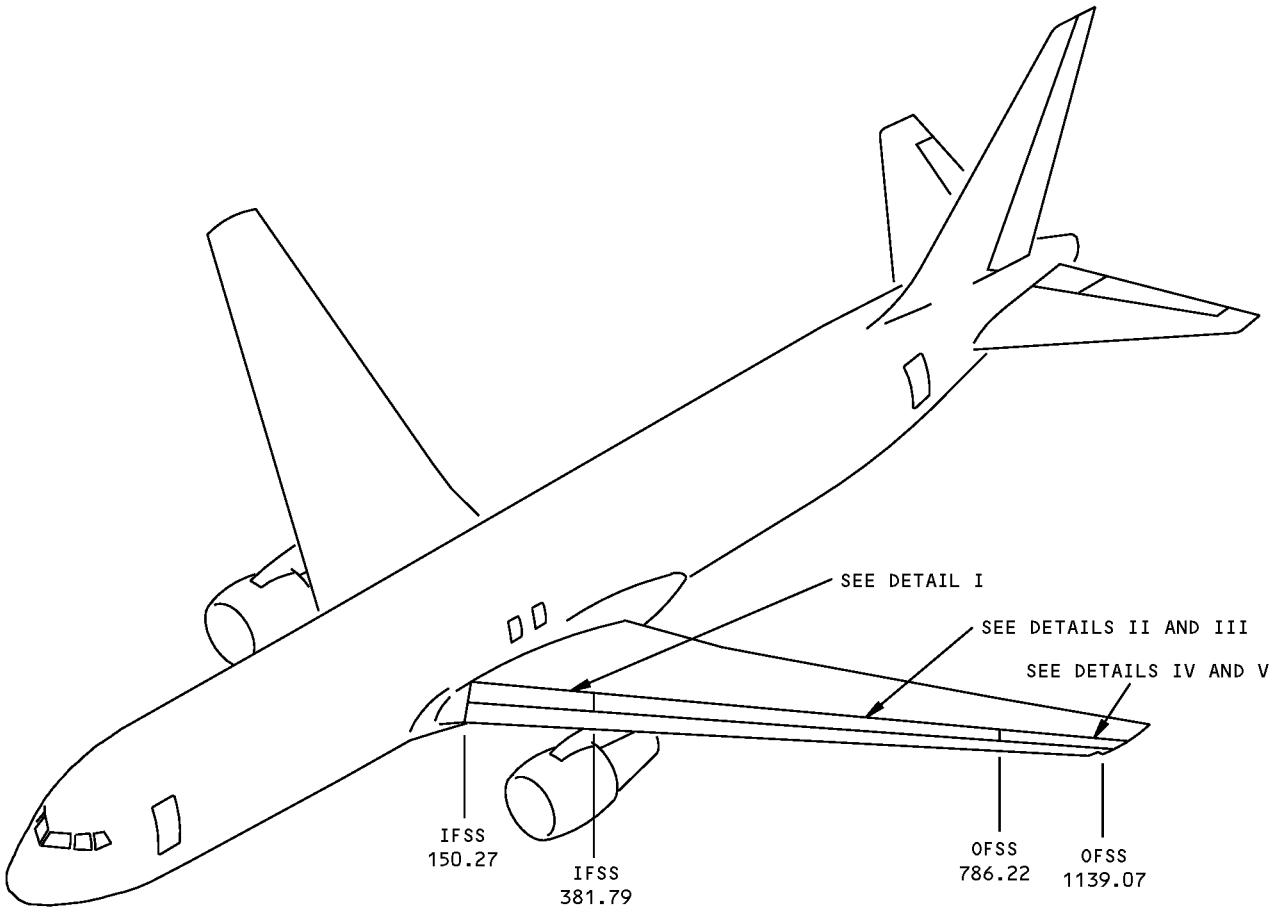
[B] INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST EVERY AIRPLANE "2A" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO 51-70-06, PAR. 4.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN

[C] ONE REPAIR PER SQUARE FOOT OF AREA AND A MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR EDGE OR PANEL

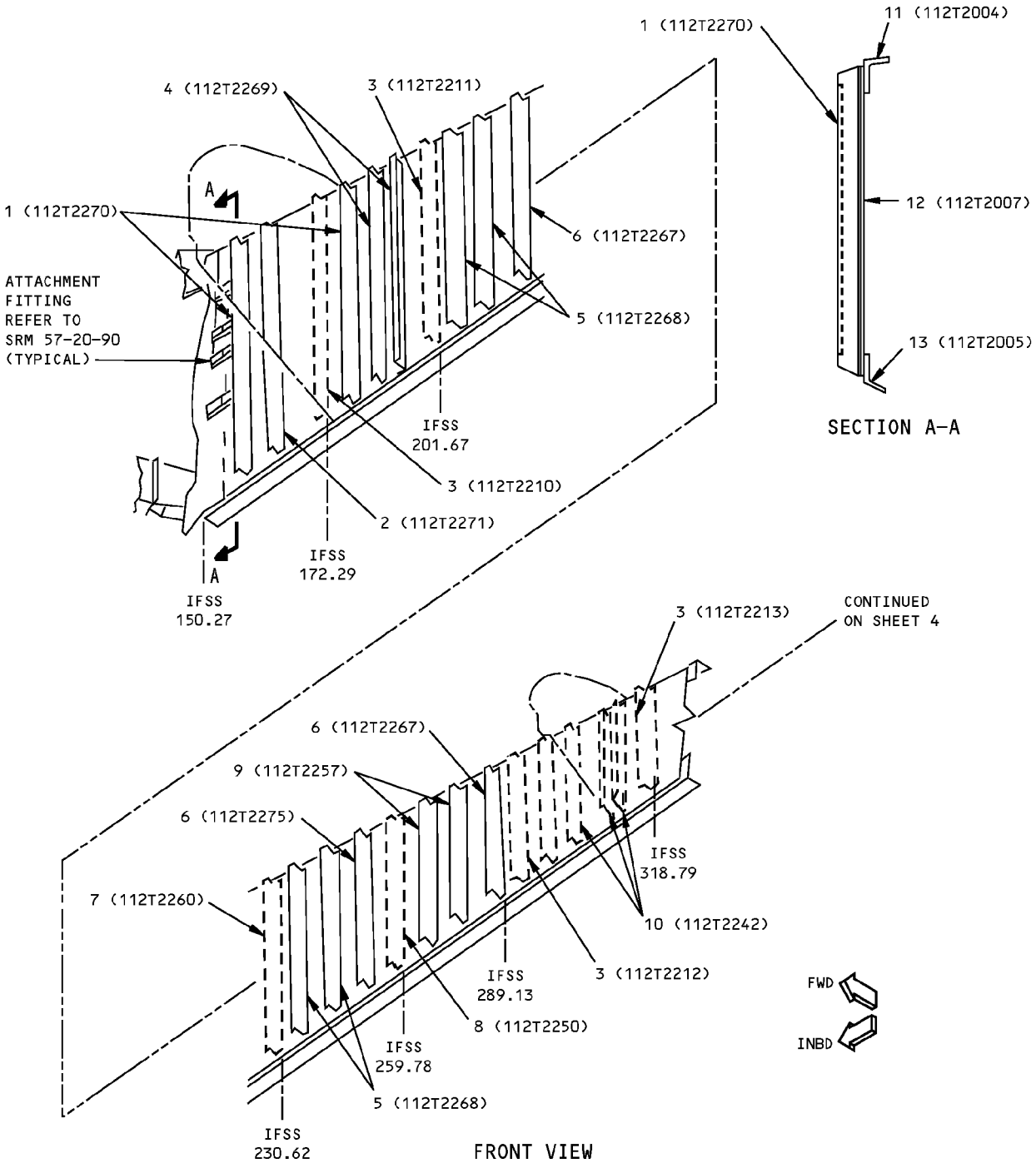
[D] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F [52°C]) TO REMOVE MOISTURE FROM HONECOMB CELLS IS RECOMMENDED

Fuel Dry Bay Barrier Repair
Figure 201 (Sheet 2 of 2)

IDENTIFICATION 1 - OUTER WING FRONT SPAR



Outer Wing Front Spar Identification
Figure 1 (Sheet 1 of 7)

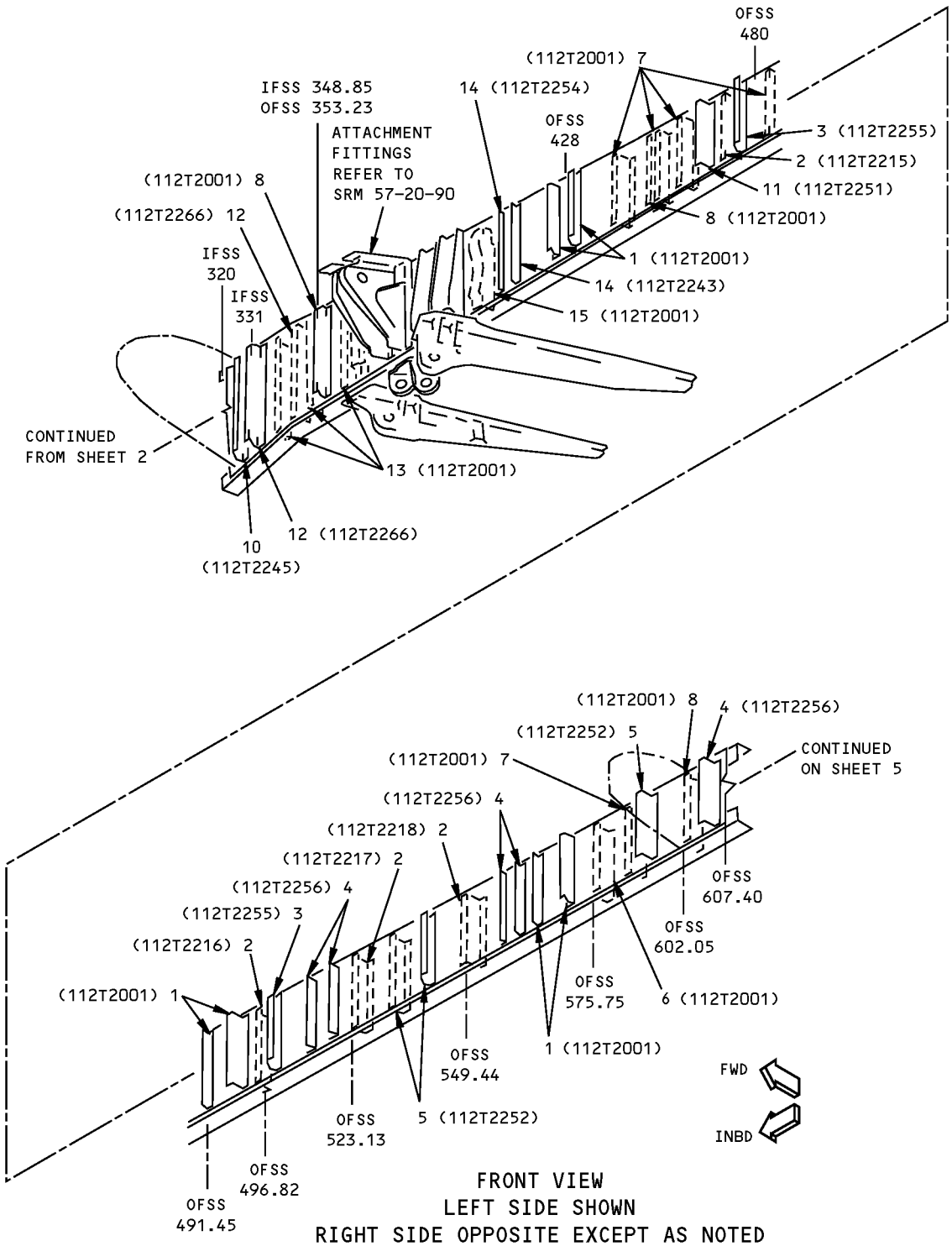


Outer Wing Front Spar Identification
Figure 1 (Sheet 2 of 7)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1517-2130 7075-T6511	
2	STIFFENER		BAC1509-100454 7075-T76511	
3	RIB POST		FORGING 7175-T736	
4	STIFFENER		BAC1517-2131 7075-T6511	
5	STIFFENER		BAC1517-2132 7075-T6511	
6	STIFFENER		BAC1517-2133 7075-T6511	
7	RIB POST		BAC1514-2427 7075-T76511	
8	RIB POST		BAC1514-2426 7075-T76511	
9	STIFFENER		BAC1517-2134 7075-T6511	
10	STIFFENER		BAC1517-2118 7075-T76511	
11	UPPER CHORD		BAC1514-2690 7075-T76511 OPTIONAL: BAC1514-2420	
12	WEB	0.700	2024-T351 (MACHINED TO 0.075 INCH MINIMUM)	
13	LOWER CHORD		BAC1514-2691 2224-T3511 OPTIONAL: BAC1514-2419	

LIST OF MATERIALS FOR DETAIL I

Outer Wing Front Spar Identification
Figure 1 (Sheet 3 of 7)

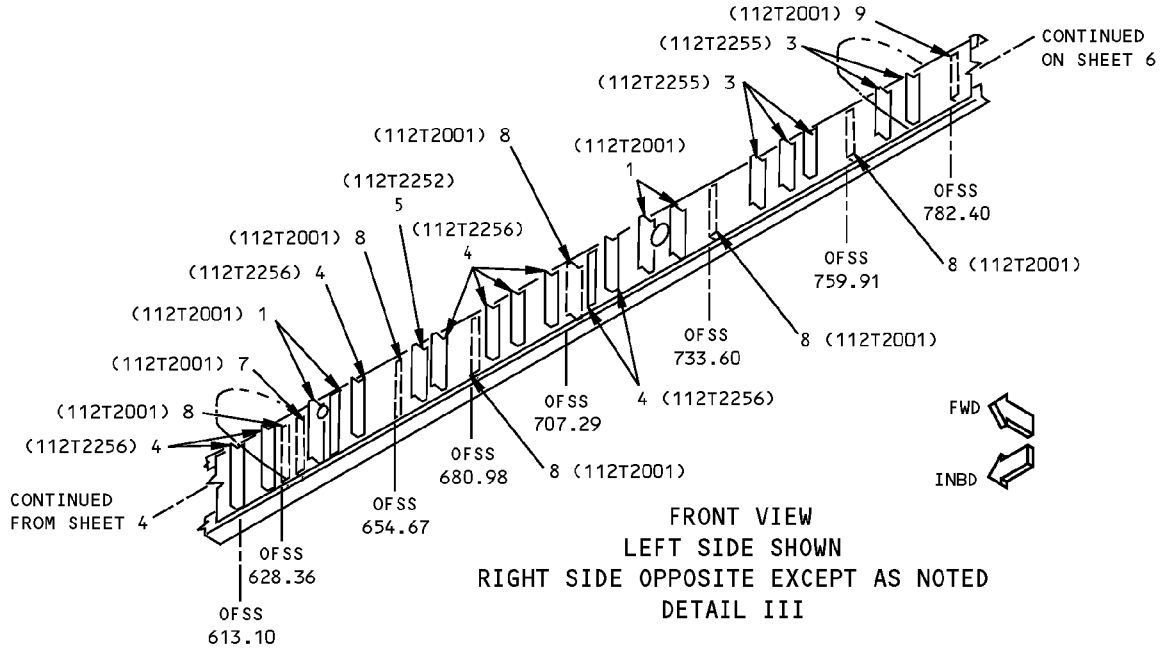


FRONT VIEW
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE EXCEPT AS NOTED

DETAIL II

LIST OF MATL

Outer Wing Front Spar Identification
Figure 1 (Sheet 4 of 7)

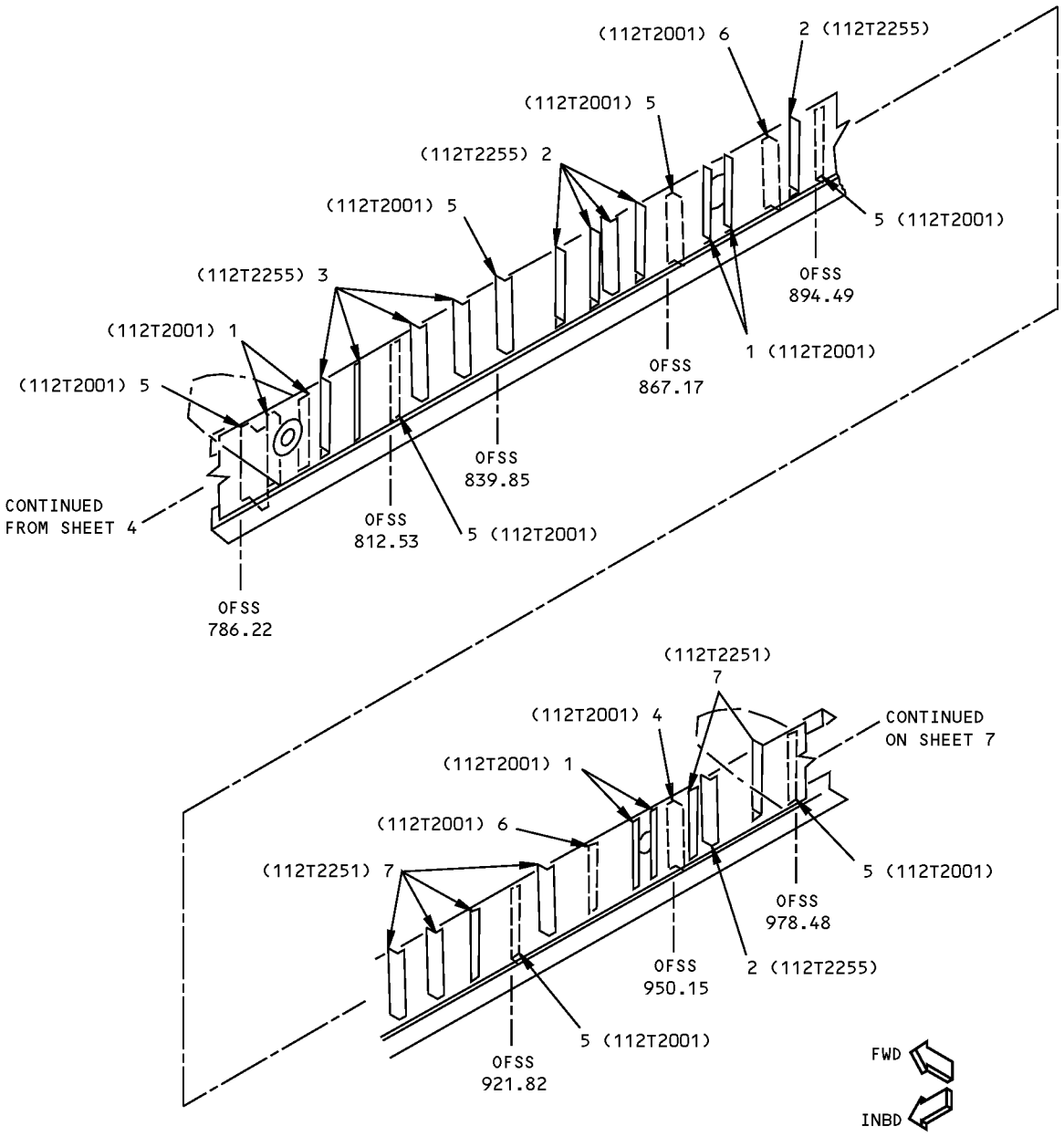


FRONT VIEW
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE EXCEPT AS NOTED
DETAIL III

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		FORGING 7075-T73 OPTIONAL: BAC1503-100614 7075-T76511	
2	RIB POST		FORGING 7175-T736	
3	STIFFENER		BAC1503-100631 7075-T6511	
4	STIFFENER		BAC1503-100632 7075-T6511	
5	STIFFENER		BAC1503-100633 7075-T6511	
6	RIB POST		FORGING 7050-T736 OPTIONAL: BAC1514-2428 7075-T76511	
7	STIFFENER		FORGING 7075-T73 OPTIONAL: BAC1517-2119 7075-T76511	
8	RIB POST		FORGING 7050-T736 OPTIONAL: BAC1514-2426 7075-T76511	
9	STIFFENER		FORGING 7050-T73 OPTIONAL: BAC1503-100625 7075-T76511	
10	STIFFENER		BAC1509-2130 7075-T6511	
11	STIFFENER		BAC1503-100630 7075-T6511	
12	STIFFENER		BAC1517-2135 7075-T6511	
13	STIFFENER		FORGING 7075-T73 OPTIONAL: BAC1517-2125 7075-T6511	
14	STIFFENER		BAC1503-100629 7075-T6511	
15	RIB POST		FORGING 7050-T736 OPTIONAL: 7050-T73652	

LIST OF MATERIALS FOR DETAILS II AND III

Outer Wing Front Spar Identification
Figure 1 (Sheet 5 of 7)

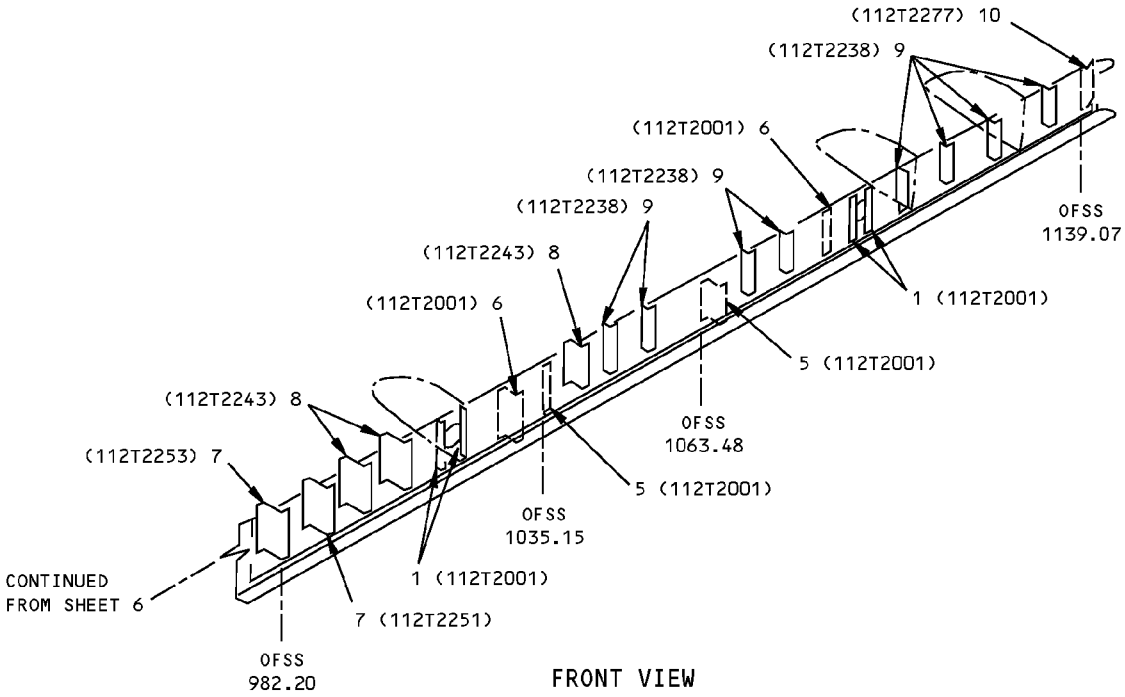


FRONT VIEW
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE EXCEPT AS NOTED

DETAIL IV

LIST OF MATL

Outer Wing Front Spar Identification
Figure 1 (Sheet 6 of 7)



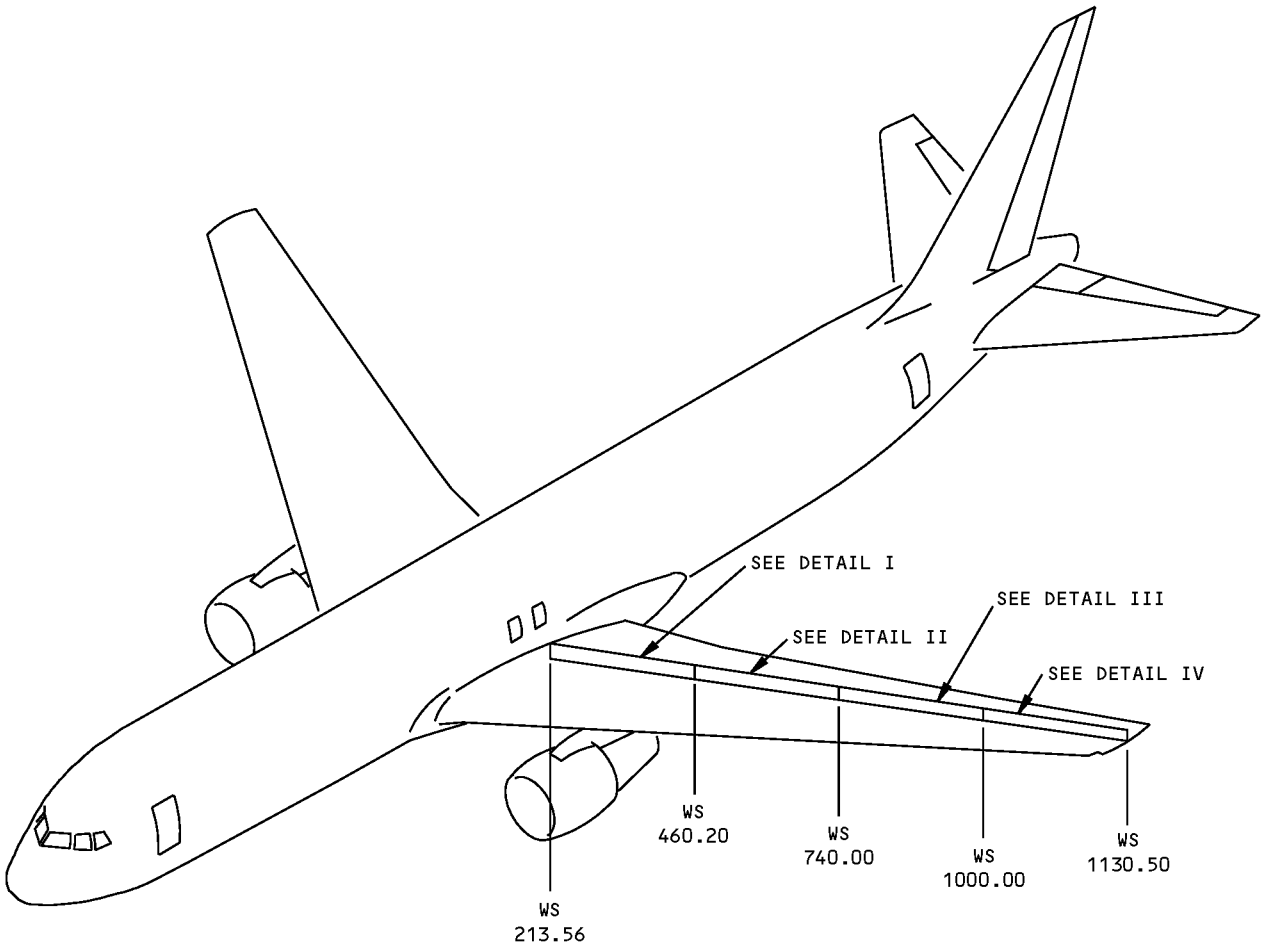
FRONT VIEW
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE
DETAIL V

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		FORGING 7075-T73 OPTIONAL: BAC1503-100614 7075-T76511	
2	STIFFENER		BAC1503-100631 7075-T6511	
3	STIFFENER		BAC1503-100633 7075-T6511	
4	RIB POST		FORGING 7075-T736 OPTIONAL: BAC1514-2428 7075-T76511	
5	RIB POST		FORGING 7075-T736 OPTIONAL: BAC1514-2426 7075-T76511	
6	STIFFENER		FORGING 7075-T73 OPTIONAL: BAC1503-100625 7075-T76511	
7	STIFFENER		BAC1503-100630 7075-T6511	
8	STIFFENER		BAC1503-100629 7075-T6511	
9	STIFFENER		BAC1503-100634 7075-T6511	
10	ANGLE	0.125	7075-T6	

LIST OF MATERIALS FOR DETAILS IV AND V

Outer Wing Front Spar Identification
Figure 1 (Sheet 7 of 7)

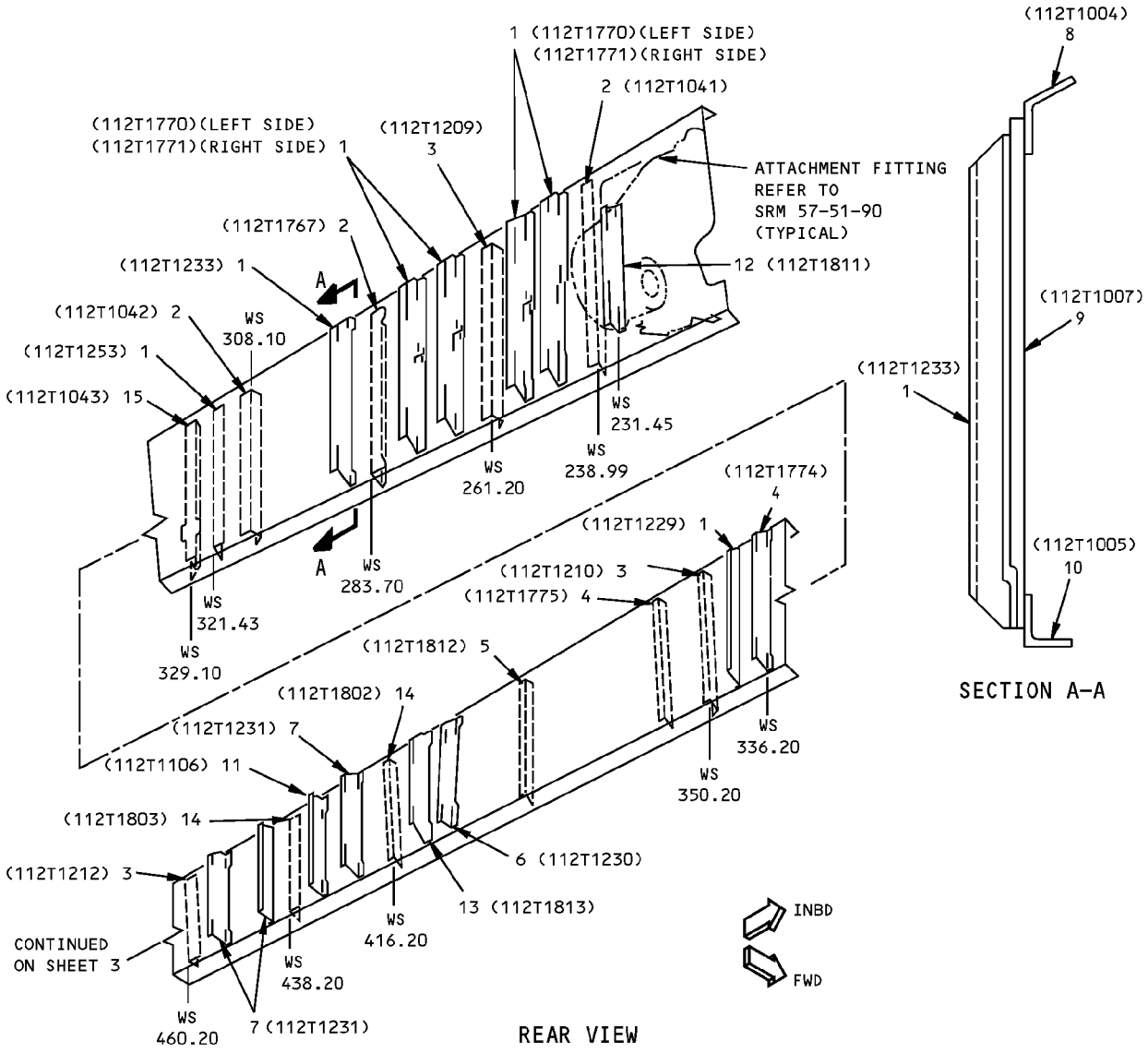
IDENTIFICATION 2 - OUTER WING REAR SPAR



NOTE

[A] FOR AIRPLANES WITH CUM LINE NUMBERS:
289,291,293,294,298,300 AND ON

Outer Wing Rear Spar Identification
Figure 1 (Sheet 1 of 7)

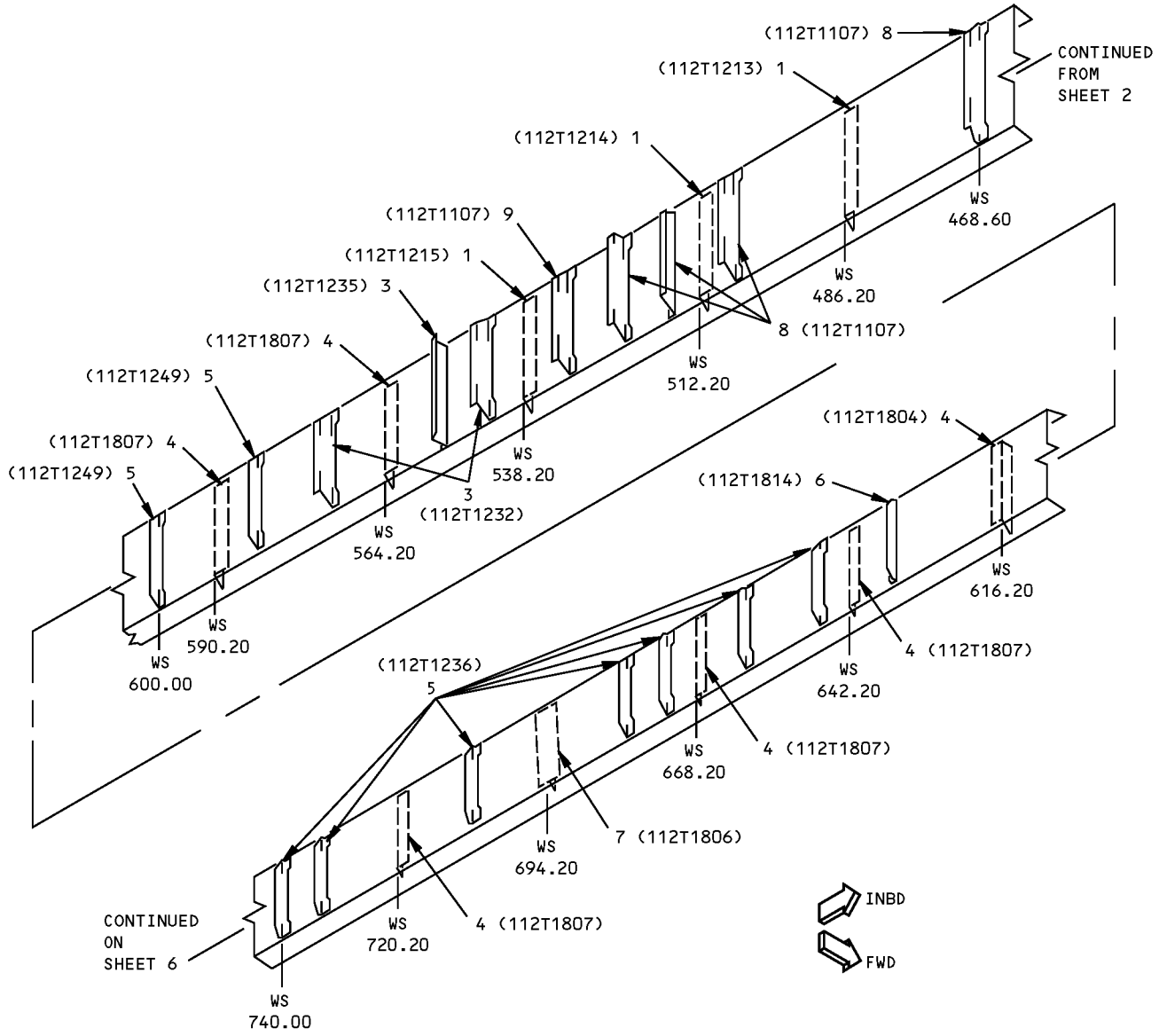


Outer Wing Rear Spar Identification
Figure 1 (Sheet 2 of 7)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1517-2117 7075-T76511	
2	RIB POST		FORGING 7075-T73652	
3	RIB POST		FORGING 7175-T736	
4	STIFFENER		BAC1517-2118 7075-T6511	
5	STIFFENER		FORGING 7075-T73	
6	STIFFENER		BAC1517-2139 7075-T6511	
7	STIFFENER		BAC1517-2140 7075-T6511	
8	UPPER CHORD		BAC1514-2421 7075-T76511	
9	WEB	0.875	2024-T351 (MACHINED TO 0.075 INCH MINIMUM)	
10	LOWER CHORD		BAC1514-2416 2224-T3511	
11	STIFFENER		BAC1514-2702 7075-T6511 OPTIONAL: BAC1517-2139 7075-T6511	
12	STIFFENER		FORGING 7075-T73	
13	STIFFENER		FORGING 7075-T73	
14	RIB POST		FORGING 7075-T736	
15	RIB POST		FORGING 7075-T736 OPTIONAL: 7075-T73652	

LIST OF MATERIALS FOR DETAIL I

Outer Wing Rear Spar Identification
Figure 1 (Sheet 3 of 7)



REAR VIEW
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

DETAIL II

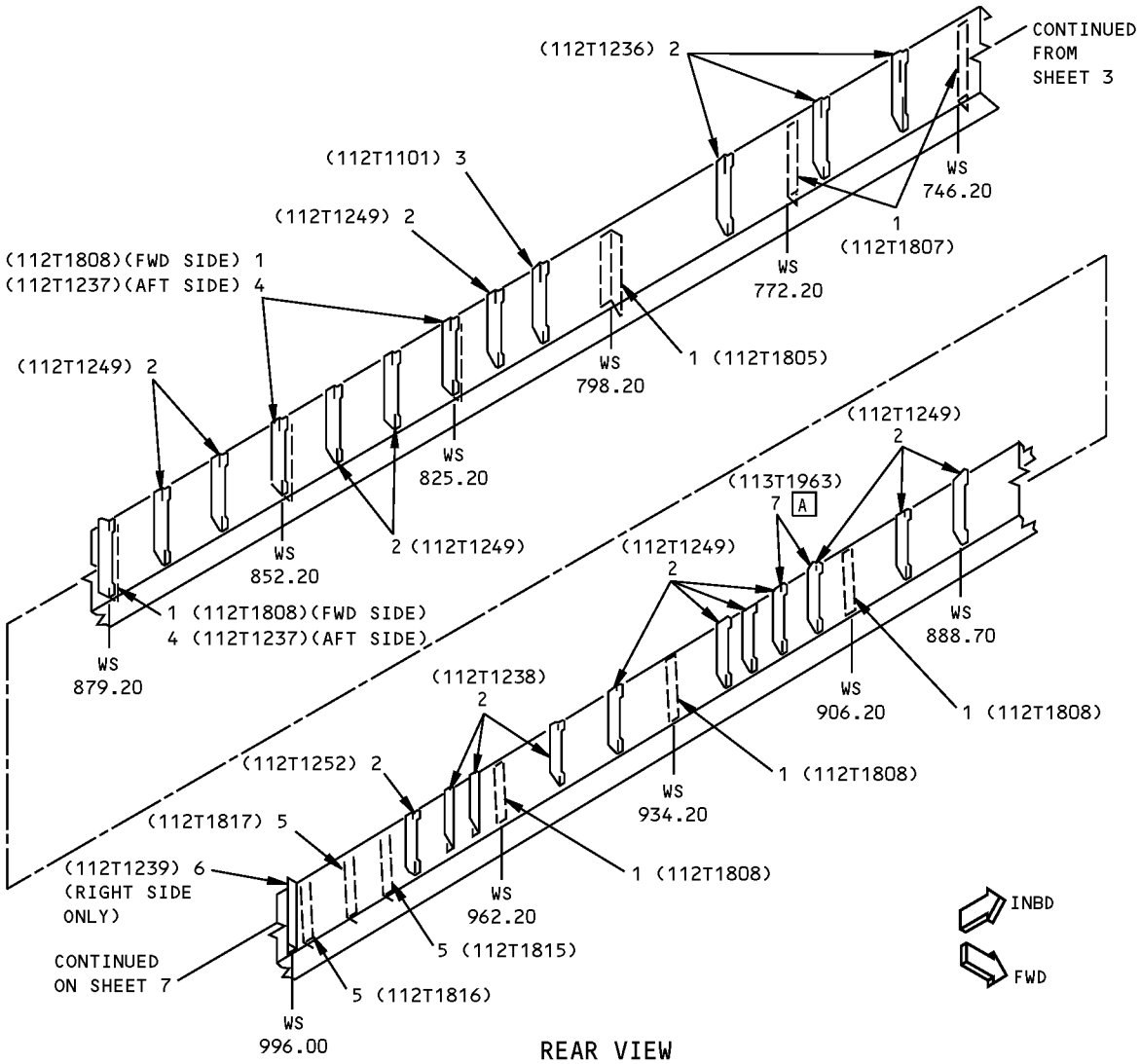
LIST OF MATL

Outer Wing Rear Spar Identification
Figure 1 (Sheet 4 of 7)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB POST		FORGING 7175-T736	
2	STIFFENER		BAC1517-2141 7075-T6511	
3	STIFFENER		BAC1517-2142 7075-T6511	
4	RIB POST		FORGING 7075-T736	
5	STIFFENER		BAC1503-100637 7075-T6511	
6	STIFFENER		FORGING 7075-T736	
7	RIB POST		FORGING 7075-T736	
8	STIFFENER		BAC1503-100631 7075-T6511	
9	STIFFENER		BAC1514-2701 7075-T6511 OPTIONAL: BAC1517-2118 7075-T6511	

LIST OF MATERIALS FOR DETAIL II

Outer Wing Rear Spar Identification
Figure 1 (Sheet 5 of 7)

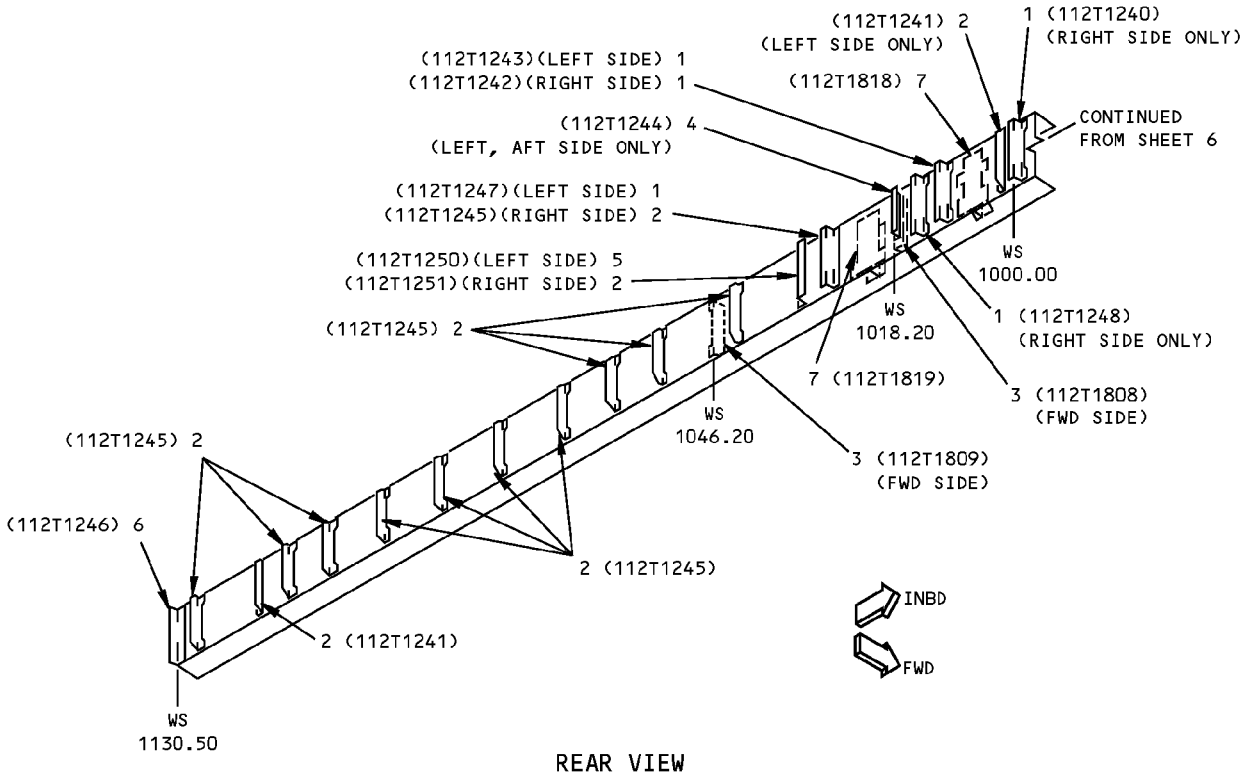


REAR VIEW
LEFT SIDE OS SHOWN, RIGHT SIDE IS OPPOSITE EXCEPT AS NOTED
DETAIL III

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB POST		7050-T736 DIE FORGING	
2	STIFFENER		BAC1503-100637 7075-T6511	
3	STIFFENER		BAC1509-100454 7075-T76511	
4	STIFFENER		BAC1503-100638 7075-T6511	
5	STIFFENER		7075-T73 DIE FORGING	
6	STIFFENER		BAC1517-2143 7075-T6511	
7	STIFFENER		BAC1514-330 7075-T6511	A

LIST OF MATERIALS FOR DETAIL III

Outer Wing Rear Spar Identification
Figure 1 (Sheet 6 of 7)



REAR VIEW
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE EXCEPT AS NOTED

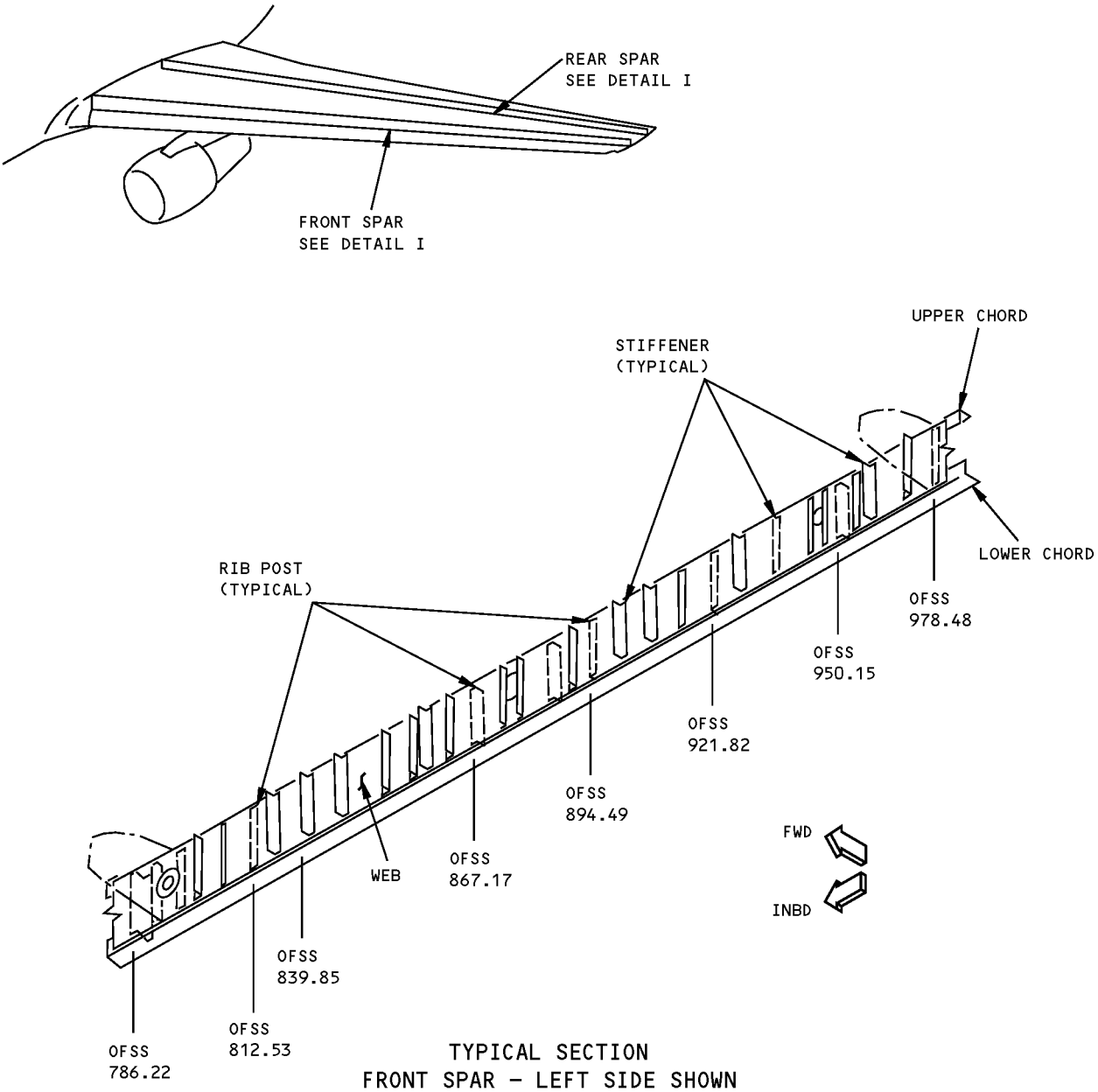
DETAIL IV

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	STIFFENER		BAC1517-2143 7075-T6511	
2	STIFFENER		BAC1503-100639 7075-T6511	
3	RIB POST		FORGING 7050-T736	
4	STIFFENER		AND10138-1206 7075-T6511	
5	STIFFENER		7075-T7351	
6	ANGLE	0.125	7075-T6	
7	STIFFENER		FORGING 7050-T73	

LIST OF MATERIALS FOR DETAIL IV

Outer Wing Rear Spar Identification
Figure 1 (Sheet 7 of 7)

ALLOWABLE DAMAGE GENERAL - OUTER WING FRONT AND REAR SPAR



Allowable Damage - Outer Wing Front and Rear Spar
Figure 101 (Sheet 1 of 4)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
WEB	[A]	[B]	SEE DETAIL IV	[C]
CHORD	[A]	[B]	NOT PERMITTED	NOT PERMITTED
STIFFENER	[A]	[B]	NOT PERMITTED	[D]
RIB POST	[A]	[B]	NOT PERMITTED	NOT PERMITTED

NOTES

WARNING: FUEL VAPORS ARE HAZARDOUS AND EXPLOSIVE. PURGE AND VENTILATE THE FUEL TANKS AS GIVEN IN AMM 28-11 BEFORE YOU ENTER THE FUEL TANKS.

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

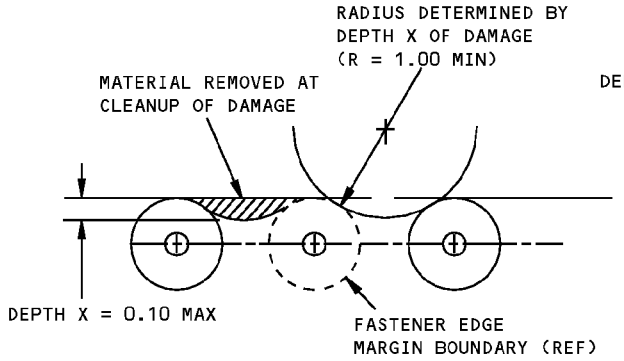
[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS II AND VI. SHOT PEEN REWORKED AREAS OF WEB, CHORDS AND RIB POSTS AS GIVEN IN SRM 51-20-06.

[B] REMOVE DAMAGE AS GIVEN IN DETAILS II,III,V, AND VI. SHOT PEEN THE REWORKED AREAS OF WEB, CHORDS AND RIB POSTS AS GIVEN IN SRM 51-20-06.

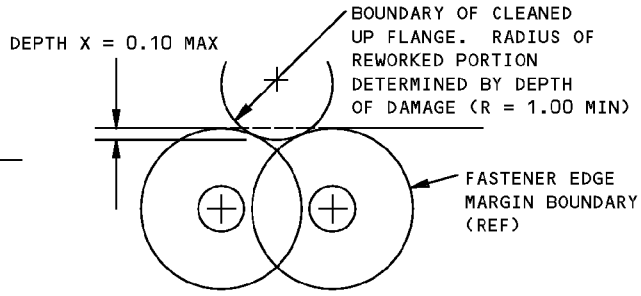
[C] CLEAN OUT DAMAGE UP TO 0.25 INCH MAXIMUM DIAMETER AND NOT CLOSER THAN 4D TO FASTENER HOLE, MATERIAL EDGE OR OTHER DAMAGE. FILL HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-26 SEALANT. MAKE A SEAL AS GIVEN IN SRM 51-20-05. ALL OTHER HOLES MUST BE REPAIRED.

[D] PERMITTED IN THE FREE FLANGE AND THE WEB OF THE STIFFENER ONLY. SEE DETAIL VII.

Allowable Damage - Outer Wing Front and Rear Spar
Figure 101 (Sheet 2 of 4)

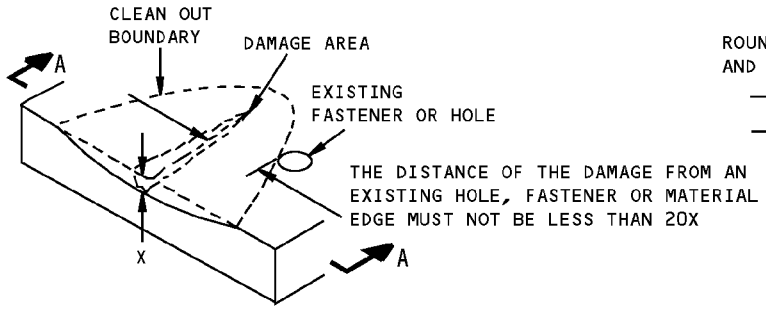


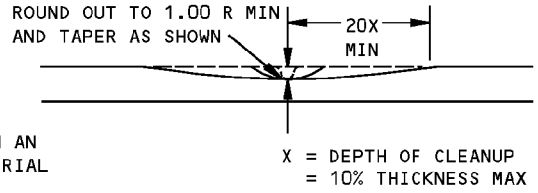
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

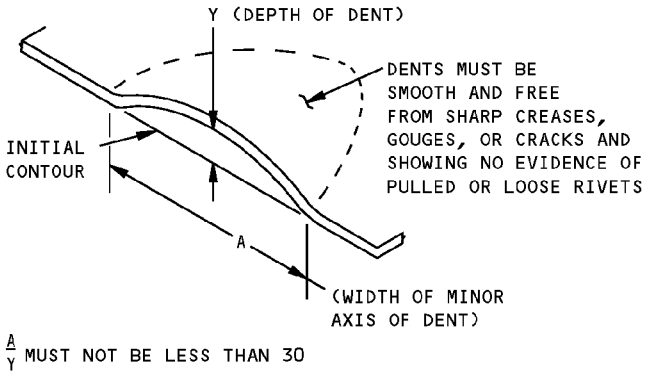
DETAIL II



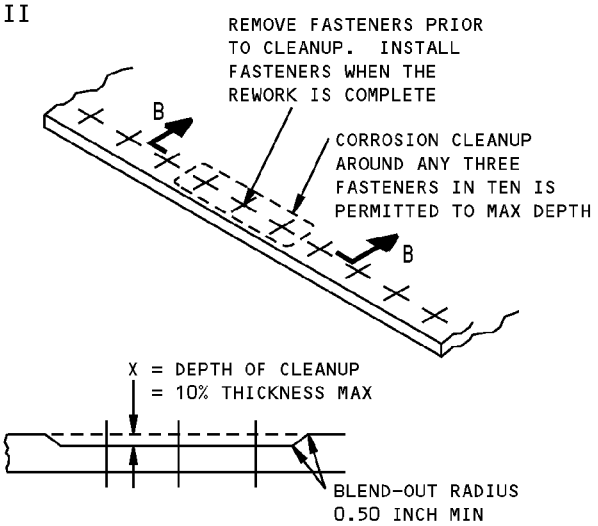


SECTION A-A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL III

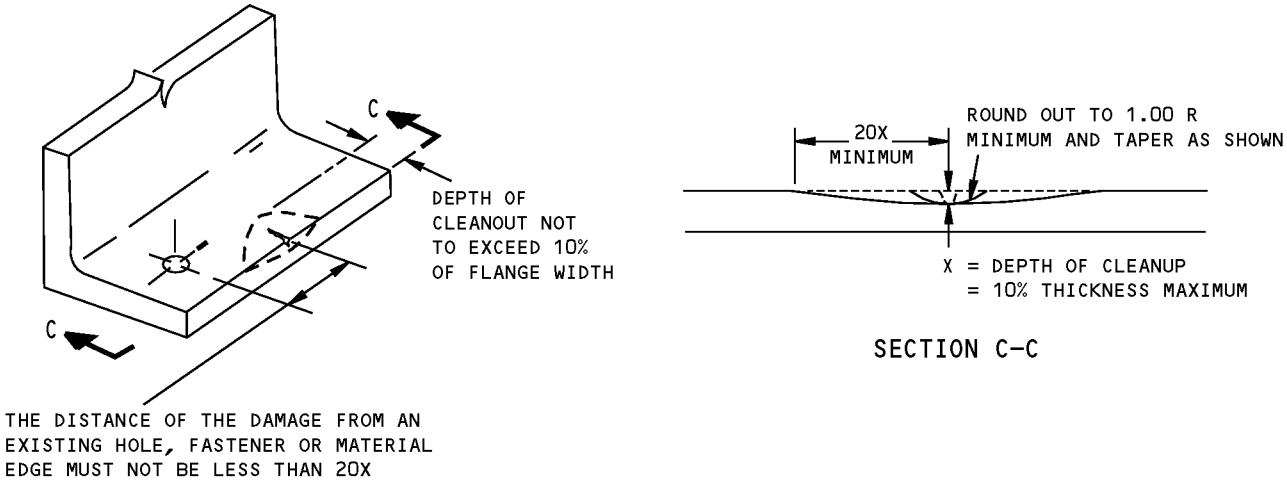


ALLOWABLE DAMAGE FOR DENT
DETAIL IV

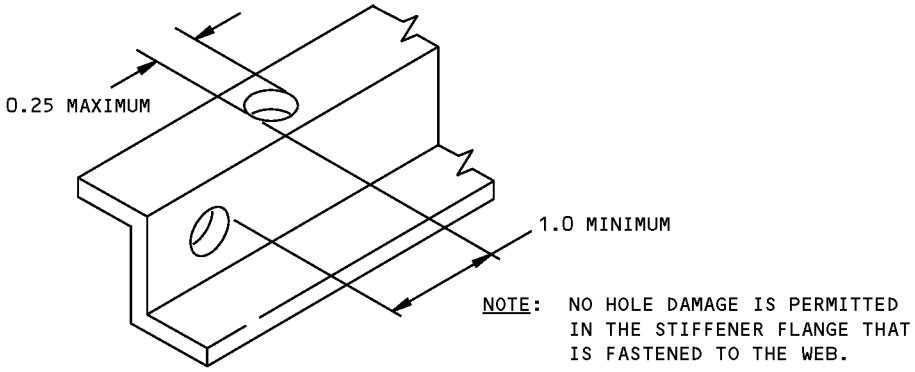


SECTION B-B
CORROSION CLEANUP
DETAIL V

Allowable Damage - Outer Wing Front and Rear Spar
Figure 101 (Sheet 3 of 4)



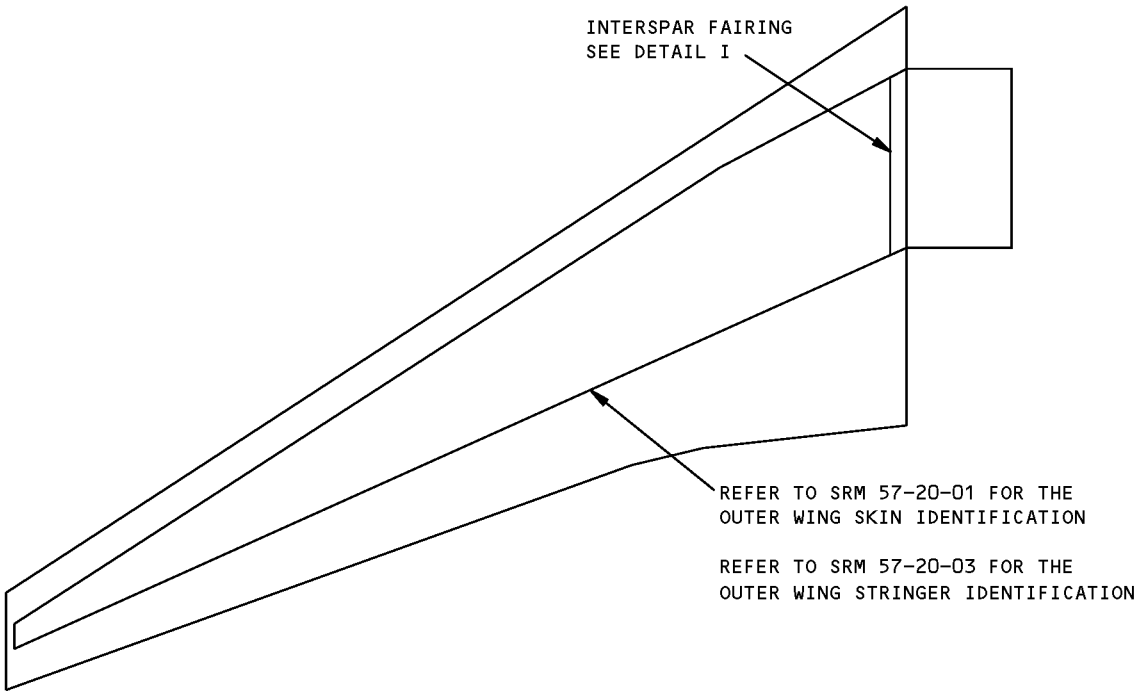
REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL VI



ALLOWABLE DAMAGE LIMITS FOR
HOLES IN WEB STIFFENERS
DETAIL VII

Allowable Damage - Outer Wing Front and Rear Spar
Figure 101 (Sheet 4 of 4)

IDENTIFICATION 1 - OVERWING INTERSPAR FAIRING



NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION.

[B] MATERIAL AND PLY ORIENTATION ARE SHOWN FOR FIELD AREAS ONLY. SEE THE BOEING DRAWINGS FOR THE EDGE BANDS AND AREAS WITH DOUBLERS.

[C] DIAGRAM OF PLY ORIENTATION. SEE THE PLY TABLE FOR PLY ORIENTATION.

[D] ARAMID/EPOXY FABRIC AS GIVEN IN BMS 8-219, STYLE 285, 250°F (121°C) CURE

[E] GRAPHITE/EPOXY FABRIC AS GIVEN IN BMS 8-168, TYPE II, CLASS 2, GRADE 3K-70-PW, 250°F (121°C) CURE

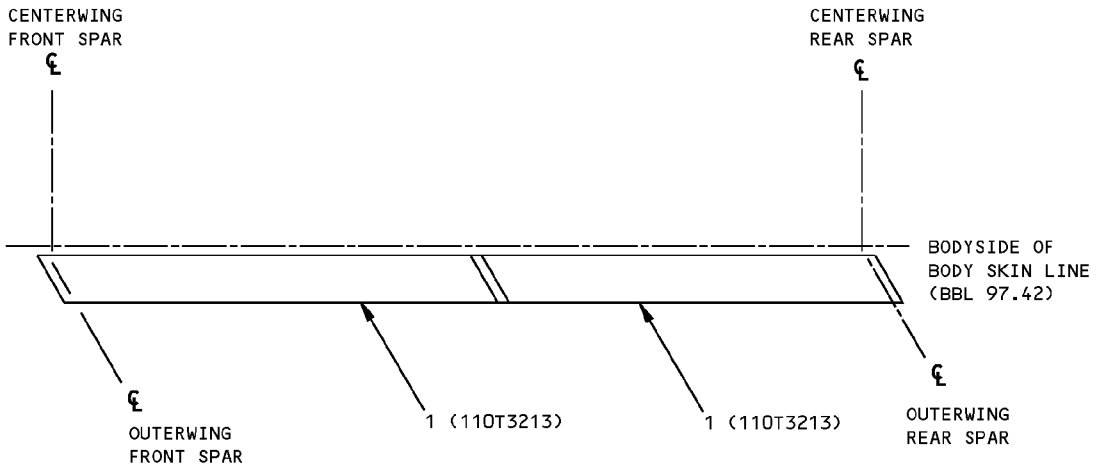
[F] FIBERGLASS/EPOXY FABRIC AS GIVEN IN BMS 8-79, CLASS III, GRADE I, TYPE 1581, 250°F (121°C) CURE

[G] FOR CUM LINE NUMBERS: 1 THRU 211

[H] FOR CUM LINE NUMBERS: 212 AND ON

Overwing Interspar Fairing Identification
Figure 1 (Sheet 1 of 3)

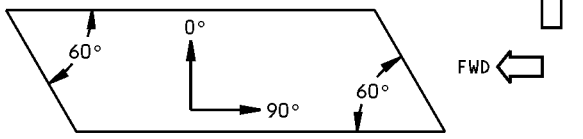
REF DWG
110T3000



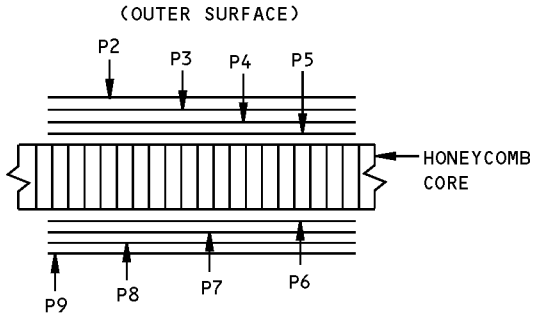
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL II NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V OR VI GRADE 3.0	

LIST OF MATERIALS FOR DETAIL I

Overwing Interspar Fairing Identification
Figure 1 (Sheet 2 of 3)



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2, P3, P4, P7, P8, P9	[D]	0° OR 90°
	P5, P6	[E]	0° OR 90°

PLY TABLE [B] [G]

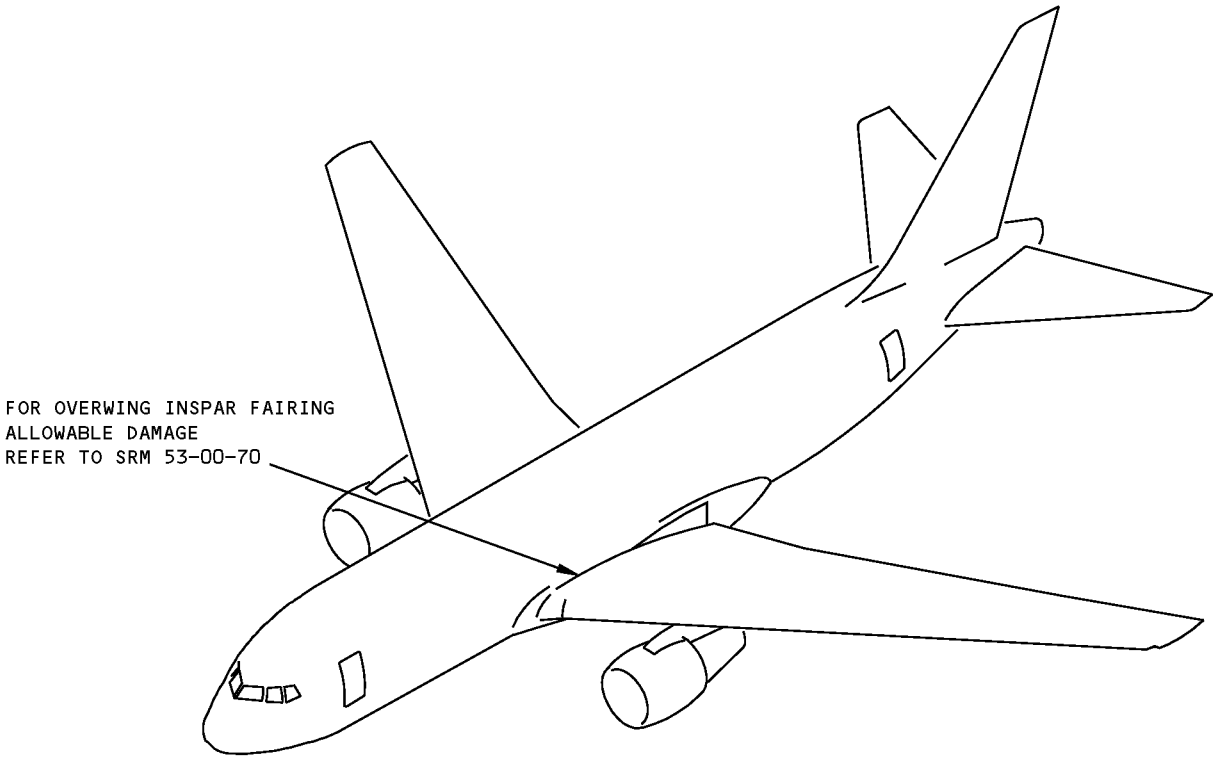
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2	[F]	0° OR 90°
	P3, P4, P7 P8, P9	[D]	0° OR 90°
	P5, P6	[E]	0° OR 90°

PLY TABLE [B] [H]

DETAIL II

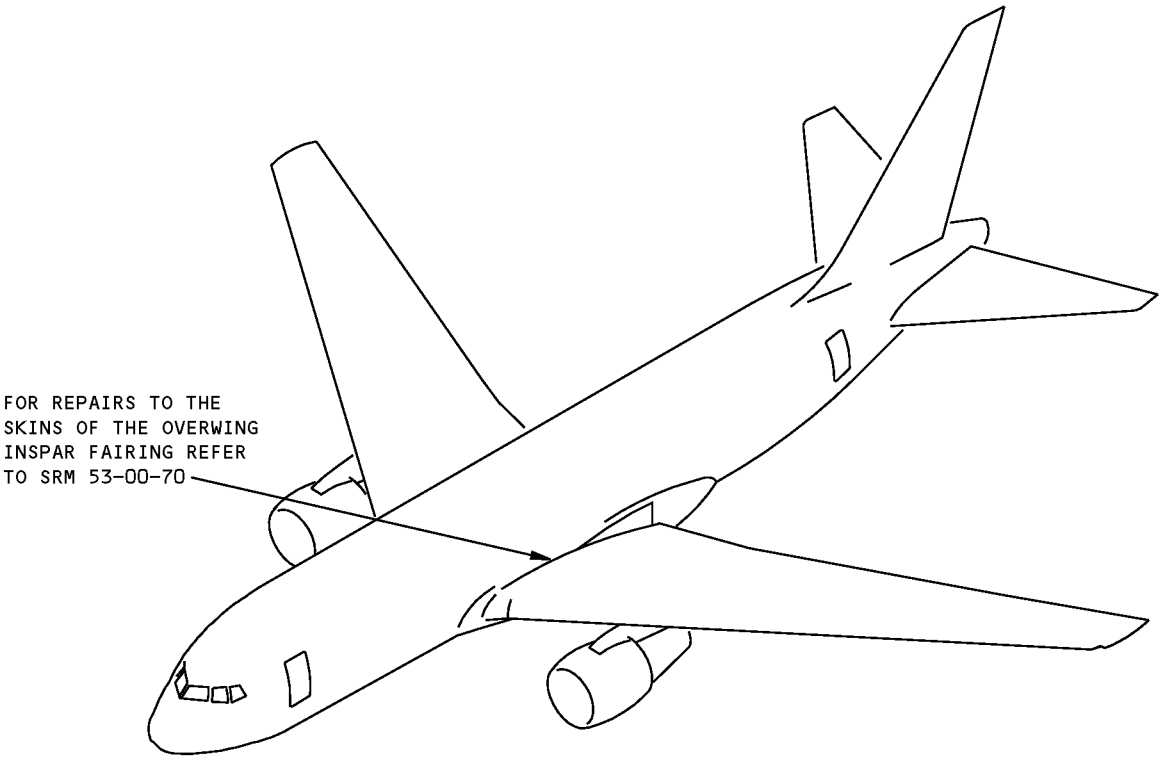
Overwing Interspar Fairing Identification
Figure 1 (Sheet 3 of 3)

ALLOWABLE DAMAGE 1 - OVERWING INSPAR FAIRING



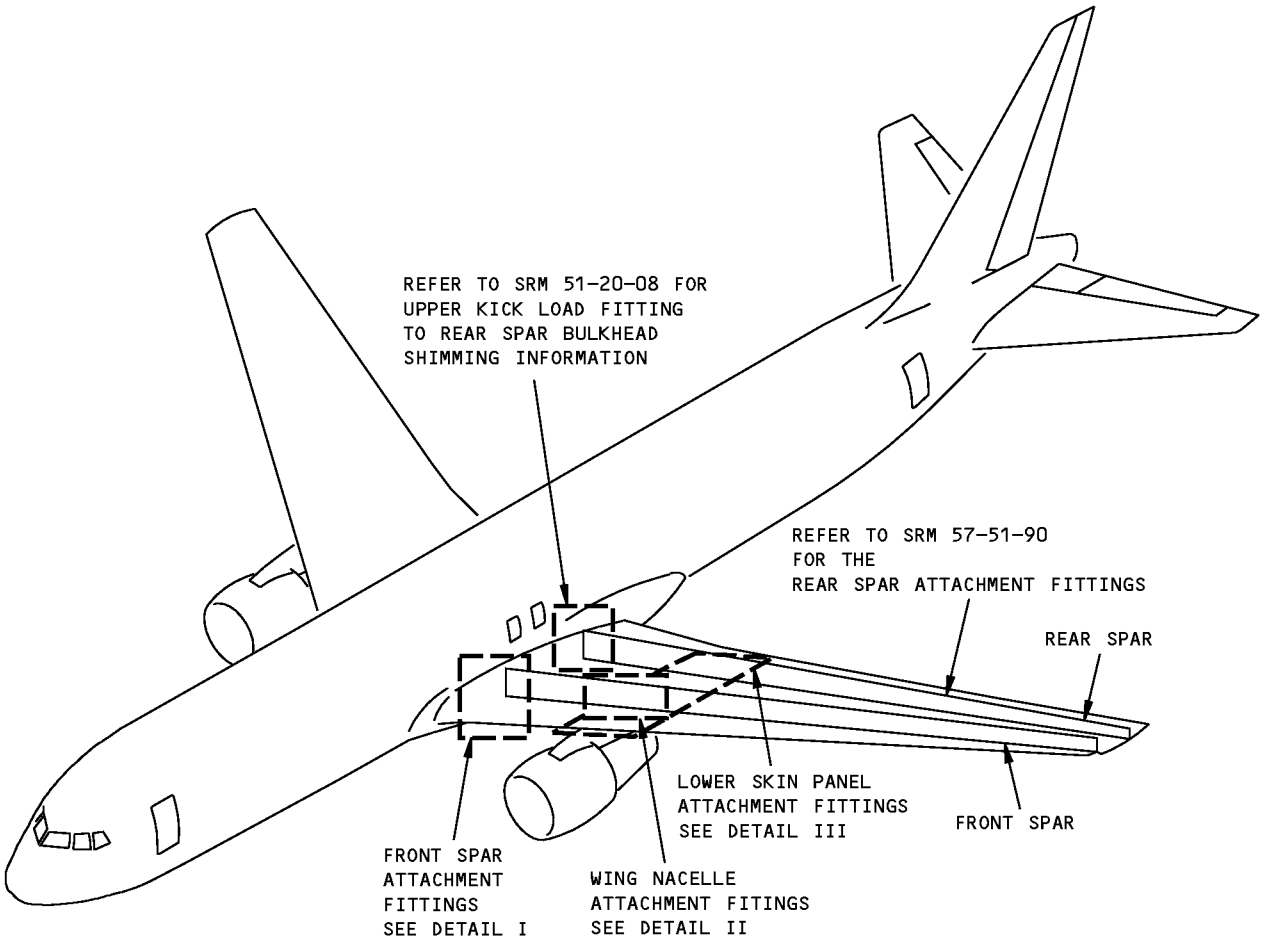
Allowable Damage - Overwing Inspar Fairing
Figure 101

REPAIR 1 - OVERWING INSPAR FAIRING SKIN



Overwing Inspar Fairing Skin Repairs
Figure 201

IDENTIFICATION 1 - OUTER WING ATTACHMENT FITTING



NOTES

[A] FOR AIRPLANES CUM LINE 2 THRU 663.

[B] FOR AIRPLANES CUM LINE 664 AND ON.

[C] FOR AIRPLANES CUM LINE 2 THRU 663 WITHOUT INCORPORATION OF SB 767-54-0080, SB 767-54-0081 OR SB 767-54-0082.

[D] AIRPLANES WITH INCORPORATION OF SB 767-54-0080, SB 767-54-0081, OR SB 767-54-0082.

[E] FOR AIRPLANES CUM LINE 2 THRU 663 WITH CF6-80A, JT9D-7R4, OR RB211-524 ENGINES.

[F] FOR AIRPLANES CUM LINE 2 THRU 663 WITH CF6-80C2 OR PW4000 ENGINES WITHOUT INCORPORATION OF SB 767-54-0081 OR SB 767-54-0080 RESPECTIVELY.

[G] FOR AIRPLANES WITH CF6-80C2 OR PW4000 ENGINES WITH INCORPORATION OF SB 767-54-0081 OR SB 767-54-0080 RESPECTIVELY.

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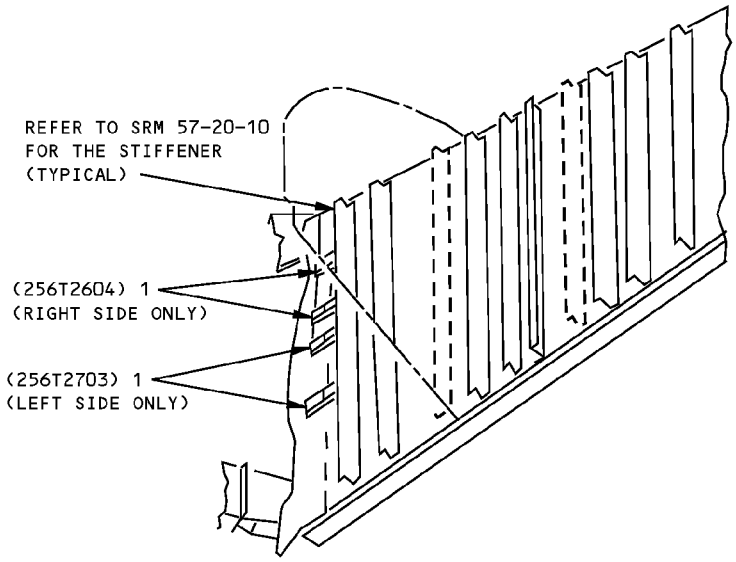
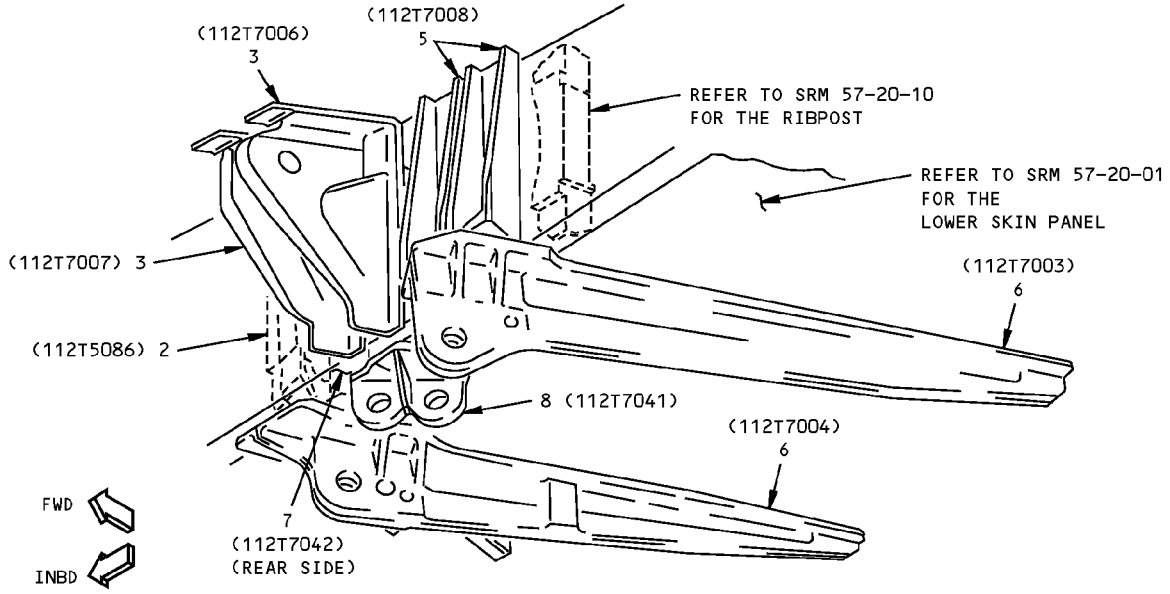
Outer Wing Attachment Fitting Identification
Figure 1 (Sheet 1 of 3)



LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE EXCEPT AS NOTED
FRONT SPAR ATTACHMENT FITTINGS
DETAIL I

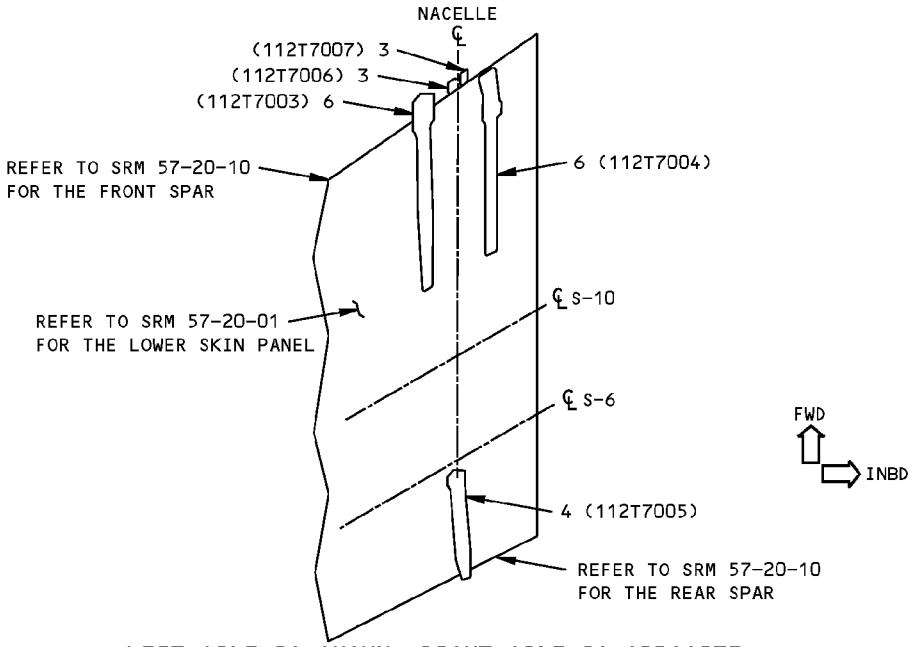


LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE

WING NACELLE ATACHMENT FITTINGS
CF6-80A ENGINE, CF6-80C ENGINE, JT9D-7R4 ENGINE, PW4000 ENGINE, AND RB211-524 ENGINE
DETAIL II

LIST OF MATL

Outer Wing Attachment Fitting Identification
Figure 1 (Sheet 2 of 3)



LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE

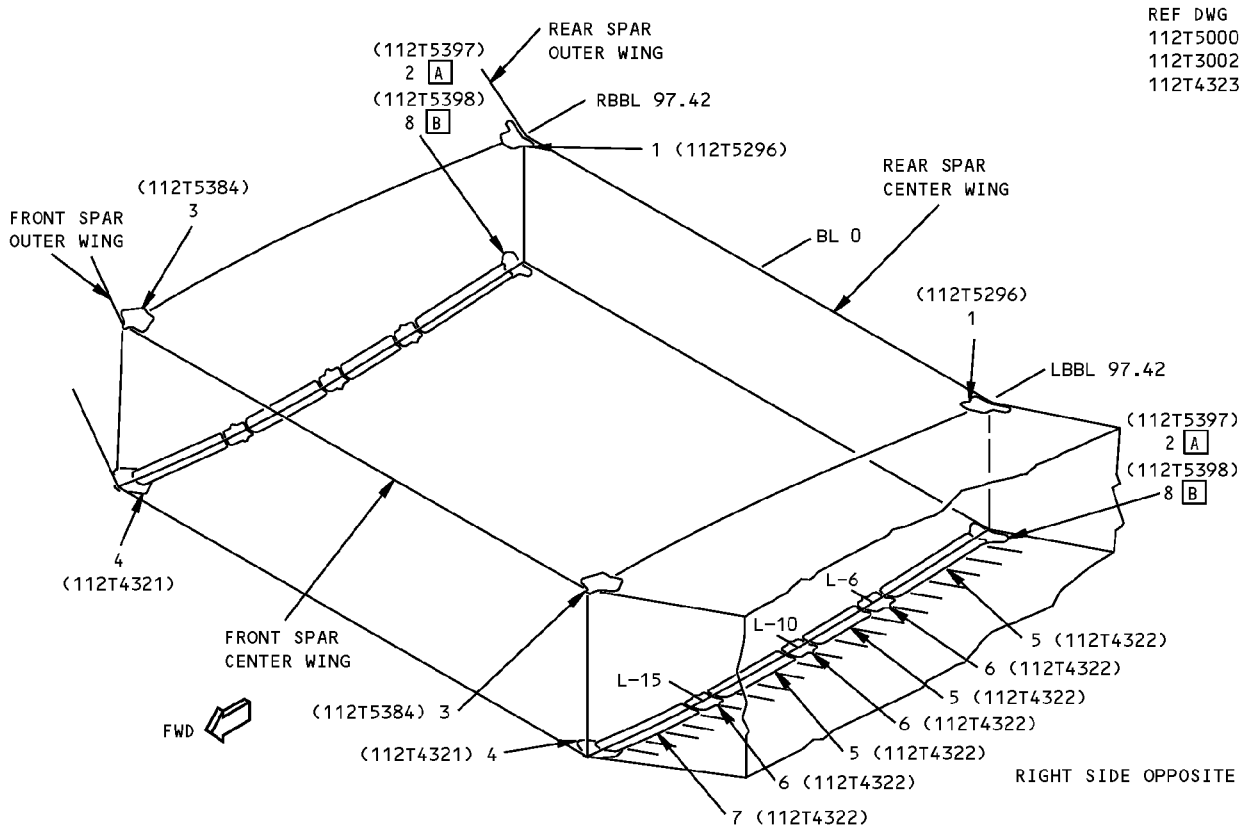
LOWER SKIN PANEL ATTACHMENT FITTINGS BOTTOM VIEW
DETAIL III

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	INTERCOSTAL FITTING		7075-T73 FORGED BLOCK	
2	ENGINE SUPPORT FITTING			
	INBOARD AND OUTBOARD FITTING HALF		7175-T736 DIE FORGING	
3	INBOARD AND OUTBOARD FWD PITCH LOAD FITTING		7175-T736 DIE FORGING TI-6AL-4V DIE FORGING OR FORGED BLOCK ANNEALED	A B
4	AFT DRAG FITTING			
	INBOARD AND OUTBOARD FITTING HALF		7175-T73 DIE FORGING TI-6AL-4V DIE FORGING OR FORGED BLOCK ANNEALED	E F B G
5	SIDE LOAD FITTING		7175-T736 DIE FORGING	
6	SIDE LOAD FITTING			
	INBOARD AND OUTBOARD HALF FITTING		7175-T736 DIE FORGING 7050-T7452 DIE FORGING	A B
7	BACKUP FITTING		7075-T73 DIE FORGING OPTIONAL: 7075-T73 FORGED BLOCK	
8	SIDE LINK ATTACHMENT FITTING		7075-T73 DIE FORGING OPTIONAL: 7075-T73 FORGED BLOCK TI-6AL-4V FORGED BLOCK ANNEALED	C B D

LIST OF MATERIALS FOR DETAILS I, II AND III

Outer Wing Attachment Fitting Identification
Figure 1 (Sheet 3 of 3)

IDENTIFICATION 2 - SPLICE PLATE - BBL 97.42



NOTES

A FOR AIRPLANES WITHOUT 407K IGW PROVISIONS

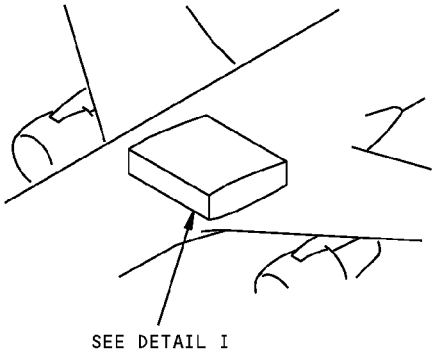
B FOR AIRPLANES WITH 407K IGW PROVISIONS

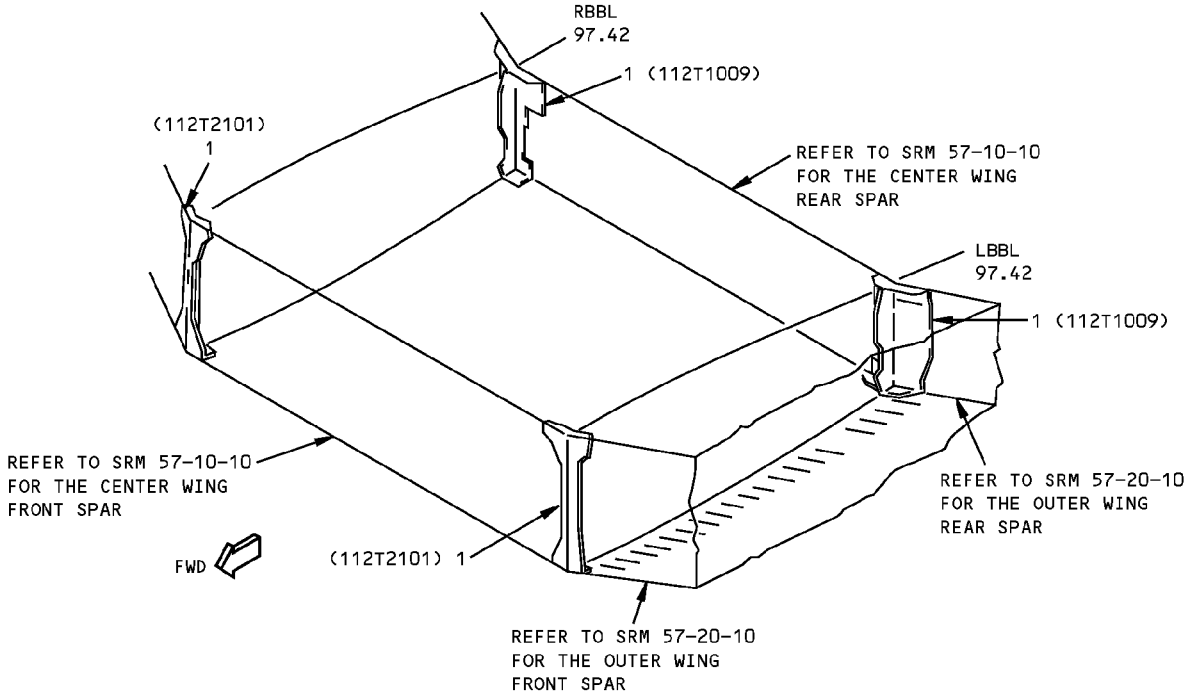
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SPLICE PLATE		FORGING 7075-T73	
2	SPLICE PLATE	1.25	2024-T351	
3	SPLICE PLATE	1.00	7075-T73	
4	JACK PAD		FORGING 7175-T736	
5	SPLICE PLATE	1.00	2024-T351	
6	SPLICE PLATE	1.25	2024-T351	
7	SPLICE PLATE	1.75	2024-T351	
8	SPLICE PLATE	2.00	2024-T351	

LIST OF MATERIALS

Splice Plate Identification - BBL 97.42
Figure 1

IDENTIFICATION 3 - TERMINAL FITTING - BBL 97.42





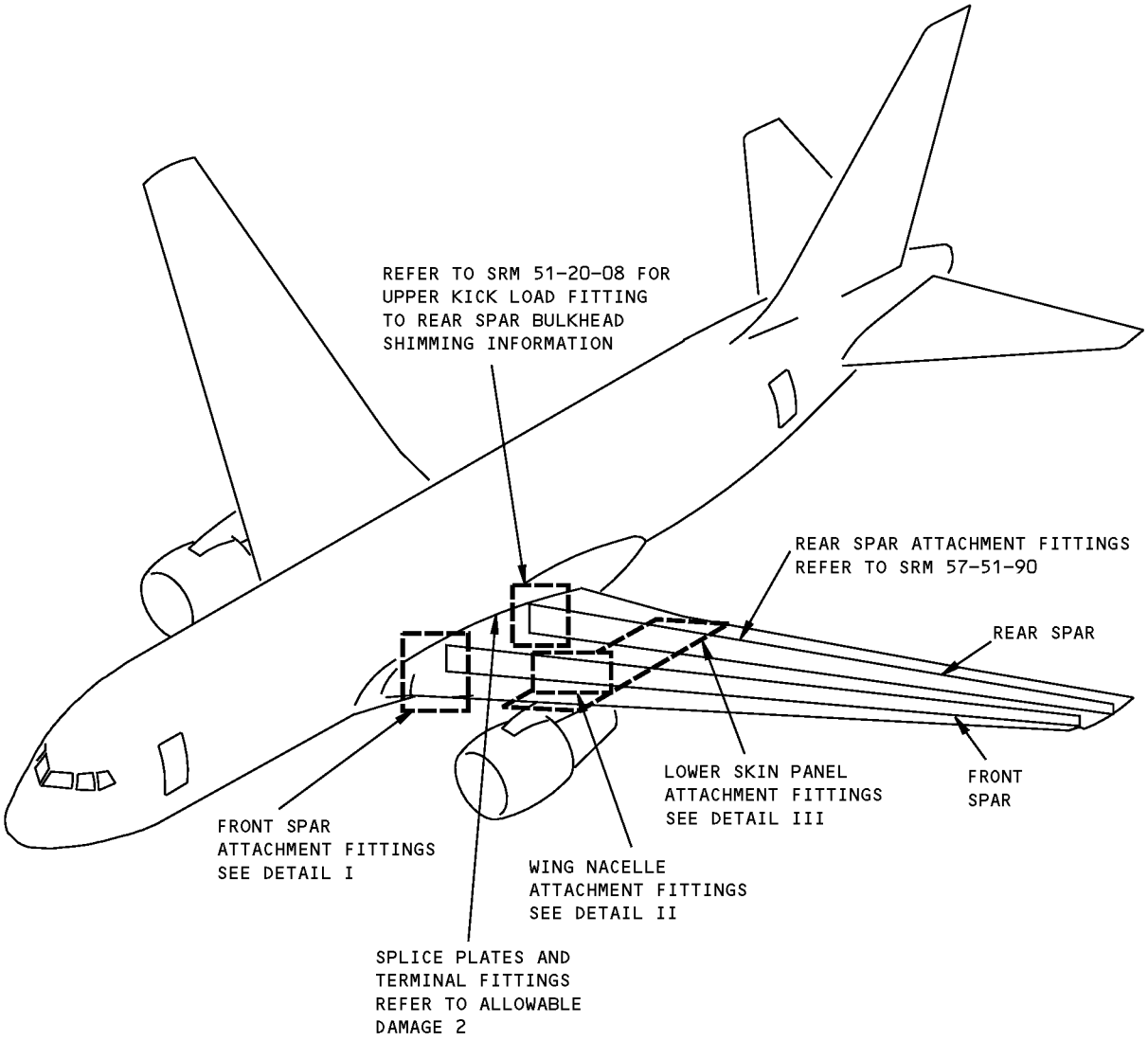
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TERMINAL FITTING		7175-T736 DIE FORGING	

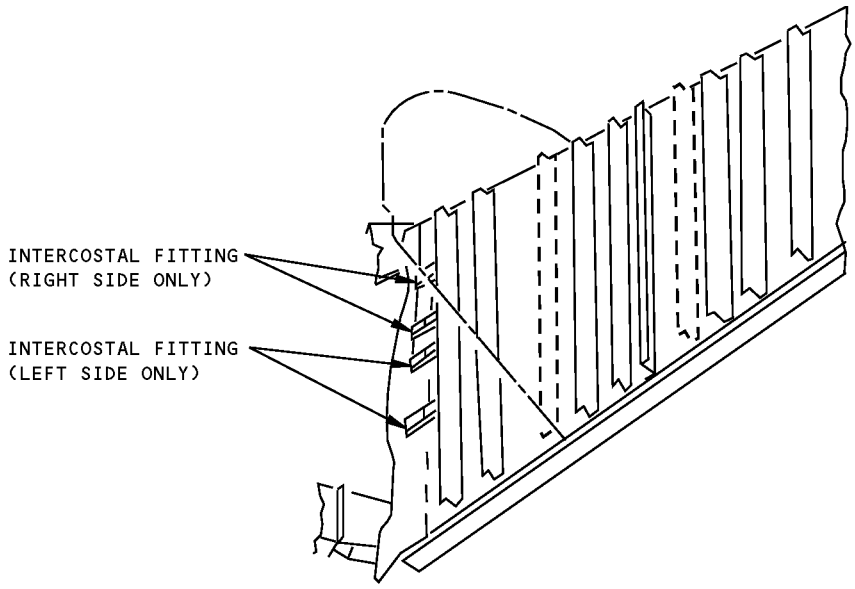
LIST OF MATERIALS

Terminal Fitting Identification - BBL 97.42
Figure 1

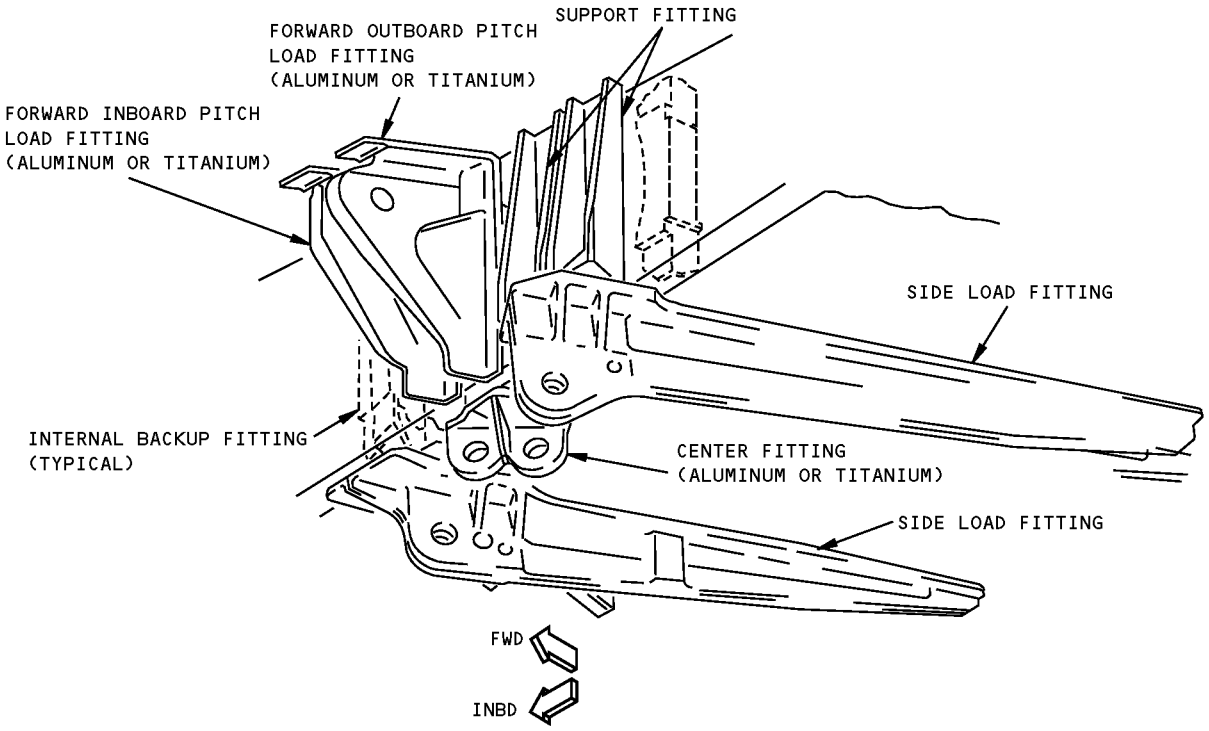
ALLOWABLE DAMAGE 1 - OUTER WING ATTACHMENT FITTINGS



Outer Wing Attachment Fittings Allowable Damage
Figure 101 (Sheet 1 of 4)

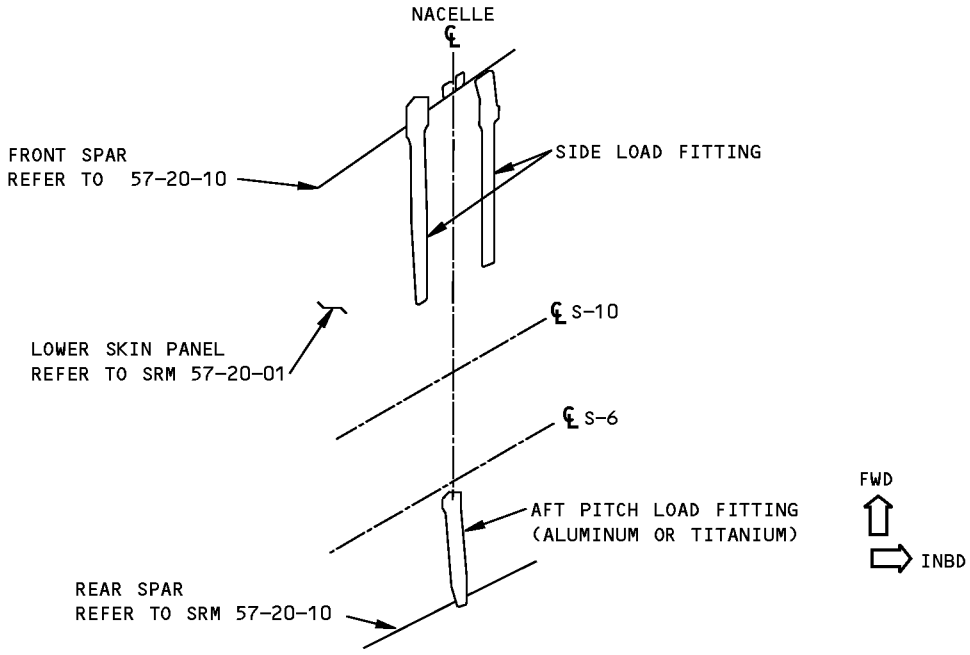


FRONT SPAR ATTACHMENT FITTINGS
DETAIL I



WING NACELLE ATTACHMENT FITTINGS
CF6-80A ENGINE, CF6-80C ENGINE, JT9D-7R4 ENGINE, PW4000 ENGINE AND RB211-524 ENGINE
DETAIL II

Outer Wing Attachment Fittings Allowable Damage
Figure 101 (Sheet 2 of 4)



LOWER SKIN PANEL ATTACHMENT FITTINGS BOTTOM VIEW
DETAIL III

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
SIDE LOAD FITTING	[A]	[C]	NOT PERMITTED	NOT PERMITTED
CENTER FITTING	[A]	[C]	NOT PERMITTED	NOT PERMITTED
PITCH LOAD FITTING	[A]	[C]	NOT PERMITTED	NOT PERMITTED
BACKUP FITTINGS [D]	[A]	[B]	NOT PERMITTED	NOT PERMITTED
SUPPORT FITTING	[A]	[B]	NOT PERMITTED	NOT PERMITTED
INTERCOSTAL	[A]	[B]	NOT PERMITTED	NOT PERMITTED

NOTES

- MATERIAL IS ALUMINUM FORGING FOR ALL COMPONENTS UNLESS SPECIFIED DIFFERENTLY.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAIL V.

[B] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, AND VI.

[C] FOR EDGE DAMAGE. REFER TO DETAILS IV AND V.
FOR LUG DAMAGE. REFER TO DETAIL VII.
FOR OTHER DAMAGE. REFER TO DETAIL VI.
DAMAGE IS NOT PERMITTED NEAR BUSHINGS.

[D] DAMAGE IS NOT PERMITTED ON THE INTERNAL BACKUP FITTING. REFER TO DETAIL II, AND BOEING DRAWING 112T5086.

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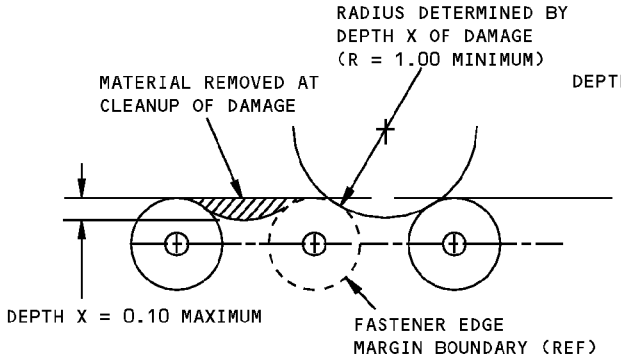
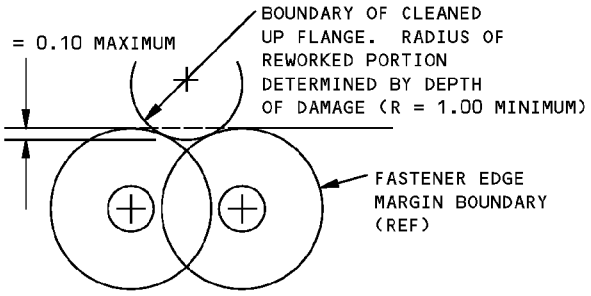
Outer Wing Attachment Fittings Allowable Damage
Figure 101 (Sheet 3 of 4)

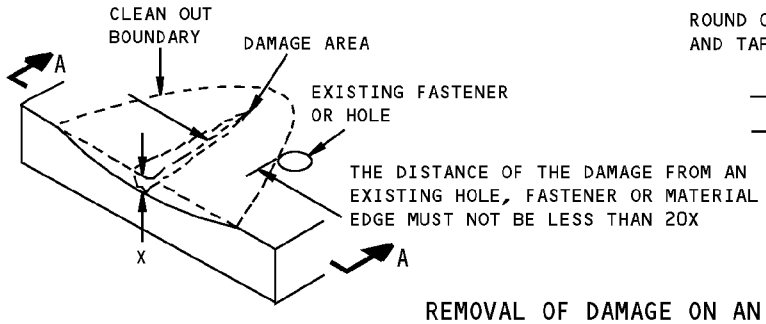


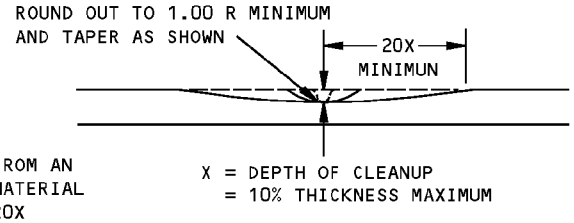
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

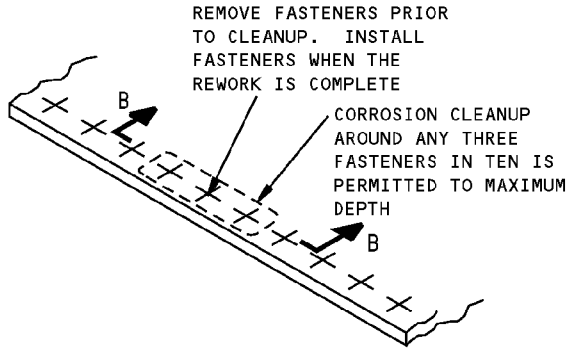
DETAIL IV

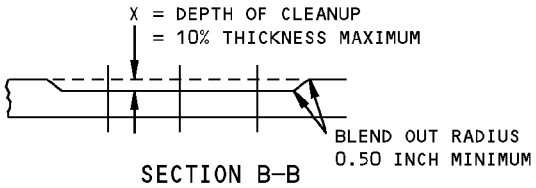




SECTION A-A

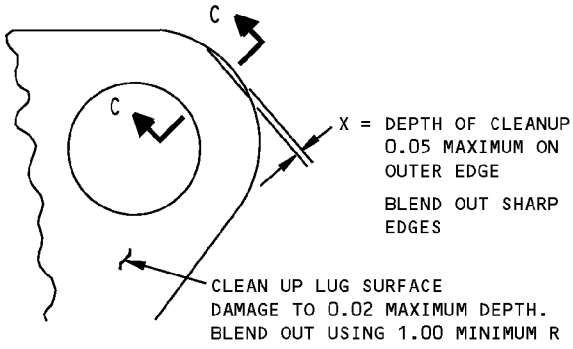
REMOVAL OF DAMAGE ON AN EDGE
DETAIL V

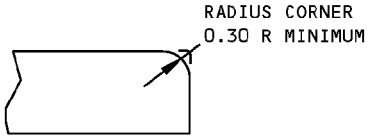




SECTION B-B

CORROSION CLEANUP
DETAIL VI



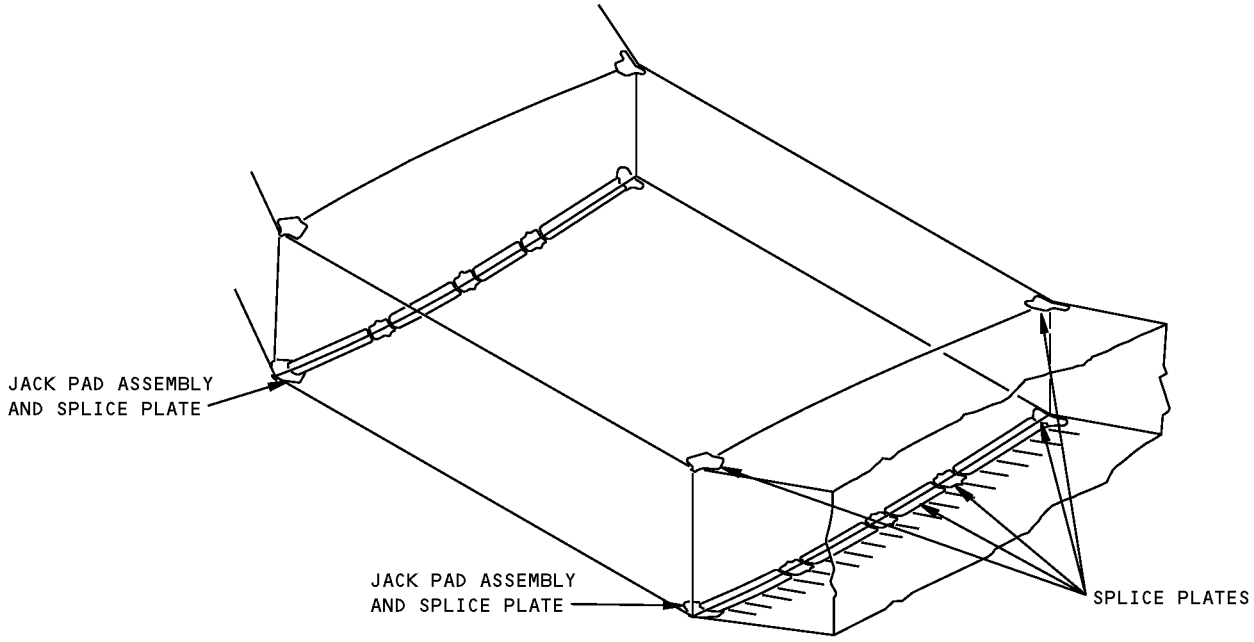


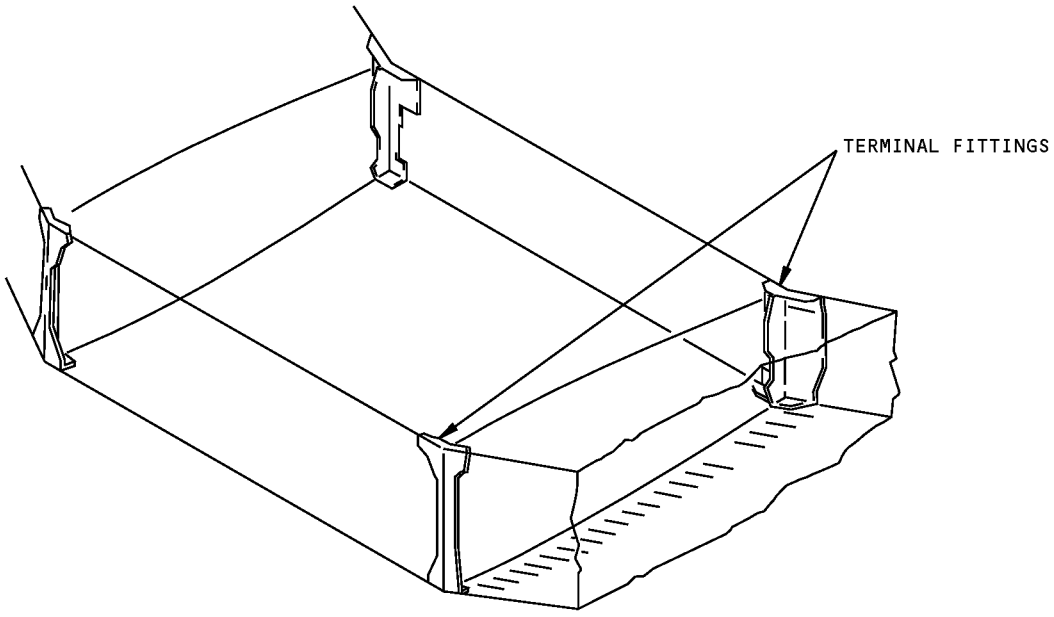
SECTION C-C

DAMAGE CLEANUP FOR LUG SURFACES
DETAIL VII

Outer Wing Attachment Fittings Allowable Damage
Figure 101 (Sheet 4 of 4)

ALLOWABLE DAMAGE 2 - TERMINAL AND SPLICE FITTINGS





NOTES

- THE MATERIAL IS ALUMINUM FOR ALL COMPONENTS EXCEPT FOR THE JACK PAD BUSHING WHICH IS CRES.

DETAIL I

Terminal and Splice Fittings Allowable Damage
Figure 101 (Sheet 1 of 3)

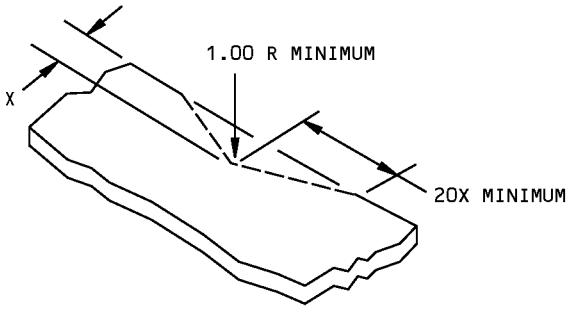
DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
TERMINAL FIGURE	[A]	[B]	NOT PERMITTED	NOT PERMITTED
SPLICE PLATE	[A]	[B]	NOT PERMITTED	NOT PERMITTED
JACK PAD	[A]	[B] AND DETAIL III	NOT PERMITTED	NOT PERMITTED

NOTES

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06.

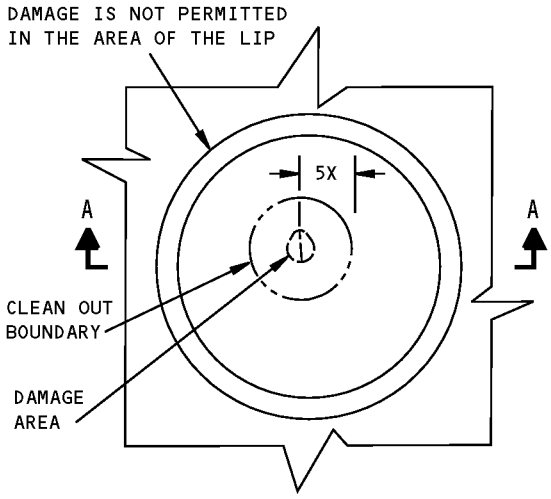
[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS II AND IV.

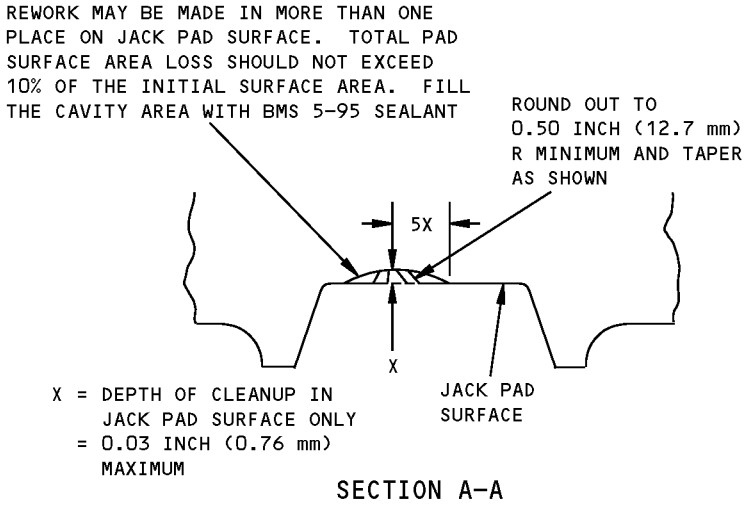
[B] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, AND VI.



X = DEPTH OF CLEANUP
= 0.10 INCH (2.5 mm) MAXIMUM

DETAIL II

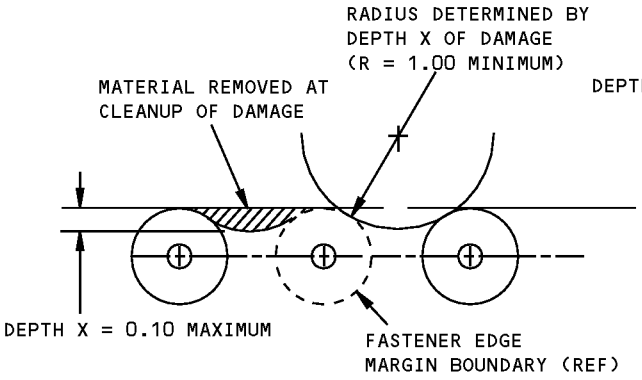




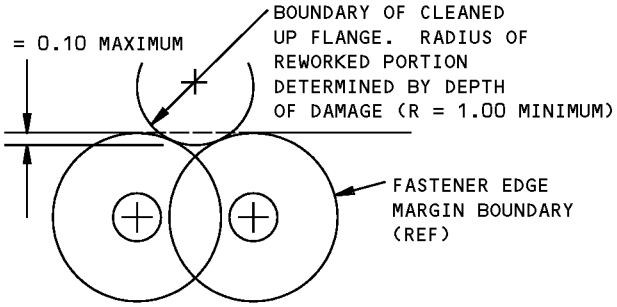
SECTION A-A

JACK PAD AREA
DETAIL III

Terminal and Splice Fittings Allowable Damage
Figure 101 (Sheet 2 of 3)

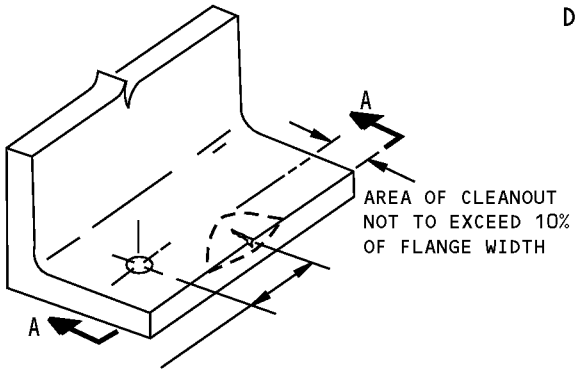


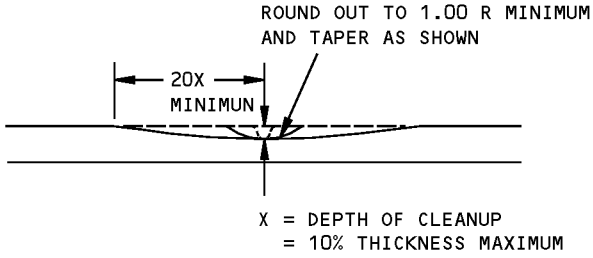
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

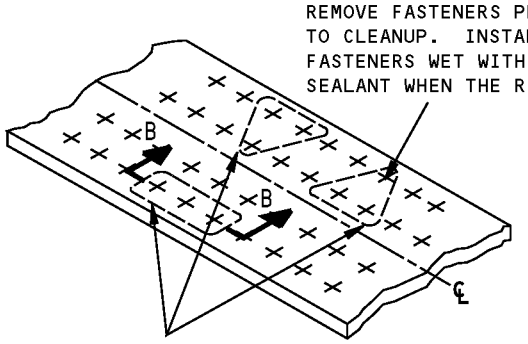
DETAIL IV

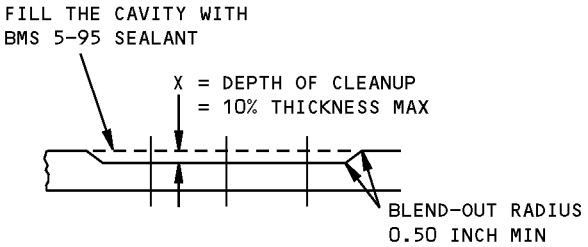




SECTION A–A

REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL V



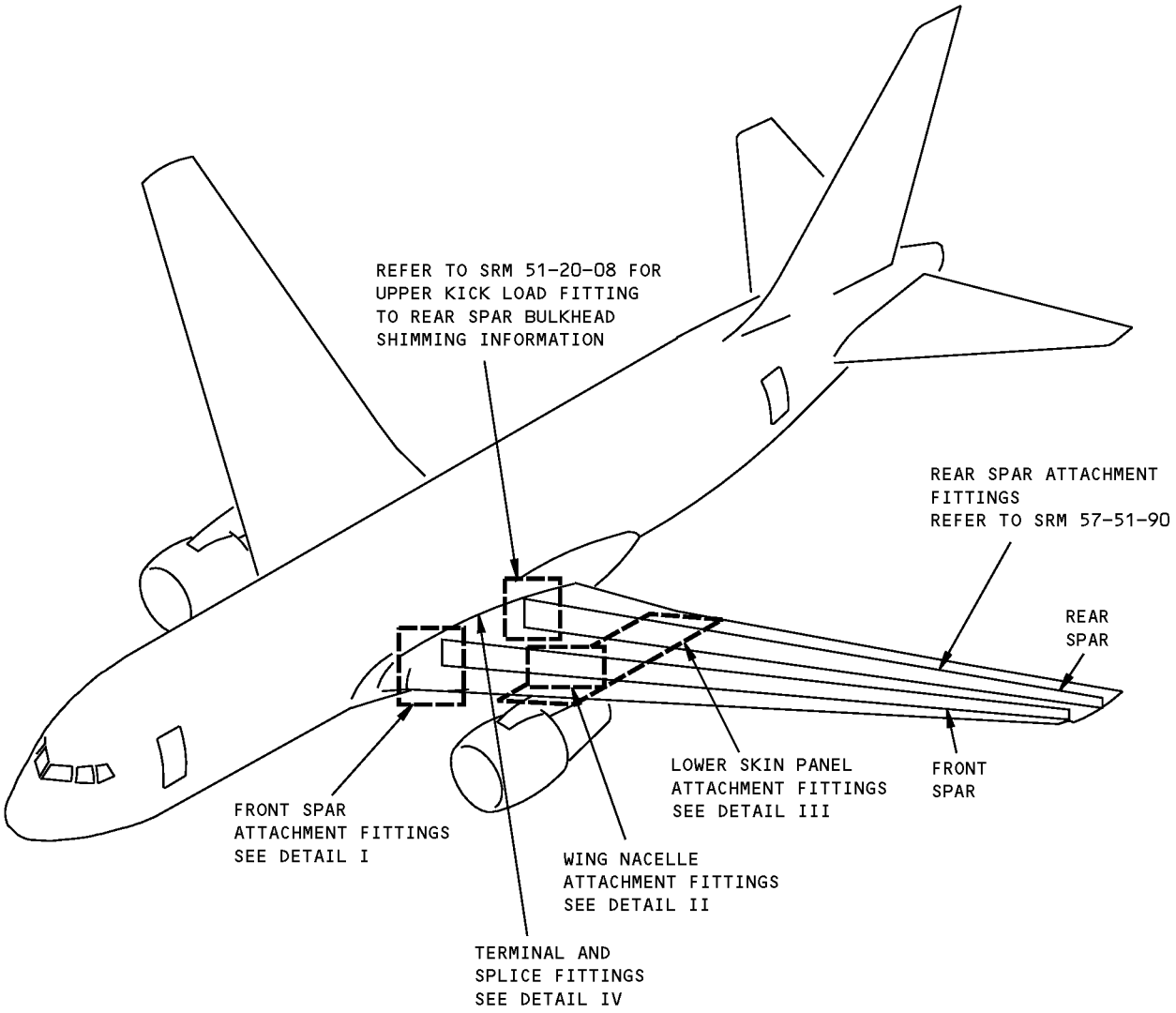


SECTION B–B

CORROSION CLEANUP
DETAIL VI

Terminal and Splice Fittings Allowable Damage
Figure 101 (Sheet 3 of 3)

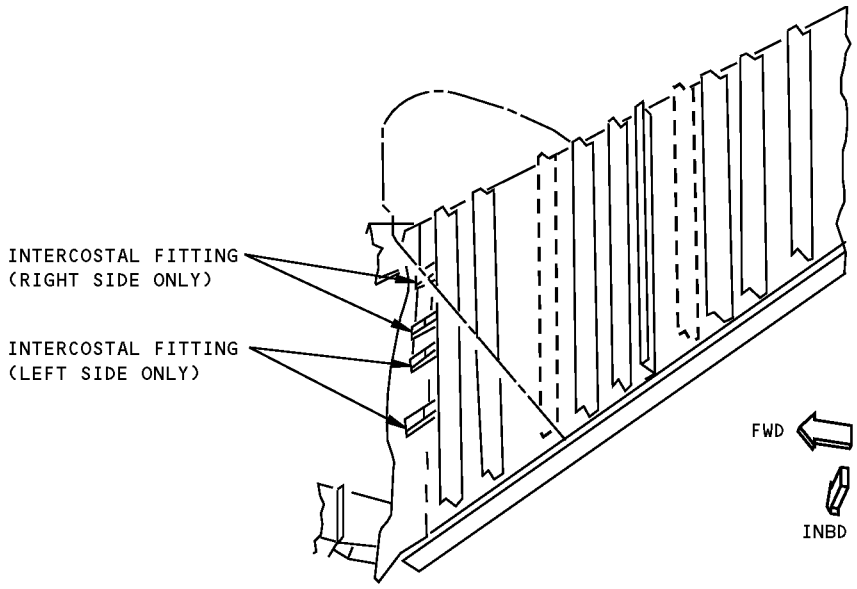
REPAIR 1 - OUTER WING ATTACHMENT FITTING



NOTES

- THERE ARE NO TYPICAL REPAIRS TO FITTINGS AVAILABLE. SPECIFIC REPAIRS TO FITTINGS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE.

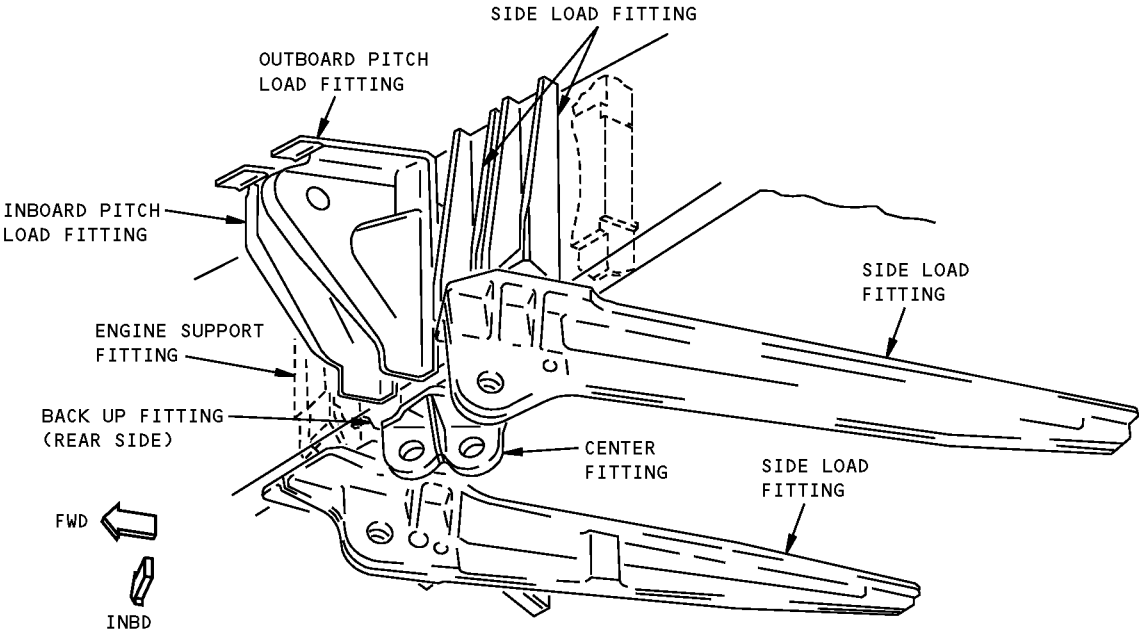
Outer Wing Attachment Fitting Repair
Figure 201 (Sheet 1 of 4)



LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE (EXCEPT AS NOTED)

FRONT SPAR ATTACHMENT FITTINGS

DETAIL I

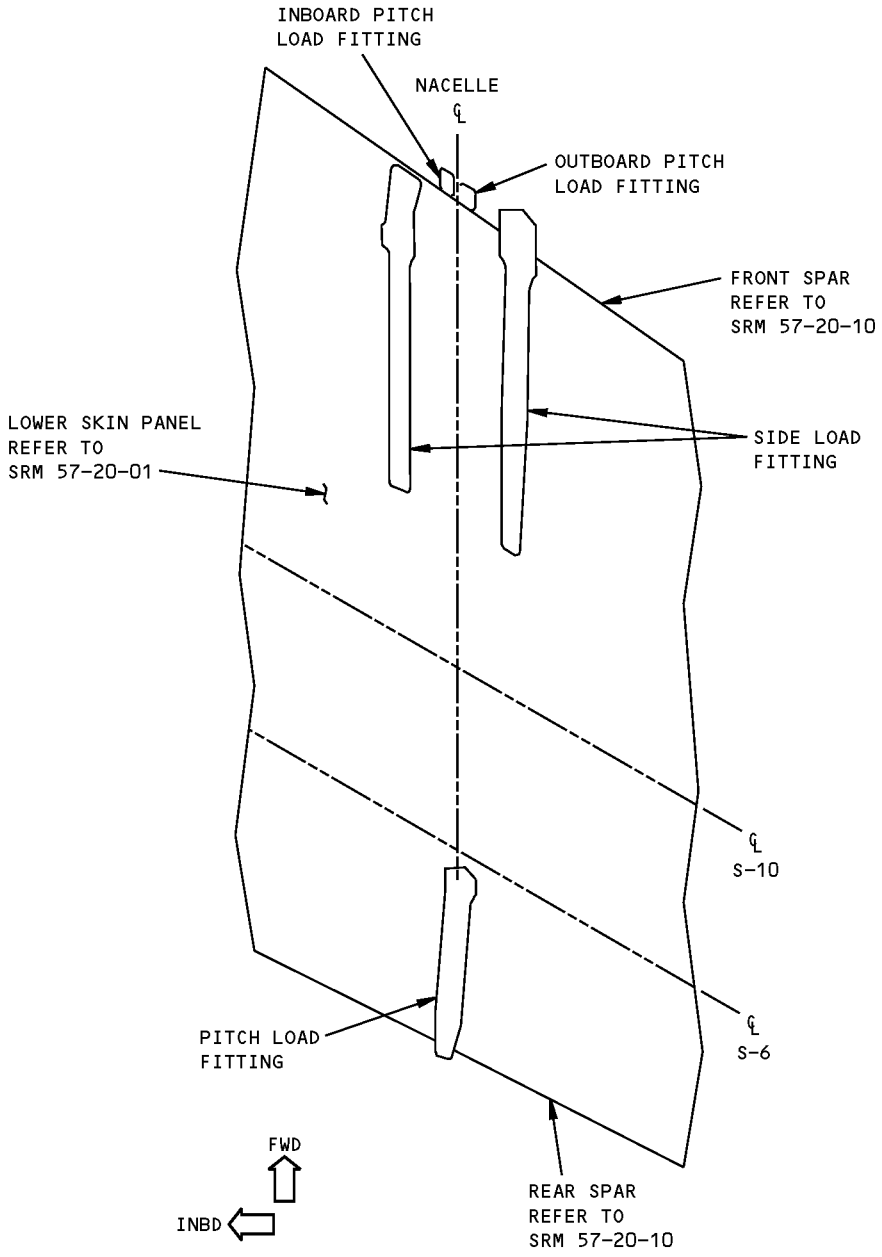


LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE

WING NACELLE ATTACHMENT FITTINGS - CF6-80A ENGINE, CF6-80C ENGINE, JT9D-7R4 ENGINE, PW4000 ENGINE, AND RB211-524 ENGINE

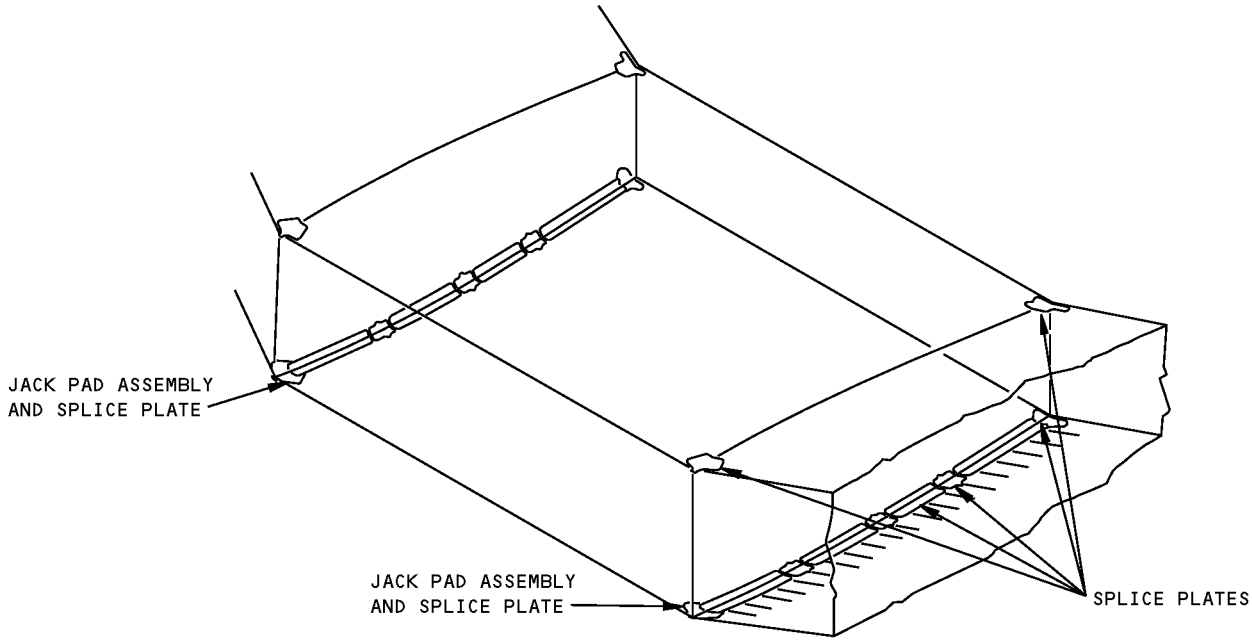
DETAIL II

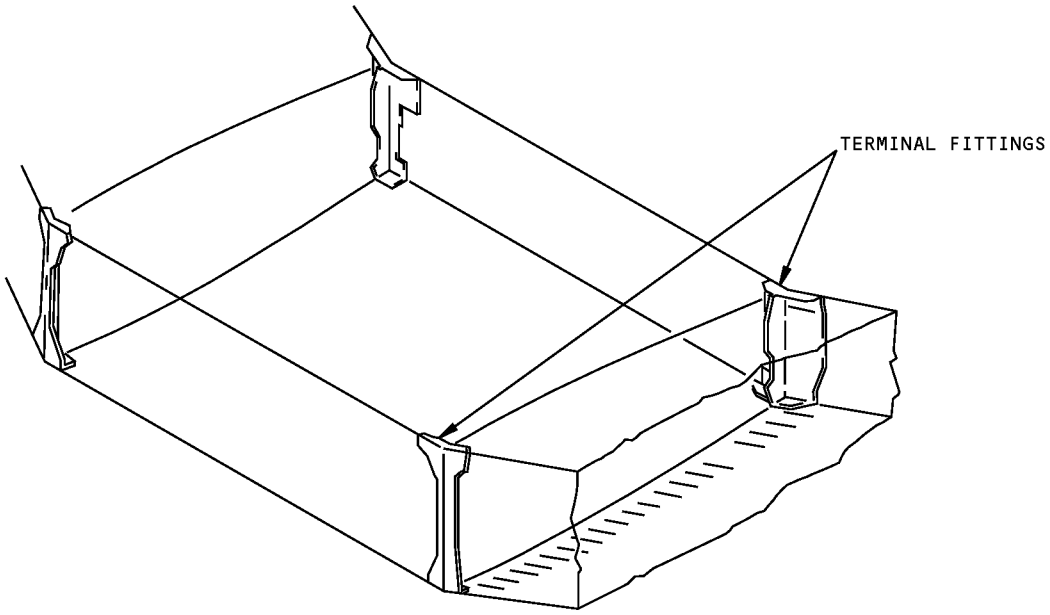
Outer Wing Attachment Fitting Repair
Figure 201 (Sheet 2 of 4)



LOWER SKIN PANEL ATTACHMENT FITTINGS
BOTTOM VIEW
LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE
DETAIL III

Outer Wing Attachment Fitting Repair
Figure 201 (Sheet 3 of 4)





NOTES

- THE MATERIAL IS ALUMINUM FOR ALL COMPONENTS EXCEPT FOR THE JACK PAD BUSHING WHICH IS CRES.

TERMINAL AND SPLICE FITTINGS
DETAIL IV

Outer Wing Attachment Fitting Repair
Figure 201 (Sheet 4 of 4)

REPAIR 2 - UNDERWING SIDE LOAD FITTING, LUG HOLE REPAIR WITH INTERFERENCE FIT BUSHING INSTALLATION

APPLICABILITY
THIS REPAIR IS APPLICABLE TO CUM LINES 1 THROUGH 663. A

REPAIR INSTRUCTIONS

NOTE: This repair uses the interference fit procedure to install the replacement bushing for the underwing side load fitting on the wing side. The bore of the fitting may have damage from corrosion, galling or scoring from a migrated or rotated bushing. It is necessary to use a special boring tool to remove the damage from the fitting and cut the chamfers. Boeing tool kit BOF112T7004 is available from the Boeing Company for the side load fitting boring process. The kit includes tools to remove the bushing, bore the fitting lug, cut the chamfers, hone the bore, install and swage the new bushing.

1. Remove the engine strut from the wing. Remove all components as necessary to get access to the underwing side load fittings. Refer to Service Bulletin 767-57-0063 for inspection requirements and access procedures for this area.
2. Remove the migrated or damaged bushing from the side load fitting. Use the bushing removal tool included in the Boeing BOF112T7004 tool kit or operator's equivalent tooling to cut the swage lip and pull the migrated bushing out. Discard the bushing.
3. Do a high frequency eddy current (HFEC) inspection to find the amount of damage in the lug hole. Refer to NDT Part 6, 57-04-01 for aluminum part surface inspection procedure.
4. If the lug hole has no corrosion, galling, or other damage, continue with the procedure to machine the insurance cut in step 7.

CAUTION: MAKE SURE THE BORING TOOL IS PROPERLY ALIGNED BEFORE YOU MACHINE THE BORE. IF THE TOOL IS MISALIGNED, THEN THE HOLE WILL NOT BE CUT IN THE CORRECT LOCATION OR THE DAMAGE MAY NOT BE REMOVED BEFORE THE HOLE EXCEEDS THE MAXIMUM PERMITTED DIAMETER. AFTER YOU GET THE CORRECT ALIGNMENT, DO NOT REMOVE THE BORING TOOL UNTIL ALL MACHINING AND INSURANCE CUTS ARE COMPLETED.

5. Install the boring tool included in the BOF112T7004 kit or operator's equivalent tooling. Use the instructions included with the tool. Make sure the tool is correctly aligned to the bore.
6. Machine the bore in 0.02 inch increments on the diameter as necessary to remove damage. Do not make the hole diameter more than 2.1810 inches. The side load fitting material is 7175-T736 or 7050-T74. Do the inspection as given in step 3 and repeat the machining on the bore in 0.02 inch increments until no damage is found.
7. Increase the bore diameter by 0.020 inch for the insurance cut. If the hole diameter is greater than 2.2010 inches (after insurance cut), then get alternative repair instructions from The Boeing Company.
8. Spotface the inboard and outboard side faces of the side load fitting as necessary to remove all damages. The maximum spotface diameter is 3.0 inches and the maximum permitted depth of the removed material on each face is 0.020 inch. Get alternative instructions from The Boeing Company if the damage is deeper than 0.020 inch on the side face of the fitting.
9. Make the surface finish in the machined side faces of the fitting 125 micro-inches R_a or better.
10. Machine a chamfer of 0.050 to 0.055 inch by 45 degrees on the edges of the hole. B
11. Remove the boring fixture from the fitting.
12. Flap peen the inside diameter of the lug hole and chamfers. Use a 3M flap that is 9/16 inch by 1 1/4 inch to get an Almen intensity of 0.014A and a coverage of 2.0. Refer to SOPM 20-10-03.
13. Make the surface finish in the bore of the fitting 32 microinches R_a or better. The hole must be circular to a dimension of 0.0003 inch or less. The maximum hole diameter is given in step 7.
12. Remove all damage on the inboard and outboard side faces of the side load fitting as necessary. The maximum permitted depth of the removed material on each face is 0.020 inch. Get alternative instructions from Boeing if the damage is deeper than 0.020 inch on the side face of the fitting.
13. Make the surface finish in the machined side faces of the fitting 125 micro-inches R_a or better.
14. Measure to four decimal places and record the diameter of the lug hole before you apply primer or sealant. This is the dimension "B" shown in Detail I, Section A-A. B

Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 1 of 7)

REPAIR INSTRUCTIONS (CONT)

15. Calculate the diameter "A" of the oversized bushing. The outside diameter of the repair bushing must be 0.0025 to 0.0042 inch larger than the dimension "B" recorded in step 14 to give an interference fit. Refer to Detail IV for the definition of the Dimension "A". B

16. Apply a chemical conversion coating to the machined surfaces of the bore and the side faces of the fitting. Refer to SOPM 20-43-03.

17. Apply one layer of BMS 10-11, Type I primer to the bare surfaces of the fitting side faces only, do not apply primer to the lug bore. Refer to SOPM 20-41-02. Let the primer fully dry before you install the repair bushing.

WARNING: DO NOT BREATHE THE DUST THAT IS THE RESULT OF GRINDING, SANDING, HONING, ABARASIVE SAWING, ABARASIVE BLASTING AND ELECTRICAL DISCHARGE MACHINING (EDM) OF COPPER BERYLLIUM ALLOYS. THE DUST AND FUMES CAN BE HAZARDOUS AND CAUSE INJURY TO PERSONS. REFER TO SOPM 20-10-09 FOR THE RECOMMENDED MACHINING PROCEDURES FOR COPPER BERYLLIUM ALLOYS.

18. Make the repair bushing from 112T7103-16 or see Table I and Details II, IV. Make the outside diameter of the bushing as calculated in step 15. Adjust the length of bushing by the amount of material removed on the side faces to ensure proper swaged bushing retention. B

19. Machine the retention and grease grooves. Refer to Details II and IV. B

20. Make the surface finish of the outer diameter of the bushing and all other surfaces 63 microinches R_a or better.

21. Penetrant inspect the repair bushing to make sure there are no surface defects. Use Type I, method C, sensitively level 3 or better for the inspection. Refer to SOPM 20-20-02.

22. Cadmium plate the bushing outer diameter surfaces as shown in Detail IV. Do not apply cadmium plating to the inside diameter of the bushing. Refer to SOPM 20-42-05 for the procedure necessary for the QQ-P-416, Type 2, class 2, cadmium plating. B

WARNING: LIQUID NITROGEN IS APPROXIMATELY -320°F (-196°C). WEAR PROTECTIVE CLOTHING AND USE IN A VENTILATED AREA TO PREVENT INJURY.

23. Prepare the bushing for installation with the shrink fit method. Use liquid nitrogen at approximately -320°F (-196°C). Soak the bushing and the installation tool in the nitrogen until the boiling stops. Use the BOF112T7004 kit or equivalent. Refer to SOPM 20-50-03. B

24. Install the bushing as quickly as possible using the installation tools from the BOF112T7004 tool kit or operator's equivalent tooling. Make sure that the bushing is centered in the lug bore and hold the assembly in place until the assembly is at room temperature. B

25. Swage the bushing. Use the anvil swaging tools and instructions included in the BOF112T7004 tool kit. The swage force shall be 28,000 pounds ±2000 pounds. The maximum permitted gap between the swaged bushing flange and the fitting chamfer is 0.015 inch as shown in Detail VIII. As an alternative, the bushing can be roller swaged to the above requirements. Refer to SOPM 20-50-03. B

26. Hone the inner diameter of the bushing(s) to a final dimension of 1.5810 to 1.5822 inches as shown in Detail VII. Make the surface finish 32 microinches R_a or better.

27. Apply a fillet seal of BMS 5-95 sealant to the edge of the swaged flange and the face of the lug to fill gaps and keep moisture out. Do this on both ends of the installed bushing. Refer to SRM 51-10-06 for repair sealing.

28. Install the components that were removed for access. Refer to Service Bulletin 767-57-0063 for procedures to put the airplane back to the initial condition.

Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 2 of 7)

NOTES

- THIS REPAIR IS REFERRED TO IN SB 767-57-0063.
- D = FASTENER DIAMETER
- WHEN YOU USE THIS REPAIR REFER TO:
  - AMM 53-01-01 FOR REMOVAL AND INSTALLATION OF THE STRUT
  - NDT, PART 6, 57-04-01, FOR EDDY-CURRENT INSPECTION PROCEDURES
  - SOPM 20-10-03 FOR SHOT PEENING AND FLAP PEENING PROCEDURES
  - SOPM 20-10-09 FOR THE MACHINING OF COPPER BERYLLIUM ALLOYS
  - SOPM 20-20-02 FOR PENETRANT INSPECTION PROCEDURES
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SOPM 20-42-05 FOR BRIGHT CADMIUM PLATING PROCEDURES
  - SOPM 20-43-01 FOR APPLICATION OF CHROMIC ACID ANODIZE COATING
  - SOPM 20-43-03 FOR APPLICATION OF CHEMICAL CONVERSION COATING
  - SOPM 20-50-03 FOR THE BUSHING REMOVAL AND INSTALLATION
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL.

[A] AN OVERSIZE EXPANDABLE BUSHING MAY BE INSTALLED AS AN OPTION. REFER TO SB 767-57-0063 FOR EXPANDABLE BUSHING PART NUMBERS. GET EXPANDABLE OVERSIZE BUSHINGS, SPECIAL TOOLS, PRICE AND AVAILABILITY, INSTALLATION KIT AND INSTRUCTIONS FROM FATIGUE TECHNOLOGY, INC. REFER TO:

- FATIGUE TECHNOLOGY, INC.
  P.O. BOX C-88388
  SEATTLE, WA. 98188
  PHONE NUMBER (206) 246-2010
  FAX (206) 244-9886

  THIS TOOL KIT IS OPTIONAL AND NECESSARY ONLY IF THE EXPANDED FIT (FORCEMATE) BUSHING INSTALLATION PROCEDURE IS USED.

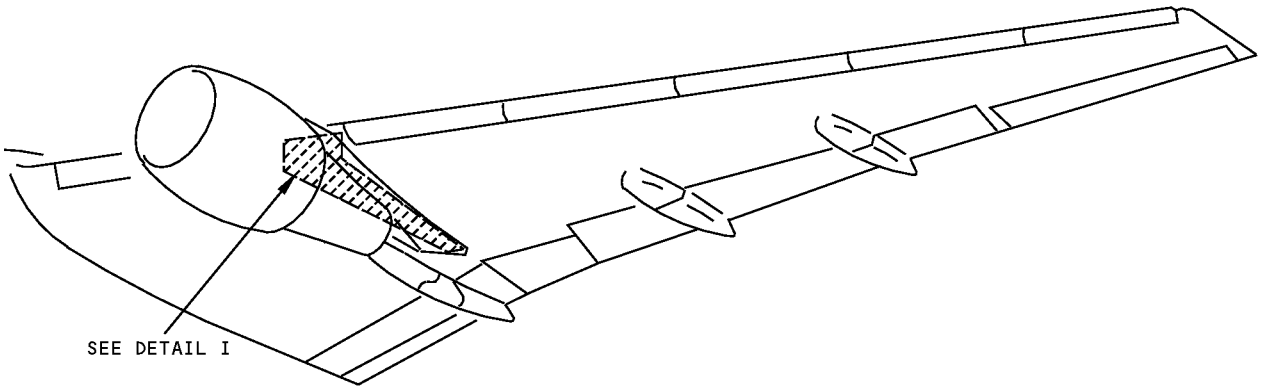
[B] THIS PROCEDURE IS NOT APPLICABLE FOR EXPANDED FIT (FORCEMATE) BUSHING INSTALLATION.

[C] ADJUST THE LENGTH OF BUSHING BY THE AMOUNT OF MATERIAL REMOVED ON THE SIDE FACES OF THE FITTING TO ENSURE PROPER SWAGED BUSHING RETENTION.

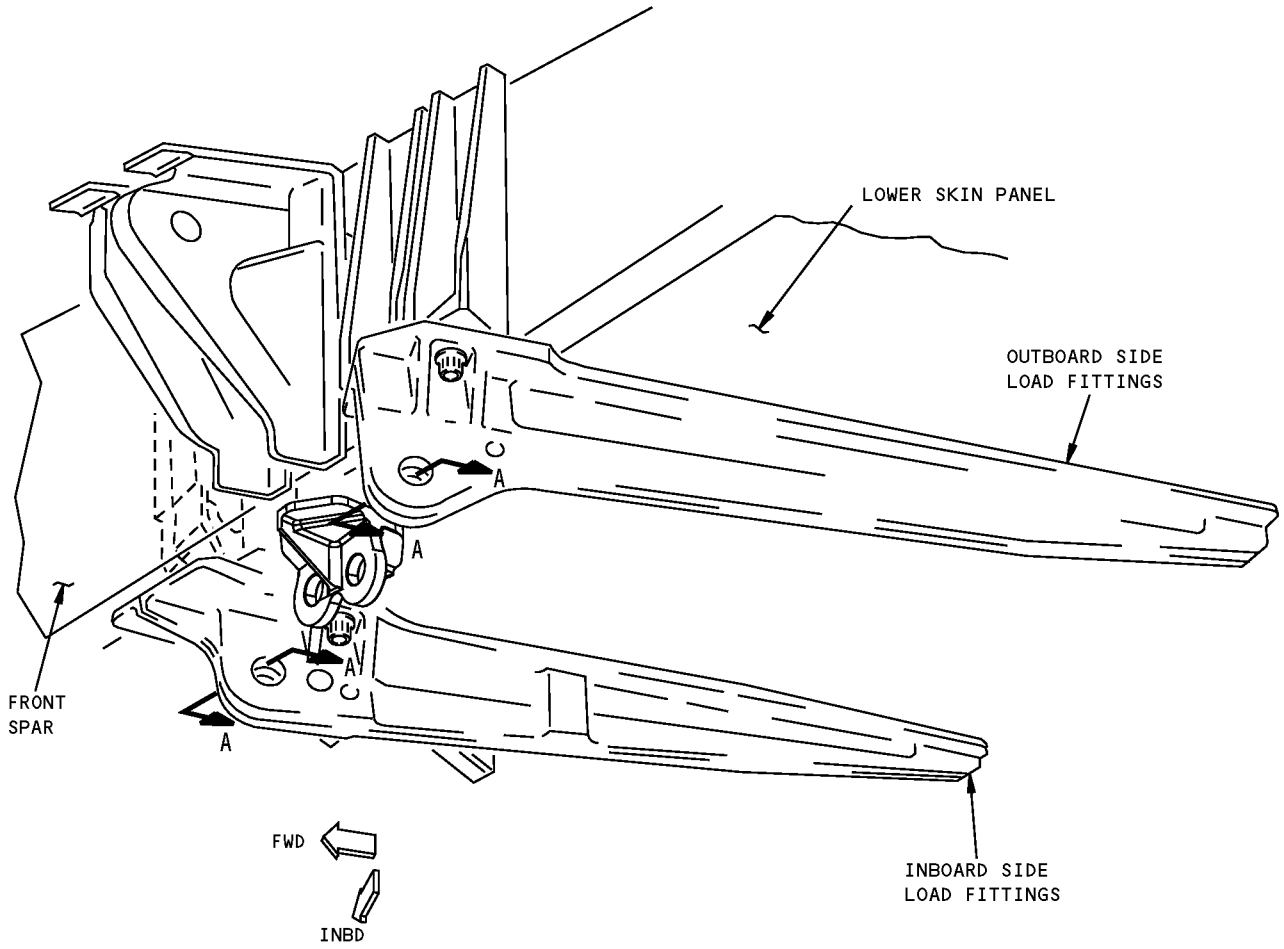
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	INBOARD LUG BUSHING	1	2.5 OD X 1.0 ID X 2.0 INCHES COPPER BERYLLIUM ALLOY (C17200) TUBING SOLUTION HEAT TREATED AS SPECIFIED IN AMS 4533 HT TR 120-145 KSI AS SPECIFIED IN BMS 7-353 TYPE II. THE USE OF THE MATERIAL ALUMINUM-NICKEL-BRONZE IS OPTIONAL. SEE DETAILS II AND IV. AS AN ALTERNATIVE, GET A 112T7103-16 BUSHING FROM BOEING.
2	OUTBOARD LUG BUSHING	1	2.5 OD X 1.0 ID X 2.0 INCHES COPPER BERYLLIUM ALLOY (C17200) TUBING SOLUTION HEAT TREATED AS SPECIFIED IN AMS 4533 HT TR 120-145 KSI AS SPECIFIED IN BMS 7-353 TYPE II. THE USE OF THE MATERIAL ALUMINUM-NICKEL-BRONZE IS OPTIONAL. SEE DETAILS II AND IV AS AN ALTERNATIVE, GET A 112T7103-16 BUSHING FROM BOEING.

TABLE I

Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 3 of 7)

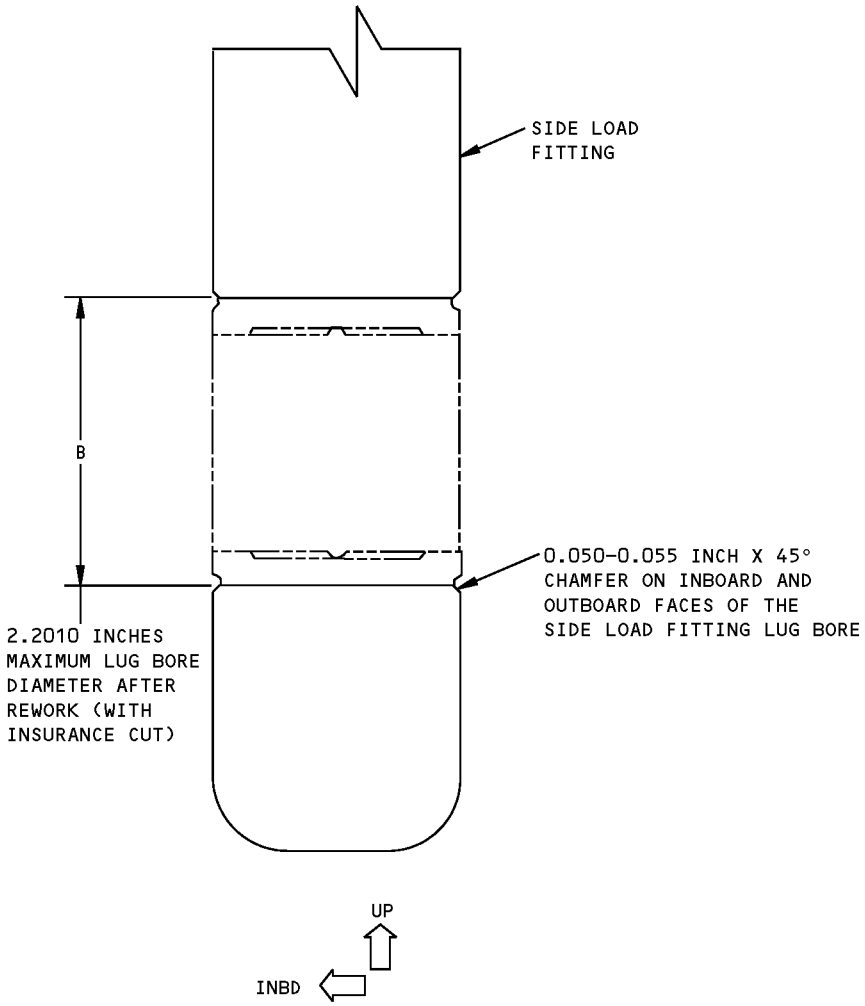


LEFT WING IS SHOWN,
RIGHT WING IS OPPOSITE



DETAIL I

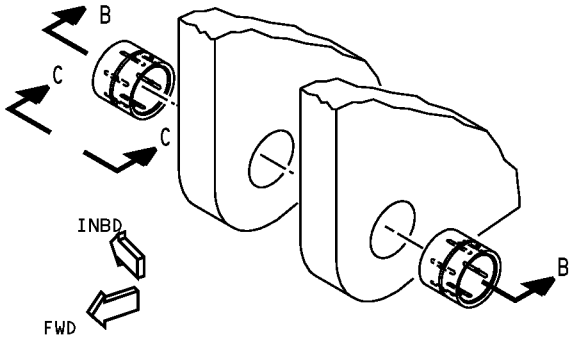
Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 4 of 7)



BORE DIMENSIONS BEFORE NEW BUSHING IS INSTALLED

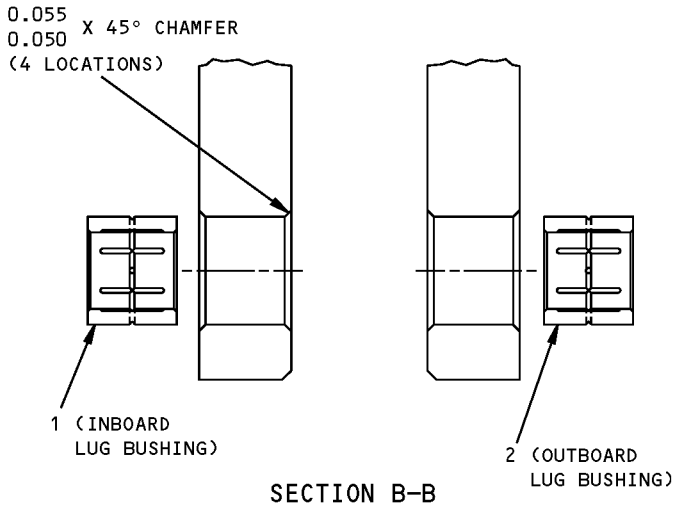
SECTION A-A

Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 5 of 7)

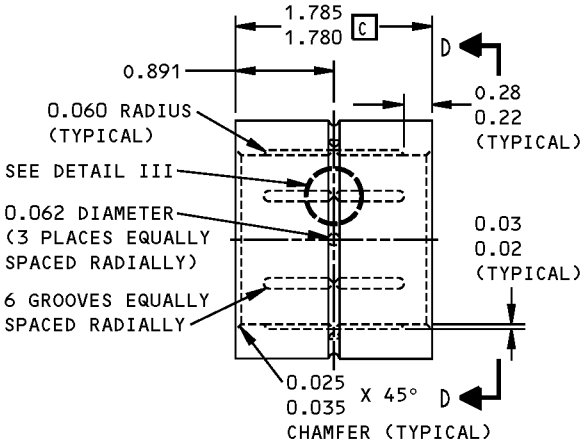


SIDE LOAD FITTINGS

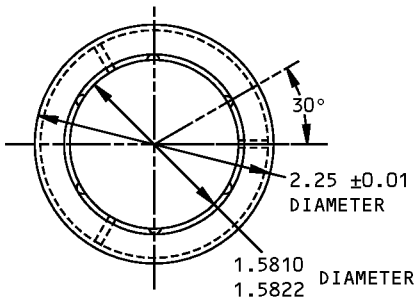
DETAIL II



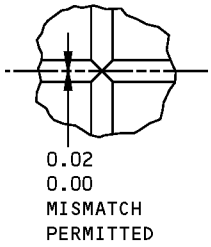
SECTION B–B



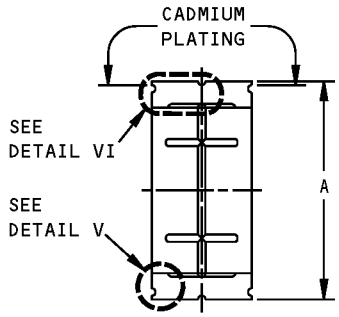
SECTION C–C



SECTION D–D



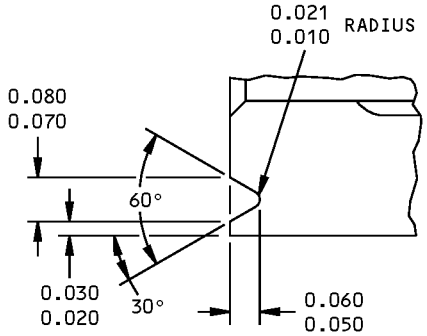
DETAIL III



A = CALCULATED BUSHING OUTSIDE DIAMETER BEFORE PLATING

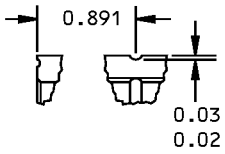
$= B + \begin{matrix} 0.0042 \\ 0.0025 \end{matrix}$

DETAIL IV



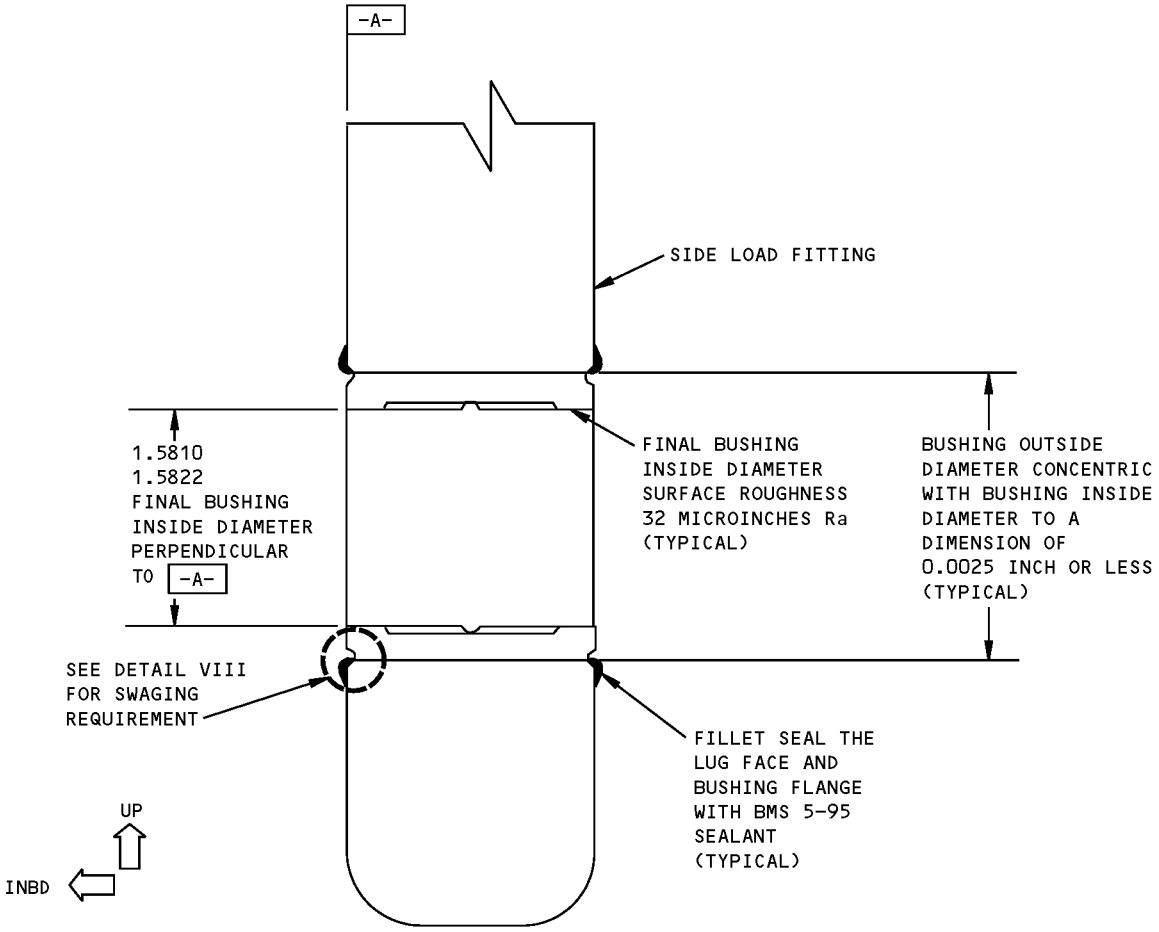
DETAIL V

(TYPICAL BOTH ENDS)



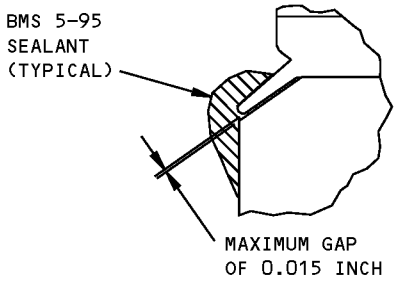
DETAIL VI

Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 6 of 7)



SECTION THROUGH ONE SIDE LOAD FITTING,
DIMENSIONS AFTER THE BUSHING IS INSTALLED

DETAIL VII

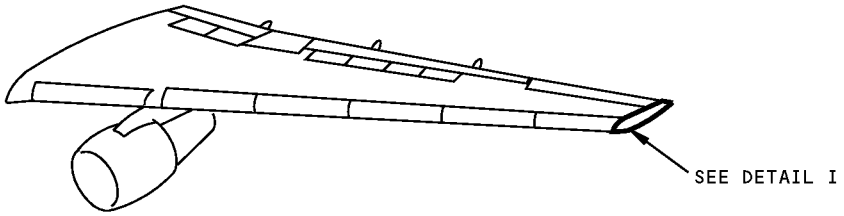


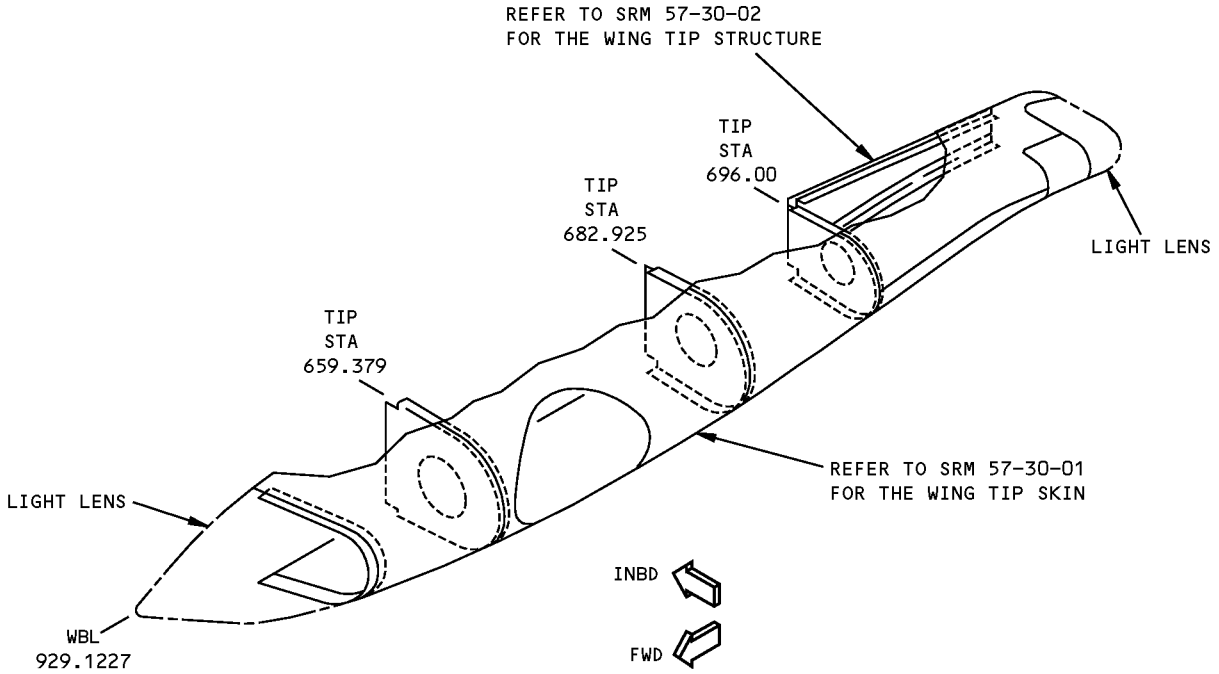
DETAIL VIII
(TYPICAL)

Underwing Side Load Fitting, Lug Hole Repair with Interference Fit Bushing Installation
Figure 201 (Sheet 7 of 7)

GENERAL - WING TIP STRUCTURAL DIAGRAM

REF DWG
119T0001

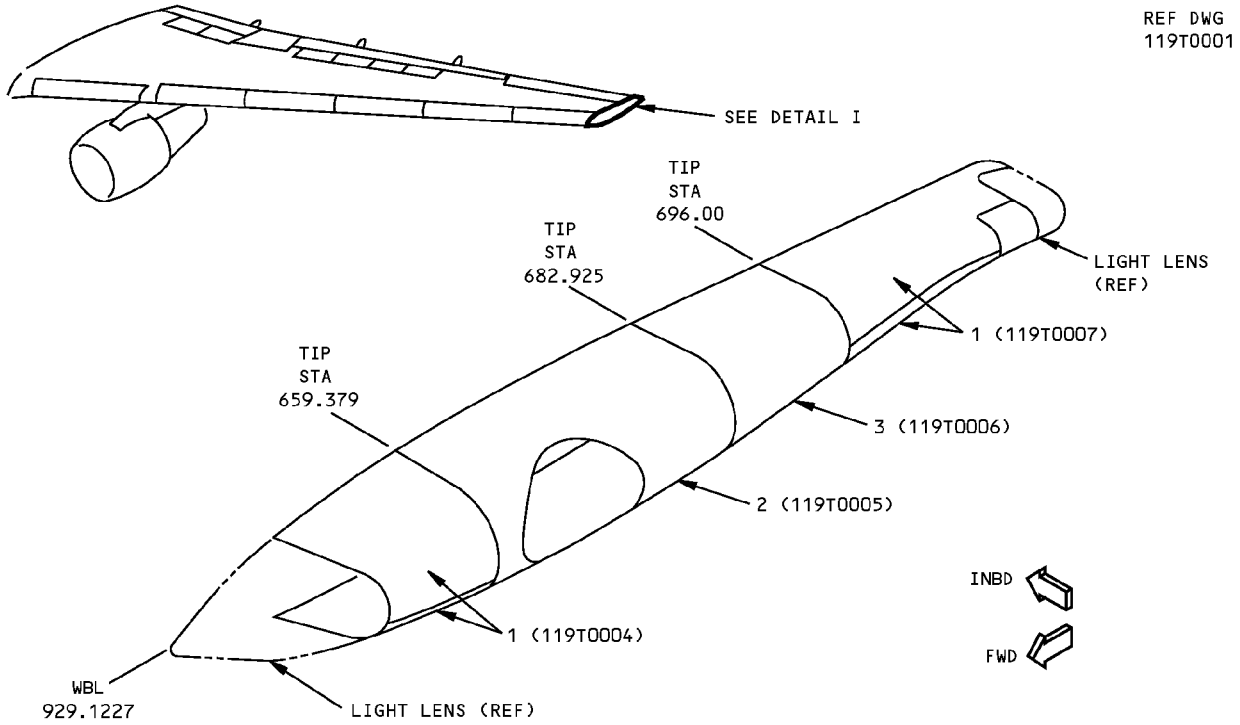




DETAIL I

Wing Tip Structure Diagram
Figure 1

IDENTIFICATION 1 - WING TIP SKIN



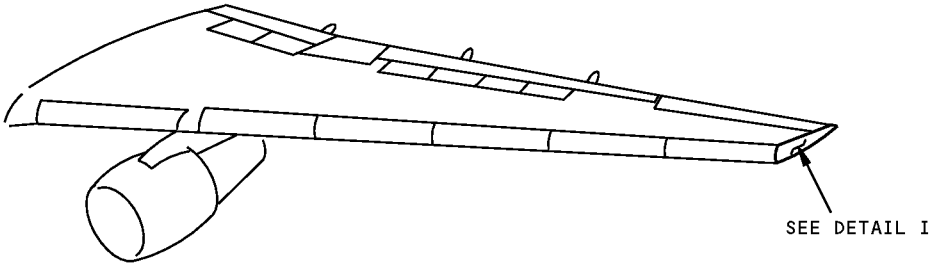
DETAIL I

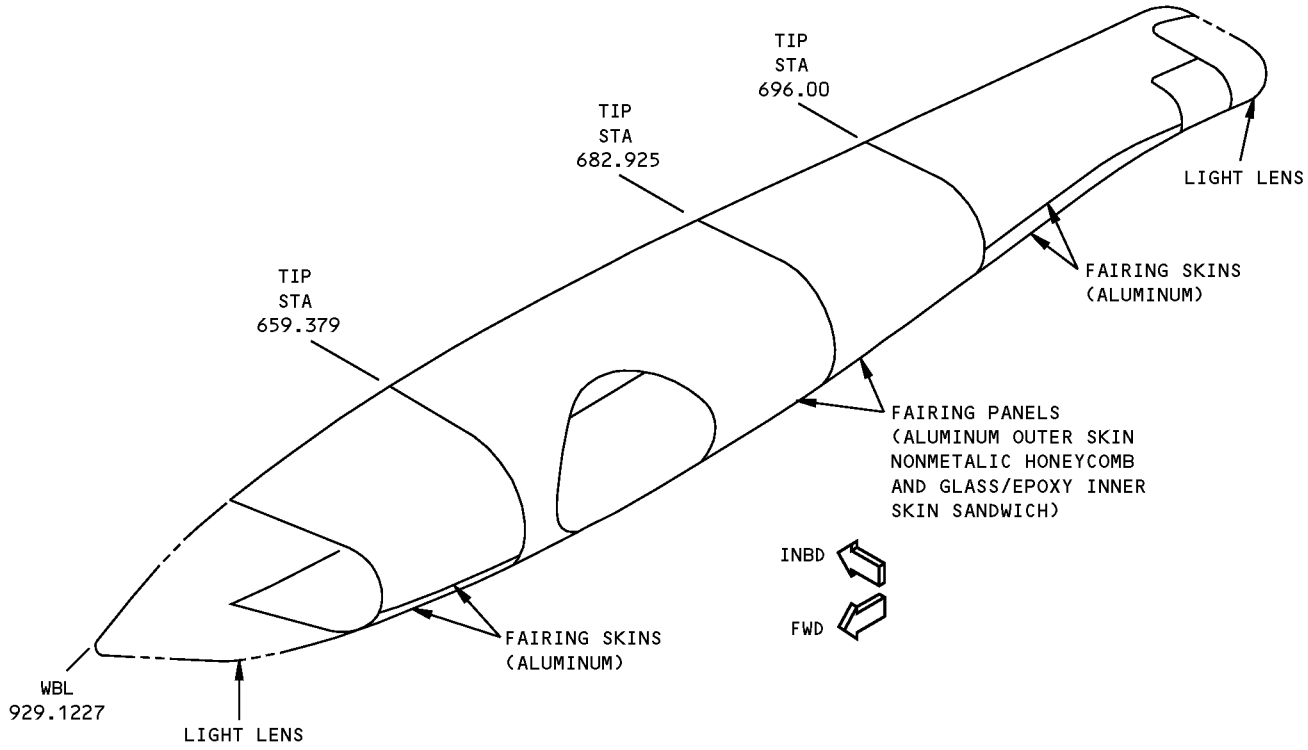
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FAIRING ASSY			
	UPPER SKIN	0.100	CLAD 2024-T3 (CHEM-MILLED TO 0.060 MIN)	
	LOWER SKIN	0.100	CLAD 2024-T3 (CHEM-MILLED TO 0.060 MIN)	
2	PANEL ASSY			
	OUTER SKIN	0.080	2024-T42 (CHEM-MILLED TO 0.024 MIN)	
	CORE		NON-METALLIC HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 5 OPTIONAL: BMS 8-124, CLASS I, TYPE IV, GRADE 4.5	
	INNER SKIN	3 PLIES	GLASS FABRIC/EPOXY PER BMS 8-79, CLASS III, GRADE 1, TYPE 1581 OPTIONAL: TYPE 7781	
3	PANEL ASSY			
	OUTER SKIN	0.080	CLAD 2024-T3 (CHEM-MILLED TO 0.024 MIN)	
	CORE		NON-METALLIC HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 5 OPTIONAL: BMS 8-124, CLASS I, TYPE IV, GRADE 4.5	
	INNER SKIN	2 PLIES	GLASS FABRIC/EPOXY PER BMS 8-79, CLASS III, GRADE 1, TYPE 1581 OPTIONAL: TYPE 7781	

LIST OF MATERIALS FOR DETAIL I

Wing Tip Skin Identification
Figure 1

ALLOWABLE DAMAGE 1 - WING TIP SKIN





DETAIL I

Wing Tip Skin Allowable Damage
Figure 101 (Sheet 1 of 4)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	PANEL DELAMINATION
FAIRING SKINS (ALUMINUM)	[B]	[C]	[J]	[D]	———
FAIRING PANELS					
ALUMINUM					
OUTER SKIN	[B]	[C]	[I]	[H]	[F]
GLASS/EPOXY					
INNER SKIN	[E]	[C]	[G]	[H]	[F]

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS GIVIN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- DAMAGE TO PANEL EDGES MAY BE CONFINED TO DELAMINATION OR MAY TAKE A FORM WHICH RESULTS IN DAMAGE TO FIBERS AND A LOSS OF EFFECTIVE CROSS-SECTIONAL AREA. THIS TYPE OF DAMAGE SHOULD BE REMOVED AND THE LIMITATIONS GIVEN FOR CRACKS APPLIED.

[A] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

[B] 1.0 INCH (25.4 mm) MAX LENGTH CRACK IS PERMITTED IF THE CRACK IN 3.0 INCHES (76.2 mm) FROM THE PANEL EDGE OR ADJACENT CRACK. DRILL 0.19 INCH (5 mm) DIA STOP HOLES AT THE ENDS OF THE CRACK. REMOVE EDGE CRACKS AS GIVEN IN DETAILS II AND VI. [A]

[C] REMOVE DAMAGE AS GIVEN IN DETAILS II,III AND V.

[D] CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAX DIA AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO FASTENER HOLE, MATERIAL EDGE, OR OTHER DAMAGE. FILL THE HOLE WITH 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

[E] 2.0 INCHES (50.8 mm) MAX LENGTH PER SQUARE FOOT OF AREA IS PERMIITED IN HONEYCOMB AREA. IT MUST BE A MINIMUM OF 6.0 INCHES (152.4 mm) FROM ANY OTHER CRACK. CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL VI. CRACKS THROUGH CONSECUTIVE FASTENERS OR THROUGH THE PANEL EDGEBAND ARE PERMITTED IF THE DAMAGE DOES NOT EXCEED 10% OF THE EDGEBAND LENGTH (PER SIDE). [A]

[F] 0.50 INCH (12.7 mm) MAX DIA IS PERMITTED IN THE HONEYCOMB AREA. A MAXIMUM OF 0.03 INCH (0.76 mm) DELAMINATION FROM THE EDGE IS PERMITTED. REPAIR THE DELAMINATION IN THE HONEYCOMB AREA AS GIVEN IN SRM 51-70 NO LATER THAN THE NEXT "C" CHECK. PROTECT THE EDGE DAMAGE AS GIVEN IN. [A]

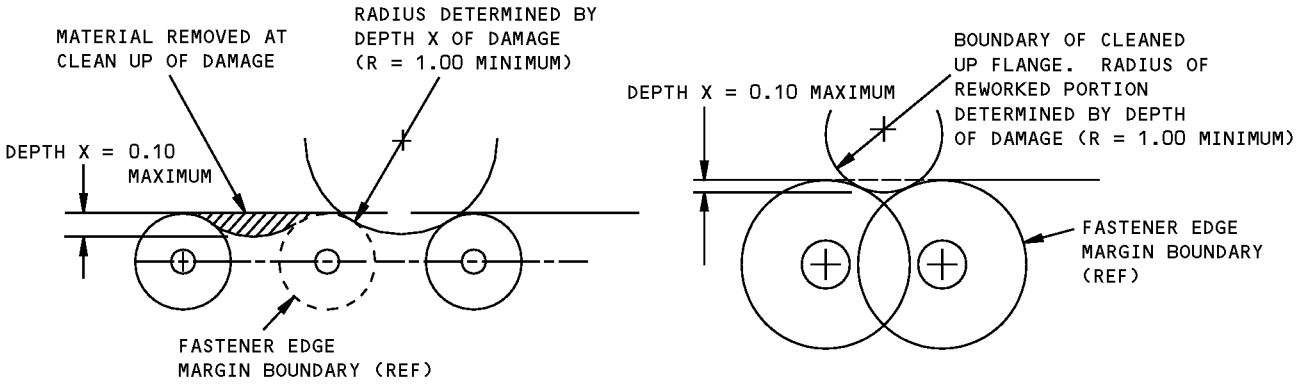
[G] DENTS GENERALLY RESULT IN FIBER DAMAGE OR DELAMINATION. HOWEVER, IF THERE IS NO FIBER DAMAGE OR DELAMINATION, DENTS UP TO 1.0 INCH (25.4 mm) DIA MAX ARE PERMITTED. ONE DENT PER SQUARE FOOT OF AREA IS PERMITTED. IT MUST BE A MINIMUM OF 6 INCHES (152.4 mm) FROM ANY OTHER DAMAGE. IF THERE IS FIBER DAMAGE OR DELAMINATION, REFER TO THE APPLICABLE DAMAGE DATA IN THE TABLE.

[H] 1.2 INCHES (30.5 mm) MAX DIA IN HONEYCOMB AREA ONLY AND MIN OF 2.5 D TO NEAREST HOLE OR MATERIAL EDGE.

[I] 1.2 INCHES (30.5 mm) MAX DIA IN HONEYCOMB AREA ONLY AND A MIN OF 2.5 D TO THE NEAREST HOLE OR MATERIAL EDGE. FOR DENTS THAT EXCEED THESE LIMITS, REFER TO SRM 51-70-01.

[J] SEE DETAIL IV. FOR DENTS THAT EXCEED THESE LIMITS, REFER TO SRM 51-70-01.

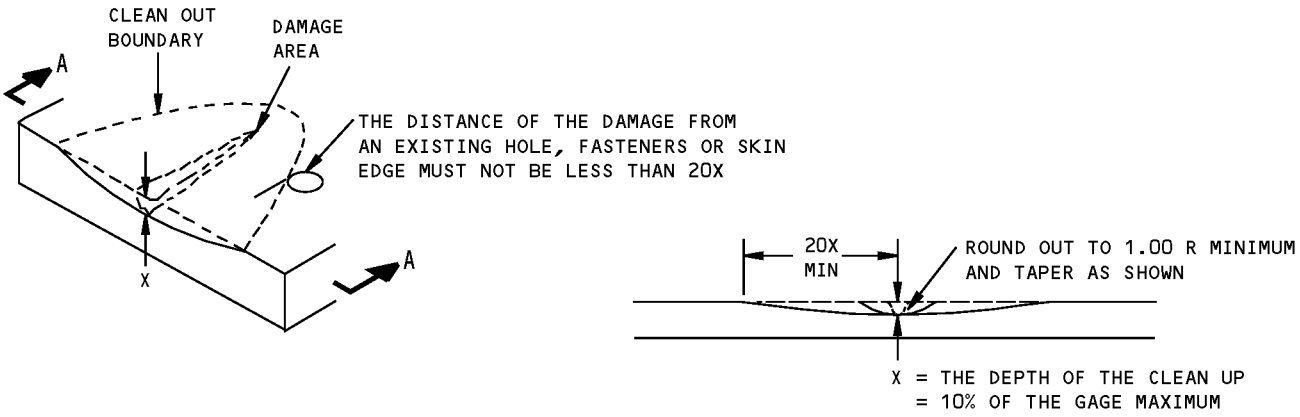
Wing Tip Skin Allowable Damage
Figure 101 (Sheet 2 of 4)



DAMAGE CLEAN UP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP

DAMAGE CLEAN UP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

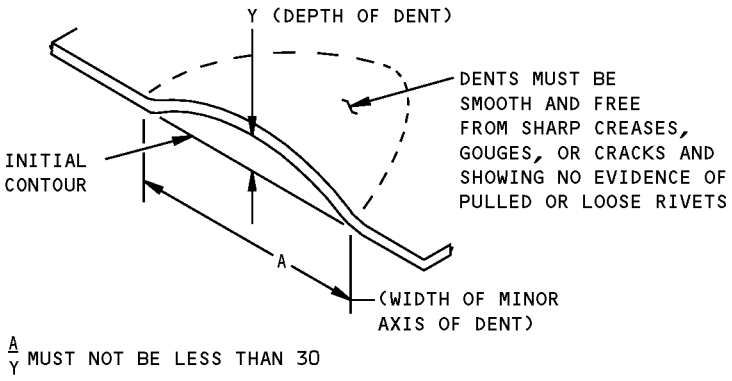
DETAIL II



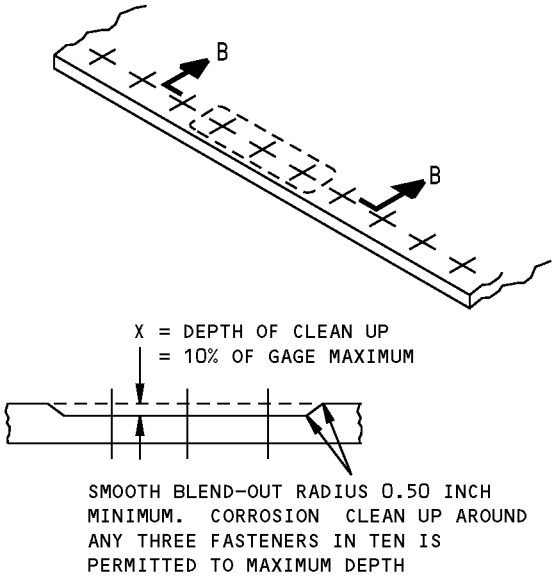
SECTION A–A

REMOVAL OF NICK OR GOUGE DAMAGE ON A SURFACE
DETAIL III

Wing Tip Skin Allowable Damage
Figure 101 (Sheet 3 of 4)

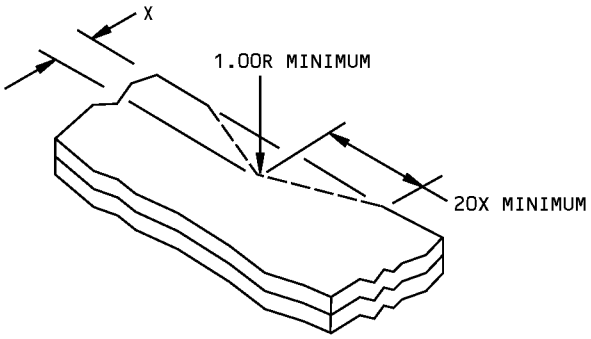


ALLOWABLE DAMAGE FOR DENT
DETAIL IV



SECTION B-B

CORROSION CLEANUP
DETAIL V

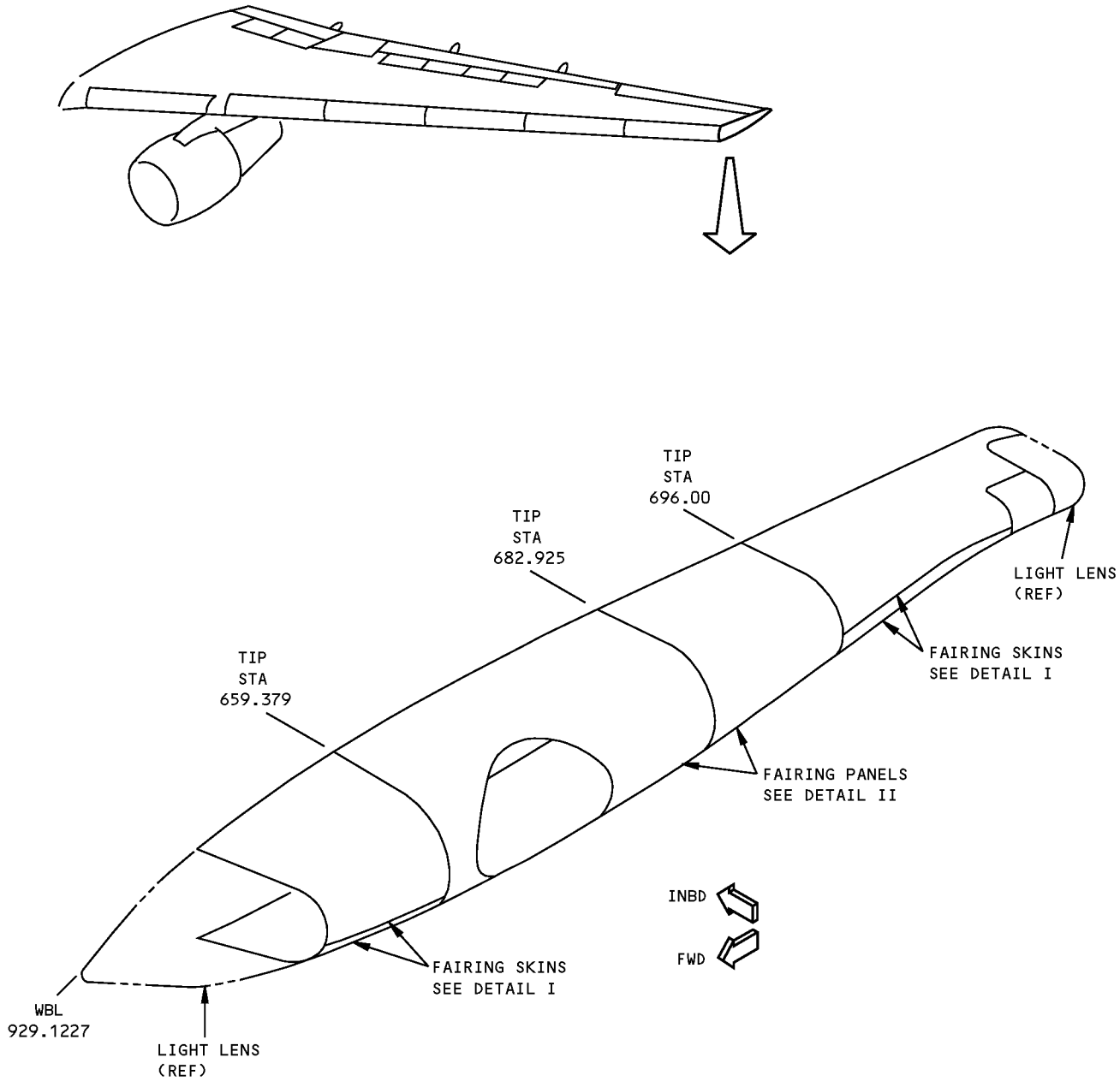


X = DEPTH OF CLEANUP = 0.10 MAXIMUM

DETAIL VI

Wing Tip Skin Allowable Damage
Figure 101 (Sheet 4 of 4)

REPAIR 1 - WING TIP FAIRING



Wing Tip Fairing Repair
Figure 201 (Sheet 1 of 6)

REPAIR INSTRUCTIONS FOR DETAIL I

1. Remove the wing tip cap attachment screws and remove the wing tip cap.
2. Cut out the damaged area.
3. Make the part 1 doubler to fit the inside contour of the damaged area.
4. Make the part 2 filler to fit the initial contour of the damaged area.
5. Assemble the repair parts and drill the fastener holes.
6. Disassemble the repair parts.
7. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the skin.
8. Apply a chemical conversion coating to the repair parts and to the bare surfaces of the skin. Refer to SRM 51-20-01.
9. Apply one layer of BMS 10-79, Type II or III primer to the repair parts and to the bare surfaces of the skin. Refer to SOPM 20-44-04.
10. Install the repair parts with BMS 5-95 sealant between the mating surfaces.
11. Install the fasteners. In areas of critical aerodynamic smoothness apply BMS 5-95 aerodynamic smoother as given in SRM 51-10-01.
12. Apply the exterior finish. Refer to AMM 51-21.
13. Install the wing tip cap.

NOTES

- WHEN YOU USE THIS REPAIR REFER TO:
  - AMM 51-21 FOR INTERIOR AND EXTERIOR FINISHES
  - SOPM 20-44-04 FOR APPLICATION OF FINISHES
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - SRM 51-20-05 FOR SEALING OF REPAIRS
  - SRM 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES AND EDGE MARGINS.

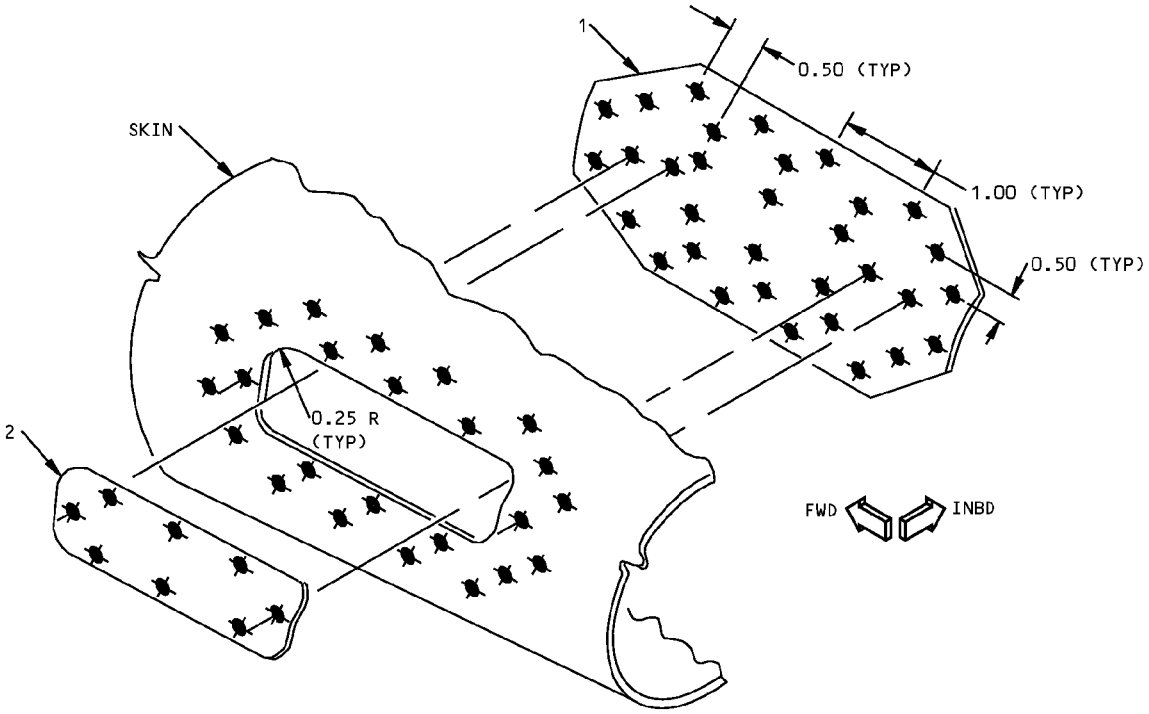
FASTENER SYMBOLS

REPAIR FASTENER LOCATION

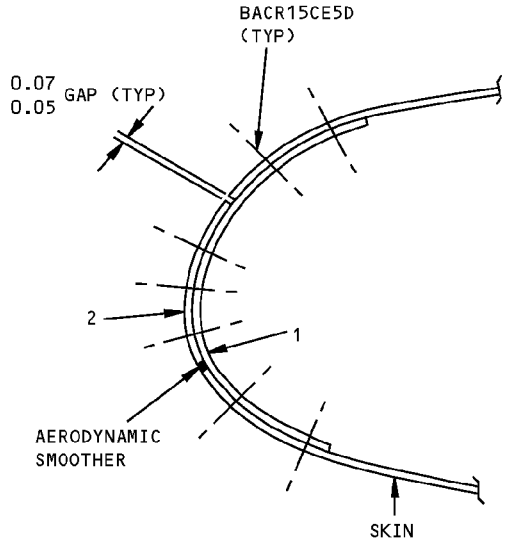
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	DOUBLER	1	0.063 CLAD 2024-T4
2	FILLER	1	0.063 CLAD 2024-T4

TABLE I

Wing Tip Fairing Repair
Figure 201 (Sheet 2 of 6)



DETAIL I



SECTION THRU REPAIR

Wing Tip Fairing Repair
Figure 201 (Sheet 3 of 6)

APPLICABILITY
THESE ARE THE LIMITS FOR THIS REPAIR: - FOR ALUMINUM SKIN, THE MAXIMUM DIMENSION IS 7.0 INCHES. - FOR FIBERGLASS SKIN, THE MAXIMUM DIMENSION IS 2.0 INCHES.

REPAIR INSTRUCTIONS FOR DETAIL II

1. Remove the wing tip cap attachment screws and remove the wing tip cap.
2. Cut out the damaged skin and core.
3. Make the part 1 doubler to fit the inside contour of the damaged area.
4. Make the part 2 doubler to fit the outside contour of the damaged area.
5. Assemble the repair parts and drill the fastener holes.
6. Disassemble the repair parts.
7. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the skin.
8. Apply a chemical conversion coating to the repair parts and to the bare surfaces of the skin. Refer to SRM 51-20-01.
9. Apply one layer of BMS 10-79, Type II or III primer to the repair parts and to the bare surfaces of the skin. Refer to SOPM 20-44-04.
10. Increase the diameter of the fastener holes in the honeycomb core and fiberglass skin to 0.44 inch. Use care to prevent damage to the aluminum face sheet.
11. Inject BMS 5-28, Type 6 potting compound into the damage cutout.
12. When the potting compound has cured sufficiently, sand down the surplus resin until it is flush with the surrounding skin.
13. Install the repair parts with BMS 5-95 sealant between the mating surfaces.
14. Install the spacers and the fasteners wet with BMS 5-95 sealant.
15. In areas of critical aerodynamic smoothness apply BMS 5-95 aerodynamic smoother as given in SRM 51-10-01.
16. Apply the exterior finish. Refer to AMM 51-21.
17. Install the wing tip cap.

NOTES

- WHEN YOU USE THIS REPAIR REFER TO:
  - AMM 51-21 FOR INTERIOR AND EXTERIOR FINISHES
  - SOPM 20-44-04 FOR APPLICATION OF FINISHES
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - SRM 51-20-05 FOR SEALING OF REPAIRS
  - SRM 51-30-03 FOR SOURCES OF MATERIALS
  - SRM 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES AND EDGE MARGINS.

[A] THE MATERIALS MUST GEL AT ROOM TEMPERATURE BEFORE YOU ADD HEAT. THE RATE-OF-HEAT-RISE MUST BE NO GREATER THAN 7°F (4°C) PER MINUTE. THE CURE TIME IS THE MINIMUM TIME REQUIRED TO CURE BEFORE HANDLING OR SANDING.

FASTENER SYMBOLS

REPAIR FASTENER LOCATION

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	DOUBLER	1	0.063 CLAD 2024-T4
2	DOUBLER	1	0.063 CLAD 2024-T4

TABLE II

Wing Tip Fairing Repair
Figure 201 (Sheet 4 of 6)

WARNING: THESE CHEMICALS CONTAIN TOXIC INGREDIENTS. PROVIDE ADEQUATE VENTILATION AND PROTECT THE SKIN AND EYES FROM CONTACT WITH UNCURED RESINS OR CURING AGENT. WEAR RUBBER GLOVES OVER COTTON GLOVES FOR PROTECTION OF HANDS. IF SKIN IS EXPOSED TO DIRECT CONTACT WITH UNCURED RESINS OR CURING AGENT, WASH WITH WARM WATER OR SOAP. AVOID THE USE OF SOLVENTS FOR CLEANING THE SKIN.

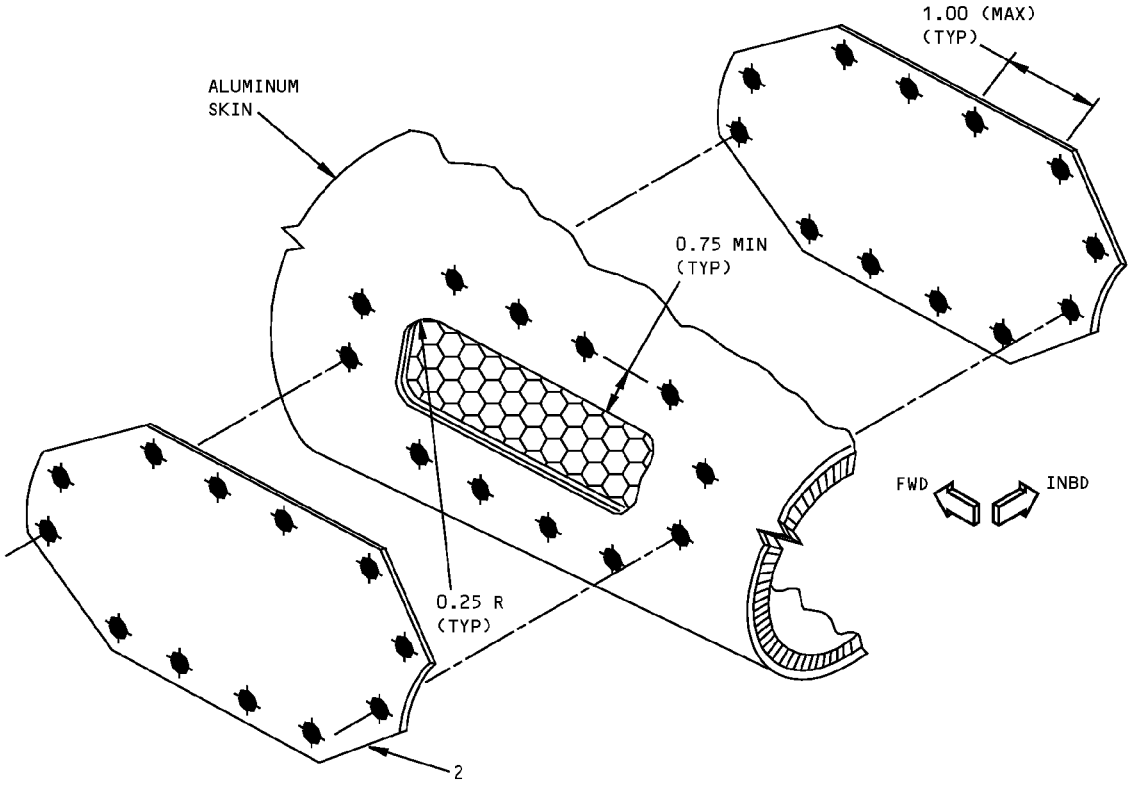
CAUTION: TO PREVENT CONTAMINATION OF THE RESIN, DO NOT USE WAXED CONTAINERS FOR MIXING.

POTTING RESIN BMS 5-28, TYPE 6			
COMPONENTS	PARTS BY WEIGHT	OPEN TIME BEFORE USE, OR POT LIFE OF MIXTURE	CURING TIME [A]
EPOCAST 1636-A WITH 1636-B HARDENER	100 8	60 MINUTES AT 70° TO 80°F (21° TO 27°C)	1.5 HOURS AT 260°F (126°C)

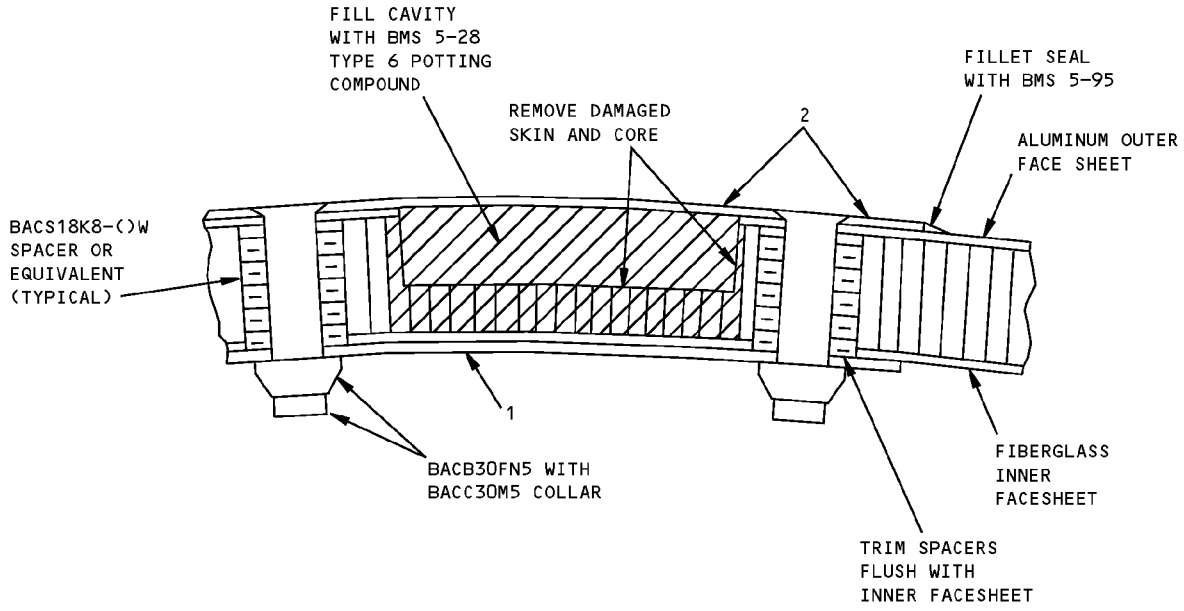
TABLE III

MIXING PROCEDURE
ADD HARDENER TO RESIN AND MIX THOROUGHLY.

Wing Tip Fairing Repair
Figure 201 (Sheet 5 of 6)



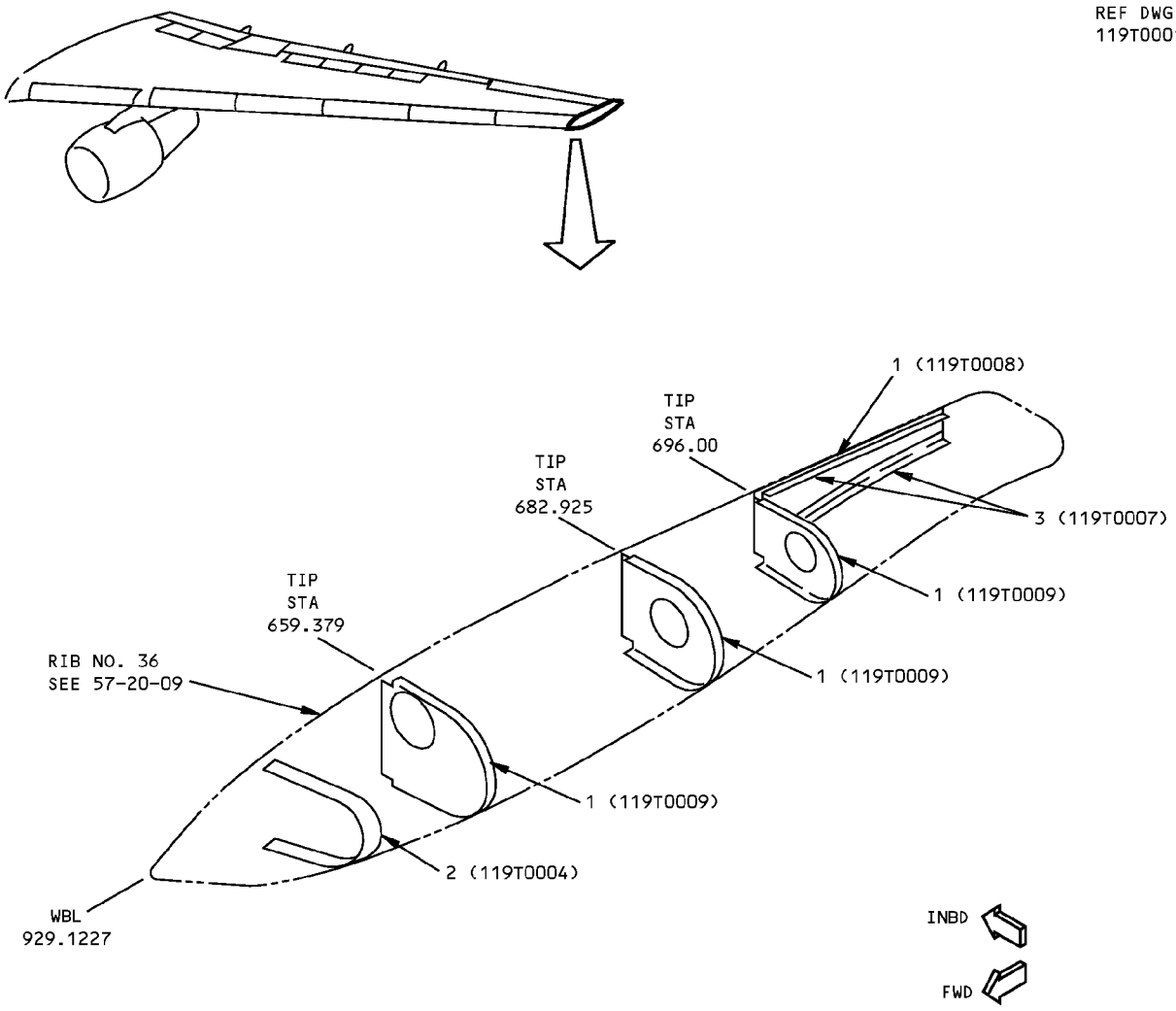
DETAIL II



SECTION THRU REPAIR

Wing Tip Fairing Repair
Figure 201 (Sheet 6 of 6)

IDENTIFICATION 1 - WING TIP STRUCTURE



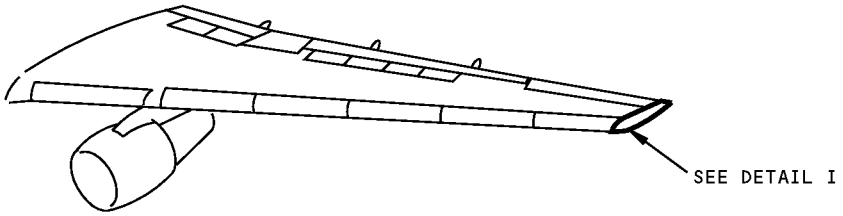
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RIB	0.063	CLAD 2024-T42	
2	STRAP	0.063	CLAD 7075-T6	
3	SEAL RETAINER		BAC1510-319 2024-T3511	

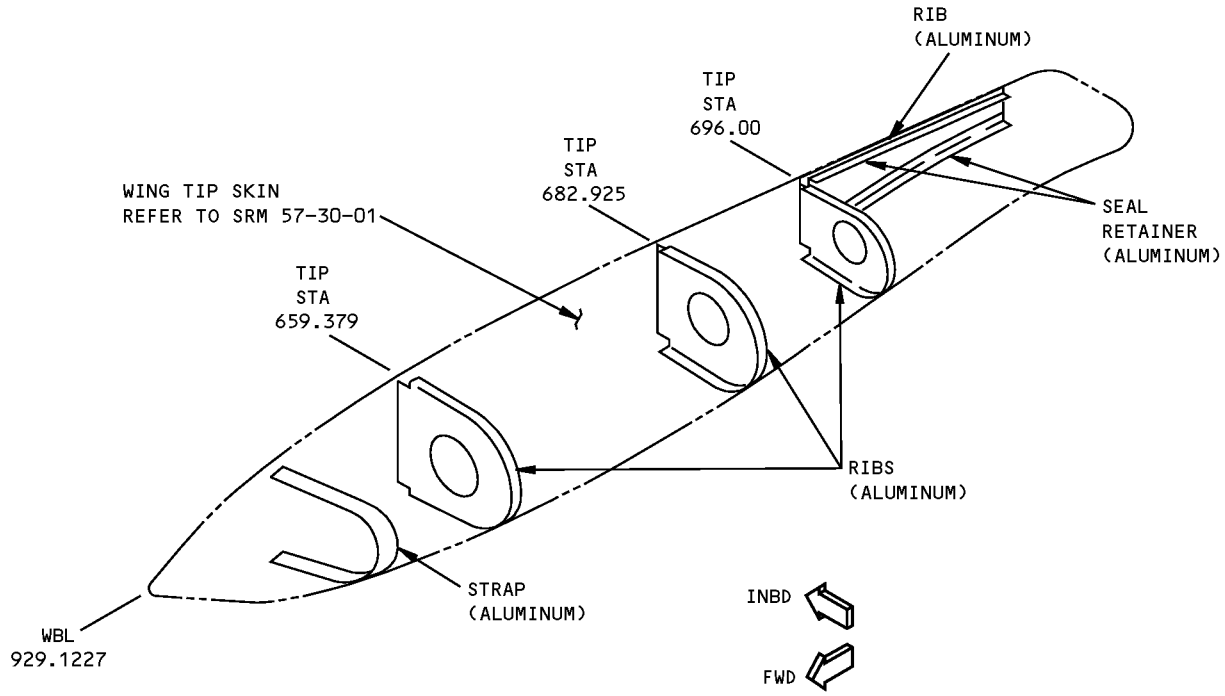
LIST OF MATERIALS

Wing Tip Structure Identification
Figure 1

ALLOWABLE DAMAGE 1 - WING TIP STRUCTURE

REF DWG
119T0001





DETAIL I

Allowable Damage - Wing Tip Structure
Figure 101 (Sheet 1 of 3)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
RIBS	[A]	[B]	SEE DETAIL V	NOT PERMITTED
STRAP	[C]	[B]	SEE DETAIL V	NOT PERMITTED
SEAL RETAINER	[A]	[B]	NOT PERMITTED	NOT PERMITTED

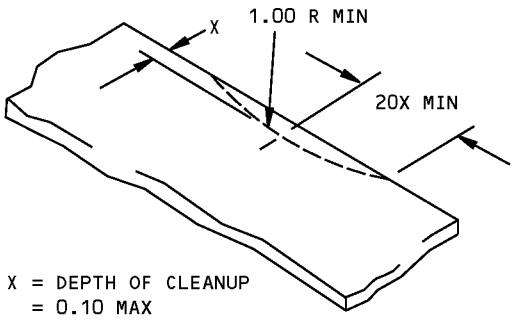
NOTES

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS, WHICH MUST BE REMOVED AS GIVEN IN DETAILS III AND IV.

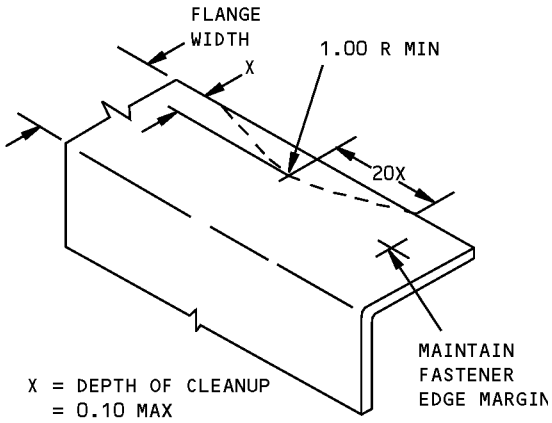
[B] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, AND VII.

[C] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS, WHICH MUST BE REMOVED AS GIVEN IN DETAILS II AND IV.



REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE

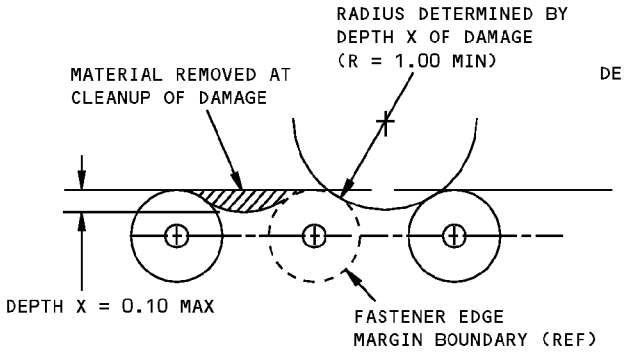
DETAIL II



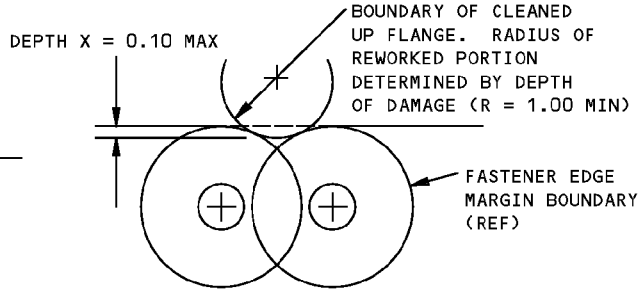
REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE

DETAIL III

Allowable Damage - Wing Tip Structure
Figure 101 (Sheet 2 of 3)

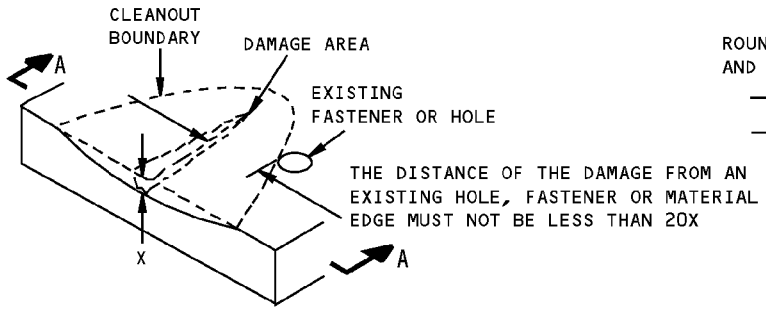


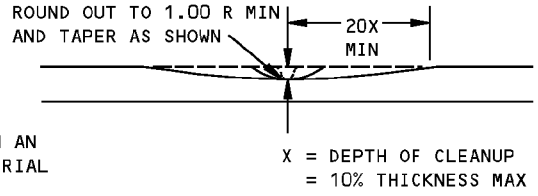
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

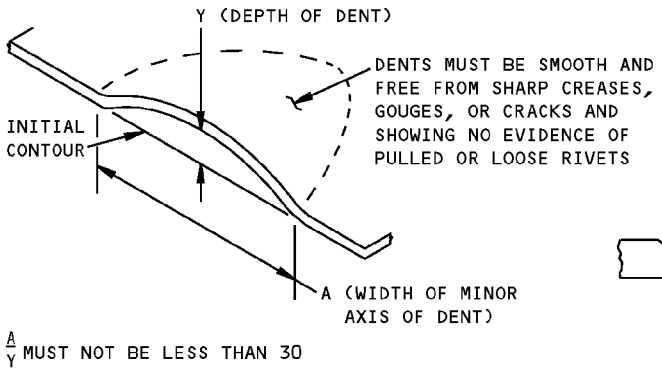
DETAIL IV



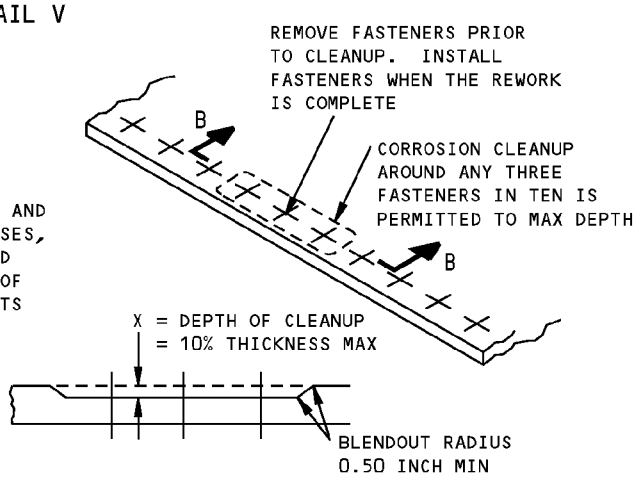


SECTION A–A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL V



ALLOWABLE DAMAGE FOR DENT
DETAIL VI



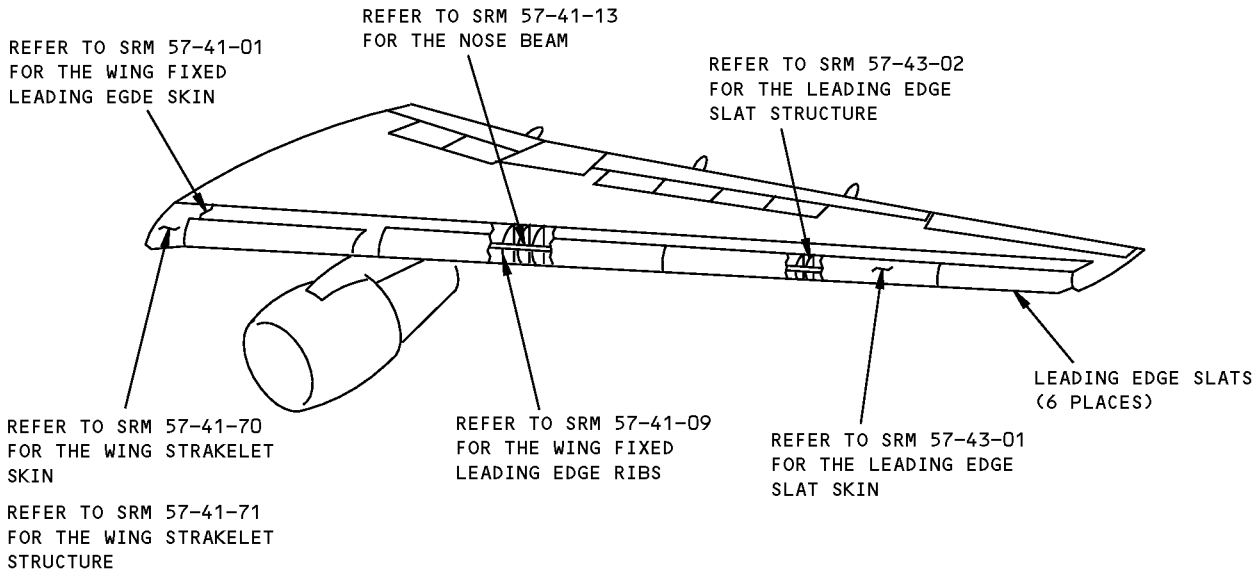
SECTION B–B

CORROSION CLEANUP
DETAIL VII

Allowable Damage - Wing Tip Structure
Figure 101 (Sheet 3 of 3)

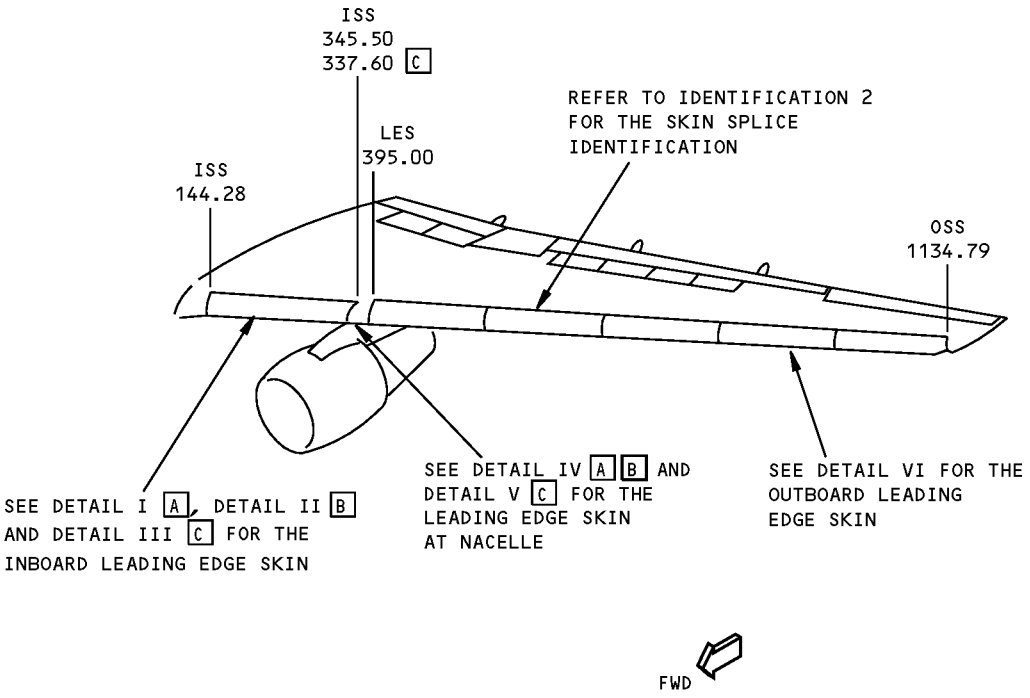
GENERAL - WING FIXED LEADING EDGE AND LEADING EDGE DEVICES STRUCTURE DIAGRAM

REF DWG
114T1000
114T2000
114T6000



Wing Fixed Leading Edge and Leading Edge Devices Structure Diagram
Figure 1

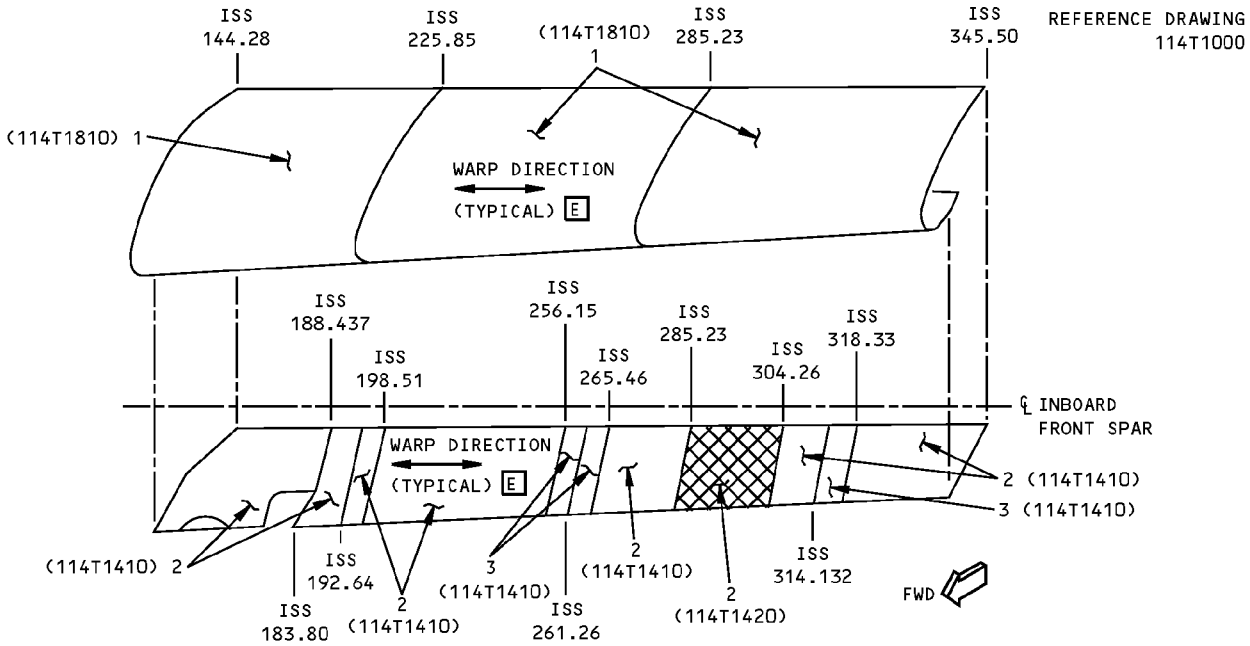
IDENTIFICATION 1 - WING FIXED LEADING EDGE SKIN



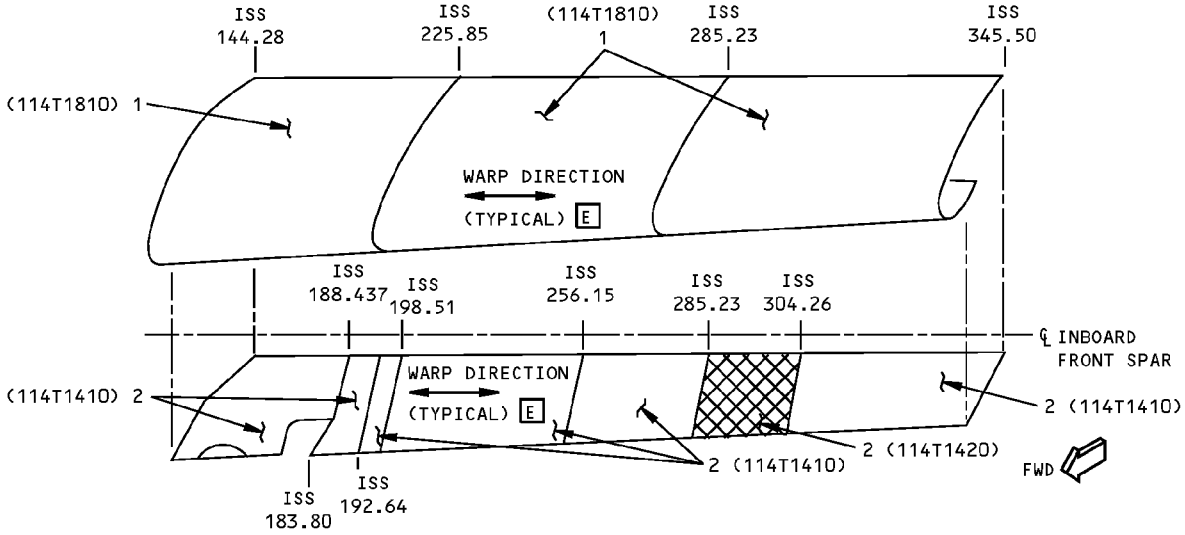
NOTES

- A FOR CUM LINE NUMBERS: 132 AND 136
- B FOR ALL AIRPLANES NOT LISTED IN A OR C
- C FOR AIRPLANES WITH CF6-80C2 ENGINE
- D BMS 8-139 STYLE 1581 WAS FORMERLY STYLE 181
- E PLY ORIENTATION IS 0° AND 90° TO THE WARP DIRECTION
- F BMS 10-21, TYPE I OR TYPE III CONDUCTIVE COATING
- G FOR CUM LINE NUMBERS: 132 THRU 942
- H FOR CUM LINE NUMBERS: 944 AND ON
- I BMS 8-139 USED FOR CUM LINE NUMBERS: 132 THRU 481
- J BMS 8-79 USED FOR CUM LINE NUMBERS: 483 AND ON

Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 1 of 7)



LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE
INBOARD LEADING EDGE SKIN
DETAIL I A

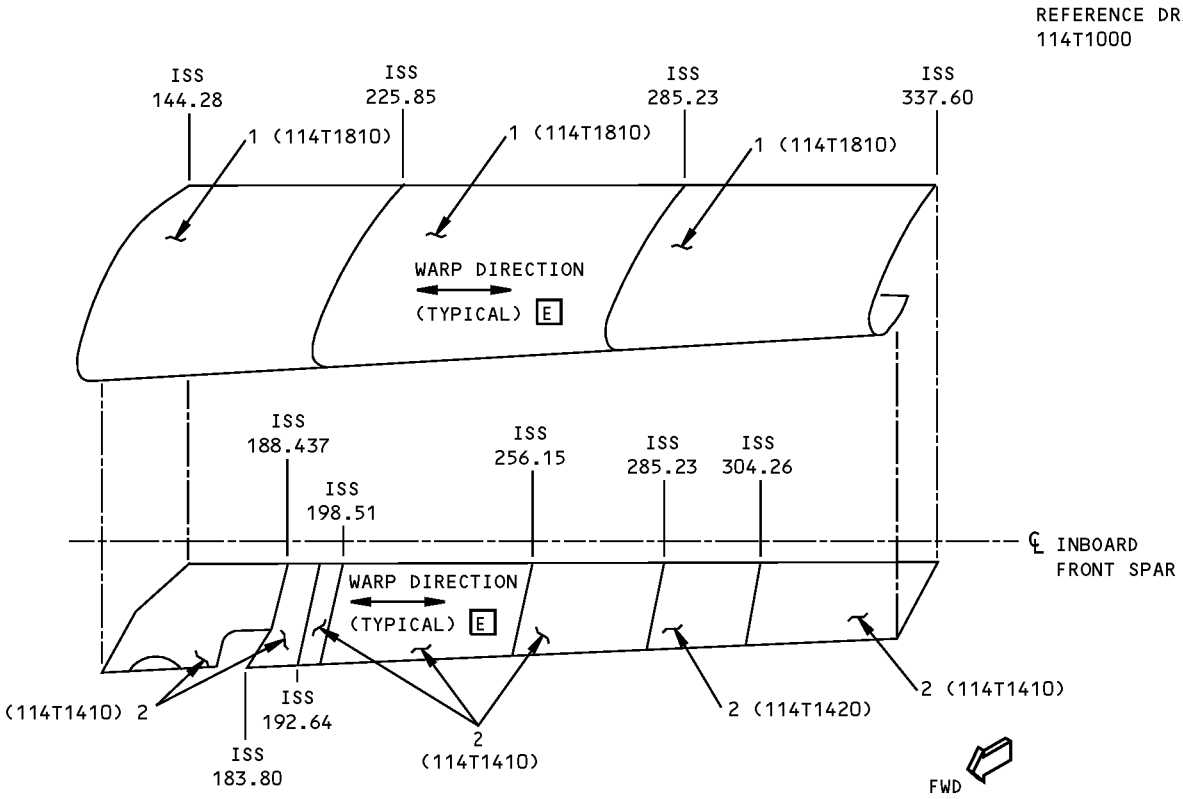


LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE
INBOARD LEADING EDGE SKIN
DETAIL II B

WARNING: CONTROLLED STRENGTH PRESSURE RELIEF PANELS. REPAIRS TO THESE PANELS AND ATTACHEMENT HARDWARE MUST NOT SIGNIFICANTLY ALTER THE BLOWOUT PRESSURE STRENGTH.

LIST OF MATL

Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 2 of 7)

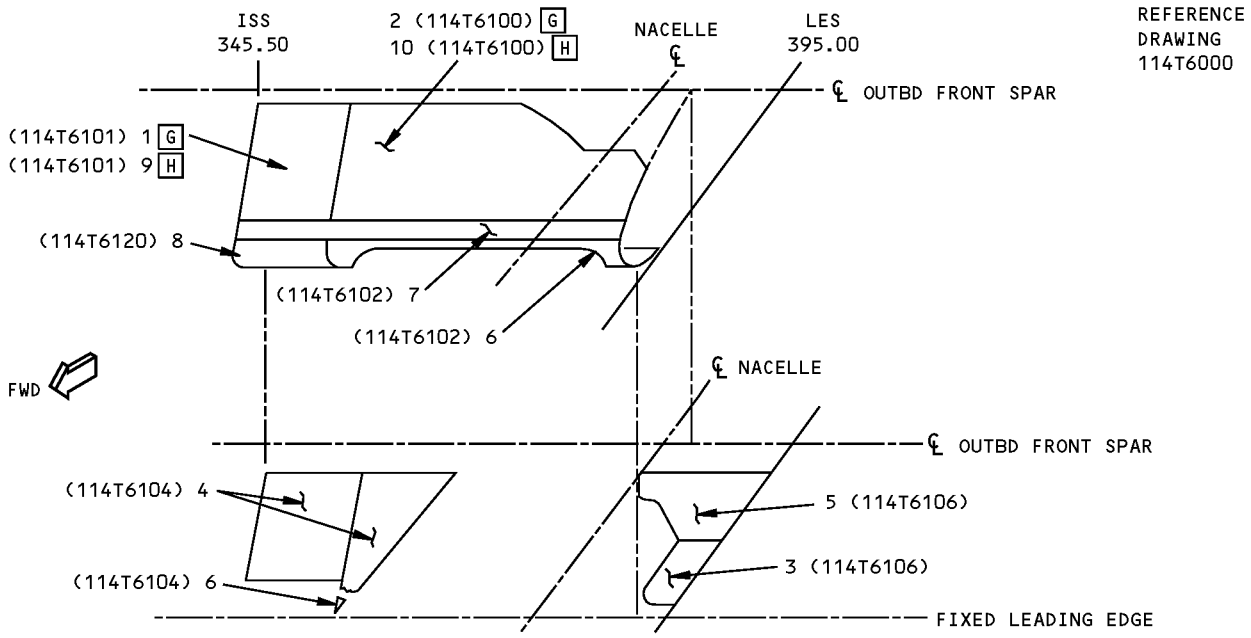


INBOARD LEADING EDGE SKIN
LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
DETAIL III C

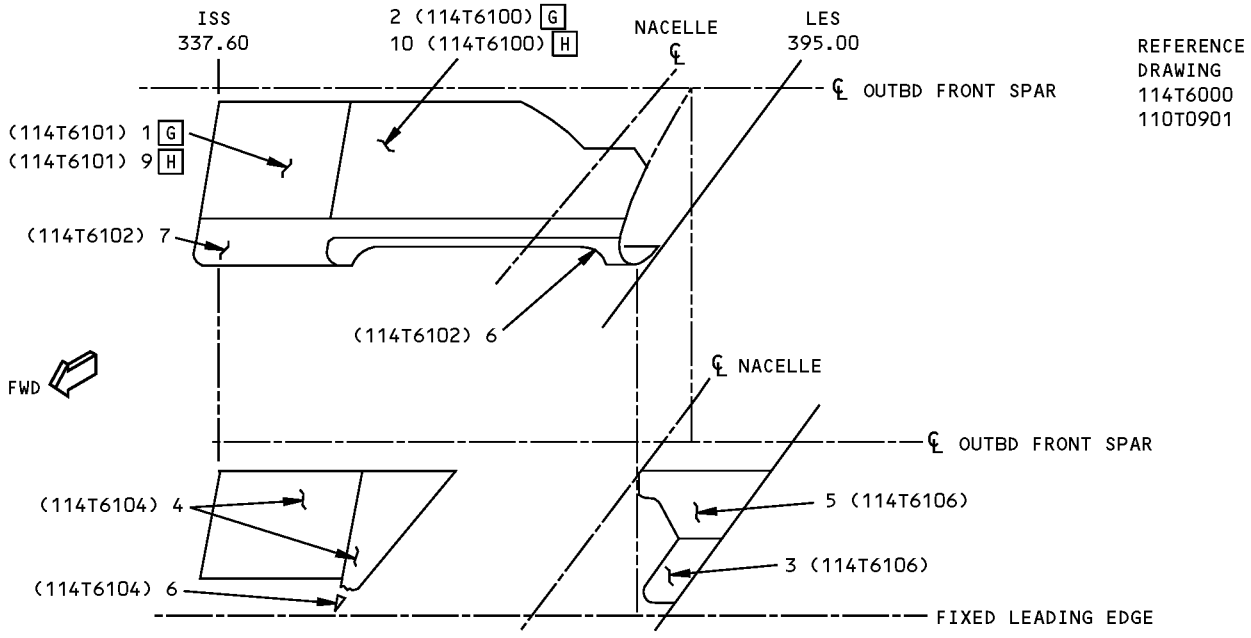
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	PANEL ASSEMBLY F SKIN CORE		FIBERGLASS/EPOXY PER BMS 8-139, STYLE 1581, 350°F (177°C) CURE D, 2 PLIES ON EACH SURFACE NONMETALLIC HONEYCOMB CORE PER BMS 8-124, CLASS 1, TYPE I, GRADE 4.0	
2	PANEL ASSEMBLY F SKIN CORE		FIBERGLASS/EPOXY PER BMS 8-139, STYLE 120, 350°F (177°C) CURE, 3 PLIES ON EACH SURFACE NONMETALLIC HONEYCOMB CORE PER BMS 8-124, CLASS 1, TYPE I, GRADE 4.0	
3	PANEL ASSEMBLY F SKIN		FIBERGLASS/EPOXY LAMINATE PER BMS 8-139, STYLE 120 AND/OR STYLE 1581, 350°F (177°C) CURE D	

LIST OF MATERIALS FOR DETAILS I THRU III

Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 3 of 7)



LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
LEADING EDGE SKIN AT NACELLE
DETAIL IV A B



LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
LEADING EDGE SKIN AT NACELLE
DETAIL V C

LIST OF MATL

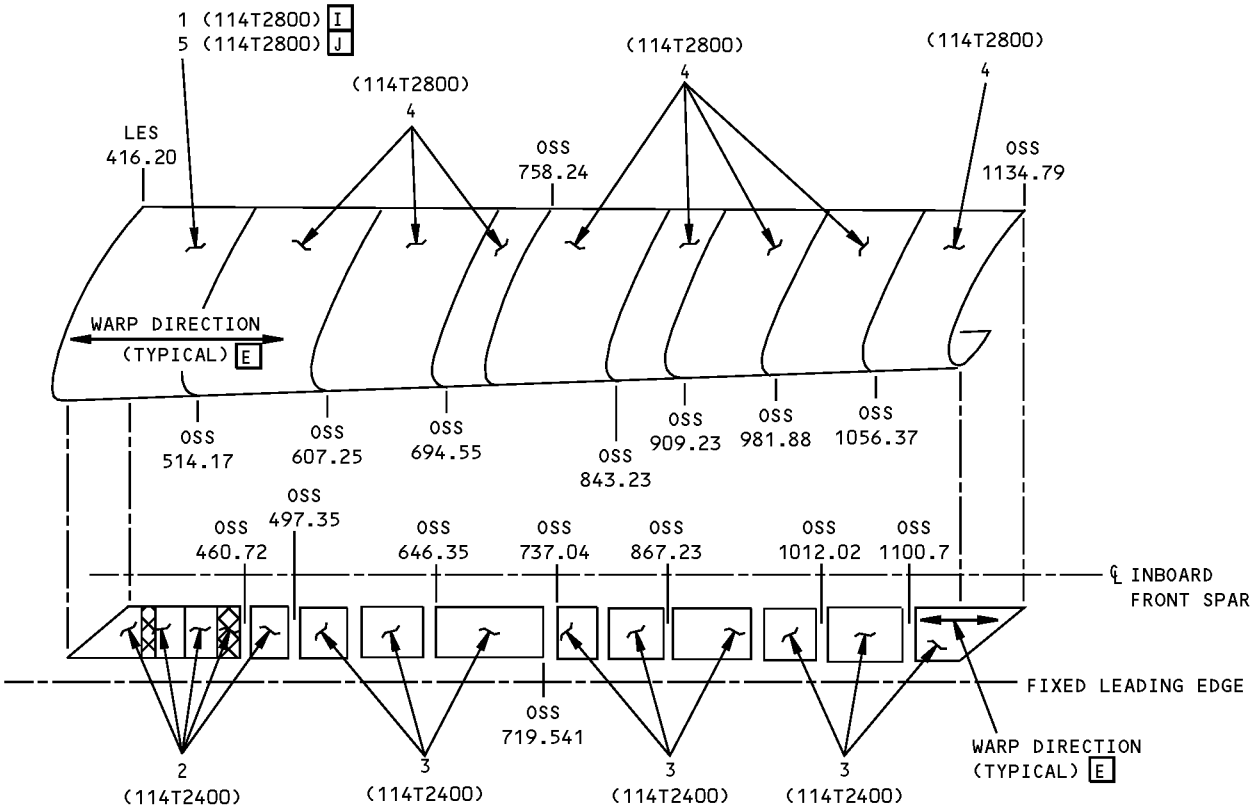
Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 4 of 7)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL ASSEMBLY			
	OUTER SKIN	0.080	2024-T3 (CHEM-MILLED TO 0.024 MIN)	
	CORE	0.375	ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 3-25N	G
	INNER SKIN	0.020	7075-T6	
2	SKIN PANEL ASSEMBLY			
	OUTER SKIN	0.125	CLAD 2024-T3 (CHEM-MILLED TO 0.027 MIN)	
	CORE	1.000	ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 3-25N	G
	INNER SKIN	0.020	7075-T6	
3	SKIN	0.100	CLAD 2024-T3	
4	BONDED PANEL ASSEMBLY			
	SKIN		FIBERGLASS/EPOXY PER BMS 8-139, STYLE 120, 350°F (177°C) CURE, 3 PLIES ON EACH SURFACE	
	CORE		NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS 1, TYPE I, GRADE 4	
5	SKIN	0.071	CLAD 2024-T3	
6	SKIN	0.100	CLAD 2024-T42	
7	SKIN	0.080	CLAD 7075-T62	
8	SKIN	0.063	CLAD 7075-T62	
9	SKIN PANEL ASSEMBLY			
	OUTER SKIN	0.080	2024-T3 (CHEM-MILLED TO 0.024 MIN)	
	CORE	0.375	FIBERGLASS/EPOXY FABRIC PER BMS 8-139, CLASS 1, STYLE 120 AND/OR STYLE 1581	H
	INNER SKIN	0.020	7075-T6	
10	SKIN PANEL ASSEMBLY			
	OUTER SKIN	0.125	CLAD 2024-T3 (CHEM-MILLED TO 0.027)	H
	CORE	1.00	FIBERGLASS/EPOXY FABRIC PER BMS 8-139, CLASS 1, STYLE 120 AND/OR STYLE 1581	
	INNER SKIN	0.020	7075-T6	

LIST OF MATERIALS FOR DETAILS IV AND V

Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 5 of 7)

REFERENCE DRAWING
114T2000



FWD

WARNING: CONTROLLED STRENGTH PRESSURE RELIEF PANELS. REPAIRS TO THESE PANELS AND ATTACHEMENT HARDWARE MUST NOT SIGNIFICANTLY ALTER THE BLOWOUT PRESSURE STRENGTH.

LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE EXCEPT AS NOTED
OUTBOARD LEADING EDGE SKIN
DETAIL VI

LIST OF MATL

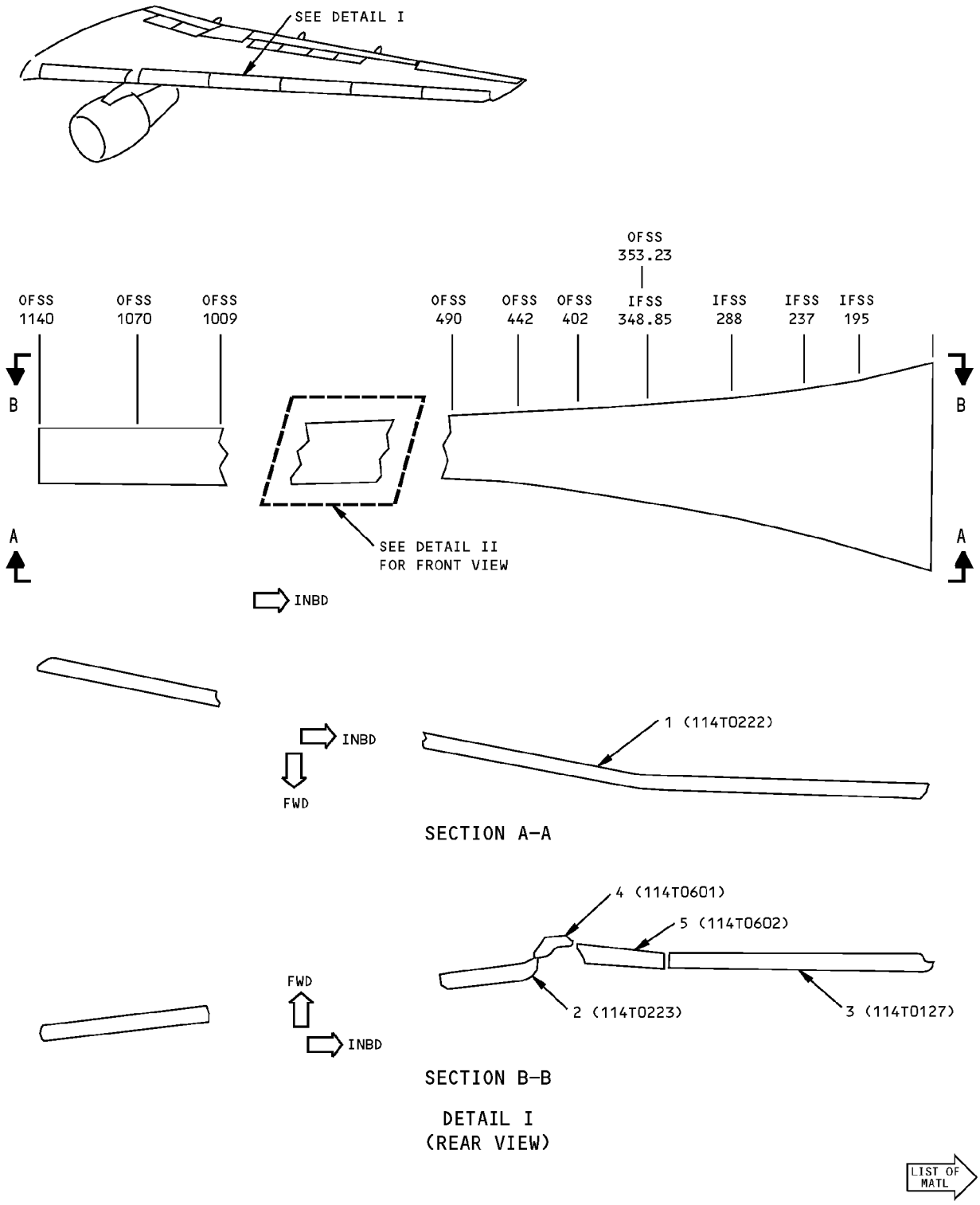
Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 6 of 7)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	PANEL ASSEMBLY			
	SKIN		FIBERGLASS/EPOXY PER BMS 8-139, STYLE 1581, 350°F (177°C) CURE [D], 2 PLIES ON EACH SURFACE	[I]
	CORE		NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS I, TYPE I, GRADE 4.0	
2	PANEL ASSEMBLY			
	SKIN		FIBERGLASS/EPOXY PER BMS 8-139, STYLE 120, 350°F (177°C) CURE, 3 PLIES ON EACH SURFACE	
	CORE		NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS I, TYPE I, GRADE 4.0	
3	PANEL ASSEMBLY			
	SKIN		FIBERGLASS/EPOXY PER BMS 8-79, CLASS III, STYLE 120, GRADE 1, 250°F (121°C) CURE, 3 PLIES ON EACH SURFACE	
	CORE		NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 3	
4	PANEL ASSEMBLY			
	SKIN		FIBERGLASS/EPOXY PER BMS 8-79, CLASS III, STYLE 1581, GRADE 1, 250°F (121°C) CURE, 2 PLIES ON EACH SURFACE	
	CORE		NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 3	
5	PANEL ASSEMBLY			
	SKIN		FIBERGLASS/EPOXY PER BMS 8-79, STYLE 1581, CLASS III, 250°F (121°C) CURE, 2 PLIES ON EACH SURFACE	[J]
	CORE		NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS I, TYPE I, GRADE 4.0	

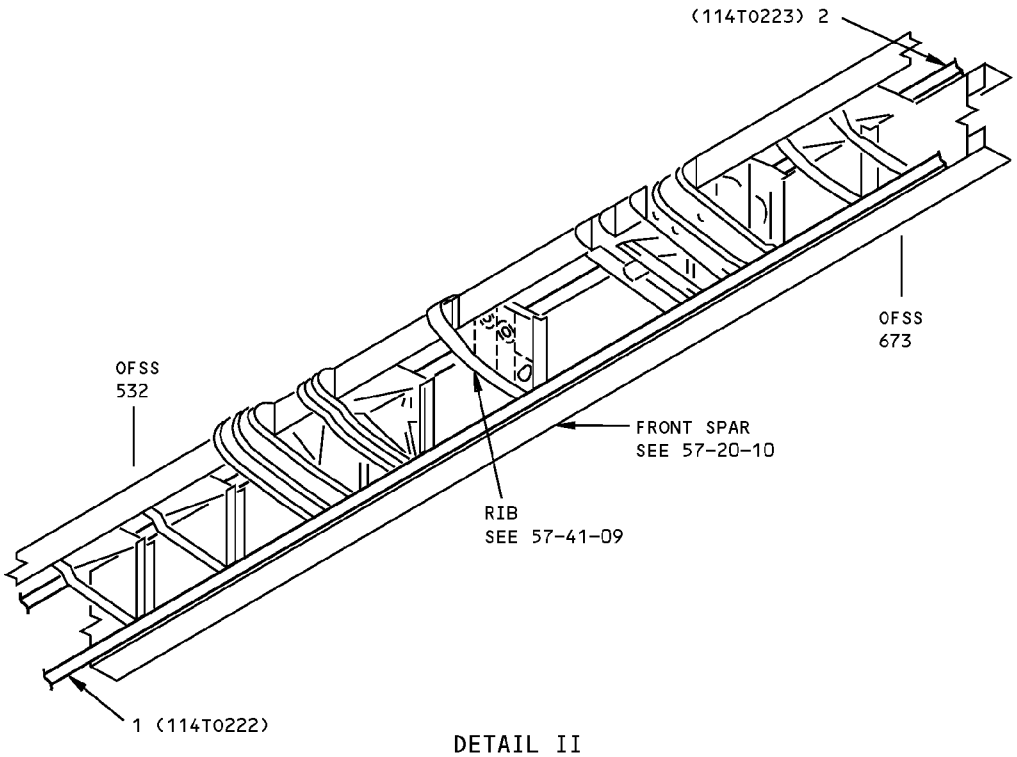
LIST OF MATERIALS FOR DETAIL VI

Wing Fixed Leading Edge Skin Identification
Figure 1 (Sheet 7 of 7)

IDENTIFICATION 2 - LEADING EDGE SKIN SPLICE



Leading Edge Skin Splice Identification
Figure 1 (Sheet 1 of 2)



DETAIL II
(FRONT VIEW)

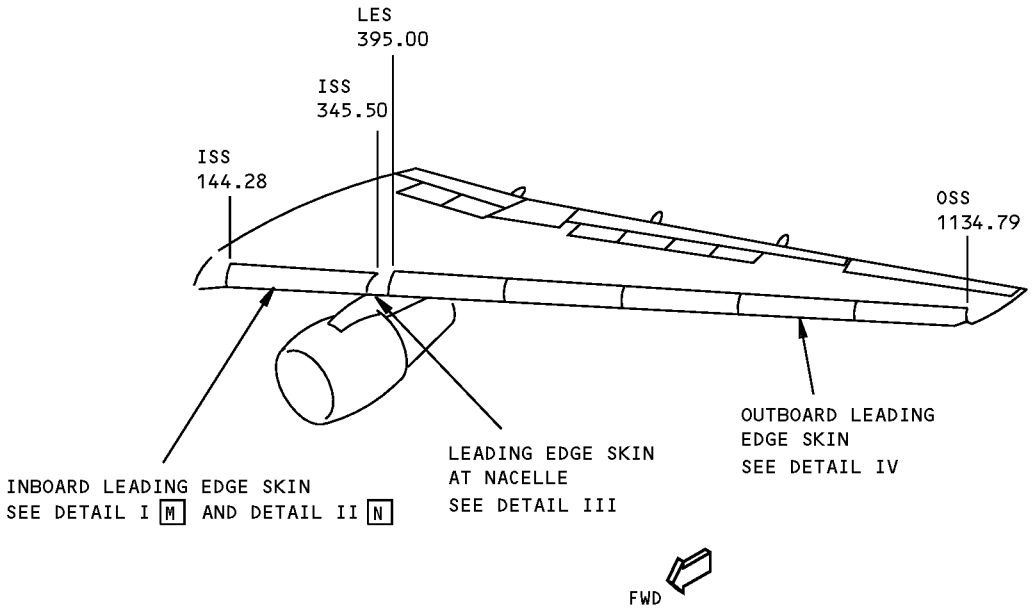
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	LWR SURFACE SPLICE PLATE	0.750	PLATE 2324-T391 (MACHINED TO 0.100 MIN)	
2	OUTBD UPR SPLICE PLATE	0.750	PLATE 7150-T651 (MACHINED TO 0.080 MIN)	
3	INBD UPR SPLICE PLATE	0.750	PLATE 7150-T651 (MACHINED TO 0.100 MIN)	
4	OUTBD CTR SPLICE PLATE	0.950	PLATE 7075-T7351 (MACHINED TO 0.110 MIN)	
5	INBD CTR SPLICE PLATE	0.500	EXTRUDED BAR 7150-T6511 OPT: PLATE 7150-T651	

LIST OF MATERIALS FOR DETAILS I AND II

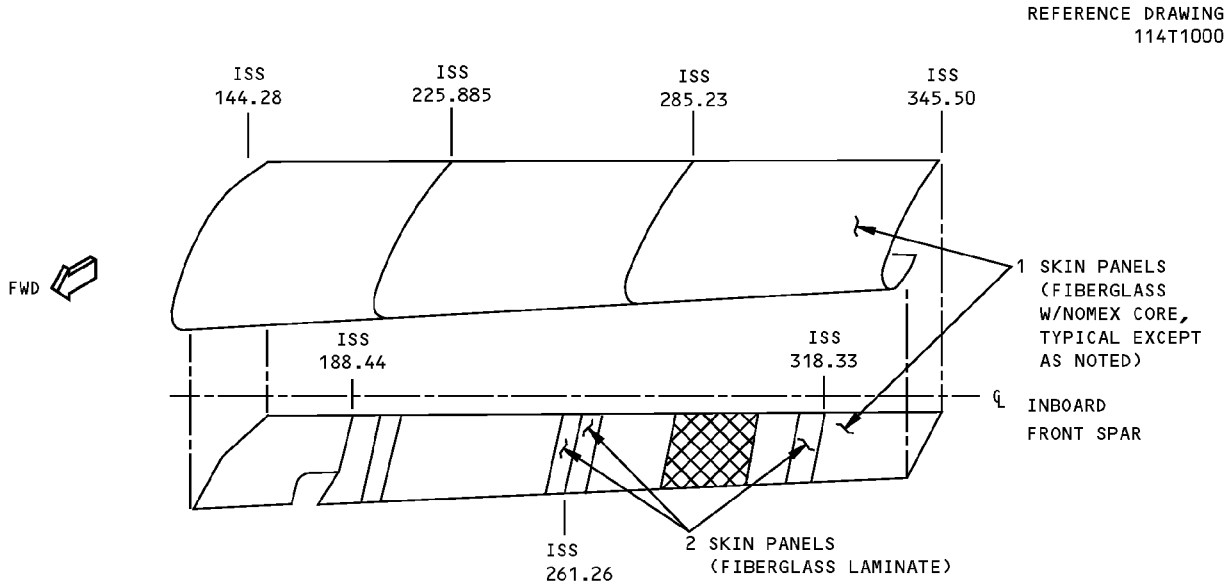
Leading Edge Skin Splice Identification
Figure 1 (Sheet 2 of 2)

ALLOWABLE DAMAGE 1 - WING FIXED LEADING EDGE SKIN

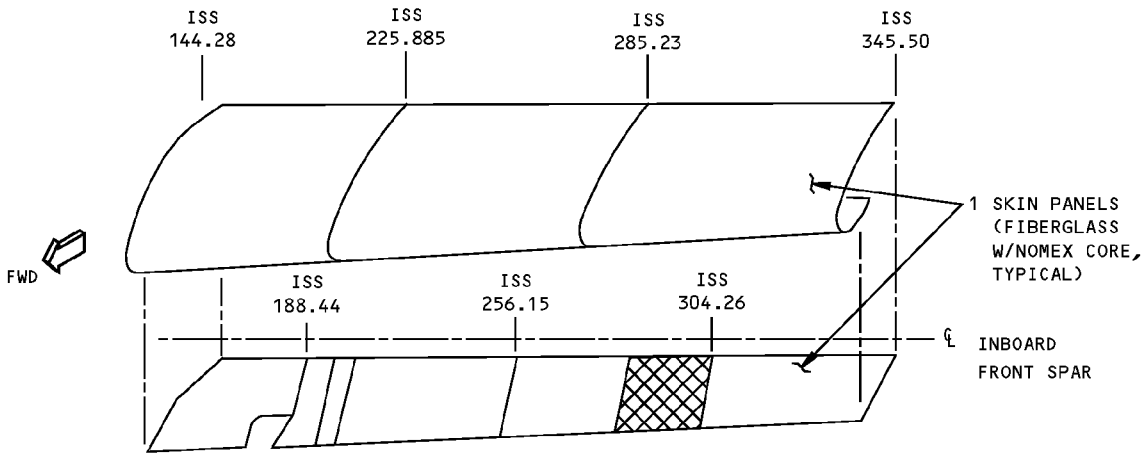
REF DWG
114T1000



Wing Fixed Leading Edge Skin Allowable Damage
Figure 101 (Sheet 1 of 6)



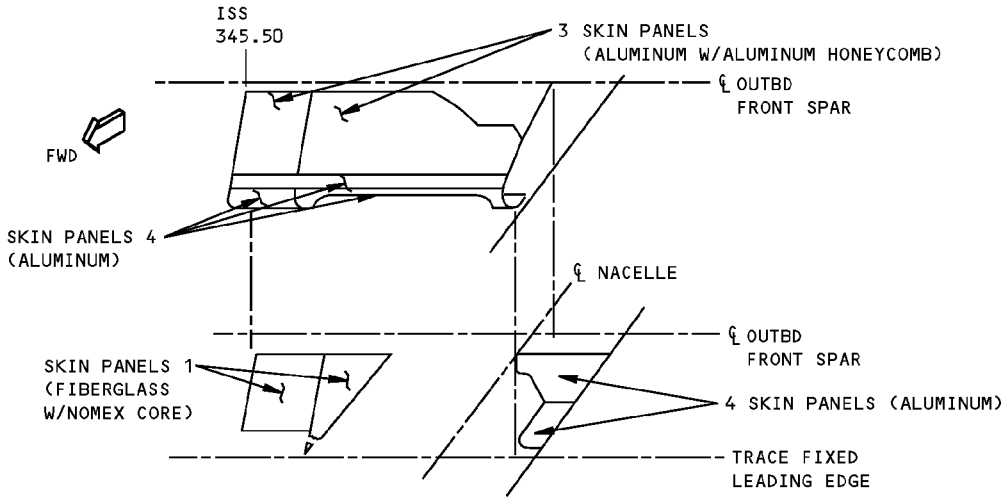
INBOARD LEADING EDGE SKIN
DETAIL I [M]



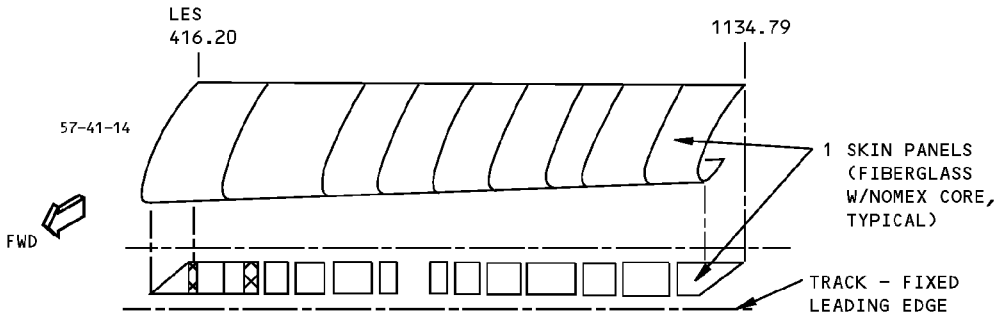
INBOARD LEADING EDGE SKIN
DETAIL II [N]

WARNING: CONTROLLED STRENGTH PRESSURE RELIEF PANELS. REPAIRS TO THESE PANELS AND ATTACHEMENT HARDWARE MUST NOT SIGNIFICANTLY ALTER THE BLOWOUT PRESSURE STRENGTH.

Wing Fixed Leading Edge Skin Allowable Damage
Figure 101 (Sheet 2 of 6)



LEADING EDGE SKIN AT NACELLE
DETAIL III



OUTBOARD LEADING EDGE SKIN
DETAIL IV

WARNING: CONTROLLED STRENGTH PRESSURE RELIEF PANELS. REPAIRS TO THESE PANELS AND ATTACHEMENT HARDWARE MUST NOT SIGNIFICANTLY ALTER THE BLOWOUT PRESSURE STRENGTH.

ITEM		CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
SKIN PANELS						
1	FIBERGLASS W/NOMEX CORE	A	B	C	A	A
2	FIBERGLASS LAMINATE	E	F	NOT ALLOWED	G	H
3	ALUMINUM W/ALUMINUM HONEYCOMB	E	I	O	J	K
4	ALUMINUM	E	I	O	L	—

TABLE I

Wing Fixed Leading Edge Skin Allowable Damage
Figure 101 (Sheet 3 of 6)

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE DAMAGE EXCEEDS THE LIMITS SHOWN IN 51-10-01, CONSIDERATION SHOULD BE GIVEN TO LOSS OF PERFORMANCE INVOLVED.
- REFINISH REWORKED AREAS PER 51-20 OF THE MAINTENANCE MANUAL.

[A] DAMAGE TO SKIN PANEL EDGES MAY BE A COMBINATION OF EDGE DELAMINATION AND/OR CRACKS, GOUGES, ETC., WHICH CAN RESULT IN FIBER DAMAGE AND A LOSS OF CROSS-SECTIONAL AREA. REMOVE EDGE DAMAGE PER DETAILS V AND IX. 2.0 INCHES (50.8 mm) MAX DIA ALLOWED FOR SINGLE DAMAGE SITE IN HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 1.5 SEE DETAIL X FOR DAMAGE CRITERIA. DAMAGE ALLOWED TO ONE SURFACE AND HONEYCOMB CORE ONLY. PROTECT DAMAGE NOT REWORKED PER [D] .

[B] DAMAGE ALLOWED ON SURFACE RESIN ONLY WITH NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE PER DETAILS V AND IX. REFER TO [A] FOR FIBER DAMAGE IN OTHER AREAS.

[C] DENTS RESULT IN DELAMINATION AND FIBER DAMAGE AND MUST BE TREATED AS A HOLE OR PUNCTURE DAMAGE.

[D] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF ANY PEELING OR DETERIORATION IS EVIDENT. REPAIR NO LATER THAN NEXT AIRPLANE "C" CHECK.

[E] CRACKS NOT ALLOWED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED PER DETAILS V AND IX.

[F] DAMAGE ALLOWED ON SURFACE RESIN ONLY WITH NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE PER DETAILS V AND IX. REFER TO [G] FOR FIBER DAMAGE IN OTHER AREAS.

[G] 0.50 MAX DIA ALLOWED PROVIDED DAMAGE IS MIN OF 2.5 D FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. PROTECT DAMAGE PER [D].

[H] 1.00 INCH (25.4 mm) MAX DIA IS ALLOWED. A MAX OF 0.10 INCH (2.5 mm) DELAMINATION FROM EDGE IS ALLOWED.

[I] REMOVE DAMAGE PER DETAILS V,VI AND VIII.

[J] CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAX HOLE AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO ANY ADJACENT HOLE. PROTECT DAMAGE PER [D].

[K] 0.50 INCH (12.7 mm) MAX DIA IS ALLOWED IN HONEYCOMB AREA.

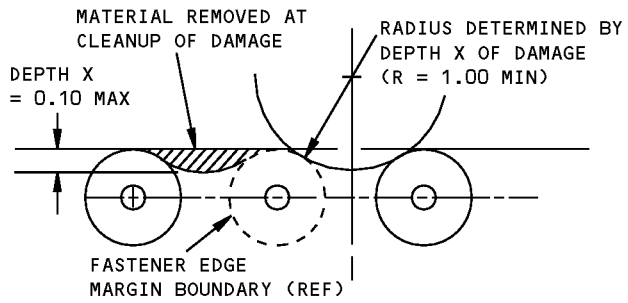
[L] CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAX DIA AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO FASTENER HOLE OR OTHER DAMAGE. FILL HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES TO BE REPAIRED.

[M] FOR CUM LINE NUMBERS:
1 THRU 136

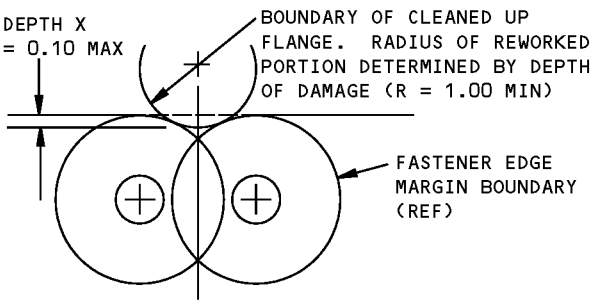
[N] FOR CUM LINE NUMBERS:
137 AND ON

[O] SEE DETAIL VII. FOR DENTS THAT EXCEED THESE LIMITS, REFER TO 51-70-01.

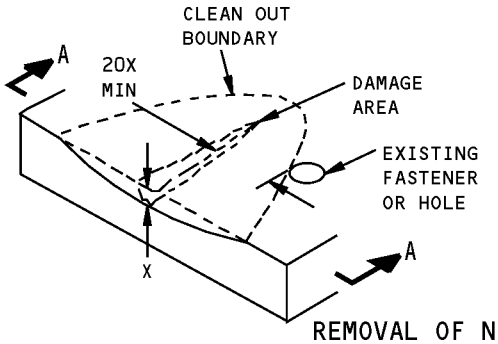
Wing Fixed Leading Edge Skin Allowable Damage
Figure 101 (Sheet 4 of 6)



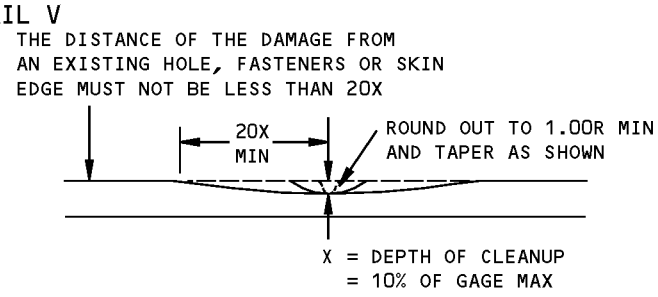
DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

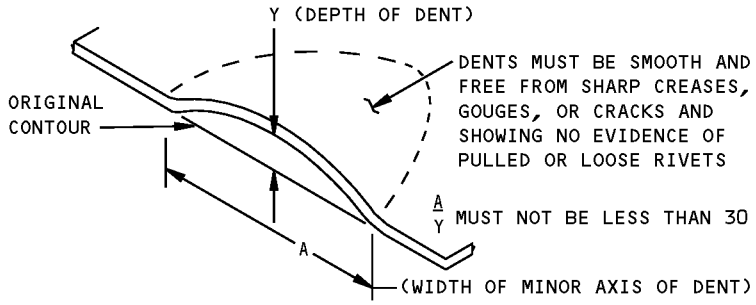


DETAIL V

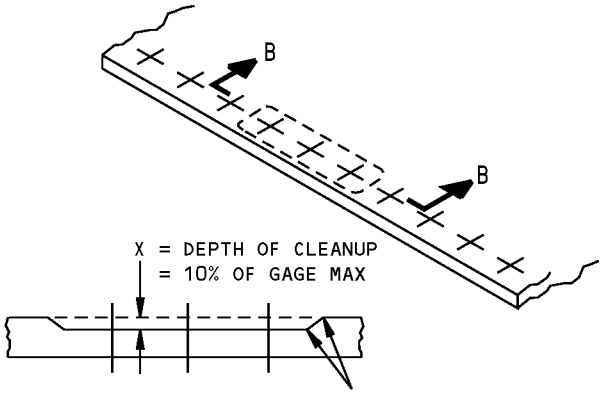


SECTION A–A

REMOVAL OF NICK OR GOUGE DAMAGE ON A SURFACE
DETAIL VI

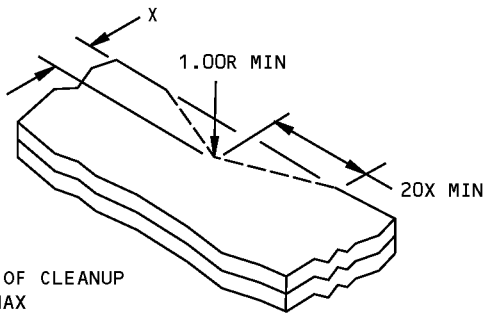


ALLOWABLE DAMAGE FOR A DENT
DETAIL VII



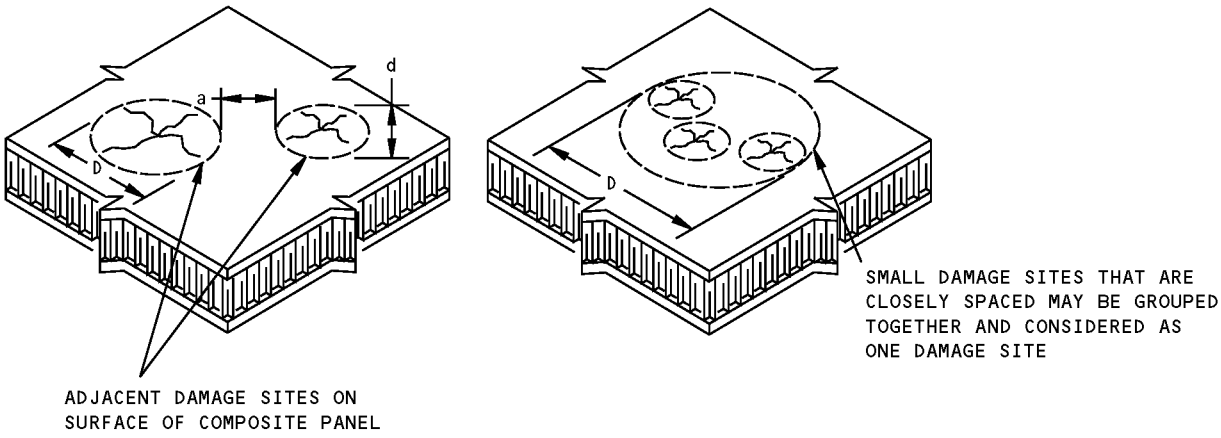
SECTION B–B

CORROSION CLEANUP
DETAIL VIII



REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL IX

Wing Fixed Leading Edge Skin Allowable Damage
Figure 101 (Sheet 5 of 6)



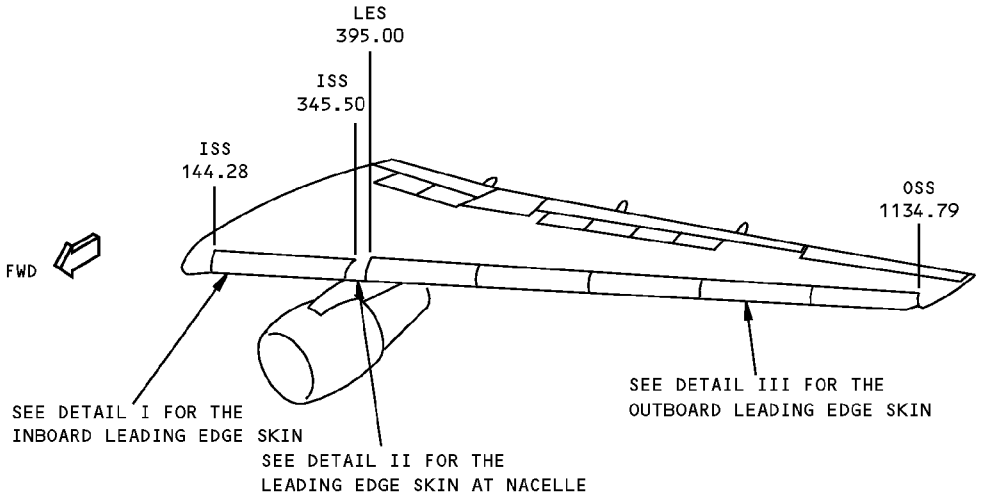
- DAMAGE SITE IS ANY SINGLE AREA OF A PANEL WHERE A DENT, CRACK, DELAMINATION, PUNCTURE OR ANY COMBINATION OF THESE EXIST. SMALL DAMAGE SITES THAT ARE CLOSELY SPACED MAY BE GROUPED TOGETHER AND CONSIDERED AS ONE DAMAGE SITE
- "D" IS DETERMINED BY MEASURING THE DIAMETER OF A CIRCLE DRAWN AROUND DENT, CRACK, OR OTHER DAMAGE, WHICHEVER IS GREATER
- "a" IS THE DISTANCE BETWEEN TWO ADJACENT DAMAGE SITES
- "d" IS THE DIAMETER OF THE SMALLER OF TWO ADJACENT DAMAGE SITES
- CALCULATE a/D BY DIVIDING DISTANCE "a" BY DIAMETER "D"
- DAMAGE IS ALLOWED WHEN "D" IS EQUAL TO OR LESS THAN THE MAXIMUM ALLOWABLE "D" FROM TABLE I AND WHEN a/D IS EQUAL TO OR GREATER THAN THE MINIMUM a/D GIVEN IN TABLE I

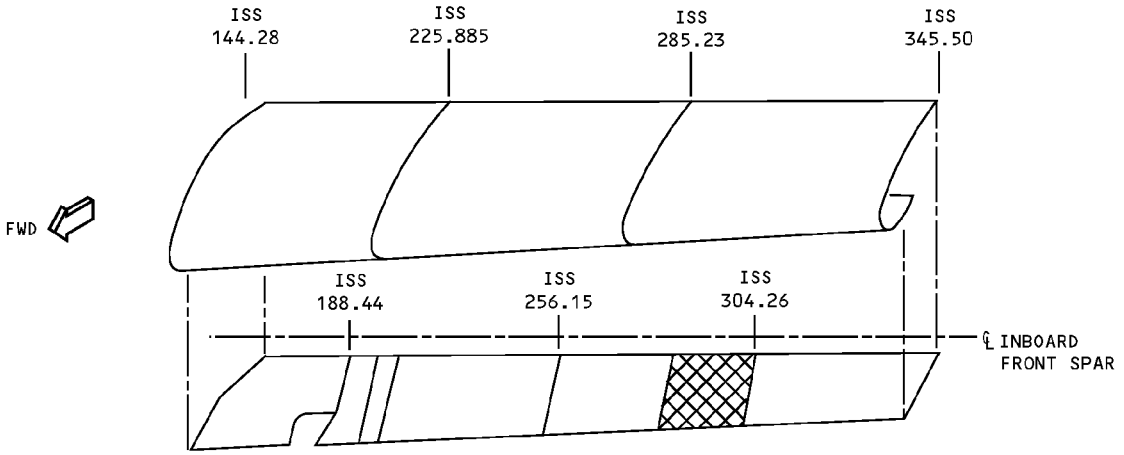
DAMAGE SIZING AND SPACING DATA
FOR COMPOSITE PANELS
DETAIL X

Wing Fixed Leading Edge Skin Allowable Damage
Figure 101 (Sheet 6 of 6)

REPAIR 1 - WING FIXED LEADING EDGE SKIN

REFERENCE DRAWING
114T1000



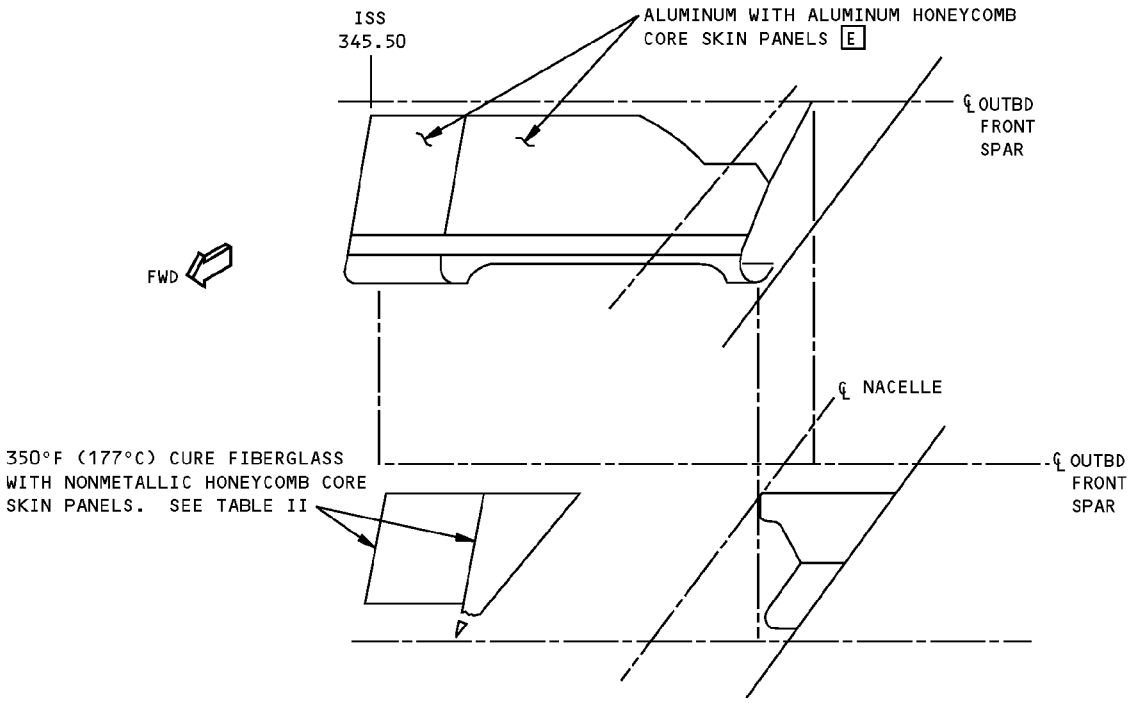


MATERIAL: 350°F (177°C) CURE FIBERGLASS WITH NONMETALLIC HONEYCOMB CORE SKIN PANELS. SEE TABLE II

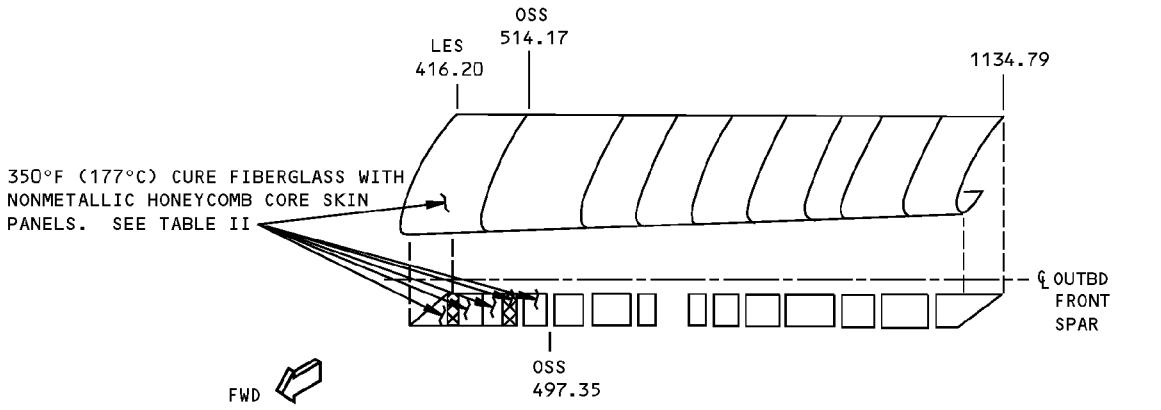
INBOARD LEADING EDGE SKIN
DETAIL I

WARNING: CONTROLLED STRENGTH PRESSURE RELIEF PANELS. REPAIRS TO THESE PANELS AND ATTACHEMENT HARDWARE MUST NOT SIGNIFICANTLY ALTER THE BLOWOUT PRESSURE STRENGTH.

Wing Fixed Leading Edge Skin Repair
Figure 201 (Sheet 1 of 4)



LEADING EDGE SKIN AT NACELLE
DETAIL II



MATERIAL: 250°F (121°C) CURE FIBERGLASS WITH NONMETALLIC HONEYCOMB CORE SKIN PANELS EXCEPT AS NOTED. SEE TABLE I

OUTBOARD LEADING EDGE SKIN
DETAIL III

WARNING: CONTROLLED STRENGTH PRESSURE RELIEF PANELS. REPAIRS TO THESE PANELS AND ATTACHEMENT HARDWARE MUST NOT SIGNIFICANTLY ALTER THE BLOWOUT PRESSURE STRENGTH.

Wing Fixed Leading Edge Skin Repair
Figure 201 (Sheet 2 of 4)

DAMAGE	INTERIM REPAIRS [D]	PERMANENT REPAIRS		
	WET LAYUP ROOM TEMP (51-70-06)	WET LAYUP 150°F (66°C) CURE (51-70-06)	WET LAYUP 200°F (93°C) CURE (51-70-17)	250°F (121°C) CURE (51-70-07)
CRACKS	UP TO 4.0 INCHES (100 mm) LONG, REPAIR WITH PATCH PER 51-70-06, PAR. 5.N. [A]	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (100 mm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION ACROSS HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.N. [A]	8.0 INCHES (200 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION ACROSS HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [C]	12.0 INCHES (300 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION ACROSS HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [C]	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES PER 51-70-06 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE			
DENTS	UP TO 2.0 IN. (50 mm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.L. [C] OVER 2.0 IN. (50 mm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE			

REPAIR DATA FOR 250°F (121°C) CURE FIBERGLASS HONEYCOMB PANELS
TABLE I

Wing Fixed Leading Edge Skin Repair
Figure 201 (Sheet 3 of 4)

DAMAGE	INTERIM REPAIRS [D]	PERMANENT REPAIRS	
	WET LAYUP 150°F (66°C) CURE (51-70-06)	WET LAYUP 200°/230°F (93°C/110°C) CURE (51-70-17) [B]	350°F (177°C) CURE (51-70-08)
CRACKS	UP TO 3.0 INCHES (76 mm) LONG, REPAIR WITH PATCH PER 51-70-06,PAR. 5.N. [A]	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	3.0 INCHES (76 mm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION ACROSS HONEYCOMB PANEL AT DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND ANDPATCH PER 51-70-06, PAR. 5.N. [A]	12.0 INCHES (300 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION ACROSS HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [C]	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE		
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES PER 51-70-06 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE		
DENTS	UP TO 2.0 IN. (50 mm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.L. [C] OVER 2.0 IN. (50 mm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE		

REPAIR DATA FOR 350°F (177°C) CURE FIBERGLASS HONEYCOMB PANELS
TABLE II

NOTES

- REFER TO 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO 51-10-01 FOR AERODYNAMIC SMOOTH-NESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- REFINISH REWORKED AREAS PER 51-20 OF THE 767 MAINTENANCE MANUAL.

[A] LIMITED TO REPAIR OF DAMAGE TO ONE FACESHEET SKIN AND HONEYCOMB CORE. ONE REPAIR PER SQUARE FOOT OF AREA AND MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR EDGE OF PANEL.

[B] FOR WET LAYUP REPAIR, USE 1.0 INCH (25 mm) PER PLY OVERLAP.

[C] ONE REPAIR PER SQUARE FOOT OF AREA AND A MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR EDGE OR PANEL.

[D] INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST EVERY AIRPLANE "2A" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO 51-70-03, PAR. 3.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.

[E] FOR ALUMINUM SKIN W/ALUMINUM HONEYCOMB CORE PANEL REPAIR, SEE 51-70-10.

Wing Fixed Leading Edge Skin Repair
Figure 201 (Sheet 4 of 4)

REPAIR 2 - WING FIXED LEADING EDGE - EROSION/EDGE STRIP

APPLICABILITY
USE THIS REPAIR FOR ALUMINUM EROSION STRIPS AND ALUMINUM EDGE STRIPS ON THE LOWER PANELS OF THE WING FIXED LEADING EDGE. YOU MAY USE THIS REPAIR ON 250°F CURE (BMS 8-79) AND 350°F CURE (BMS 8-139) PANELS. DO NOT USE THIS REPAIR IF THE FIBERGLASS SKIN ON THE PANEL IS DELAMINATED.

REPAIR INSTRUCTIONS

1. Get access to the fixed leading edge panel(s).
2. Carefully remove the delaminated strip from the edge of the panel.
3. Make the repair part. Use the initial strip as a template to cut and trim the repair part. Refer to Table III.
4. Refer to SRM 51-70-09 and prepare the surface of the strip. Use the Phosphoric Acid Non-Tank Anodize (PANTA) method.
5. Apply a layer of BMS 5-89 CIAP primer. Refer to SRM 51-70-09.
6. Prepare the surface of the fiberglass panel(s). Make the mating surface rough with 180-grit sandpaper, or finer.
7. Clean the fiberglass with oil-free air, or use a vacuum to remove loose particles.
8. Wipe the surface of the fiberglass with a clean cloth moistened with MIBK (Methyl Isobutyl Ketone), or acetone. Dry the surface with a clean cloth before the solvent dries on the fiberglass surface.
9. Prepare the adhesive. Use BMS 5-109, Type II, Class 2. Refer to Table I and mix the material thoroughly.
10. Apply a continuous layer of the prepared adhesive to the fiberglass panel and the aluminum strip.
11. Assemble the parts and put a constant pressure on the parts to make a close bond.
12. Remove unwanted adhesive before it has cured. Use a clean cloth moistened with MIBK or acetone. Do not permit the solvent to flow into the bonded area.
13. Maintain the pressure until the adhesive is cured. Refer to Table II for the cure time.

NOTES

- WHEN YOU USE THIS REPAIR REFER TO:
  - SRM 51-10-00 FOR INVESTIGATION AND CLEANUP OF DAMAGE
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC AND GRAPHITE MATERIALS
  - SRM 51-20-05 FOR REPAIR SEALING.

MIX RATIO, PARTS BY WEIGHT		
MATERIAL	PART A	PART B
EA 934/EA 934 NA	100 ±3	33 ±1
FR 7010	100 ±3	37 ±1

TABLE I

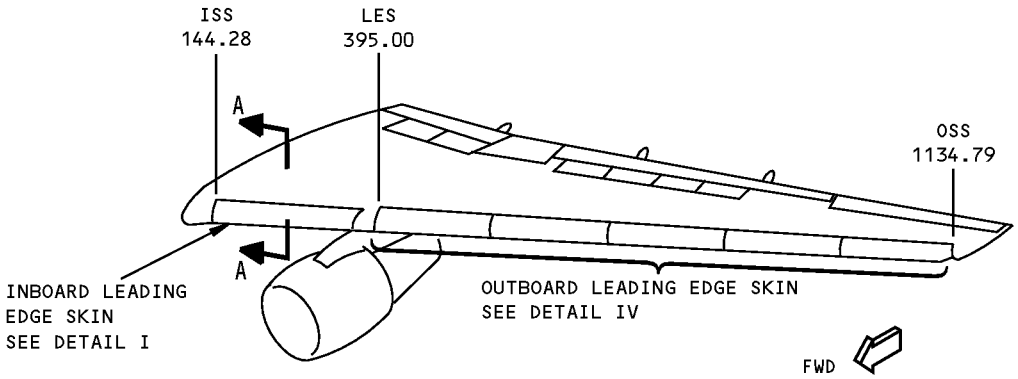
CURE TEMPERATURE	MINIMUM CURE TIME
60°-100°F	7 DAYS
120° ±10°F	25 HOURS
160° ±10°F	9 HOURS
200° ±10°F	1 HOUR

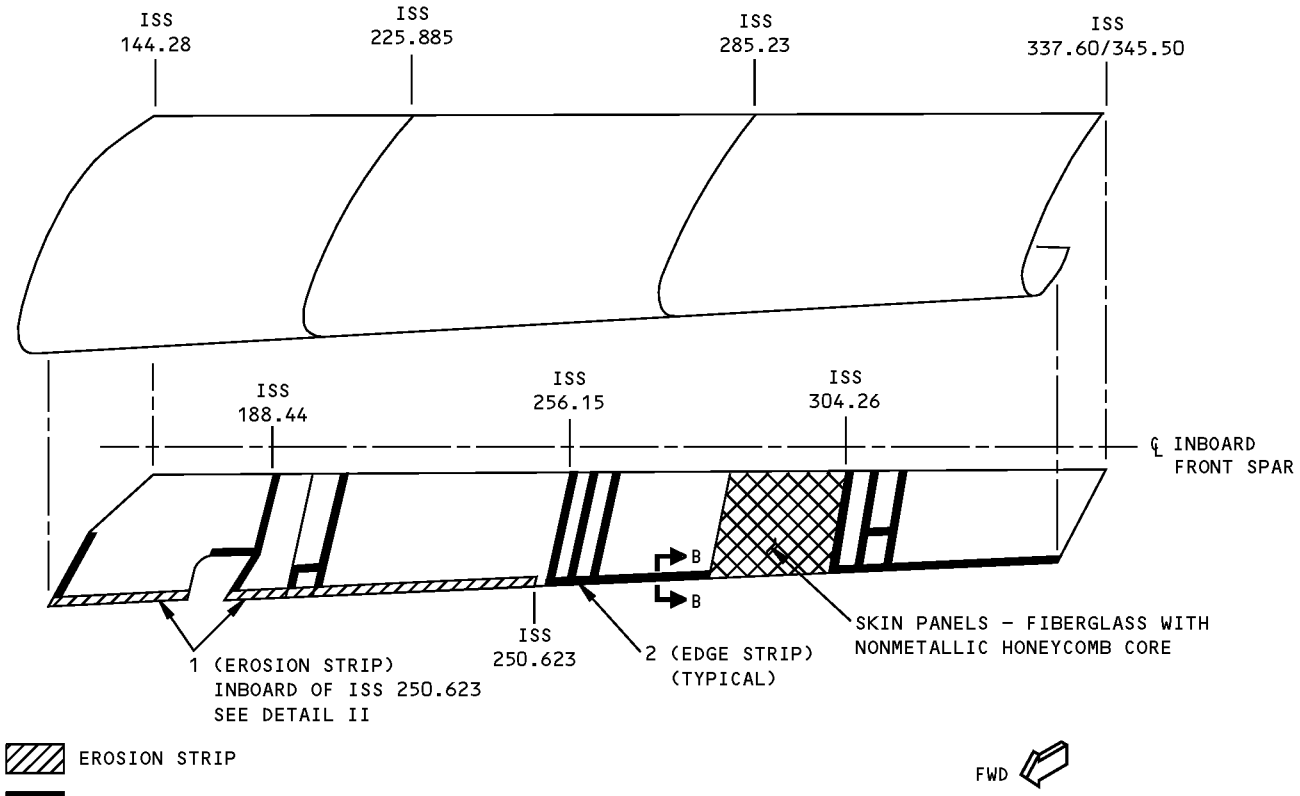
TABLE II

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	EROSION STRIP	AS NECESSARY	0.035 6061-T6511 BAC1520-1784
2	EDGE STRIP	AS NECESSARY	0.040 6061-T6 BARE

TABLE III

Wing Fixed Leading Edge - Erosion/Edge Strip Repair
Figure 201 (Sheet 1 of 4)

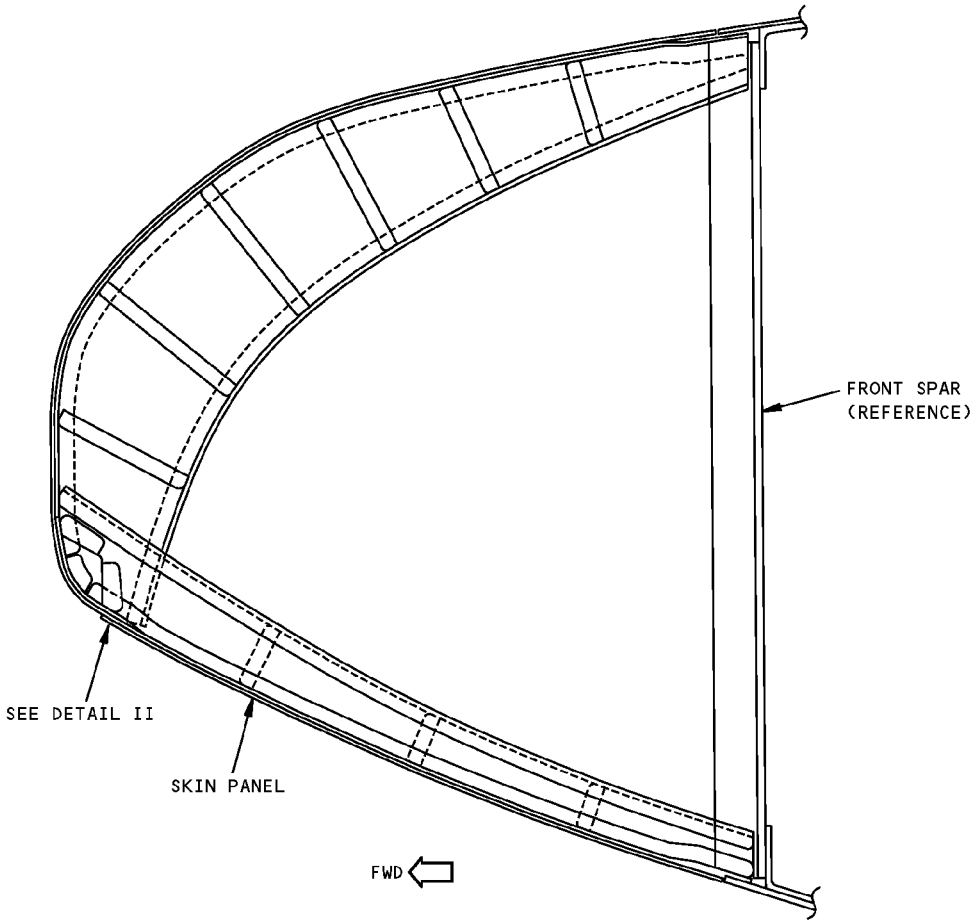




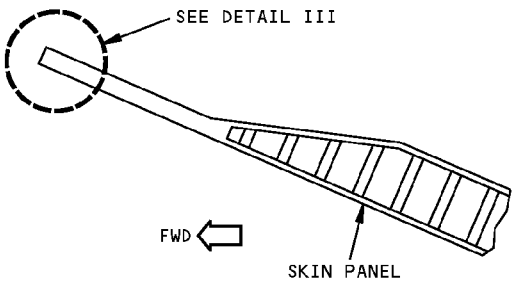
INBOARD LEADING EDGE SKIN

DETAIL I

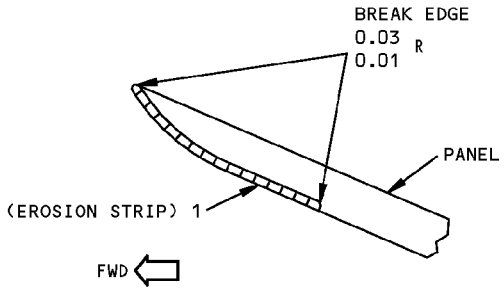
Wing Fixed Leading Edge - Erosion/Edge Strip Repair
Figure 201 (Sheet 2 of 4)



SECTION A-A



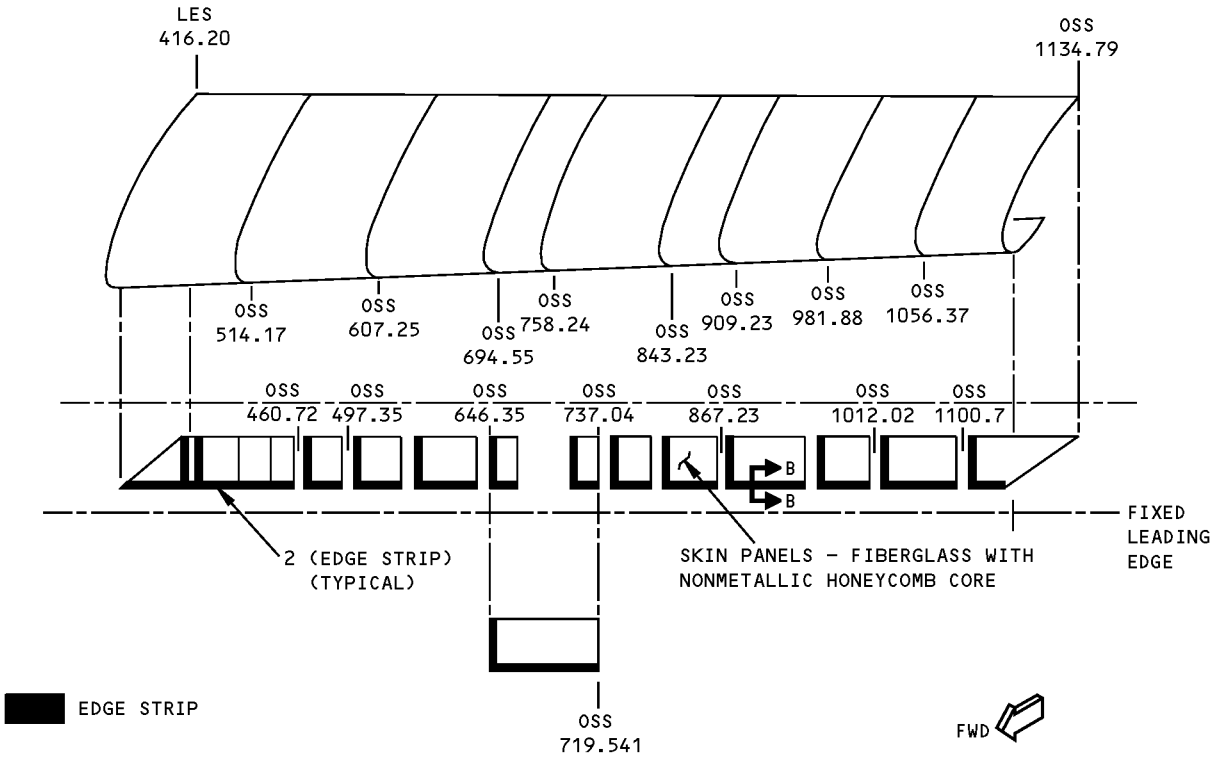
DETAIL II



INBOARD OF ISS 250.623

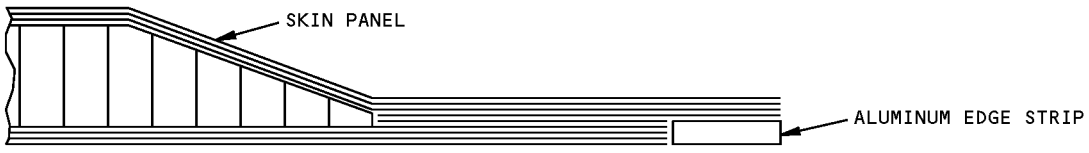
DETAIL III

Wing Fixed Leading Edge - Erosion/Edge Strip Repair
Figure 201 (Sheet 3 of 4)



OUTBOARD LEADING EDGE SKIN

DETAIL IV



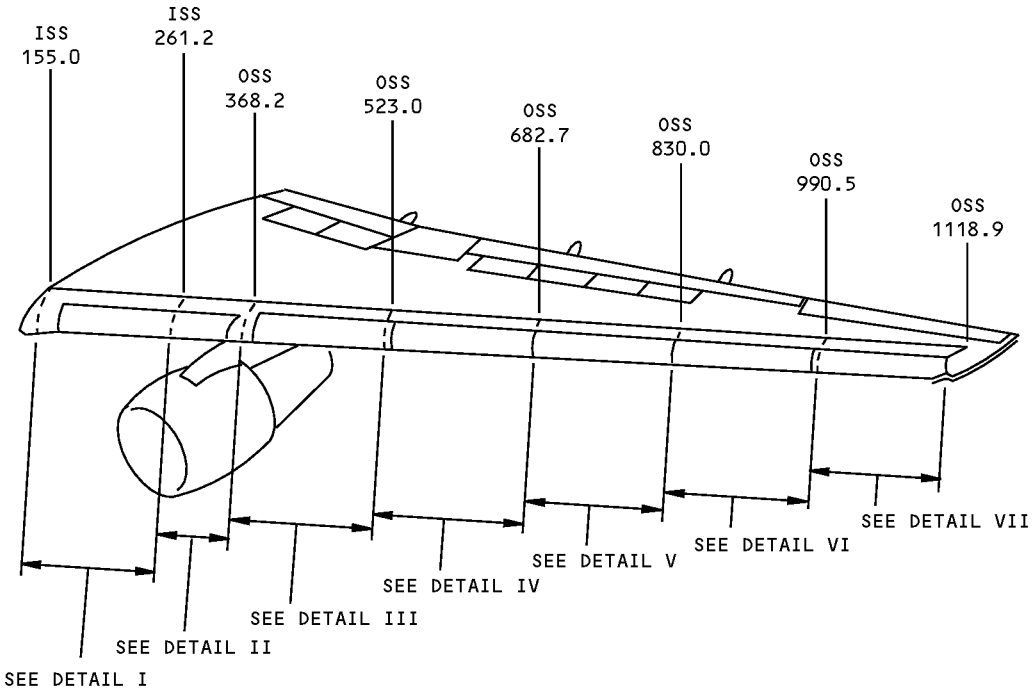
TYPICAL EDGE STRIP

SECTION B-B

Wing Fixed Leading Edge - Erosion/Edge Strip Repair
Figure 201 (Sheet 4 of 4)

IDENTIFICATION 1 - WING FIXED LEADING EDGE RIBS

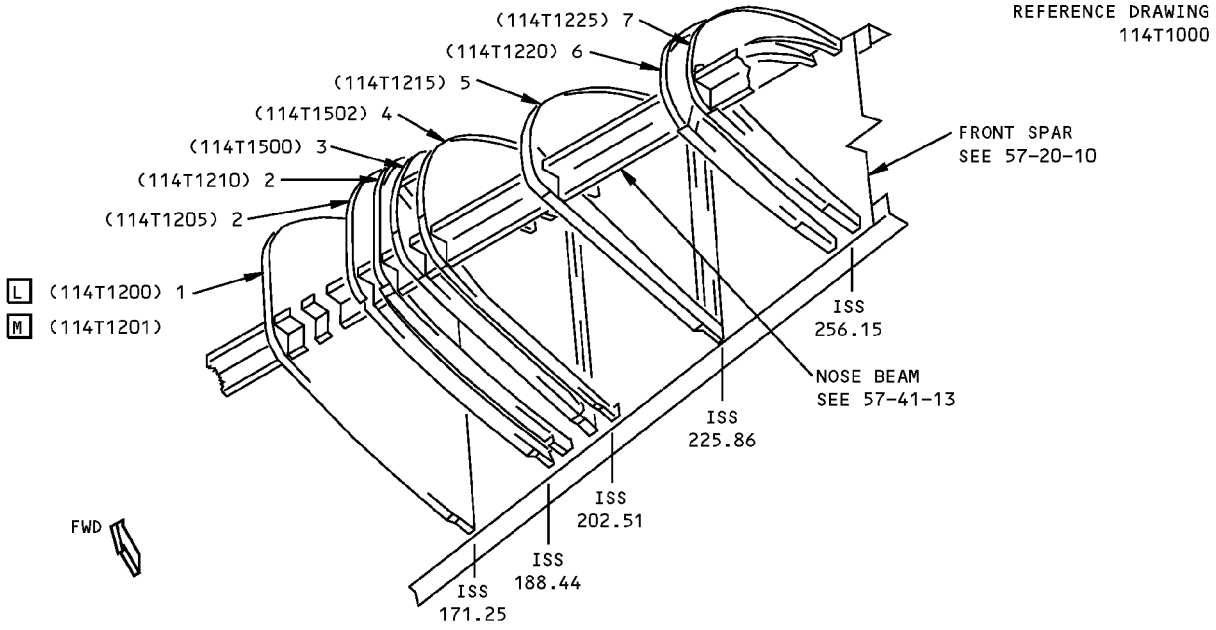
REFERENCE DRAWINGS
114T0901
114T1000
114T2000
114T6000



NOTES

[A] FOR CUM LINE NUMBERS 1 THRU 147
[B] FOR CUM LINE NUMBERS 1 THRU 131
[C] FOR CUM LINE NUMBERS 133 THRU 642
[D] FOR CUM LINE NUMBERS 1 THRU 134
[E] FOR CUM LINE NUMBERS 135 THRU 642
[F] FOR AIRPLANES WITH CF6-80C ENGINES
[G] FOR CUM LINE NUMBERS 149 AND ON
[H] 350°F (177°C) CURE
[I] BMS 8-139 TYPE 1581 WAS FORMERLY TYPE 181
[J] FOR CUM LINE NUMBERS 1 THRU 903
[K] FOR CUM LINE NUMBERS 912 AND ON
[L] FOR CUM LINE NUMBERS 1 THRU 642
[M] FOR CUM LINE NUMBERS 811 AND ON

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 1 of 17)



INBD LEADING EDGE RIBS
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SEAL RIB [L]		FIBERGLASS HONEYCOMB SANDWICH	
	FWD WEB		FIBERGLASS/EPOXY FABRIC PER BMS 8-139, TYPE 120, 3 PLIES ON EACH SURFACE. [H]	
	AFT WEB		FIBERGLASS/EPOXY FABRIC PER BMS 8-139,; TYPE 120, 4 PLIES ON EACH SURFACE; TYPE 1581, 1 PLY ON EACH SURFACE. [H] [I]	
	CORE		NON-METALLIC HONEYCOMB PER BMS 8-124, CLASS I, TYPE I, GRADE 4.0.	
	UPR CHORD		BAC1503-100533 7075-T62	
	LWR CHORD		BAC1506-3293 7075-T62	
	FWD ZEE STIFFENER		AND10138-2040 7075-T6511	
	AFT ZEE STIFFENER		AND10138-2404 7075-T6511	
	SEAL RIB [M]			
	WEB BONDED ASSY		GLASS FABRIC PER BMS 8-139, TYPE 120, CLASS I, 5 PLIES; BMS 8-139, TYPE 1581, CLASS I, 8 PLIES; 200 BM 30 GY - GRAY TEDLAR FILM	
	CORE		NON-METALLIC HONEYCOMB CORE PER BMS 8-124, CLASS I, TYPE 3, GRADE 4.0	
	UPR CHORD		7050-T7451 PLATE	
	LWR CHORD		7050-T7451 PLATE	
	FWD ZEE STIFFENER		AND10138-2404, 7075-T6511 EXTRUSION	
	AFT ZEE STIFFENER		AND10138-2404, 7075-T6511 EXTRUSION	

LIST OF MATERIALS FOR DETAIL I

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 2 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
2	ACTUATOR SUPPORT RIB ASSY [L]			
	WEB	0.040	CLAD 7075-T6	
	UPR OUTER CHORD		BAC1503-100413 7075-T62	
	UPR INNER CHORD		BAC1514-652 7075-T62	
	CHORD SPLICE	0.080	CLAD 7075-T62	
	LWR INNER CHORD		BAC1503-100413 7075-T62	
	LWR OUTER CHORD		AND10136-2004 7075-T62	
	ACTUATOR SUPPORT RIB ASSY [M]			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
3	ACTUATOR SUPPORT RIB ASSY [L]			
	LWR WEB	0.040	CLAD 7075-T62	
	LWR INNER CHORD		BAC1503-100413 7075-T62	
	LWR OUTER CHORD		BAC1505-100818 7075-T62	
	RIB	1.50	7075-T7351 OPTIONAL: FORGING 7075-T7352	
	ACTUATOR SUPPORT RIB ASSY [M]			
	UPR RIB		7075-T7351 PLATE; OPTIONAL: 7075-T7352	
	LWR RIB		7050-T7451 PLATE	
4	ACTUATOR SUPPORT RIB ASSY [L]			
	WEB	0.040	CLAD 7075-T6	
	LWR INNER CHORD		BAC1503-100413 7075-T62	
	LWR OUTER CHORD		BAC1503-100055 7075-T62	
	RIB	1.50	7075-T7351 OPTIONAL: FORGING 7075-T7352	
	ACTUATOR SUPPORT RIB ASSY [M]			
	UPR RIB		7075-T7351 PLATE; OPTIONAL: 7075-T7352	
	LWR RIB		7050-T7451 PLATE	

LIST OF MATERIALS FOR DETAIL I (CONT)

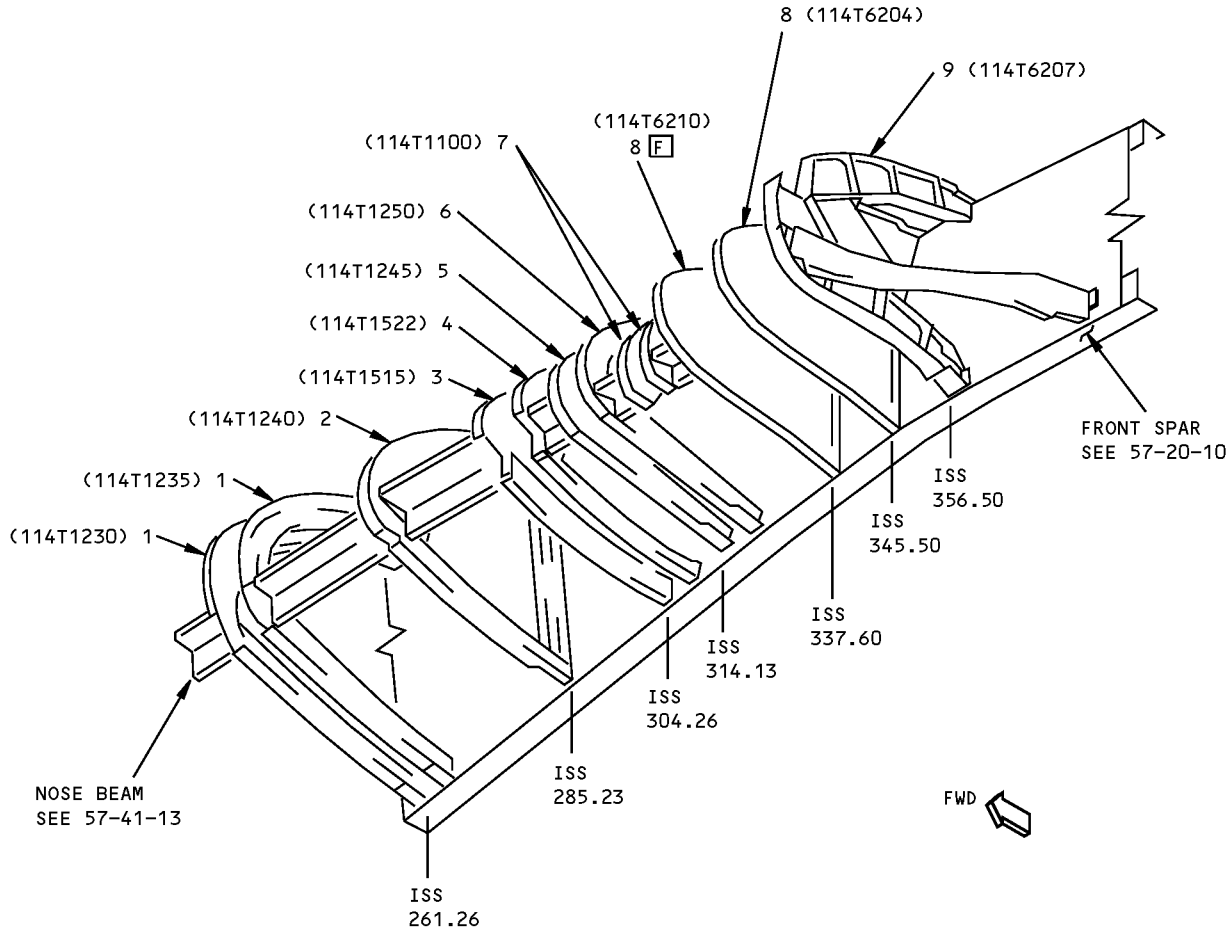
Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 3 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
5	LE RIB [L]			
	WEB	0.040	CLAD 7075-T62	
	UPR OUTER CHORD		BAC1505-100168 7075-T62	
	UPR INNER CHORD		AND10136-2002 7075-T62	
	CHORD SPLICE	0.063	7075-T62	
	LWR INNER CHORD		AND10136-1603 7075-T62	
	LWR OUTER CHORD		BAC1505-100168 7075-T62	
	LE RIB [M]			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
6	TRACK SUPPORT RIB ASSY [L]			
	WEB	0.040	CLAD 7075-T6	
	UPR OUTER CHORD		BAC1503-100413 7075-T62	
	UPR INNER CHORD [A]		AND10136-1404 7075-T62	
	UPR INNER CHORD [G]		BAC1505-100345 7075-T62	
	CHORD SPLICE	0.063	CLAD 7075-T62	
	LWR INNER CHORD		AND10136-1304 7075-T62	
	LWR OUTER CHORD		BAC1505-100168 7075-T62	
	AIRLOAD RIB [M]			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
7	TRACK SUPPORT RIB ASSY [L]			
	WEB	0.040	CLAD 7075-T6	
	UPR OUTER CHORD		BAC1503-100413 7075-T62	
	UPR INNER CHORD		BAC1503-100137 7075-T62	
	CHORD SPLICE	0.063	CLAD 7075-T62	
	LWR INNER CHORD		AND10137-1002 7075-T62	
	LWR OUTER CHORD		BAC1505-100168 7075-T62	
	AIRLOAD RIB [M]			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	

LIST OF MATERIALS FOR DETAIL I (CONT)

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 4 of 17)

REFERENCE DRAWINGS
110T0901
114T1000



INBD LEADING EDGE RIBS
DETAIL II

LIST OF MATL

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 5 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	LE RIB L			
	WEB	0.040	CLAD 7075-T6	
	UPR OUTER CHORD		BAC1503-100413 7075-T62	
	UPR INNER CHORD		AND10133-1001 7075-T62	
	CHORD SPLICE	0.080	CLAD 7075-T62	
	LWR INNER CHORD		BAC1503-100026 7075-T62	
	LWR OUTER CHORD		BAC1505-100983 7075-T62	
	LE RIB M			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
2	AIRLOAD RIB L			
	WEB	0.040	CLAD 7075-T6	
	UPR OUTER CHORD		AND10136-2001 7075-T6	
	UPR INNER CHORD		AND10136-2002 7075-T6	
	CHORD SPLICE	0.063	CLAD 7075-T6	
	LWR INNER CHORD		BAC1505-16112 7075-T6	
	LWR OUTER CHORD		BAC1505-100736 7075-T6	
	AIRLOAD RIB M			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
3	ACTUATOR SUPPORT RIB L			
	LWR INNER CHORD		BAC1503-100093 7075-T62	
	LWR OUTER CHORD		BAC1505-100246 7075-T62	
	RIB	1.50	7075-T7351 OPTIONAL; FORGING 7075-T7352	
	ACTUATOR SUPPORT RIB ASSY M			
	UPR RIB		7075-T7351 PLATE; OPTIONAL: 7075-T7352	
	LWR RIB		7050-T7451 PLATE	
4	ACTUATOR SUPPORT RIB L			
	LWR INNER CHORD		BAC1503-100093 7075-T62	
	LWR OUTER CHORD		BAC1505-100386 7075-T62	
	RIB	1.50	7075-T7351 OPTIONAL; FORGING 7075-T7352	
	ACTUATOR SUPPORT RIB ASSY M			
	UPR RIB		7075-T7351 PLATE; OPTIONAL: 7075-T7352	
	LWR RIB		7050-T7451 PLATE	

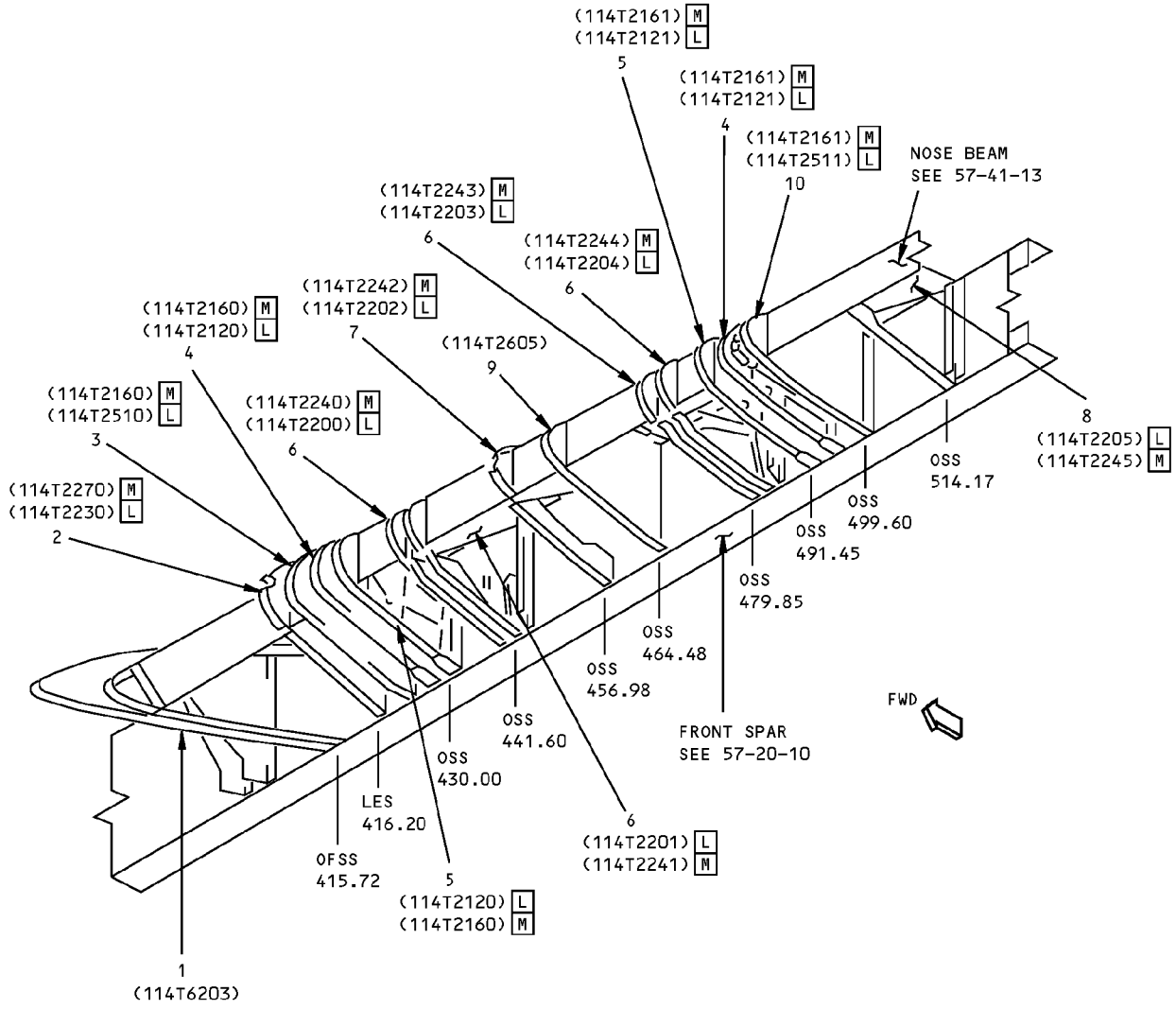
LIST OF MATERIALS FOR DETAIL II

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 6 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
5	ACTUATOR SUPPORT [L]			
	UPR WEB	0.040	CLAD 7075-T6	
	LWR WEB	0.050	CLAD 7075-T62	
	UPR OUTER CHORD		BAC1503-100049 7075-T62	
	UPR INNER CHORD		BAC1505-18721 7075-T62	
	CHORD SPLICE	0.080	CLAD 7075-T62	
	LWR OUTER CHORD		AND10136-2001 7075-T62	
	LE RIB [M]			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
6	LE RIB [L]			
	UPR CHORD	0.040	CLAD 7075-T6	
	LWR CHORD	0.050	CLAD 7075-T62	
	UPR OUTER CHORD		BAC1503-100413 7075-T62	
	UPR INNER CHORD		BAC1505-18721 7075-T62	
	CHORD SPLICE	0.080	CLAD 7075-T62	
	LWR OUTER CHORD		AND10136-2004 7075-T62	
	LE RIB [M]			
	UPR RIB		7050-T7451 PLATE	
	LWR RIB		7050-T7451 PLATE	
7	TRACK SUPPORT RIB	2.125	7075-T7351 OPTIONAL; FORGING 7075-T7352	
8	SEAL RIB	2.50	7075-T7351 OPTIONAL; FORGING 7075-T7352 7050-T7451 PLATE	[J] [K]
9	LE RIB			
	PANEL	0.063	CLAD 7075-T6	
	ANGLE		BAC1503-100442 7075-T6511	
	SHEAR STIFFENER		BAC1505-21502 7075-T6511	
	RIB	2.50	7075-T7351 OPTIONAL: FORGED BLOCK 7075-T7352	
	APERATURE	1.50	7075-T7351 OPTIONAL: FORGED BLOCK 7075-T7352	

LIST OF MATERIALS FOR DETAIL II (CONT)

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 7 of 17)



OUTBD LEADING EDGE RIB
DETAIL III

LIST OF MATL

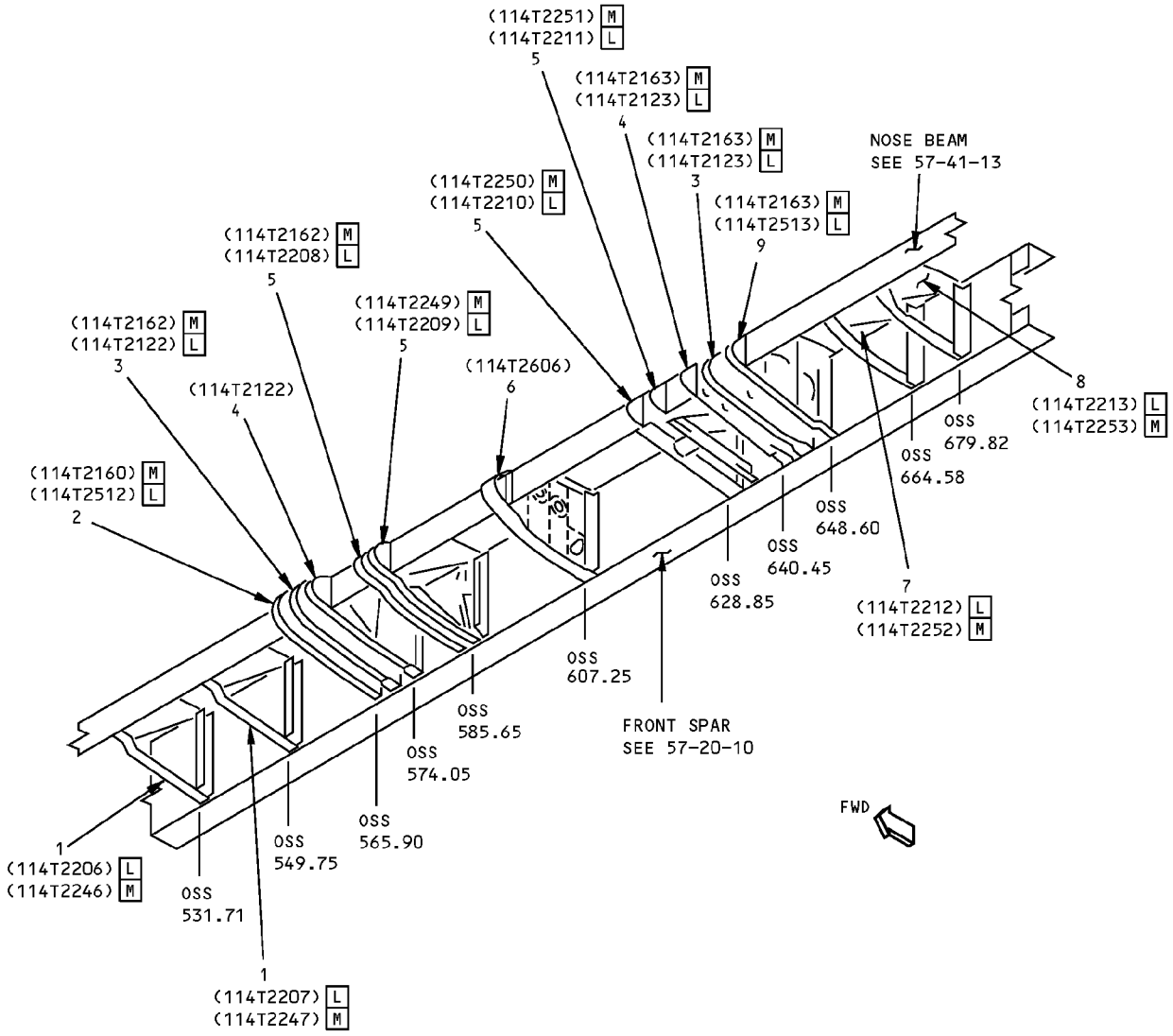
Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 8 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	CANTED OUTBD RIB			
2	SEAL RIB			
	WEB	0.050	CLAD 7075-T6	L
	CHORD		AND10134-1204 7075-T6	
	NOSE FORMER	0.040	CLAD 7075-T6	D
		0.040	CLAD 7075-T62	E
	SEAL RIB	1.500	7050-T7451 PLATE	M
3	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.700	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	RIB	1.500	7050-T7451 PLATE	M
4	MAIN TRACK RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	
5	MAIN TRACK RIB ASSY			
	NOSE FORMER	0.040	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	L
	RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	RIB	2.800	7050-T7451 PLATE	M
6	AUX TRACK RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.090	7075-T62	L
	RIB	0.090	7075-T62	L
	AUX TRACK RIB	1.750	7050-T7451 PLATE	M
7	AIRLOAD RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.063	7075-T62	L
	RIB	0.090	7075-T62	L
	AIRLOAD RIB	1.500	7050-T7451 PLATE	M
8	AIRLOAD RIB			
	WEB	0.032	CLAD 7075-T6	L
	STRUT		BAC1506-2603 7075-T6	L
	UPR CHORD		BAC1505-101056 7075-T6	L
	LWR CHORD		BAC1505-100790 7075-T6	L
	AIRLOAD RIB	1.500	7050-T7451	M
9	ALIGNMENT RIB	2.500	7075-T7351, OPTIONAL: FORGING 7075-T7352	
10	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.350	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.500	7050-T7351 OPTIONAL: 7050-T7451 OR FORGING 7075-T7352	M

LIST OF MATERIALS FOR DETAIL III

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 9 of 17)

REF DWG 114T2000



OUTBD LEADING EDGE RIB
DETAIL IV

LIST OF MATL

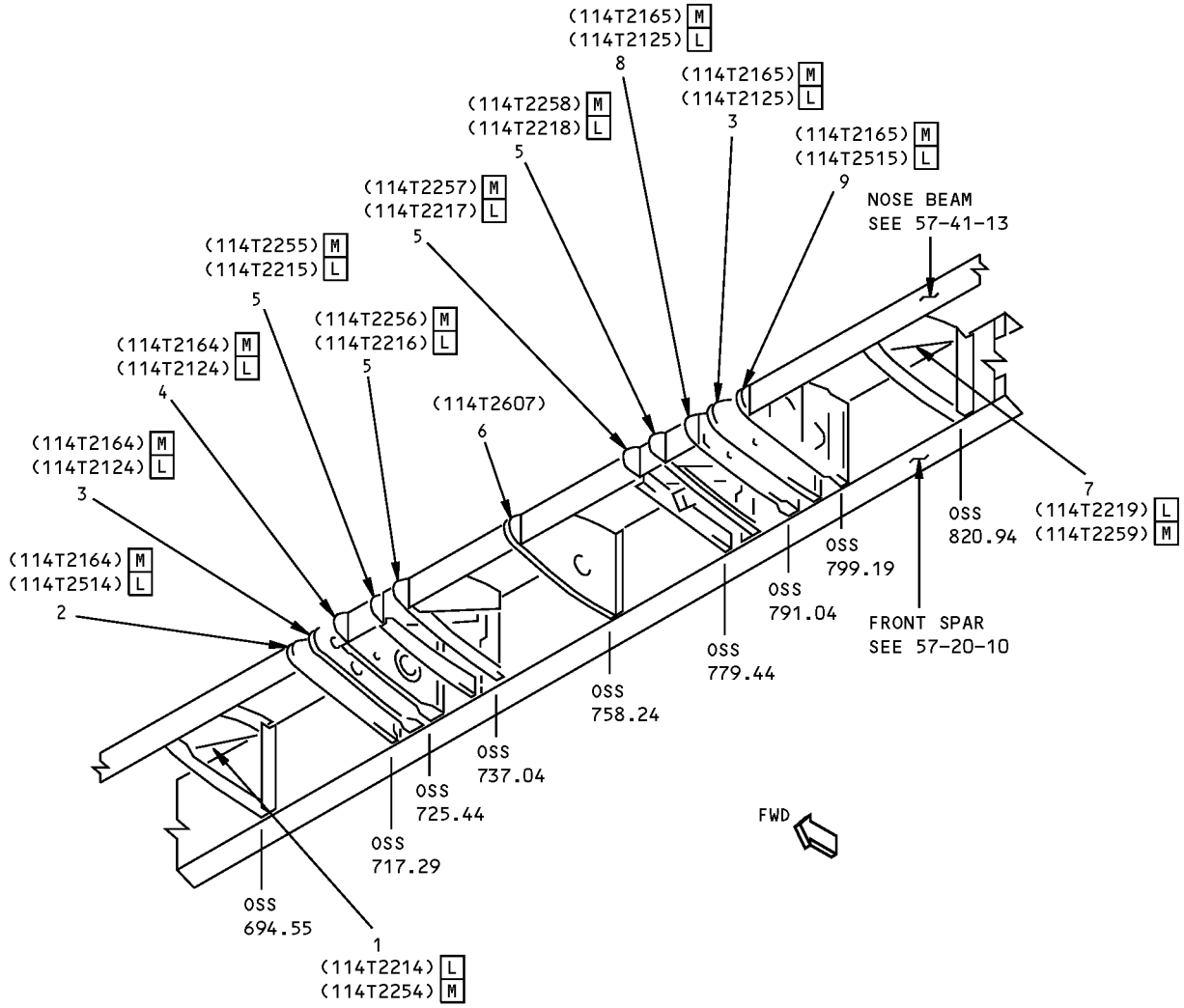
Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 10 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1				
	WEB	0.032	CLAD 7075-T6	L
	STRUT		BAC1506-2603 7075-T62	L
	UPR CHORD		BAC1514-132 7075-T62	L
	LWR CHORD		BAC1505-100790 7075-T6511	L
	AIRLOAD RIB	2.500	7050-T7451	M
2	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.750	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.500	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	M
3	MAIN TRACK RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.700	7050-T7451 PLATE	M
4	MAIN TRACK RIB			
	NOSE FORMER	0.040	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	L
	RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.800	7050-T7451 PLATE	M
5	AUX TRACK RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.090	7075-T62	L
	RIB	0.090	7075-T62	L
	AUX TRACK RIB	1.500	7050-T7451 PLATE	M
6	ALIGNMENT RIB	2.800	FORGING 7075-T7352	L
	ALIGNMENT RIB	2.800	7075-T7351, OPTIONAL: 7050-T7451 OR 7075-T7352	M
7	AIRLOAD RIB			
	WEB	0.032	CLAD 7075-T6	L
	STRUT		BAC1505-100168 7075-T62	L
	UPR CHORD		BAC1505-101056 7075-T62	L
	LWR CHORD		BAC1505-100790 7075-T6511	L
	AIRLOAD RIB	3.000	7050-T7451	M
8	AIRLOAD RIB	0.090	7075-T62	L
	AIRLOAD RIB	1.375	7050-T7451	M
9	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T62	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.350	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.500	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	M

LIST OF MATERIALS FOR DETAIL IV

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 11 of 17)

REF DWG 114T2000



OUTBD LEADING EDGE RIB
DETAIL V

LIST OF MATL

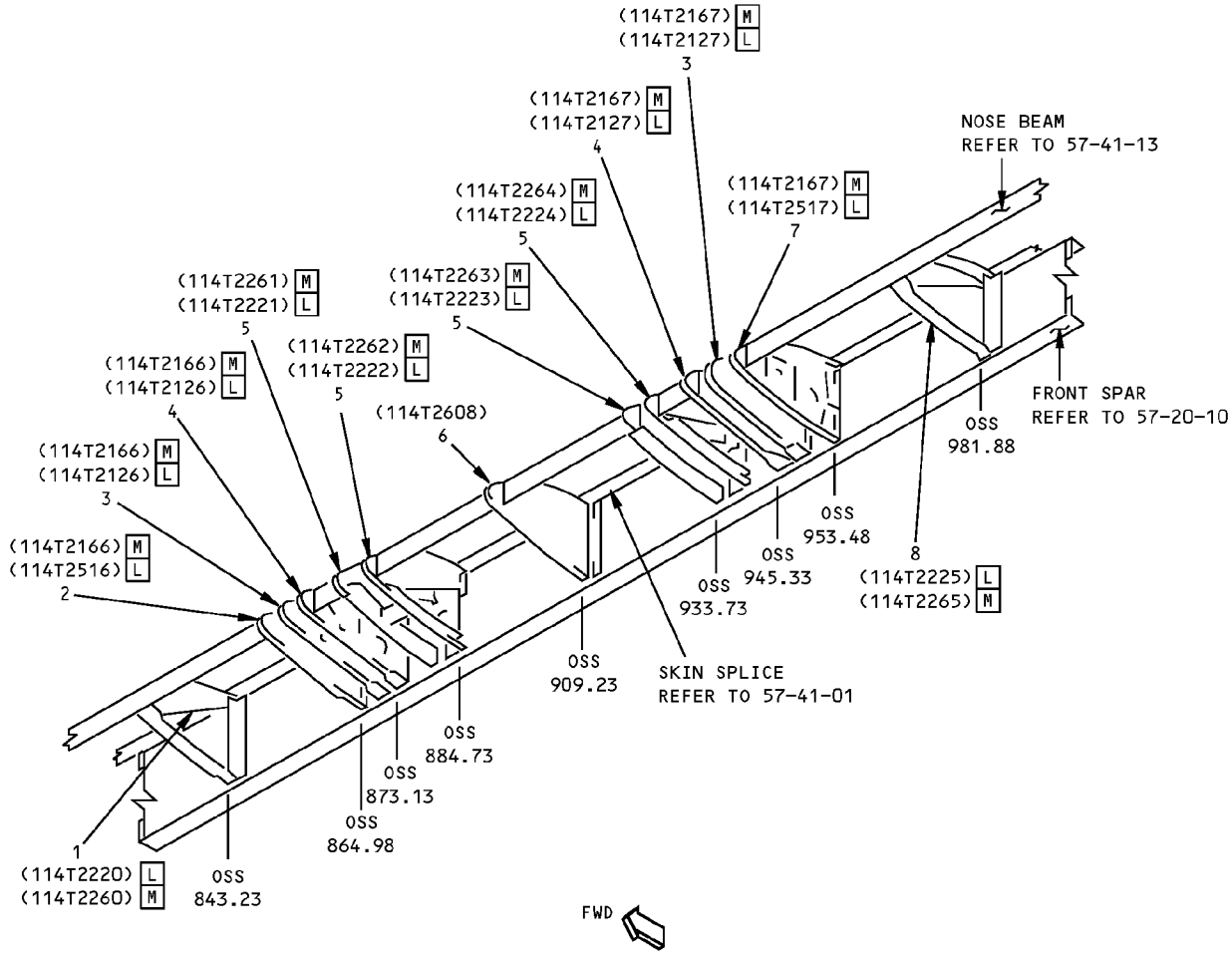
Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 12 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	AIRLOAD RIB			
	WEB	0.032	CLAD 7075-T6	L
	STRUT		BAC1506-2603 7075-T62	L
	UPR CHORD		BAC1505-101056 7075-T62	L
	LWR CHORD		BAC1505-100790 7075-T6511	L
	AIRLOAD RIB	2.500	7050-T7451	M
2	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T3, OPTIONAL: CLAD 2024-T4	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.750	7075-T7351, OPTIONAL: FORGING 7075-T7352	
3	MAIN TRACK RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.79	7050-T7451	M
4	MAIN TRACK RIB			
	NOSE FORMER	0.040	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	L
	RIB	2.800	FORGING 7075-T7352	L
	MAIN TRACK RIB	2.700	7050-T7451	M
5	AUX TRACK RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.090	7075-T62	L
	RIB	0.090	7075-T62	L
	AUX TRACK RIB	1.500	7050-T7451	M
6	ALIGNMENT RIB	2.800	FORGING 7075-T7352	L
	ALIGNMENT RIB	2.500	7050-T7451	M
7	AIRLOAD RIB			
	WEB	0.032	CLAD 7075-T6	L
	STRUT		BAC1506-2603 7075-T62	L
	UPR CHORD		BAC1514-132 7075-T62	L
	LWR CHORD		BAC1505-100790 7075-T6511	L
	AIRLOAD RIB	2.500	7050-T7451	M
8	MAIN TRACK RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	L
	RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.750	7050-T7451	M
9	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.350	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.350	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	M

LIST OF MATERIALS FOR DETAIL V

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 13 of 17)

REF DWG
114T2000



OUTBD LEADING EDGE RIB
DETAIL VI

LIST OF MATL

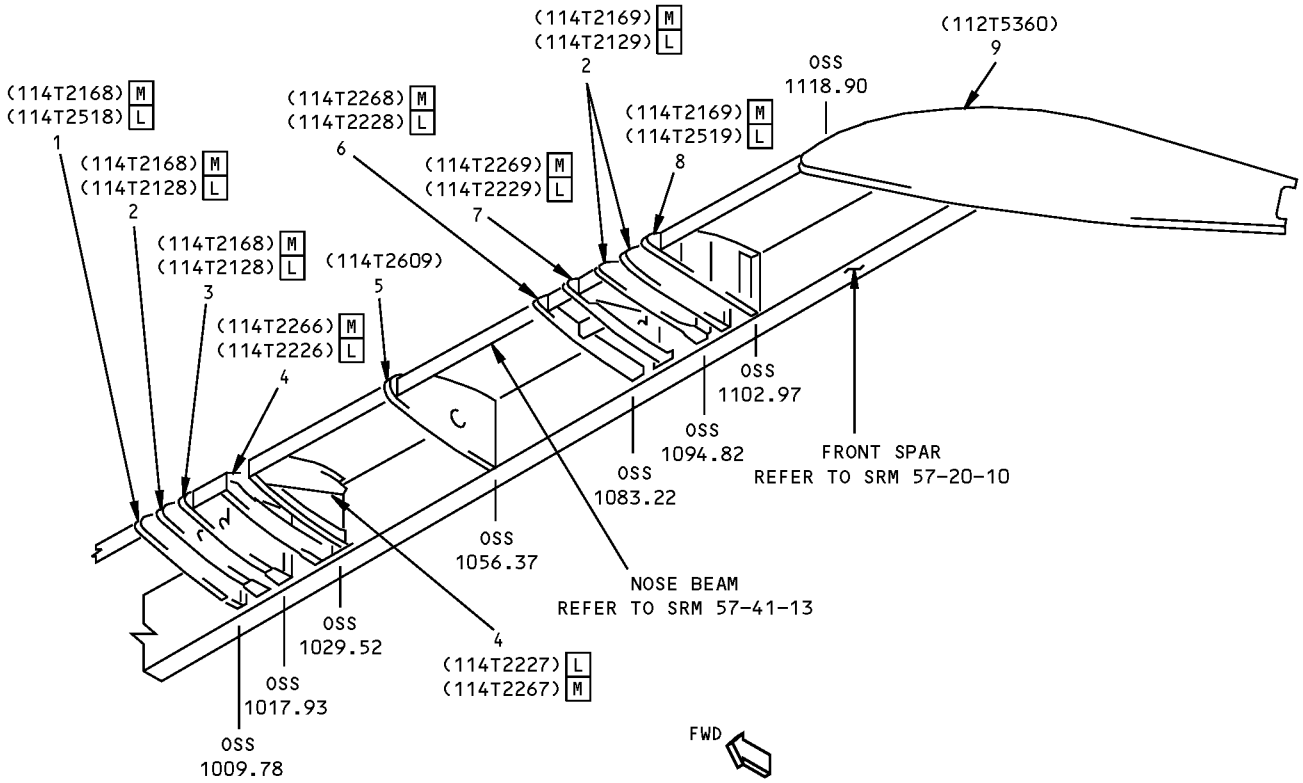
Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 14 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	AIRLOAD RIB			
	WEB	0.032	CLAD 7075-T6	L
	STRUT		BAC1506-2603 7075-T6	L
	UPR CHORD		BAC1505-101056 7075-T6	L
	LWR CHORD		BAC1505-100790 7075-T6511	L
	AIRLOAD RIB	2.500	7050-T7451 BARE PLATE	M
2	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.350	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.500	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	M
3	MAIN TRACK RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.800	7050-T7451	M
4	MAIN TRACK RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	L
	RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.760	7050-T7451	M
5	AUX TRACK RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.090	7075-T62	L
	RIB	0.090	7075-T62	L
	AUX TRACK RIB	1.500	7050-T7451	M
6	ALIGNMENT RIB	2.800	FORGING 7075-T7352	L
	ALIGNMENT RIB	2.500	7050-T7451, OPTIONAL: FORGING 7075-T7351 OR 7075-T7352	M
7	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
		0.050	CLAD 2024-T3, OPTIONAL: CLAD 2024-T42	C
	RIB	1.750	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.500	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	M
8	AIRLOAD RIB			
	WEB	0.032	CLAD 7075-T6	L
	STRUT	1.500	BAC1506-2603 7075-T62	L
	UPR CHORD		BAC1514-132 7075-T62	L
	LWR CHORD		BAC1505-100790 7075-T6511	L
	AIRLOAD RIB	2.500	7050-T7451	M

LIST OF MATERIALS FOR DETAIL VI

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 15 of 17)

REF DWG 114T2000



OUTBD LEADING EDGE RIB
DETAIL VII

LIST OF MATL

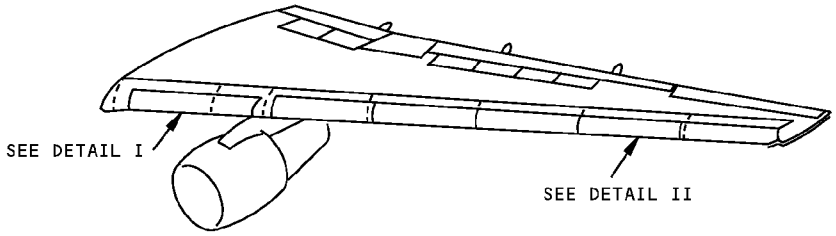
Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 16 of 17)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	ACTUATOR SUPPORT RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	B
	RIB	1.750	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	ACTUATOR SUPPORT RIB	1.49	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	M
2	MAIN TRACK RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.800	7050-T7451	M
3	MAIN TRACK RIB			
	NOSE FORMER	0.040	CLAD 2024-T42	A
	RIB	2.800	7075-T7351, OPTIONAL: FORGING 7075-T7352	L
	MAIN TRACK RIB	2.760	7050-T7451	M
4	AUX TRACK RIB			
	STRUT	0.063	CLAD 7075-T62	L
	RIB	0.080	7075-T62	L
	AUX TRACK RIB	1.750	7050-T7451	M
5	ALIGNMENT RIB	2.800	FORGING 7075-T7352	L
	ALIGNMENT RIB	2.500	7050-T7451, OPTIONAL: 7075-T7351 PLATE OR 7075-T7352 FORGING	M
6	AUX TRACK RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.063	CLAD 7075-T62	L
	RIB	0.080	7075-T62	L
	AUX TRACK RIB	1.500	7050-T7451	M
7	AUX TRACK RIB			
	NOSE FORMER	0.040	CLAD 7075-T62	L
	STRUT	0.063	CLAD 7075-T62	L
	RIB	0.090	7075-T62	L
	AUX TRACK RIB	1.750	7050-T7451	M
8	ACTUATOR SUPPORT RIB	1.750	7075-T7351, OPTIONAL: FORGING 7075-T7352 OR 7050-T7451	
9	CLOSURE RIB	0.040	CLAD 2024-T42	

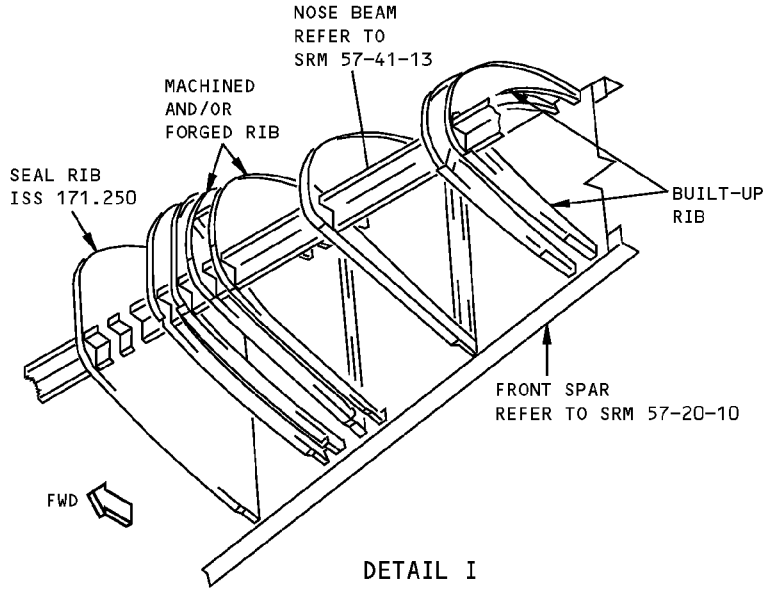
LIST OF MATERIALS FOR DETAIL VII

Wing Fixed Leading Edge Rib Identification
Figure 1 (Sheet 17 of 17)

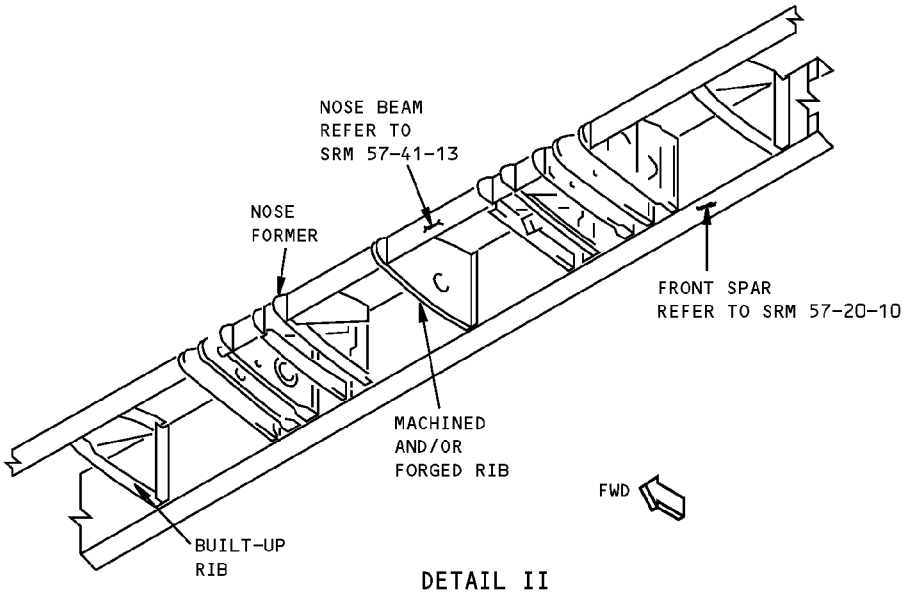
ALLOWABLE DAMAGE 1 - WING FIXED LEADING EDGE RIBS



WING LEADING EDGE



DETAIL I



DETAIL II

Wing Fixed Leading Edge Ribs Allowable Damage
Figure 101 (Sheet 1 of 6)

ITEMS		CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES
BUILT-UP RIB	WEB	[A]	FOR EDGE DAMAGE SEE DETAIL III OR VI, FOR OTHERS [B]	[C]	[D]
	CHORD			NOT PERMITTED	NOT PERMITTED
	STIFFENER				SEE DETAIL VIII
MACHINED AND/OR FORGED RIB	WEB	[H]	FOR EDGE DAMAGE SEE DETAIL VI [B] SEE DETAIL IX FOR DAMAGE CAUSED BY SLAT WEAR OF SEAL RIBS AT ISS 345.5 AND OSS 395	[C]	[D]
	FLANGE		FOR EDGE DAMAGE SEE DETAIL III OR VI, FOR OTHERS [B]	NOT PERMITTED	NOT PERMITTED
	STIFFENER		FOR EDGE DAMAGE SEE DETAIL VII, FOR OTHER SEE [B]		
SEAL RIB ISS 171.250	WEB	[A]	FOR EDGE DAMAGE SEE DETAIL VI [F]	ONE SQUARE INCH PERMITTED	[E]
	CHORD		FOR EDGE DAMAGE SEE DETAIL III OR VI, OTHERS [B]	NOT PERMITTED	NOT PERMITTED
	STIFFENER				SEE DETAIL VIII
NOSE FORMER	WEB	[A]	FOR EDGE DAMAGE SEE DETAIL VI, FOR OTHERS [B]	SEE DETAIL V	[D]
	FLANGE			NOT PERMITTED	NOT PERMITTED
LOWER BUILT-UP RIB	WEB	[A]	FOR EDGE DAMAGE SEE DETAIL III OR VI, FOR OTHERS [B]	[C]	[D]
	CHORD			NOT PERMITTED	NOT PERMITTED

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL III OR VI. ALL OTHER CRACKS MUST BE REPAIRED.

[B] NICK, GOUGE, OR SCRATCH DAMAGE REMOVAL AS GIVEN IN DETAIL IV IS PERMITTED.

[C] DENT DAMAGE AS GIVEN IN DETAIL V IS PERMITTED.

[D] HOLES UP TO 0.25 INCH (6 mm) IN DIAMETER, BUT NOT CLOSER THAN 1.00 INCH (25.4 mm) TO ANY ADJACENT HOLE OR FASTENER ARE PERMITTED. FILL THE HOLE WITH A 2117-T3 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT.

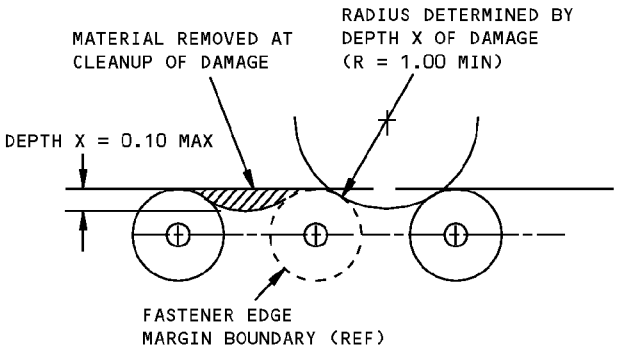
[E] HOLES TO 0.19 INCH (4.8 mm) DIAMETER THRU ONE SIDE OF THE HONEYCOMB PANEL ARE PERMITTED. SEAL THE DAMAGE AREA WITH ALUMINUM FOIL TAPE (SPEED TAPE) 3M-Y436 OR EQUIVALENT. RECORD THE LOCATION AND DO A REPAIR BEFORE 1,200 HOURS AS GIVEN IN SRM 51-70.

[F] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. REMOVE MOISTURE FROM THE DAMAGE AREA. USE OF A VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT, OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT AT EACH AIRPLANE 'A' CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS ANY PEELING OR DETERIORATION OF THE TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE 'C' CHECK.

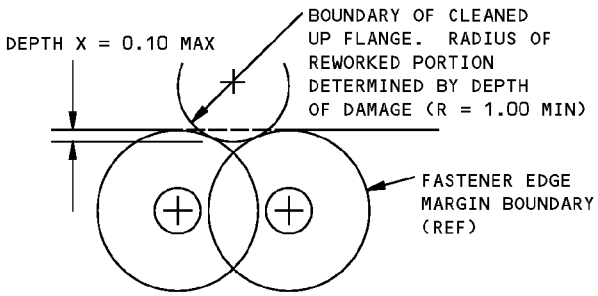
[G] HOLE DAMAGE IS NOT PERMITTED IN STIFFENER FLANGE ATTACHED TO WEB. A MAXIMUM OF 4 HOLES IS PERMITTED IN FREE FLANGE INCLUDING HOLE(S) DRILLED DURING MANUFACTURE. FILL HOLE DAMAGE WITH PROTRUDING HEAD 2117-T3 ALUMINUM RIVET INSTALLED WET BMS 5-95 SEALANT.

[H] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL VI OR VII. ALL OTHER CRACKS MUST BE REPAIRED.

Wing Fixed Leading Edge Ribs Allowable Damage
Figure 101 (Sheet 2 of 6)

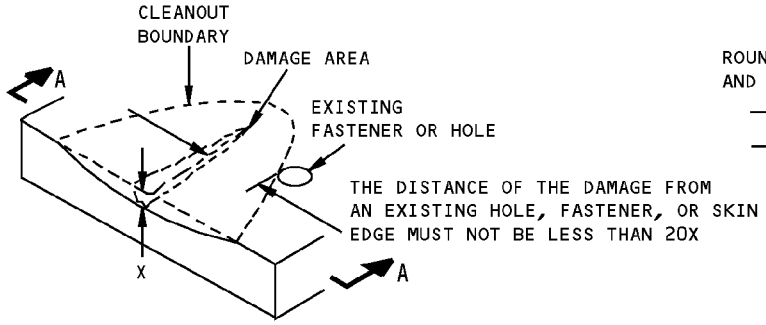


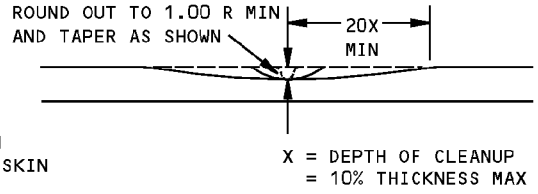
DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

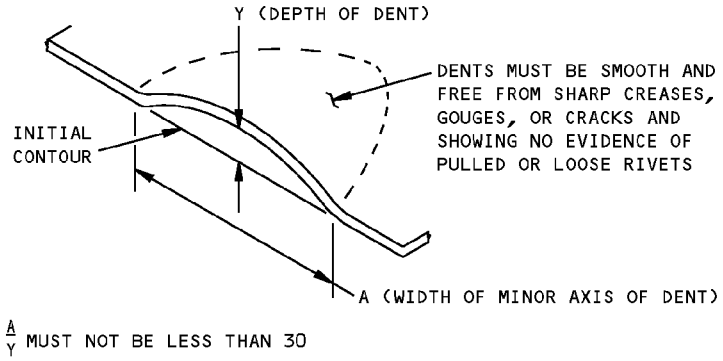
DETAIL III





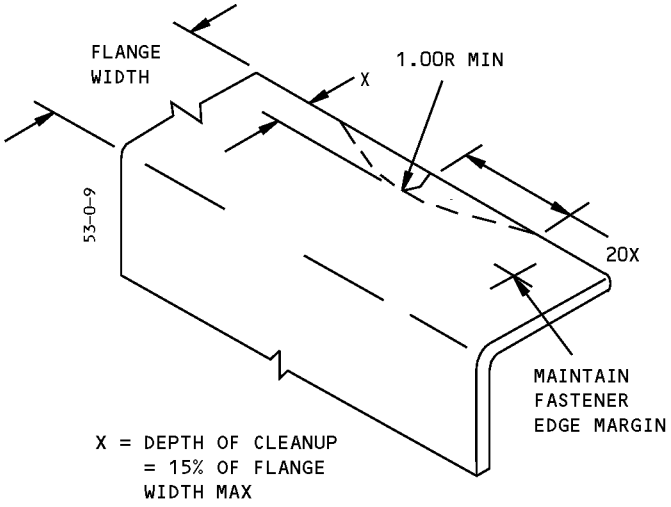
SECTION A-A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL IV



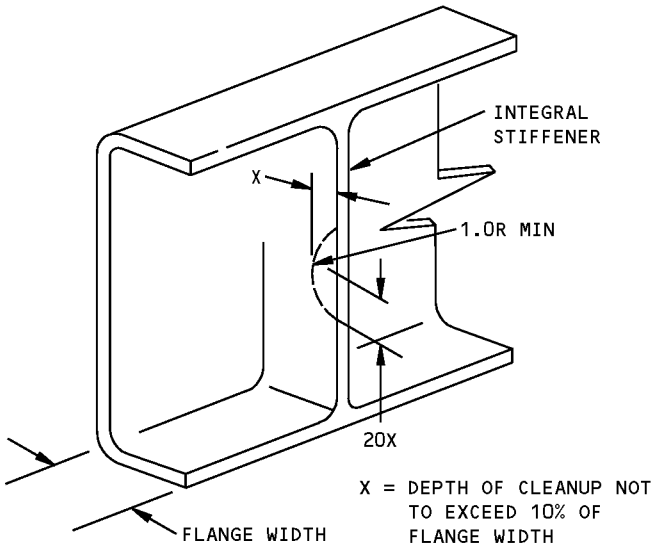
ALLOWABLE DAMAGE FOR DENT
DETAIL V

Wing Fixed Leading Edge Ribs Allowable Damage
Figure 101 (Sheet 3 of 6)

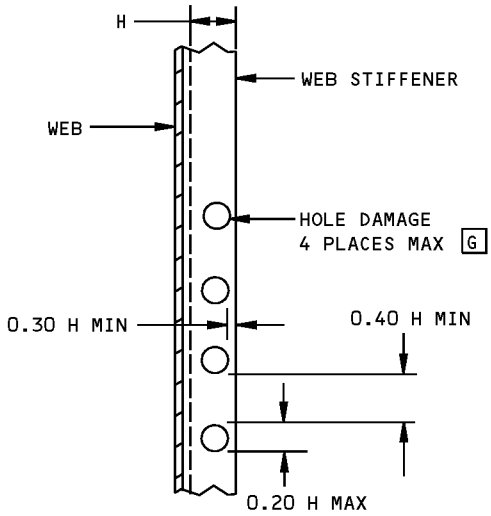


REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

DETAIL VI

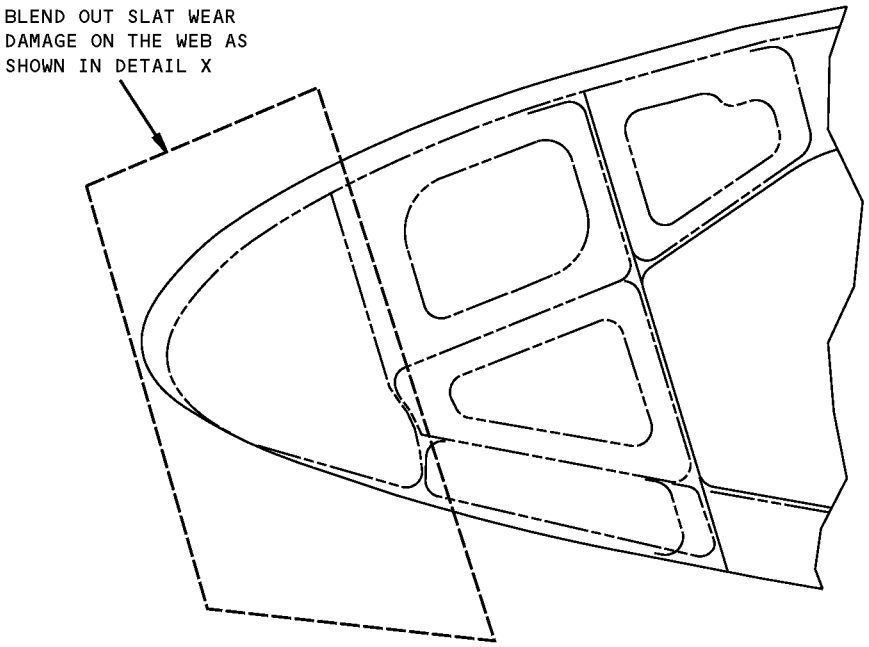


DETAIL VII

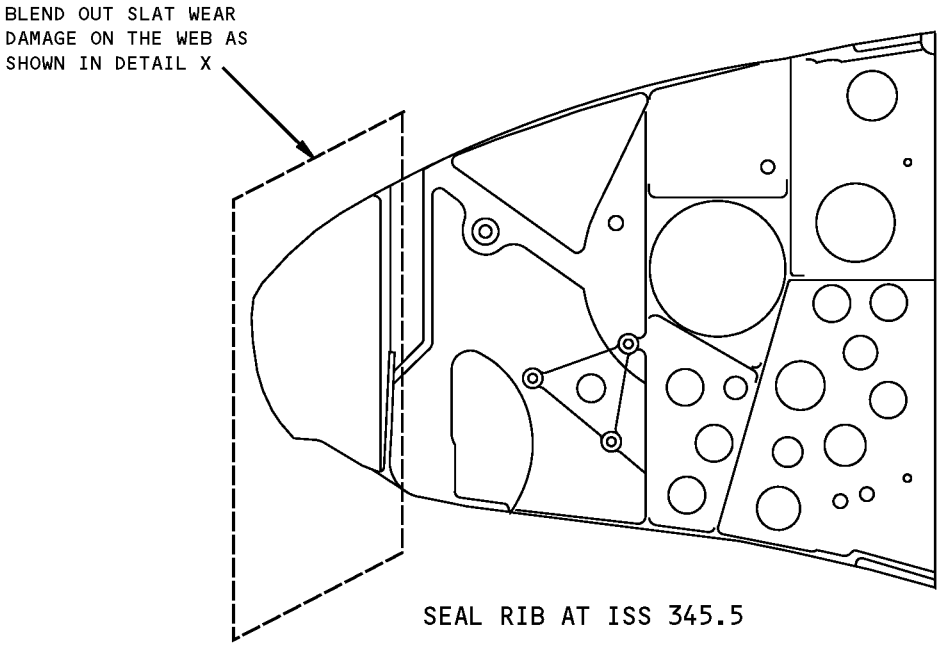


DETAIL VIII

Wing Fixed Leading Edge Ribs Allowable Damage
Figure 101 (Sheet 4 of 6)



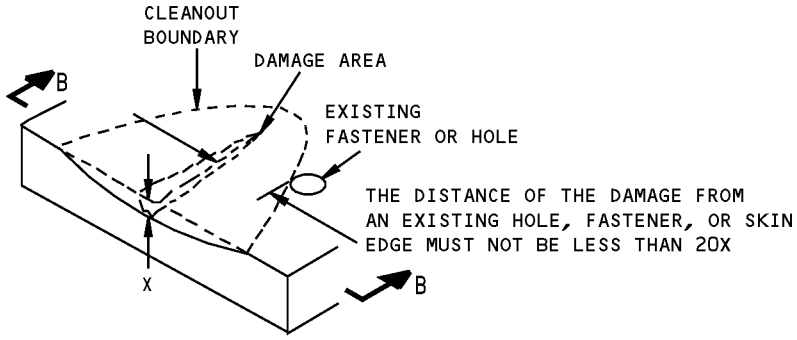
SEAL RIB AT OSS 395

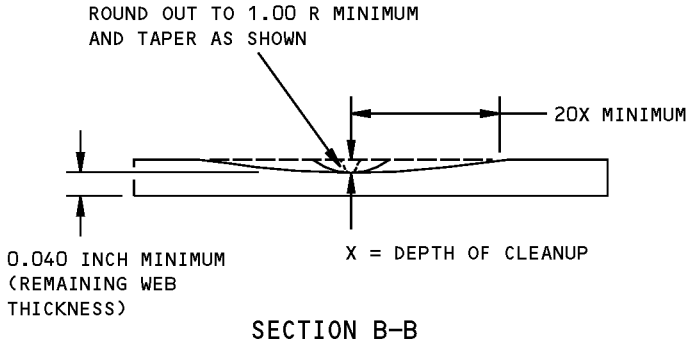


SEAL RIB AT ISS 345.5

SEAL RIBS
DETAIL IX

Wing Fixed Leading Edge Ribs Allowable Damage
Figure 101 (Sheet 5 of 6)





SECTION B-B

REMOVAL OF SLAT WEAR DAMAGE ON WEB OF RIBS AT ISS 345.5 AND OSS 395
DETAIL X

Wing Fixed Leading Edge Ribs Allowable Damage
Figure 101 (Sheet 6 of 6)

REPAIR 1 - WING FIXED LEADING EDGE RIB EXTRUDED CHORDS

REPAIR INSTRUCTIONS

WARNING: REFER TO 27-81-00 OF THE 767 MAINTENANCE MANUAL FOR SAFETY LOCK INSTALLATION PROCEDURE. INSTALL SAFETY LOCKS TO PREVENT INJURY FROM INADVERTENT OPERATION OF SLATS.

1. Stop drill ends of cracks 0.25. Clean up corrosion damage, blend out sharp edges and fill with BMS 5-28, type 7 to maintain original contour.
2. Make the repair parts.
3. Assemble the repair parts and drill the fastener holes.
4. Remove the repair parts.
5. Break sharp edges of original and repair parts 0.015R to 0.030R.
6. Remove all nicks, scratches, burrs, sharp edges and corners of original and repair parts.
7. Alodize the repair parts and the reworked areas of the original parts per 51-20-01.
8. Apply two coats of BMS 10-11, type 2 primer to the repair parts and the reworked areas of the original parts in accordance with 51-24 of the 767 Maintenance Manual.
9. Install the repair parts making a faying surface seal with BMS 5-95. Install fasteners wet with BMS 5-95.
10. Restore original finish per 51-21 of the 767 Maintenance Manual.

Wing Fixed Leading Edge Rib Extruded Chord Repair
Figure 201 (Sheet 1 of 5)

NOTES

- THIS REPAIR APPLIES TO EXTRUDED CHORDS OF THE WING LEADING EDGE RIBS WHICH ARE PARTIALLY CRACKED OR HAVE CORROSION DAMAGE. DAMAGE MUST NOT EXCEED 50% OF THE CROSS-SECTIONAL AREA OF THE FLANGE

- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL

  51-20-05 FOR SEALING OF REPAIRS

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

  51-21 OF THE 767 MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES

  51-31 OF THE 767 MAINTENANCE MANUAL FOR SEALS AND SEALING

[A] SEE TABLE I FOR NUMBER OF FASTENERS REQUIRED ON EACH SIDE OF DAMAGE

[B] USE SAME TYPE AND SIZE FASTENER AS ORIGINAL. IF NUTPLATES WERE INSTALLED ON THE CHORD IN PRODUCTION IN THE REPAIR AREA, REMOVE AND REINSTALL ON REPAIR PART 1 USING BACR15BA3AD RIVETS. PLUG NUTPLATE ATTACH HOLES IN CHORD WITH ALUMINUM RIVETS

[C] 3/16 DIA FASTENER IS PREFERRED. IF FLANGE IS NOT WIDE ENOUGH TO GIVE REQUIRED EDGE MARGIN (PER 51-40-06) USE 5/32 DIA FASTENERS

[D] WHEN CALCULATING FASTENER REQUIREMENTS, FRACTIONS OF A FASTENER MUST BE TAKEN TO THE NEXT HIGHER WHOLE NUMBER

[E] USE SAME THICKNESS AS ORIGINAL CHORD FLANGE THICKNESS

[F] USE SAME THICKNESS AS THE GREATER OF THE TWO ORIGINAL CHORD FLANGE THICKNESSES

[G] 4D MIN. FASTENER SPACING

[H] DETAIL IV MAY ALSO BE USED FOR REPAIR OF RADIUS CRACKS

[J] REPAIR PART WIDTH TO BE USED WITH TABLE I TO CALCULATE NUMBER OF FASTENERS

FASTENER SYMBOL

+ ORIGINAL FASTENER LOCATION

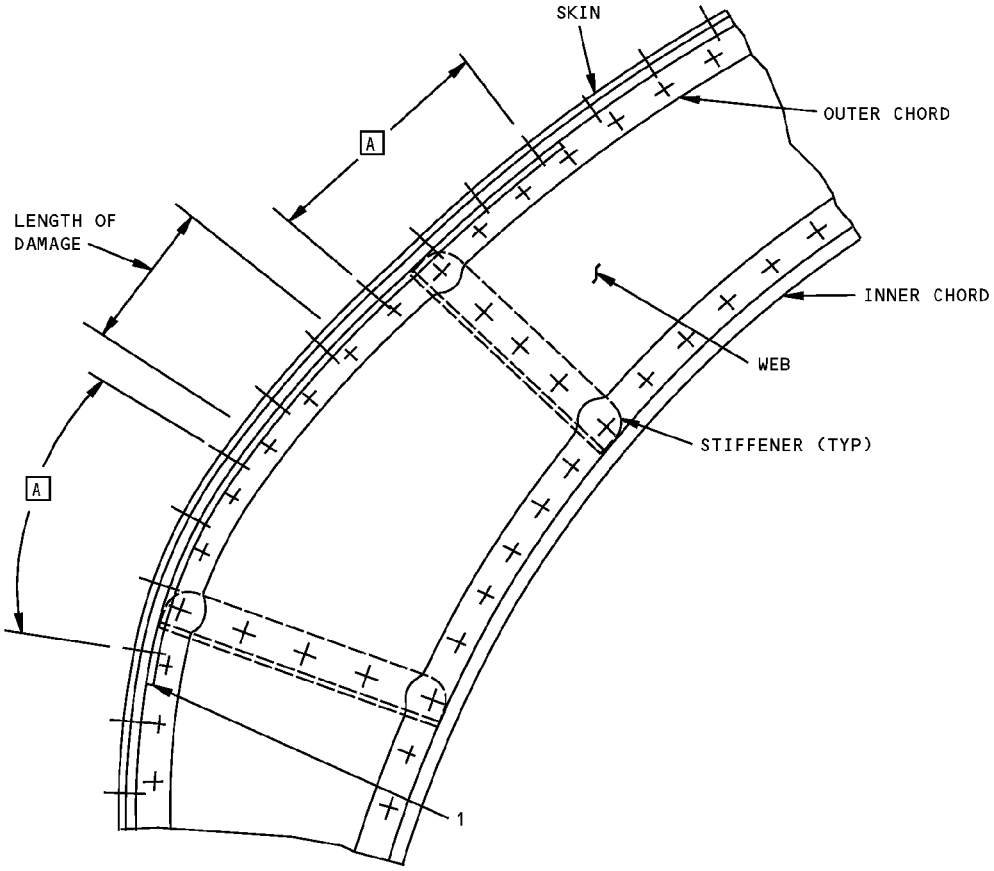
Wing Fixed Leading Edge Rib Extruded Chord Repair
Figure 201 (Sheet 2 of 5)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	RADIUS FILLER	AS REQD	7075-T6 [E]
2	STRAP	AS REQD	7075-T6 [E]
3	STRAP	AS REQD	7075-T6 [E]
4	ANGLE	AS REQD	7075-T6 [F]

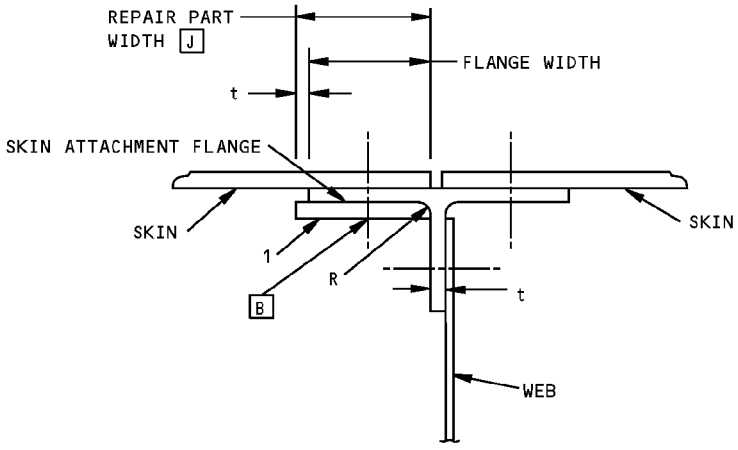
REPAIR PART GAGE	NUMBER OF FASTENERS REQUIRED PER INCH WIDTH OF REPAIR PART [D]				
	SKIN ATTACHMENT FLANGE		WEB ATTACHMENT FLANGE	FREE FLANGE	
	NAS1739E5 (BLIND RIVET)	ALL OTHER FASTENERS	BACR15FT5KE	BACR15FT6KE	BACR15FT5KE
0.063	5.3	3.5	3.4	2.4	3.4
0.071	5.4	3.6	3.8	2.7	3.8
0.080	5.4	3.6	4.3	3.0	4.3
0.090	5.5	3.8	4.9	3.4	4.9
0.100	5.5	4.0	5.4	3.8	5.4

TABLE I

Wing Fixed Leading Edge Rib Extruded Chord Repair
Figure 201 (Sheet 3 of 5)

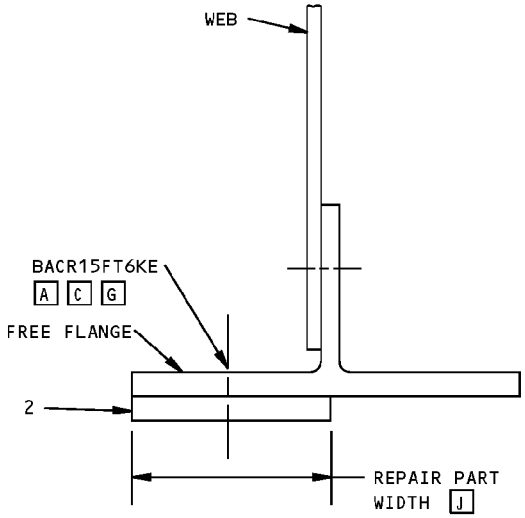


TYPICAL REPAIR OF DAMAGE TO CHORD
REPAIR OF OUTER CHORD SKIN ATTACHMENT FLANGE SHOWN
(SEE DETAILS II, III AND IV FOR OTHER REPAIRS)
DETAIL I

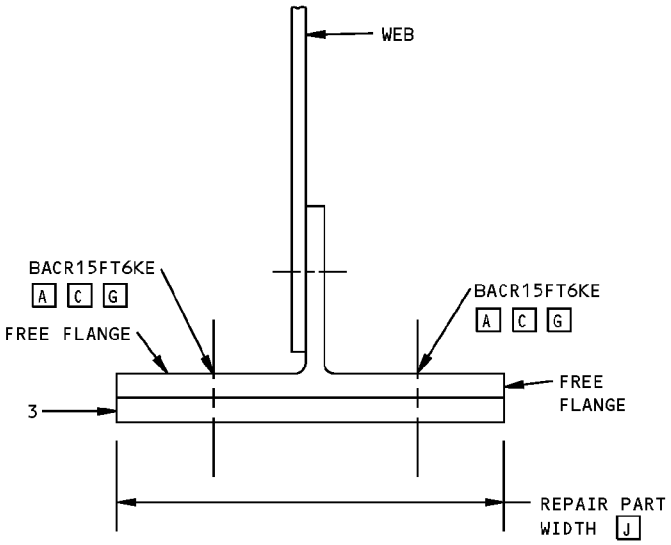


SECTION A-A

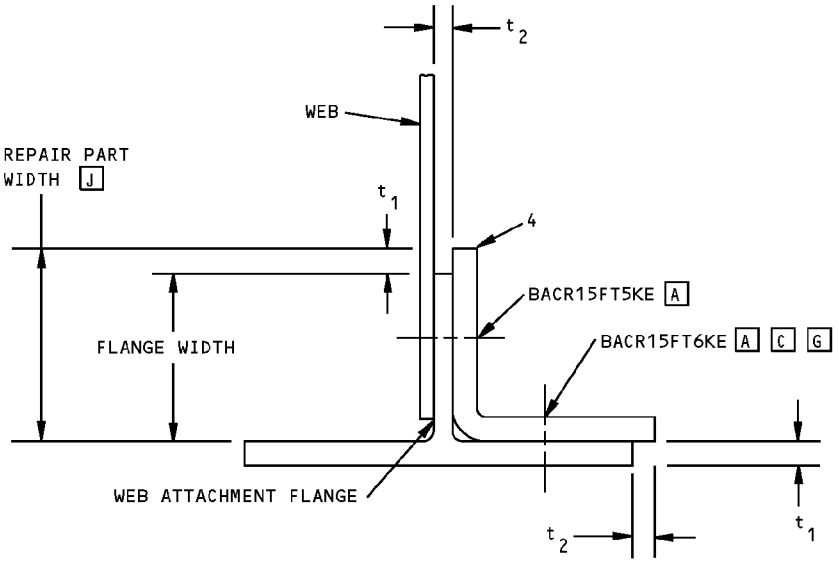
Wing Fixed Leading Edge Rib Extruded Chord Repair
Figure 201 (Sheet 4 of 5)



REPAIR OF INNER CHORD FREE FLANGE
DETAIL II



REPAIR OF BOTH INNER CHORD FREE FLANGES
DETAIL III



REPAIR OF INNER CHORD WEB ATTACHMENT FLANGE SHOWN H
REPAIR OF OUTER CHORD WEB ATTACHMENT FLANGE SIMILAR
DETAIL IV

Wing Fixed Leading Edge Rib Extruded Chord Repair
Figure 201 (Sheet 5 of 5)

REPAIR 2 - WING FIXED LEADING EDGE SEAL RIB WEB - ISS 345.5 AND OSS 395

APPLICABILITY
THIS REPAIR IS APPLICABLE TO DAMAGE CAUSED BY SLAT WEAR ON THE WEBS OF SEAL RIBS LOCATED AT ISS 345.5 AND OSS 395.

NOTE: REFER TO ALLOWABLE DAMAGE 1 FOR ALLOWABLE WEAR LIMITS CAUSED BY SLAT WEAR AND BLENDOUT REQUIREMENTS

REPAIR INSTRUCTIONS

1. Get access to the damaged area.
2. Blend out the damaged area of the rib. See Details III and V.
3. Do a High Frequency Eddy Current (HFEC) of the repair area to make sure that all of the damage is removed. Refer to NDT Part 6, 51-00-19, for HFEC inspection procedures.

Note: It is not necessary to cut out the web if the remaining thickness after blend-out is between 0.025 inch (0.06 mm) and 0.040 inch (0.10 mm) thick.

4. For blend-outs which result in a remaining thickness of 0.025 inch (0.06 mm) or less, cut and remove the blended out web of the rib. The minimum radius for the cutout must be 0.5 inch (12.7 mm). The maximum permitted length or width of cutout is 2 inches (50.8 mm). Make the surface finish of the cut 63 microinches Ra or smoother.
5. Make the repair parts. See Table I.
6. Assemble the repair parts and drill the fastener holes.
7. Disassemble the repair parts.
8. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the rib.
9. Apply a chemical conversion coating to the bare surfaces of the rib and the repair doubler. Refer to SRM 51-20-01.
10. Apply two layers of BMS 10-11, Type I primer to the repair parts and to the bare surfaces of the rib. Refer to SOPM 20-41-01.
11. Install the repair parts with BMS 5-95 sealant between the mating surfaces. Fill the wear area with BMS 5-95 sealant, if the rib is not cutout for repair.
12. Install the fasteners wet with BMS 5-95 sealant.
13. Apply a layer of BMS 10-86 Type I finish to the repair area. Refer to BAC 5710 Type 27.
14. Identify and correct the cause of the slat wear. If necessary, adjust slat seal structure to prevent wear on the repair doubler. Re-rig the slat. Refer to AMM 27-81-01.
15. Inspect the slat seal pan (P/N 114T3187) for any irregularities or exposed fastener heads. Correct any irregularities. Make sure the seal pan has an adequate layer of Teflon paint, BMS 10-86 or equivalent. The thickness of the Teflon paint should be between 0.005 inch (0.13 mm) and 0.010 inch (0.25 mm). Refer to BAC 5710 Type 27.

NOTES

- D = FASTENER DIAMETER
- MAINTAIN A FASTENER SPACING OF 4D TO 6D BETWEEN ANY TWO REPAIR FASTENERS.
- THE MINIMUM FASTENER DISTANCE FROM AN EDGE OR A CUTOUT MUST BE 2.5D.
- WHEN YOU USE THIS REPAIR, REFER TO:
  - NDT PART 6, 51-00-19 FOR HIGH FREQUENCY EDDY CURRENT INSPECTION PROCEDURES.
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES.
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC MATERIALS.
  - SRM 51-20-05 FOR REPAIR SEALING.
  - SRM 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES AND EDGE MARGINS.

FASTENER SYMBOLS

REFERENCE FASTENER LOCATION.

INITIAL FASTENER LOCATION. INSTALL A BACB30NW6K()X HEX DRIVE BOLT WITH A BACC30M6 COLLAR. AS AN ALTERNATIVE, YOU CAN USE NAS1739A6 BLIND RIVETS IF YOU DO NOT HAVE THE NECESSARY ACCESS.

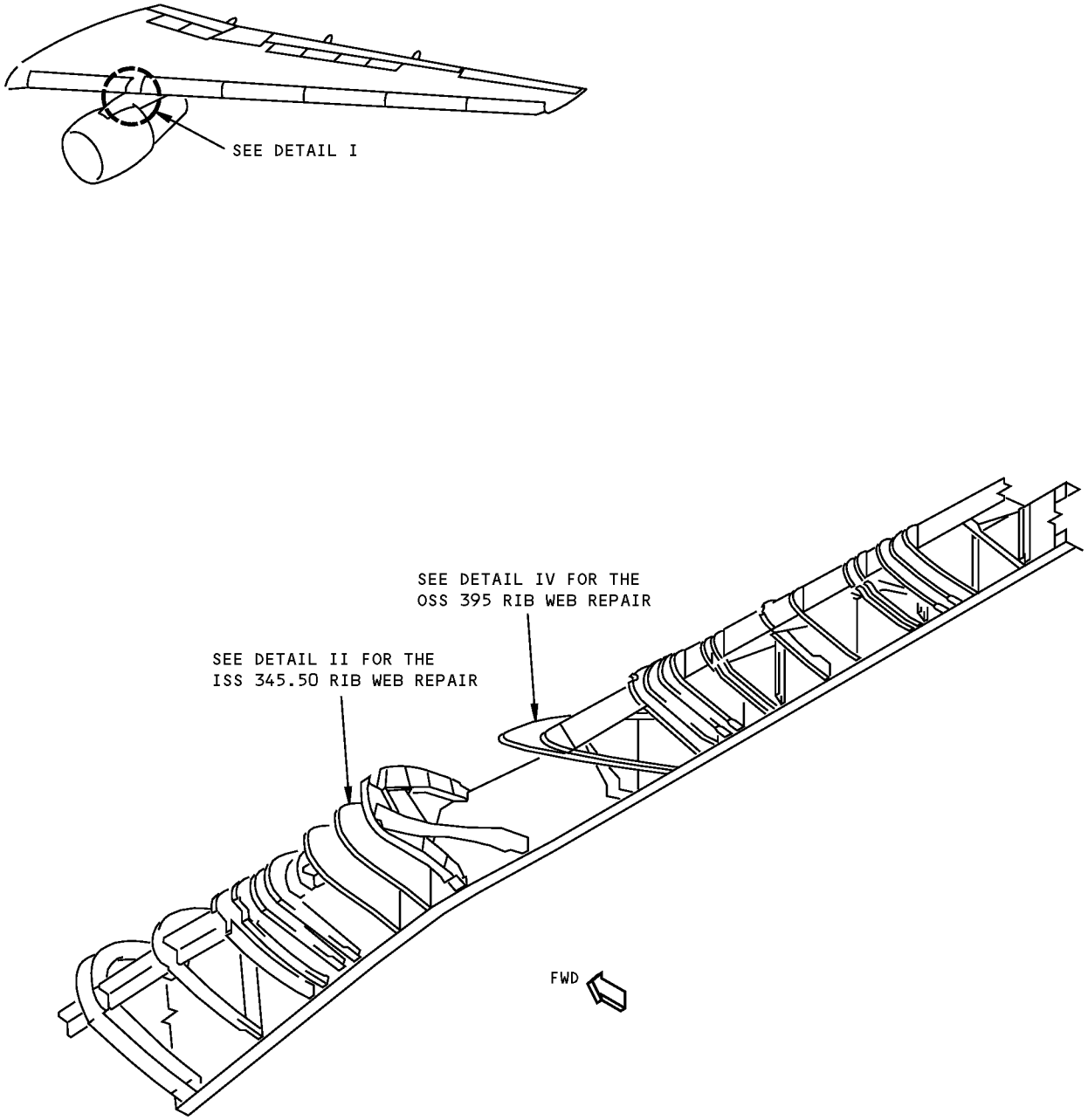
REPAIR FASTENER LOCATION.INSTALL A BACB30NW5K() HEX DRIVE BOLT WITH A BACC30M5 COLLAR. AS AN ALTERNATIVE YOU CAN USE NAS1739A5 BLIND RIVET IF YOU DO NOT HAVE THE NECESSARY ACCESS.

REPAIR FASTENER LOCATION. INSTALL A BACB30NW5K() HEX DRIVE BOLT WITH A BACC30M5 COLLAR.

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	DOUBLER	1	0.063 INCH 7075-T6 OR 2024-T3 SHEET

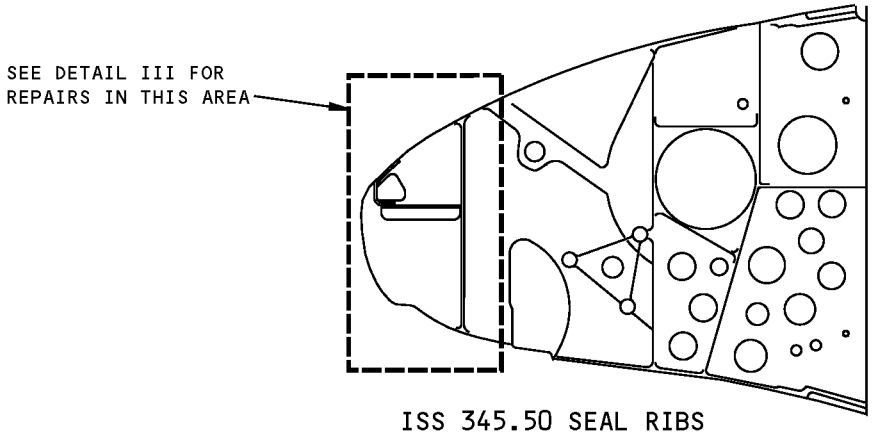
TABLE I

Wing Fixed Leading Edge Seal Rib Web Repair - ISS 345.5 and OSS 395
Figure 201 (Sheet 1 of 4)

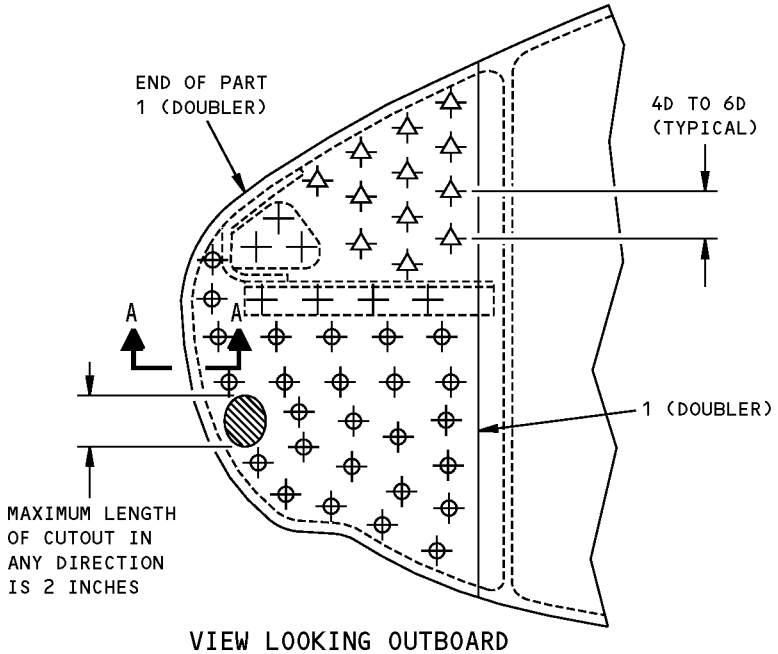


DETAIL I

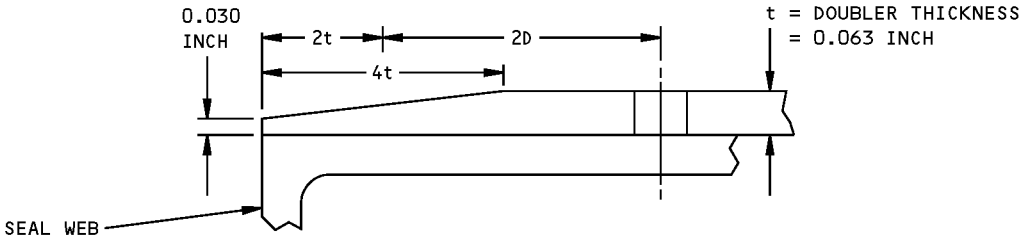
Wing Fixed Leading Edge Seal Rib Web Repair - ISS 345.5 and OSS 395
Figure 201 (Sheet 2 of 4)



ISS 345.50 SEAL RIBS
DETAIL II

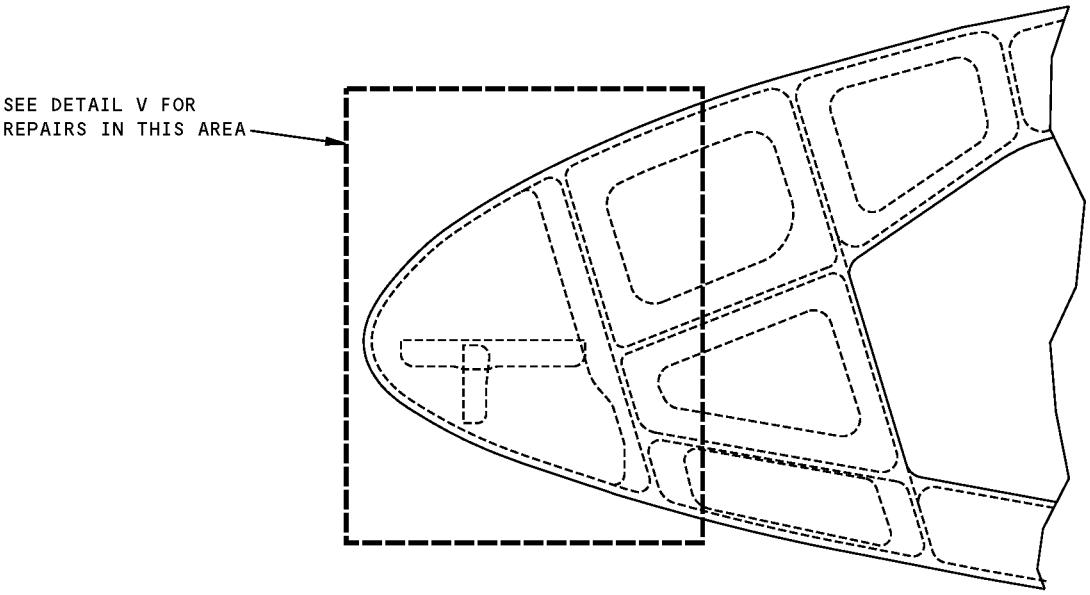


VIEW LOOKING OUTBOARD
WEB REPAIR
DETAIL III

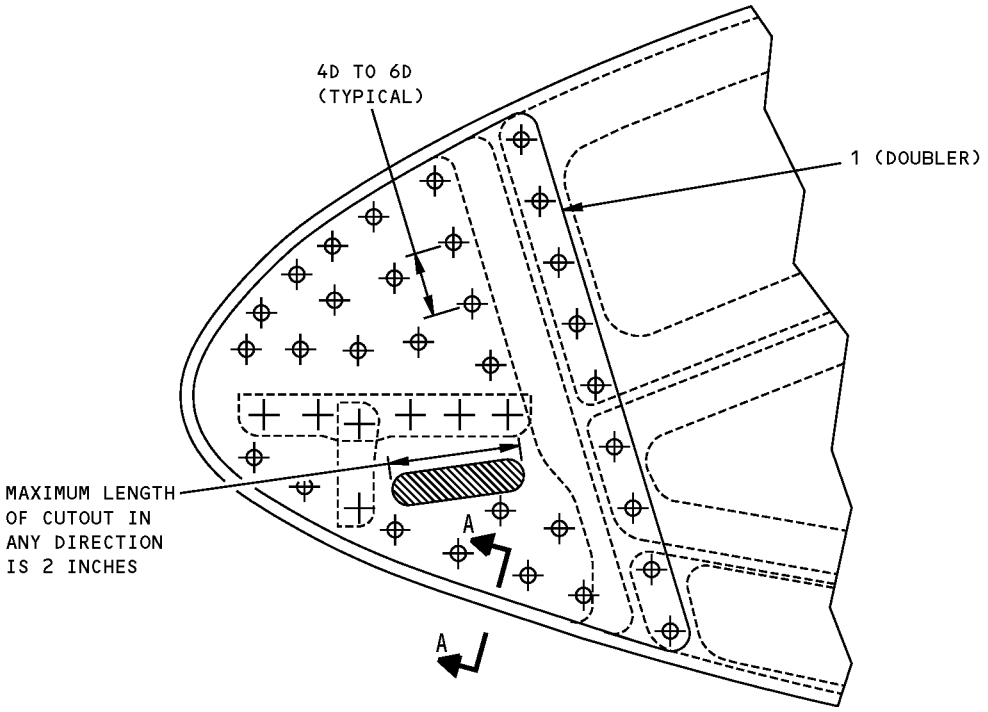


MINIMUM EDGE DISTANCE
SECTION A–A

Wing Fixed Leading Edge Seal Rib Web Repair - ISS 345.5 and OSS 395
Figure 201 (Sheet 3 of 4)



OSS 395 SEAL RIB
DETAIL IV



DETAIL V

Wing Fixed Leading Edge Seal Rib Web Repair - ISS 345.5 and OSS 395
Figure 201 (Sheet 4 of 4)

REPAIR 3 - WING FIXED LEADING EDGE - OUTBOARD SPAR STATION 680 AIRLOAD RIB

APPLICABILITY
THIS REPAIR IS APPLICABLE TO STATION 680 AIRLOAD RIBS WITH CRACKS IN THE FORWARD END OF THE LOWER FORMED FLANGE. THIS REPAIR IS NOT APPLICABLE TO AIRCRAFT CUMLATIVE LINE NUMBERS 758 AND ON

REPAIR INSTRUCTIONS

1. Get access to the damaged area.
2. Carefully remove the BACN10GH3A4 nutplate.
3. Cut and remove the damaged part of the rib. See Detail I.
4. Make the repair parts. See Table I.
5. Assemble the repair parts and drill the fastener holes.
6. Disassemble the repair parts.
7. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the rib.
8. Apply a chemical conversion coating to the repair parts and to the bare surfaces of the rib. Refer to SRM 51-20-01.
9. Apply two layer of BMS 10-11, Type I primer to the repair parts and to the bare surfaces of the rib. Refer to SOPM 20-41-02.
10. Install the repair parts with BMS 5-95 sealant between the mating surfaces.
11. Install the initial BACN10GH3A4 nutplate. If the nutplate was damaged when it was removed, it must be replaced.
12. Install the fasteners.
13. Apply a layer of BMS 10-11, Type I finish to the repair area. Refer to SOPM 20-41-02.

NOTES

- D = FASTENER DIAMETER.
- WHEN YOU USE THIS REPAIR REFER TO:
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SRM 51-10-00 FOR INVESTIGATION AND CLEANUP OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC GRAPHITE MATERIALS
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES, AND EDGE MARGINS.

FASTENER SYMBOLS

-|- REFERENCE FASTENER LOCATION.

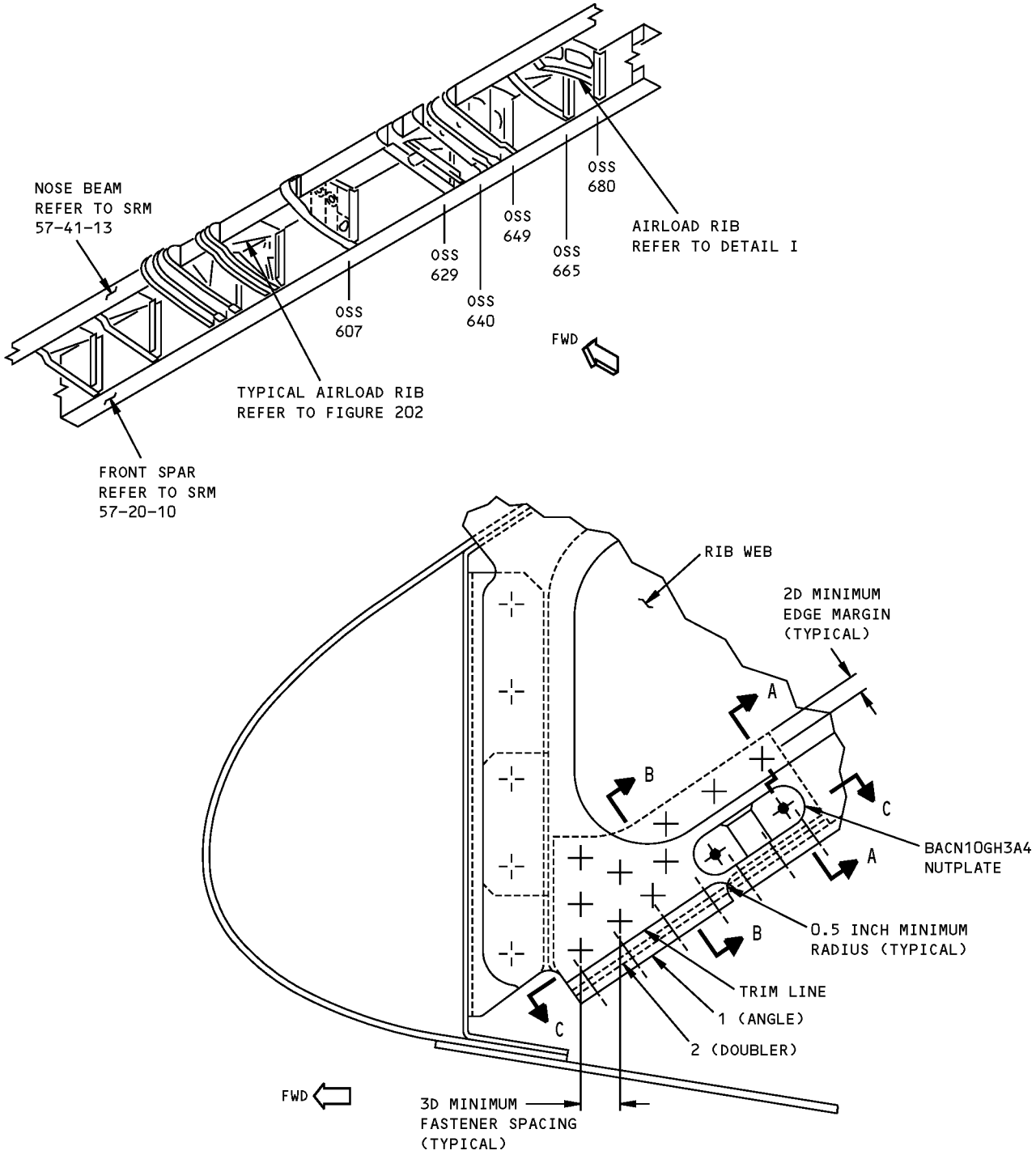
+ REPAIR FASTENER LOCATION. INSTALL A BACR15BB6D() RIVET.

⊕ INITIAL FASTENER LOCATION. INSTALL A BACR15BB5D() RIVET.

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	ANGLE	1	0.090 7075-T6
2	DOUBLER	1	0.071 7075-T6

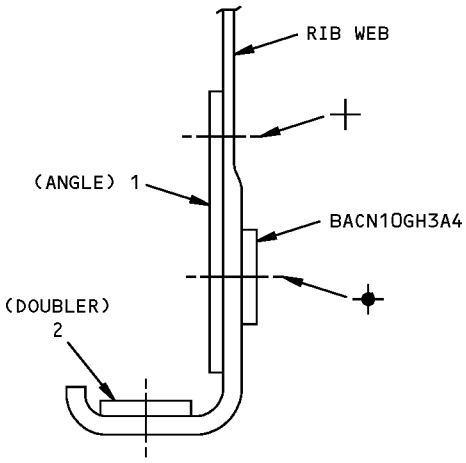
TABLE I

Wing Fixed Leading Edge - Outboard Spar Station 680 Airload Rib Repair
Figure 201 (Sheet 1 of 3)

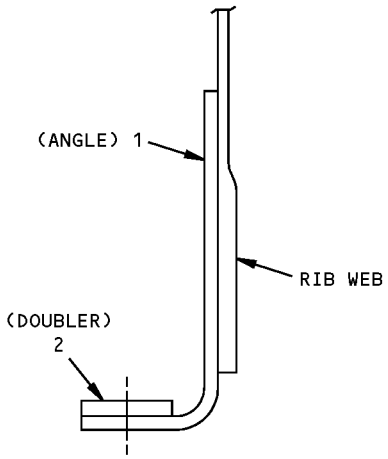


VIEW LOOKING INBOARD
DETAIL I

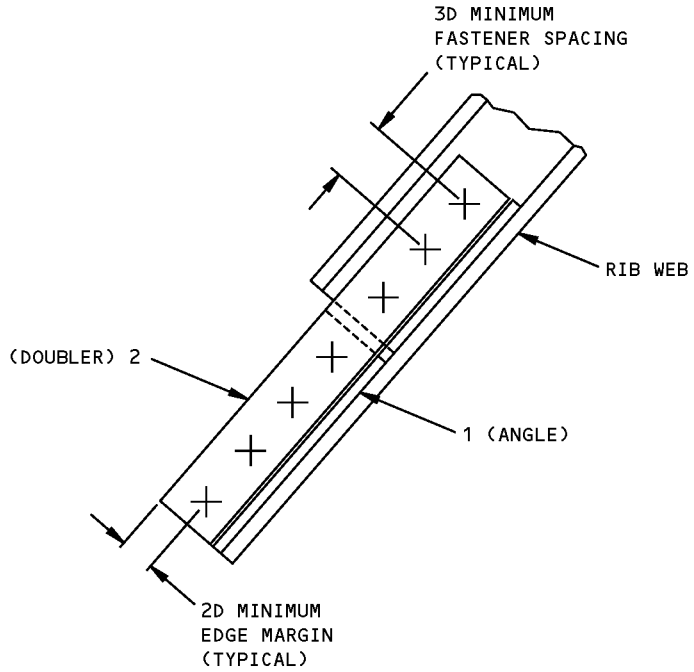
Wing Fixed Leading Edge - Outboard Spar Station 680 Airload Rib Repair
Figure 201 (Sheet 2 of 3)



SECTION A-A



SECTION B-B



SECTION C-C

Wing Fixed Leading Edge - Outboard Spar Station 680 Airload Rib Repair
Figure 201 (Sheet 3 of 3)

REPAIR 4 - WING FIXED LEADING EDGE AIRLOAD RIBS

APPLICABILITY
THIS REPAIR IS APPLICABLE TO CRACKED AIRLOAD RIBS OUTBOARD OF FRONT SPAR STATION 500 EXCEPT THE AIRLOAD RIB AT STATION 680.
THIS REPAIR IS NOT APPLICABLE TO AIRCRAFT CUMLATIVE LINE NUMBERS 758 AND ON.

REPAIR INSTRUCTIONS

1. Get access to the damaged area. Remove a sufficient number of rivets to make an inspection of the parts that are joined and the crack location.
2. Stop drill the crack and make an inspection of the stop drill hole. Refer to SRM 51-10-00.
3. Make the repair parts. See Table I.
4. Assemble the repair parts and drill the fastener holes as given in Details I to VII.
5. Remove all nicks, scratches, gouges, burrs and sharp edges from the repair parts and the repair area.
6. Apply a chemical conversion coating to the repair parts and the bare surfaces of the repair area. Refer to SRM 51-20-01.
7. Apply two layers of BMS 10-11, Type I primer to the repair parts and the bare surfaces of the repair area. Refer to AMM 51-21.
8. Install the repair parts with BMS 5-95 sealant between the faying surfaces. Install the nonaluminum fasteners wet with BMS 5-95 sealant.
9. Apply finish to the repair area. Refer to AMM 51-21.

NOTES

- WHEN YOU USE THIS REPAIR, REFER TO:
  - AMM 51-21 FOR INTERIOR AND EXTERIOR FINISHES
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC AND NONMETALLIC MATERIALS
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-40 FOR FASTERNER CODE, INSTALLATION AND REMOVAL, HOLE SIZES, AND EDGE MARGINS.

[A] A REPAIR WHERE THE FRONT SPAR ATTACHES TO THE AIRLOAD RIB CAN INCLUDE ANY COMBINATION OF REPAIR DETAILS II,III AND IV. USE 7075-T6 FILLERS WHERE NECESSARY FOR REPAIR COMBINATIONS.

[B] A REPAIR WHERE THE NOSE BEAM ATTACHES TO THE AIRLOAD RIB CAN INCLUDE THE COMBINATION OF REPAIR DETAILS V AND VI OR V AND VII.

[C] IF THE TOOLING HOLE IS NEAR THE WEB SPLICE, THEN MAKE THE CUT THROUGH THE HOLE OR INSTALL A FASTENER IN IT. KEEP 0.75 INCH (19.05 mm) SPACING BETWEEN THE FASTENERS.

[D] THE SHIM EXTENDS THE LENGTH OF THE STRUT STIFFENER FROM THE END OF THE DOUBLER TO THE OTHER END OF THE STRUT STIFFENER.

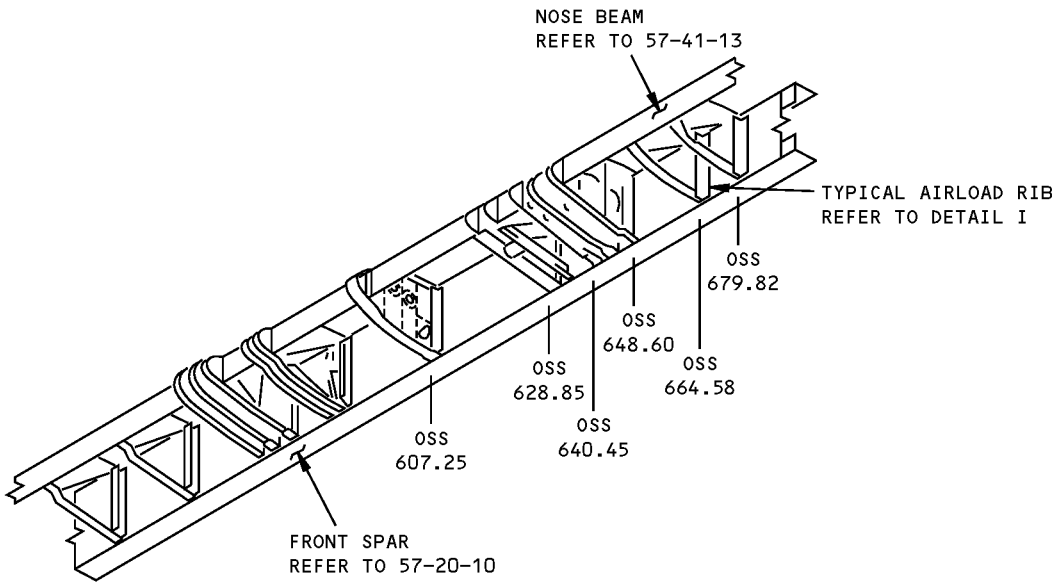
FASTENER SYMBOLS

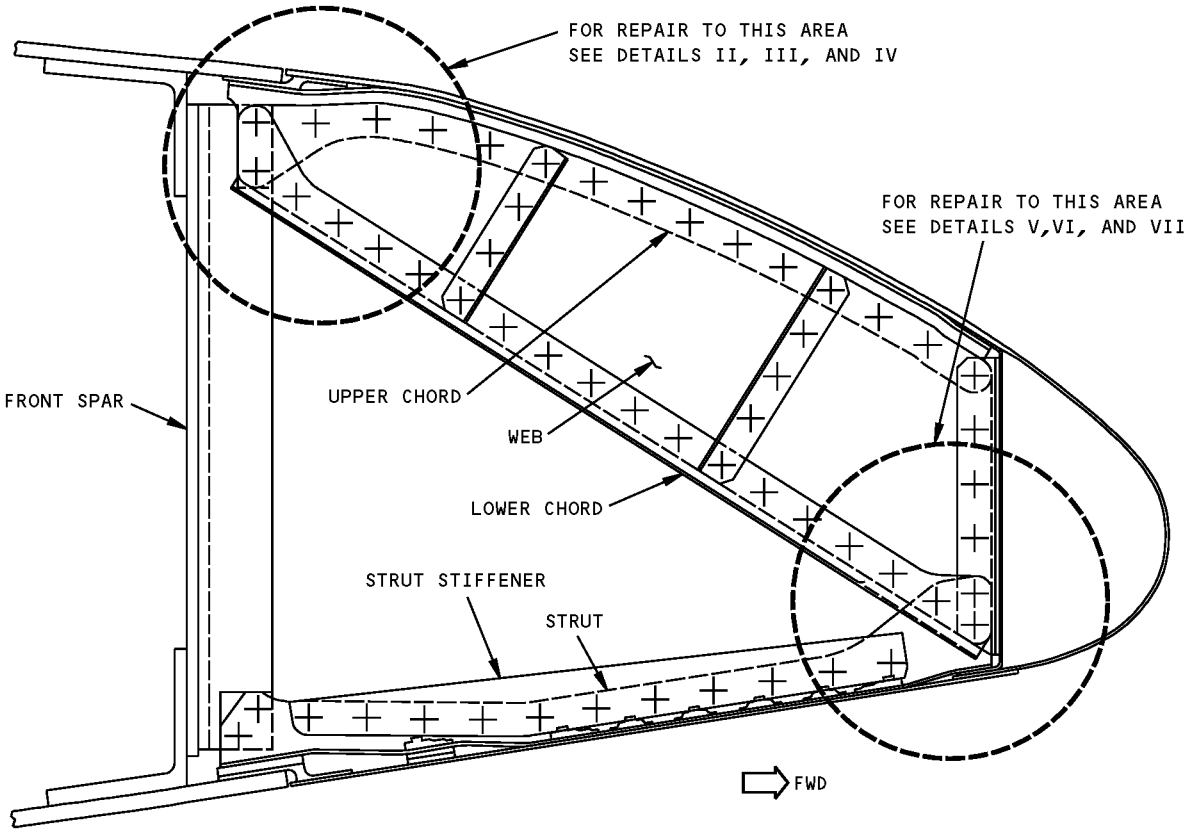
- INITIAL FASTENER LOCATION
- INITIAL FASTENER LOCATION. INSTALL A BACB30NX6K()X HEX DRIVE BOLT WITH A BACC30X6 COLLAR.
- INITIAL FASTENER LOCATION. INSTALL A BACB30NX6K HEX DRIVE BOLT WITH A BACC30X6 COLLAR.
- REPAIR FASTENER LOCATION. INSTALL A BACR15FT5KE RIVET.
- INITIAL FASTENER LOCATION. INSTALL A BACR15FT5KE RIVET.
- REPAIR FASTENER LOCATION. INSTALL A BACB30NX6V HEX DRIVE BOLT WITH A BACC30X6 COLLAR.

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	DOUBLER	1	0.063 7075-T6
2	SHIM	1	0.063 7075-T6
3	REPAIR WEB	1	0.032 7075-T6
4	SPLICE STRAP	1	0.032 7075-T6
5	DOUBLER	1	0.080 7075-T6

TABLE I

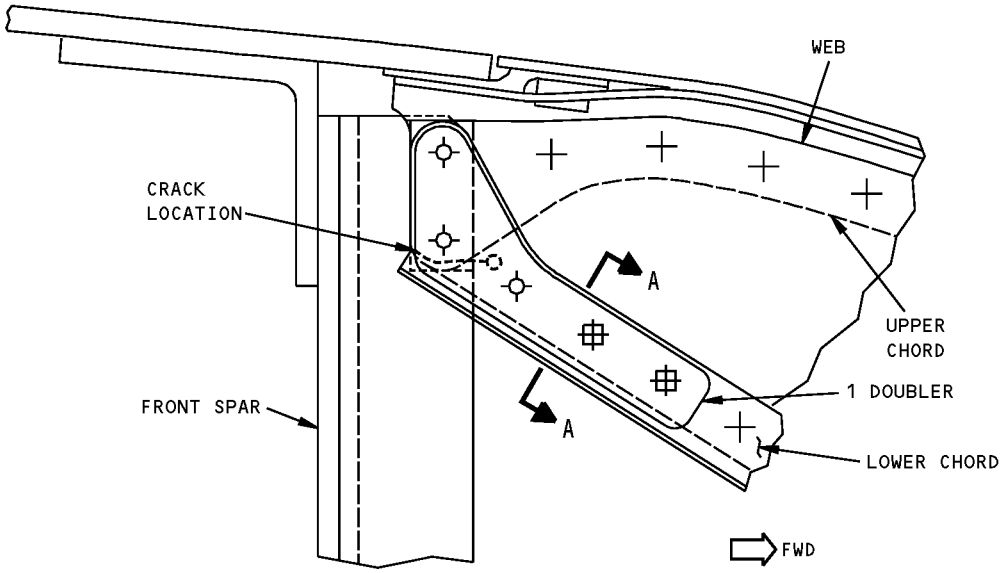
Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 1 of 8)

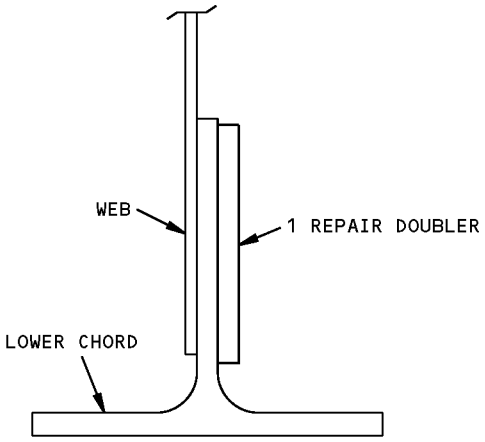




DETAIL I

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 2 of 8)

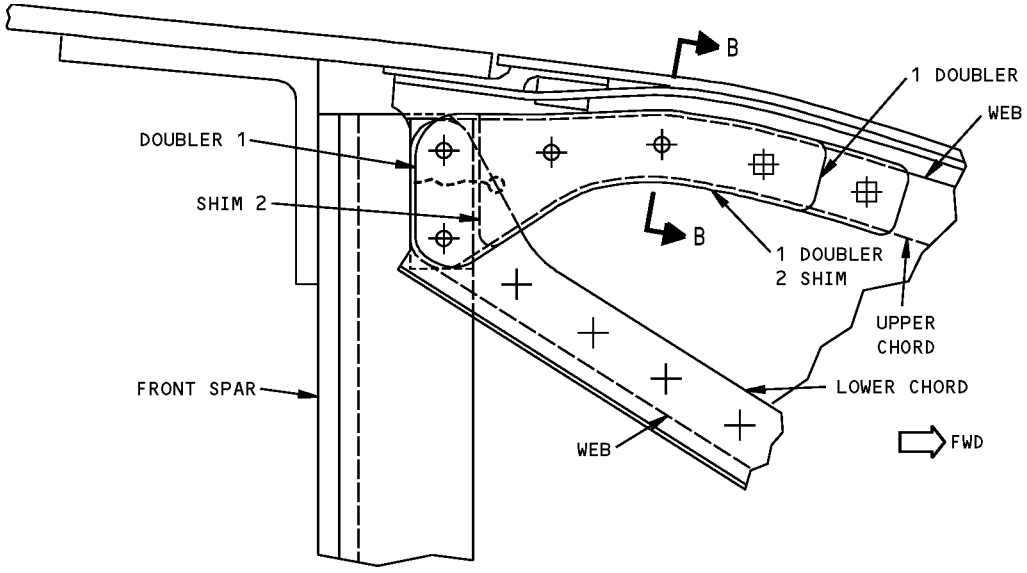


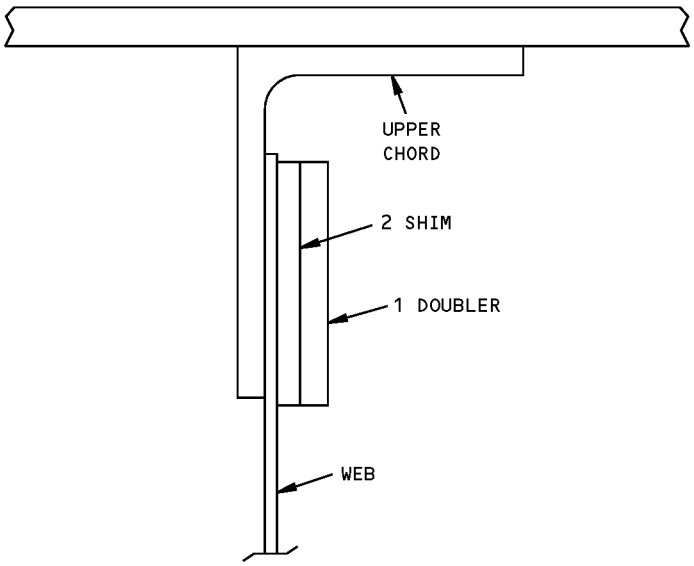


SECTION A–A

REPAIR FOR A CRACK IN THE LOWER CHORD AT THE FRONT SPAR CONNECTION
DETAIL II

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 3 of 8)

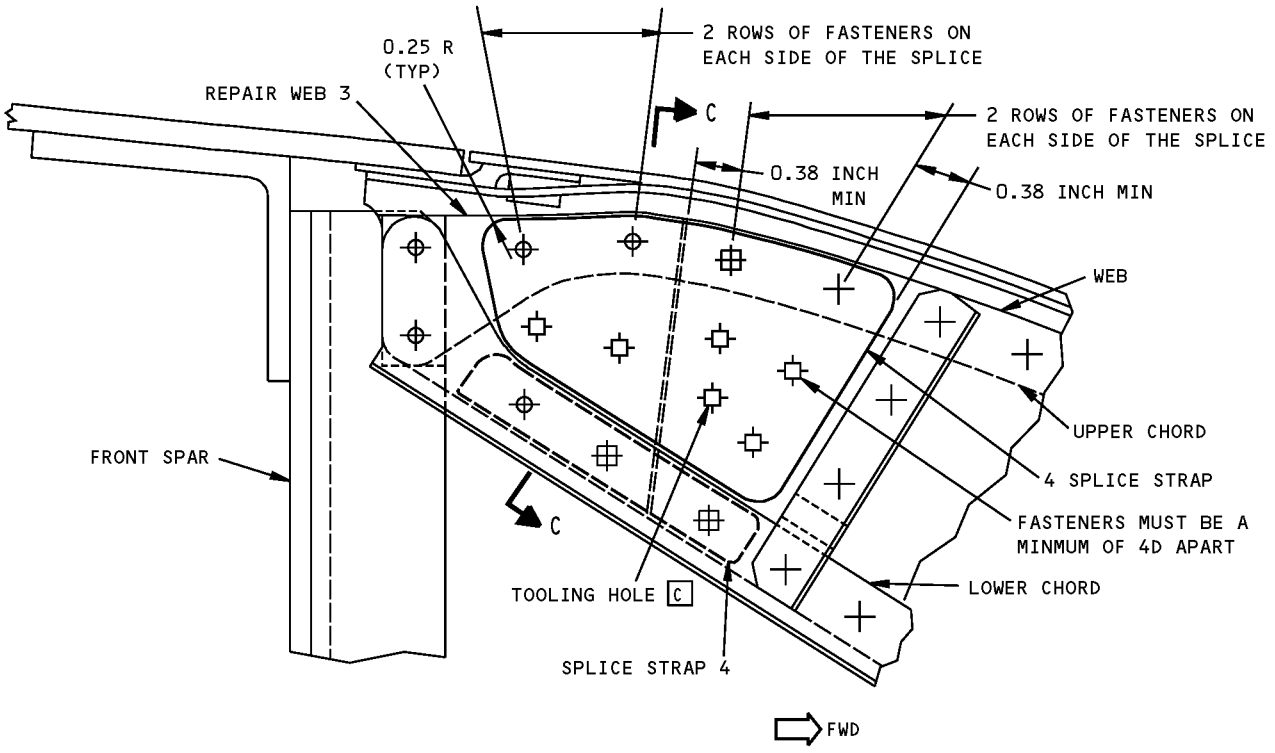


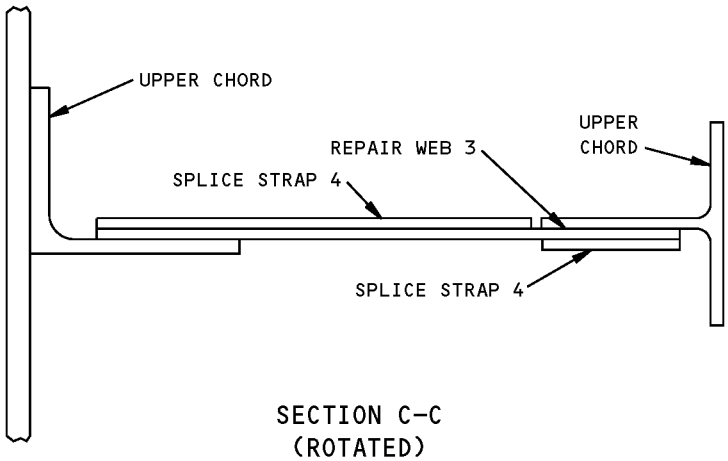


SECTION B-B

REPAIR FOR A CRACK IN THE UPPER CHORD AT THE FRONT SPAR CONNECTION
DETAIL III

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 4 of 8)

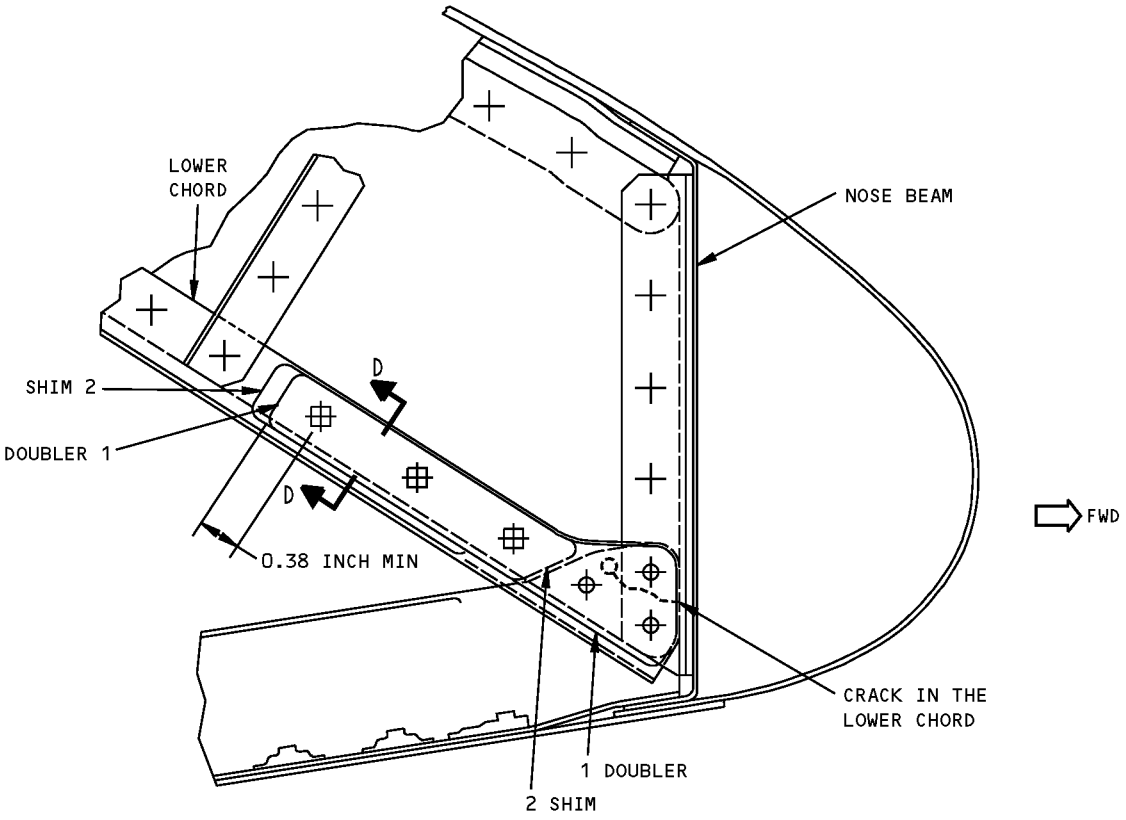


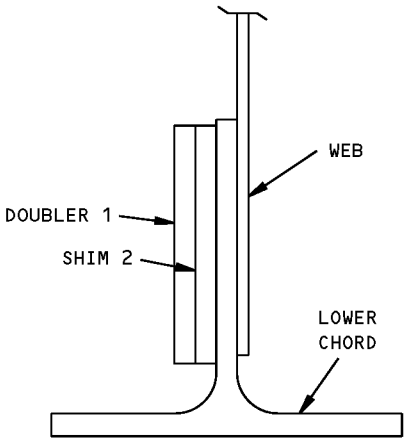


SECTION C–C
(ROTATED)

REPAIR FOR A CRACK IN THE RIB WEB AT THE FRONT SPAR CONNECTION
DETAIL IV

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 5 of 8)

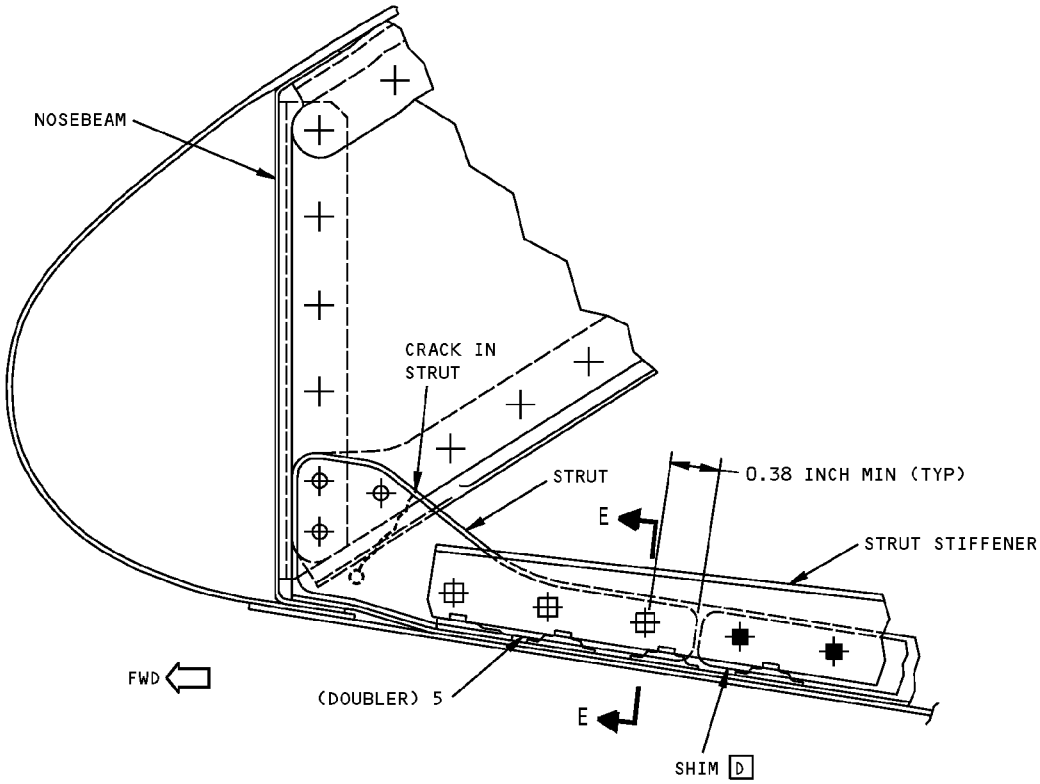


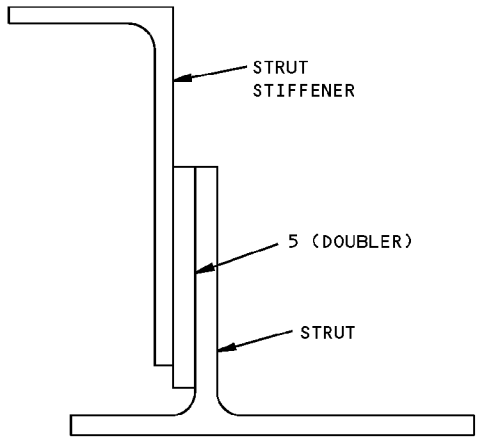


SECTION D–D

REPAIR FOR A CRACK IN THE LOWER CHORD AT THE NOSE BEAM CONNECTION
DETAIL V

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 6 of 8)

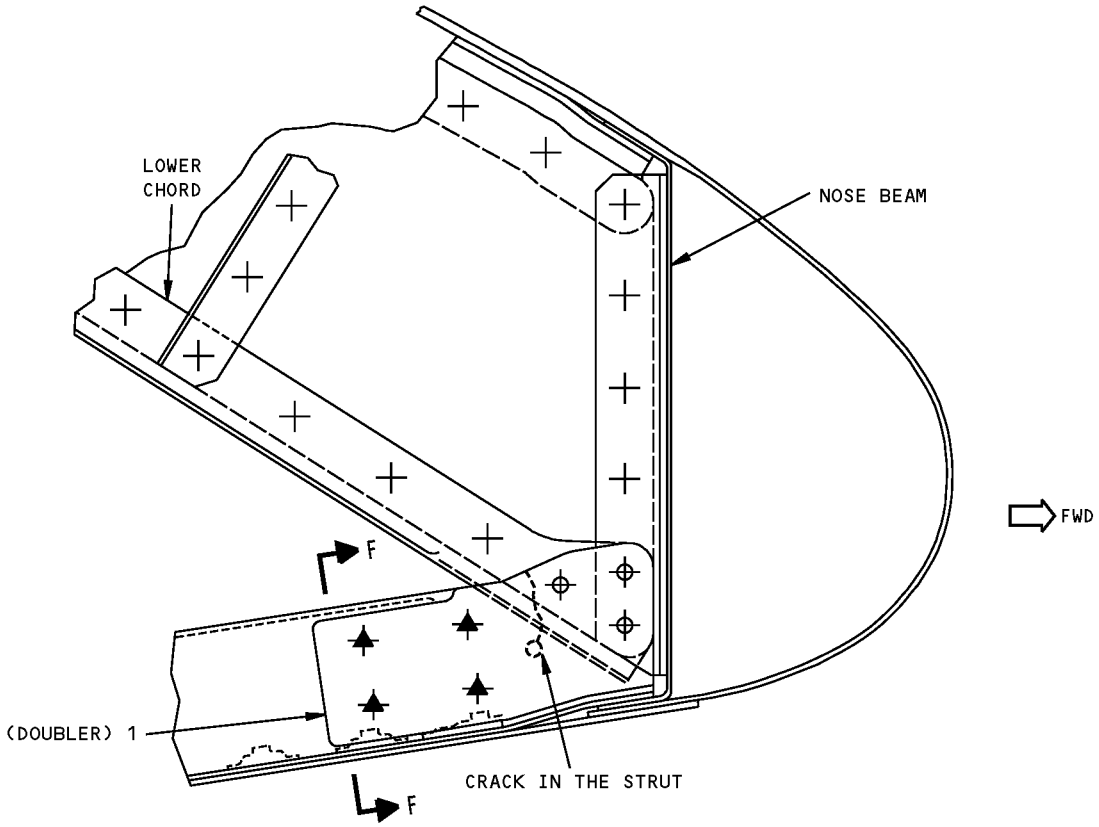


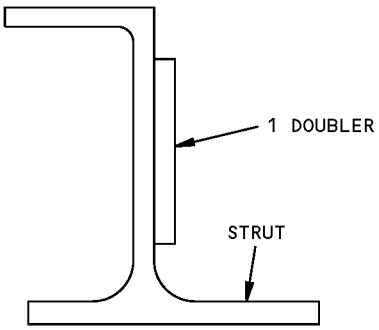


SECTION E-E

REPAIR FOR A CRACK IN THE STRUT CHORD AT THE NOSEBEAM CONNECTION AT OSS 664.580
DETAIL VI

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 7 of 8)



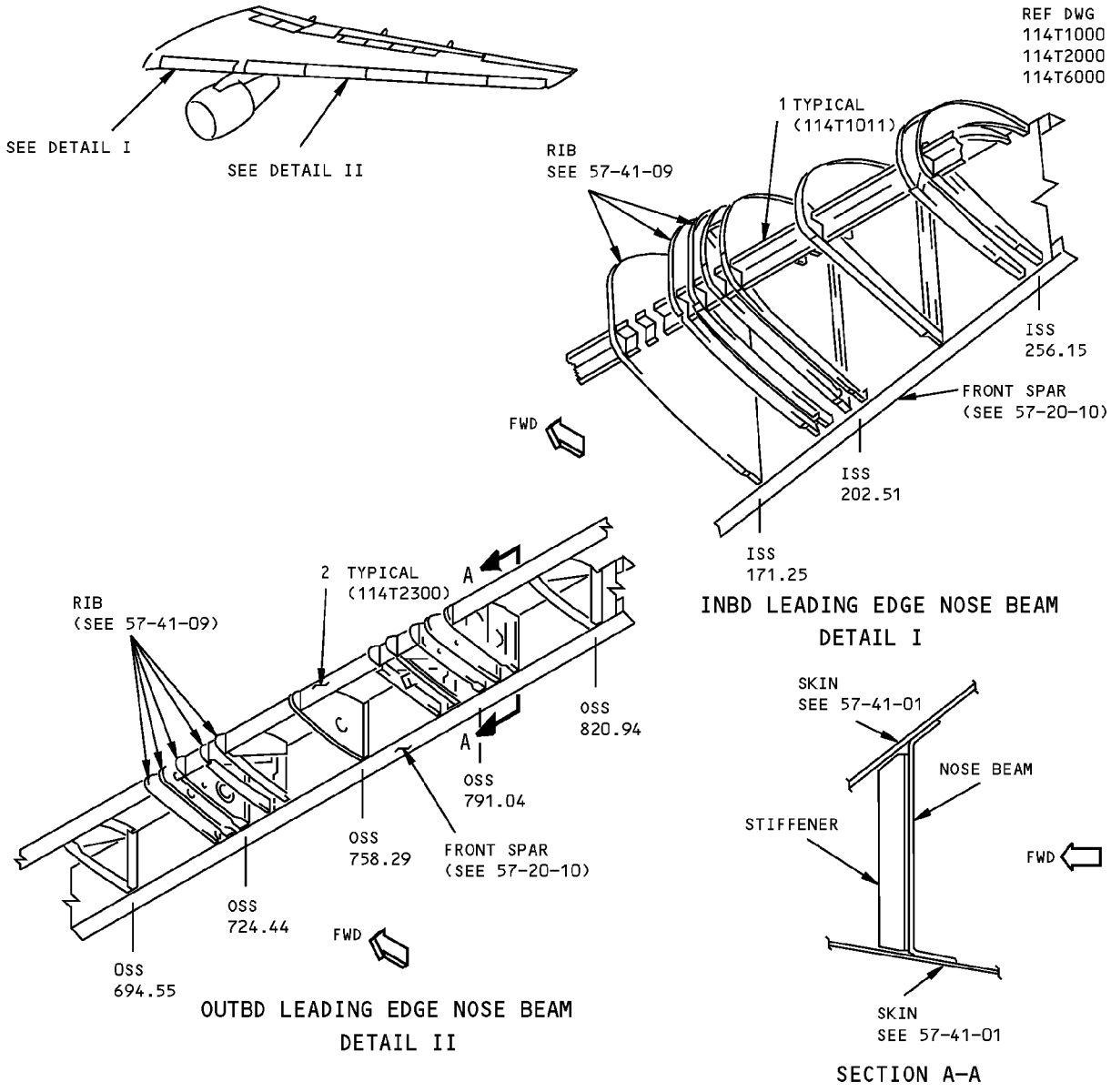


SECTION F-F

REPAIR FOR A CRACK IN THE LOWER CHORD AT THE NOSE BEAM CONNECTION
DETAIL VII

Wing FIxed Leading Edge Airload Rib Repair
Figure 201 (Sheet 8 of 8)

IDENTIFICATION 1 - WING FIXED LEADING EDGE NOSE BEAM

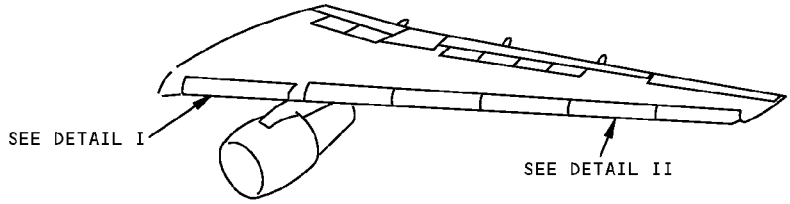


ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	INBD NOSE BEAM	0.050	CLAD 7075-T62	
2	OUTBD NOSE BEAM ASSY			
	BEAM	0.050	7075-T62	
	STIFFENER		AND10133-0601 OPTIONAL: AND10134-0702 2024-T3511	

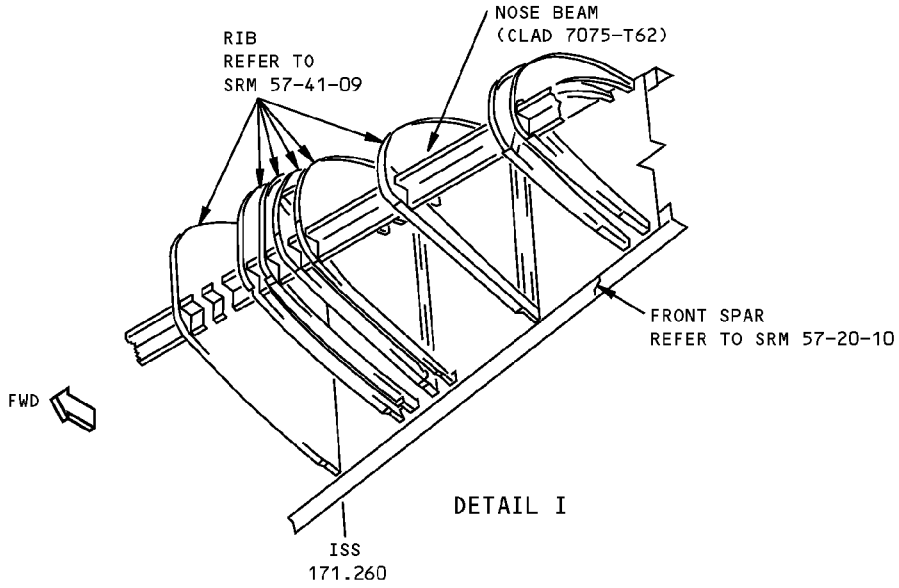
LIST OF MATERIALS FOR DETAILS I AND II

Wing Fixed Leading Edge Nose Beam Identification
Figure 1

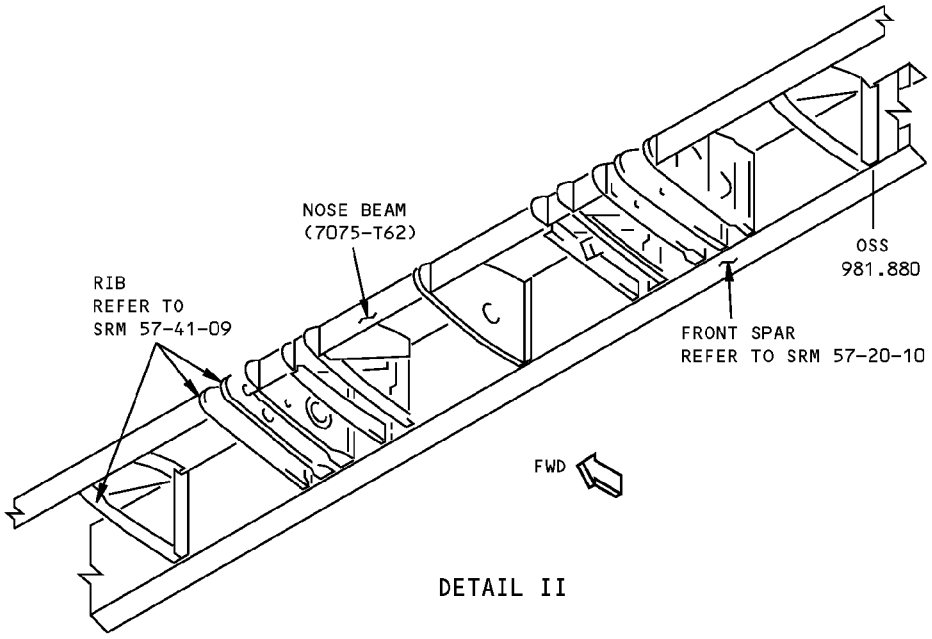
ALLOWABLE DAMAGE 1 - WING FIXED LEADING EDGE NOSE BEAM



WING LEADING EDGE



DETAIL I



DETAIL II

Wing Fixed Leading Edge Nose Beam Allowable Damage
Figure 101 (Sheet 1 of 4)

DESCRIPTION		CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
NOSE BEAM	WEB	NOT PERMITTED	[B]	SEE DETAIL V	[D]
	FLANGE	[A]	FOR EDGE DAMAGE SEE DETAIL III OR VI. FOR OTHERS [B]	NOT PERMITTED	NOT PERMITTED
	STIFFENER				SEE DETAIL VII [C]

NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL PARTS.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-21.

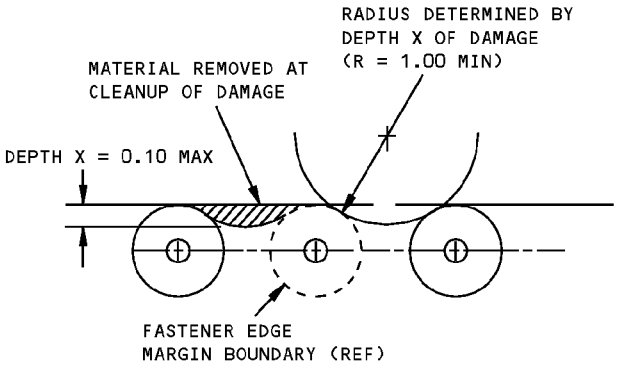
[A] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL III OR VI. ALL OTHER CRACKS MUST BE REPAIRED.

[B] NICK, GOUGE, OR SCRATCH DAMAGE, REMOVED AS GIVEN IN DETAIL IV IS PERMITTED.

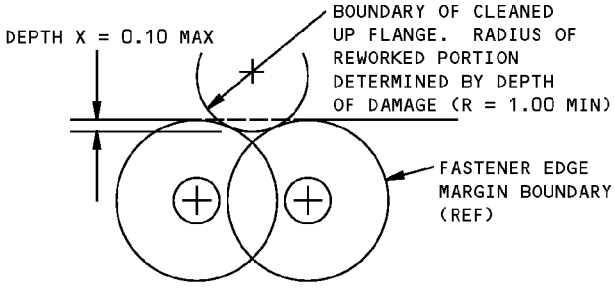
[C] NO HOLE DAMAGE IS PERMITTED IN THE STIFFENER FLANGE ATTACHED TO THE WEB. A MAXIMUM OF 4 HOLES IS PERMITTED IN THE FREE FLANGE, INCLUDING HOLES DRILLED DURING MANUFACTURE. FILL THE HOLE DAMAGE WITH A PROTRUDING HEAD 2117-T3 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT.

[D] HOLES UP TO 0.25 (6 mm) INCH IN DIAMETER BUT NOT CLOSER THAN 1.00 INCH (25.4 mm) TO ANY ADJACENT HOLE OR EDGE ARE PERMITTED. FILL HOLES WITH 2117-T3 RIVETS (EDGE DISTANCE = 1.50 INCHES (38 mm) MINIMUM) INSTALLLED WET WITH BMS 5-95 SEALANT.

Wing Fixed Leading Edge Nose Beam Allowable Damage
Figure 101 (Sheet 2 of 4)

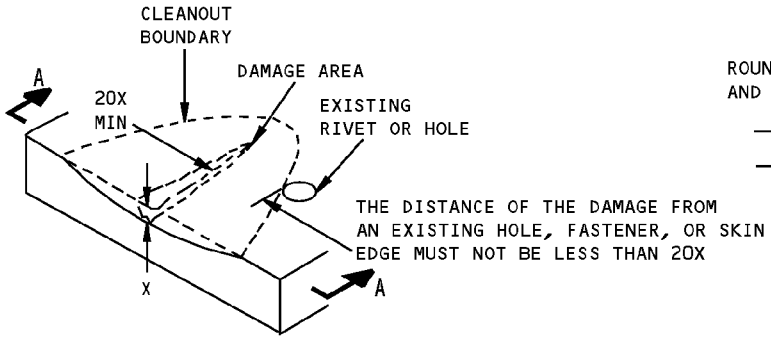


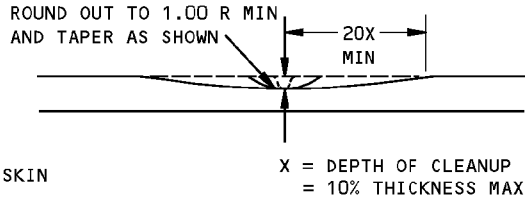
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

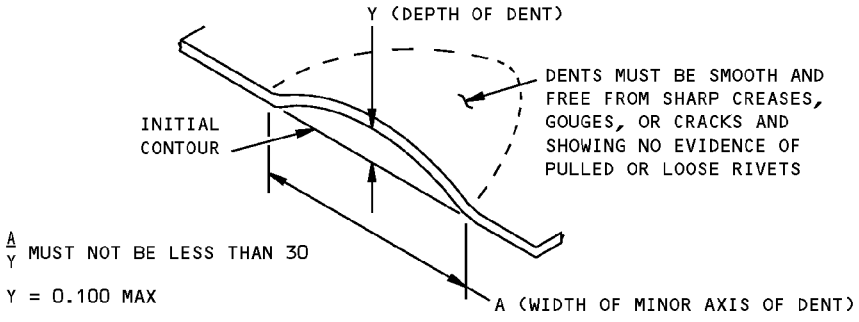
DETAIL III





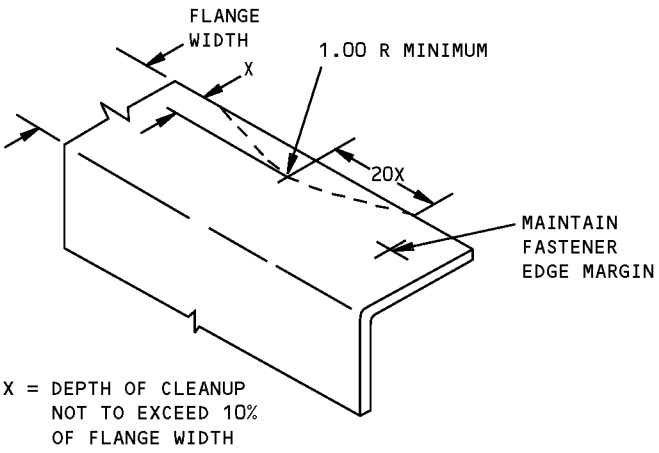
SECTION A–A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL IV



DETAIL V

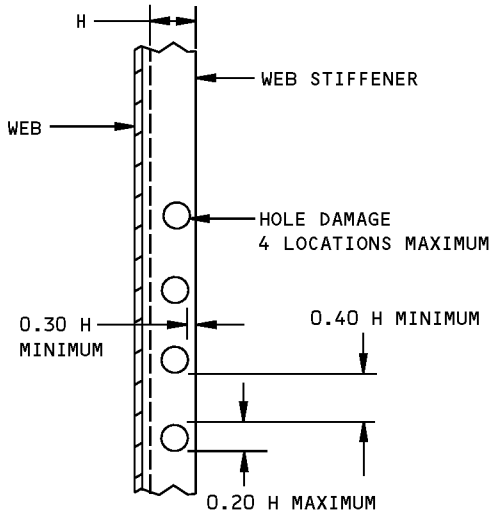
Wing Fixed Leading Edge Nose Beam Allowable Damage
Figure 101 (Sheet 3 of 4)



REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL VI

NOTE: HOLE DAMAGE IS NOT PERMITTED IN THE STIFFENER FLANGE FASTENED TO THE WEB. HOLE DAMAGE IS PERMITTED IN A MAXIMUM OF 4 LOCATIONS. FILL ALL HOLES WITH 2117-T3 OR T4 RIVETS INSTALLED WET WITH BMS 5-95 SEALANT.

H = WIDTH OF STIFFENER FLANGE



ALLOWABLE DAMAGE LIMITS FOR HOLES IN WEB STIFFENERS
DETAIL VII

Wing Fixed Leading Edge Nose Beam Allowable Damage
Figure 101 (Sheet 4 of 4)

REPAIR 1 - WING FIXED LEADING EDGE NOSEBEAM WEB

REPAIR INSTRUCTIONS

1. Get access to the damaged area.
2. Remove the gang channels near the repair. Keep the gang channels to install again.
3. Stop drill the ends of the crack. Refer to 51-10-00 for inspection and stop drill instructions.
4. Make the repair parts. See Table I.
5. Assemble the repair parts and drill the fastener holes.
6. Remove all nicks, scratches, gouges, burrs and sharp edges from the repair parts and the repair area.
7. Apply a chemical conversion coating to the repair parts and the bare surfaces of the repair area. Refer to 51-20-01.
8. Apply two layers of BMS 10-11, Type I primer to the repair parts and the bare surfaces of the repair area. Refer to 51-21 of the Maintenance Manual.
9. Install the repair parts with BMS 5-95 sealant between the faying surfaces.
10. Apply finish to the repair area. Refer to 51-21 of the Maintenance Manual.

NOTES

- WHEN YOU USE THIS REPAIR, REFER TO:
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC AND NONMETALLIC MATERIALS
  - 51-20-05 FOR REPAIR SEALING
  - 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES, AND EDGE MARGINS
  - 51-21 OF THE MAINTENANCE MANUAL FOR INTERIOR AND EXTERIOR FINISHES.

[A] INSTALL A MINIMUM OF 5 FASTENERS AFTER EACH END OF THE CRACK.

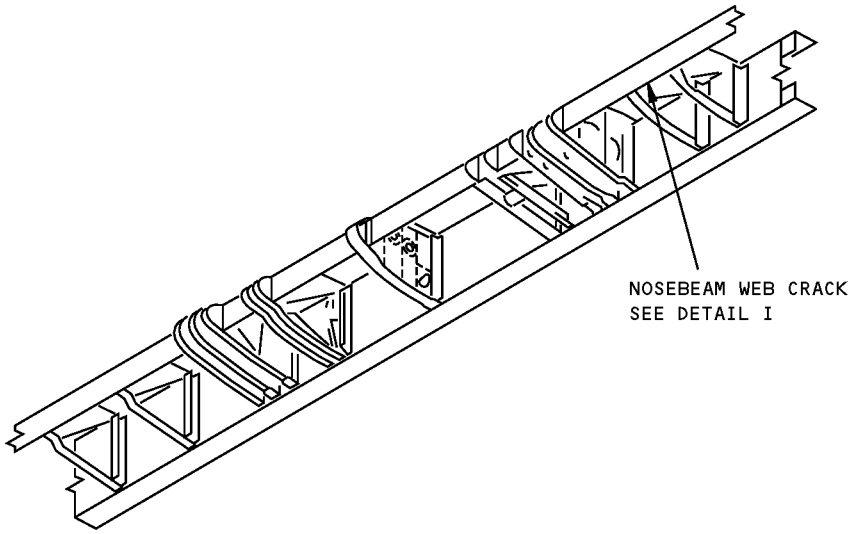
FASTENER SYMBOLS

- INITIAL FASTENER LOCATION
- REPAIR FASTENER LOCATION. INSTALL A BACR15FT5KE OR BACR15FR RIVET.
- INITIAL FASTENER LOCATION. INSTALL A BACR15FT6KE RIVET.
- INITIAL FASTENER LOCATION. INSTALL A BACR15CE6D RIVET.
- GANG CHANNEL NUT LOCATION.

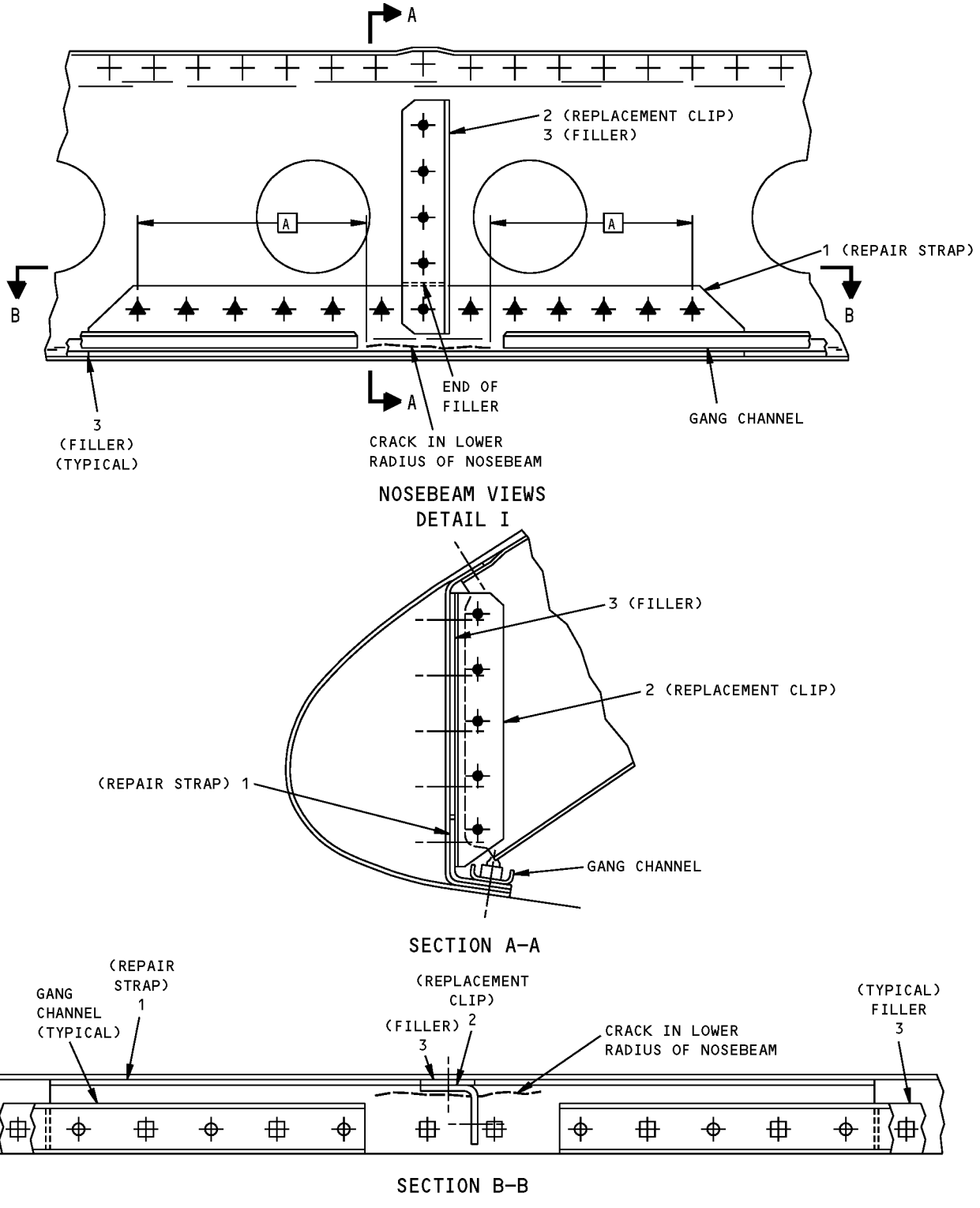
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	REPAIR STRAP	1	0.063 7075-T62
2	REPLACEMENT CLIP	1	BAC1503-1511 7075-T6511
3	FILLER	AS REQ'D	0.063 7075-T6

TABLE I

Wing Fixed Leading Edge Nosebeam Web Repair
Figure 201 (Sheet 1 of 3)



Wing Fixed Leading Edge Nosebeam Web Repair
Figure 201 (Sheet 2 of 3)



Wing Fixed Leading Edge Nosebeam Web Repair
Figure 201 (Sheet 3 of 3)

REPAIR 2 - WING FIXED LEADING EDGE NOSE BEAM WEB - OSS 664.50 AND OSS 694.550

APPLICABILITY
THIS REPAIR IS APPLICABLE TO WING FIXED LEADING EDGE NOSE BEAM CRACKS AT STATIONS OSS 664.50 AND OSS 694.550

REPAIR INSTRUCTIONS

1. Get access to the damaged area.
2. Cut and remove the gang channels as necessary and discard. Remove the clip near the repair and discard. See Detail I.
3. Remove and keep the hole reinforcing doubler to install later. Remove other structures if necessary.
4. Stop drill the ends of the crack. Refer to SRM 51-10-00 for inspection and stop drilling procedures. Leave hole open.
5. Make the repair parts. See Table I.
6. Assemble the repair parts and drill the fastener holes.
7. Disassemble the repair parts.
8. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts, the nose beam web and the doubler.
9. Apply a chemical conversion coating to the repair parts and to the bare surfaces of the nose beam web and the doubler. Refer to SRM 51-20-01.
10. Apply two layers of BMS 10-11, Type I primer to the repair parts and to the bare surfaces of the nose beam web and doubler. Refer to SOPM 20-41-02.
11. Install the repair parts with BMS 5-95 sealant between the mating surfaces.
12. Install the fasteners. Fasteners that are not made of aluminum must be installed wet with BMS 5-95 sealant.

NOTES

- D = FASTENER DIAMETER
- SIZE PARTS AS NECESSARY TO KEEP EXISTING FASTENER SPACING AND A 2D EDGE MARGIN
- WHEN YOU USE THIS REPAIR REFER TO:
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SRM 51-10-00 FOR INSPECTION AND STOP DRILLING PROCEDURES
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC MATERIALS
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLES SIZES AND EDGE MARGINS.

[A] INSTALL A MINIMUM OF 5 FASTENERS ON EACH SIDE OF THE CRACK

[B] USE BAC1503-1511, 7075-T6511 ANGLE EXTRUSION FOR OSS 664.580. USE BAC1505-100809, 7075-T6511 TEE EXTRUSION FOR OSS 694.550.

[C] LOCATE AND INSTALL BACN10KE3 OR EQUIVALENT NUTPLATES ON THE STRAPS AS NECESSARY.

FASTENER SYMBOLS

REFERENCE FASTENER LOCATION.

INITIAL FASTENER LOCATION. INSTALL THE SAME TYPE AND DIAMETER FASTENER AS THE INITIAL FASTENER.

REPAIR FASTENER LOCATION. INSTALL A BACR15FT5KE() RIVET. AS AN ALTERNATIVE, YOU CAN USE A BACR15FR5E() BLIND RIVET. [A]

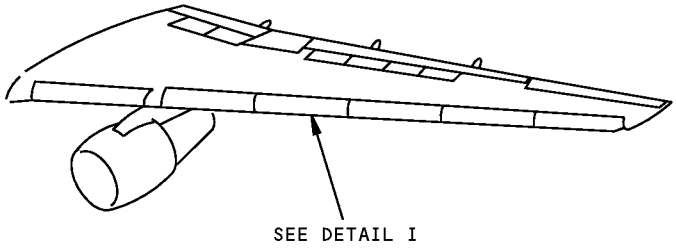
INITIAL FASTENER LOCATION. INSTALL A BACR15CE6D() RIVET. MAINTAIN 2D EDGE MARGIN, 6D TO 8D SPACING.

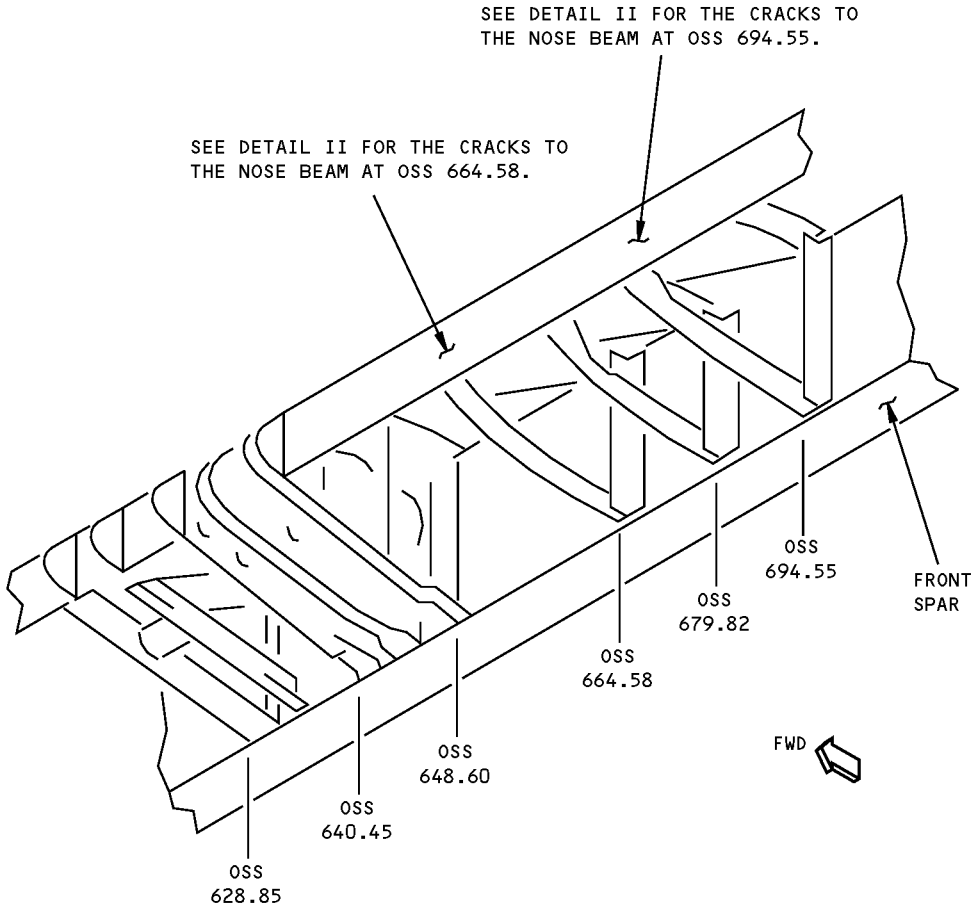
GANG CHANNEL NUT LOCATION. INSTALL A BACN10KE3 OR EQUIVALENT NUTPLATE ON THE PART 2 STRAP AS NECESSARY.

REPAIR MATERIAL			
PART		QUANTITY	MATERIAL
1	DOUBLER	1	0.063 7075-T6 [A]
2	STRAP	2	0.063 7075-T6 [C]
3	CLIP	1	[B]
4	FILLER	1	0.063 7075-T6

TABLE I

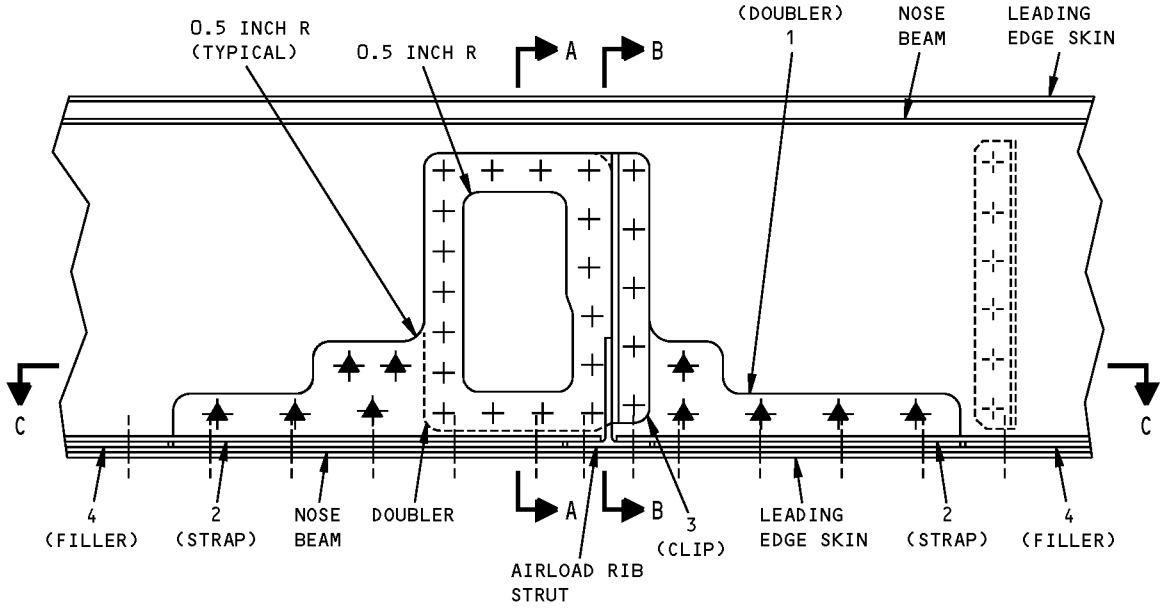
Wing Fixed Leading Edge Nose Beam Web Repair - OSS 664.50 and OSS 694.550
Figure 201 (Sheet 1 of 3)



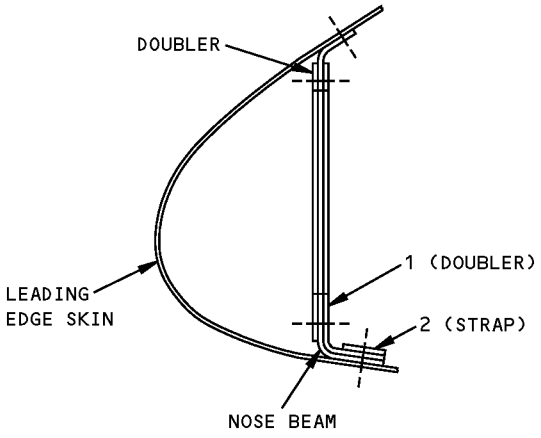


DETAIL I

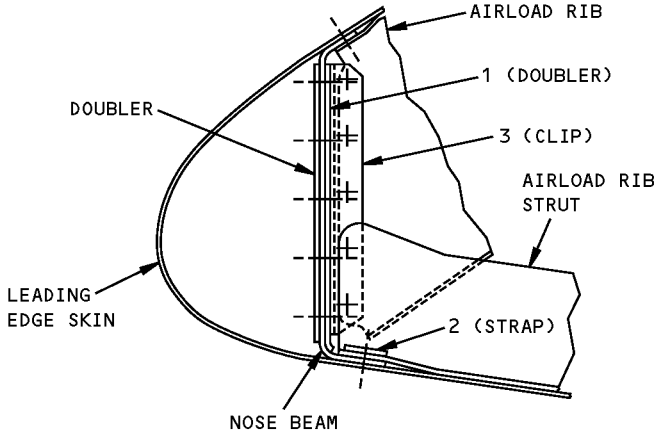
Wing Fixed Leading Edge Nose Beam Web Repair - OSS 664.50 and OSS 694.550
Figure 201 (Sheet 2 of 3)



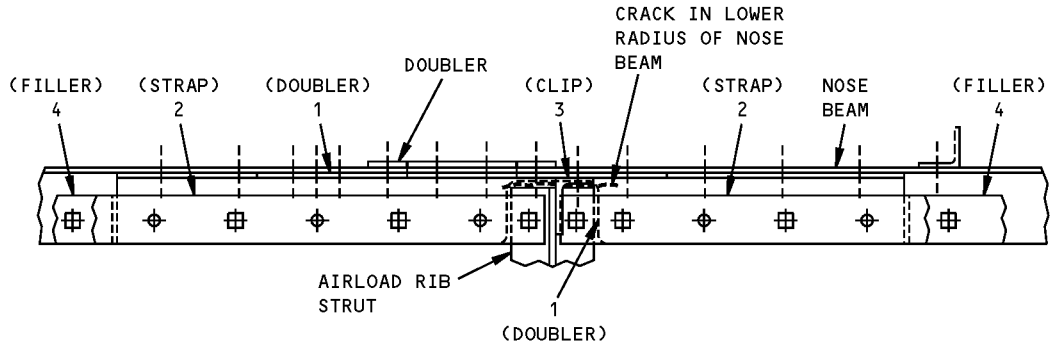
DETAIL II



SECTION A–A



SECTION B–B



SECTION C–C

Wing Fixed Leading Edge Nose Beam Web Repair - OSS 664.50 and OSS 694.550
Figure 201 (Sheet 3 of 3)

REPAIR 3 - WING FIXED LEADING EDGE NOSE BEAM WEB - OSS 679.82

APPLICABILITY
THIS REPAIR IS APPLICABLE TO WING FIXED LEADING EDGE NOSE BEAM CRACK AT STATION OSS 679.82

REPAIR INSTRUCTIONS

NOTE: - See Detail I for damage where there is not a fueling station door.

- See Detail II for damage at a station door.

1. Get access to the damaged area.
2. Remove the parts near the repair area. Keep the parts to reinstall later.
3. Cut and remove the crack damage.

   NOTE: Keep a minimum of 0.25 inch (6.4 mm) radius at the corners of the trim and keep the roughness of the cut surface to 125 microinches Ra or better.
4. Do a penetrant inspection to make sure all cracks have been removed. Refer to SOPM 20-20-02.
5. Make the repair parts. See Table I.
6. Assemble the repair parts and drill the fastener holes.
7. Disassemble the repair parts.
8. Remove the nick, scratches, gouges, burrs and sharp edges from the part 1 (strap) and the cut edge of the nose beam.
9. Apply a chemical conversion coating to the repair parts and to the bare surfaces of the repair area. Refer to SRM 51-20-01.
10. Apply two layers of BMS 10-11, Type I primer to the repair parts and the bare surfaces of the repair area. Refer to SOPM 20-41-02.
11. Install the repair parts with BMS 5-95, Type II sealant between the faying surface. Fill all gaps and cavities between parts with BMS 5-95 sealant.
12. Apply BMS 10-86, Type I, Grade D Teflon enamel to the lower surface of the composite leading edge in the area where the leading edge slat comes in contact with the outboard leading edge skin. Refer to AMM 51-21.

NOTES

- WHEN YOU USE THIS REPAIR, REFER TO:
  - AMM 51-21 FOR INTERIOR AND EXTERIOR FINISHES
  - SOPM 20-20-02 FOR DYE PENETRANT INSPECTION PROCEDURES
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC AND NONMETALLIC REPAIR PARTS
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

[A] INSTALL A MINIMUM OF 5 FASTENERS AT EACH END OF THE TRIM OUT AREA.

[B] A MINIMUM OF 3 FASTENERS MUST BE USED ON EACH TAPERED FILLER

[C] EXTEND THE STRAP TO THE ENDS OF THE GANG CHANNELS.

[D] USED ONLY ON THE RIGHT WING FIXED LEADING EDGE REPAIR.

FASTENER SYMBOLS

REFERENCE FASTENER LOCATION.

REPAIR FASTENER LOCATION. INSTALL A BACR15FT5KE OR A BACR15FR5E RIVET.

INITIAL FASTENER LOCATION. INSTALL A BACR15FT6KE RIVET.

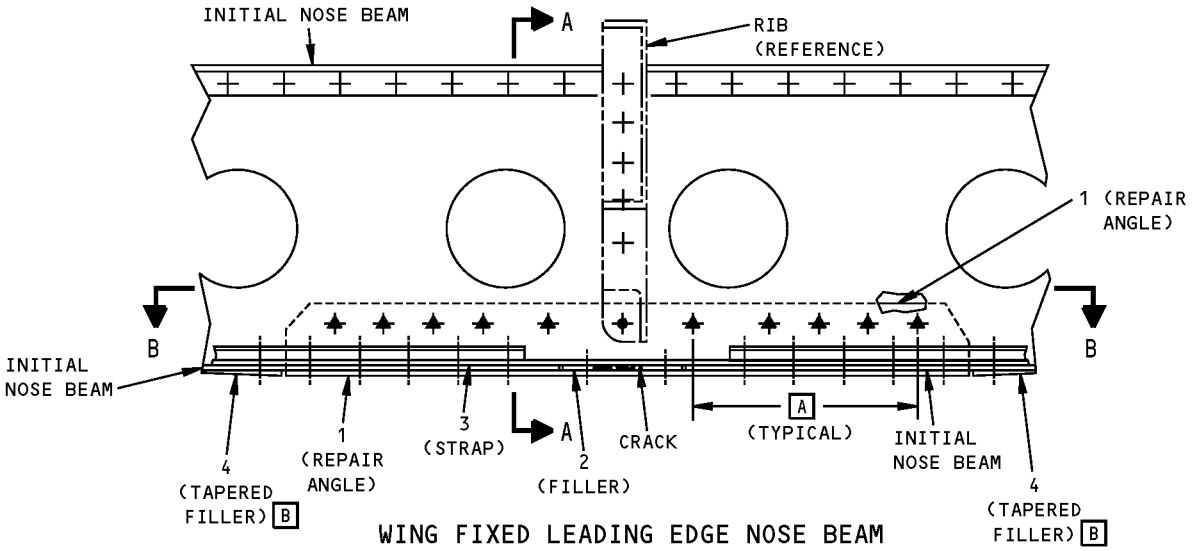
INTITIAL FASTENER LOCATION. INSTALL A BACR15CE6D RIVET

GANG CHANNEL NUT LOCATION

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	REPAIR ANGLE	1	0.063 INCH (1.6 mm) 7075-T62
2	FILLER	1	0.050 INCH (1.3 mm) 7075-T62
3	STRAP [D]	1	0.063 INCH (1.6 mm) 7075-T6
4	TAPERED FILLER	1	0.063 INCH (1.6 mm) 7075-T62

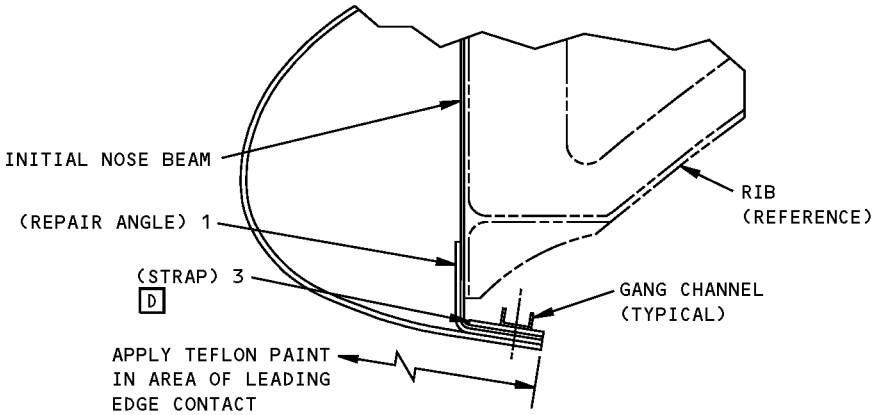
TABLE I

Wing Fixed Leading Edge Nose Beam Web Repair - OSS 679.82
Figure 201 (Sheet 1 of 3)

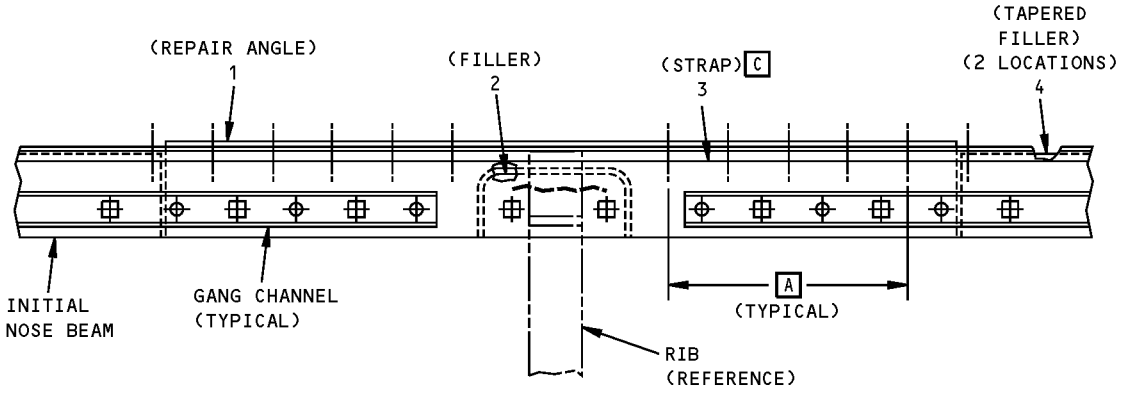


WING FIXED LEADING EDGE NOSE BEAM

VIEW LOOKING FORWARD
DETAIL I

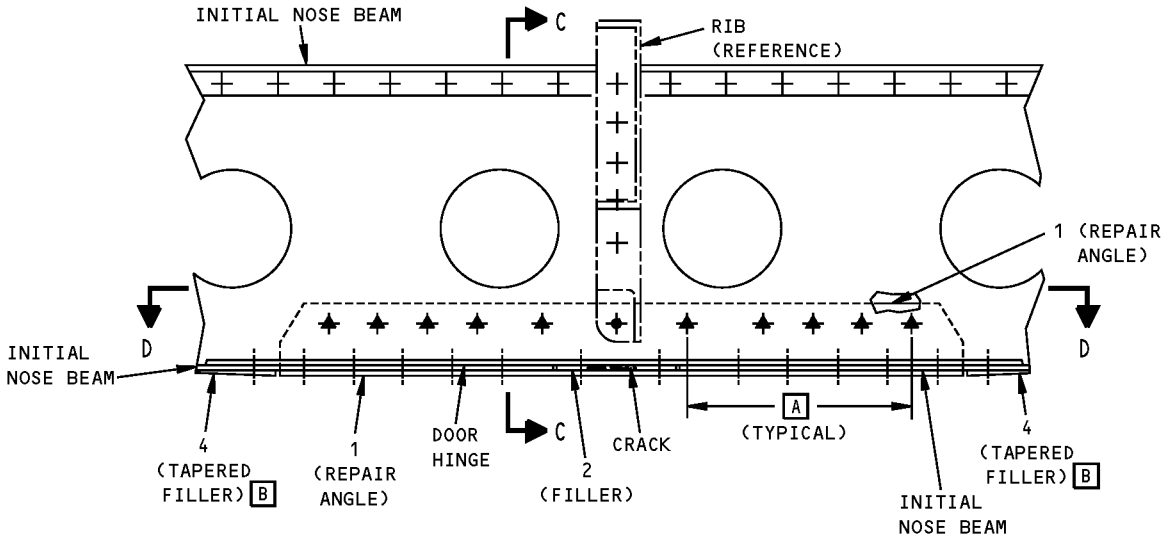


SECTION A–A



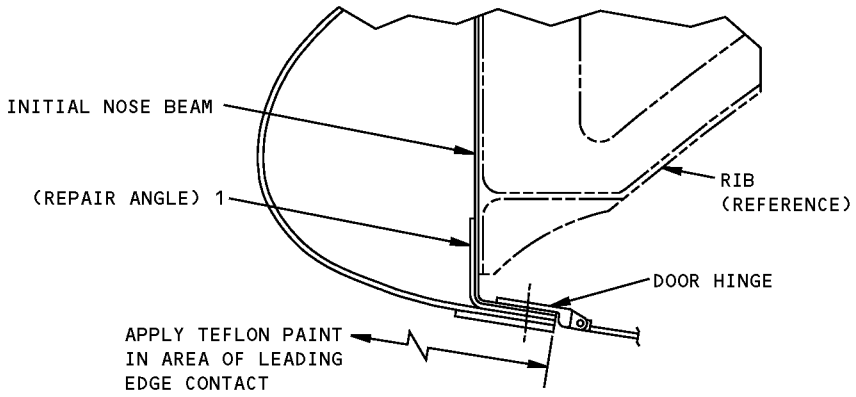
SECTION B–B

Wing Fixed Leading Edge Nose Beam Web Repair - OSS 679.82
Figure 201 (Sheet 2 of 3)

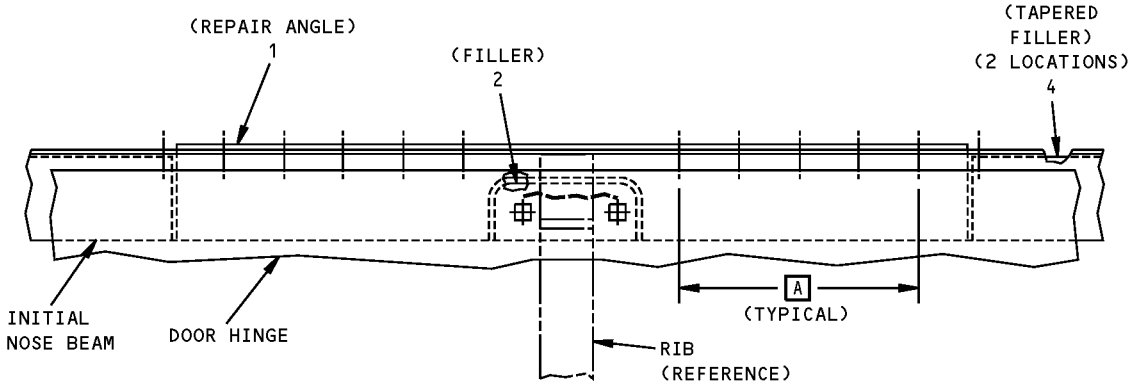


WING FIXED LEADING EDGE NOSE BEAM AT A FUELING STATION DOOR LOCATION

VIEW LOOKING FORWARD
DETAIL II



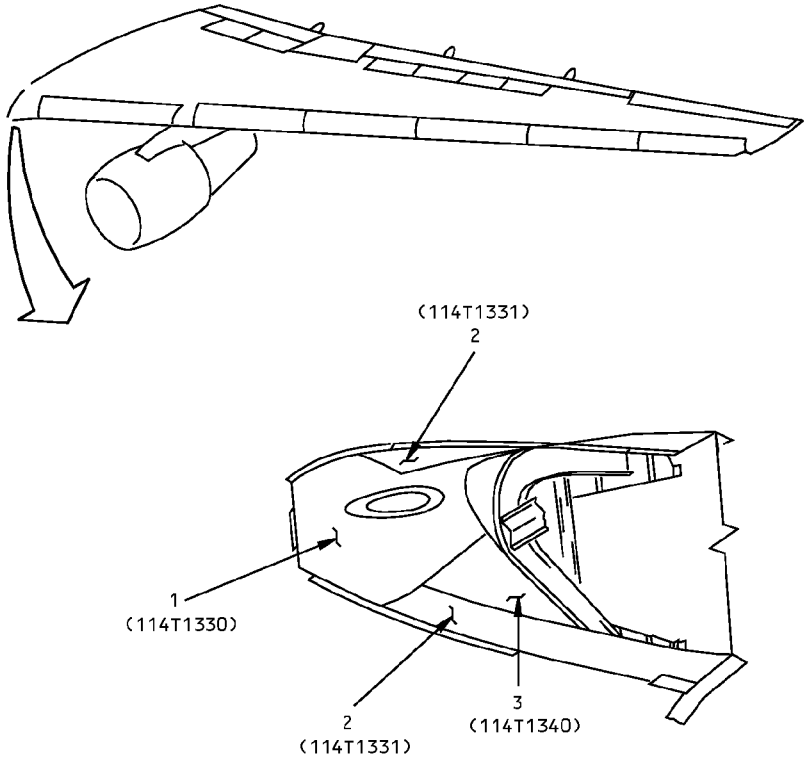
SECTION C–C



SECTION D–D

Wing Fixed Leading Edge Nose Beam Web Repair - OSS 679.82
Figure 201 (Sheet 3 of 3)

IDENTIFICATION 1 - WING STRAKELET SKIN

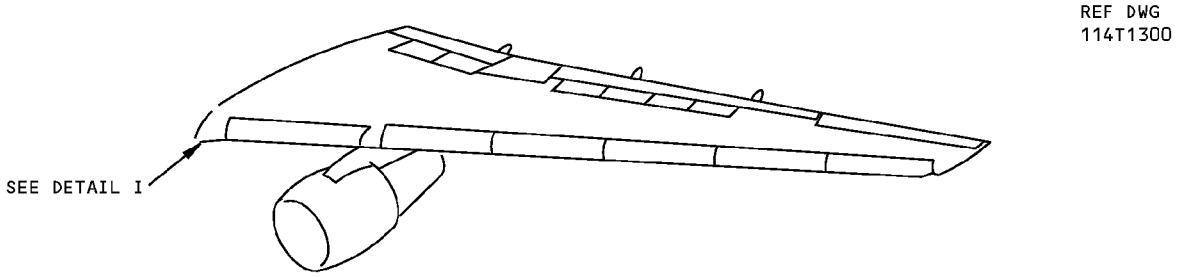


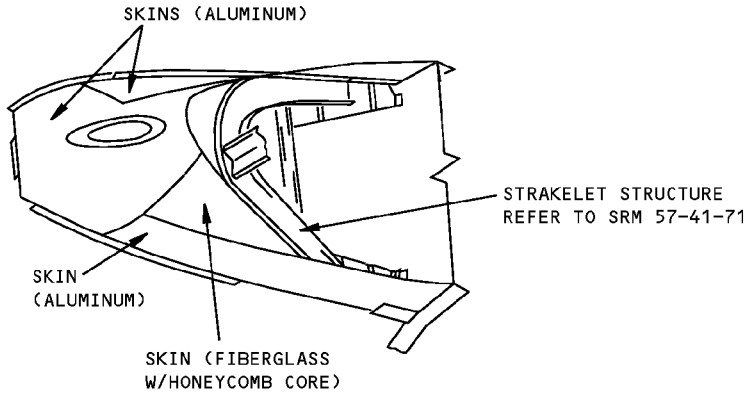
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN	0.063	2024-T42	
2	SKIN	0.063	CLAD 7075-T62	
3	PANEL ASSY			
	SKIN		FIBERGLASS/EPOXY FABRIC PER BMS 8-139, TYPE 120 (3 PLIES EACH SIDE)	
	CORE	0.375	NONMETALLIC HONEYCOMB PER BMS 8-124, CLASS I, TYPE I, GRADE 4.0	

LIST OF MATERIALS

Wing Strakelet Skin Identification
Figure 1

ALLOWABLE DAMAGE 1 - WING STRAKELET SKIN





DETAIL I

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
SKIN ALUMINUM	B	C	SEE DETAIL V	D	——
FIBERGLASS W/HONEYCOMB CORE	E	F	G	H	I

Wing Strakelet Skin Allowable Damage
Figure 101 (Sheet 1 of 3)

NOTES

- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.

[A] PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT AT AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS ANY PEELING OR DETERIORATION OF TAPE. REPAIR DAMAGE AS GIVEN IN SRM 51-70 NO LATER THAN THE NEXT "C" CHECK.

[B] 1.00 INCH IS THE MAXIMUM LENGTH A CRACK IS PERMITTED, IF THE CRACK IS A MINIMUM OF 3.00 INCHES FROM A PANEL EDGE OR AN ADJACENT CRACK. DRILL 0.19 INCH DIAMETER STOP HOLES AT ENDS OF CRACK. REMOVE THE EDGE CRACKS AS GIVEN IN DETAILS II AND III.

[C] REMOVE DAMAGE AS GIVEN IN DETAILS II, III, IV, AND VI.

[D] CLEAN OUT DAMAGE UP TO 0.25 INCH DIAMETER MAXIMUM AND NOT CLOSER THAN 0.75 INCHES TO A FASTENER HOLE, MATERIAL EDGE, OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

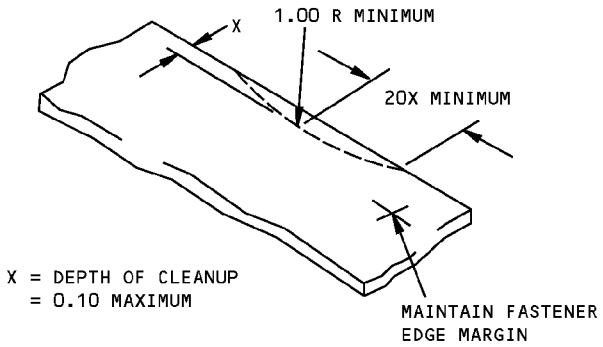
[E] 2.0 INCHES MAXIMUM LENGTH PER SQUARE FOOT OF AREA IS PERMITTED IN THE HONEYCOMB AREA. IT MUST BE A MINIMUM OF 6.0 INCHES FROM ANY OTHER CRACK. CLEAN UP EDGE CRACKS AS GIVEN IN DETAILS II AND III. CRACKS THROUGH CONSECUTIVE FASTENERS OR THROUGH THE PANEL EDGEBAND ARE PERMITTED IF THE DAMAGE DOES NOT EXCEED 10% OF THE EDGEBAND LENGTH (EACH SIDE). [A]

[F] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS II AND III. [A]

[G] 1.5 INCHES MAXIMUM DIAMETER IS PERMITTED IN HONEYCOMB AREA ONLY IF THERE IS NO DELAMINATION OR FIBER DAMAGE. ONE DENT PER SQUARE FOOT OF AREA IS PERMITTED. IT MUST BE A MINIMUM OF 6.0 INCHES FROM ANY OTHER DENT. DENTS GENERALLY INDICATE FIBER DAMAGE OR DELAMINATION. SEE [H] OR [I] IF THERE IS FIBER DAMAGE OR DELAMINATION.

[H] 1.0 INCH MAXIMUM DIAMETER IS PERMITTED IN THE HONEYCOMB AREA ONLY IF THE DAMAGE IS A MINIMUM OF 2.5 D FROM OTHER DAMAGE, THE NEAREST HOLE, OR THE MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO THE SURFACE CONTOUR. [A]

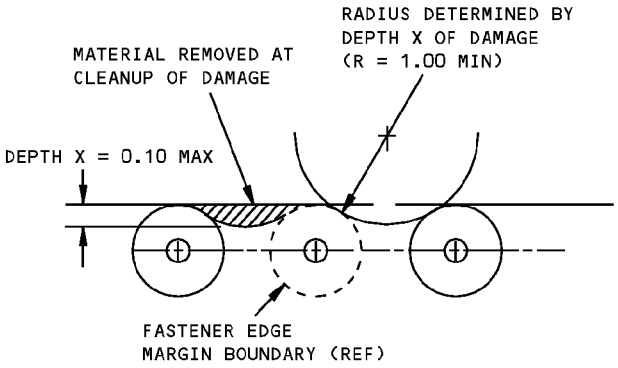
[I] 1.0 INCH MAXIMUM DIAMETER IS PERMITTED IN THE HONEYCOMB AREA. A MAXIMUM OF 0.10 INCH DELAMINATION FROM THE EDGE IS PERMITTED. REPAIR DELAMINATION IN THE HONEYCOMB AREA AS GIVEN IN SRM 51-70 NO LATER THAN THE NEXT "C" CHECK. PROTECT EDGE DAMAGE AS GIVEN IN [A].



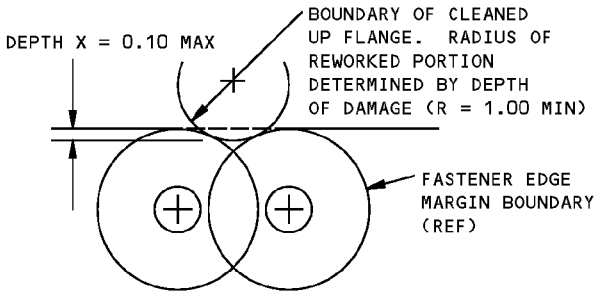
REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE

DETAIL II

Wing Strakelet Skin Allowable Damage
Figure 101 (Sheet 2 of 3)

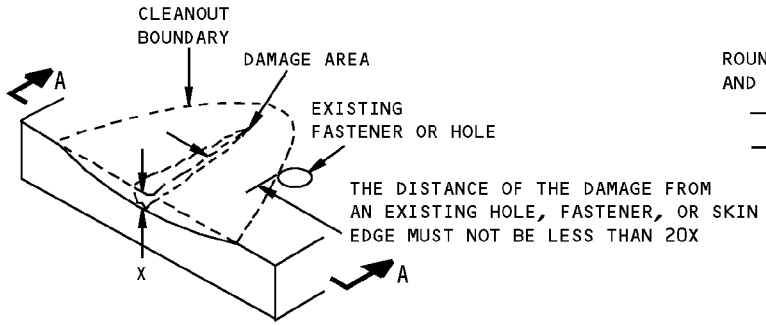


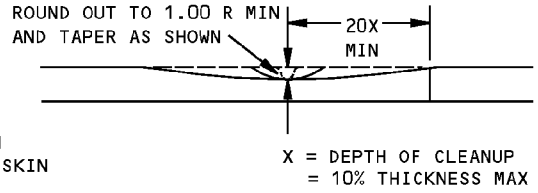
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

DETAIL III

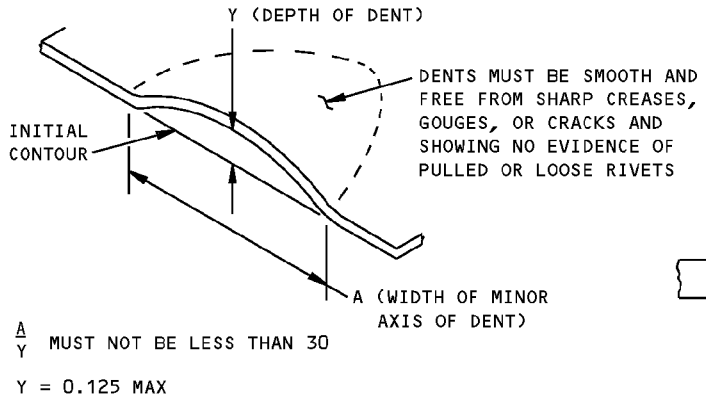




SECTION A–A

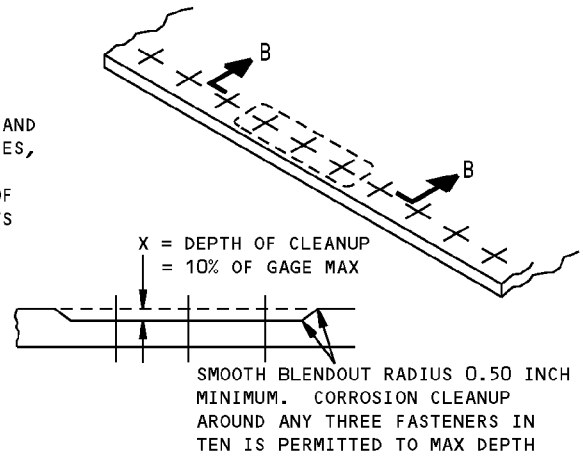
REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE

DETAIL IV



ALLOWABLE DAMAGE FOR DENT

DETAIL V



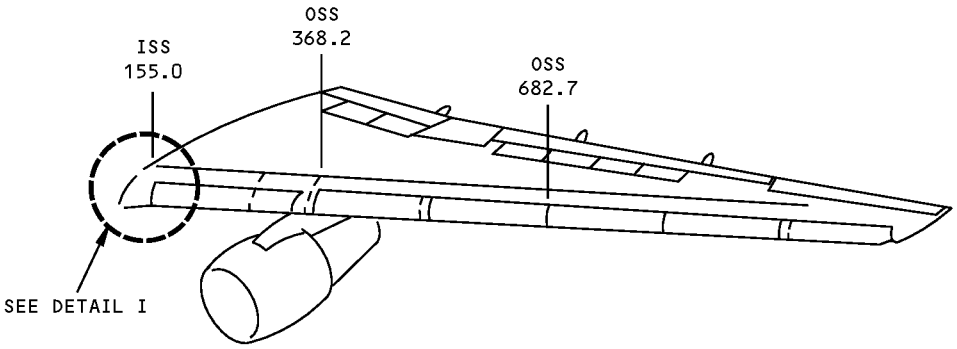
SECTION B–B

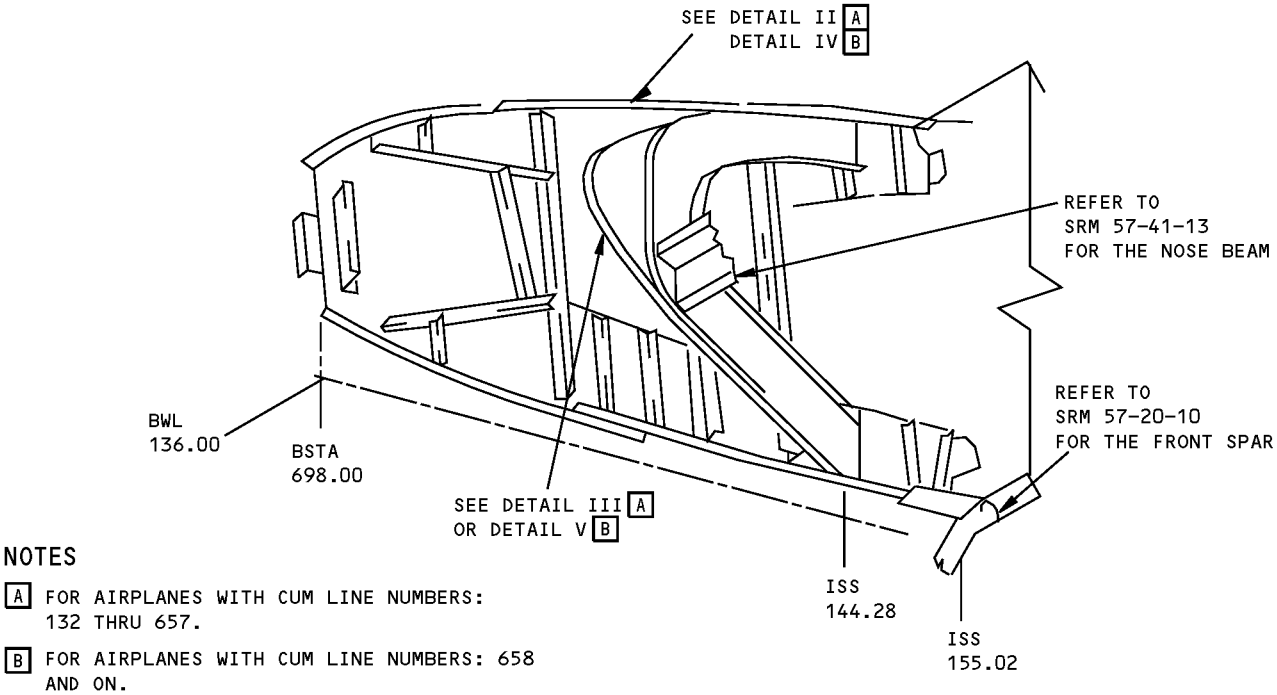
CORROSION CLEANUP

DETAIL VI

Wing Strakelet Skin Allowable Damage
Figure 101 (Sheet 3 of 3)

IDENTIFICATION 1 - WING STRAKELET STRUCTURE





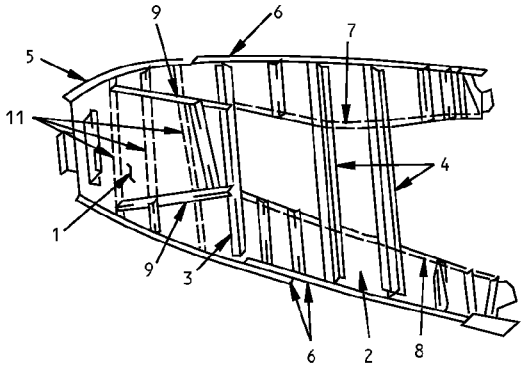
NOTES

A FOR AIRPLANES WITH CUM LINE NUMBERS: 132 THRU 657.

B FOR AIRPLANES WITH CUM LINE NUMBERS: 658 AND ON.

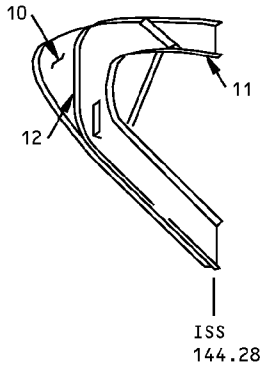
DETAIL I

Wing Strakelet Structure Identification
Figure 1 (Sheet 1 of 3)



REFERENCE DRAWING
114T1305

CLOSURE RIB ASSY
DETAIL II [A]



REFERENCE DRAWING
114T1315

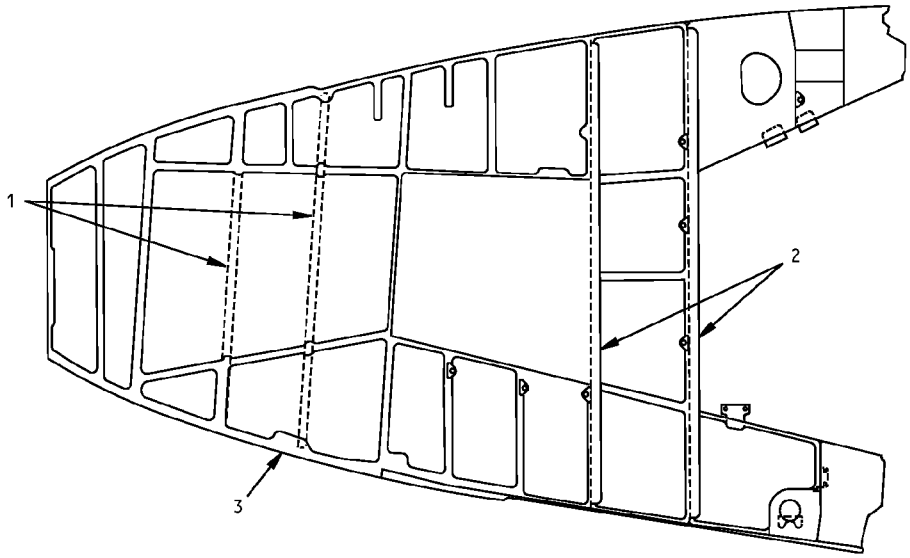
RIB ASSY
DETAIL III [A]

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FWD WEB	0.040	CLAD 2024-T3	
2	AFT WEB	0.050	CLAD 2024-T3	
3	ANGLE	0.063	CLAD 2024-T42	
4	ZEE		AND10139-2002 7075-T73511	
5	ANGLE	0.063	CLAD 2024-T42	
6	ANGLE	0.063	CLAD 2024-T42	
7	ANGLE		AND10133-1002 7075-T62	
8	ANGLE		AND10133-1002 7075-T73511	
9	ANGLE	0.040	CLAD 2024-T42	
10	WEB	0.063	CLAD 2024-T62	
11	STIFFENER		AND10134-1201 7075-T62	
12	ANGLE	0.080	CLAD 2024-T62	

LIST OF MATERIALS FOR DETAILS II & III

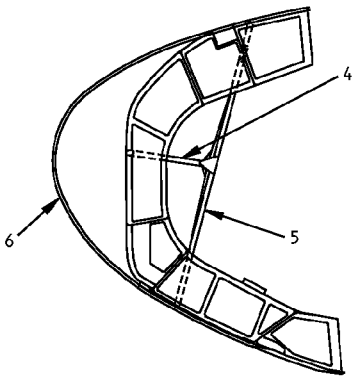
Wing Strakelet Structure Identification
Figure 1 (Sheet 2 of 3)

REFERENCE DRAWING
114T1307



REFERENCE DRAWING
114T1316

CLOSURE RIB ASSEMBLY
DETAIL IV B



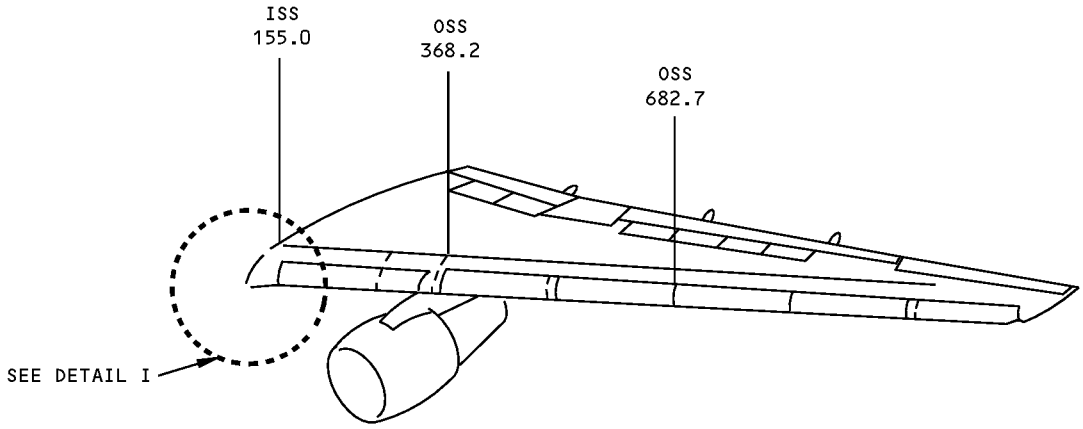
RIB ASSEMBLY
DETAIL V B

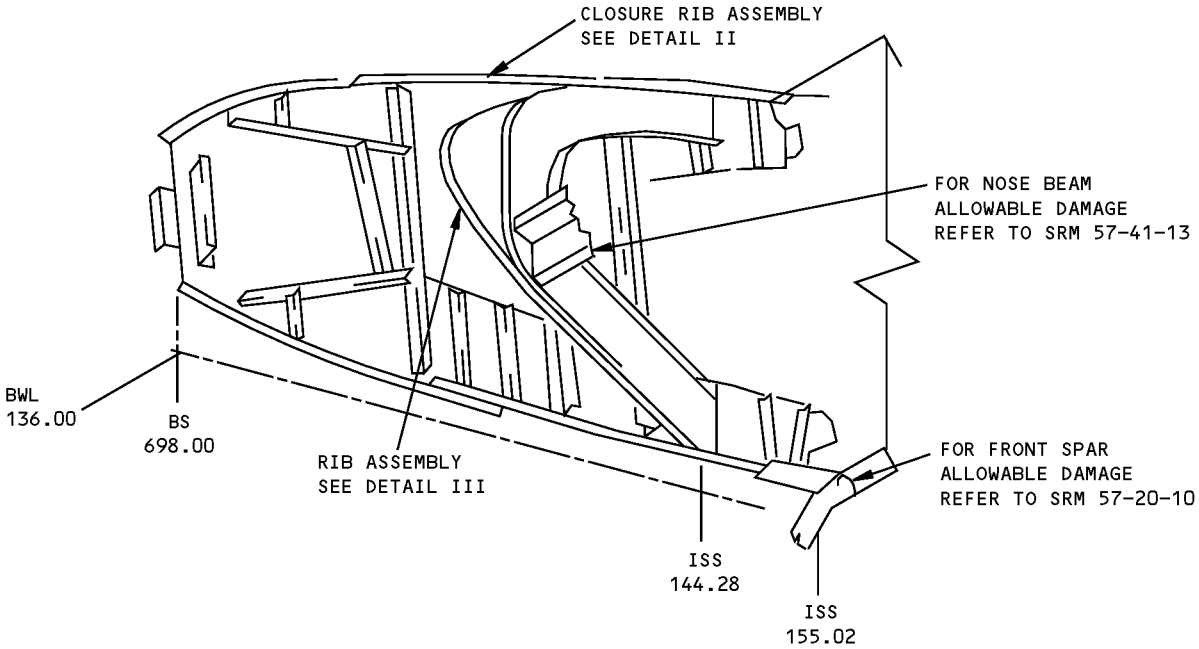
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	ANGLE	0.063	CLAD 2024-T42	
2	ANGLE	0.071	CLAD 2024-T42	
3	RIB (STRAKELET)	0.070	7075-T7451 (CHEM MILL 0.050)	
4	BRACE	0.050	CLAD 2024-T42	
5	SUPPORT BEAM	0.050	CLAD 2024-T42	
6	RIB	0.080	7075-T7451 (CHEM MILL 0.060)	

LIST OF MATERIALS FOR DETAILS IV AND V

Wing Strakelet Structure Identification
Figure 1 (Sheet 3 of 3)

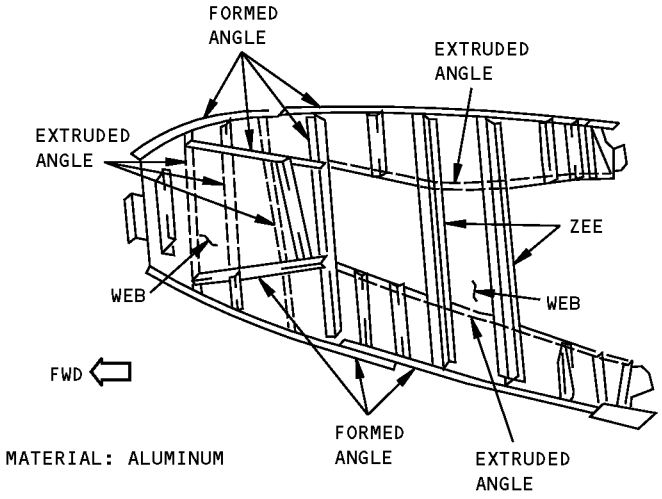
ALLOWABLE DAMAGE 1 - WING STRAKELET STRUCTURE





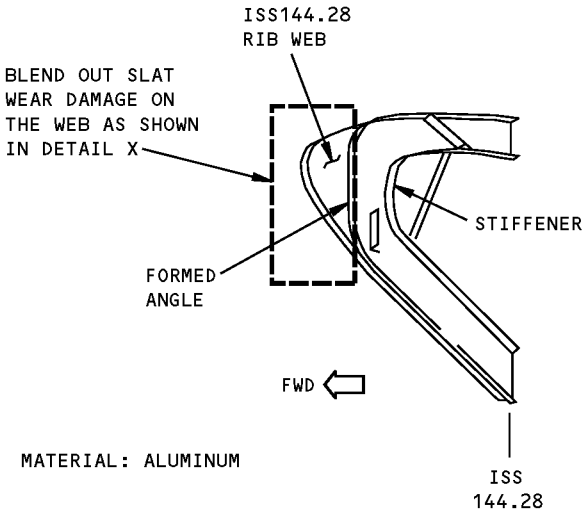
Wing Strakelet Structure Allowable Damage
Figure 101 (Sheet 1 of 5)

REFERENCE DRAWING
114T1305



CLOSURE RIB ASSEMBLY
DETAIL II

REFERENCE DRAWING
114T1315



RIB ASSEMBLY
DETAIL III

Wing Strakelet Structure Allowable Damage
Figure 101 (Sheet 2 of 5)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
WEB	G	C	SEE DETAIL VIII	E
FORMED ANGLE	A	C	SEE DETAIL VIII	PERMITTED IN FREE FLANGE ONLY E
EXTRUDED ANGLE	B	D	NOT PERMITTED	PERMITTED IN FREE FLANGE ONLY E
STIFFENER	B	D	NOT PERMITTED	PERMITTED IN FREE FLANGE ONLY E
ZEE	B	D	NOT PERMITTED	PERMITTED IN WEB AND FREE FLANGE ONLY E
ISS 144.28 RIB WEB	G	F	NOT PERMITTED	E

NOTES

- APPLY THE FINISH IN REWORKED AREAS AS GIVEN IN AMM 51-20.

A CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS IV AND VI.

B CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS V AND VI.

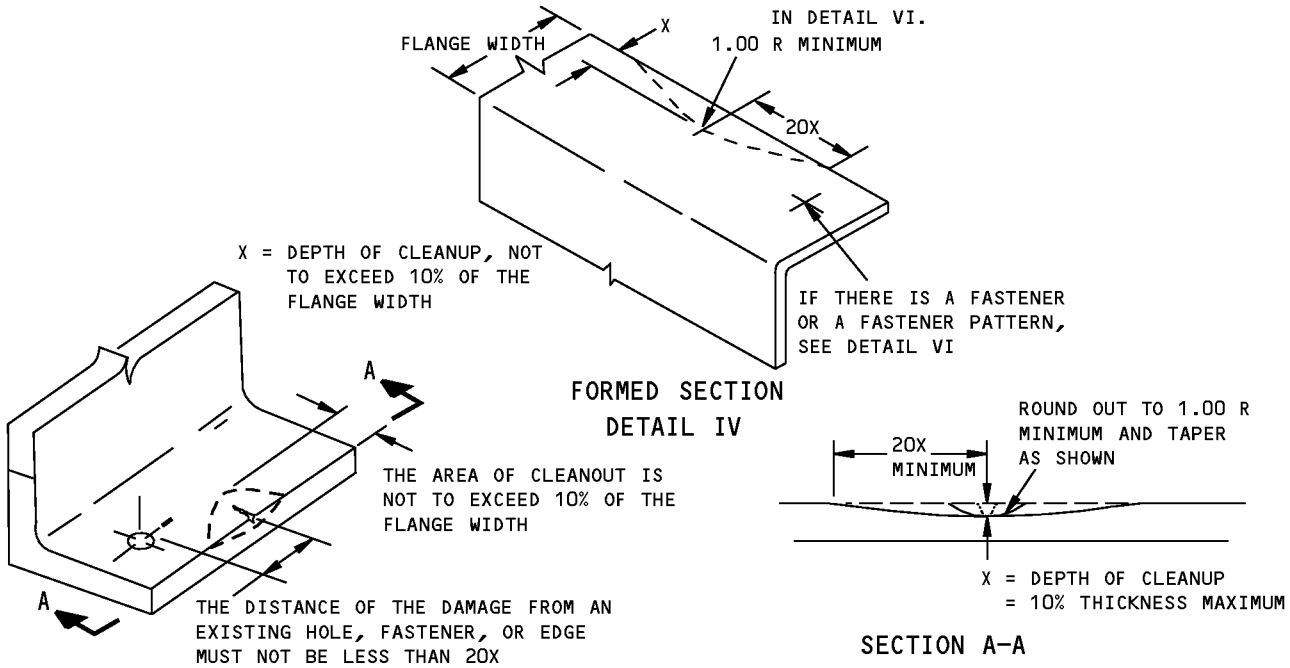
C REMOVE DAMAGE AS GIVEN IN DETAILS IV, VI, VII, AND IX.

D REMOVE DAMAGE AS GIVEN IN DETAILS V, VI, VII, AND IX.

E CLEAN OUT DAMAGE UP TO 0.25 INCHES (6.4 mm) MAXIMUM DIAMETER AND NOT CLOSER THAN 1.0 INCH (2.5 mm) TO A FASTENER HOLE OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET, INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

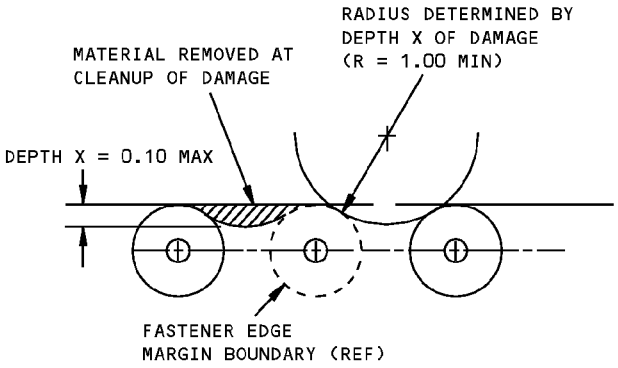
F REMOVE DAMAGE AS GIVEN IN DETAIL X.

G CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAIL VI.

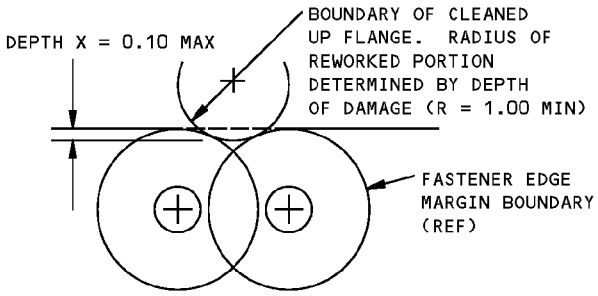


REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL V

Wing Strakelet Structure Allowable Damage
Figure 101 (Sheet 3 of 5)

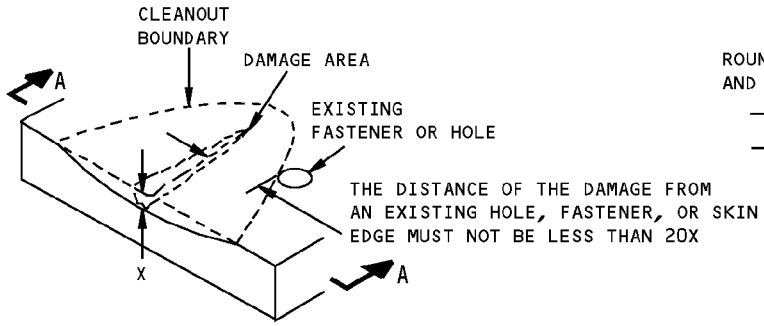


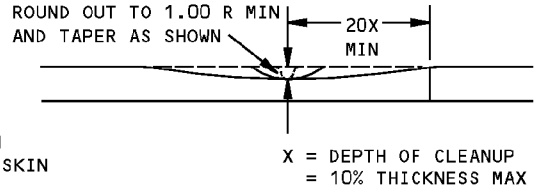
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

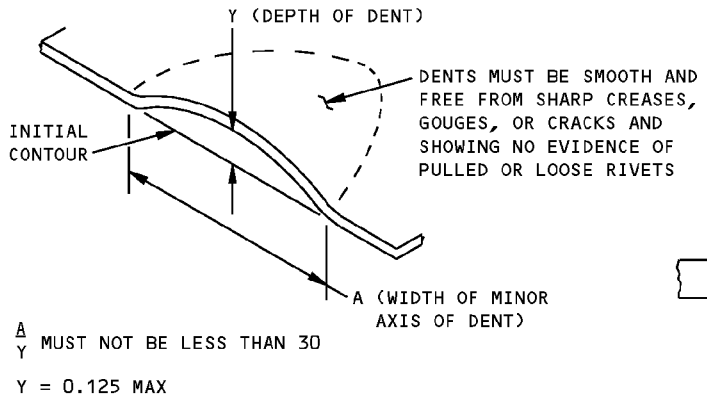
DETAIL VI



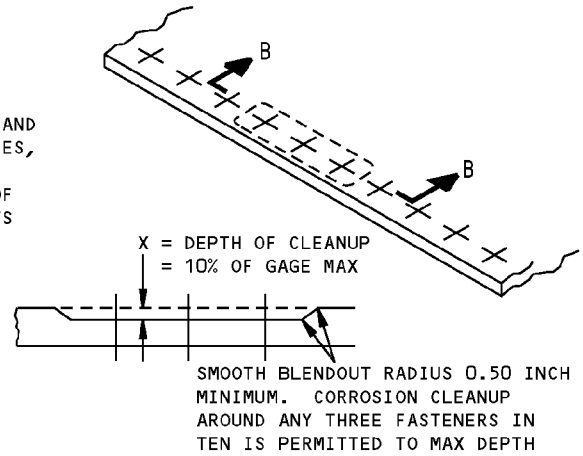


SECTION A–A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL VII



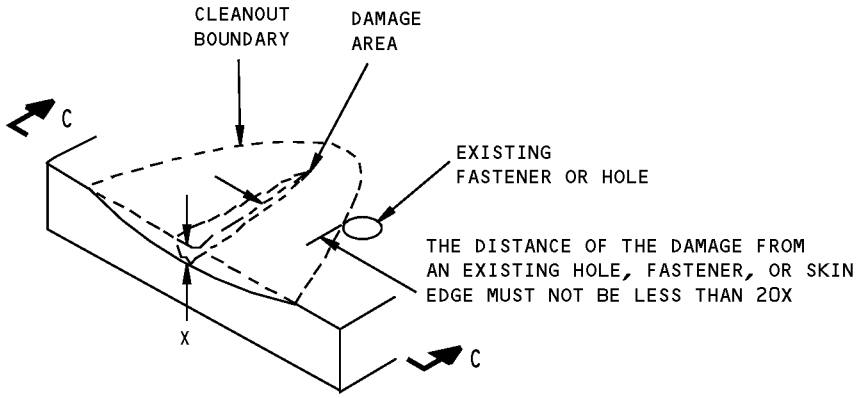
ALLOWABLE DAMAGE FOR DENT
DETAIL VIII



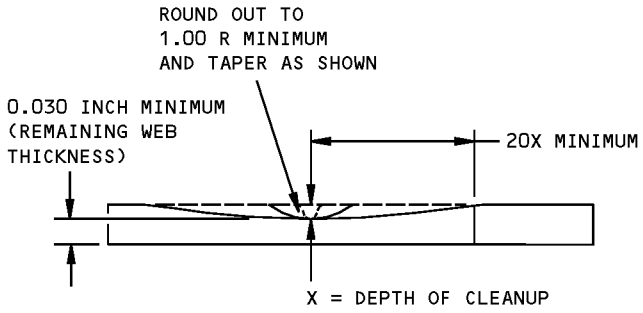
SECTION B–B

CORROSION CLEANUP
DETAIL IX

Wing Strakelet Structure Allowable Damage
Figure 101 (Sheet 4 of 5)



REMOVAL OF SLAT WEAR DAMAGE ON THE WEB OF ISS 144.28 RIB
DETAIL X

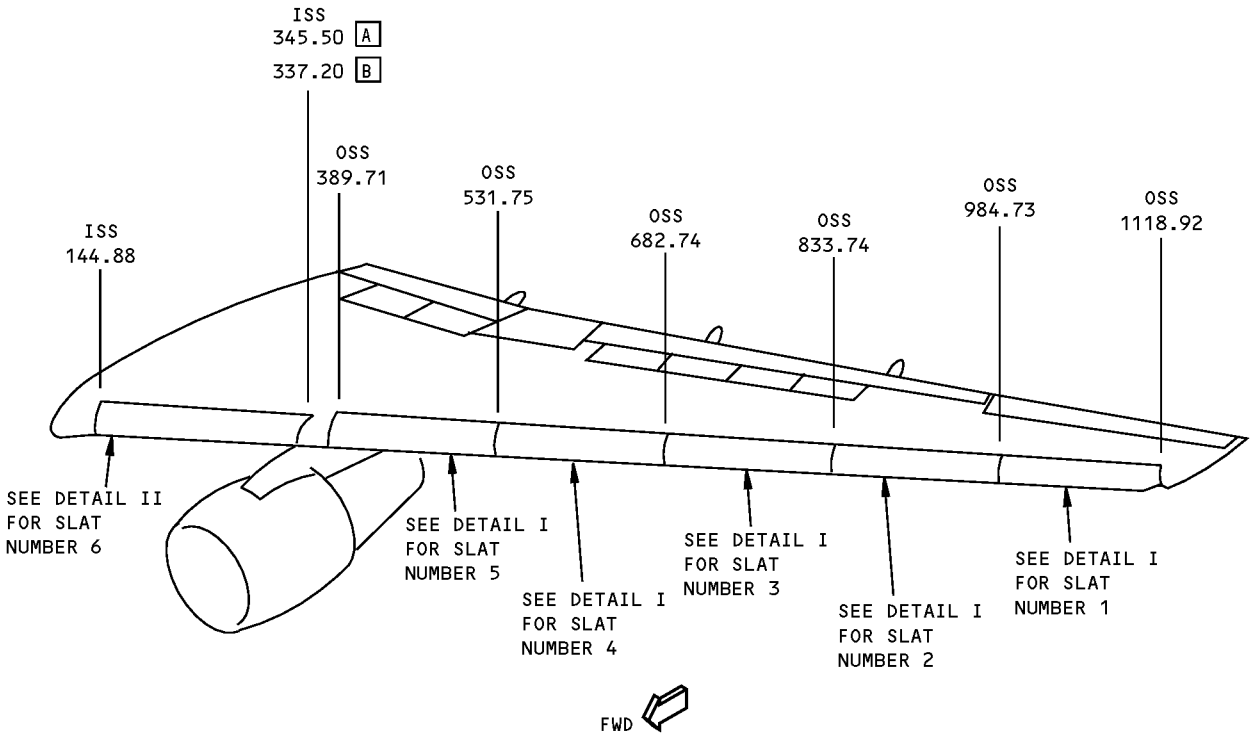


SECTION C–C

Wing Strakelet Structure Allowable Damage
Figure 101 (Sheet 5 of 5)

IDENTIFICATION 1 - LEADING EDGE SLAT SKIN

REFERENCE DRAWINGS
114T4101
114T4102
114T4103
114T4104
114T4105
114T3100



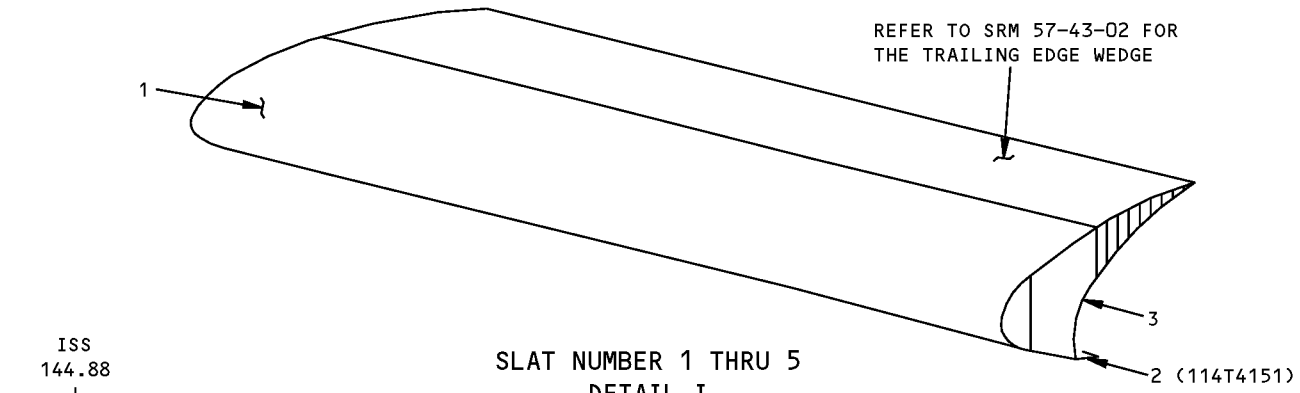
LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE

NOTES

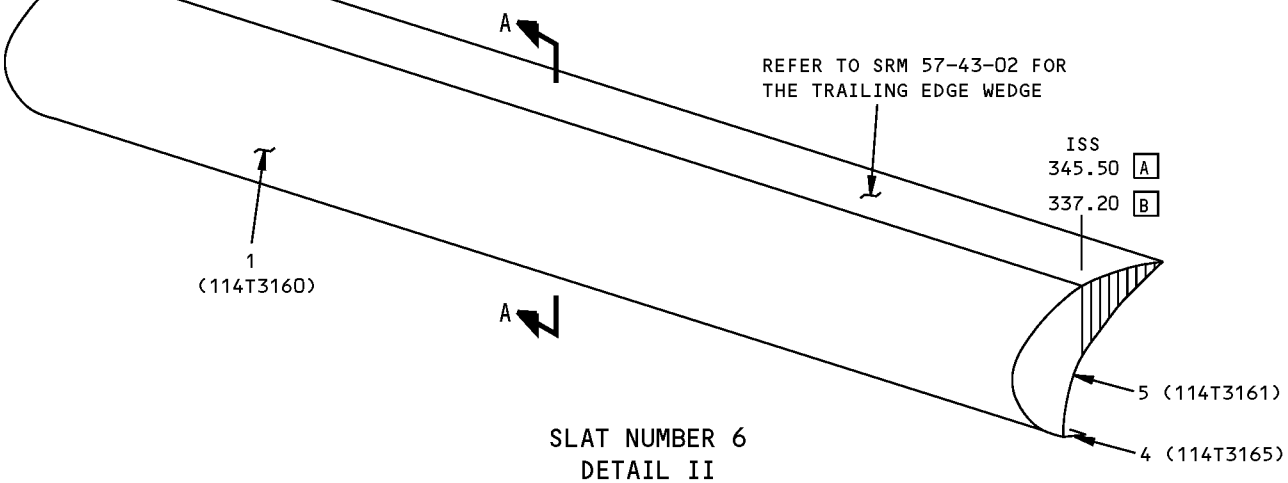
A FOR AIRPLANES NOT IN B

B FOR AIRPLANES WITH CF6-80C2 ENGINES

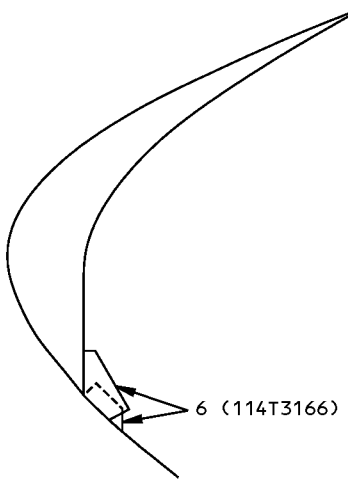
Leading Edge Slat Skin Identification
Figure 1 (Sheet 1 of 3)



SLAT NUMBER 1 THRU 5
DETAIL I



SLAT NUMBER 6
DETAIL II



SECTION A-A

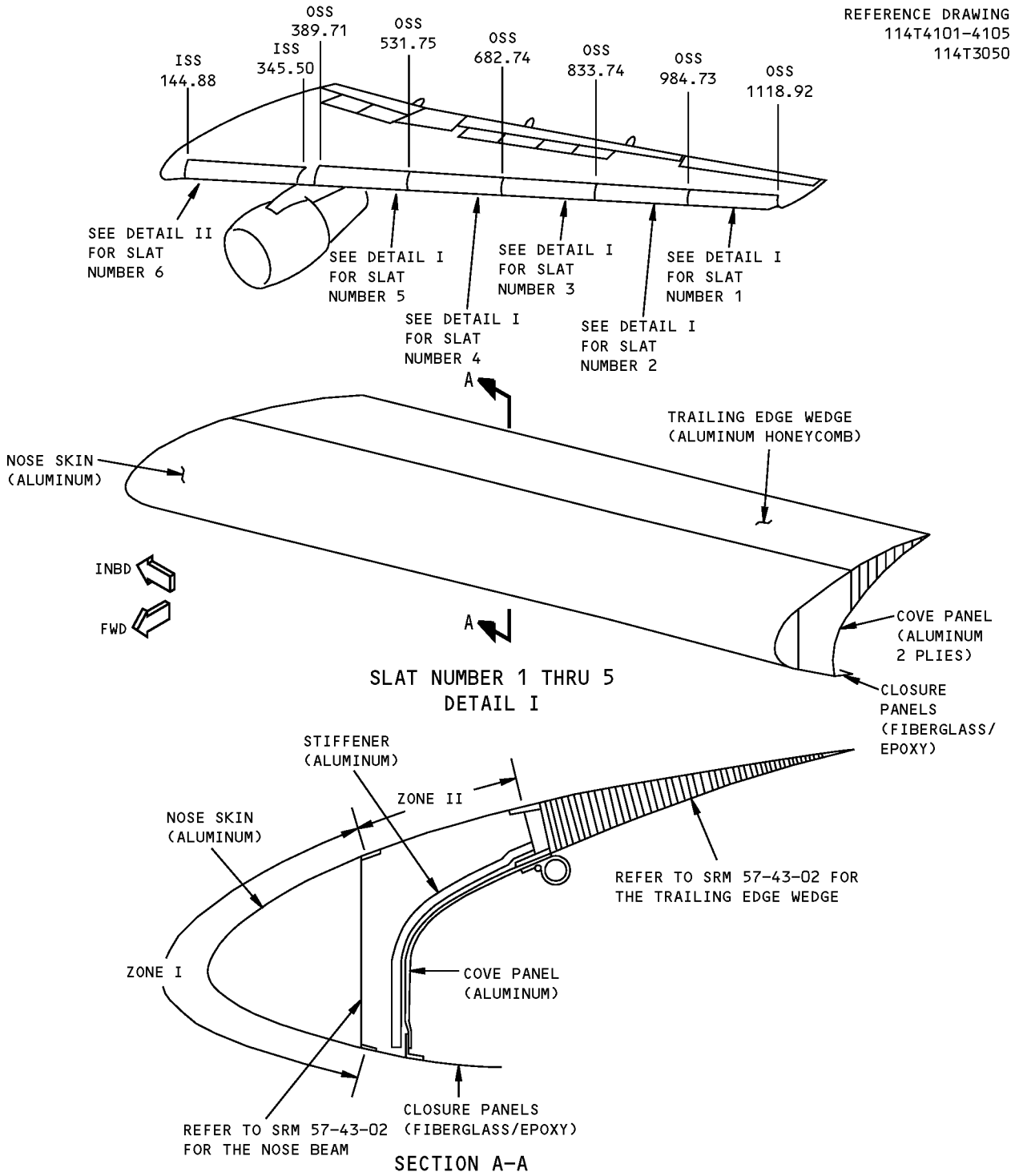
Leading Edge Slat Skin Identification
Figure 1 (Sheet 2 of 3)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	NOSE SKIN	0.063	CLAD 7075-T6	
2	CLOSURE PANEL		FIBERGLASS/EPOXY AS GIVEN IN BMS 8-79 TYPE 1581, CLASS III, GRADE I, 250°F (121°C) CURE	
3	OUTBD COVE SKIN ASSY			
	PANEL	0.050	CLAD 7075-T6	
	AUXILIARY ARM PANEL	0.080	CLAD 7075-T6	
	TRACK AND ACTUATOR PANEL	0.100	CLAD 7075-T6	
4	CLOSE OUT PANEL		FIBERGLASS/EPOXY AS GIVEN IN BMS 8-79 TYPE 1581, CLASS III, GRADE I, 250°F (121°C) CURE	
5	INBD COVE SKIN ASSY			
	SKIN	0.050	CLAD 7075-T6 (2 LAYER SKIN)	
	MID INBD SKIN	0.090	CLAD 7075-T6 (2 LAYER SKIN)	
	MID SKIN	0.080	CLAD 7075-T6 (2 LAYER SKIN)	
	MID OUTBD SKIN	0.063	CLAD 7075-T6 (2 LAYER SKIN)	
6	BRACKET (SUPPORT CLIP)	0.050	CLAD 2024-T42 SHEET	

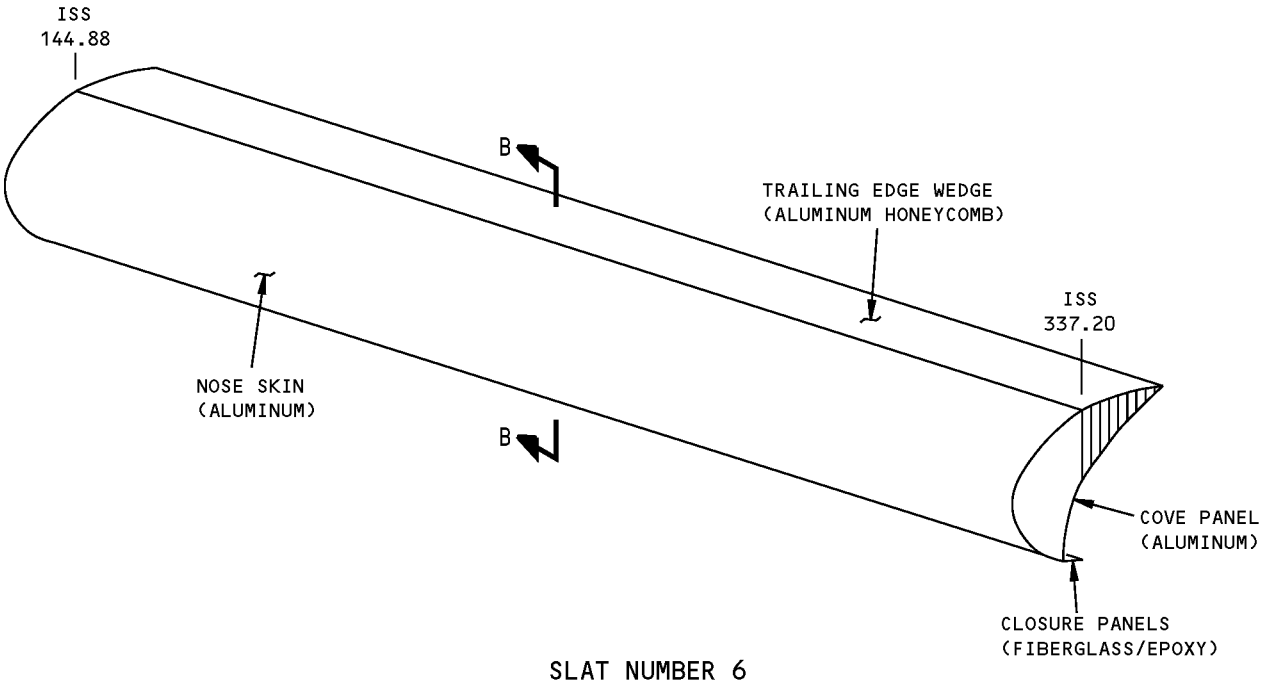
LIST OF MATERIAL

Leading Edge Slat Skin Identification
Figure 1 (Sheet 3 of 3)

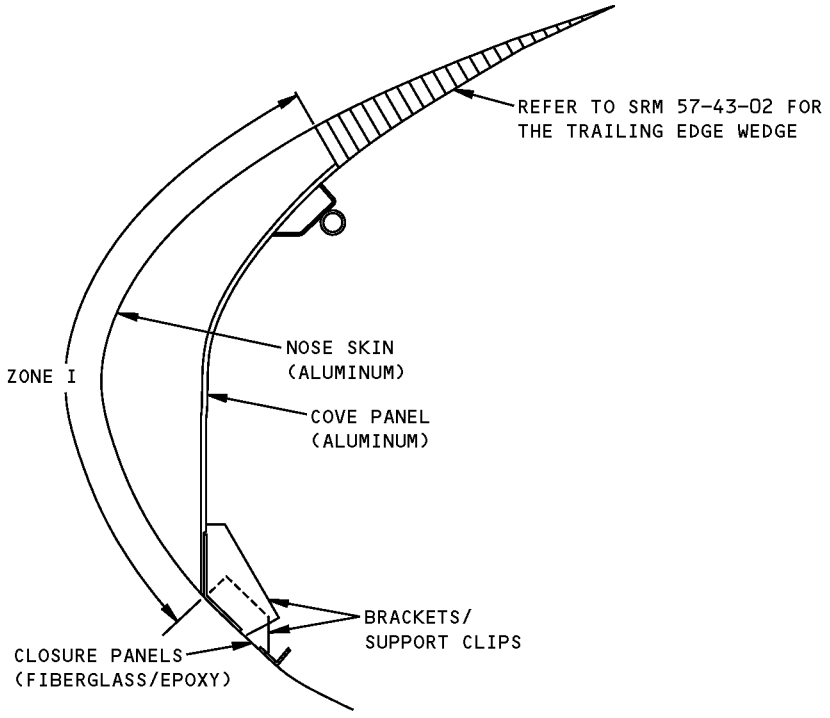
ALLOWABLE DAMAGE 1 - WING LEADING EDGE SLAT SKIN



Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 1 of 7)



SLAT NUMBER 6
DETAIL II



SECTION B-B

Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 2 of 7)

DESCRIPTION		CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
NOSE SKIN (ALUMINUM)	ZONE I [L]	[A]	FOR EDGE DAMAGE SEE DETAIL VI. FOR OTHERS [B]	[C]	NOT PERMITTED
	ZONE II [N]	[A]		[D]	NOT PERMITTED
CLOSURE PANEL (FIBERGLASS)		[P]	[E]	[F]	[G]
COVE PANEL	SKIN (ALUMINUM)	[A]	FOR EDGE DAMAGE SEE DETAIL III OR VI. FOR OTHERS [B]	[H]	[I]
	STIFFENER (ALUMINUM) [N]			NOT PERMITTED	[J]
SUPPORT CLIP [O]		[M]	---	---	---

W14693 S0006830405_V2

Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 3 of 7)

NOTES

- APPLY THE FINISH TO REWORK AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE IS MORE THAN THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.

[A] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL III OR VI. ALL OTHER CRACKS MUST BE REPAIRED.

[B] NICK, GOUGE, OR SCRATCH DAMAGE AS GIVEN IN DETAIL IV IS PERMITTED.

[C] DENTS UP TO Y = 0.06 INCH (1.524 mm) ARE PERMITTED IF A/Y IS NOT LESS THAN 30. SEE DETAIL V. TEN DENTS ARE PERMITTED FOR EACH SLAT AND FOR EACH ZONE. DENTS MUST BE FREE FROM PULLED OR LOOSE RIVETS, SHARP CREASES AND ABRASIONS. THE MINIMUM DISTANCE PERMITTED BETWEEN A DENT AND ADJACENT DAMAGE MUST BE GREATER THAN ONE-HALF THE LENGTH OF THE MAJOR AXIS OF THE DENT. FOR DENTS THAT ARE MORE THAN THESE LIMITS, REWORK THE SLAT SKIN TO REMOVE THE DENT AS GIVEN IN SRM 51-70-01, PARAGRAPH 4.B.

[D] DENTS UP TO Y = 0.12 INCH (3.0 mm) ARE PERMITTED IF A/Y IS NOT LESS THAN 30. SEE DETAIL V. TEN DENTS ARE PERMITTED FOR EACH SLAT AND FOR EACH ZONE. DENTS MUST BE FREE FROM PULLED OR LOOSE RIVETS, SHARP CREASES AND ABRASIONS. THE MINIMUM DISTANCE PERMITTED BETWEEN A DENT AND ADJACENT DAMAGE MUST BE GREATER THAN ONE-HALF THE LENGTH OF THE MAJOR AXIS OF THE DENT. FOR DENTS THAT ARE MORE THAN THESE LIMITS, REWORK THE SLAT SKIN TO REMOVE THE DENT AS GIVEN IN SRM 51-70-01, PARAGRAPH 4.B.

[E] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY [K]. DAMAGE TO FIBERS IS NOT PERMITTED. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAIL VI.

[F] DENTS CAUSE FIBER DAMAGE AND DELAMINATION. DENT DAMAGE IS THE SAME AS HOLE OR PUNCTURE DAMAGE.

[G] 0.50 INCH (12.7 mm) MAXIMUM DIAMETER IS PERMITTED IF THE DAMAGE IS A MINIMUM OF 2.5D FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. PROTECT DAMAGE AS GIVEN IN [K].

[H] DENT DAMAGE IS PERMITTED AS GIVEN IN DETAIL V.

[I] HOLES AND PUNCTURES CLEANED OUT UP TO 0.25 INCH (6.4 mm) DIAMETER MAXIMUM, NOT CLOSER THAN 1.00 INCH (25.4 mm) TO ANY ADJACENT HOLE OR FASTENER ARE PERMITTED.

[I] HOLES AND PUNCTURES CLEANED OUT UP TO 0.25 INCH (6.4 mm) DIAMETER MAXIMUM, NOT CLOSER THAN 1.00 INCH (25.4 mm) TO ANY ADJACENT HOLE OR FASTENER ARE PERMITTED. FILL THE HOLE WITH A 2117-T3 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT.

[J] NO HOLE OR CLEANED-OUT PUNCTURE DAMAGE IS PERMITTED IN THE STIFFENER FLANGE THAT IS ATTACHED TO THE PANEL. A MAXIMUM OF 4 HOLES IS PERMITTED IN THE FREE FLANGE, INCLUDING HOLE(S) DRILLED DURING MANUFACTURE. FILL THE HOLE WITH A PROTRUDING HEAD 2117-T3 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. EDGE DISTANCE TO BE 1.50 INCHES (38.1 mm) MINIMUM.

[K] PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE 3M-Y436 OR EQUIVALENT). RECORD THE LOCATION AND EXAMINE THE TAPE AT 150 FLIGHT CYCLE INTERVALS. REPLACE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION. DO A REPAIR TO THE DAMAGE AS GIVEN IN SRM 51-70 AT OR BEFORE 3000 FLIGHT CYCLES.

[L] FLIGHT OPERATION IS NOT PERMITTED IF THE ROUGHNESS OF THE LEADING EDGE SLAT SKIN IS EQUAL OR GREATER THAN THAT OF 240-GRIT SANDPAPER. WHEN INSPECTING FOR EROSION DAMAGE OR PERFORMING EROSION REPAIR, CONSIDERATION MUST BE GIVEN TO MAINTAINING SYMMETRY BETWEEN LEFT AND RIGHT SIDE SLATS.

[M] IT IS PERMITTED TO OPERATE THE FLIGHT IF THE SUPPORT CLIP IS CRACKED. EXAMINE THE ADJACENT STRUCTURE AT 150 FLIGHT CYCLE INTERVALS TO MAKE SURE THERE ARE NO CRACKS IN THE CLOSURE PANEL OR THE SLAT COVE PANEL. MAKE SURE THE CLOSURE PANEL IS TIGHTLY ATTACHED TO THE SLAT. REPLACE THE SUPPORT CLIP AT A MAXIMUM OF 3000 FLIGHT CYCLES OR 24 MONTHS, WHICHEVER OCCURS FIRST.

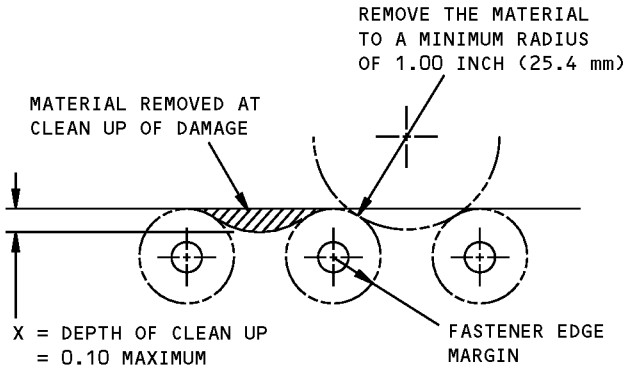
[N] FOR SLAT NUMBER 1 THRU 5.

[O] FOR SLAT NUMBER 6.

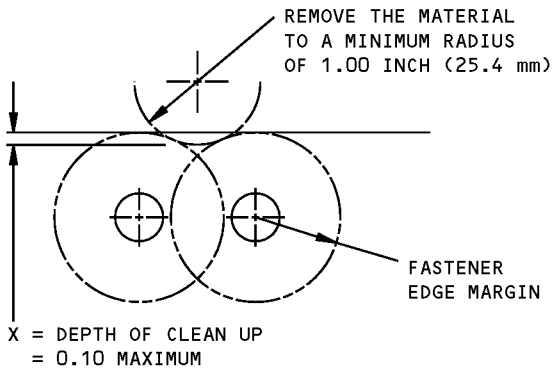
[P] PROTECT EDGE CRACKS THAT ARE A LENGTH OF 1.0 INCH (25mm) OR LESS, WITH ALUMINUM FOIL TAPE OR WITH BMS 8-301 CLASS 2 OR BMS 8-201 EPOXY RESIN. BEFORE 24 MONTHS OR AT THE SUBSEQUENT STRUCTURES C-CHECK, DO A PERMANENT REPAIR.

YOU CAN REMOVE CRACKS THAT ARE LARGER THAN 1.0 INCH (25mm) AS SHOWN IN DETAIL VII AND DETAIL VIII. PROTECT THE EXPOSED EDGES WITH ALUMINUM FOIL TAPE OR WITH BMS 8-301 CLASS 2 OR BMS 8-201 EPOXY RESIN . DO A PERMANENT REPAIR OR REPLACE THE PART BEFORE 24 MONTHS OR AT THE NEXT STRUCTURES C-CHECK. REFER TO SRM 57-43-01 REPAIR 3 FOR REPAIR OPTIONS.

Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 4 of 7)

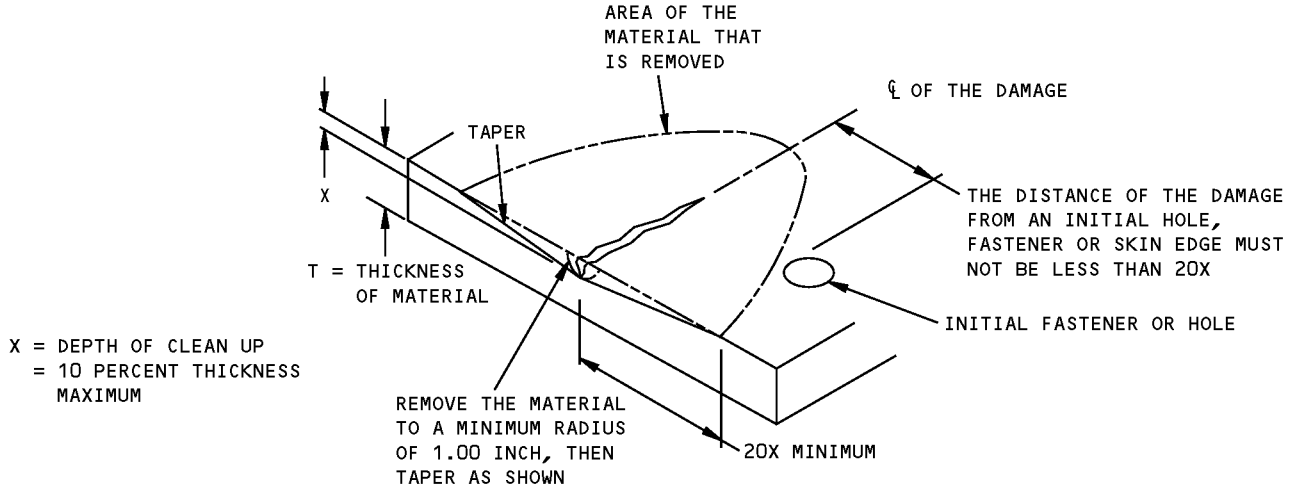


DAMAGE CLEAN UP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



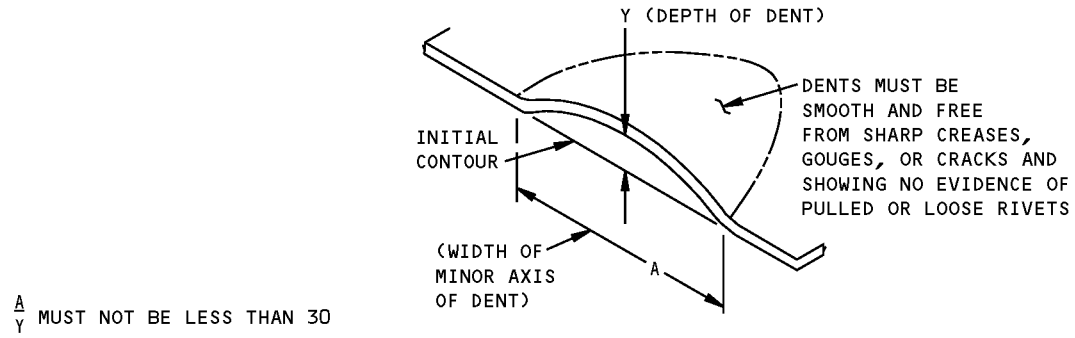
DAMAGE CLEAN UP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

REMOVAL OF DAMAGED MATERIAL ON AN EDGE
DETAIL III

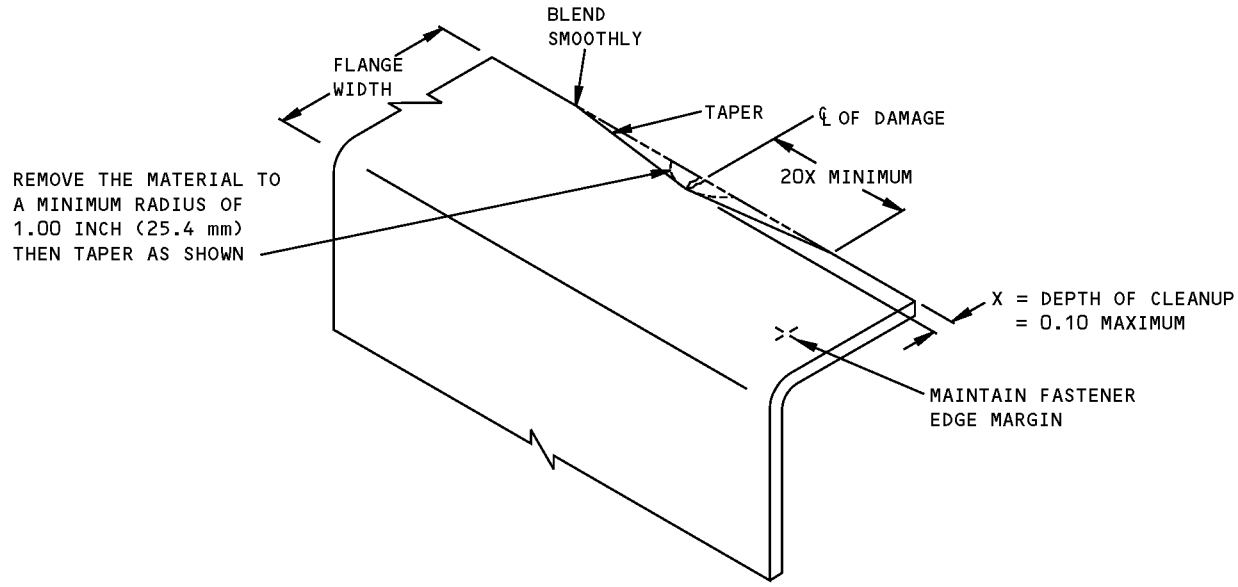


REMOVAL OF NICK, GOUGE AND SCRATCH
DAMAGE ON A SURFACE
DETAIL IV

Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 5 of 7)

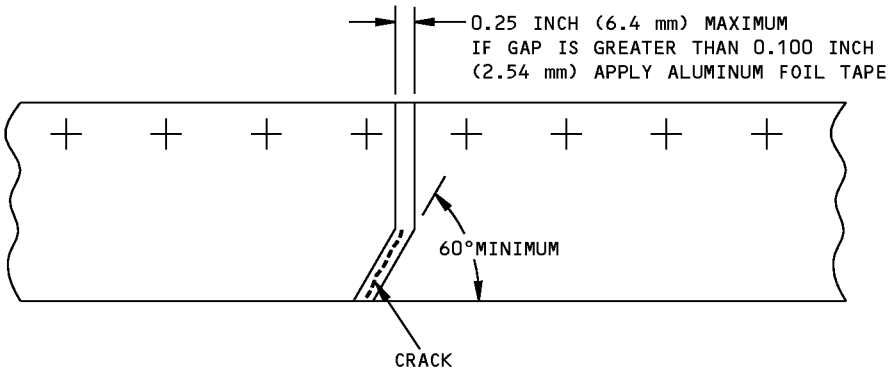


DETAIL V



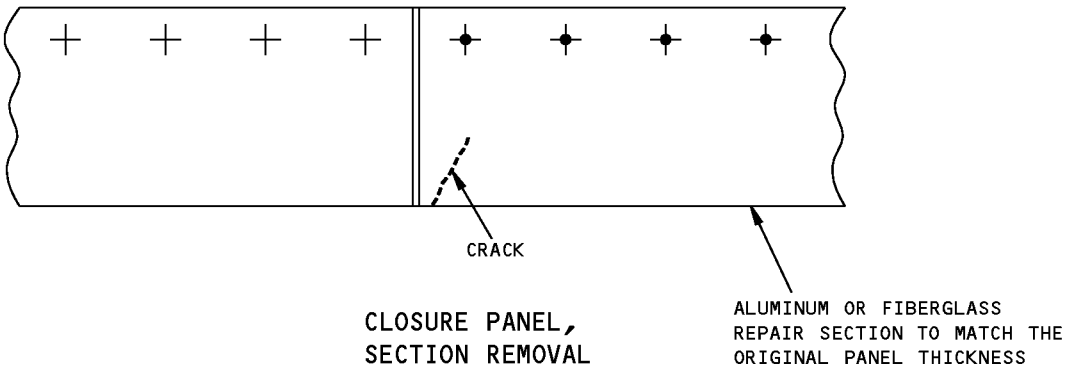
REMOVAL OF NICK, OR CRACK DAMAGE ON AN EDGE
DETAIL VI

Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 6 of 7)



CLOSURE PANEL, CRACK CUTOUT

DETAIL VII



CLOSURE PANEL,
SECTION REMOVAL

DETAIL VIII

FASTENER SYMBOLS

┼	INITIAL FASTENERS. A MINIMUM OF FOUR FASTENERS REQUIRED.
⊕	INITIAL FASTENER LOCATION. INSTALL THE SAME TYPE OF FASTENER AS THE INITIAL FASTENER. REPAIR SECTION REQUIRES A MINIMUM OF FOUR FASTENERS.

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Wing Leading Edge Slat Skin Allowable Damage
Figure 101 (Sheet 7 of 7)

REPAIR 1 - LEADING EDGE SLAT SKIN - FLUSH PATCH

REPAIR INSTRUCTIONS

1. Cut out the damaged skin to a rectangular shape. Radius corners 0.50 inch (12.7 mm) min.
2. Make repair plate 1. Form to required contour.
3. Make the repair doublers, and strap items 2, 3, and 4 into required contour.
4. Break all sharp edges of original and repair parts 0.015 inch (0.38 mm) to 0.030 inch (0.76 mm).
5. Locate, drill and countersink fastener holes.
6. Remove all nicks, burrs, scratches and corners from original and repair parts.
7. Alodine treat and apply one coat of BMS 10-11 to repair parts and raw edges of skin per 51-20-01.
8. Install repair doublers, and strap items 2, 3, and 4 through rectangular hole in skin making a faying surface seal with BMS 5-95 sealant. Rivet in place using solid BACR15CE(5)D rivets installed wet with BMS 5-95 sealant.
9. Fit repair plate onto doubler and fasten using blind rivets NAS1739E5 installed wet with BMS 5-95 sealant.
10. Fill gaps between skin and repair plate with BMS 5-79 or BMS 5-95 sealant.

NOTES

- REFER TO THE FOLLOWING WHEN MAKING THIS REPAIR

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

  51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS, WHERE THE REPAIR EXCEEDS THE LIMITS SHOWN IN 51-10-01 CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED

  51-10-05 FOR SEALING OF REPAIRS

  51-20 OF THE 767 MAINTENANCE MANUAL FOR FINISHES

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL REPAIR PARTS

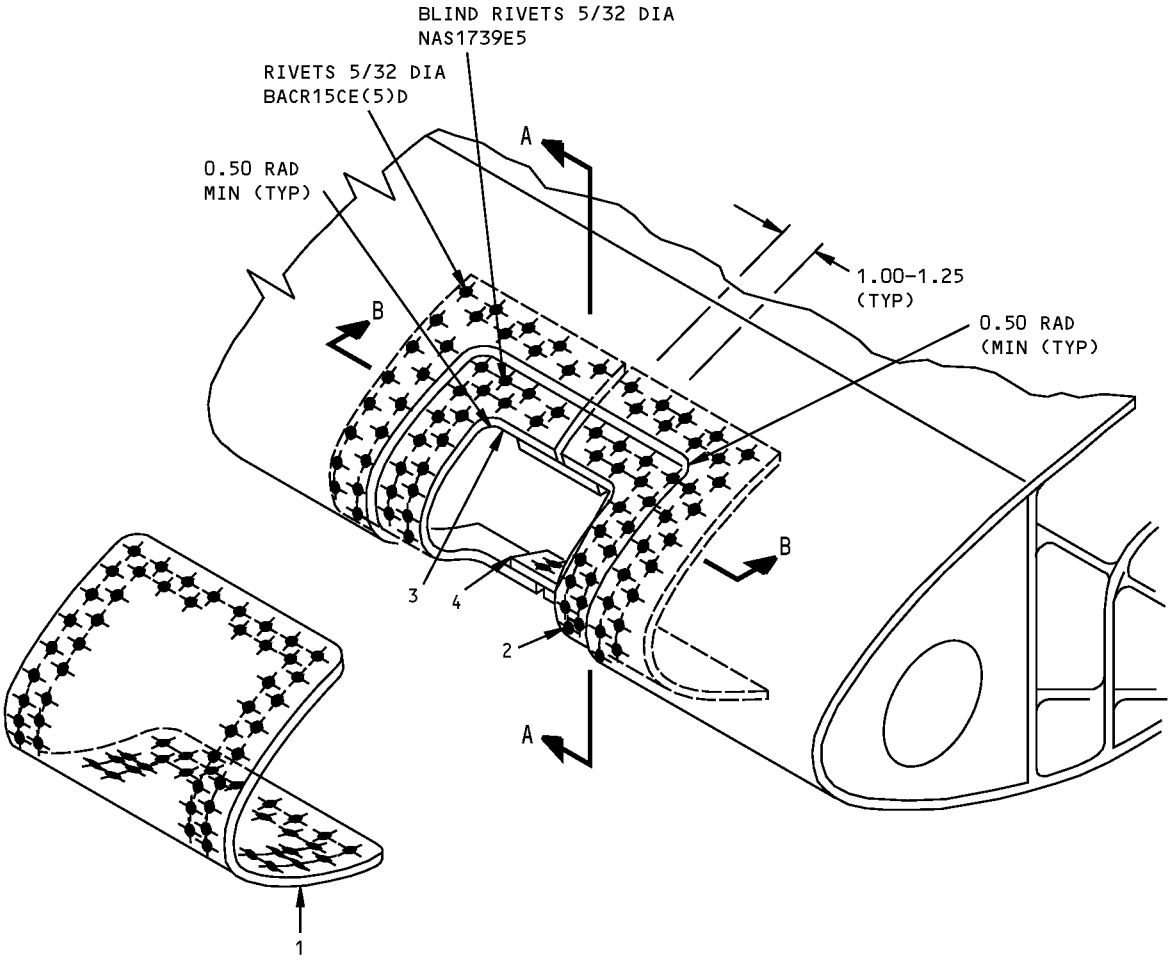
  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

SYMBOLS

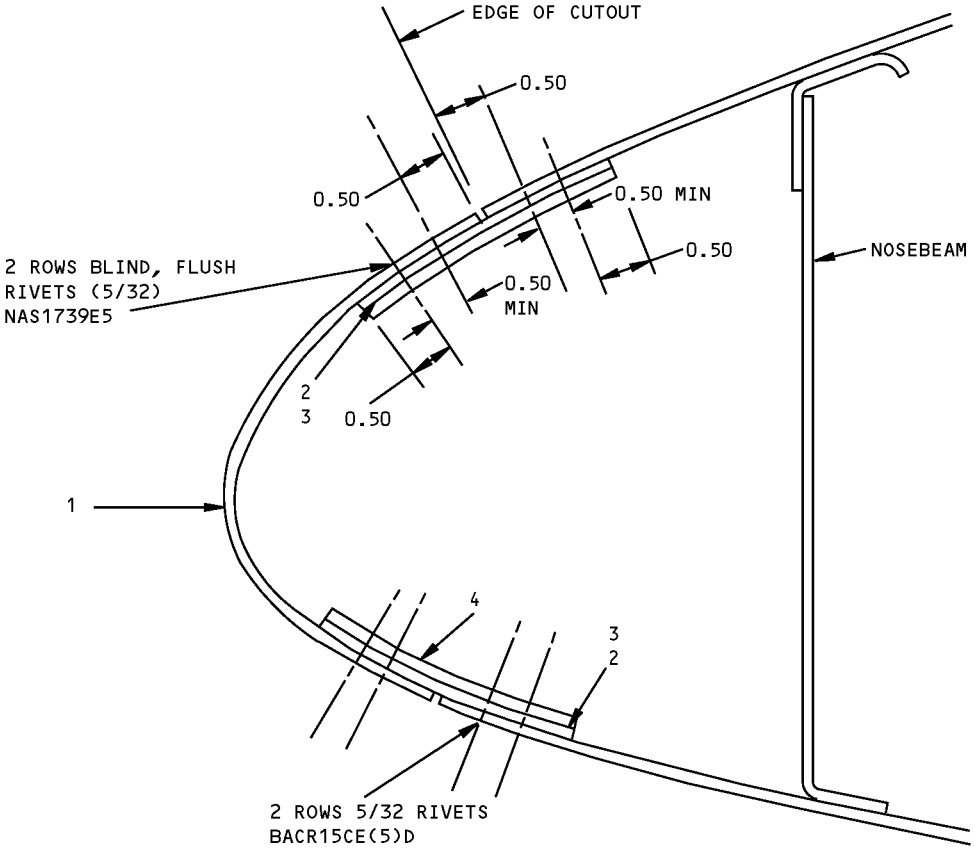
REPAIR FASTENER LOCATION

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	REPAIR PLATE	1	0.063 CLAD 7075-T6
2	DOUBLER	1	0.071 CLAD 7075-T6
3	DOUBLER	1	0.071 CLAD 7075-T6
4	STRAP	1	0.071 CLAD 7075-T6

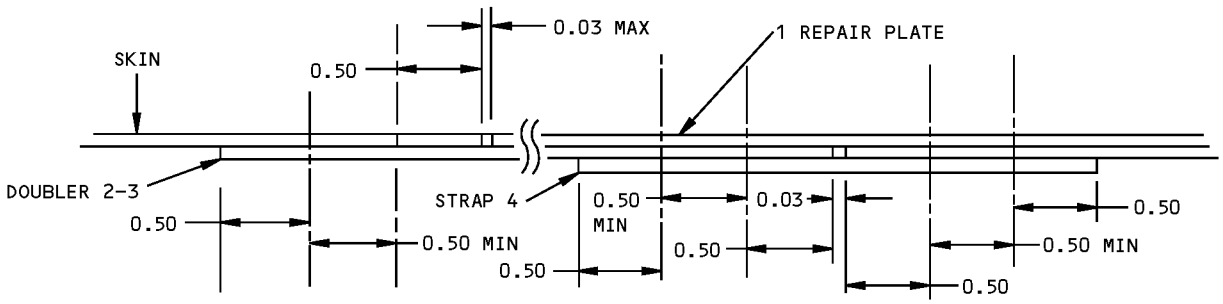
Leading Edge Slat Skin Repair - Flush Patch
Figure 201 (Sheet 1 of 3)



Leading Edge Slat Skin Repair - Flush Patch
Figure 201 (Sheet 2 of 3)



SECTION A-A



SECTION B-B

Leading Edge Slat Skin Repair - Flush Patch
Figure 201 (Sheet 3 of 3)

REPAIR 2 - LEADING EDGE SLAT SKIN - FLUSH PATCH AT RIB FORWARD OF NOSEBEAM

REPAIR INSTRUCTIONS

1. Cut out the damaged skin to a rectangular shape. Radius corners 0.50 inch (12.7 mm) min.
2. Make repair plate 1. Form to required contour.
3. Make the repair doublers items 2 and 3 into required contour.
4. Break all sharp edges of original and repair parts 0.015 inch (0.38 mm) to 0.030 inch ((0.76 mm).
5. Locate and transfer existing rib fastener locations. Locate, drill and countersink all fastener holes.
6. Remove all nicks, burrs, scratches and corners from original and repair parts.
7. Apply alodine and one coat of BMS 10-11 primer to repair doublers, to internal surface and raw edges of repair plate, and to raw edges of slat skin per 51-20-01.
8. Install repair doublers 2 and 3 through rectangular hole in skin making a faying surface seal with BMS 5-95 sealant. Rivet in place using solid BACR15CE(5)D rivets installed wet with BMS 5-95 sealant.
9. Fit repair plate onto doublers and fasten using blind rivets NAS 1739E5 installed wet with BMS 5-95 sealant.
10. Fasten repair plate to rib with BACR15CE(6)D rivets installed wet with BMS 5-95 sealant. Use access hole in nosebeam at each rib to reach underside.
11. Fill gaps between skin and repair plate with BMS 5-79 or BMS 5-95 sealant.
12. Restore original exterior finish per 51-21 of the 767 Maintenance Manual.

NOTES

- REFER TO THE FOLLOWING WHEN MAKING THIS REPAIR

  51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

  51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS, WHERE THE REPAIR EXCEEDS THE LIMITS SHOWN IN 51-10-01 CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED

  51-10-05 FOR SEALING OF REPAIRS

  51-20 OF THE 767 MAINTENANCE MANUAL FOR FINISHES

  51-20-01 FOR PROTECTIVE TREATMENT OF METAL REPAIR PARTS

  51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS

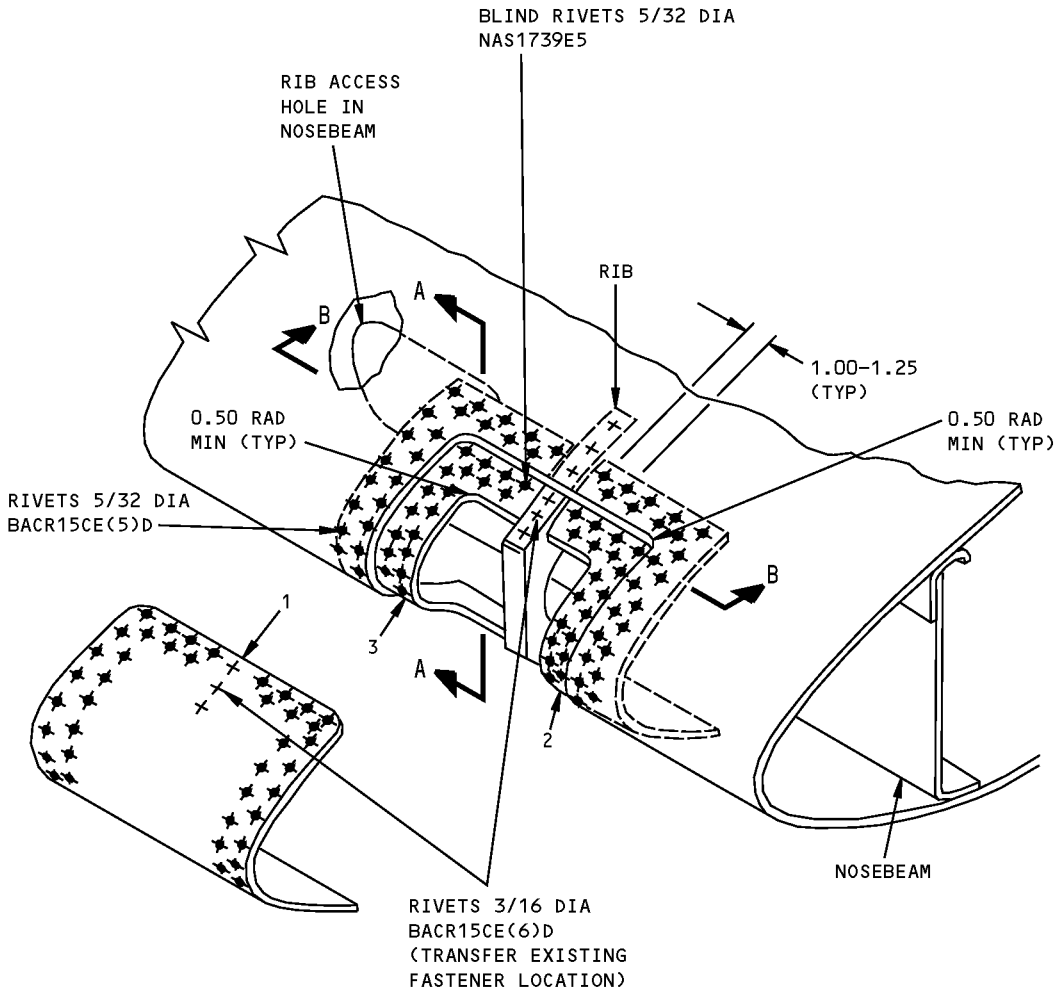
SYMBOLS

REPAIR FASTENER LOCATION

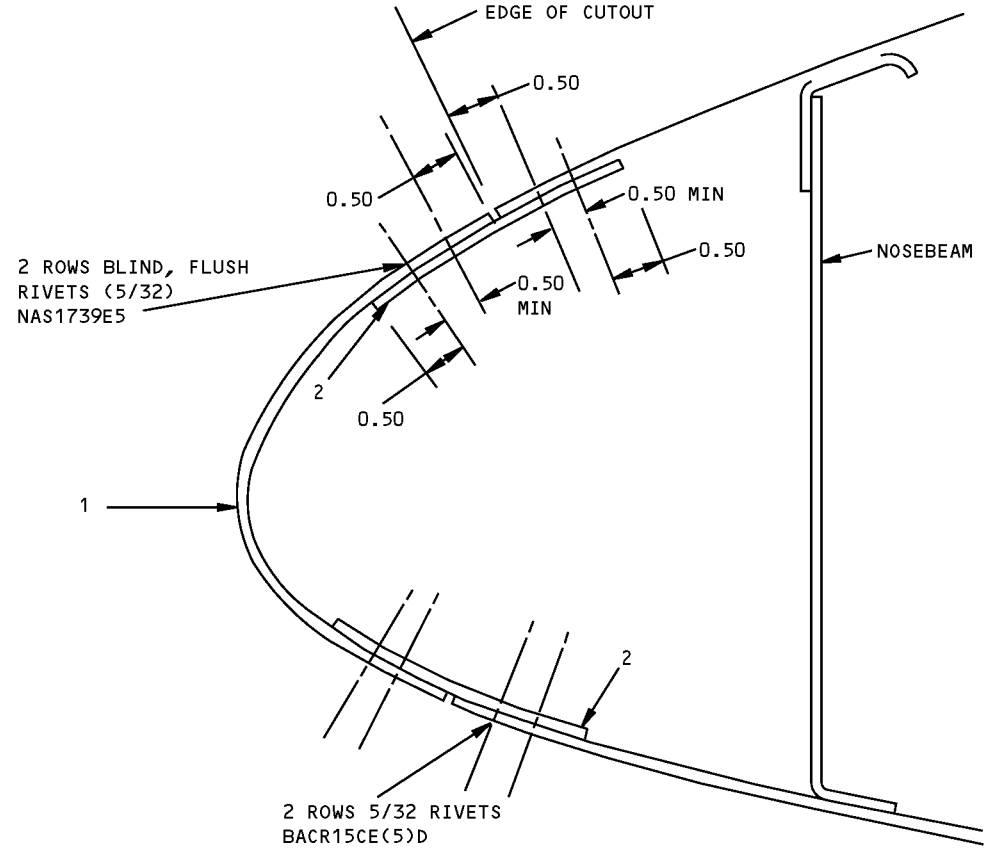
EXISTING FASTENER LOCATION

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	REPAIR PLATE	1	0.063 CLAD 7075-T6
2	DOUBLER	1	0.071 CLAD 7075-T6
3	DOUBLER	1	0.071 CLAD 7075-T6

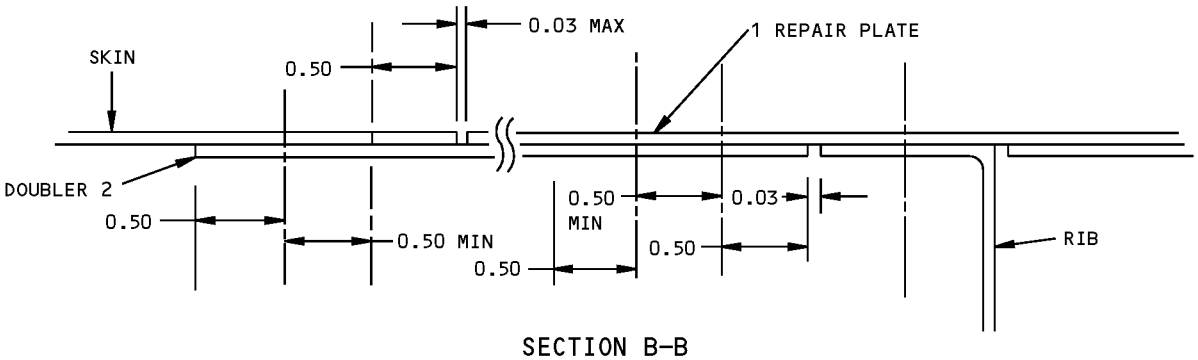
Leading Edge Slat Skin Repair - Flush Patch at Rib Forward of Nosebeam
Figure 201 (Sheet 1 of 3)



Leading Edge Slat Skin Repair - Flush Patch at Rib Forward of Nosebeam
Figure 201 (Sheet 2 of 3)



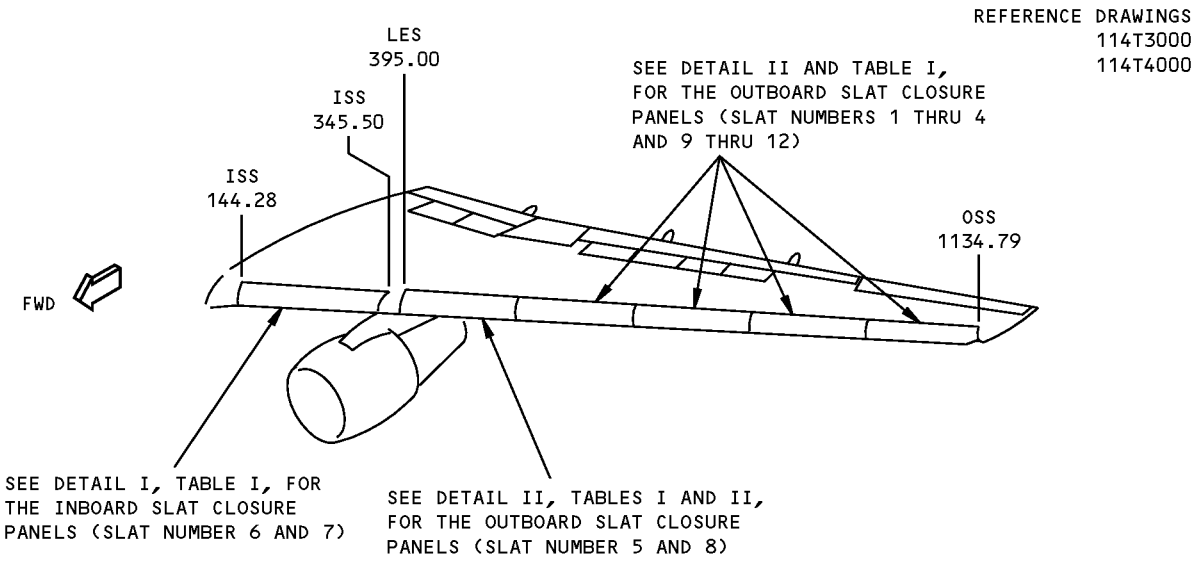
SECTION A-A

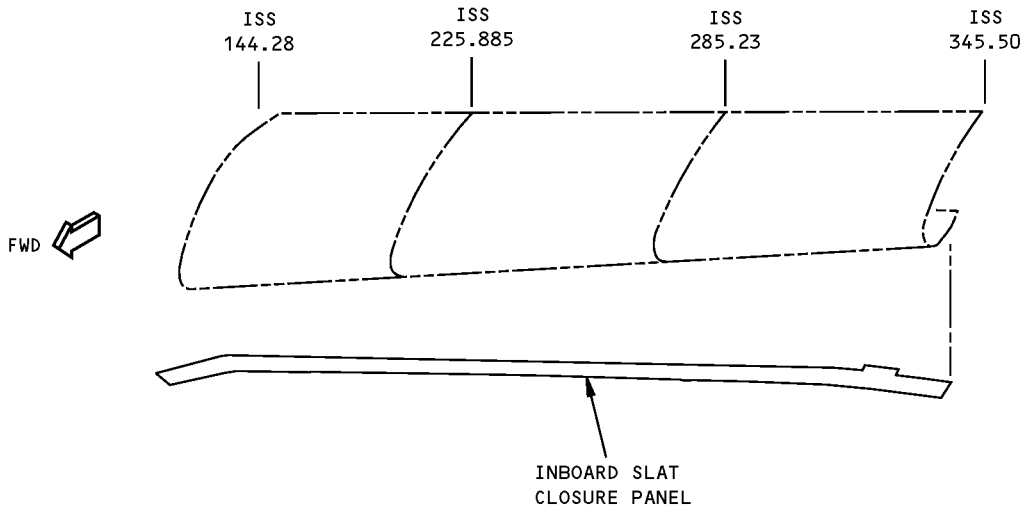


SECTION B-B

Leading Edge Slat Skin Repair - Flush Patch at Rib Forward of Nosebeam
Figure 201 (Sheet 3 of 3)

REPAIR 3 - LEADING EDGE SLAT CLOSURE PANEL SKIN

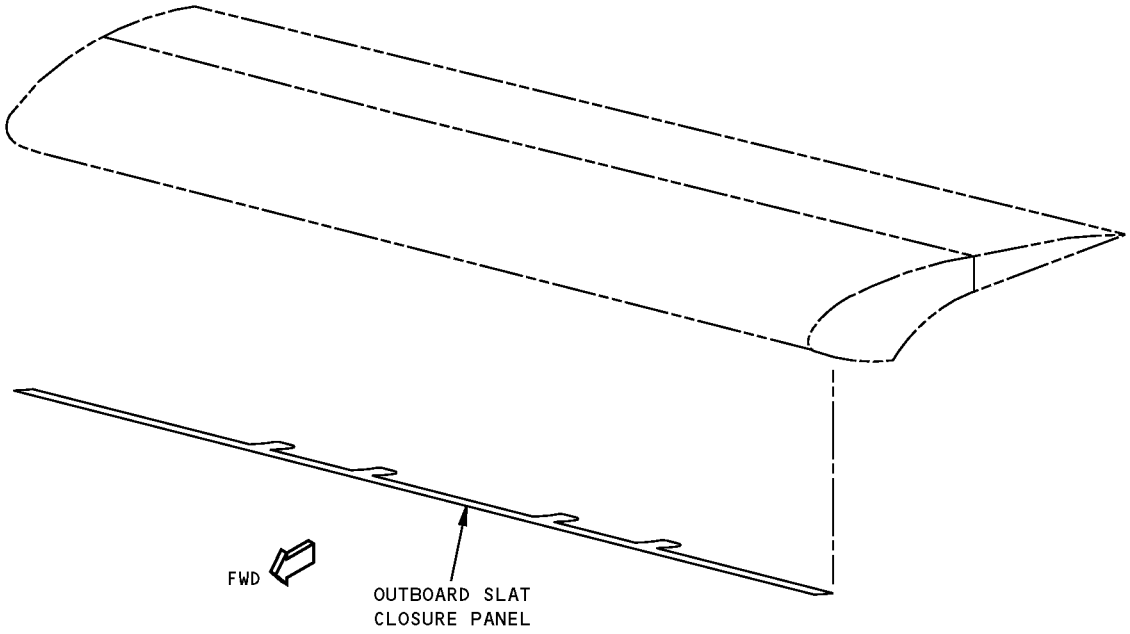




MATERIAL: 250°F (121°C) CURE FIBERGLASS
SKIN PANELS. SEE TABLE I

INBOARD SLAT CLOSURE PANEL
DETAIL I

Leading Edge Slat Closure Panel Skin Repair
Figure 201 (Sheet 1 of 4)



MATERIAL:
- 350°F (177°C) CURE FIBERGLASS SKIN PANELS.
  SEE TABLE II – ONLY ON INBOARD END OF SLAT NUMBER 5 (NUMBER 8)
- 250°F (121°C) CURE FIBERGLASS SKIN PANELS. SEE TABLE I

OUTBOARD SLAT CLOSURE PANEL
DETAIL II

Leading Edge Slat Closure Panel Skin Repair
Figure 201 (Sheet 2 of 4)

DAMAGE	PERMANENT REPAIRS	
	WET LAYUP 200°F (93°C) CURE (51-70-17)	250°F (121°C) CURE (51-70-07)
CRACKS	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	24 INCH (61 cm) MAXIMUM LENGTH REPAIR FOR ANY SINGLE REPAIR. MULTIPLE REPAIRS AND FULL PANEL WIDTH REPAIRS ARE ACCEPTABLE. USE ONE EXTRA PLY	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE	
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS SHOWN IN SRM 51-70-06 IF THERE IS FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE	
DENTS	UP TO 1.0 INCH (25.4 mm) DIAMETER AND UP TO 25 PERCENT OF THE PANEL THICKNESS WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS SHOWN IN SRM 51-70-06, PARAGRAPH 5.L. OVER 1.0 INCH (25.4 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE	

REPAIR DATA FOR 250°F (121°C) CURE FIBERGLASS PANELS
TABLE I

Leading Edge Slat Closure Panel Skin Repair
Figure 201 (Sheet 3 of 4)

DAMAGE	PERMANENT REPAIRS	
	WET LAYUP 200°F (93°C) CURE (51-70-17)	350°F (177°C) CURE (51-70-08)
CRACKS	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	12.0 INCHES (30.5 cm) MAXIMUM LENGTH REPAIRS, AND UP TO A FULL PANEL WIDTH, FOR ANY SINGLE REPAIR. MULTIPLE REPAIRS ARE ACCEPTABLE BUT THEY MUST BE SPACED 12 INCHES (30.5 cm) APART. IF THEY ARE LESS THAN 12 INCHES (30.5 cm) APART, THEY SHOULD BE COUNTED AS A SINGLE REPAIR. USE ONLY ONE EXTRA REPAIR PLY.	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE	
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS SHOWN IN SRM 51-70-06 IF THERE IS FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE	
DENTS	UP TO 1.0 INCH (25.4 mm) DIAMETER AND UP TO 25 PERCENT OF THE PANEL THICKNESS WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS SHOWN IN SRM 51-70-06, PARAGRAPH 5.L. OVER 1.0 INCH (25.4 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE	

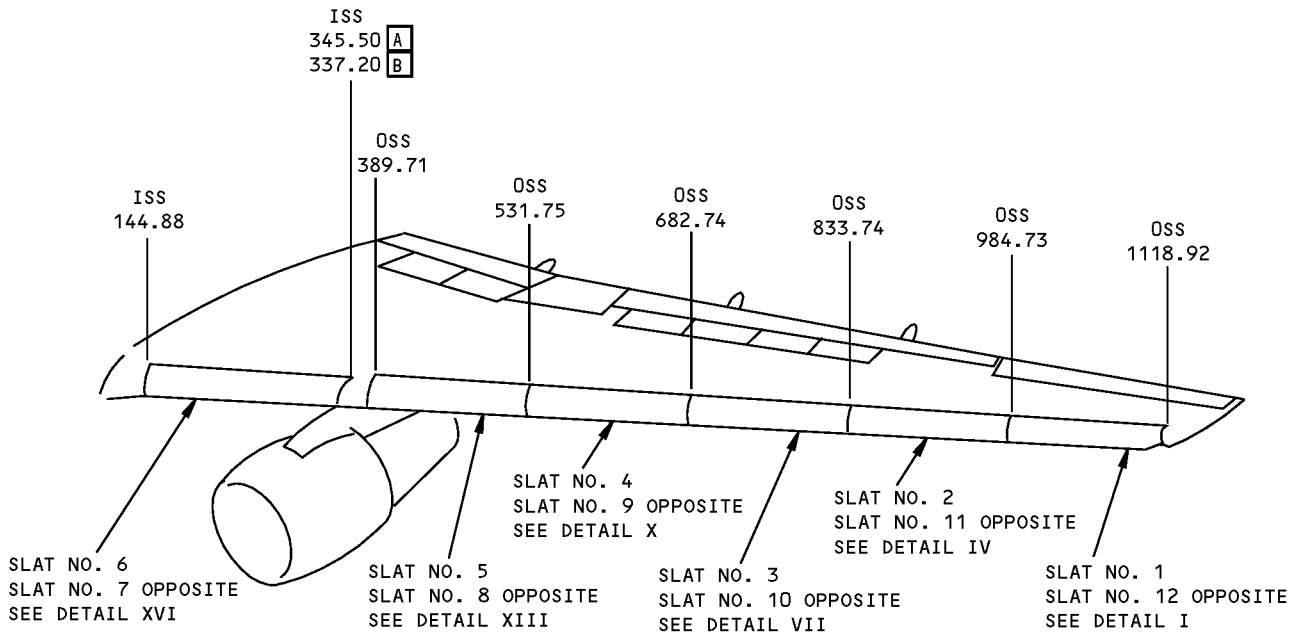
REPAIR DATA FOR 350°F (177°C) CURE FIBERGLASS PANELS
TABLE II

NOTES

- REFER TO SRM 51-10-00 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE MUST BE MORE THAN THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- REFER TO AMM 51-20 TO APPLY THE FINISH TO THE REWORKED AREAS.

Leading Edge Slat Closure Panel Skin Repair
Figure 201 (Sheet 4 of 4)

IDENTIFICATION 1 - LEADING EDGE SLAT STRUCTURE



LEFT WING SHOWN
RIGHT WING OPPOSITE

NOTES

A FOR AIRPLANES NOT IN B

B FOR AIRPLANES WITH CF6-80C2 ENGINES

C FOR AIRPLANE CUM LINE NUMBERS:
132 THRU 383

D FOR AIRPLANE CUM LINE NUMBERS:
384 THRU 692

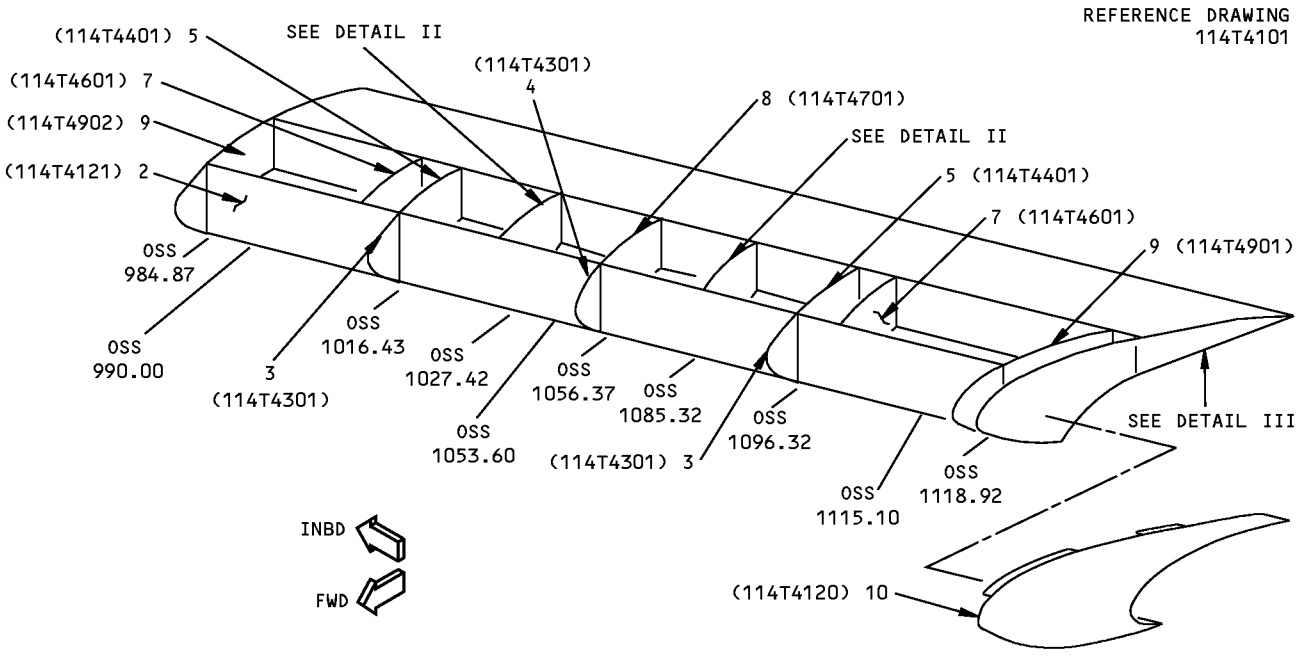
E FOR AIRPLANE CUM LINE NUMBERS:
132 THRU 692

F FOR AIRPLANE CUM LINE NUMBERS:
693 AND ON

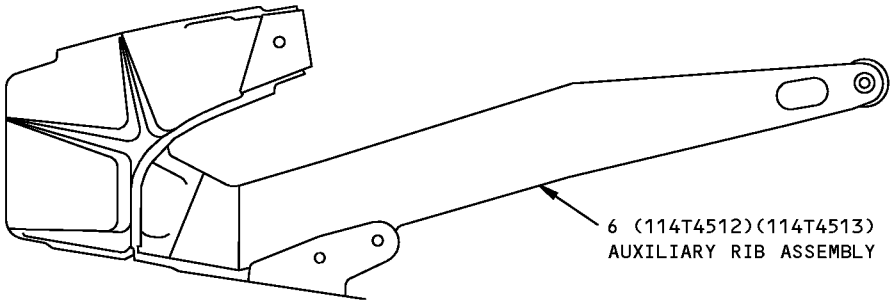
G FOR AIRPLANE CUM LINE NUMBERS:
1 THRU 758

H FOR AIRPLANE CUM LINE NUMBERS:
758 AND ON

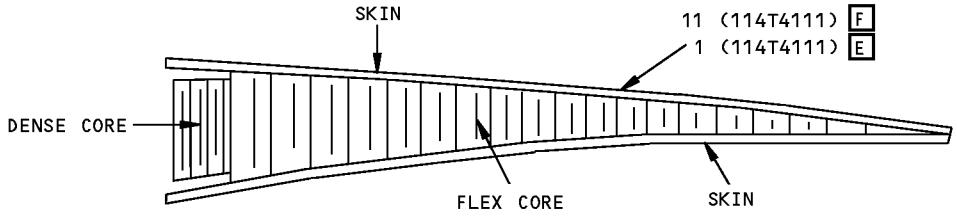
Leading Edge Slat Structure Identification
Figure 1 (Sheet 1 of 13)



SLAT NO. 1 SHOWN
SLAT NO. 12 OPPOSITE
DETAIL I



DETAIL II



DETAIL III

LIST OF MATL

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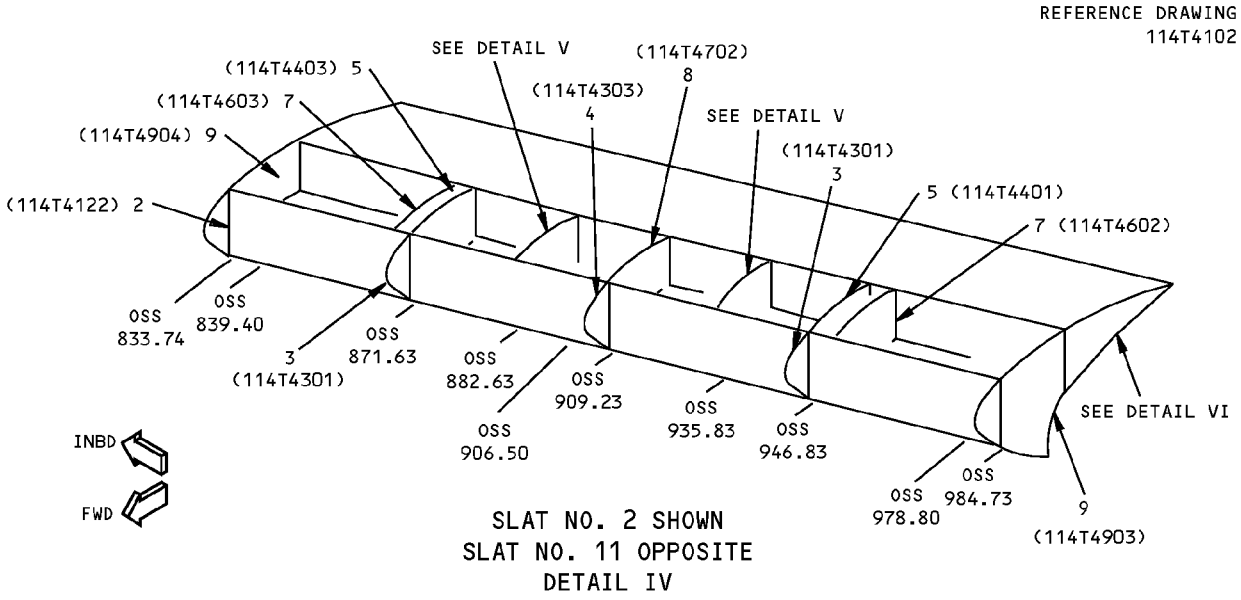
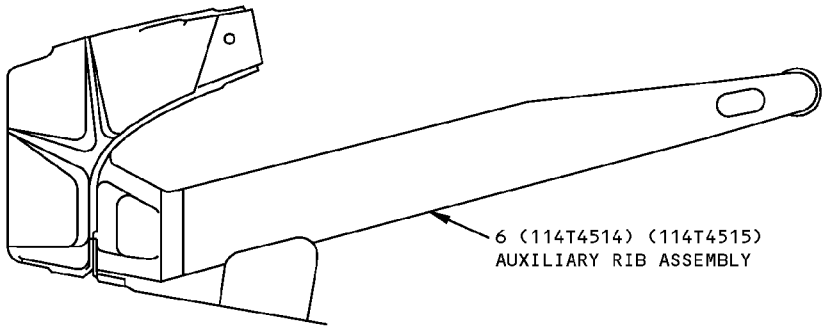
Leading Edge Slat Structure Identification
Figure 1 (Sheet 2 of 13)

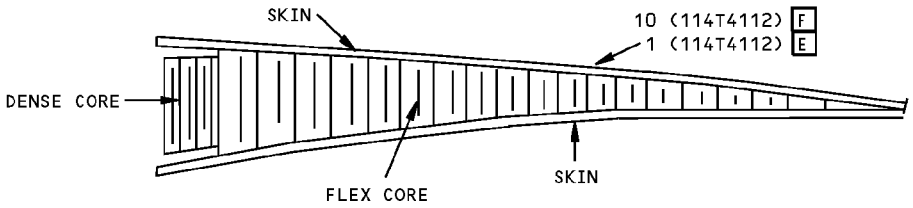
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TE WEDGE ASSEMBLY			E
	SKIN	0.016	5052-H38	C
	SKIN	0.016	2024-T3	D
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-6 TYPE 4.1-25	
	DENSE CORE		METALLIC HONEYCOMB 12.0-1/8-30 (5052)	
2	NOSE BEAM WEB	0.050	2024-T42	
3	NOSE RIB		PLATE 7075-T7351	
4	NOSE RIB		PLATE 2219-T851	
5	MAIN TRACK RIB		PLATE 7075-T7351	
6	AUXILIARY RIB ASSEMBLY		PLATE 7075-T7351	
7	ACTUATOR RIB		PLATE 7075-T7351	
8	AIRLOAD RIB		PLATE 7075-T7351	
9	END RIB		PLATE 7075-T7351	
10	OUTBOARD FAIRING TIP		A356-T6 CASTING	
11	TE WEDGE ASSEMBLY			F
	UPPER AND LOWER SKIN	0.016	2024-T3	
	FLEX CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-6, TYPE 4.1-25, CLASS 4	
	DENSE CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-30, CLASS NPA	

LIST OF MATERIALS FOR DETAILS I,II, AND III

Leading Edge Slat Structure Identification
Figure 1 (Sheet 3 of 13)







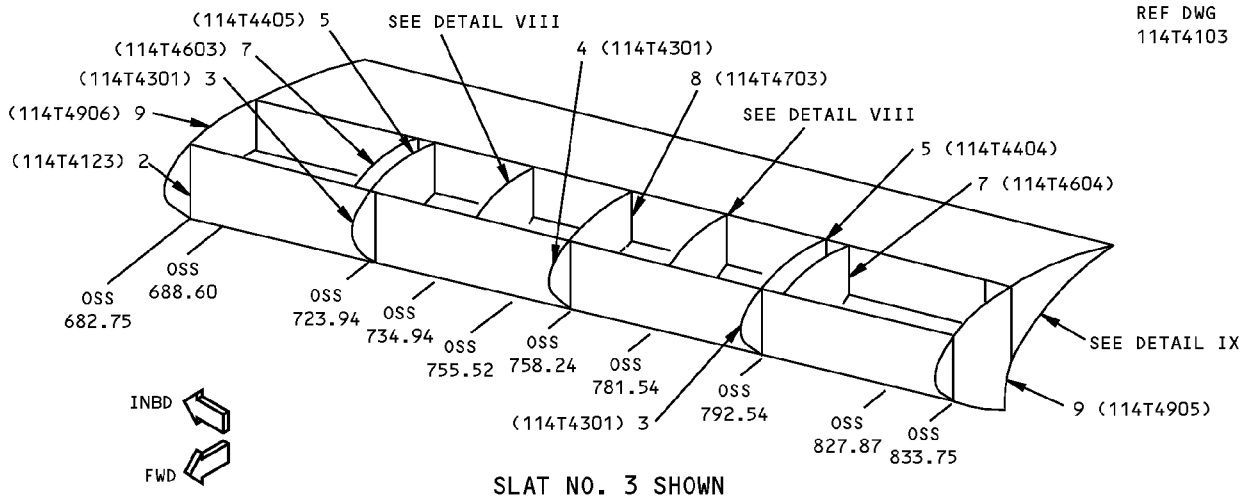
LIST OF MATL

Leading Edge Slat Structure Identification
Figure 1 (Sheet 4 of 13)

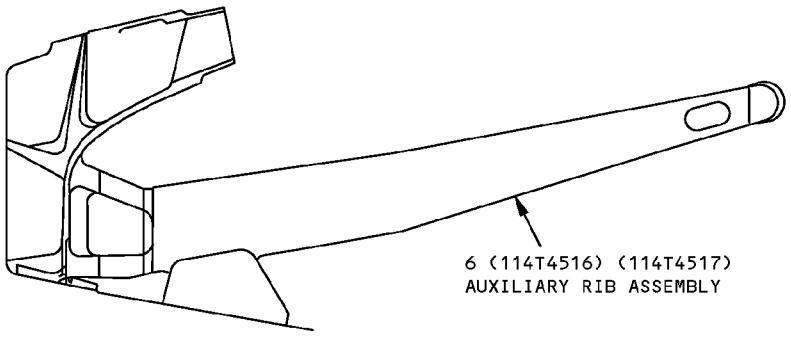
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TE WEDGE ASSY			E
	SKIN	0.016	5052-H38	C
	SKIN	0.016	2024-T3	D
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-6 TYPE 4.1-25	
	DENSE CORE		METALLIC HONEYCOMB 12.0-1/8-30 (5052)	
2	NOSE BEAM WEB	0.050	2024-T42	
3	NOSE RIB		PLATE 7075-T7351	
4	NOSE RIB		PLATE 2219-T851	
5	MAIN TRACK RIB		PLATE 7075-T7351	
6	AUX RIB ASSY		PLATE 7075-T7351	
7	ACTUATOR RIB		PLATE 7075-T7351	
8	AIRLOAD RIB		PLATE 7075-T7351	
9	END RIB		PLATE 7075-T7351	
10	TE WEDGE ASSEMBLY			F
	UPPER AND LOWER SKIN	0.016	2024-T3	
	FLEX CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-6, TYPE 4.1-25, CLASS 4	
	DENSE CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-30, CLASS NPA	

LIST OF MATERIALS FOR DETAILS IV,V, AND VI

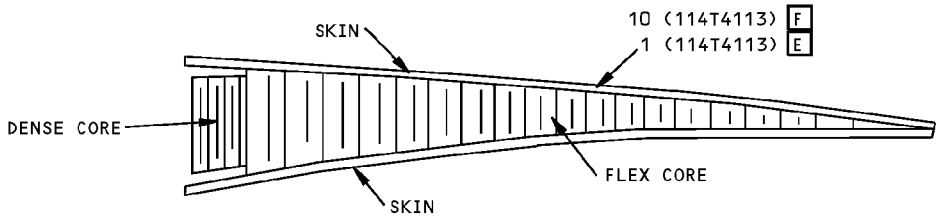
Leading Edge Slat Structure Identification
Figure 1 (Sheet 5 of 13)



SLAT NO. 3 SHOWN
SLAT NO. 10 OPPOSITE
DETAIL VII



DETAIL VIII



DETAIL IX

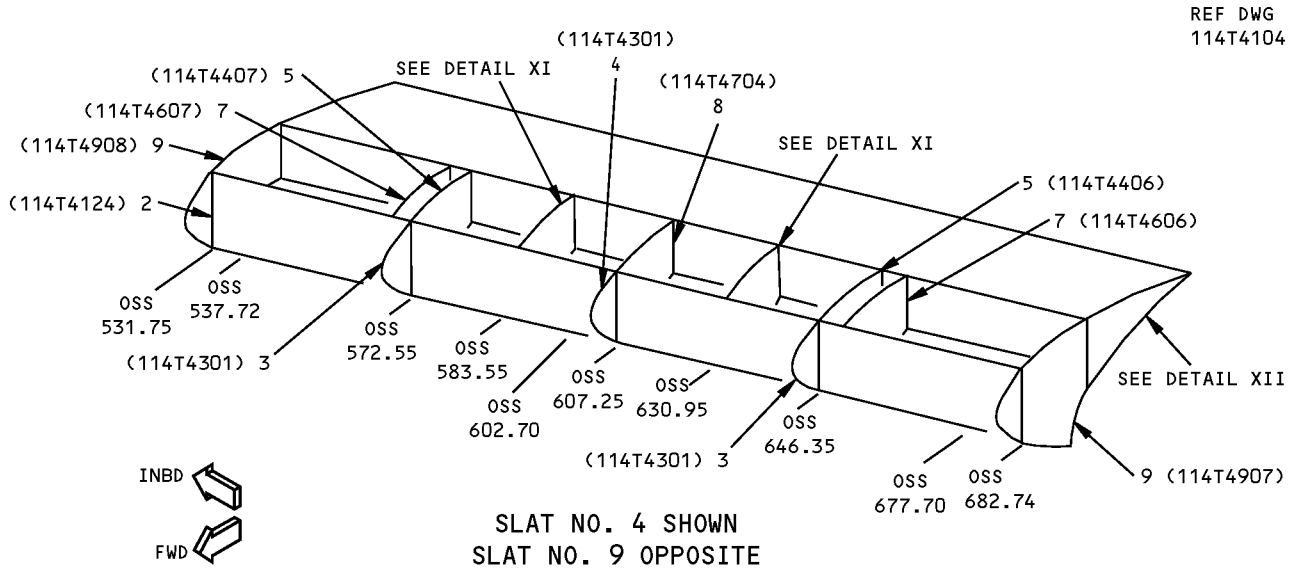
LIST OF MATL

Leading Edge Slat Structure Identification
Figure 1 (Sheet 6 of 13)

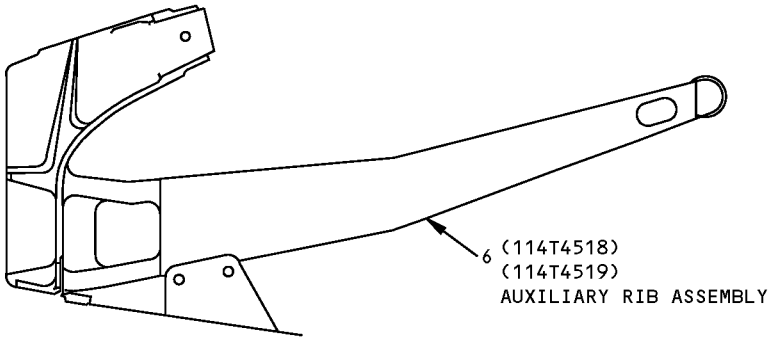
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TE WEDGE ASSY			E
	SKIN	0.016	5052-H38	C
	SKIN	0.016	2024-T3	D
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-6 TYPE 4.1-25	
	DENSE CORE		METALLIC HONEYCOMB 12.0-1/8-30 (5052)	
2	NOSE BEAM WEB	0.050	2024-T42	
3	NOSE RIB		PLATE 7075-T7351	
4	NOSE RIB		PLATE 2219-T851	
5	MAIN TRACK RIB		PLATE 7075-T7351	
6	AUX RIB ASSY		PLATE 7075-T7351	
7	ACTUATOR RIB		PLATE 7075-T7351	
8	AIRLOAD RIB		PLATE 7075-T7351	
9	END RIB		PLATE 7075-T7351	
10	TE WEDGE ASSEMBLY			F
	UPPER AND LOWER SKIN	0.016	2024-T3	
	FLEX CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-6, TYPE 4.1-25, CLASS 4	
	DENSE CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-30, CLASS NPA	

LIST OF MATERIALS FOR DETAILS VII,VIII, AND IX

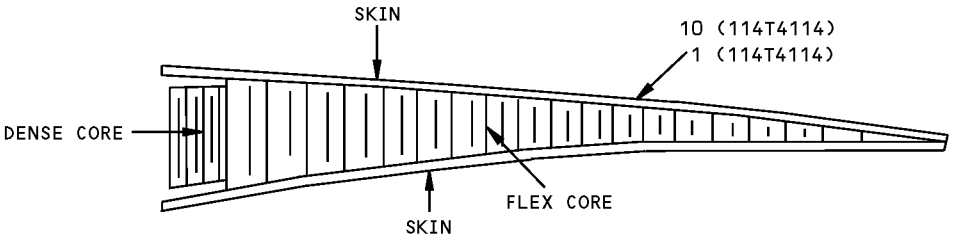
Leading Edge Slat Structure Identification
Figure 1 (Sheet 7 of 13)



SLAT NO. 4 SHOWN
SLAT NO. 9 OPPOSITE
DETAIL X



DETAIL XI



DETAIL XII

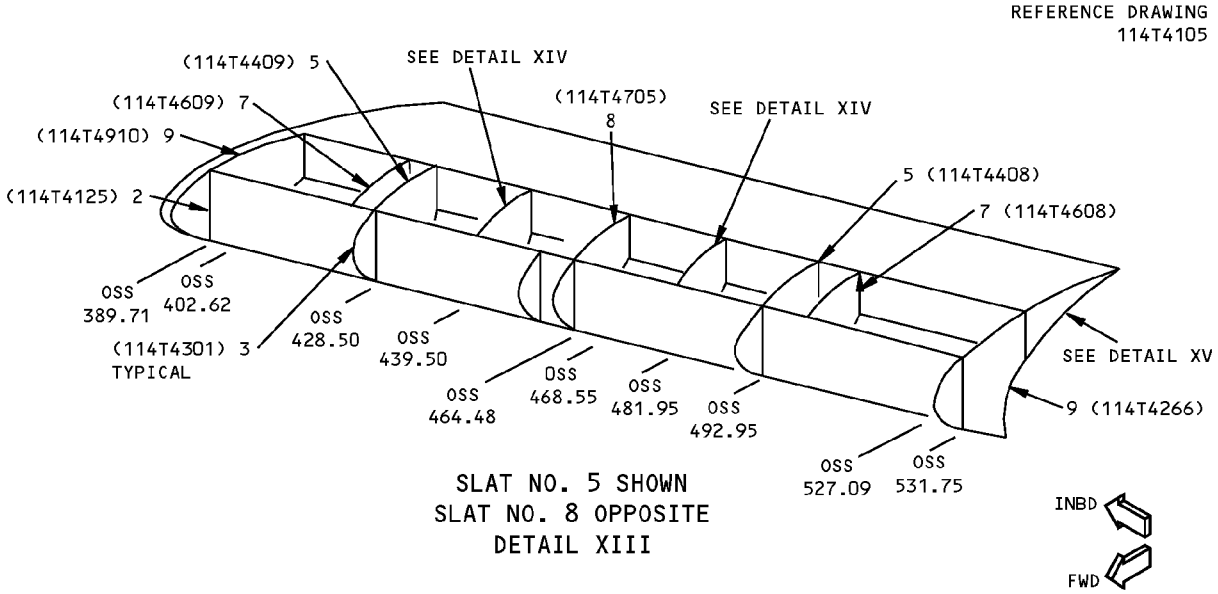
LIST OF MATL

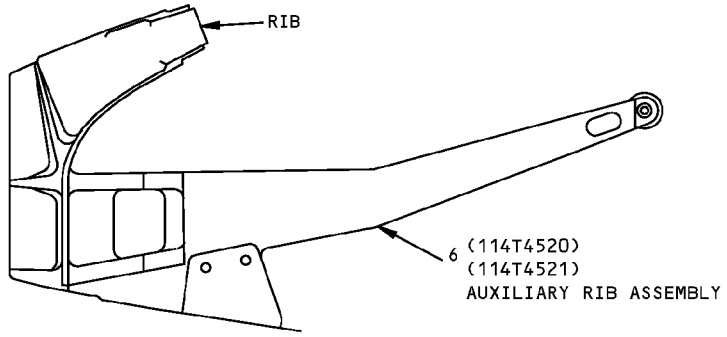
Leading Edge Slat Structure Identification
Figure 1 (Sheet 8 of 13)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TE WEDGE ASSY			E
	SKIN	0.016	5052-H38	C
	SKIN	0.016	2024-T3	D
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-6 TYPE 4.1-25	
	DENSE CORE		METALLIC HONEYCOMB 12.0-1/8-30 (5052)	
2	NOSE BEAM WEB	0.050	2024-T42	
3	NOSE RIB		PLATE 7075-T7351	
4	NOSE RIB		PLATE 2219-T851	
5	MAIN TRACK RIB		PLATE 7075-T7351	
6	AUX RIB ASSY		PLATE 7075-T7351	
7	ACTUATOR RIB		PLATE 7075-T7351	
8	AIRLOAD RIB		PLATE 7075-T7351	
9	END RIB		PLATE 7075-T7351	
10	TE WEDGE ASSEMBLY			F
	UPPER AND LOWER SKIN	0.016	2024-T3	
	FLEX CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-6, TYPE 4.1-25, CLASS 4	
	DENSE CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-30, CLASS NPA	

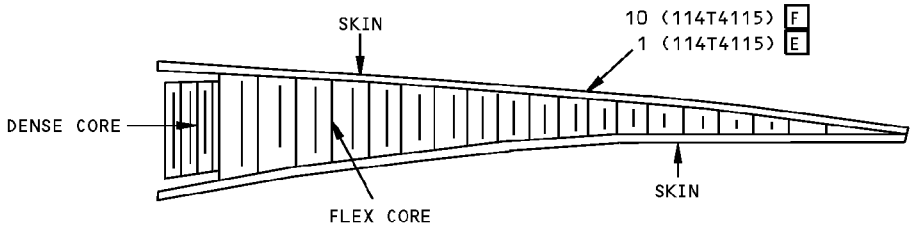
LIST OF MATERIALS FOR DETAILS X,XI, AND XII

Leading Edge Slat Structure Identification
Figure 1 (Sheet 9 of 13)





DETAIL XIV



DETAIL XV

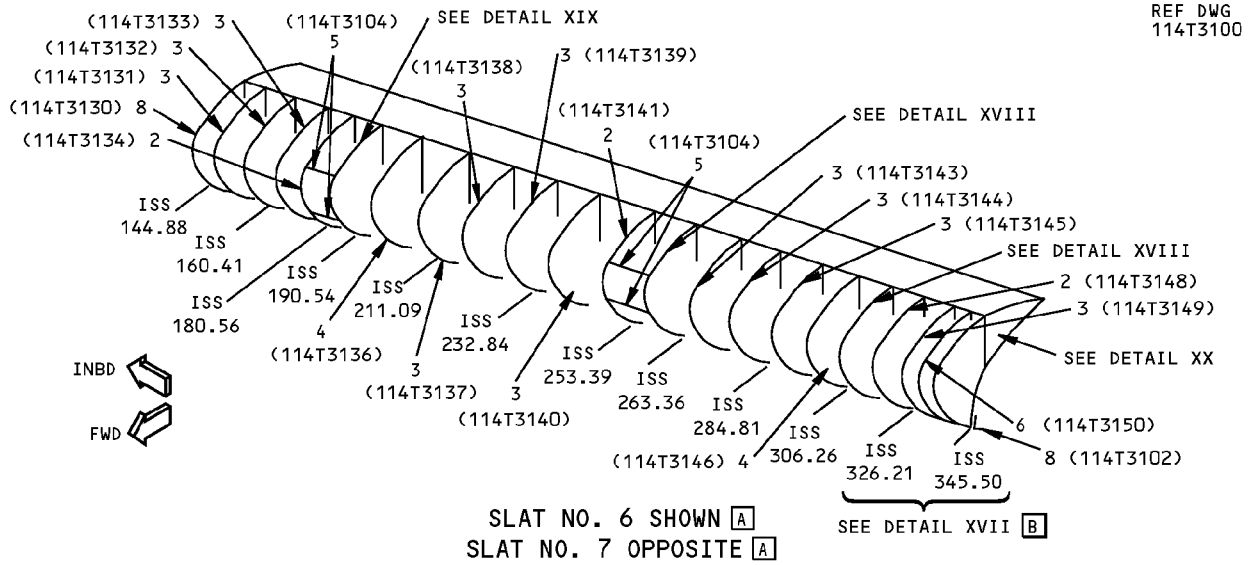
LIST OF MATL

Leading Edge Slat Structure Identification
Figure 1 (Sheet 10 of 13)

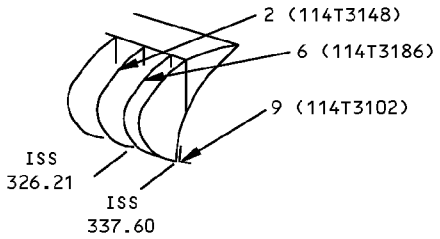
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TE WEDGE ASSY			E
	SKIN	0.016	5052-H38	C
	SKIN	0.016	2024-T3	D
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-6 TYPE 4.1-25 (OPTIONAL: METALLIC HONEYCOMB PER BMS 4-4 TYPE 3-10N, 5052)	C
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-4 TYPE 3-10N, 5052	D
	DENSE CORE		METALLIC HONEYCOMB PER 12.0-1/8-30 (5052)	
2	NOSE BEAM WEB	0.050	2024-T42	O
		0.050	7075-T62	P
3	NOSE RIB		PLATE 7075-T7351	
4	NOSE RIB		PLATE 2219-T851	
5	MAIN TRACK RIB		PLATE 7075-T7351	
6	AUX RIB ASSY		PLATE 7075-T7351	
7	ACTUATOR RIB		PLATE 7075-T7351	
8	AIRLOAD RIB		PLATE 7075-T7351	
9	END RIB		PLATE 7075-T7351	
10	TE WEDGE ASSEMBLY			F
	UPPER AND LOWER SKIN	0.016	2024-T3	
	FLEX CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-6, TYPE 4.1-25, CLASS 4	
	DENSE CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-30, CLASS NPA	

LIST OF MATERIALS FOR DETAILS XIII,XIV, AND XV

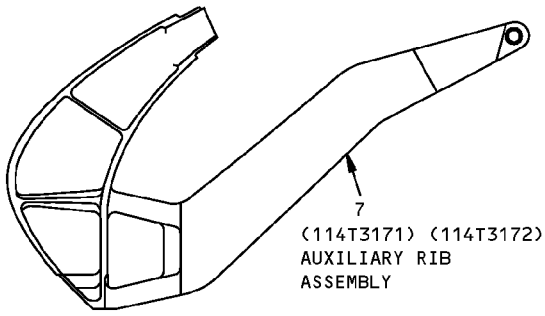
Leading Edge Slat Structure Identification
Figure 1 (Sheet 11 of 13)



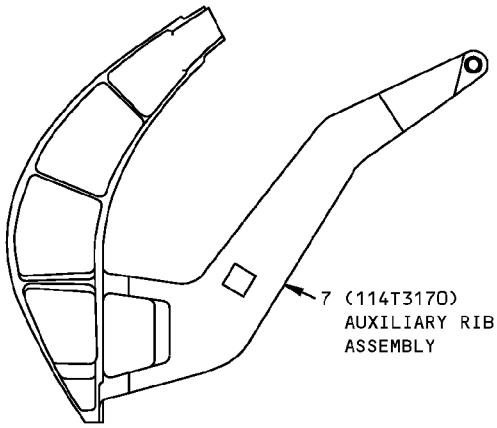
SLAT NO. 6 SHOWN A
SLAT NO. 7 OPPOSITE A
DETAIL XVI



DETAIL XVII B



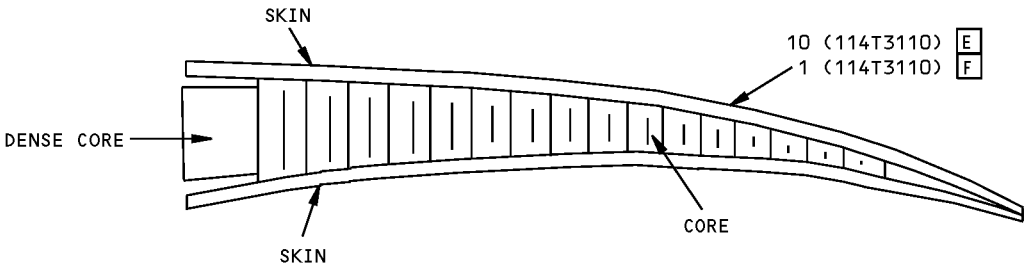
ISS 263.36 AND 316.23
DETAIL XVIII



ISS 190.54
DETAIL XIX

LIST OF MATL

Leading Edge Slat Structure Identification
Figure 1 (Sheet 12 of 13)



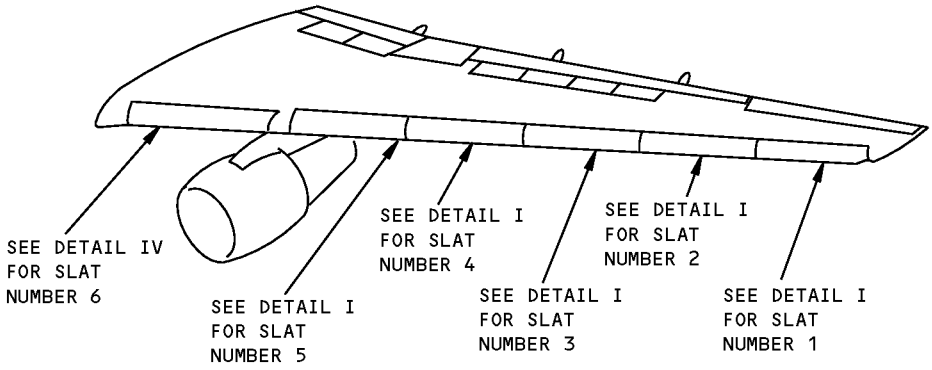
DETAIL XX

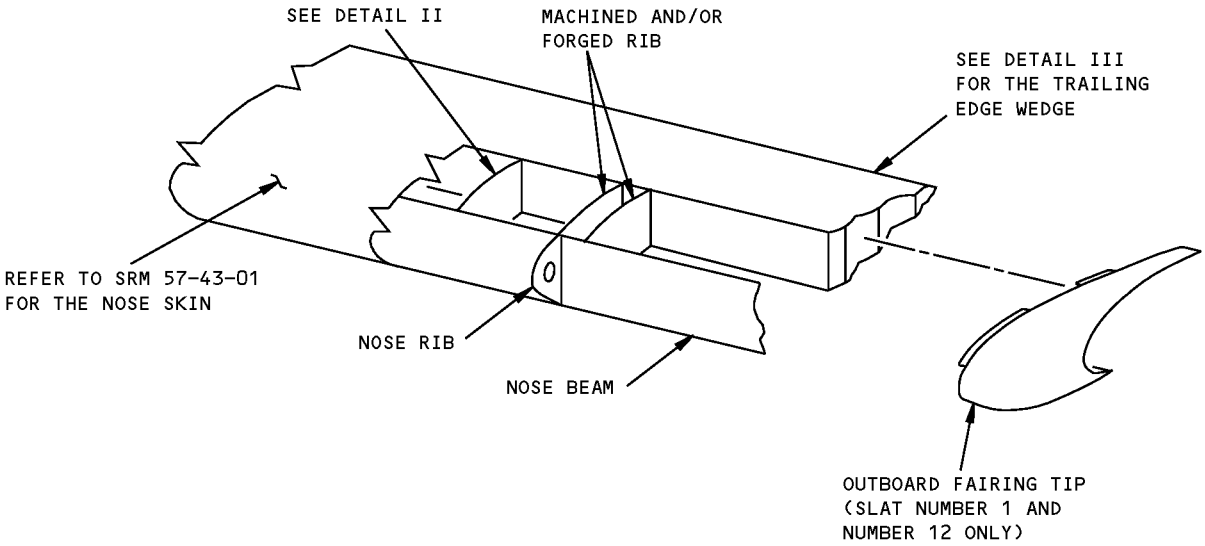
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	TE WEDGE ASSY			E
	SKIN, UPR AND LWR	0.020	5052-H38	C
	SKIN, UPR AND LWR	0.020	2024-T3	D
	FLEX CORE		METALLIC HONEYCOMB PER BMS 4-6 TYPE 4.1-25	
	DENSE CORE		METALLIC HONEYCOMB 12.0-1/8-30 (5052)	
2	MAIN SUPPORT RIB		PLATE 7075-T7351	
3	AIRLOAD RIB		PLATE 7075-T7351	
4	ACTUATOR RIB		PLATE 7075-T7351	
5	STIFFENER	0.063	CLAD 7075-T6	
6	END RIB		PLATE 7075-T7351	
7	AUX RIB ASSY		PLATE 7075-T7351	
8	LWR CHORD	0.080	CLAD 7075-T6	
9	LWR CHORD	0.080	CLAD 7075-T62	B
10	TE WEDGE ASSEMBLY			F
	UPPER AND LOWER SKIN	0.020	2024-T3	
	FLEX CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-6, TYPE 4.1-25, CLASS 4	
	DENSE CORE		5052-H38 OR -H39 ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-30, CLASS NPA	

LIST OF MATERIALS FOR DETAILS XVI,XVII,XVIII,XIX, AND XX

Leading Edge Slat Structure Identification
Figure 1 (Sheet 13 of 13)

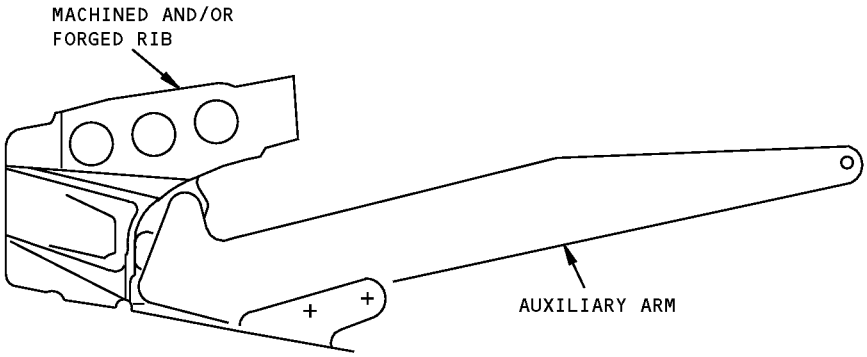
ALLOWABLE DAMAGE 1 - WING LEADING EDGE SLAT STRUCTURE





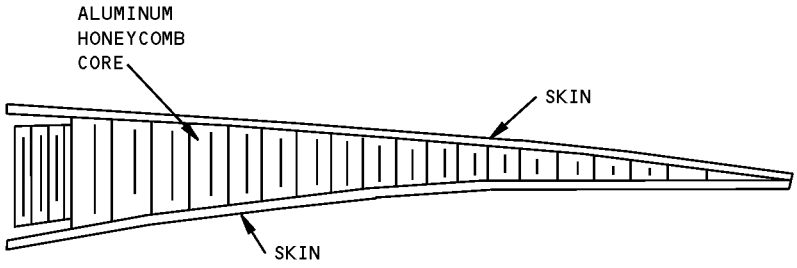
SLAT NUMBER 1 THRU 5
DETAIL I

Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 1 of 8)



AUXILIARY ARM AND RIB

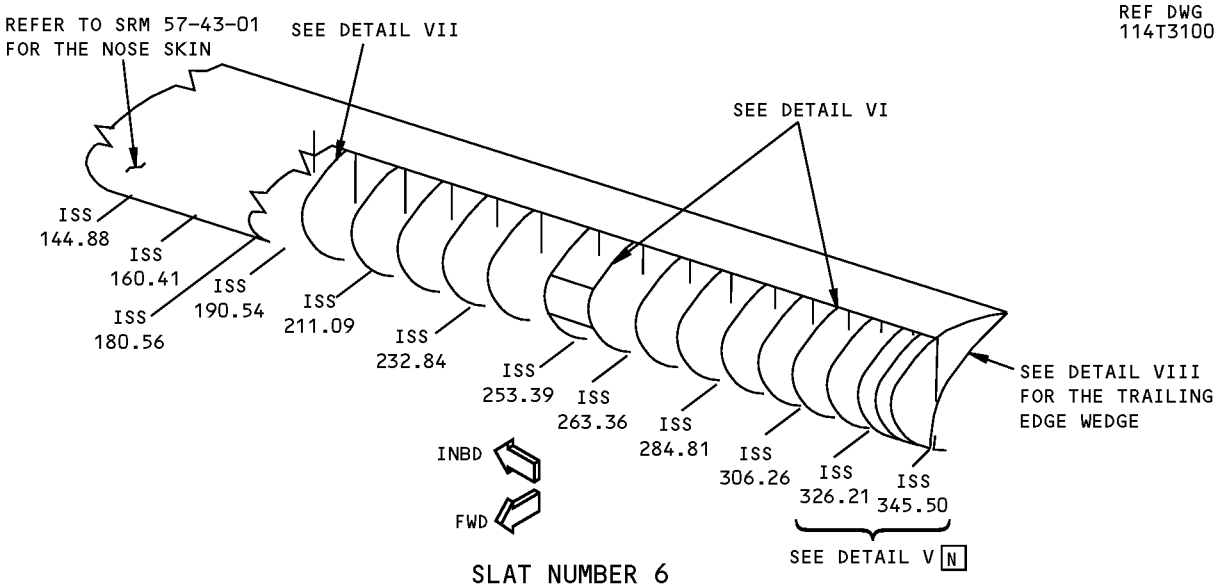
DETAIL II



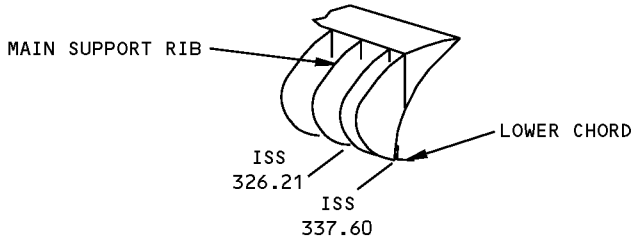
TRAILING EDGE WEDGE

DETAIL III

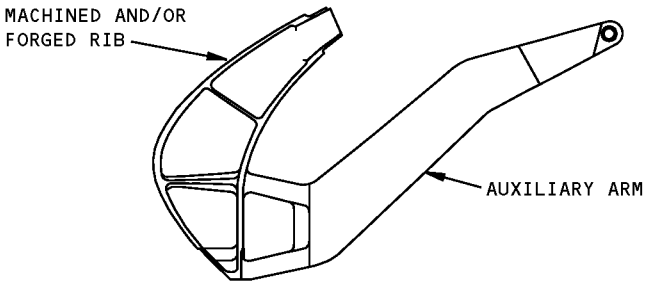
Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 2 of 8)



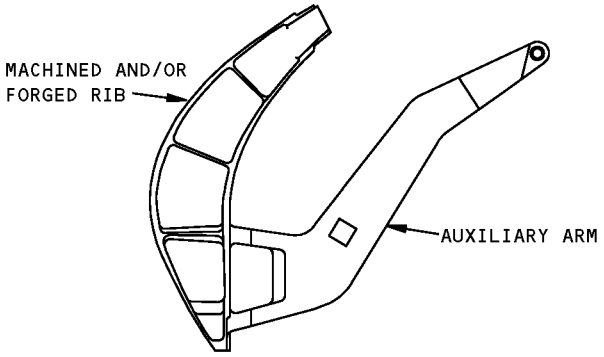
SLAT NUMBER 6
DETAIL IV



DETAIL V N



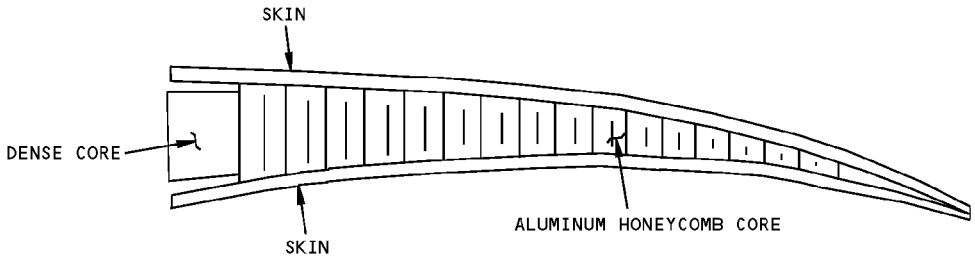
AUXILIARY ARM AND RIB AT
ISS 263.36 AND 316.23
DETAIL VI



AUXILIARY ARM AND RIB AT ISS 190.54
DETAIL VII

LIST OF
MATL

Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 3 of 8)



TRAILING EDGE WEDGE
DETAIL VIII

DESCRIPTION		CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
MACHINED AND/OR FORGED RIB	WEB	NOT PERMITTED	FOR CORNER DAMAGE AT LUGS SEE DETAIL XV [I]; FOR OTHERS [B]	[C]	[G]	——
	LUGS	NOT PERMITTED		NOT PERMITTED	NOT PERMITTED	
	FLANGE	[D]	FOR EDGE DAMAGE SEE DETAIL XII OR XIII; FOR OTHERS [B]	NOT PERMITTED	NOT PERMITTED	
	INTEGRAL STIFFENER					
NOSE BEAM [M]	WEB	NOT PERMITTED	[B]	[C]	[G]	——
	FLANGE	[A]	FOR EDGE DAMAGE SEE DETAIL IX OR XII; FOR OTHERS [B]	NOT PERMITTED	NOT PERMITTED	
	STIFFENER				[E]	
NOSE RIB [M]	WEB	NOT PERMITTED	[B]	[C]	[G]	——
	FLANGE	[H]	FOR EDGE DAMAGE SEE DETAIL IX OR XII; FOR OTHERS [B]	NOT PERMITTED	NOT PERMITTED	
AUXILIARY ARM		[H]	FOR CORNER DAMAGE SEE DETAIL XV [H]; FOR OTHERS [B]	NOT PERMITTED	NOT PERMITTED	——
TRAILING EDGE WEDGE PANEL		[A]	FOR EDGE DAMAGE SEE DETAIL IX; FOR OTHERS [B]	[J]	[F]	[L]
OUTBOARD FAIRING TIP (SLAT NUMBER 1 AND NUMBER 12 ONLY)		[D]	[B]	[C]	NOT PERMITTED	——

Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 4 of 8)

NOTES

- APPLY THE FINISH TO REWORK AREAS AS GIVEN IN AMM 51-20.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE DAMAGE IS MORE THAN THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO LOSS OF PERFORMANCE INVOLVED.

[A] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL IX OR XII. ALL OTHER CRACKS MUST BE REPAIRED.

[B] NICK, GOUGE, OR SCRATCH DAMAGE THAT IS REMOVED AS GIVEN BY DETAIL X IS PERMITTED IF THE MAXIMUM DEPTH IS NOT MORE THAN 10 PERCENT OF THE MATERIAL THICKNESS.

[C] SEE DETAIL XI. A/Y MUST NOT BE LESS THAN 30.

[D] CLEAN UP EDGE CRACKS AS GIVEN IN DETAIL XII OR XIII. ALL OTHER CRACKS MUST BE REPAIRED.

[E] HOLE DAMAGE IS NOT PERMITTED IN THE STIFFENER FLANGE THAT IS ATTACHED TO THE WEB. A MAXIMUM OF 4 HOLES ARE PERMITTED IN THE FREE FLANGE, INCLUDING HOLE(S) DRILLED DURING MANUFACTURE.

[F] HOLES AND PUNCTURES CLEANED OUT UP TO 0.50 INCH (12.7 mm) DIAMETER AND NOT CLOSER THAN 2.5 INCHES (63.5 mm) TO ANY ADJACENT HOLE, DAMAGE OR PANEL EDGE ARE PERMITTED. PROTECT DAMAGE AS GIVEN IN [K].

[G] HOLES AND PUNCTURES CLEANED OUT UP TO 0.25 INCH (6.4 mm) DIAMETER, NOT CLOSER THAN 1.0 INCH (25.4 mm) TO ANY ADJACENT HOLE ARE PERMITTED. FILL HOLES WITH A PROTRUDING HEAD 2117-T3 RIVET INSTALLED WET WITH BMS 5-95 SEALANT. EDGE MARGIN 1.5D MINIMUM.

[H] CLEAN UP CORNER DAMAGE AS GIVEN IN DETAIL XV (X = 0.10 MAXIMUM).

[I] CLEAN UP CORNER DAMAGE AS GIVEN IN DETAIL XV (X = 0.05 MAXIMUM).

[J] MAXIMUM PERMITTED DENT DIAMETER A = 2.0 INCHES (50.8 mm). DISTANCE BETWEEN DENTS (EDGE TO EDGE) MUST BE AT LEAST 1.75 TIMES THE DIAMETER OF THE LARGER DENT. MAXIMUM PERMITTED DENT DEPTH Y = 0.12 INCH (3.0 mm) AND A/Y NOT LESS THAN 10. WHERE THE DENT DEPTH IS MORE THAN 0.12 INCH (3.0 mm), FILL IT WITH BMS 5-28 POTTING COMPOUND AND EXAMINE THE DAMAGE AT 150 FLIGHT CYCLE INTERVALS. REPAIR THE DAMAGE AT OR BEFORE 3000 FLIGHT CYCLES. SMALL DENTS THAT ARE CLOSELY SPACED MAY BE CONSIDERED AS ONE DENT IF WITHIN ALLOWABLE LIMITS. DENTS WHICH ARE LESS THAN 1.0 INCH (25.4 mm) FROM AN EDGE ARE PERMITTED IF:

- THE CONDITIONS ABOVE ARE SATISFACTORY,
- THE BONDS BETWEEN PARTS ARE NOT BROKEN,
- THERE ARE NO CRACKS IN THE STRUCTURE, AND
- THE PANEL IS CORRECTLY ATTACHED.

SEE DETAIL XI.

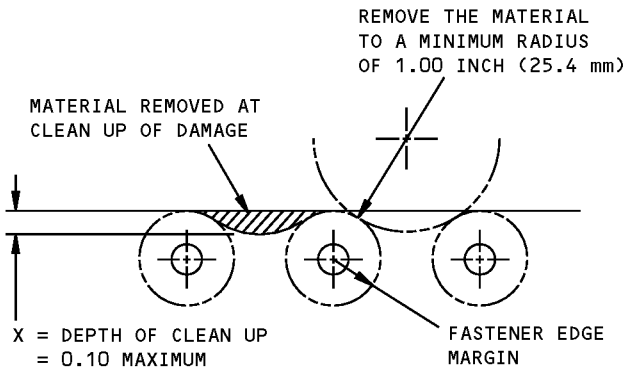
[K] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND EXAMINE THE TAPE AT 150 FLIGHT CYCLE INTERVALS. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. REPAIR THE DAMAGE AS GIVEN IN SRM 51-70-10 AT A MAXIMUM OF 3000 FLIGHT CYCLES OR 18 MONTHS, WHICHEVER OCCURS FIRST.

[L] 1.50 INCHES (38.1 mm) MAXIMUM DIMENSION (D) IN HONEYCOMB AREA IS PERMITTED FOR EACH SQUARE FOOT OF AREA. IT MUST BE A MINIMUM OF 4D (EDGE TO EDGE) FROM OTHER DAMAGE, FASTENER HOLE, OR PANEL EDGE. REPAIR DELAMINATION IN HONEYCOMB AREA AS GIVEN IN SRM 51-70-10 AT A MAXIMUM OF 3000 FLIGHT CYCLES OR 18 MONTHS, WHICHEVER OCCURS FIRST. FOR DELAMINATION THAT IS MORE THAN THESE LIMITS REFER TO SERVICE BULLETIN 767-57A0101 FOR ALLOWABLE DAMAGE, RELATED INSPECTIONS, AND REPAIRS.

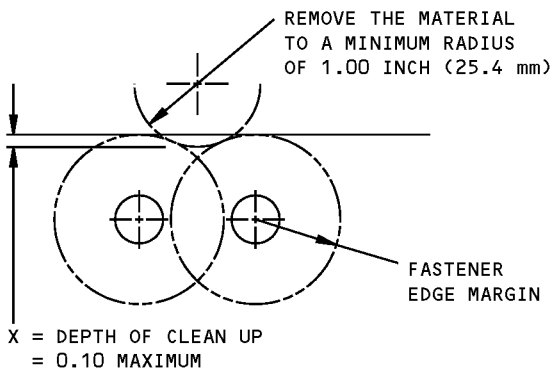
[M] FOR SLAT NUMBER 1 THRU 5 ONLY.

[N] FOR AIRPLANES WITH CF6-80C2 ENGINE.

Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 5 of 8)

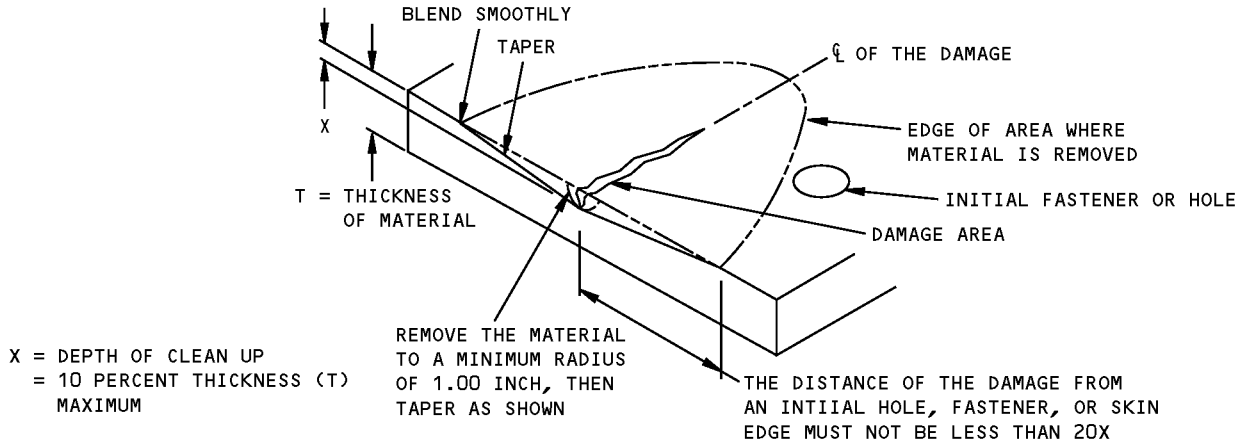


DAMAGE CLEAN UP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP

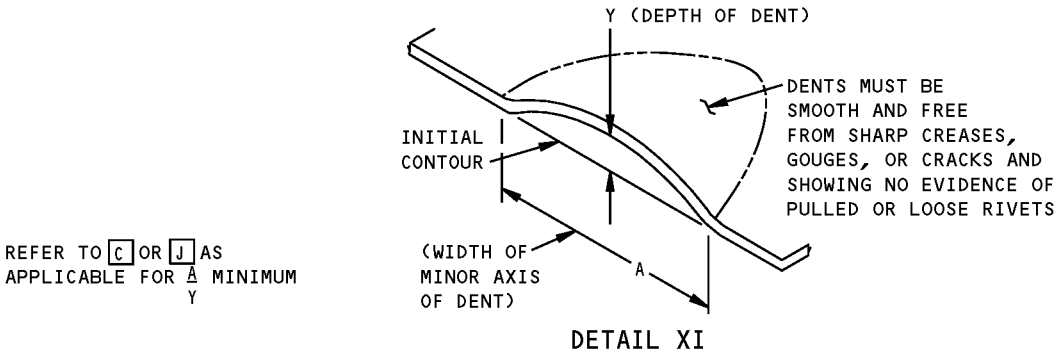


DAMAGE CLEAN UP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

REMOVAL OF DAMAGED MATERIAL ON AN EDGE
DETAIL IX

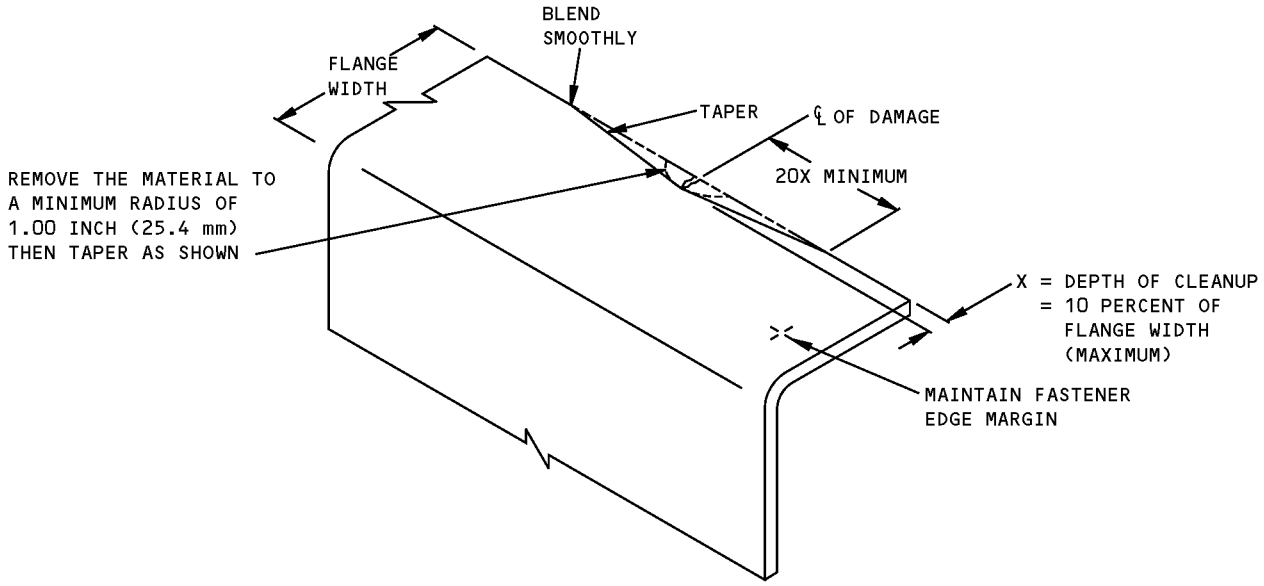


REMOVAL OF NICK, GOUGE AND SCRATCH
DAMAGE ON A SURFACE
DETAIL X

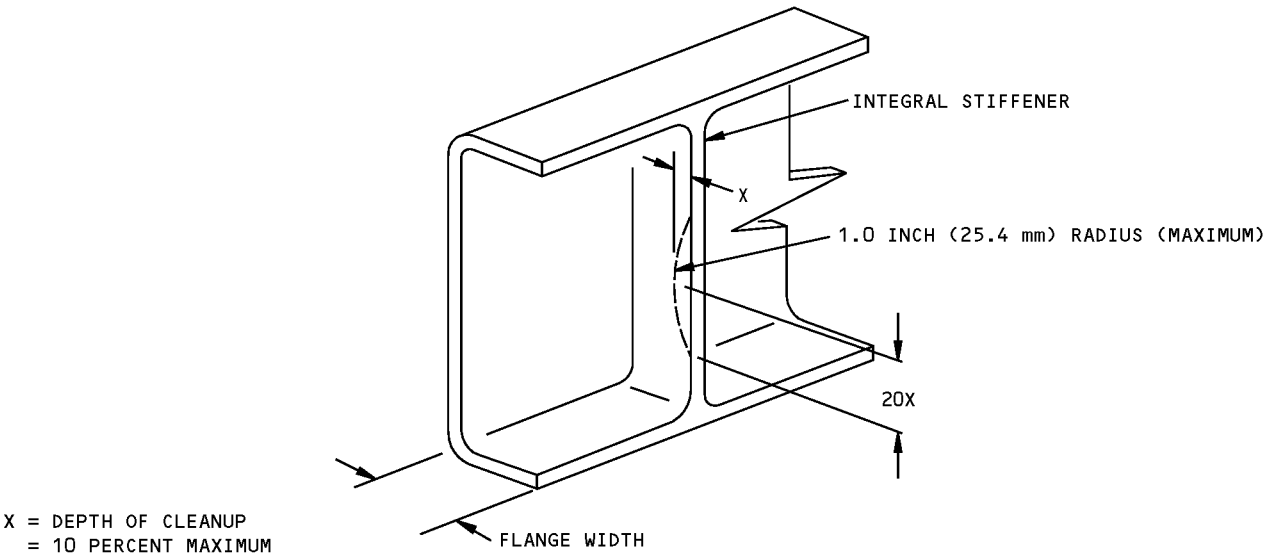


DETAIL XI

Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 6 of 8)



REMOVAL OF NICK, OR CRACK DAMAGE ON AN EDGE
DETAIL XII

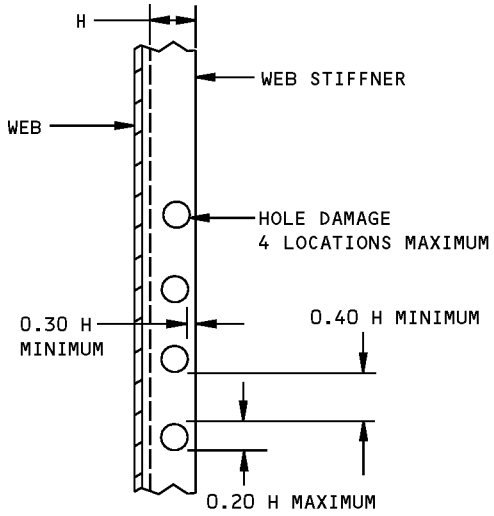


DETAIL XIII

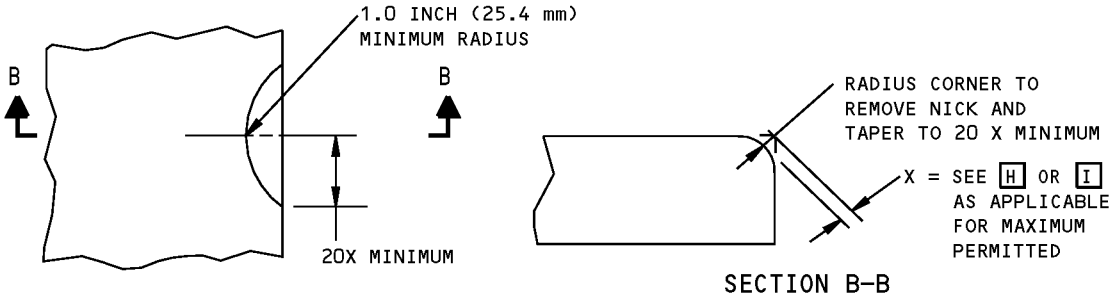
Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 7 of 8)

NOTE: HOLE DAMAGE IS NOT PERMITTED IN THE STIFFENER FLANGES THAT ARE FASTENED TO THE WEB. HOLE DAMAGE NOT TO EXCEED 4 LOCATIONS. FILL ALL HOLES WITH 2117-T3 OR T4 RIVETS INSTALLED WET WITH BMS 5-95 SEALANT.

H = WIDTH OF STIFFENER FLANGE



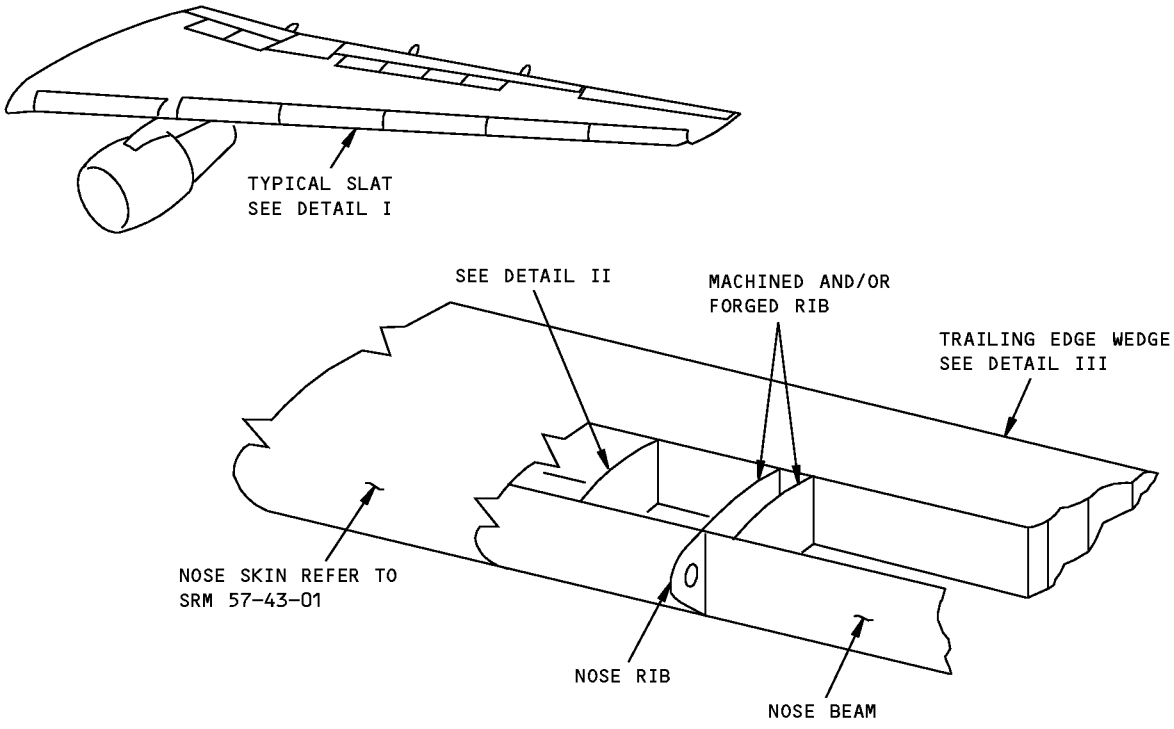
ALLOWABLE DAMAGE LIMITS FOR HOLES IN WEB STIFFENERS
DETAIL XIV



DETAIL XV

Wing Leading Edge Slat Structure Allowable Damage
Figure 101 (Sheet 8 of 8)

REPAIR 1 - LEADING EDGE SLAT STRUCTURE



TYPICAL SLAT
DETAIL I

NOTES

- FOR THE REPAIRS WITH BMS 4-4 CORE, CUT THE CORE MATERIAL TO AGREE WITH THE CONTOUR OF THE ADJACENT WEDGE SKIN. MAKE SURE THE CONTOUR IS CORRECT BEFORE THE SKIN REPAIR DOUBLER IS BONDED.

[A] THERE ARE NO EXAMPLES OF REPAIRS TO AUXILIARY ARMS AND MACHINED OR FORGED RIBS. REPAIRS WILL BE SUPPLIED AS FOUND BY SERVICE EXPERIENCE.

[B] REPAIR THE ALUMINUM HONEYCOMB TRAILING EDGE WEDGE WITH THE INSTRUCTIONS AND LIMITS GIVEN IN SRM 51-70-10. YOU MAY USE BMS 5-101 FILM ADHESIVE TO REPAIR THE SLAT WEDGE. HOWEVER, YOU MUST USE BMS 5-137 FILM ADHESIVE FOR THE BOND BETWEEN THE DENSE CORE AND THE SPAR CHORDS.

[C] FOR REPAIRS TO THE DENSE CORE, CONTACT THE BOEING COMPANY FOR INSTRUCTIONS.

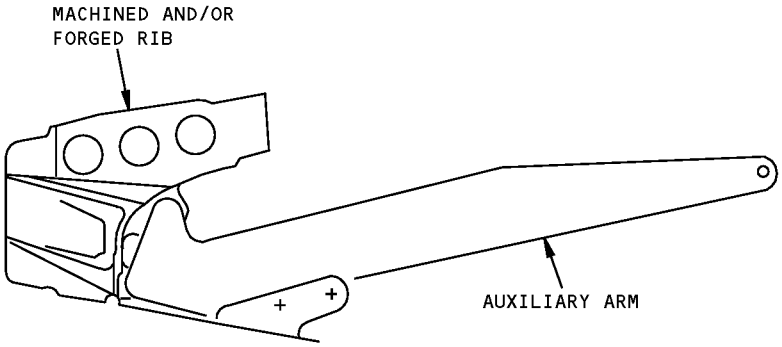
[D] FOR THE TRAILING EDGE WEDGE, IF YOU CANNOT GET 5052-H38 MATERIAL, YOU CAN USE THE SAME THICKNESS OF 2024-T3. DO THE REPAIR AS GIVEN IN SRM 51-70-10.

[E] THE AFT 4.0 INCHES (100 mm) OF THE TRAILING EDGE WEDGE, ON THE LOWER SURFACE, MUST BE REPAIRED FLUSH.

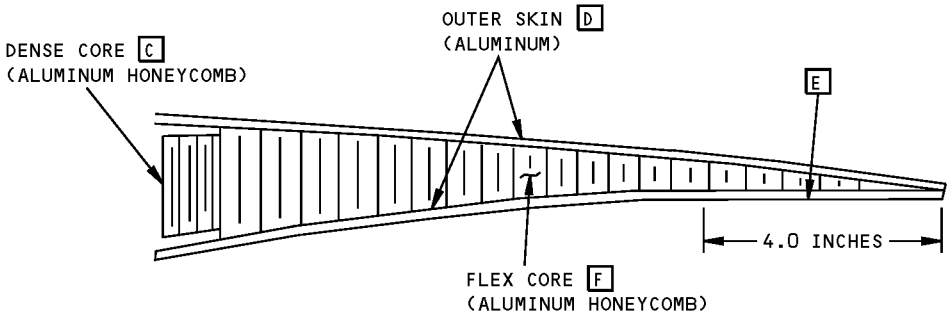
[F] USE BMS 4-6, TYPE 4.1-25, CLASS 2 OR CLASS 4 FOR REPAIRS WHEN IT IS AVAILABLE. USE THESE CORE TYPES WHEN THE BMS 4-6, TYPE 4.1-25, CLASS 2 OR CLASS 4 IS NOT AVAILABLE:

CORE	TYPE
BMS 4-4	3-10 N 3-10 NPA 3-15 N 3-15 NPA 4-15 N 4-15 NPA
BMS 4-6	5.7-37 CLASS 2 5.7-37 CLASS 4

Leading Edge Slat Structure Repairs
Figure 201 (Sheet 1 of 2)



AUXILIARY ARM AND RIB [A]
DETAIL II



TRAILING EDGE WEDGE [B]
DETAIL III

Leading Edge Slat Structure Repairs
Figure 201 (Sheet 2 of 2)

REPAIR 1 - OUTBOARD SLAT FAIRING TIP CRACK

APPLICABILITY
THIS REPAIR IS APPLICABLE TO THE OUTBOARD SLAT TIP MADE FROM ALUMINUM CASTING

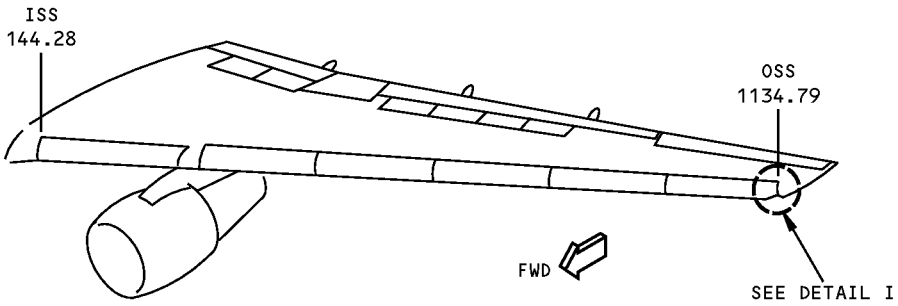
REPAIR INSTRUCTIONS

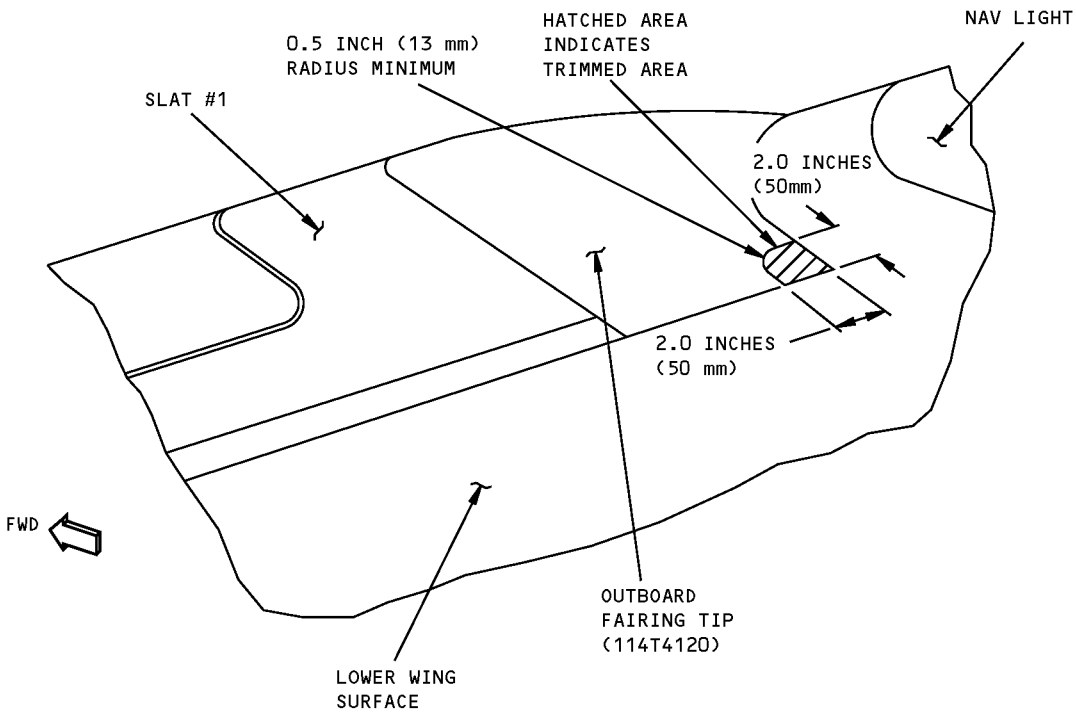
1. Cut and remove the damaged part of the fairing tip to a maximum rectangular size of 2.0 inches (50 mm) X 2.0 inches (50 mm). See Detail I.
2. Do a high frequency eddy current inspection (HFEC) of the repair area to make sure that all of the damage is removed. Refer to NDT part 6, 51-00-01, for HFEC inspection procedures.
3. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the fairing.
4. Apply a chemical conversion coating to the bare surfaces of the fairing. Refer to SRM 51-20-01.
5. Apply one layer of BMS 10-11, Type I primer to the bare surfaces of the fairing. Refer to SOPM 20-41-02.
6. Fill the gap at the leading edge panel aft of the trimmed area with BMS 5-95 sealant to provide an aerodynamically smooth surface. The sealant is applied to the section of the leading edge panel which becomes exposed when the damaged portion of the slat tip fairing is cut away.
7. Apply the same type of exterior finish as the initial finish to the repair area. Refer to AMM 51-21.

NOTES

- WHEN YOU USE THIS REPAIR TO:
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC AND GRAPHITE MATERIALS
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES AND EDGE MARGINS.

Outboard Slat Fairing Tip Crack Repair
Figure 201 (Sheet 1 of 2)

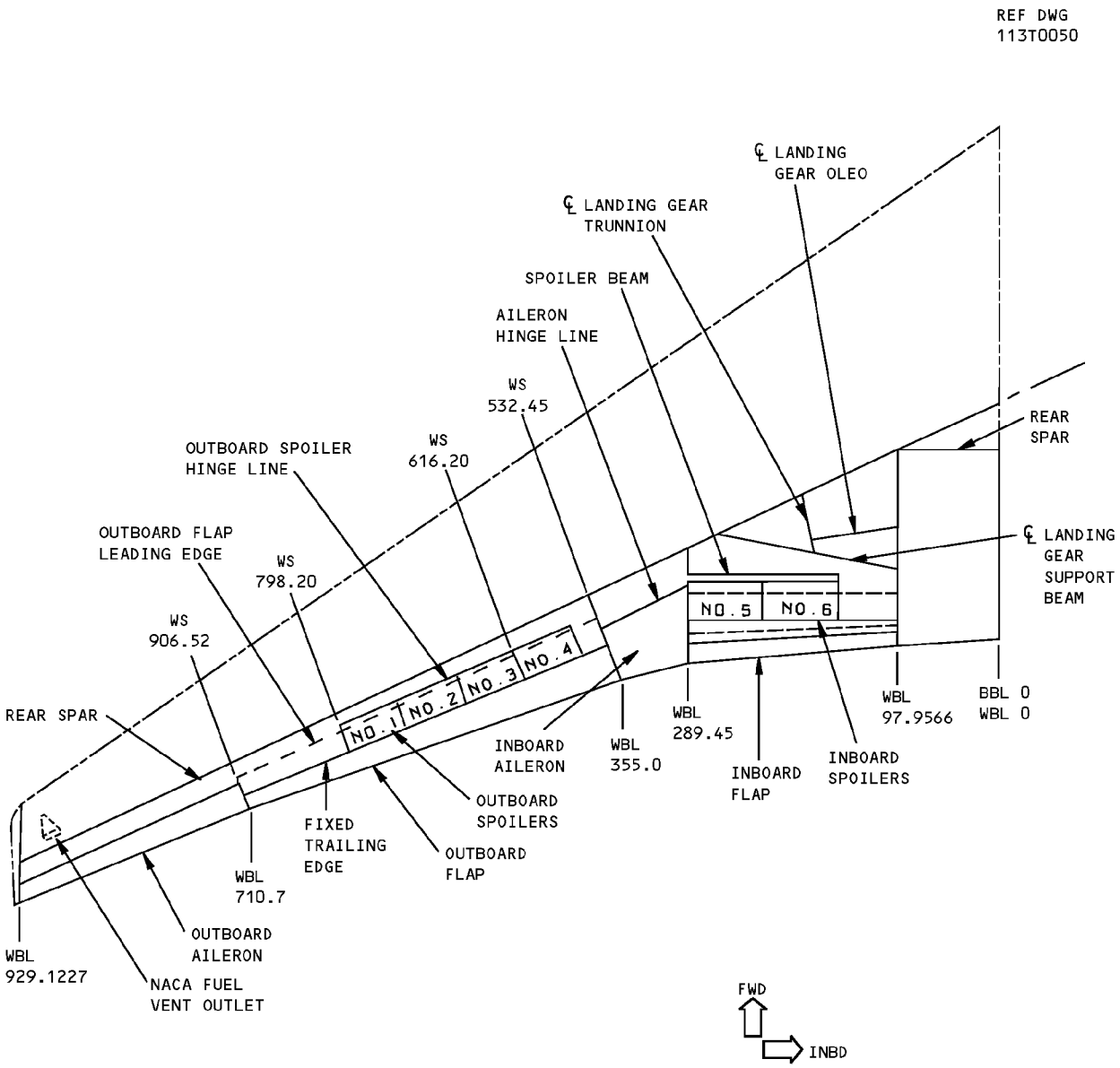




DETAIL I

Outboard Slat Fairing Tip Crack Repair
Figure 201 (Sheet 2 of 2)

GENERAL - WING TRAILING EDGE AND TRAILING EDGE DEVICES

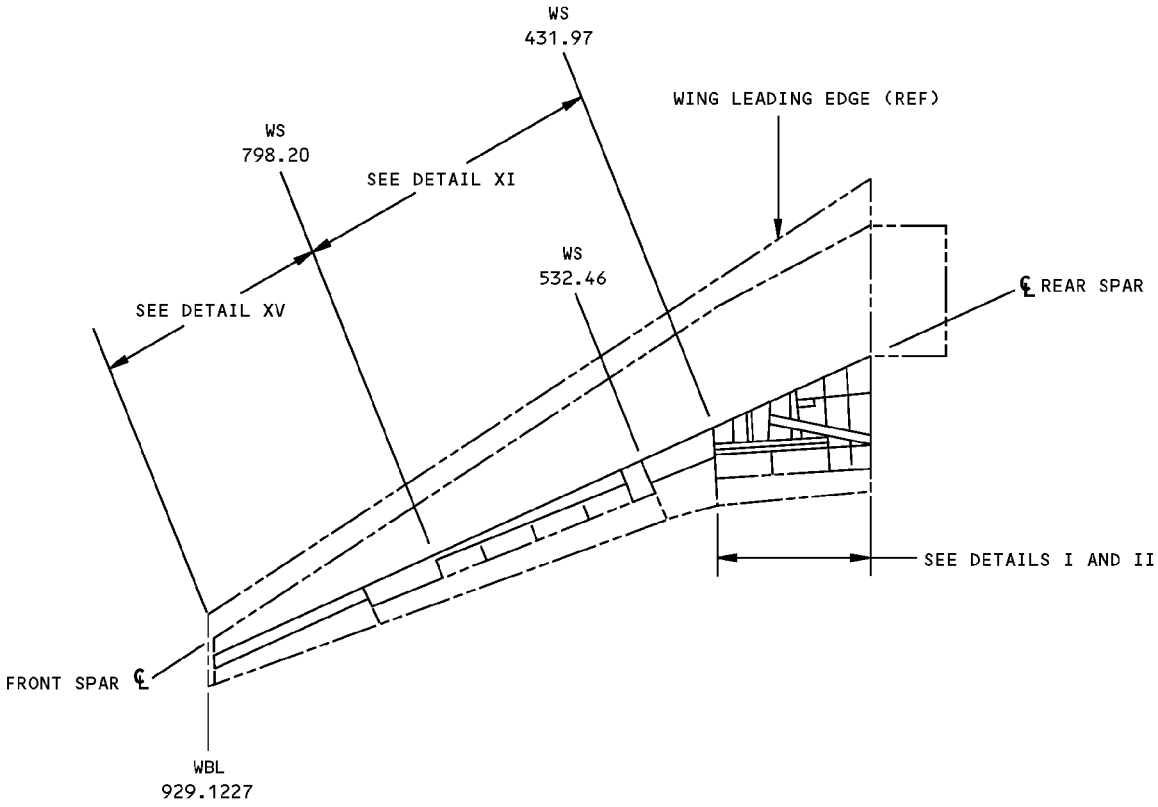


NOTES

- REFER TO SRM 57-51-00 FOR THE FIXED TRAILING EDGE AND MAIN LANDING GEAR SUPPORT STRUCTURE.
- REFER TO SRM 57-53-00 FOR THE TRAILING EDGE FLAPS.
- REFER TO SRM 57-60-00 FOR THE AILERONS.
- REFER TO SRM 57-70-00 FOR THE SPOILERS.

Wing Trailing Edge and Trailing Edge Devices
Figure 1

IDENTIFICATION 1 - FIXED TRAILING EDGE SKIN PANEL - UPPER SURFACE



NOTES

- FIXED TRAILING EDGE SHOWN AS SOLID OUTLINE

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION

[B] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DWG FOR EDGE BANDS AND AREAS WITH DOUBLERS

[C] DIAGRAM OF PLY ORIENTATION. SEE PLY TABLE FOR PLY ORIENTATION

[D] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 285, 250°F (121°C) CURE

[E] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE II, CLASS I, GRADE 145, 250°F (121°C) CURE

[F] FIELD AREA IS LIMITED IN SIZE. REFER TO BOEING DRAWINGS FOR PLY LAYUP CONFIGURATION

[G] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, CLASS III, GRADE I, STYLE 120, 250°F (121°C)

[H] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE II, CLASS I, GRADE 190, 250°F (121°C) CURE

[I] GRAPHITE/EPOXY FABRIC PER BMS 8-168, TYPE II, CLASS 2, GRADE 3K-70-PW, 250°F (121°C) CURE

[J] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE II, CLASS I, GRADE 95, 250°F (121°C) CURE

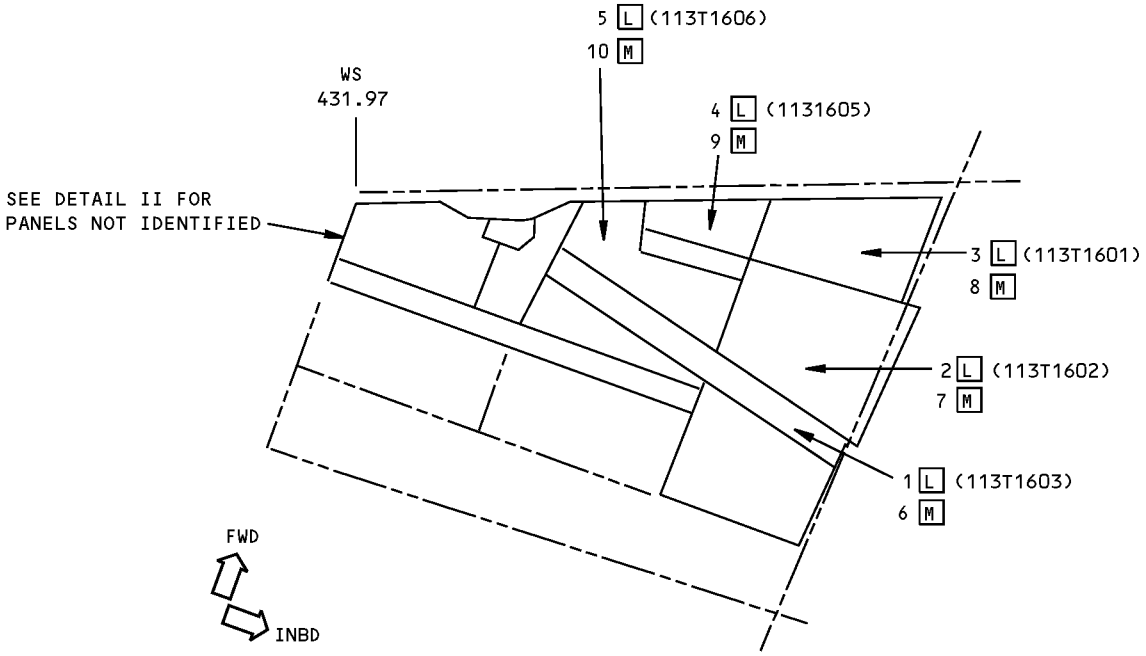
[K] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, CLASS III, GRADE I, TYPE 1581, 250°F (121°C) CURE

[L] FOR CUM LINE NUMBERS: 1 THRU 140

[M] FOR CUM LINE NUMBERS: 141 AND ON

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 1 of 18)

REF DWG
113T1600



DETAIL I

LIST OF MATL

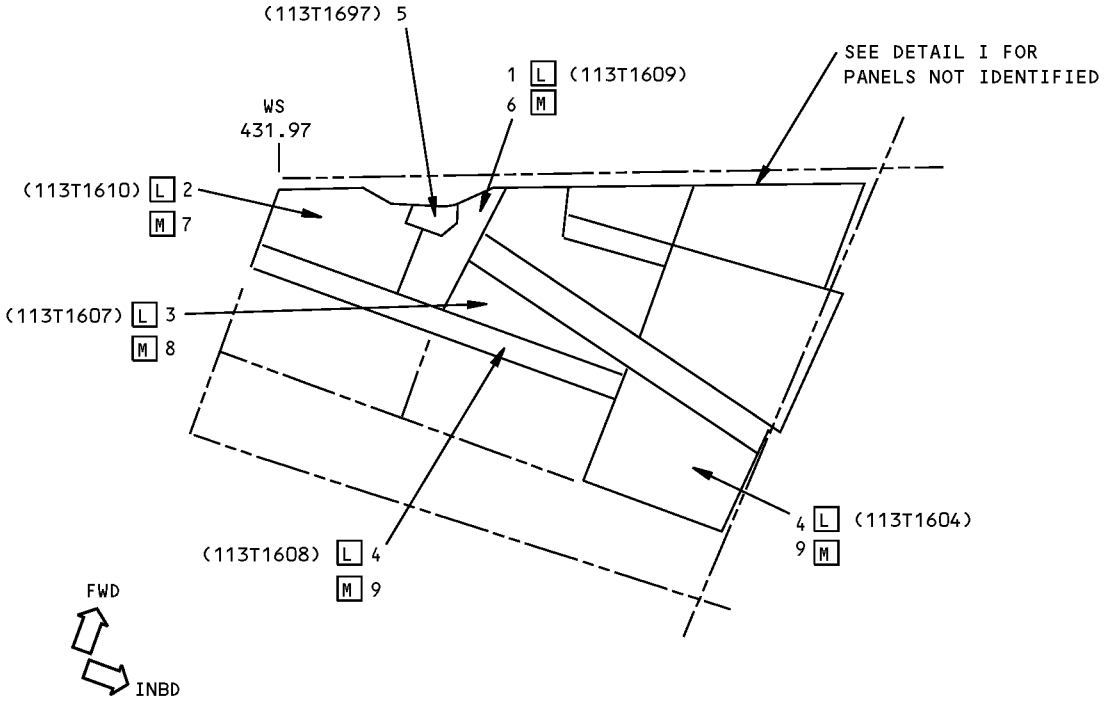
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 2 of 18)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL III NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
3	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL V NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
4	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
5	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
6	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL III NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
7	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
8	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL V NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
9	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
10	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M

LIST OF MATERIALS FOR DETAIL I

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 3 of 18)

REF DWG
113T1600



DETAIL II

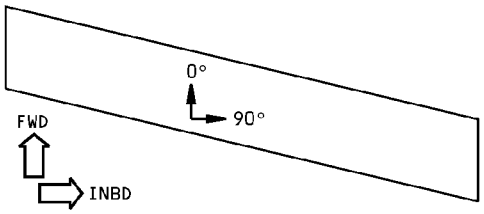
LIST OF MATL

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 4 of 18)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IX NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
3	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL X NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
4	SKIN PANEL SKIN F CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH ARAMID/GRAPHITE HYBRID SKIN NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
5	SKIN PANEL		7075-T7351 PLATE	
6	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
7	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IX NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
8	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL X NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
9	SKIN PANEL SKIN F CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH FIBERGLASS/GRAPHITE HYBRID SKIN NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M

LIST OF MATERIALS FOR DETAIL II

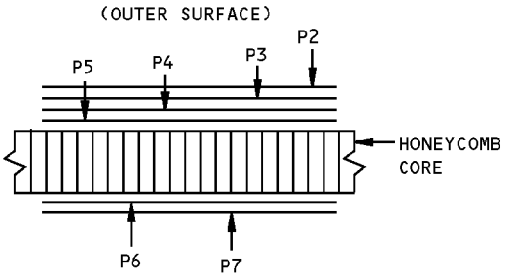
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 5 of 18)



ITEM 1 OR 6
VIEW ON PANEL [C]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2, P3, P4, P7	[D]	0° OR 90°
	P5, P6	[E]	0°

PLY TABLE [B] [L]

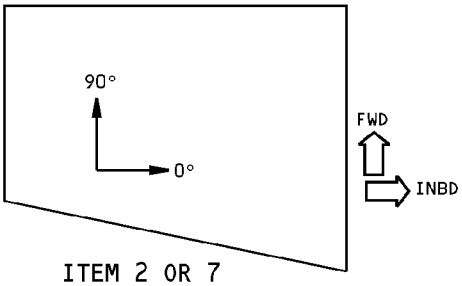


SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	P2, P3, P4, P7	[K]	0° OR 90°
	P5, P6	[E]	0°

PLY TABLE [B] [M]

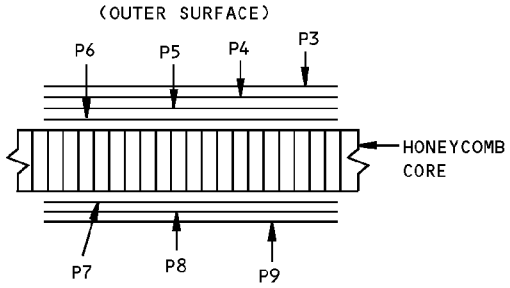
DETAIL III



ITEM 2 OR 7
VIEW ON PANEL [C]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P3, P4, P9	[D]	0° OR 90°
	P5, P6, P7, P8	[H]	0°

PLY TABLE [B] [L]



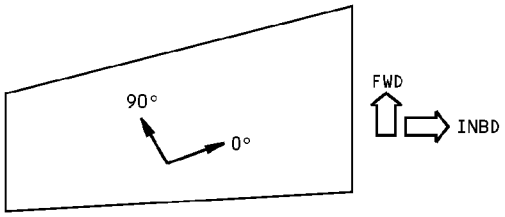
SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	P3, P4, P9	[K]	0° OR 90°
	P5, P6, P7, P8	[H]	0°

PLY TABLE [B] [M]

DETAIL IV

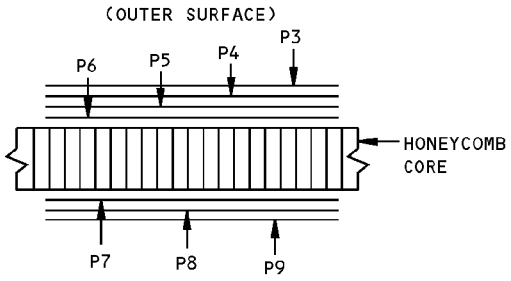
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 6 of 18)



ITEM 3 OR 8
VIEW ON PANEL [C]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	P3, P4, P9	[D]	0° OR 90°
	P5, P6, P7, P8	[I]	± 45°

PLY TABLE [B] [L]

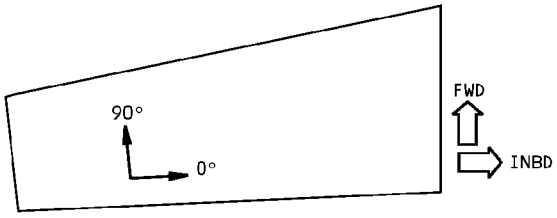


SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
8	P3, P4, P9	[K]	0° OR 90°
	P5, P6, P7, P8	[H]	0°

PLY TABLE [B] [M]

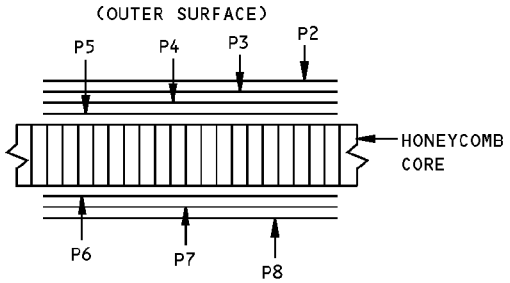
DETAIL V



ITEM 4 OR 9
VIEW ON PANEL [C]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P2, P3, P4, P7, P8	[D]	0° OR 90°
	P5, P6,	[E]	90°

PLY TABLE [B] [L]



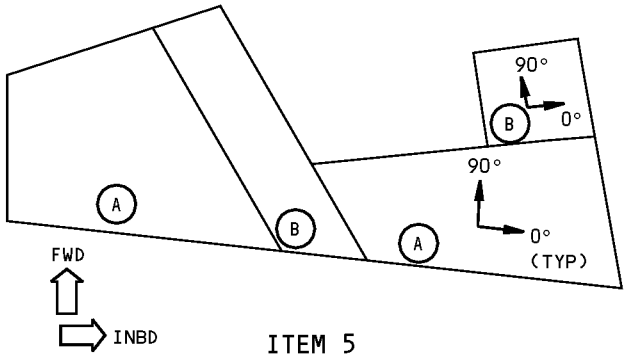
SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
9	P2, P3, P4, P7, P8	[K]	0° OR 90°
	P5, P6,	[E]	90°

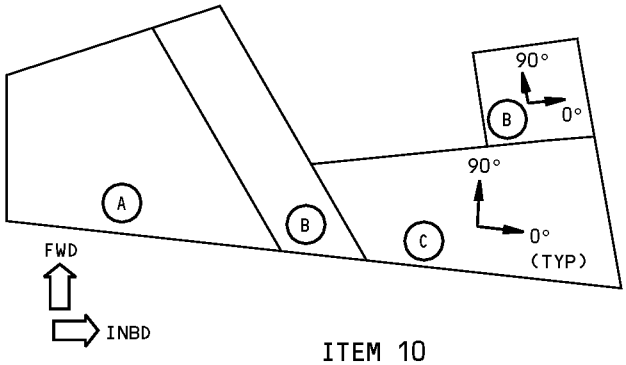
PLY TABLE [B] [M]

DETAIL VI

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 7 of 18)



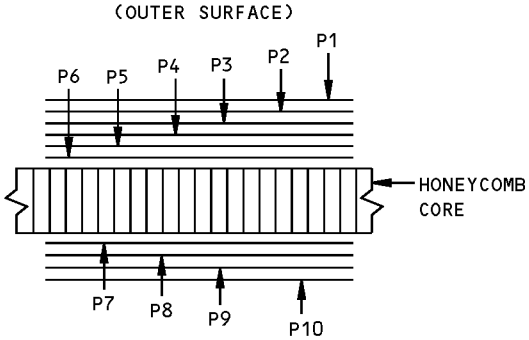
ITEM 5
VIEW ON PANEL [C] [L]



ITEM 10
VIEW ON PANEL [C] [M]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	A	P3, P4, P9	[D]	0° OR 90°
		P5, P6, P7, P8	[I]	± 45°
	B	P1	[G]	0° OR 90°
		P2, P3, P4, P9, P10	[D]	0° OR 90°

PLY TABLE [B] [L]



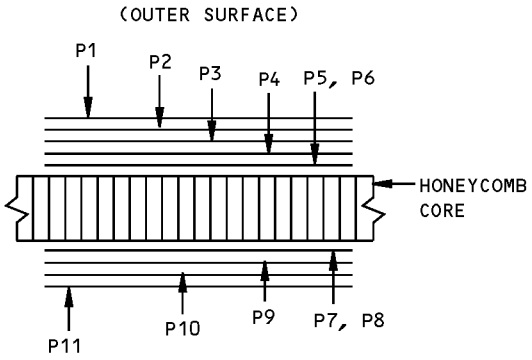
SECTION THRU PANEL

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
10	A	P3, P4, P9	[K]	0° OR 90°
		P5, P6, P7, P8	[H]	± 45°
	B	P1	[G]	0° OR 90°
		P2, P3, P4, P9, P10	[K]	0° OR 90°
	C	P3, P4, P9	[K]	0° OR 90°
		P5, P6, P7, P8	[I]	± 45°

PLY TABLE [B] [M]

DETAIL VII

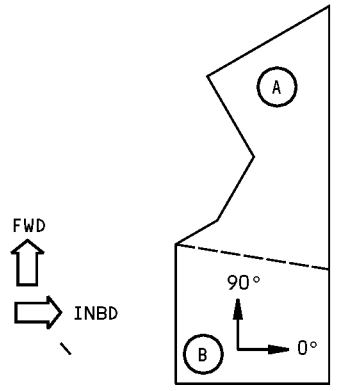
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 8 of 18)



SECTION THRU PANEL

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	A	P1, P11	[G]	0° OR 90°
		P2, P3, P5, P8, P10	[D]	0° OR 90°
	B	P2, P3, P10	[D]	0° OR 90°
		P4, P6, P7, P9	[H]	0°

PLY TABLE [B] [L]



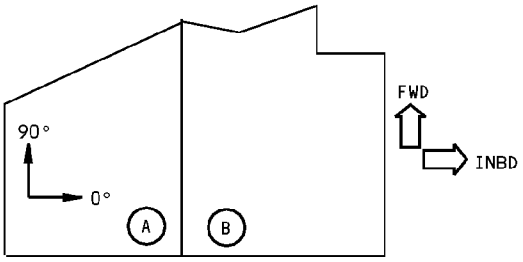
ITEM 1 OR 6
VIEW ON PANEL [C]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	A	P1, P11	[G]	0° OR 90°
		P2, P3, P5, P8, P10	[K]	0° OR 90°
	B	P2, P3, P10	[K]	0° OR 90°
		P4, P6, P7, P9	[H]	0°

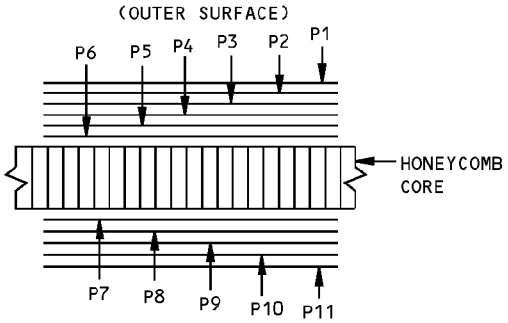
PLY TABLE [B] [M]

DETAIL VIII

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 9 of 18)



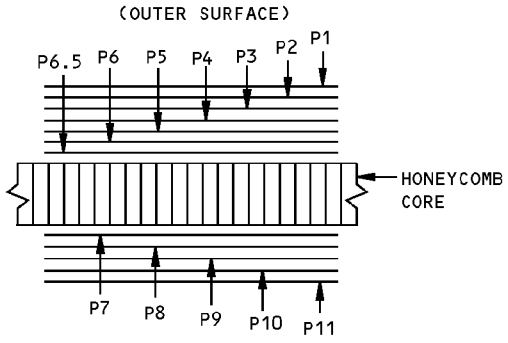
ITEM 2 OR 7
VIEW ON PANEL [C]



SECTION THRU PANEL [L]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	A	P3, P4, P9	[D]	0° OR 90°
		P5, P6, P7, P8	[I]	± 45°
	B	P1, P11	[G]	± 45°
		P2, P3, P4, P9, P10	[D]	0° OR 90°

PLY TABLE [B] [L]



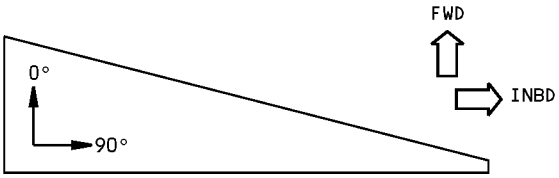
SECTION THRU PANEL [M]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	A	P3, P4, P9	[K]	0° OR 90°
		P5, P6, P7, P8	[I]	± 45°
		P6.5	[H]	90°
	B	P11	[G]	± 45°
		P1, P2, P3, P4, P9, P10	[K]	0° OR 90°

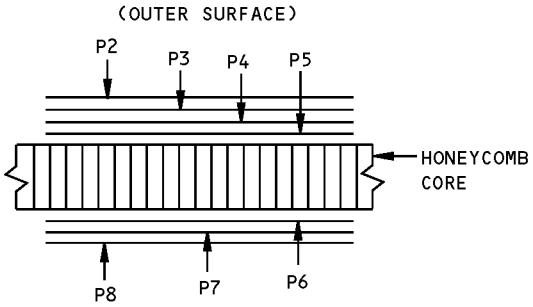
PLY TABLE [B] [M]

DETAIL IX

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 10 of 18)



ITEM 3 OR 8
VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	P2, P3, P7, P8	[D]	0° OR 90°
	P4	[D]	± 45°
	P5, P6	[E]	0°

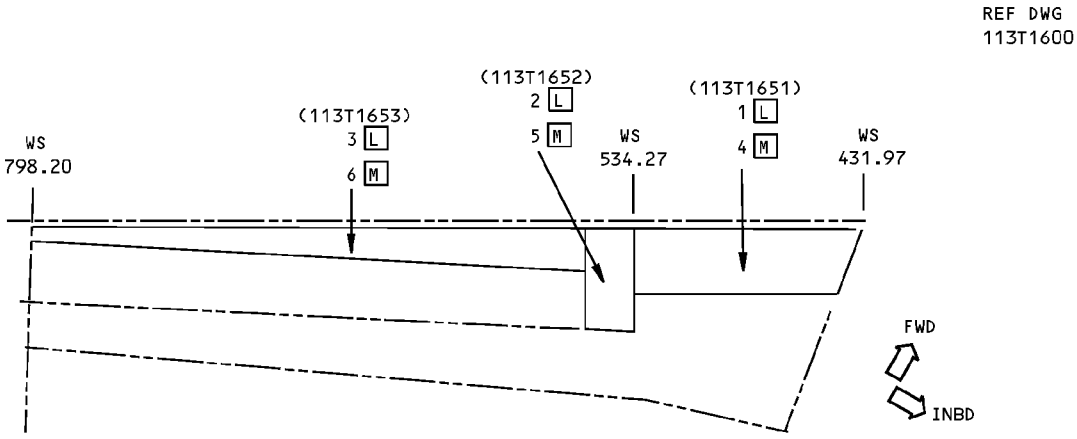
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
8	P2, P3, P7, P8	[K]	0° OR 90°
	P4	[K]	± 45°
	P5, P6	[E]	0°

PLY TABLE [B] [M]

DETAIL X

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 11 of 18)



DETAIL XI

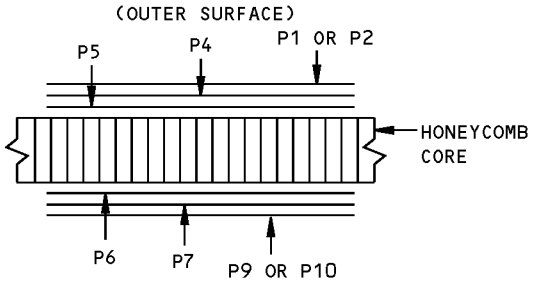
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
3	SKIN PANEL SKIN CORE LWR CORE		ARAMID/GRAPHITE/FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL XIV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0 AND 5.0 GLASS REINFORCED HONEYCOMB, PER BMS 8-124, CLASS I, TYPE I, GRADE 8.0	L
4	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
5	SKIN PANEL SKIN CORE		FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL XIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
6	SKIN PANEL SKIN CORE LWR CORE		FIBERGLASS/FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL XIV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0 AND 5.0 GLASS REINFORCED HONEYCOMB, PER BMS 8-124, CLASS I, TYPE I, GRADE 8.0	M

LIST OF MATERIALS FOR DETAIL XI

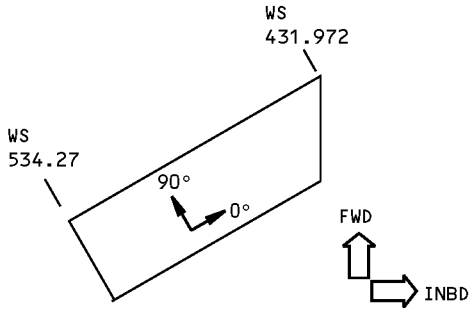
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 12 of 18)

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P1, P10	[G]	± 45°
	P2	[D]	0° OR 90°
	P4, P5, P6, P7	[H]	90°
	P9	[D]	0°

PLY TABLE [B] [L]



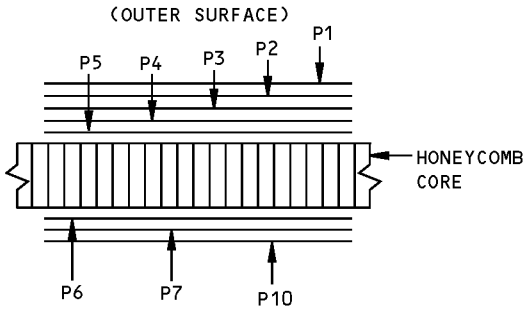
SECTION THRU PANEL [L]



ITEM 1 OR 4
VIEW ON PANEL [C]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P1, P2, P3	[K]	± 45°
	P4, P5, P6, P7	[H]	90°
	P10	[K]	0° OR 90°

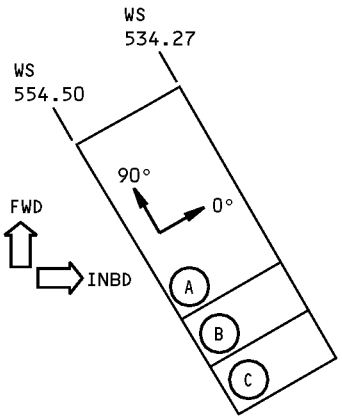
PLY TABLE [B] [M]



SECTION THRU PANEL [M]

DETAIL XII

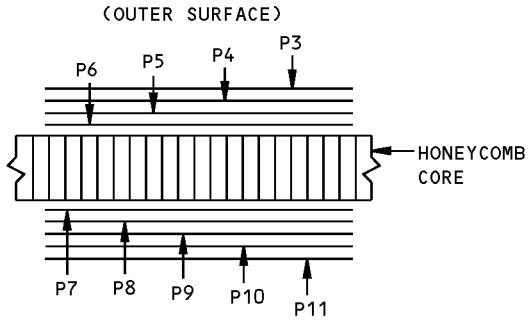
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 13 of 18)



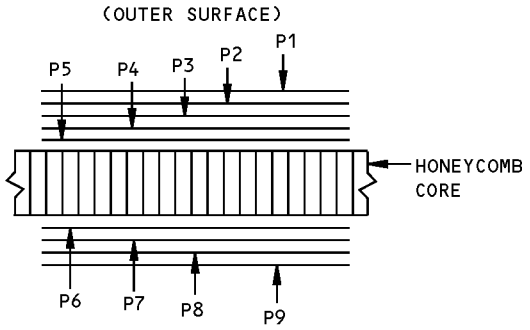
ITEM 2 OR 5
VIEW ON PANEL

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	A	P3, P11	[D]	0° OR 90°
		P5, P7	[I]	± 45°
	B	P3	[D]	0° OR 90°
		P4, P9 P10	[H]	0°
		P6, P8	[I]	± 45°
	C	P3, P11	[D]	0° OR 90°
		P6, P8	[I]	±45°

PLY TABLE [B] [L]



SECTION THRU PANEL [L]



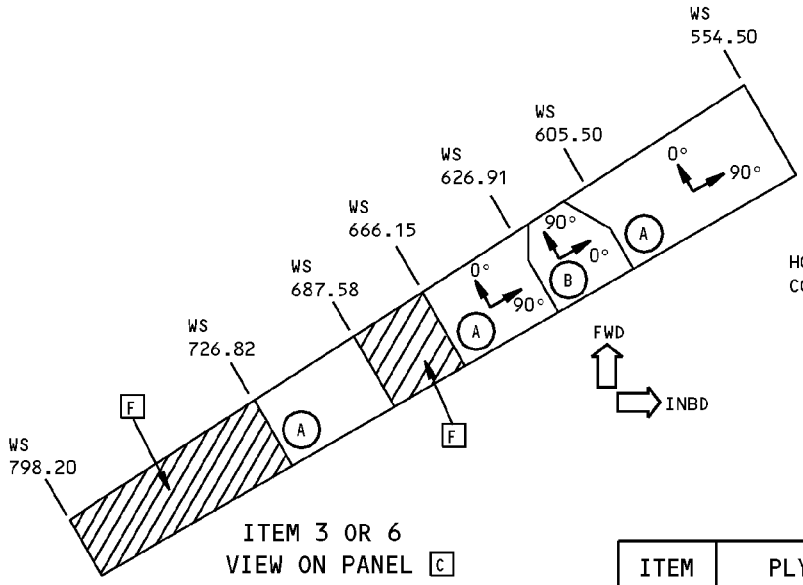
SECTION THRU PANEL [M]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	A C	P1, P9	[G]	0° OR 90°
		P2, P3, P4, P5, P6	[K]	0° OR 90°
	B	P1, P9	[G]	0° OR 90°
		P2, P3, P4, P5, P6, P7, P8	[K]	0° OR 90°

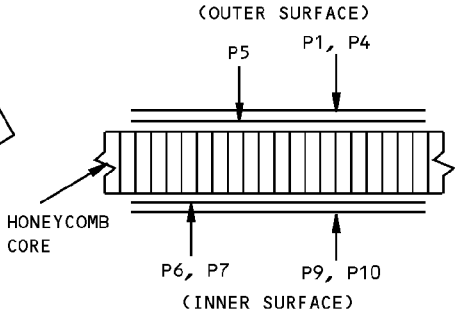
PLY TABLE [B] [M]

DETAIL XIII

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 14 of 18)



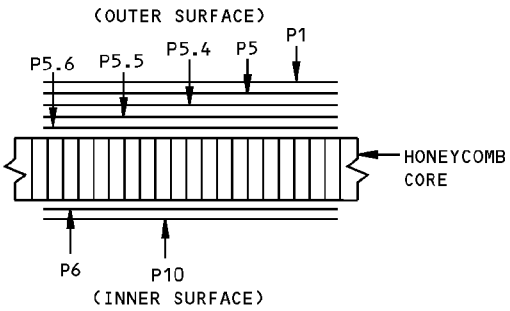
ITEM 3 OR 6
VIEW ON PANEL C



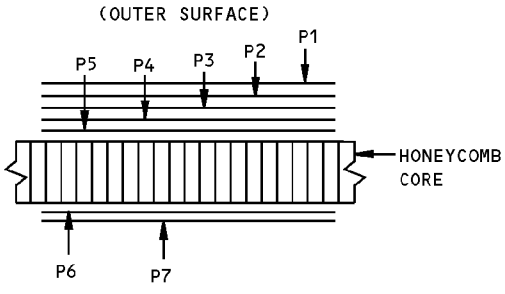
ITEM 3
SECTION THRU PANEL L

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION A
3	A	P1, P5, P6, P10	K	0° OR 90°
	B	P4, P9	D	0° OR 90°
		P5, P7	E	90°

PLY TABLE B L



ITEM 6
SECTION THRU PANEL A M



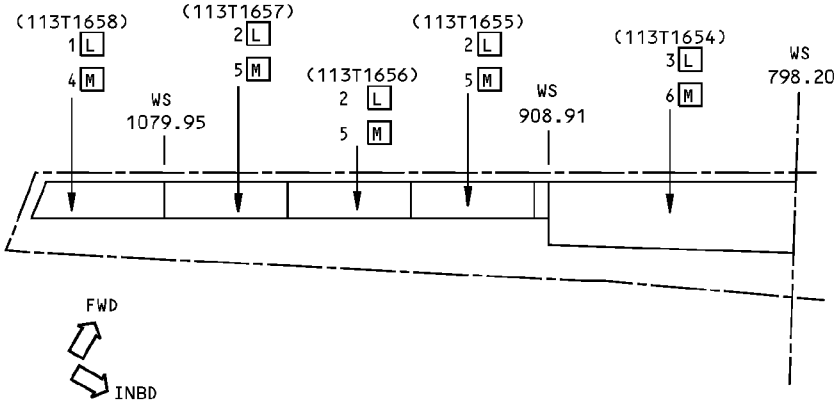
ITEM 6
SECTION THRU PANEL B M

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION A
6		P1	G	± 45°
	A	P5, P5.4, P5.5, P5.6	K	± 45°
		P6, P10	K	0° OR 90°
	B	P1, P7	G	0° OR 90°
		P2, P3, P4, P5, P6	K	0° OR 90°

PLY TABLE B M

DETAIL XIV

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 15 of 18)

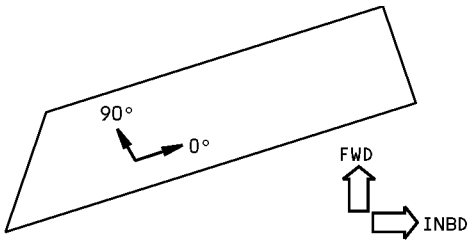


DETAIL XV

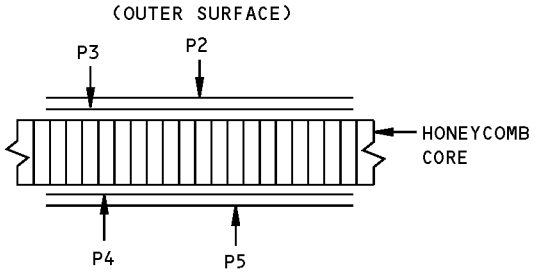
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XVI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XVII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
3	SKIN PANEL SKIN F CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH ARAMID/GRAPHITE HYBRID SKIN NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	L
4	SKIN PANEL SKIN CORE		FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL XVI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
5	SKIN PANEL SKIN CORE		FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL XVII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M
6	SKIN PANEL SKIN F CORE		FIBERGLASS/EPOXY HONEYCOMB SANDWICH NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	M

LIST OF MATERIALS FOR DETAIL XV

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 16 of 18)



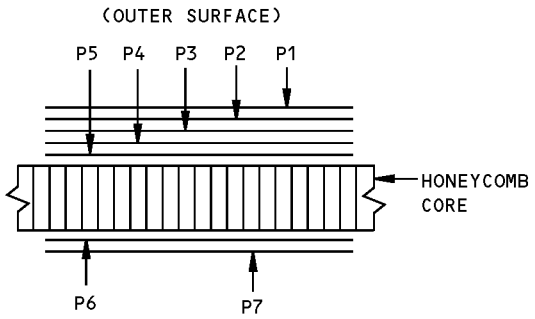
ITEM 1 OR 4
VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2, P5	[D]	0° OR 90°
	P3, P4	[J]	90°

PLY TABLE [B] [L]



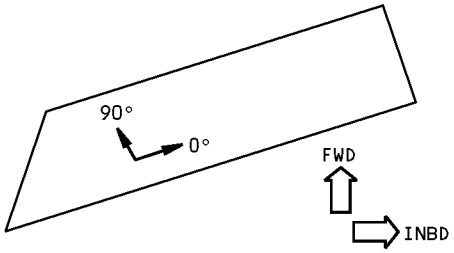
SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P1, P7	[G]	0° OR 90°
	P2, P3, P4, P5, P6	[K]	0° OR 90°

PLY TABLE [B] [M]

DETAIL XVI

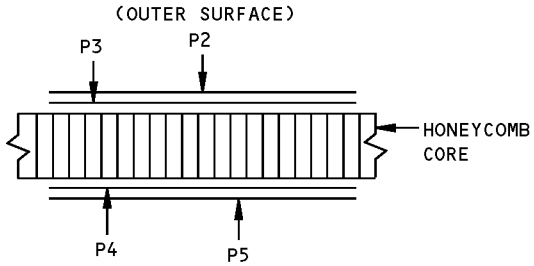
Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 17 of 18)



ITEM 2 OR 5
VIEW ON PANEL [C]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P2, P5	[D]	0° OR 90°
	P3, P4	[J]	90°

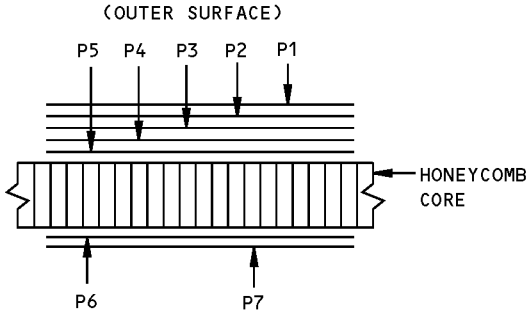
PLY TABLE [B] [L]



SECTION THRU PANEL [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	P1, P7	[G]	0° OR 90°
	P2, P3, P4, P5, P6	[K]	0° OR 90°

PLY TABLE [B] [M]

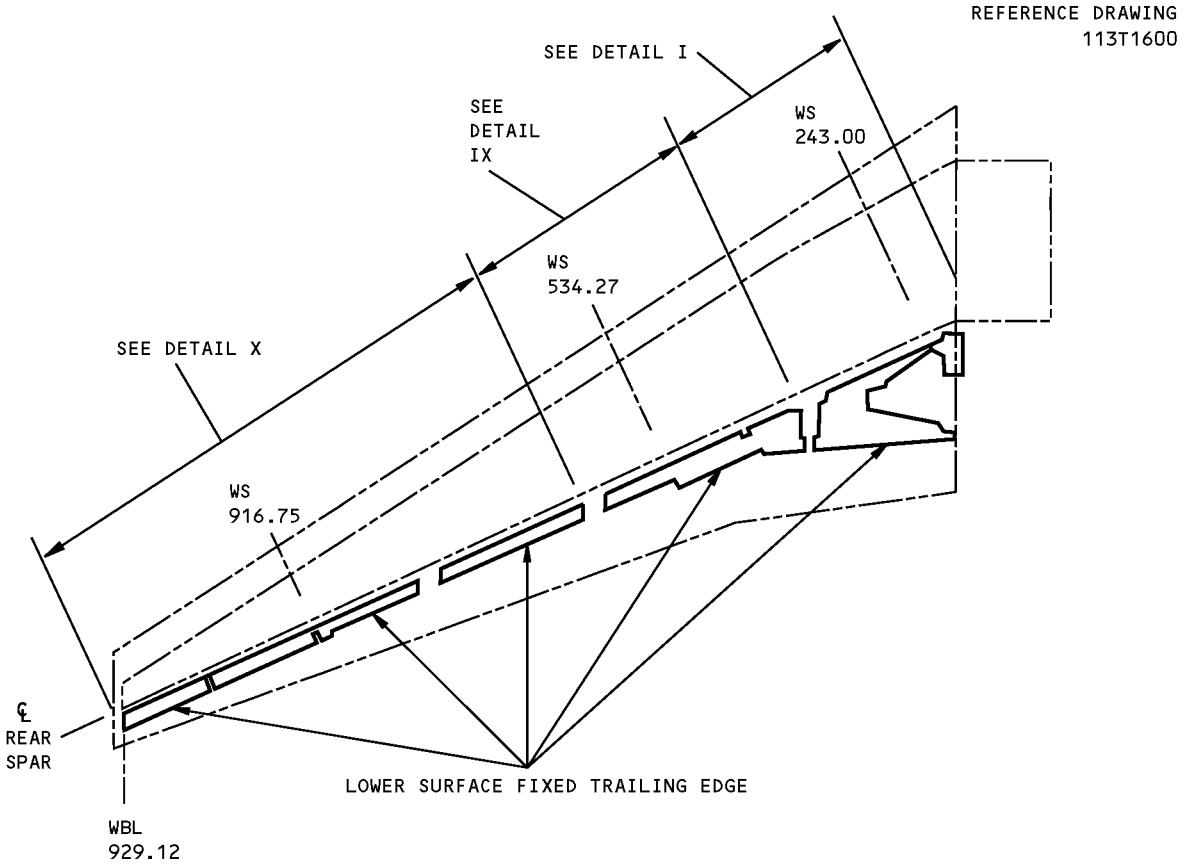


SECTION THRU PANEL [M]

DETAIL XVII

Fixed Trailing Edge Skin Panel Identification - Upper Surface
Figure 1 (Sheet 18 of 18)

IDENTIFICATION 2 - FIXED TRAILING EDGE LOWER SKIN



NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION

[B] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWING FOR EDGE BANDS AND AREAS WITH DOUBLERS

[C] DIAGRAM OF PLY ORIENTATION. SEE PLY TABLE FOR PLY ORIENTATION

[D] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 285, 250°F (121°C) CURE

[E] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE II, CLASS I, GRADE 145, 250°F (121°C) CURE

[F] FIELD AREA IS LIMITED IN SIZE. REFER TO BOEING DRAWINGS FOR PLY LAYUP CONFIGURATION

[G] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, CLASS III, GRADE I, STYLE 120, 250°F (121°C) CURE

[H] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE II, CLASS I, GRADE 190, 250°F (121°C) CURE

[I] GRAPHITE/EPOXY FABRIC PER BMS 8-168, TYPE II, CLASS 2, GRADE 3K-70-PW, 250°F (121°C) CURE

[J] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE I, CLASS I, GRADE 95, 250°F (121°C) CURE

[K] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, TYPE 1581, CLASS III, GRADE 1, 250°F (121°C) CURE

[L] FOR CUM LINE NUMBERS: 1 THRU 205

[M] FOR CUM LINE NUMBERS: 206 AND ON

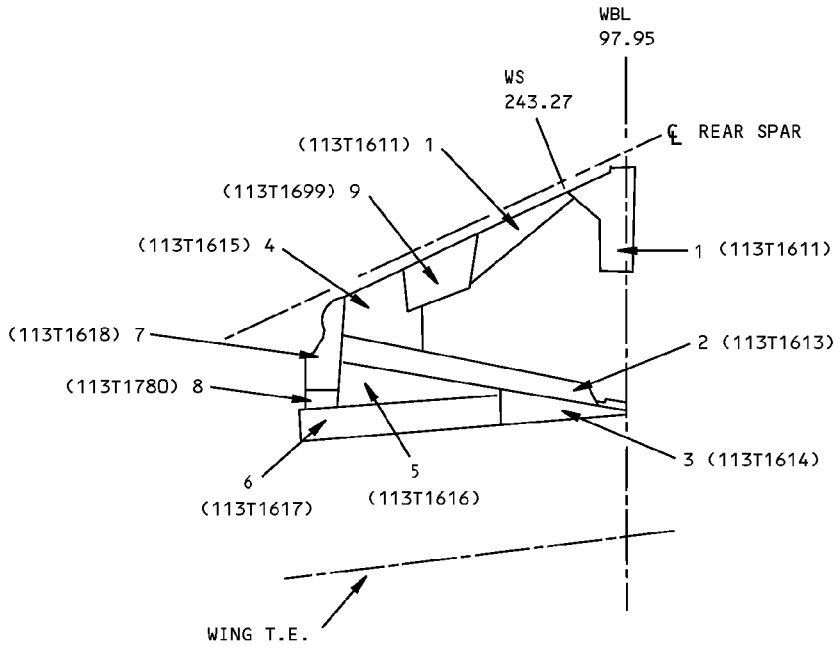
[N] FOR CUM LINE NUMBERS: 1 THRU 147

[O] FOR CUM LINE NUMBERS: 148 THRU 205

[P] FOR CUM LINE NUMBERS: 132 THRU 205

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 1 of 17)

REF DWG
113T1600



DETAIL I

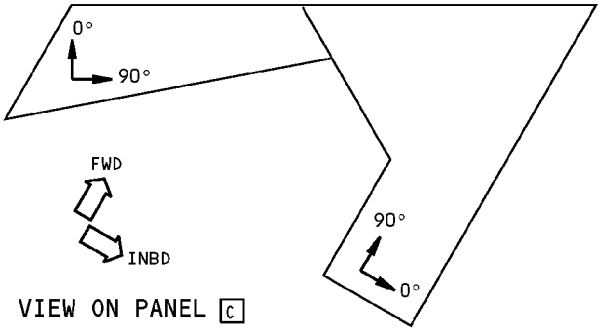
LIST OF MATL

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 2 of 17)

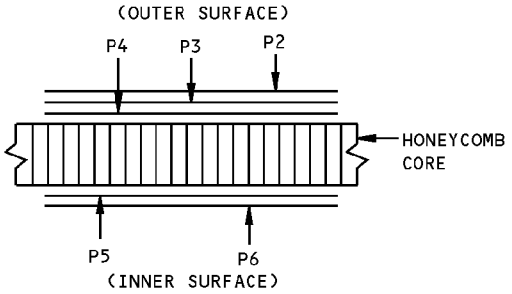
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL II NOMEX, HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL III NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
3	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
4	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL V NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
5	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
6	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
7	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
8	DOOR PANEL SKIN CORE		FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL VIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
9	SKIN PANEL SKIN [F] CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH ARAMID/GRAPHITE HYBRID SKIN NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	

LIST OF MATERIALS FOR DETAIL I

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 3 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

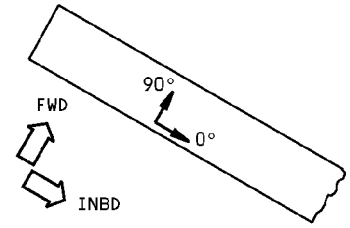
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2, P6	[D]	0° OR 90°
	P3	[D]	± 45°
	P4, P5	[E]	0°

PLY TABLE [B] [L]

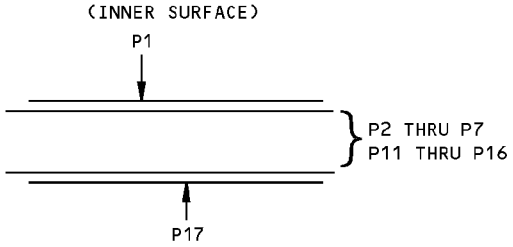
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2	[K]	0° OR 90°
	P3	[D]	± 45°
	P4, P5	[E]	0°
	P6	[D]	0° OR 90°

PLY TABLE [B] [M]

DETAIL II



VIEW ON PANEL [C]



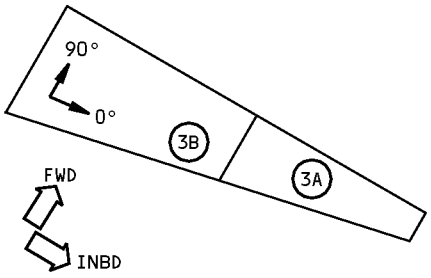
SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P1, P17	[G]	± 45°
	P2, P3, P4 P14,P15,P16	[H]	90°
	P5, P6, P7 P11,P12,P13	[D]	0° OR 90°

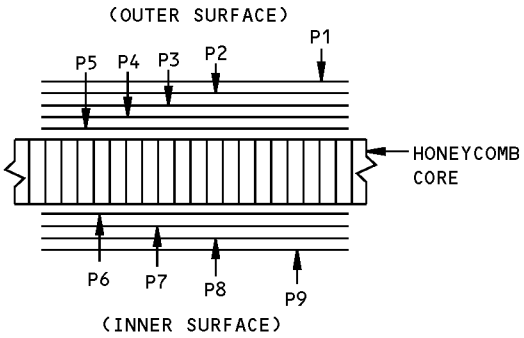
PLY TABLE [B]

DETAIL III

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 4 of 17)



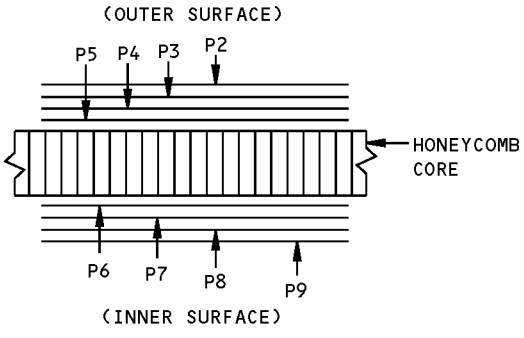
VIEW ON PANEL [C]



SECTION THRU PANEL [L]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	3A	P1, P9	[G]	0° OR 90°
		P2, P8	[D]	0° OR 90°
		P3	[D]	± 45°
	3B	P3	[D]	± 45°
		P8	[D]	0° OR 90°
		P4, P5 P6, P7	[H]	0°

PLY TABLE [B] [L]



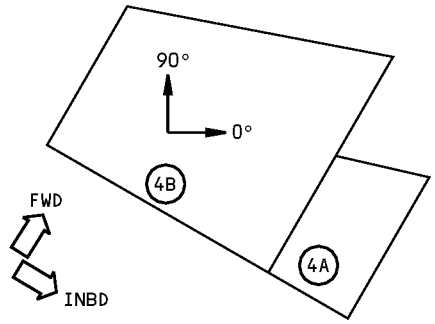
SECTION THRU PANEL [M]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	3A	P2	[K]	0° OR 90°
		P3	[K]	± 45°
		P8	[D]	0° OR 90°
		P9	[G]	0° OR 90°
	3B	P3	[K]	± 45°
		P4, P5 P6, P7	[H]	0°
		P8	[D]	0° OR 90°

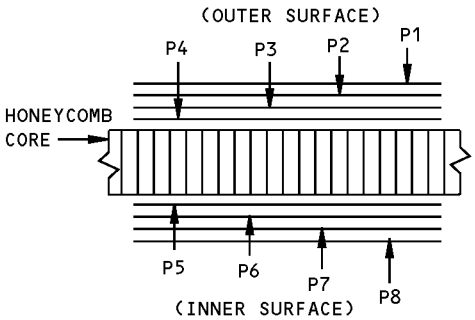
PLY TABLE [B] [M]

DETAIL IV

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 5 of 17)



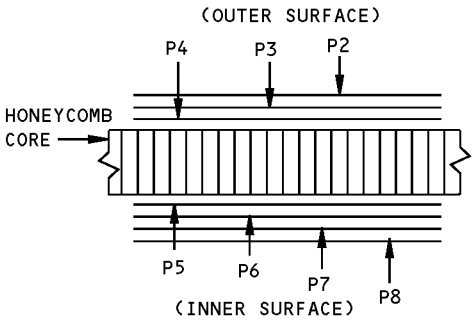
VIEW ON PANEL C



SECTION THRU PANEL L

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION A
4	4A	P1, P8	G	0° OR 90°
		P2, P6 P7	D	0° OR 90°
		P3	D	± 45°
	4B	P2, P6	D	0° OR 90°
		P3	D	± 45°
		P4, P5	I	0° OR 90°

PLY TABLE B L



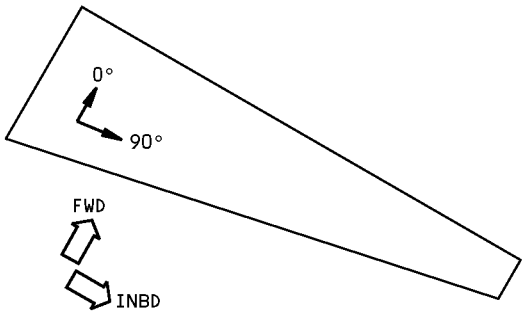
SECTION THRU PANEL M

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION A
4	4A	P2	K	0° OR 90°
		P3	D	± 45°
		P6, P7	D	0° OR 90°
		P8	G	0° OR 90°
	4B	P2	K	0° OR 90°
		P3	D	± 45°
		P4, P5	I	0° OR 90°
		P6	D	0° OR 90°

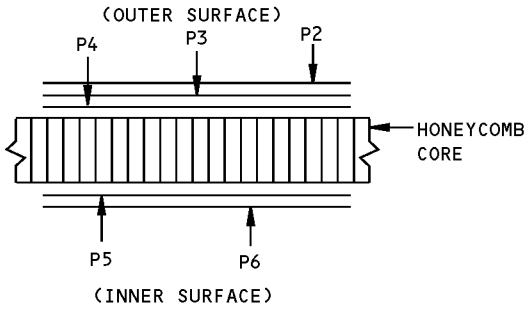
PLY TABLE B M

DETAIL V

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 6 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	P2, P6	[D]	0° OR 90°
	P3	[D]	± 45°
	P4, P5	[E]	0°

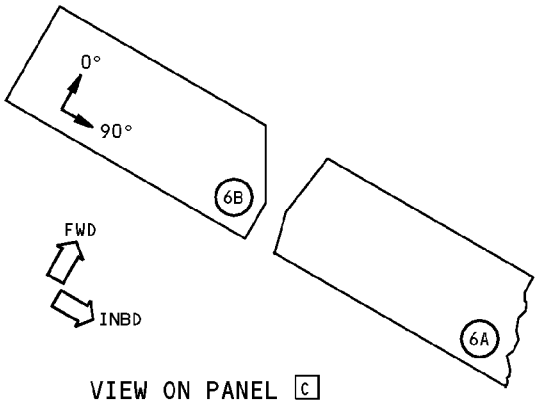
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	P2	[K]	0° OR 90°
	P3	[D]	± 45°
	P4, P5	[E]	0°
	P6	[D]	0° OR 90°

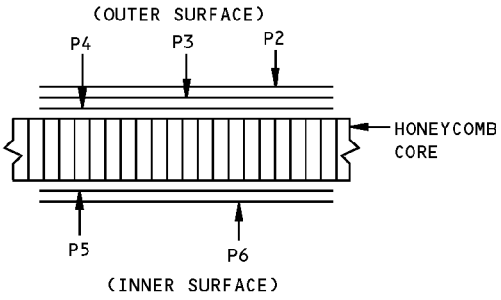
PLY TABLE [B] [M]

DETAIL VI

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 7 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	6A	P2, P3, P6	[D]	0° OR 90°
		P4, P5	[E]	0°
	6B	P2, P6	[D]	0° OR 90°
		P4, P5	[E]	0°

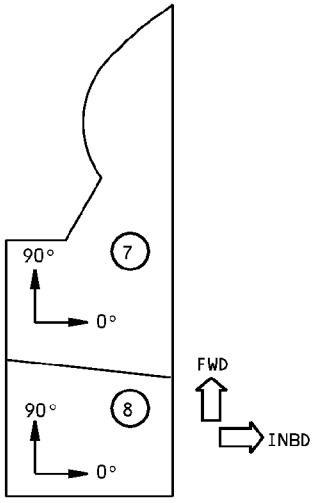
PLY TABLE [B] [L]

ITEM NO.		PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	6A	P2	[K]	0° OR 90°
		P3, P6	[D]	0° OR 90°
		P4, P5	[E]	0°
	6B	P2	[K]	0° OR 90°
		P4, P5	[E]	0°
		P6	[D]	0° OR 90°

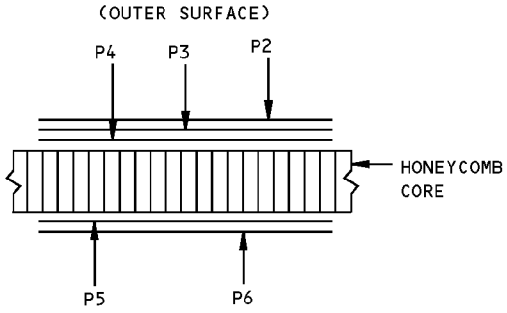
PLY TABLE [B] [M]

DETAIL VII

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 8 of 17)



VIEW ON PANEL C



SECTION THRU PANEL
ITEM 7

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	P2, P6	[D]	0° OR 90°
	P3	[D]	± 45°
	P4, P5	[E]	0°

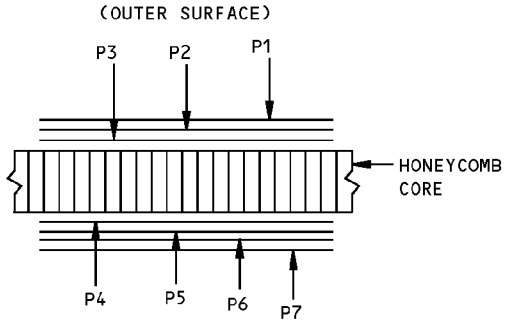
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	P2	[K]	0° OR 90°
	P3	[D]	± 45°
	P4, P5	[E]	0°
	P6	[D]	0° OR 90°

PLY TABLE [B] [M]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
8	1 THRU 6	[K]	0° OR 90°
	7	[G]	0° OR 90°

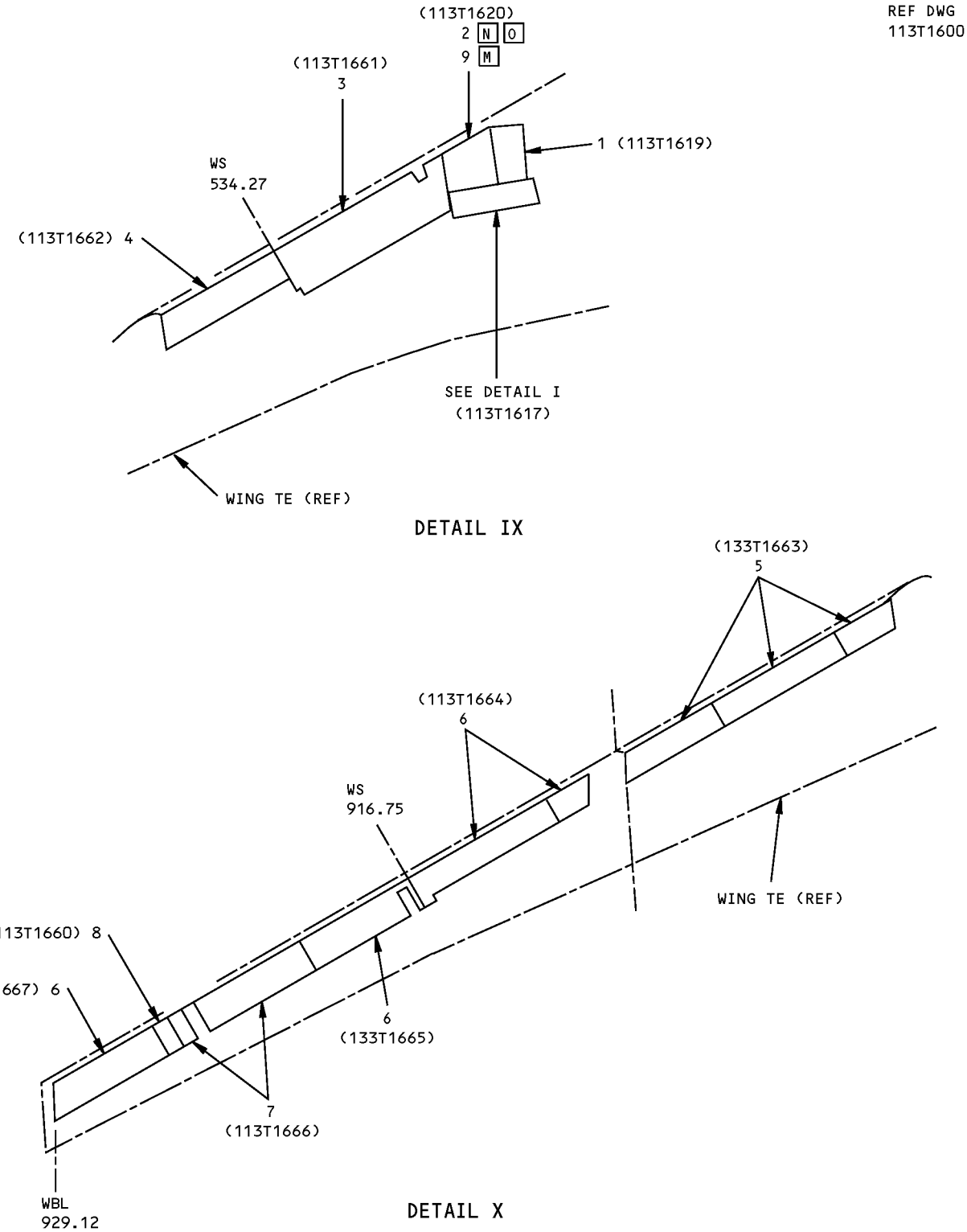
PLY TABLE [B]



SECTION THRU PANEL
ITEM 8

DETAIL VIII

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 9 of 17)

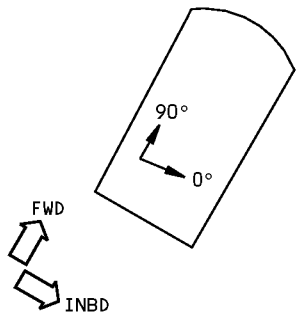


Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 10 of 17)

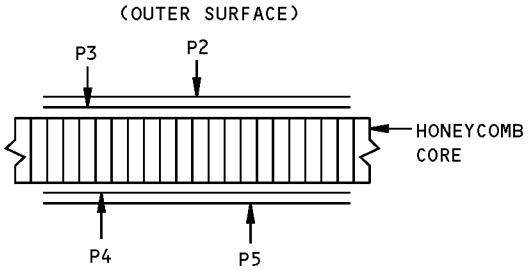
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	[N] [O]
3	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XIII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
4	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XIV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
5	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XV NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
6	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XVI NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
7	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XVII NOMEX HONEYCOMB PER BMS 8-124 CLASS IV, TYPE V, GRADE 3.0	
8	SKIN PANEL	0.100	2024-T3 (CHEM-MILLED TO 0.055 MIN)	
9	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL XII NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	[M]

LIST OF MATERIALS FOR DETAIL IX AND X

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 11 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2,P5	[D]	0° OR 90°
	P3,P4	[J]	0°

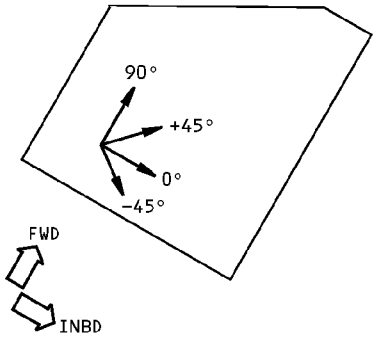
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2	[K]	0° OR 90°
	P5	[D]	0° OR 90°
	P3,P4	[J]	0°

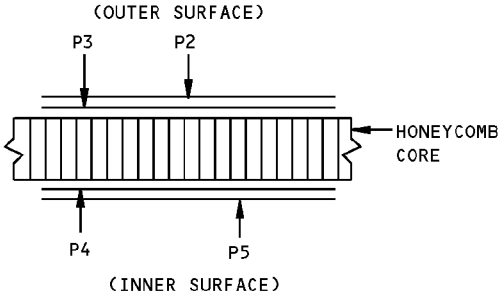
PLY TABLE [B] [M]

DETAIL XI

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 12 of 17)



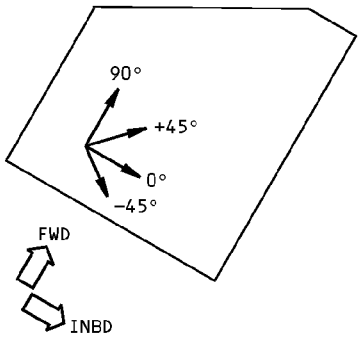
VIEW ON PANEL [C]



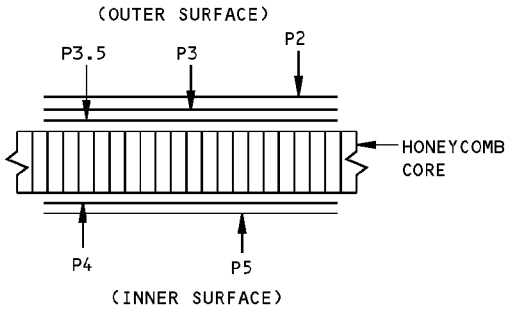
SECTION THRU PANEL ITEM 2 [N]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P2,P5	[D]	0° OR 90°
	P3,P4	[I]	0° OR 90°

PLY TABLE [B] [N]



VIEW ON PANEL [C]



SECTION THRU PANEL ITEM 2 [O] AND ITEM 9 [M]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P2,P5	[D]	0° OR 90°
	P3,P3.5	[I]	±45°
	P4	[I]	0° OR 90°

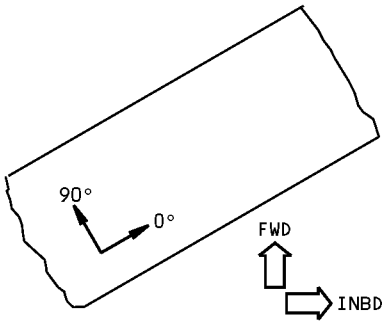
PLY TABLE [B] [O]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
9	P2,P5	[K]	0° OR 90°
	P3,P3.5	[I]	±45°
	P4	[I]	0° OR 90°

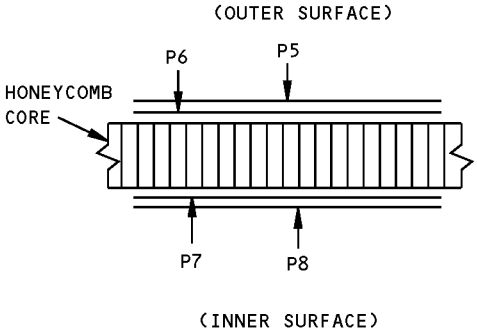
PLY TABLE [B] [M]

DETAIL XII

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 13 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	P5,P8	[D]	0° OR 90°
	P6,P7	[I]	±45°

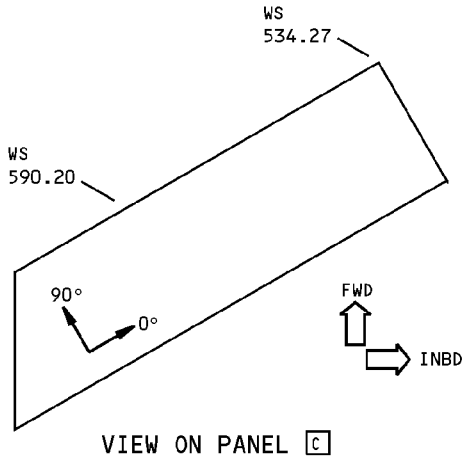
PLY TABLE [B] [P]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	P5	[K]	0° OR 90°
	P6,P7	[I]	±45°
	P8	[D]	0° OR 90°

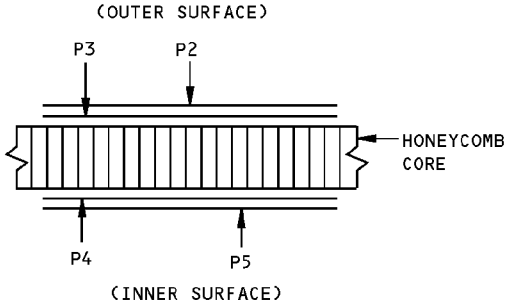
PLY TABLE [B] [M]

DETAIL XIII

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 14 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P2,P5	[D]	0° OR 90°
	P3,P4	[E]	90°

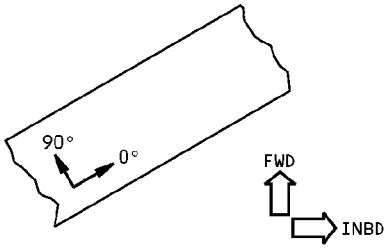
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P2	[K]	0° OR 90°
	P3,P4	[E]	90°
	P5	[D]	0° OR 90°

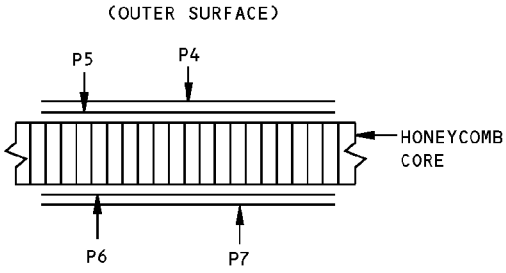
PLY TABLE [B] [M]

DETAIL XIV

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 15 of 17)



VIEW ON PANEL [C]



SECTION THRU PANEL

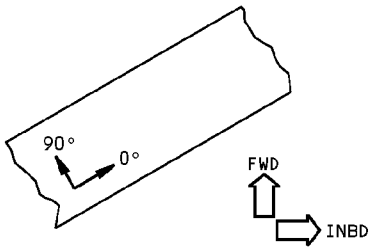
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	P4,P7	[D]	0° OR 90°
	P5,P6	[J]	90°

PLY TABLE [B] [L]

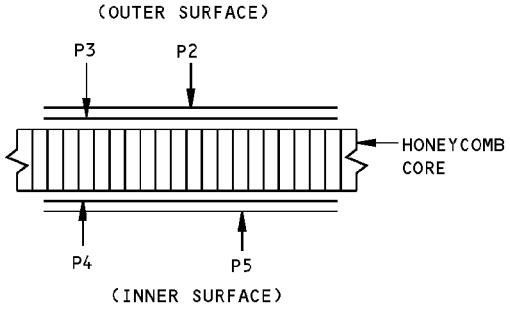
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	P4	[K]	0° OR 90°
	P5,P6	[J]	90°
	P7	[D]	0° OR 90°

PLY TABLE [B] [M]

DETAIL XV



VIEW ON PANEL [C]



SECTION THRU PANEL

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	P2,P5	[D]	0° OR 90°
	P3,P4	[J]	90°

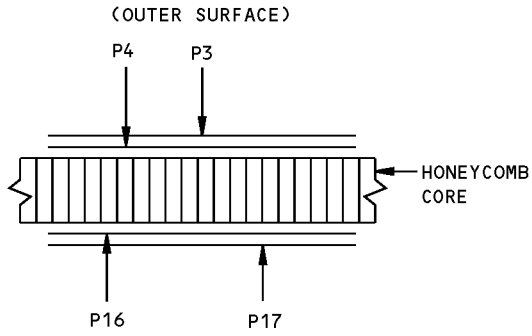
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	P2	[K]	0° OR 90°
	P3,P4	[J]	90°
	P5	[D]	0° OR 90°

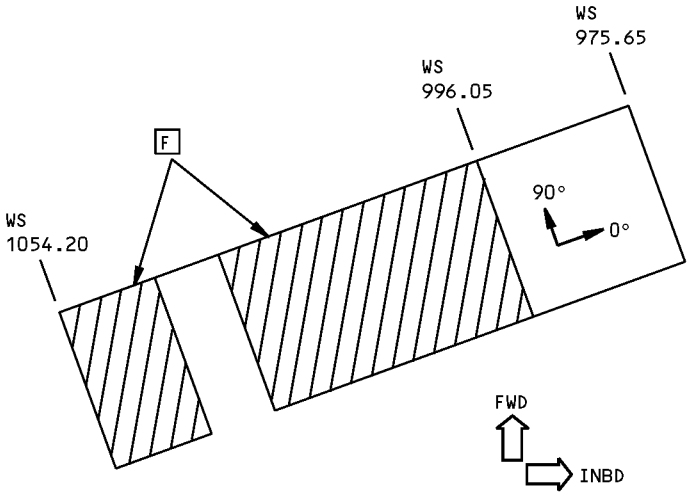
PLY TABLE [B] [M]

DETAIL XVI

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 16 of 17)



SECTION THRU PANEL



VIEW ON PANEL C

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	P3,P17	D	0° OR 90°
	P4,P16	J	90°

PLY TABLE B L

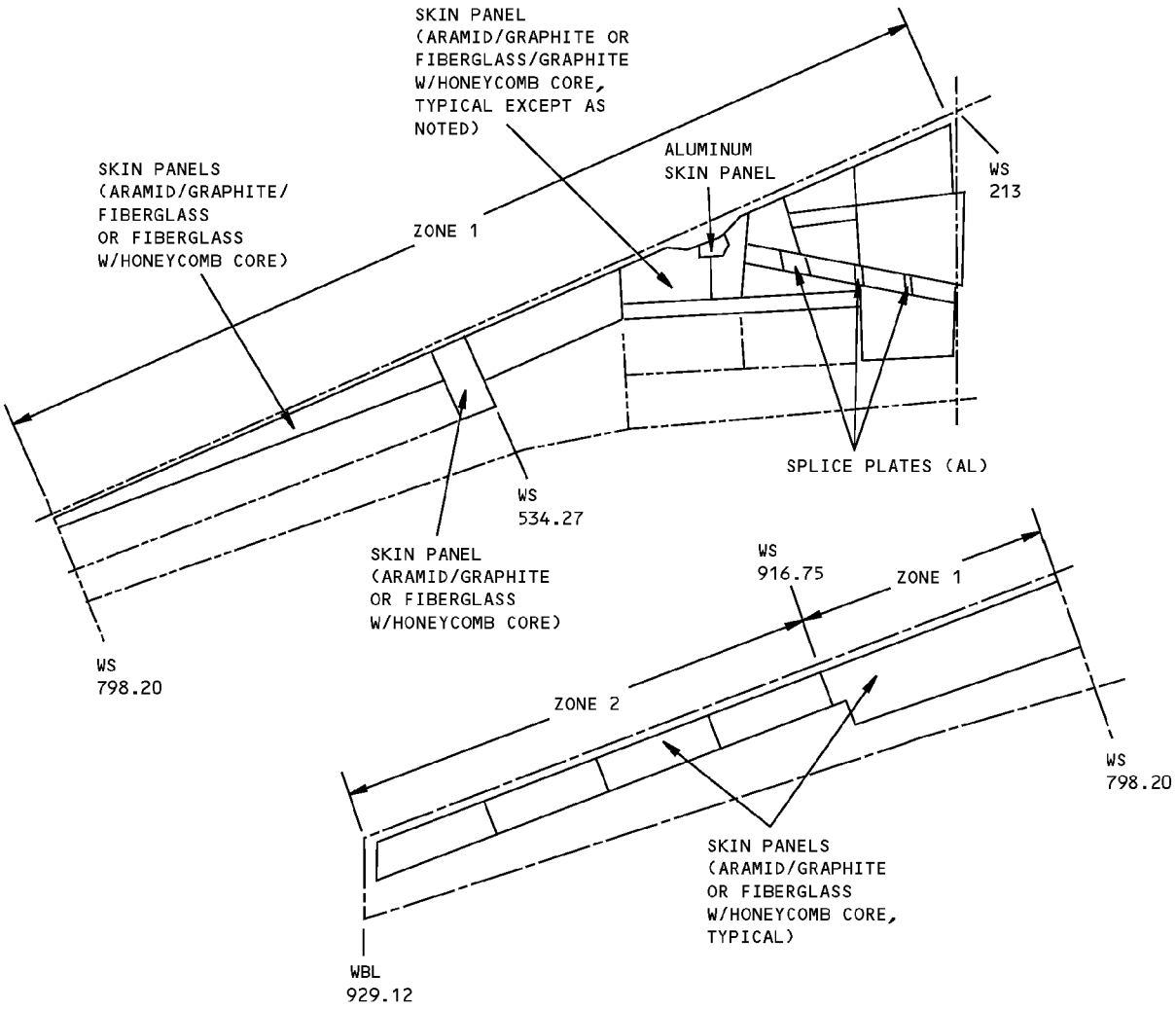
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	P3	K	0° OR 90°
	P4,P16	J	90°
	P17	D	0° OR 90°

PLY TABLE B M

DETAIL XVII

Fixed Trailing Edge Lower Skin Identification
Figure 1 (Sheet 17 of 17)

ALLOWABLE DAMAGE 1 - WING FIXED TRAILING EDGE SKIN - UPPER SURFACE



DESCRIPTION		CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
SKIN PANELS COMPOSITE	ZONE 1	A	B	C	A	A
	ZONE 2	E	F	C	E	E
SKIN PANELS ALUMINUM		G	H	SEE DETAIL III	I	—
SPLICE PLATES ALUMINUM		G	H	SEE DETAIL III	I	—

TABLE I

Wing Fixed Trailing Edge Skin - Upper Surface Allowable Damage
Figure 101 (Sheet 1 of 4)

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS GIVEN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] DAMAGE TO SKIN PANEL EDGES MAY BE A COMBINATION OF EDGE DELAMINATION AND/OR CRACKS, GOUGES, ETC., WHICH CAN RESULT IN FIBER DAMAGE AND A LOSS OF CROSS-SECTIONAL AREA. REMOVE EDGE DAMAGE AS GIVEN IN DETAILS I AND V. 2.0 INCHES (50.8 mm) MAX DIA IS PERMITTED FOR A SINGLE DAMAGE SITE IN THE HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUT NOT BE CLOSER THAN A MINIMUM OF a/D = 1.5. SEE DETAIL VI FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. PROTECT DAMAGE NOT REWORKED AS GIVEN IN [D].

[B] DAMAGE IS PERMITTED ON THE SURFACE RESIN ONLY, WITH NO FIBER DAMAGE. CLEAN UP DAMAGE AS GIVEN IN DETAILS I AND V. REFER TO [A] FOR FIBER DAMAGE IN OTHER AREAS.

[C] DENTS RESULT IN DELAMINATION AND FIBER DAMAGE AND MUST BE TREATED AS A HOLE OR PUNCTURE DAMAGE.

[D] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

[E] DAMAGE TO SKIN PANEL EDGES MAY BE A COMBINATION OF EDGE DELAMINATION AND/OR CRACKS, GOUGES, ETC., WHICH CAN RESULT IN FIBER DAMAGE AND A LOSS OF CROSS-SECTIONAL AREA. REMOVE EDGE DAMAGE AS GIVEN IN DETAILS I AND V. 1.50 INCHES (38.0 mm) MAX DIA IS PERMITTED FOR A SINGLE DAMAGE SITE IN THE HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 1.5. SEE DETAIL VI FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. PROTECT DAMAGE NOT REWORKED AS GIVEN IN [D].

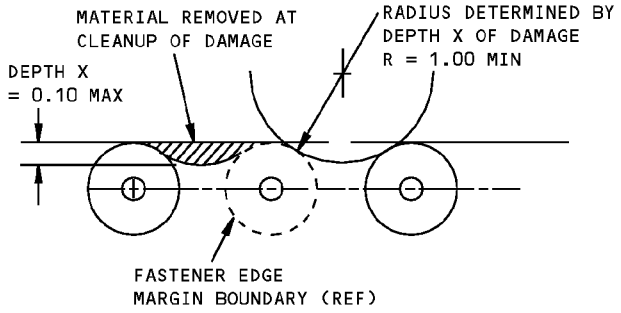
[F] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY, WITH NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS I AND V. REFER TO [E] FOR FIBER DAMAGE IN OTHER AREAS.

[G] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS I AND V. SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

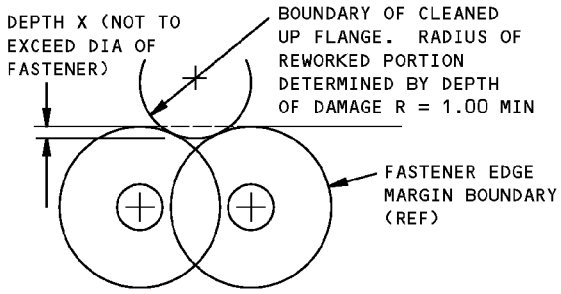
[H] REMOVE DAMAGE AS GIVEN IN DETAILS I, II, AND IV. SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

[I] CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAX DIA AND NOT CLOSER THAN 1.0 INCH (25.4 mm) OF A FASTENER HOLE OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

Wing Fixed Trailing Edge Skin - Upper Surface Allowable Damage
Figure 101 (Sheet 2 of 4)

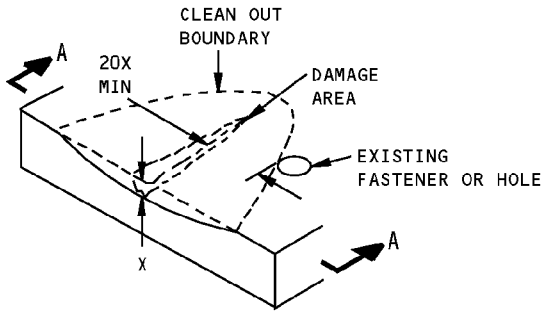


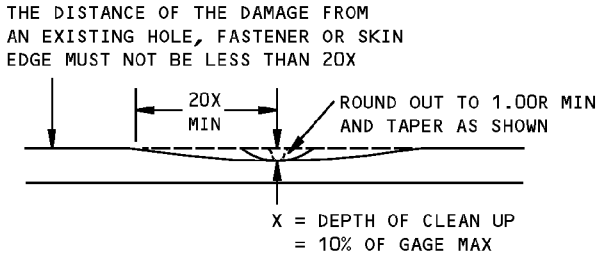
DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

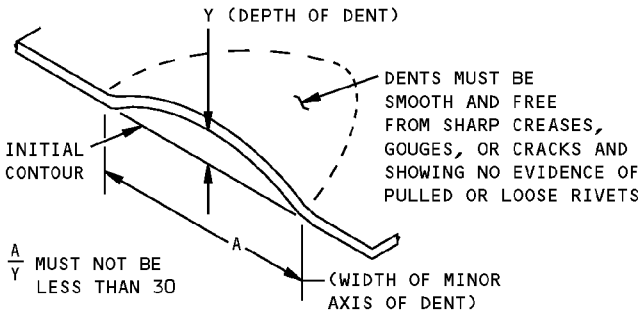
DETAIL I



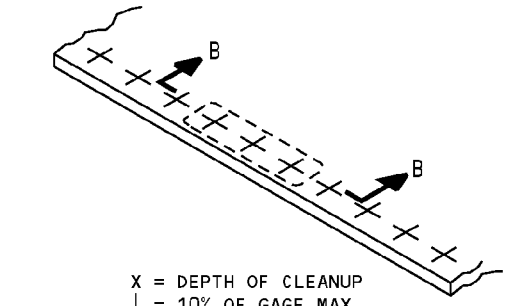


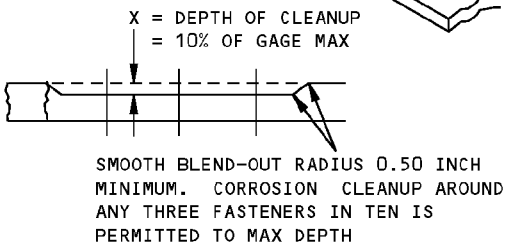
SECTION A–A

DETAIL II

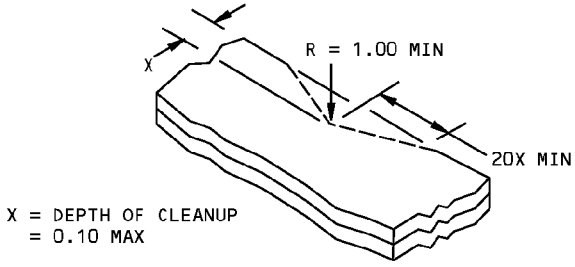


ALLOWABLE DAMAGE FOR DENT
DETAIL III



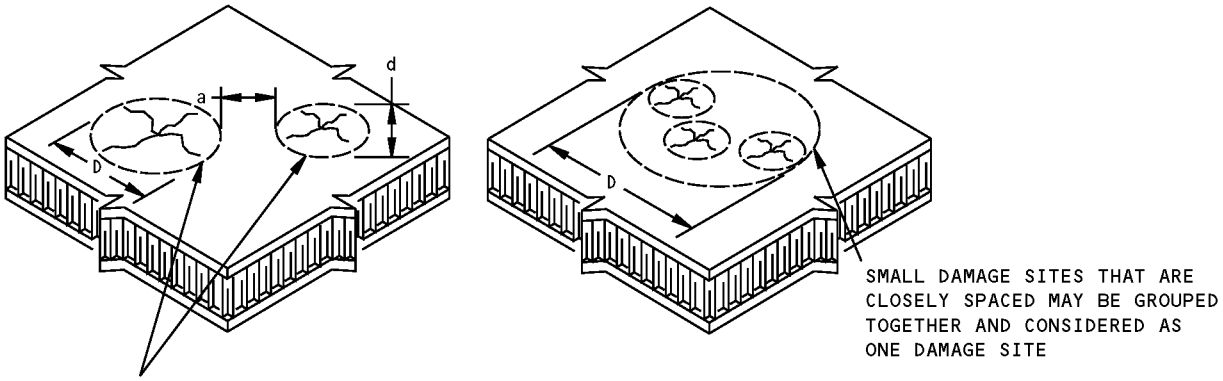


SECTION B–B
CORROSION CLEANUP
DETAIL IV



REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL V

Wing Fixed Trailing Edge Skin - Upper Surface Allowable Damage
Figure 101 (Sheet 3 of 4)

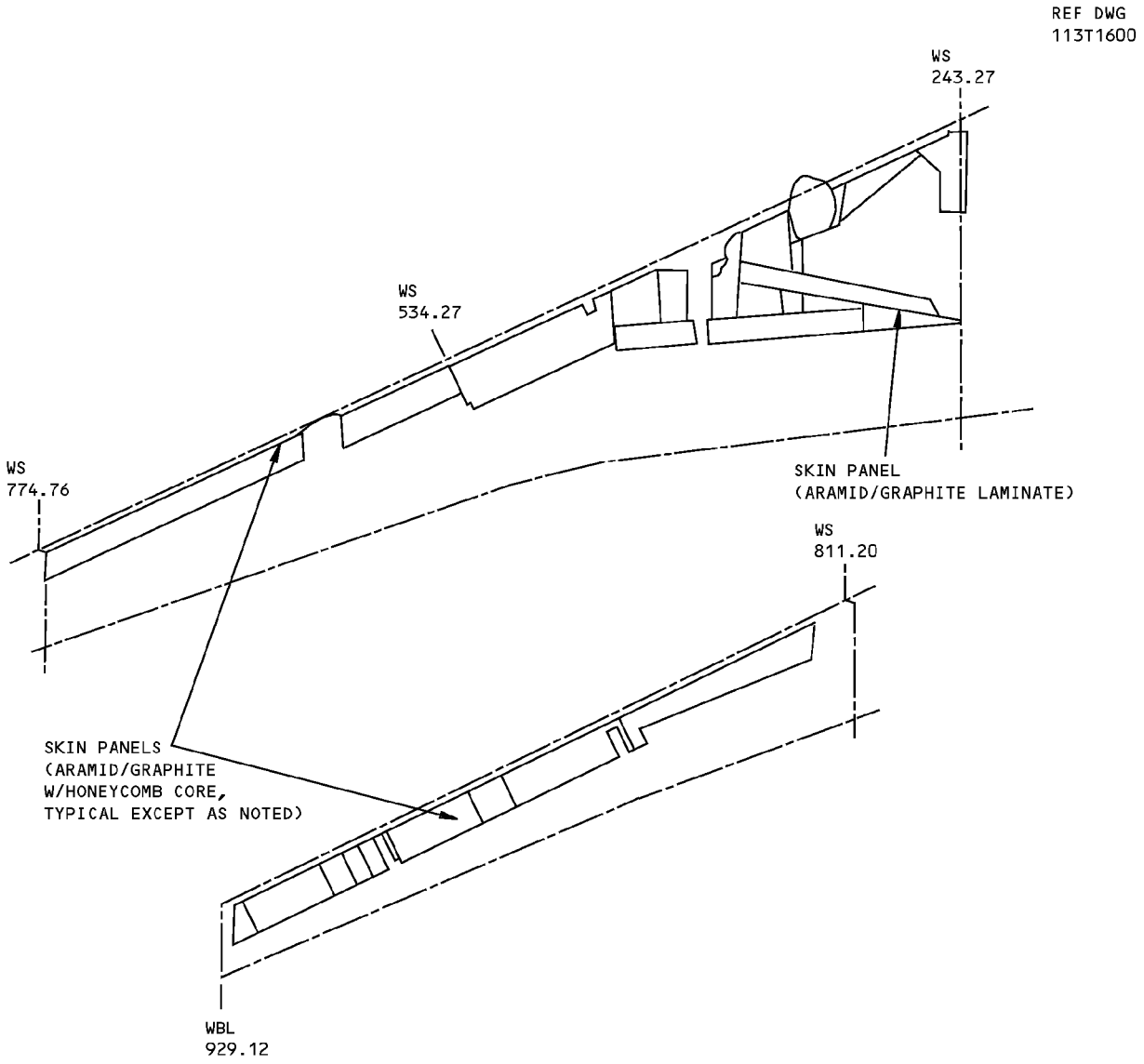


- DAMAGE SITE IS ANY SINGLE AREA OF A PANEL WHERE THERE IS A DENT, CRACK, DELAMINATION, PUNCTURE OR ANY COMBINATION OF THESE. SMALL DAMAGE SITES THAT ARE CLOSELY SPACED MAY BE GROUPED TOGETHER AND CONSIDERED AS ONE DAMAGE SITE.
- "D" IS DETERMINED BY MEASURING THE DIAMETER OF A CIRCLE DRAWN AROUND THE DENT, CRACK, OR OTHER DAMAGE, WHICHEVER IS GREATER.
- "a" IS THE DISTANCE BETWEEN TWO ADJACENT DAMAGE SITES.
- "d" IS THE DIAMETER OF THE SMALLER OF TWO ADJACENT DAMAGE SITES
- CALCULATE a/D BY DIVIDING DISTANCE "a" BY DIAMETER "D"
- THE DAMAGE IS PERMITTED WHEN "D" AND a/D AGREE WITH THE LIMITS GIVEN IN TABLE I.

DAMAGE SIZING AND SPACING DATA
FOR COMPOSITE PANELS
DETAIL VI

Wing Fixed Trailing Edge Skin - Upper Surface Allowable Damage
Figure 101 (Sheet 4 of 4)

ALLOWABLE DAMAGE 2 - WING FIXED TRAILING EDGE SKIN - LOWER SURFACE



DESCRIPTION	CRACKS	NICKS AND GOUGES	DENTS	HOLES AND PUNCTURES	DELAMINATION
SKIN PANELS	B	C	D	E	F

Wing Fixed Trailing Edge Skin - Lower Surface Allowable Damage
Figure 101 (Sheet 1 of 3)

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- DAMAGE TO PANEL EDGES MAY BE CONFINED TO DELAMINATION OR MAY TAKE A FORM WHICH RESULTS IN DAMAGE TO FIBERS AND A LOSS OF EFFECTIVE CROSS-SECTIONAL AREA. THIS TYPE OF DAMAGE SHOULD BE REMOVED AND THE LIMITATIONS GIVEN FOR CRACKS APPLIED.

[A] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

[B] 2.0 INCHES (50.8 mm) MAXIMUM LENGTH IN HONEYCOMB AREA IS PERMITTED PER SQUARE FOOT OF AREA IF IT IS A MINIMUM OF 6.0 INCHES (150 mm) FROM ANY OTHER CRACK. CLEAN UP EDGE CRACKS AS GIVEN IN DETAILS I AND II. CRACKS THROUGH CONSECUTIVE FASTENERS OR THROUGH THE PANEL EDGE BAND ARE PERMITTED IF THE DAMAGE DOES NOT EXCEED 10% OF THE EDGEBAND LENGTH PER SIDE. [A]

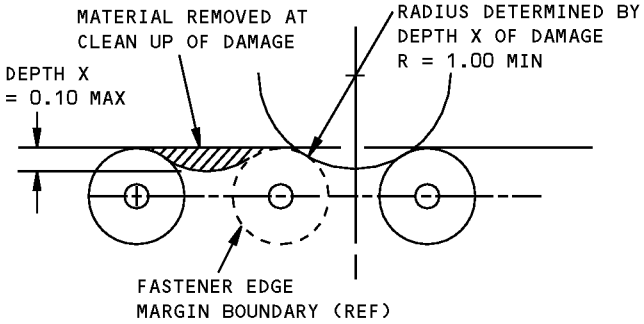
[C] DAMAGE IS PERMITTED ON THE SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS I AND II. [A]

[D] DENTS GENERALLY RESULT IN FIBER DAMAGE OR DELAMINATION. HOWEVER, IF THERE IS NO FIBER DAMAGE OR DELAMINATION, DENTS UP TO 2.0 INCHES (50.8 mm) DIAMETER MAXIMUM ARE PERMITTED. ONE DENT PER SQUARE FOOT OF AREA IS PERMITTED, WHICH MUST BE A MINIMUM OF 6 INCHES (150 mm) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR PANEL EDGE. IF THERE IS FIBER DAMAGE OR DELAMINATION, REFER TO THE APPLICABLE DAMAGE DATA IN THE TABLE.

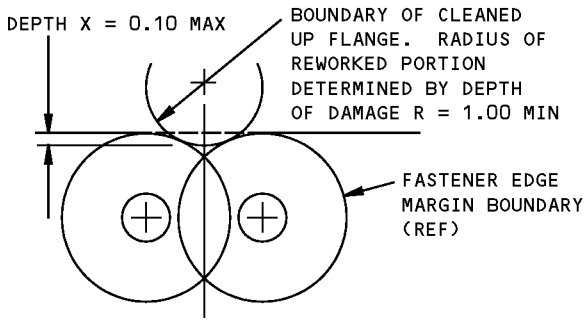
[E] 1.0 INCH (25.4 mm) MAXIMUM DIAMETER IS PERMITTED IN THE HONEYCOMB AREA ONLY IF THE DAMAGE IS A MINIMUM OF 2.5 D FROM OTHER DAMAGE, NEAREST HOLE OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. [A]

[F] 4.0 INCHES (101.6 mm) MAXIMUM DIAMETER IN HONEYCOMB AREA AND NOT TO EXCEED 25% OF HONEYCOMB CORE LENGTH PER SIDE. A MAXIMUM OF 0.10 (2.5 mm) INCH DELAMINATION FROM EDGE IS PERMITTED. PROTECT EDGE DAMAGE AS GIVEN IN. [A]

Wing Fixed Trailing Edge Skin - Lower Surface Allowable Damage
Figure 101 (Sheet 2 of 3)

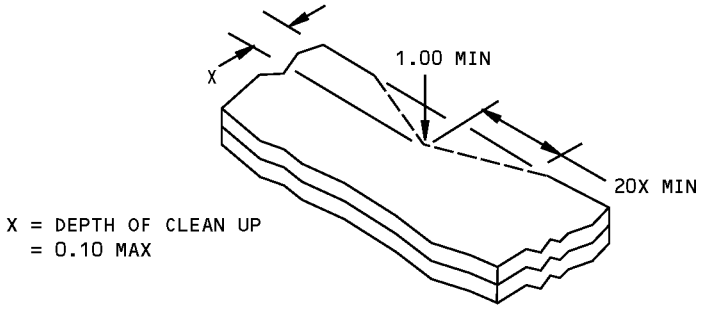


DAMAGE CLEAN UP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEAN UP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

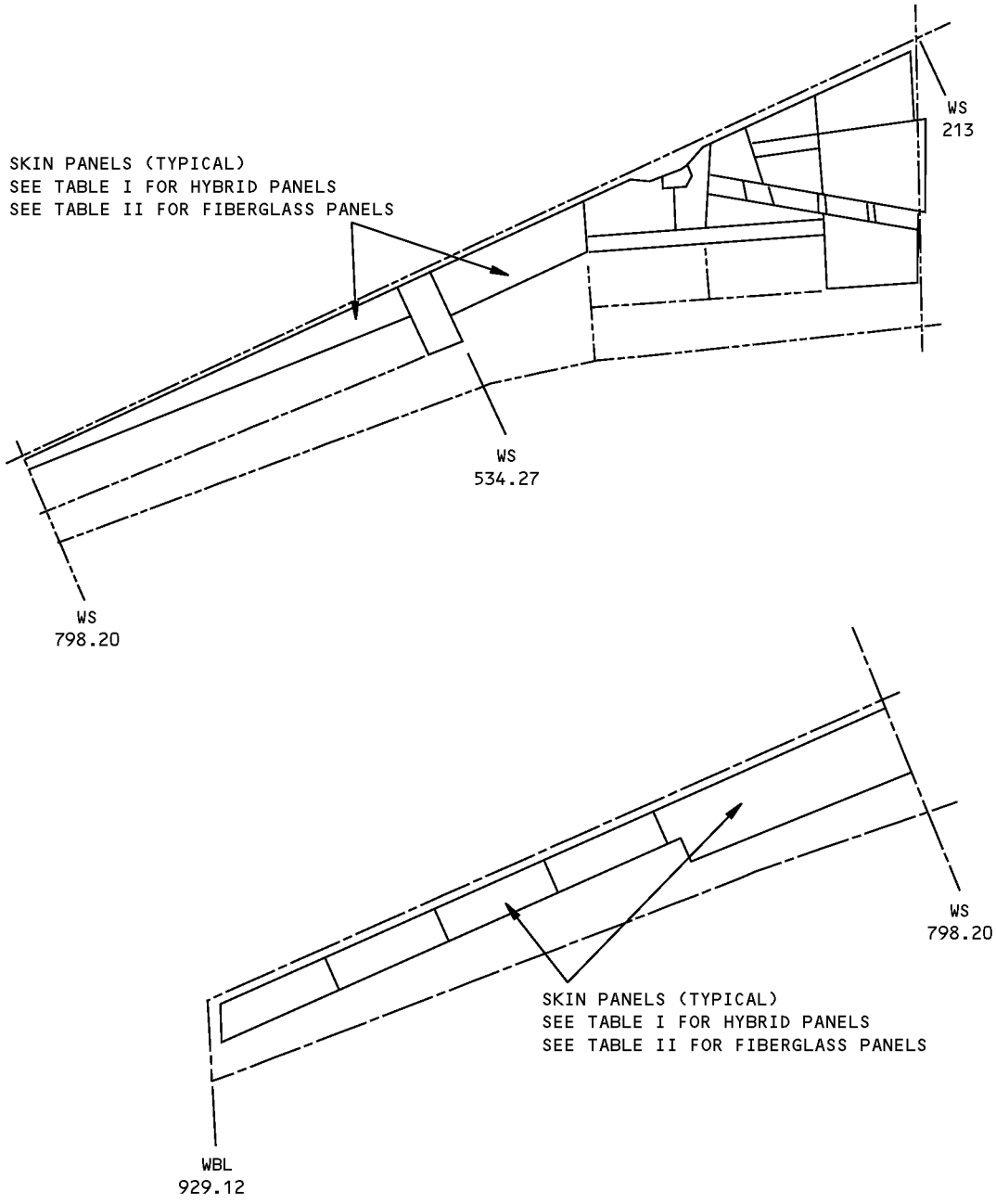
DETAIL I



REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL II

Wing Fixed Trailing Edge Skin - Lower Surface Allowable Damage
Figure 101 (Sheet 3 of 3)

REPAIR 1 - WING FIXED TRAILING EDGE UPPER SKIN



Wing Fixed Trailing Edge Upper Skin Repairs
Figure 201 (Sheet 1 of 3)

DAMAGE	INTERIM REPAIRS [D]	PERMANENT REPAIRS [A]		
	WET LAYUP; ROOM TEMP, 150°F (66°C) CURE [C] (51-70-03)	WET LAYUP 150°F (66°C) CURE (51-70-03)	WET LAYUP 200°F (93°C) CURE (51-70-17)	250°F (121°C) CURE (51-70-05)
CRACKS	UP TO 4.0 INCHES (10.2 cm) LONG, REPAIR WITH PATCH PER 51-70-03, PAR. 5.N. [B]	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (10.2 cm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-03, PAR. 5.N. [B]	8.0 INCHES (20.3 cm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [B]	16.0 inche (40.6 cm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACE-SHEET REPAIRED	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES PER 51-70-03 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE			
DENTS	UP TO 4.0 INCHES (10.2 cm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-03, PAR. 5.L. OVER 4.0 INCHES ((10.2 cm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE			

REPAIR DATA FOR 250°F (121°C) CURE ARAMID/GRAPHITE/FIBERGLASS HONEYCOMB PANELS [E]
TABLE I

NOTES

- REFINISH REWORKED AREAS PER 51-21 OF THE 767 MAINTENANCE MANUAL
- REFER TO 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE REPAIR EXCEEDS THE LIMITS SHOWN IN 51-10-01 CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

[A] DO NOT EXTEND GRAPHITE/EPOXY REPAIR PLIES INTO PANEL EDGEBAND

[B] MINIMUM SPACING (EDGE TO EDGE), 6 INCHES (15 cm) BETWEEN CORE REPAIRS

[C] TWO PLIES OF BMS 9-3 TYPE H-2 OR H-3 MAY BE SUBSTITUTED FOR EACH PLY OF BMS 8-168 TYPE II, CLASS 1. THESE PLIES MUST MAINTAIN THE REQUIRED 1.0 PER PLY OVERLAP

[D] LIMITED TO REPAIR OF ONE FACESHEET SKIN AND HONEYCOMB CORE. INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST EVERY AIRPLANE "C" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO 51-70-03, PAR. 4.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN

[E] WHERE BMS 5-95 SEALANT IS APPLIED ON EXTERIOR SURFACE OF PANEL AT MANUFACTURE, REAPPLY BMS 5-95 SEALANT ON REWORKED AREAS PRIOR TO THE APPLICATION OF ENAMEL FINISH. REFER TO 51-21-12 OF THE 767 MAINTENANCE MANUAL

Wing Fixed Trailing Edge Upper Skin Repairs
Figure 201 (Sheet 2 of 3)

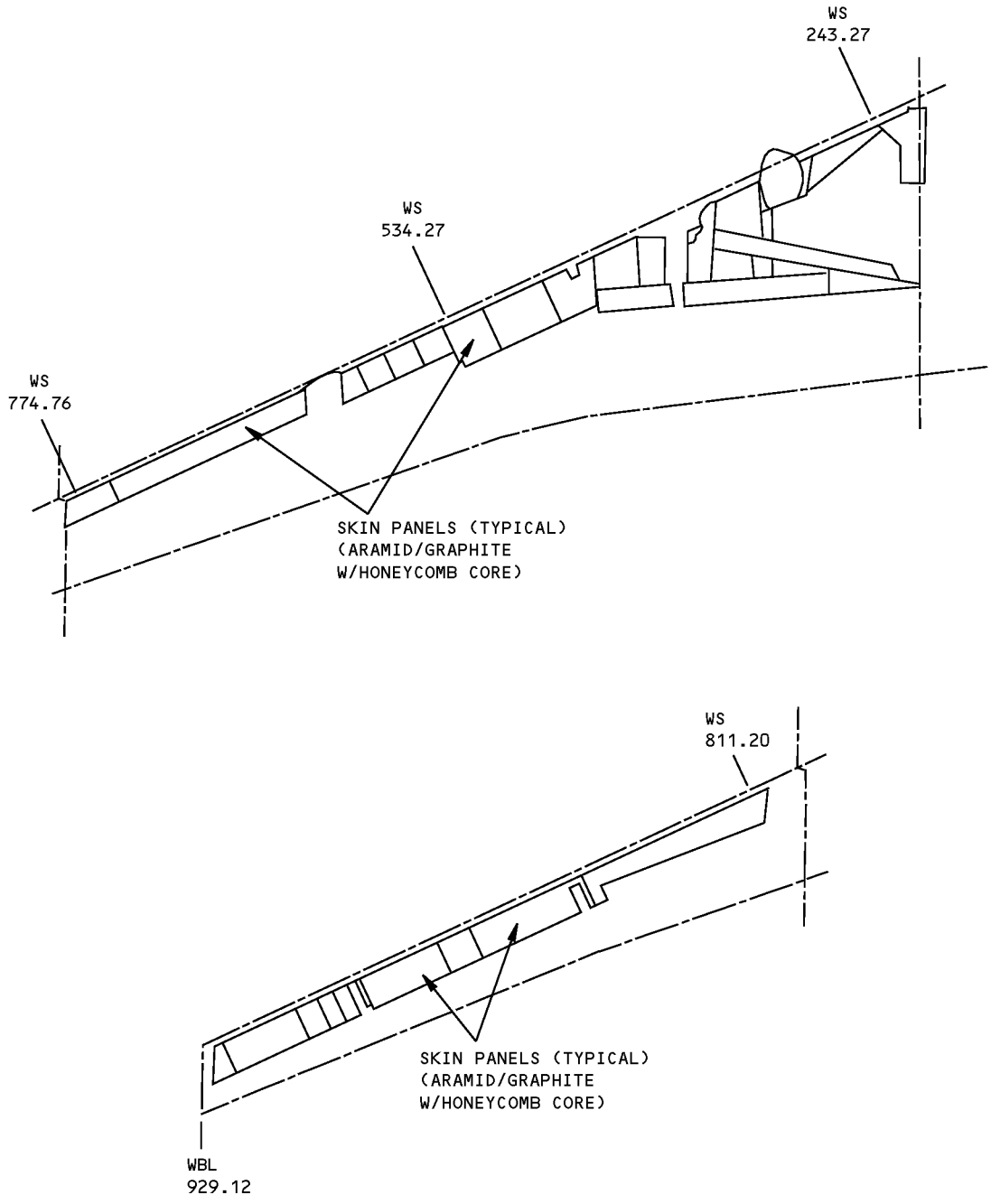
DAMAGE	INTERIM REPAIRS [D]	PERMANENT REPAIRS [A]		
	WET LAYUP ROOM TEMP/150°F (66°C) CURE (51-70-06)	WET LAYUP 150°F (66°C) CURE (51-70-06)	WET LAYUP 200°F (93°C) CURE (51-70-17)	250°F (121°C) CURE (51-70-07)
CRACKS	UP TO 4.0 INCHES (100 mm) LONG, REPAIR WITH PATCH PER 51-70-06, PAR. 5.N. [B]	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (100 mm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.N. [B]	8.0 INCHES (200 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [B]	16.0 INCHES (400 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES PER 51-70-06 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE			
DENTS	UP TO 4.0 IN. (100 mm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-06, PAR. 5.L. OVER 4.0 IN. (100 mm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE			

REPAIR DATA FOR 250°F (121°C) CURE FIBERGLASS HONEYCOMB PANELS
TABLE II

Wing Fixed Trailing Edge Upper Skin Repairs
Figure 201 (Sheet 3 of 3)

REPAIR 2 - WING FIXED TRAILING EDGE LOWER SKIN

REF DWG
113T1600



Wing Fixed Trailing Edge Lower Skin Repairs
Figure 201 (Sheet 1 of 2)

DAMAGE	INTERIM REPAIRS [D]	PERMANENT REPAIRS [A]		
	WET LAYUP; ROOM TEMP, 150°F (66°C) CURE [C] (51-70-03)	WET LAYUP 150°F (66°C) CURE (51-70-03)	WET LAYUP 200°F (93°C) CURE (51-70-17)	250°F (121°C) CURE (51-70-05)
CRACKS	UP TO 4.0 INCHES (10.2 cm) LONG, REPAIR WITH PATCH PER 51-70-03, PAR. 5.N. [B]	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (10.2 cm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-03, PAR. 5.N. [B]	8.0 INCHES (20.3 cm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED [B]	16.0 inche (40.6 cm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACE-SHEET REPAIRED	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES PER 51-70-03 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE			
DENTS	UP TO 4.0 INCHES (10.2 cm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH PER 51-70-03, PAR. 5.L. OVER 4.0 INCHES ((10.2 cm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE			

REPAIR DATA FOR 250°F (121°C) CURE ARAMID/GRAPHITE/FIBERGLASS HONEYCOMB PANELS [E]
TABLE I

NOTES

- REFINISH REWORKED AREAS PER 51-21 OF THE 767 MAINTENANCE MANUAL
- REFER TO 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE REPAIR EXCEEDS THE LIMITS SHOWN IN 51-10-01 CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

[A] DO NOT EXTEND GRAPHITE/EPOXY REPAIR PLIES INTO PANEL EDGEBAND

[B] MINIMUM SPACING (EDGE TO EDGE), 6 INCHES (15 cm) BETWEEN CORE REPAIRS

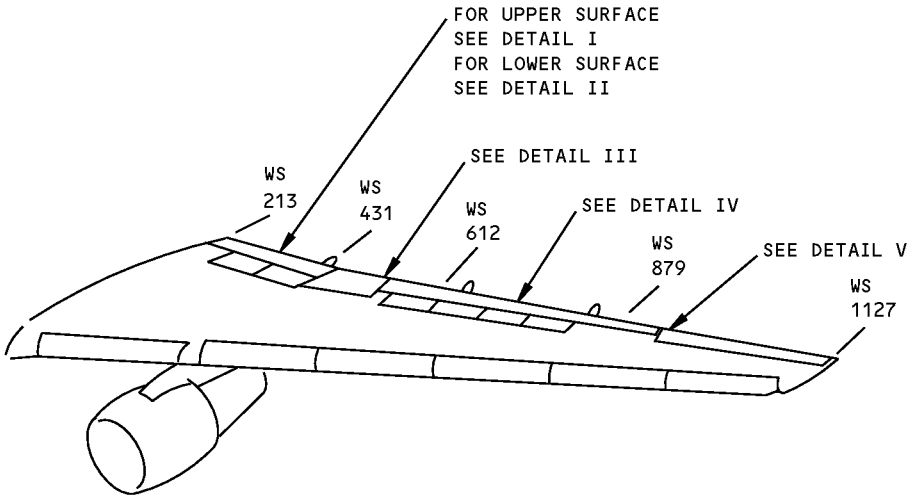
[C] TWO PLIES OF BMS 9-3 TYPE H-2 OR H-3 MAY BE SUBSTITUTED FOR EACH PLY OF BMS 8-168 TYPE II, CLASS 1. THESE PLIES MUST MAINTAIN THE REQUIRED 1.0 PER PLY OVERLAP

[D] LIMITED TO REPAIR OF ONE FACESHEET SKIN AND HONEYCOMB CORE. INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST EVERY AIRPLANE "C" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO 51-70-03, PAR. 4.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN

[E] WHERE BMS 5-95 SEALANT IS APPLIED ON EXTERIOR SURFACE OF PANEL AT MANUFACTURE, REAPPLY BMS 5-95 SEALANT ON REWORKED AREAS PRIOR TO THE APPLICATION OF ENAMEL FINISH. REFER TO 51-21-12 OF THE 767 MAINTENANCE MANUAL

Wing Fixed Trailing Edge Lower Skin Repairs
Figure 201 (Sheet 2 of 2)

IDENTIFICATION 1 - WING TRAILING EDGE STRUCTURE



LEFT WING SHOWN
RIGHT WING EQUIVALENT

NOTES

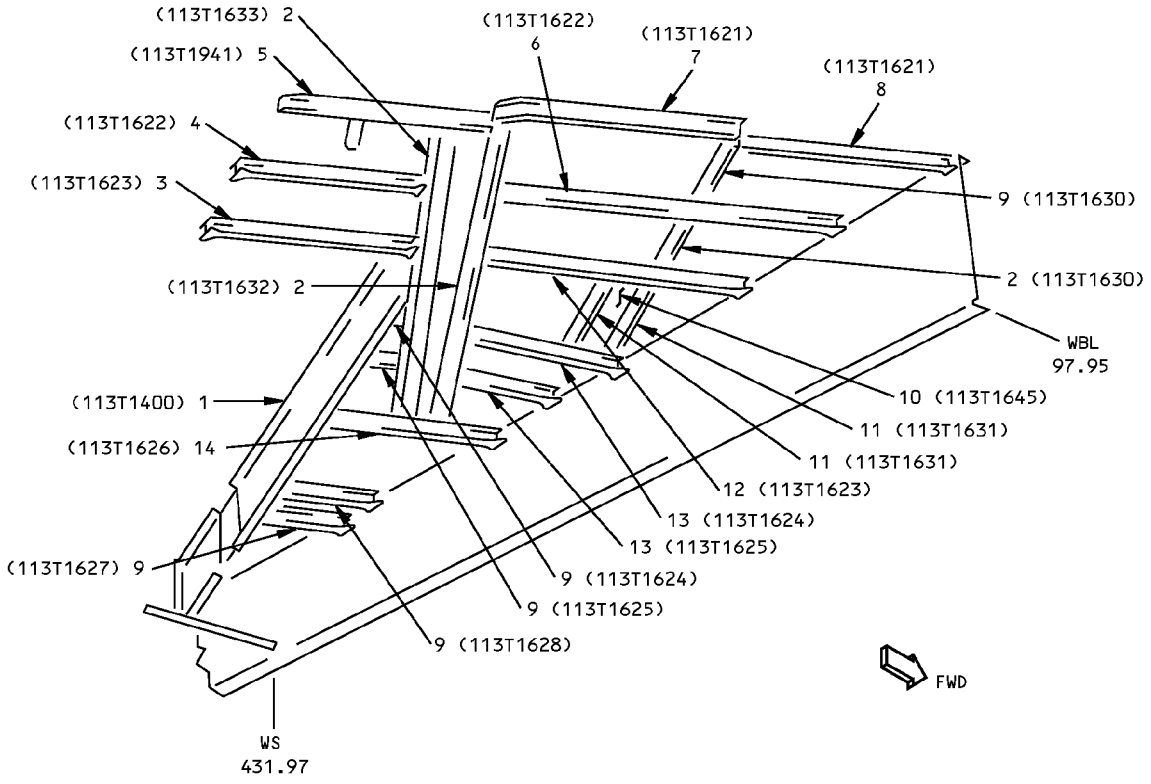
[A] FOR CUM LINE NUMBERS:
1 THRU 200

[B] FOR CUM LINE NUMBERS:
201 AND ON

[C] FOR AIRPLANES WITH CUM LINE NUMBERS:
297,289,291,293,294,298 AND 300 AND ON

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 1 of 12)

REF DWG
113T1600



DETAIL I

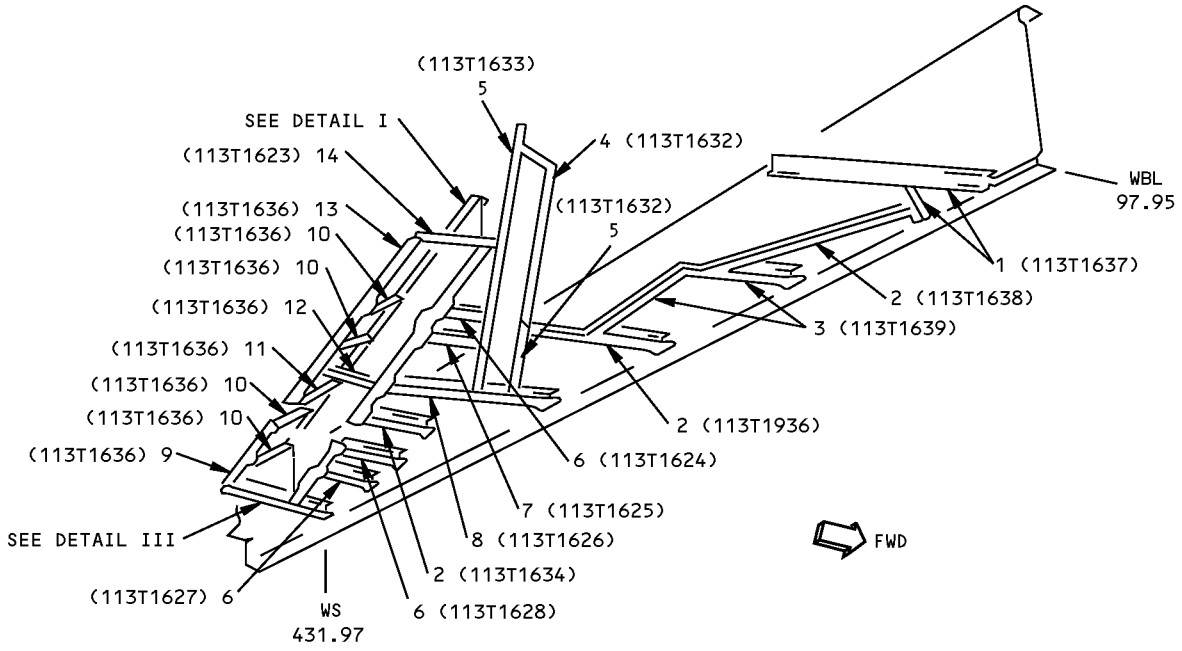
LIST OF MATL

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 2 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	INBD SPOILER BEAM			
	UPPER CHORD		BAC1506-2850 7075-T6511	
			OPTIONAL: BAC1506-2633 7075-T6511	
	LOWER CHORD		BAC1506-75 7075-T6511	
			OPTIONAL: BAC1506-2638 7075-T6511	
	BONDED WEB	0.020	2 SHEETS 2024-T3	
	SUPPORT FITTING		FORGING 7075-T73	
	END FITTING		BAC1520-2011 7075-T73511	
2	PANEL SUPPORT RIB		BAC1506-2876 7075-T6511	
3	PANEL SUPPORT BEAM			
	UPPER CHORD		BAC1505-100547 7075-T6511	
	LOWER CHORD		AND10136-3005 7075-T6511	
	FWD CHORD		BAC1505-100547 7075-T6511	
	WEB	0.063	CLAD 2024-T3	
4	PANEL SUPPORT BEAM			
	UPPER CHORD		AND10136-3005 7075-T6511	
	LWR FWD CHORD		AND10134-1603 7075-T6511	
	LWR AFT CHORD		AND10136-3005 7075-T6511	
	WEB	0.080	7075-T6	
5	PANEL SUPPORT			
	BEAM		AND10139-1303 7075-T6511	
	FITTING		BAR 7075-T73	
6	PANEL SUPPORT BEAM			
	UPPER CHORD		AND10136-3005 7075-T6511	
	LOWER CHORD		AND10136-3002 7075-T6511	
	WEB	0.050	7075-T6	
7	PANEL SUPPORT		AND10138-2002 7075-T6511	
8	PANEL SUPPORT		AND10137-2004 7075-T6511	
9	PANEL SUPPORT RIB		BAC1518-670 2024-T3511	
10	MLG POP UP DOOR			
	BONDED PANEL	0.050	2 PLIES CLAD 2024-T42	
	ACTUATOR ARM		BAR 7075-T7351	
	PIVOT		BAR 7075-T7351	
11	RIB		BAC1518-484 7075-T6511	
12	PANEL SUPPORT BEAM			
	UPR AND LWR CHORD		AND10136-3001 7075-T6511	
	WEB	0.063	CLAD 2024-T3	
13	PANEL SUPPORT RIB		BAC1518-670 2024-T42	
14	PANEL SUPPORT		BAC1518-303 2024-T3511	

LIST OF MATERIALS FOR DETAIL I

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 3 of 12)



DETAIL II

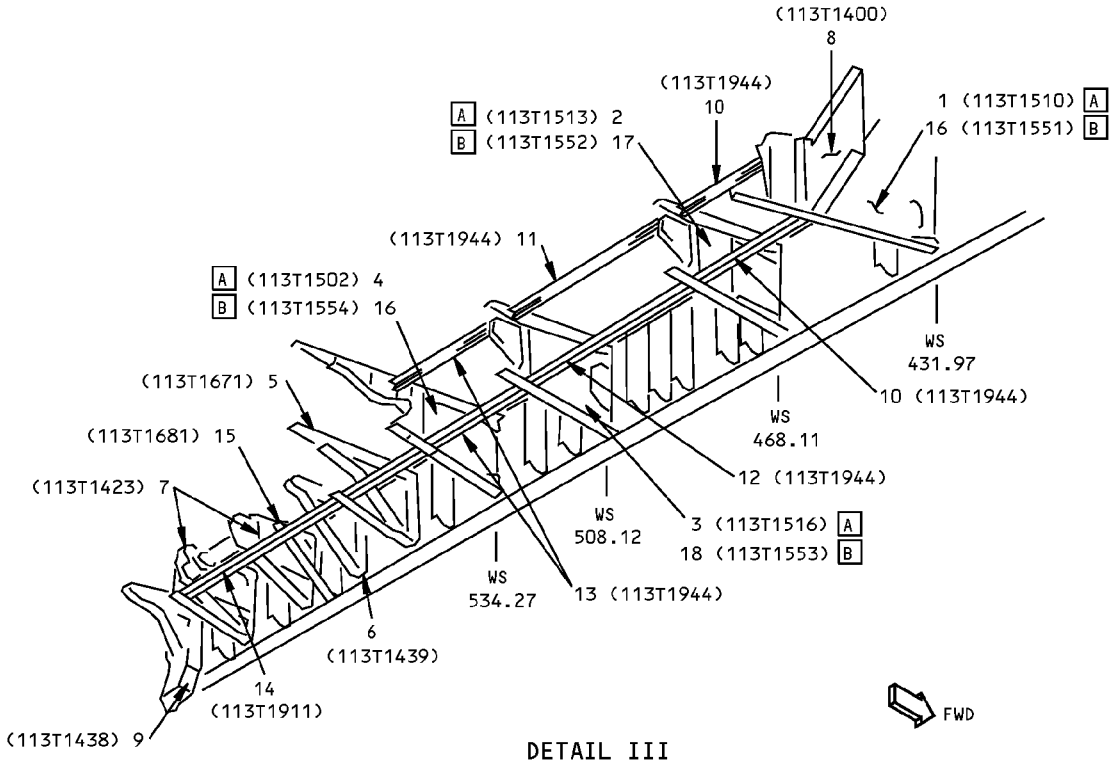
LIST OF MATL

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 4 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	DRAG STRUT DOOR SUPPORT BEAM		BAC1506-2422 7075-T6511	
2	PANEL SUPPORT		BAC1506-2422 7075-T6511	
3	PANEL SUPPORT		BAC1506-2422 7075-T651	
4	PANEL SUPPORT	0.080	CLAD 2024-T42	
5	PANEL SUPPORT		BAC1506-2876 7075--T6511	
6	PANEL SUPPORT		BAC1518-670 2024-T3511	
7	PANEL SUPPORT		BAC1518-670 7075-T6511 OPTIONAL: 2024-T3511	
8	PANEL SUPPORT		BAC1518-670 7075-T6511	
9	PANEL SUPPORT		BAC1493-519 CLAD 7075-T6	
10	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
11	STRUT		TUBE 0.50 OD X 0.035 WALL 2024-T3	
12	PANEL SUPPORT		BAC1493-289 CLAD 7075-T6	
13	PANEL SUPPORT		BAC1493-264 CLAD 7075-T6	
14	CHANNEL		AND10137-2004 7075-T6511	

LIST OF MATERIALS FOR DETAIL II

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 5 of 12)



DETAIL III

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	AILERON HINGE SUPPORT RIB			
	UPPER AND LWR CHORD		AND10136-3001 7075-T6511	
	WEB	0.080	7075-T6	
	SUPPORT FITTING		FORGING 7075-T73	
2	AILERON HINGE SUPPORT RIB			A
	LOWER CHORD		BAC1505-100188 2024-T42	
	UPPER CHORD		BAC1505-100188 7075-T6	
	WEB	0.125	7075-T6	
	SUPPORT FITTING		FORGING 7075-T73	
	BEARING BLOCK		PLATE 7075-T7351	
3	AILERON HINGE SUPPORT RIB			A
	UPPER CHORD		AND10136-3006 7075-T6511	
	LOWER CHORD		BAC1505-101017 2024-T3511	
	WEB	0.125	7075-T6	
	BEARING BLOCK		BAR 7075-T7351	
	SUPPORT FITTING		FORGING 7075-T73	
	STRUT		TUBE 1.25 OD X 0.080 WALL 2024-T42	

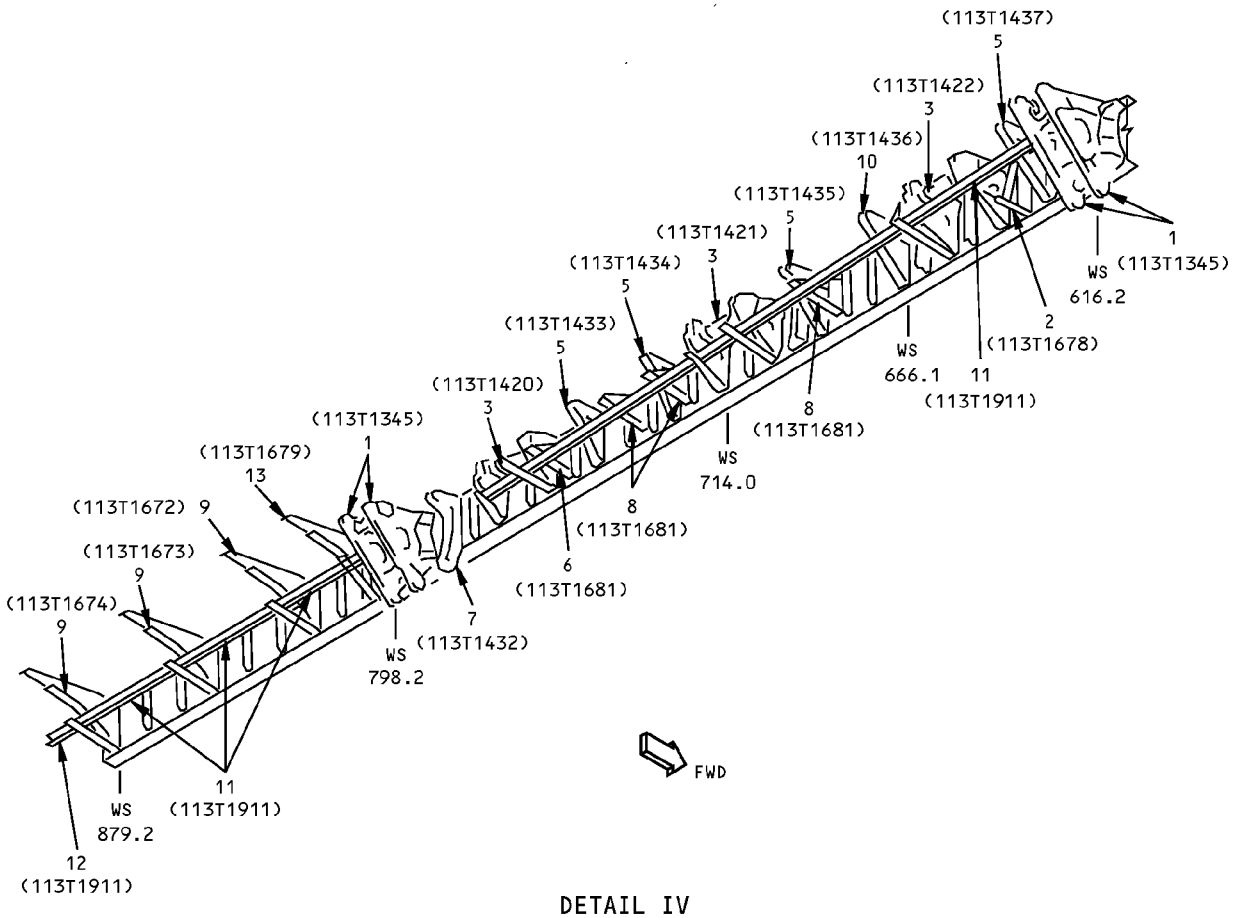
LIST OF MATERIALS FOR DETAIL III

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 6 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
4	AILERON HINGE SUPPORT RIB			A
	UPPER AND LWR CHORD		BAC1505-100124 7075-T6511	
	WEB	0.125	7075-T6	
	SUPPORT FITTING		FORGING 7075-T73	
5	PANEL SUPPORT RIB			
	UPPER CHORD		BAC1505-100545 7075-T6511	
	LOWER CHORD		AND 10134-1403 7075-T6511 (INBD AND OUTBD)	
	LWR SUPPORT ANGLE		AND10136-1706 7075-T6511	
	WEB	0.040	CLAD 7075-T6	
	ANGLE BRACE		AND10134-1205 7075-T6511	
6	SPOILER SUPPORT HINGE RIB		FORGING 7075-T73	
7	SPOILER SUPPORT ASSY			
	HINGE FITTING		FORGING 7075-T73	
	TORQUE TUBE		FORGING 7075-T411	
8	OUTBOARD SPOILER BEAM			
	UPPER CHORD		BAC1506-2633 7075-T6511	
	LOWER CHORD		BAC1506-2638 7075-T6511	
	BONDED WEB	0.025	2 SHEETS 2024-T3	
	END FITTING		AND10136-2404 7075-T3511	
	SUPPORT FITTING		FORGING 7075-T73	
9	SIDE BRACE		FORGING 7075-T411	
10	PANEL SUPPORT BEAM		AND10138-1108 7075-T6511	
11	PANEL SUPPORT BEAM		AND10140-1402 7075-T6511	
12	PANEL SUPPORT BEAM		AND10138-2004 7075-T6511	
13	PANEL SUPPORT BEAM		AND10138-1206 7075-T6511	
14	PANEL SUPPORT BEAM	0.080	7075-T6	
15	PANEL SUPPORT RIB			
	CHORD		BAC1505-100545 7075-T6511	
	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
16	AILERON HINGE SUPPORT RIB		FORGING 7075-T73	B
17	AILERON HINGE SUPPORT RIB			B
	RIB		FORGING 7075-T73	
	BEARING BLOCK		PLATE 7075-T7351	
18	AILERON HINGE SUPPORT RIB			B
	RIB		FORGING 7075-T73	
	BEARING BLOCK		BAR 7075-T7351	
	STRUT		TUBE 1.25 OD X 0.080 WALL 2024-T42	

LIST OF MATERIALS FOR DETAIL III (CONT)

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 7 of 12)



DETAIL IV

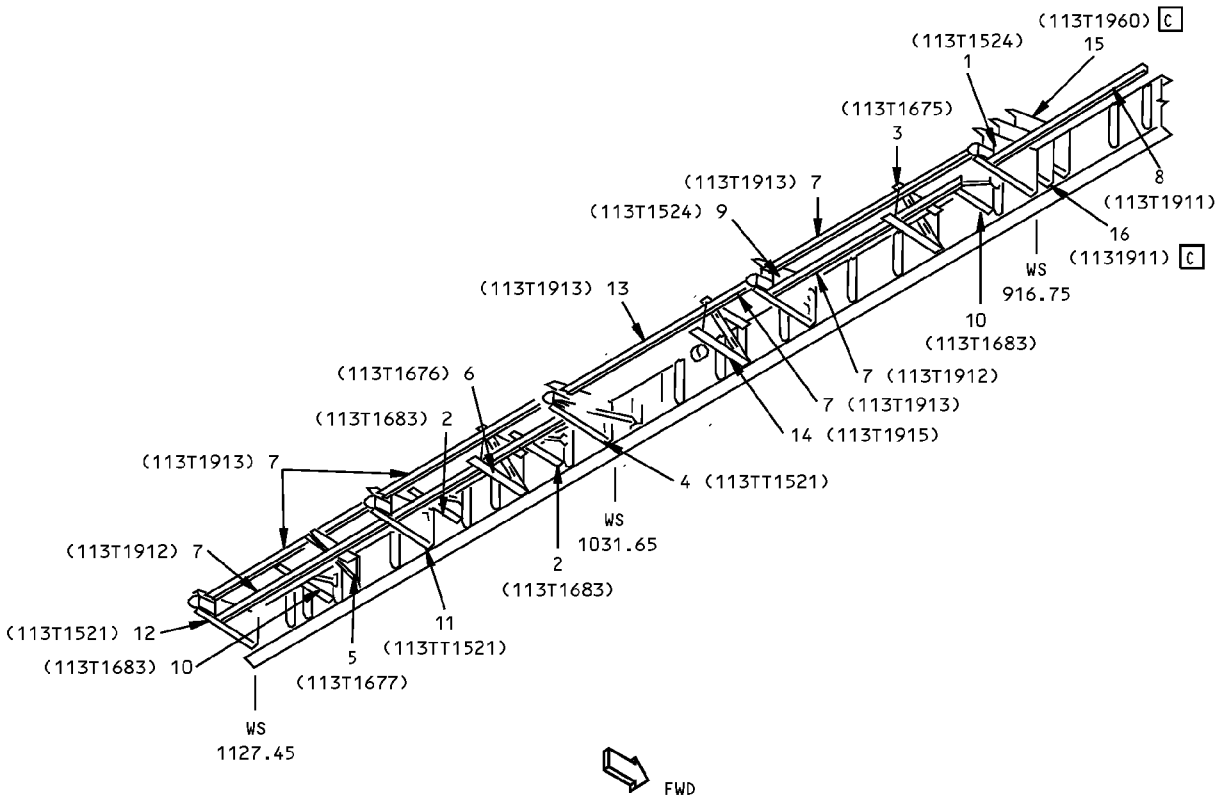
LIST OF MATL

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 8 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FLAP SUPPORT RIB (HALVES)		FORGING 7075-T73	
2	PANEL SUPPORT RIB			
	CHORD		BAC1505-100545 7075-T6511	
	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
3	SPOILER SUPPORT ASSY			
	HINGE FITTING		FORGING 7075-T73	
	TORQUE TUBE		FORGING 7075-T411	
5	SPOILER SUPPORT HINGE RIB		FORGING 7075-T73	
6	PANEL SUPPORT RIB			
	CHORD		BAC1505-100545 7075-T6511	
	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
7	SIDE BRACE		FORGING 7075-T73	
8	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
9	PANEL SUPPORT RIB			
	UPPER CHORD		BAC1505-100545 7075-T6511	
	LOWER CHORD		AND10136-1706 7075-T6511	
	CHANNEL	0.090	7075-T6	
	ANGLE	0.125	7075-T6	
10	SPOILER SUPPORT HINGE RIB		FORGING 7075-T73 OPTIONAL: PLATE 7075-T7351	
11	PANEL SUPPORT BEAM	0.080	7075-T6	
12	PANEL SUPPORT BEAM	0.10	7075-T6	
13	PANEL SUPPORT RIB			
	UPPER CHORD		BAC1505-100545 7075-T6511	
	LOWER CHORD		AND10136-2408 7075-T6511	
	CHANNEL	0.090	7075-T6	
	ANGLE	0.125	7075-T6	

LIST OF MATERIALS FOR DETAIL IV

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 9 of 12)



DETAIL V

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	AILERON HINGE SUPPORT RIB			
	UPPER AND LWR CHORD		AND10136-2404 7075-T6511	
	WEB	0.040	7075-T6	
	FITTING		FORGING 7075-T73	
	BEARING BLOCK		PLATE 7075-T7351	
2	PANEL SUPPORT RIB			
	CHORD		BAC1505-100545 7075-T6511	
	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
3	PANEL SUPPORT			
	CHORDS AND DIAGONAL BRACE		AND10136-1706 7075-T6511	

LIST OF MATERIALS FOR DETAIL V

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 10 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
4	AILERON HINGE SUPPORT RIB			
	UPPER CHORD		BAC1505-100342 7075-T6511	
	LOWER CHORD		BAC1505-101049 2024-T3511	
	WEB	0.071	7075-T6	
	FITTING		FORGING 7075-T73	
	BEARING BLOCK		7075-T7351 PLATE	
	STRUT		TUBE 1.25 OD X 0.065 WALL 2024-T42	
5	PANEL SUPPORT			
	CHORD		AND10136-1706 7075-T6511	
	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
6	PANEL SUPPORT			
	UPPER AND LWR CHORD		BAC1505-100545 7075-T6511	
	DIAGONAL BRACE		AND10136-1706 7075-T6511	
7	PANEL SUPPORT BEAM	0.080	7075-T6	
8	PANEL SUPPORT BEAM	0.100	7075-T6	
9	AILERON HINGE SUPPORT RIB			
	UPPER CHORD		AND10136-2404 7075-T6511	
	LOWER CHORD		BAC1505-101049 2024-T3511	
	WEB	0.080	7075-T6	
	FITTING		FORGING 7075-T73	
	BEARING BLOCK		PLATE 7075-T7351	
10	PANEL SUPPORT RIB			
	CHORD		AND10136-1706 7075-T6511	
	STRUT		TUBE 0.75 OD X 0.035 WALL 2024-T42	
11	AILERON HINGE SUPPORT RIB			
	UPR AND LWR CHORDS		AND10136-2404 7075-T6511	
	WEB	0.063	7075-T6	
	FITTING		FORGING 7075-T73	
	BEARING BLOCK		PLATE 7075-T7351	
12	AILERON HINGE SUPPORT RIB			
	UPR AND LWR CHORDS		AND10136-2404 7075-T6511	
	WEB	0.050	7075-T6	
	FITTING		FORGING 7075-T73	
	BEARING BLOCK		PLATE 7075-T7351	
13	PANEL SUPPORT BEAM	0.125	7075-T6	
14	PANEL SUPPORT RIB			
	LOWER CHORD		AND10136-1706 7075-T6511	
	UPPER CHORD		BAC1505-100545 7075-T6511	
	DIAGONAL BRACE		AND10136-1706 7075-T6511	

LIST OF MATERIALS FOR DETAIL V (CONT)

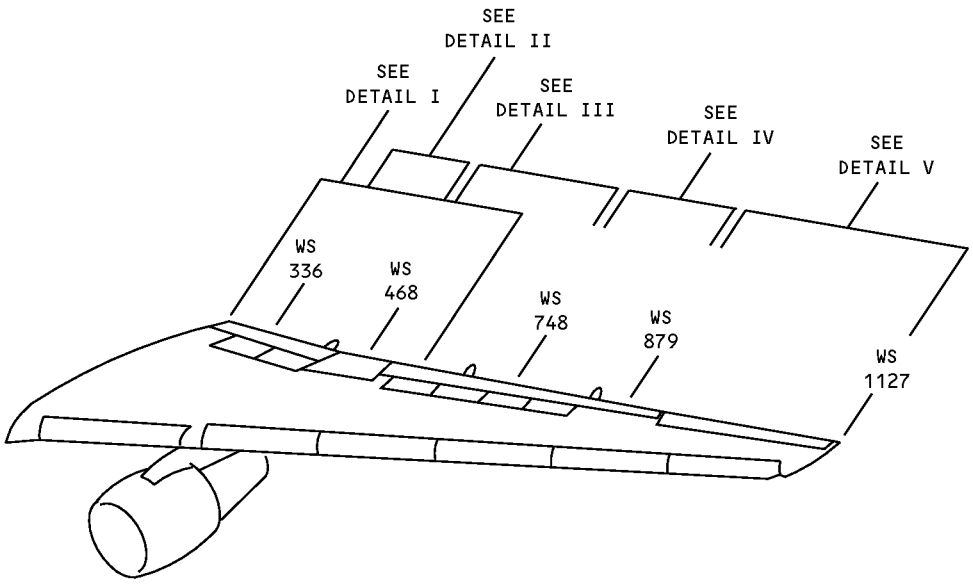
Wing Trailing Edge Structure Identification
Figure 1 (Sheet 11 of 12)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
15	FUEL JETTISON SUPPORT RIB			
	RIB ASSY			C
	LOWER CHORD		BAC1503-100187 7075-T62	
	UPPER CHORD		BAC1503-100187 7075-T62	
	WEB	0.071	7075-T6	
	STIFFENER		BAC1505-100052 7075-T6511	
	SUPPORT ANGLE		BAC1503-100187 7075-T6511	
16	FUEL JETTISON SUPPORT RIB			
	RIB ASSY			C
	LOWER CHORD		BAC1503-100187 7075-T6	
	UPPER CHORD		BAC1503-100187 7075-T6	
	WEB	0.071	7075-T6	
	STIFFENER		BAC1505-100052 7075-T6511	

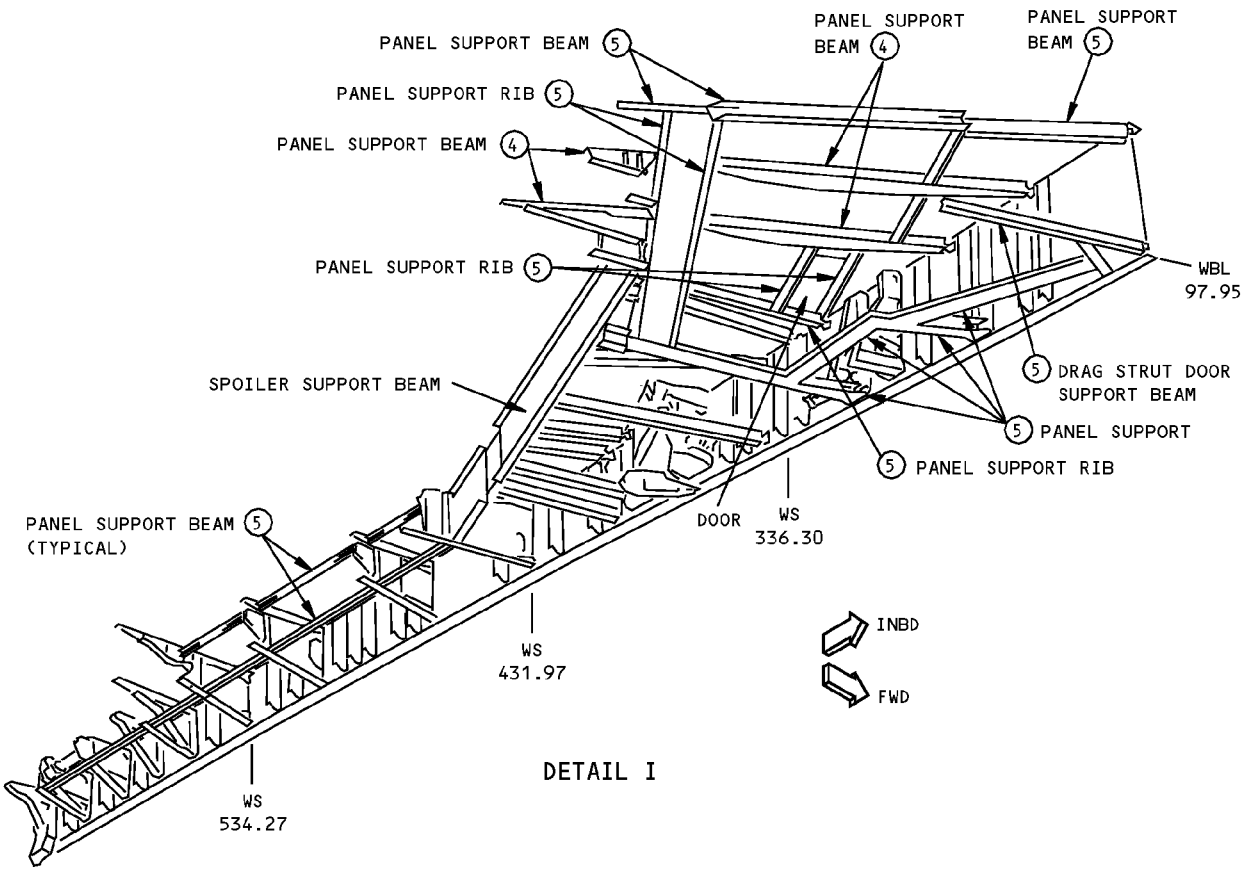
LIST OF MATERIALS FOR DETAIL V (CONT)

Wing Trailing Edge Structure Identification
Figure 1 (Sheet 12 of 12)

ALLOWABLE DAMAGE 1 - WING FIXED TRAILING EDGE STRUCTURE



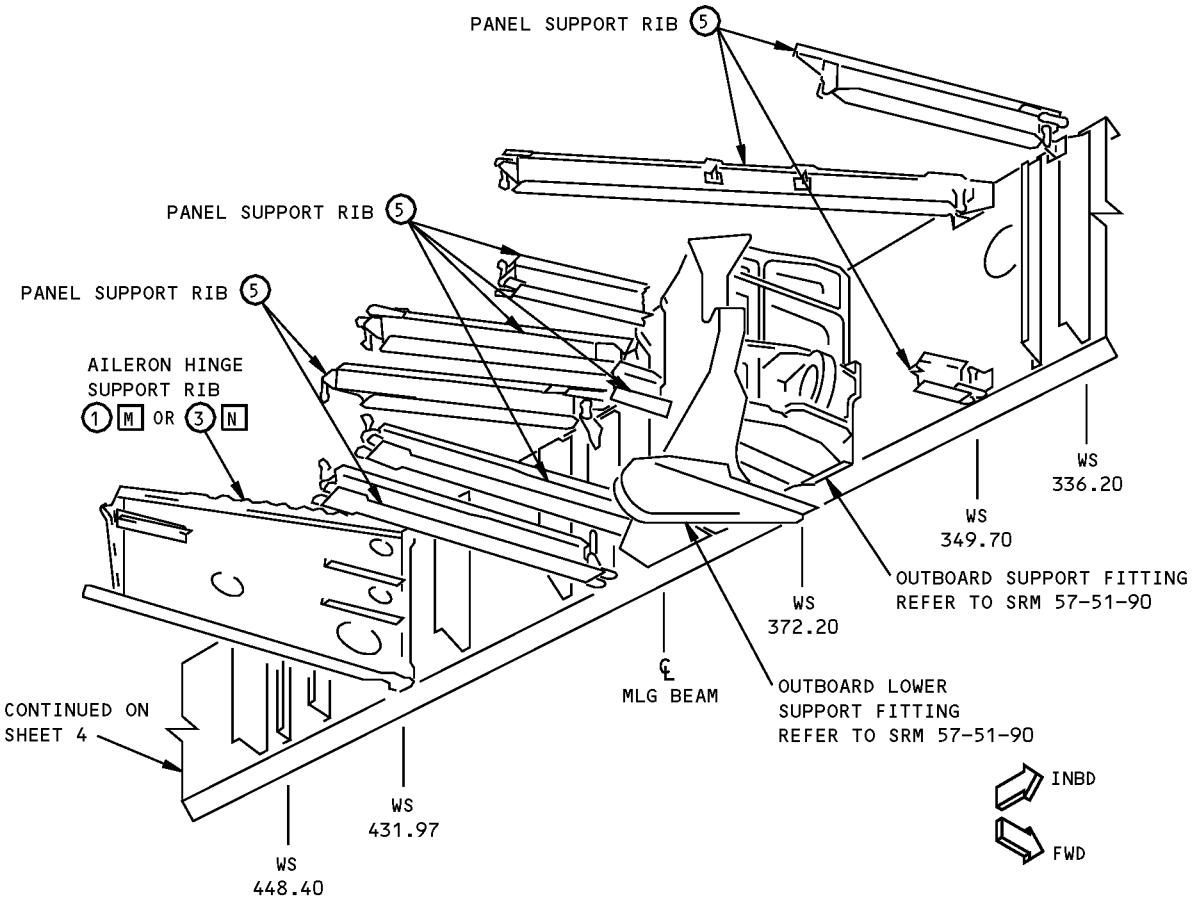
Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 1 of 12)



LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

MATERIAL: ALUMINUM

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 2 of 12)

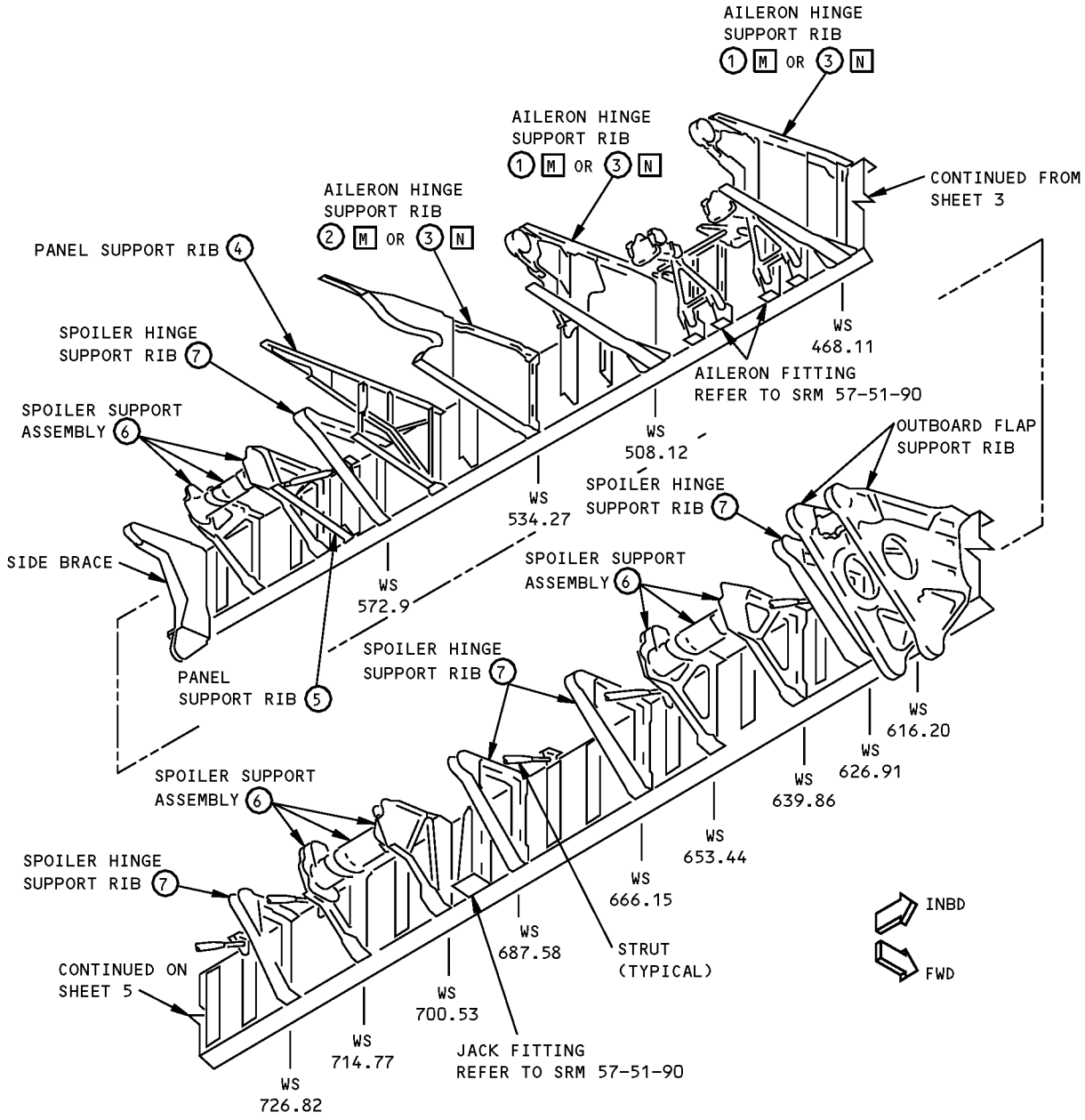


DETAIL II

MATERIAL: ALUMINUM

LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 3 of 12)

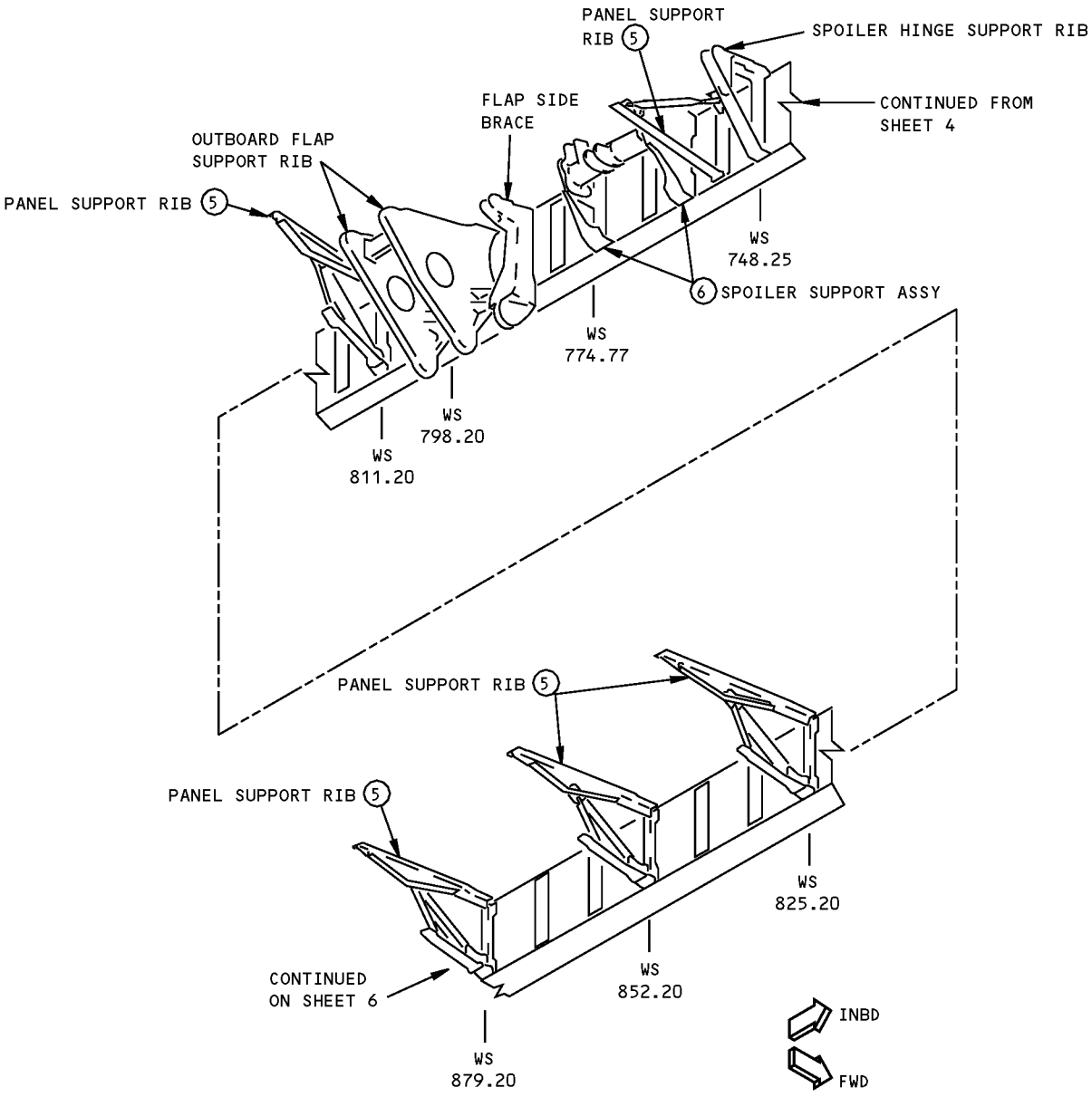


DETAIL III

MATERIAL: ALUMINUM

LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 4 of 12)

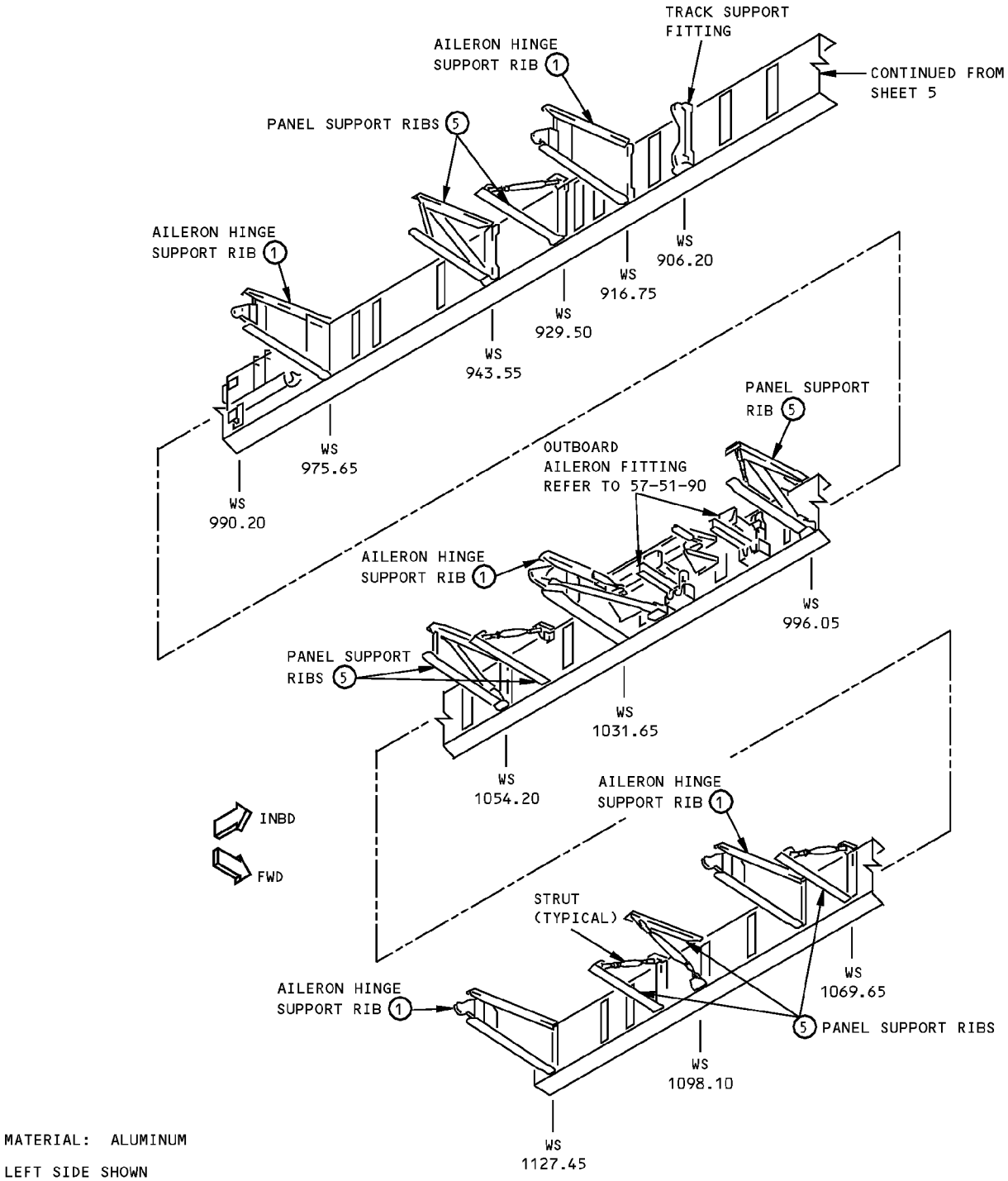


MATERIAL: ALUMINUM

LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

DETAIL IV

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 5 of 12)



DETAIL V

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 6 of 12)

DESCRIPTION			CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
SPOILER SUPPORT BEAM	CHORD		A	P	NOT PERMITTED	NOT PERMITTED
	BONDED WEB		E	F	SEE DETAIL VIII	G
	FITTING	L	B	B	NOT PERMITTED	NOT PERMITTED
AILERON HINGE SUPPORT RIB	①	CHORD	A	D	NOT PERMITTED	NOT PERMITTED
		WEB	C	H	SEE DETAIL VIII	G
		FITTING L	B	B	NOT PERMITTED	NOT PERMITTED
	②	CHORD	A	D	NOT PERMITTED	NOT PERMITTED
		WEB	C	H	SEE DETAIL VIII	G
	③	FORGING L	B	B	NOT PERMITTED	NOT PERMITTED
PANEL SUPPORT RIB/BEAM	④	CHORD	A	D	NOT PERMITTED	NOT PERMITTED
		WEB	C	H	SEE DETAIL VIII	G
	⑤	EXTRUSION	A	D	NOT PERMITTED	SEE DETAIL XIII
SPOILER SUPPORT ASSEMBLY	⑥	FORGED RIB L	B	B	NOT PERMITTED	NOT PERMITTED
		TORQUE TUBE L	NOT PERMITTED	J	NOT PERMITTED	NOT PERMITTED
SPOILER HINGE SUPPORT RIB	⑦	FORGED RIB L	B	B	NOT PERMITTED	NOT PERMITTED
OUTBOARD FLAP SUPPORT RIB	FORGED RIB HALVES L		I	I	NOT PERMITTED	NOT PERMITTED
SIDE BRACE	FORGING L		B	B	NOT PERMITTED	NOT PERMITTED
STRUT (SUPPORT ROD)	TUBE		NOT PERMITTED	SEE DETAIL XVII	NOT PERMITTED	NOT PERMITTED
	CLEVIS		B	B	NOT PERMITTED	NOT PERMITTED
DOOR	PANEL		E	F	SEE DETAIL VIII	G
	ARM		B	B	NOT PERMITTED	NOT PERMITTED
	PIVOT		B	B	NOT PERMITTED	NOT PERMITTED
TRACK SUPPORT FITTING	FORGING L		B	B	NOT PERMITTED	NOT PERMITTED

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 7 of 12)

NOTES

- D = FASTENER DIAMETER
- ALL DIMENSIONS ARE IN INCHES
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-21.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS VI AND XI.

[B] FOR EDGE DAMAGE SEE DETAIL XI. FOR LUG DAMAGE SEE DETAIL XIV. FOR OTHER DAMAGE SEE DETAIL VII. DAMAGE IS NOT PERMITTED NEAR BUSHINGS.

[C] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS VI AND X.

[D] REMOVE DAMAGE AS GIVEN IN DETAILS VI,IX,XI AND XII.

[E] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS VI AND XVI.

[F] REMOVE DAMAGE AS GIVEN IN DETAILS VI,VII,IX AND XVI.

[G] CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAXIMUM DIAMETER AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO A FASTENER HOLE OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

[H] REMOVE DAMAGE AS GIVEN IN DETAILS VI,VII,IX AND X.

[I] FOR EDGE DAMAGE SEE DETAILS XI AND XV. FOR LUG DAMAGE SEE DETAIL XIV. FOR OTHER DAMAGE SEE DETAIL VII. DAMAGE IS NOT PERMITTED NEAR BUSHINGS.

[J] FOR EDGE DAMAGE SEE DETAIL VI. FOR LUG DAMAGE SEE DETAIL XIV. FOR OTHER DAMAGE SEE DETAIL XVIII. DAMAGE IS NOT PERMITTED NEAR BUSHINGS.

[K] WHERE THE DEPTH OF CLEANUP EXCEEDS 0.02 INCH (0.51 mm), AND A PANEL OR WEB MAKES A COVER OVER THE DAMAGE AREA, INSTALL A 2024-T3 FILLER IN THE CAVITY WITH BMS 5-95 SEALANT. INSTALL THE FASTENERS AGAIN WET WITH BMS 5-95 SEALANT.

[L] SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS LEFT OVER AFTER REWORK.

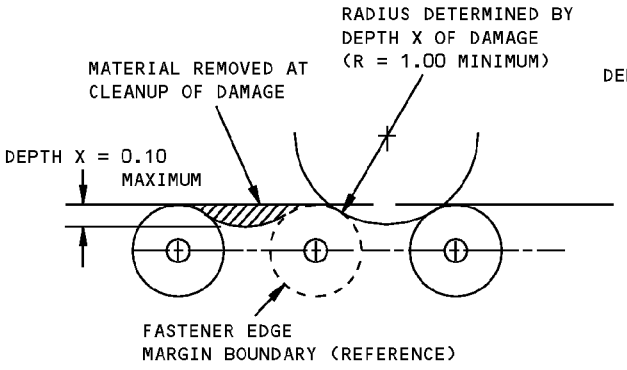
[M] FOR CUM LINE NUMBERS: 1 THRU 200

[N] FOR CUM LINE NUMBERS: 201 AND ON

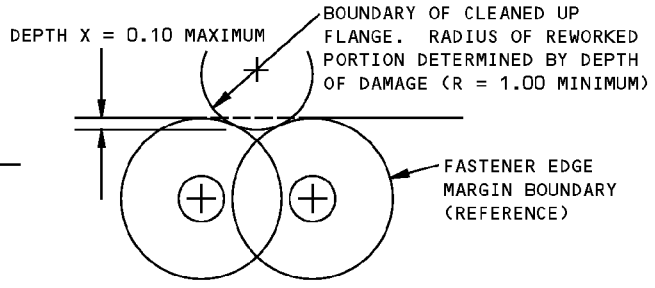
[P] REMOVE DAMAGE AS SHOWN IN DETAILS VI, XI, XII AND XIX. FOR DAMAGE TO THE HORIZONTAL FLANGE OF THE CHORD, DO AS FOLLOWS:

1. MEASURE THE THICKNESS OF THE HORIZONTAL FLANGE AFTER THE DAMAGE IS REMOVED. THE MINIMUM THICKNESS PERMITTED IS 0.065 INCH (1.6 mm). IF THE THICKNESS IS LESS THAN 0.065 INCH (1.6 mm), DO THE REPAIR GIVEN IN REPAIR 2.
2. DO A HIGH FREQUENCY EDDY CURRENT (HFEC) INSPECTION OF THE REPAIR AREA TO MAKE SURE THAT THERE ARE NO CRACKS AND ALL THE DAMAGE IS REMOVED. REFER TO NDT PART 6, 51-00-01, FOR HFEC INSPECTION PROCEDURES. AS AN ALTERNATIVE, YOU CAN DO A PENETRANT INSPECTION. REFER TO SOPM 20-20-02 FOR THE PENETRANT INSPECTION PROCEDURE.
3. FLAP PEEN THE REWORKED AREA. REFER TO SRM 51-20-06.
4. APPLY A CHEMICAL CONVERSION COATING TO THE REPAIR PARTS AND TO THE BARE SURFACES OF THE CHORD. REFER TO SRM 51-20-01.
5. APPLY TWO LAYERS OF BMS 10-11, TYPE I PRIMER TO THE REPAIR PARTS AND TO THE BARE SURFACES OF THE CHORD. REFER TO SOPM 20-41-02.
6. IF THE DEPTH OF CLEANUP IS 0.020 INCH OR MORE, INSTALL 7075-T6 FILLERS WITH BMS 5-95 SEALANT.
7. FILL ALL VOIDS USING BMS 5-95 SEALANT REINSTALL ANY REMOVED FASTENERS WITH BMS 5-95 SEALANT.

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 8 of 12)

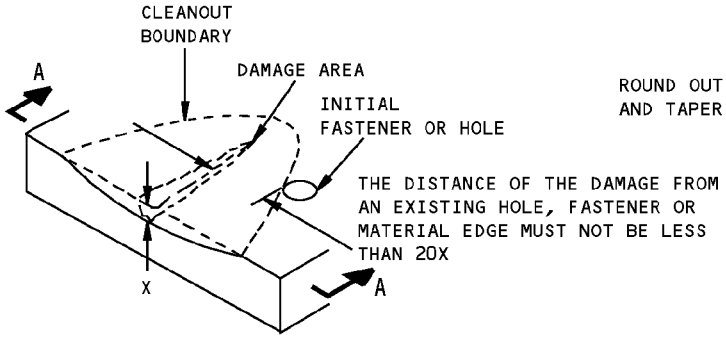


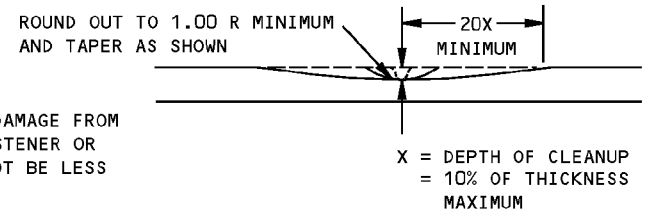
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

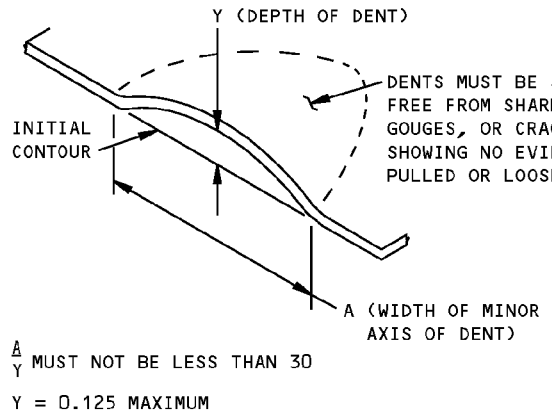
DETAIL VI



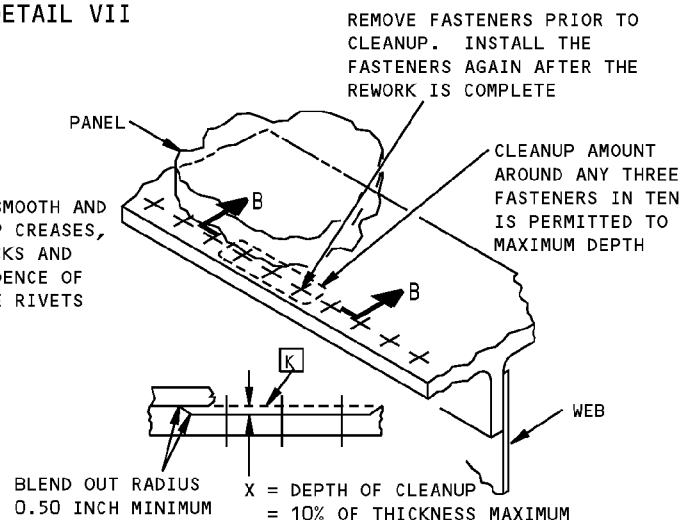


SECTION A-A

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL VII

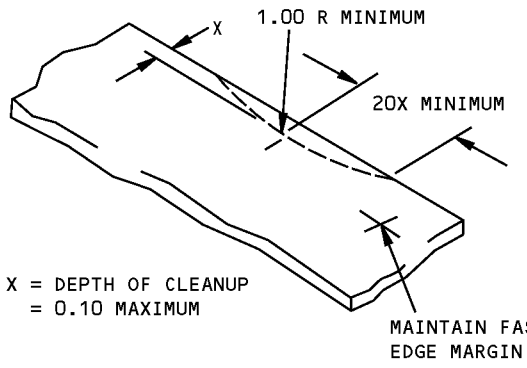


DETAIL VIII



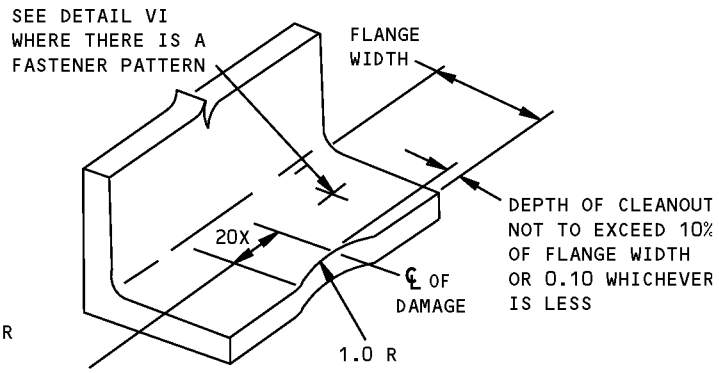
SECTION B-B
CORROSION CLEANUP
DETAIL IX

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 9 of 12)



REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

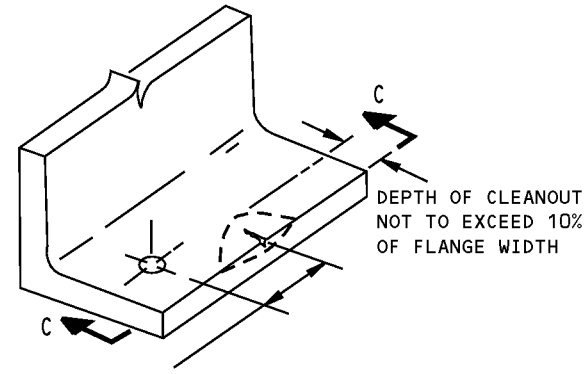
DETAIL X



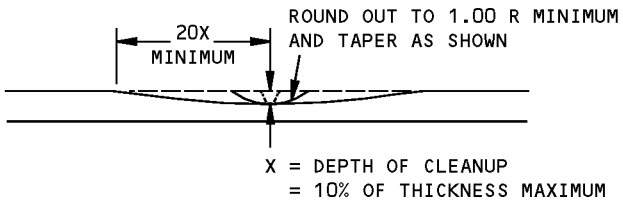
THE DISTANCE OF THE DAMAGE
FROM AN EXISTING HOLE, FASTENER,
OTHER DAMAGE OR EDGE MUST NOT BE
LESS THAN 20X

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE

DETAIL XI



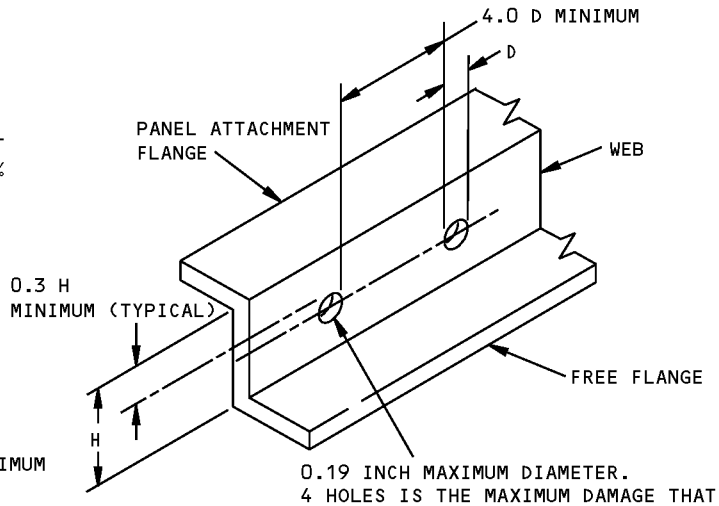
THE DISTANCE OF THE DAMAGE FROM AN
EXISTING HOLE, FASTENER OR MATERIAL
EDGE MUST NOT BE LESS THAN 20X



SECTION C–C

REMOVAL OF NICK OR CRACK
DAMAGE ON A SURFACE

DETAIL XII

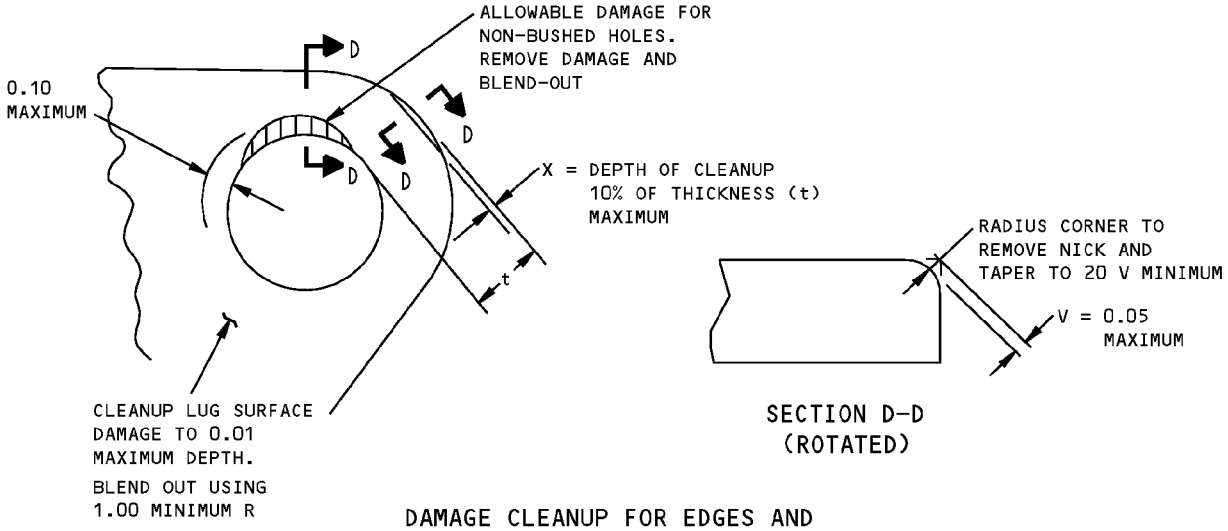


NOTE: HOLE DAMAGE IS NOT PERMITTED IN THE PANEL ATTACHMENT FLANGE

ALLOWABLE DAMAGE LIMITS FOR
HOLES IN WEB AND FREE FLANGE

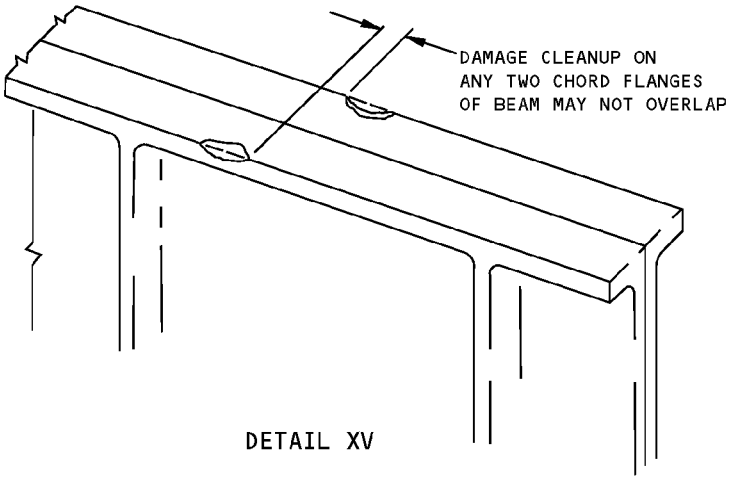
DETAIL XIII

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 10 of 12)

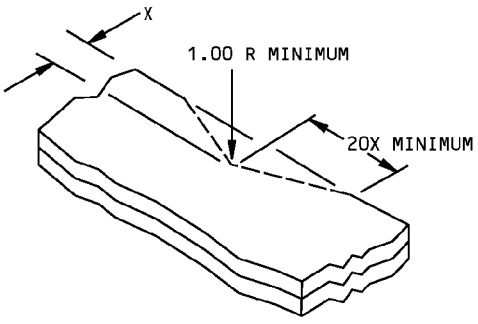


DAMAGE CLEANUP FOR EDGES AND
SURFACE OF A LUG

DETAIL XIV



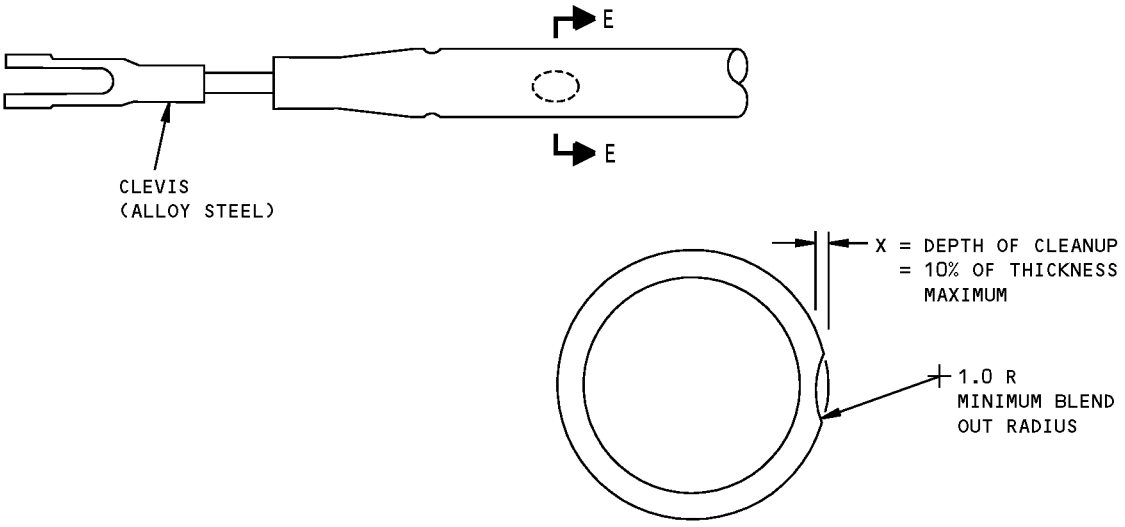
DETAIL XV



X = DEPTH OF CLEANUP = 0.10 MAXIMUM

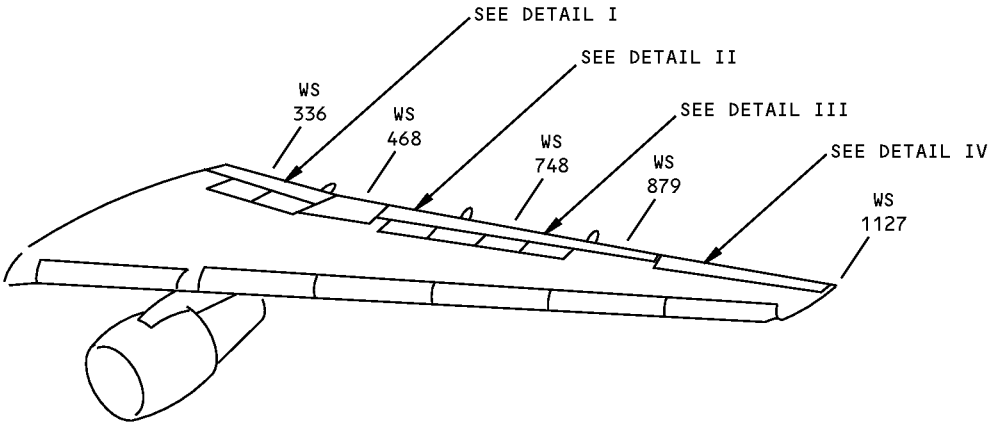
DETAIL XVI

Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 11 of 12)



Wing Fixed Trailing Edge Structure Allowable Damage
Figure 101 (Sheet 12 of 12)

REPAIR 1 - WING FIXED TRAILING EDGE STRUCTURE



NOTES

- REFER TO 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFINISH REWORKED AREAS PER 51-21 OF THE 767 MAINTENANCE MANUAL

[A] NO TYPICAL REPAIR APPLICABLE TO PARTS MADE FROM FORGINGS OR MACHINED PLATE. SPECIFIC REPAIRS TO THESE PARTS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE

[B] PANEL IS A BONDED ASSEMBLY AND CAN BE REPAIRED AS GIVEN IN SRM 51-70-09 AND/OR SRM 51-70-13.

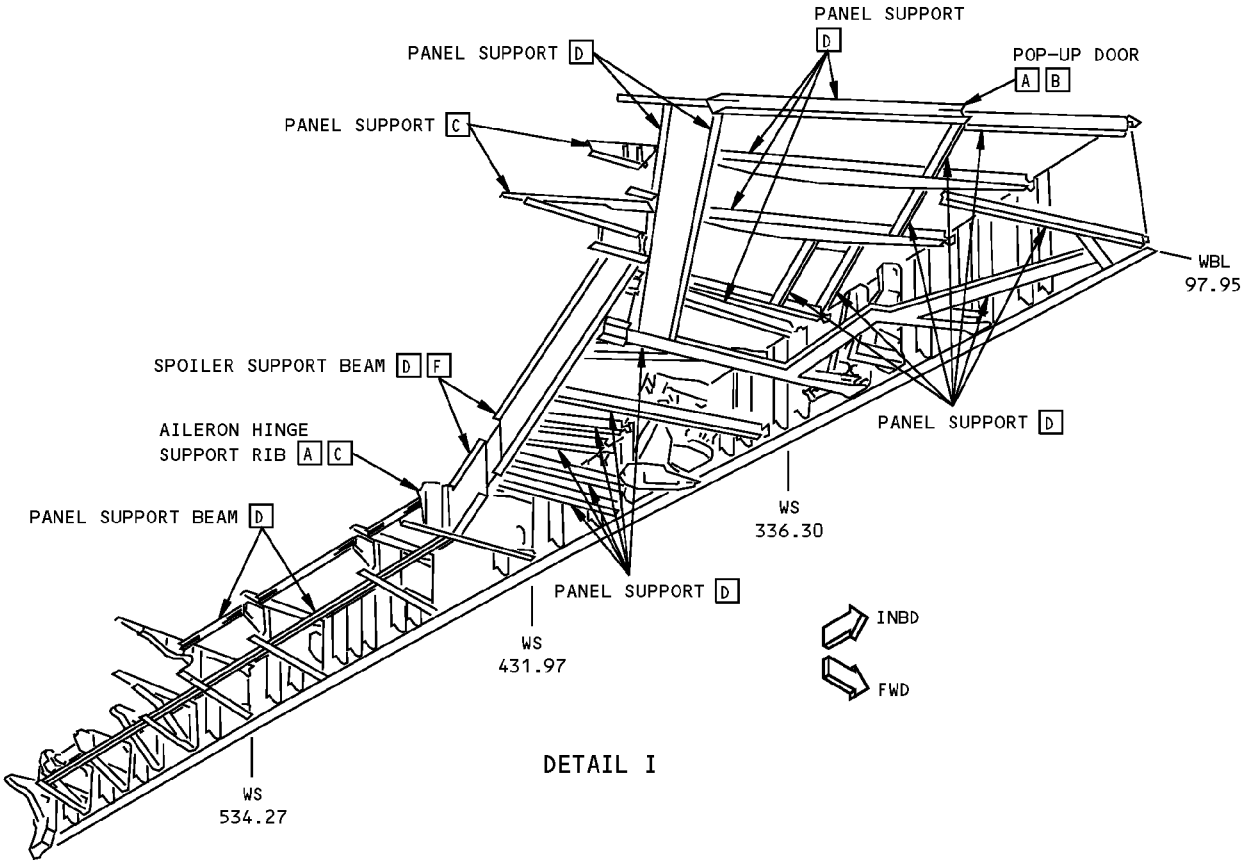
[C] SEE 51-70-12 FOR EXTRUDED SECTION REPAIR [E]
SEE 51-70-13 FOR WEB REPAIR

[D] SEE 51-70-12 FOR EXTRUDED SECTION REPAIR [E]

[E] USE CADMIUM PLATED FASTENERS IN EXTRUDED SECTION REPAIRS

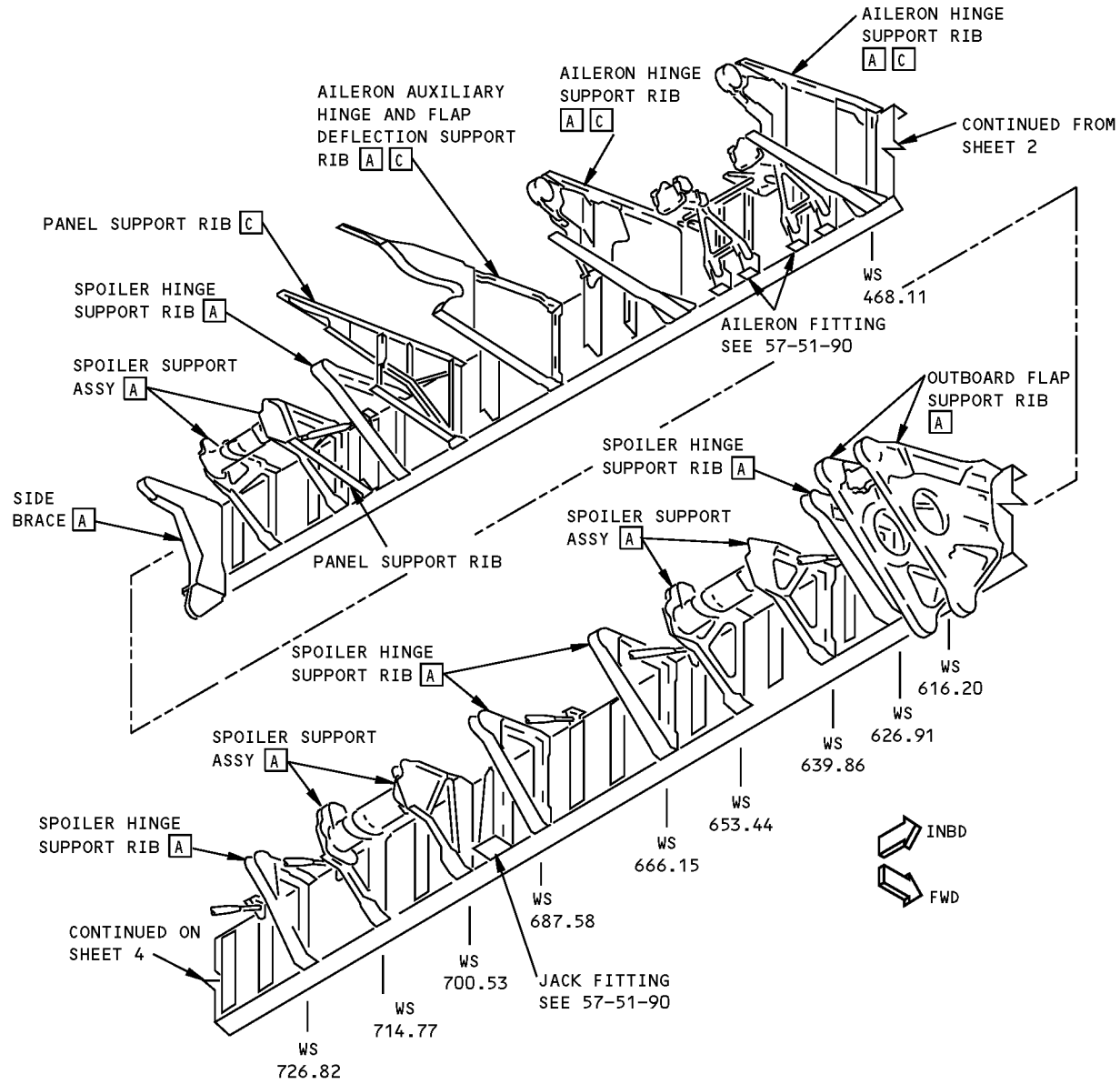
[F] REPAIR BEAM WEB USING 0.070 INCH (1.8 mm) THICK, 2024-T3 REPAIR DOUBLER AS GIVEN IN SRM 51-70-13.

Wing Fixed Trailing Edge Structure Repair - Ribs
Figure 201 (Sheet 1 of 5)

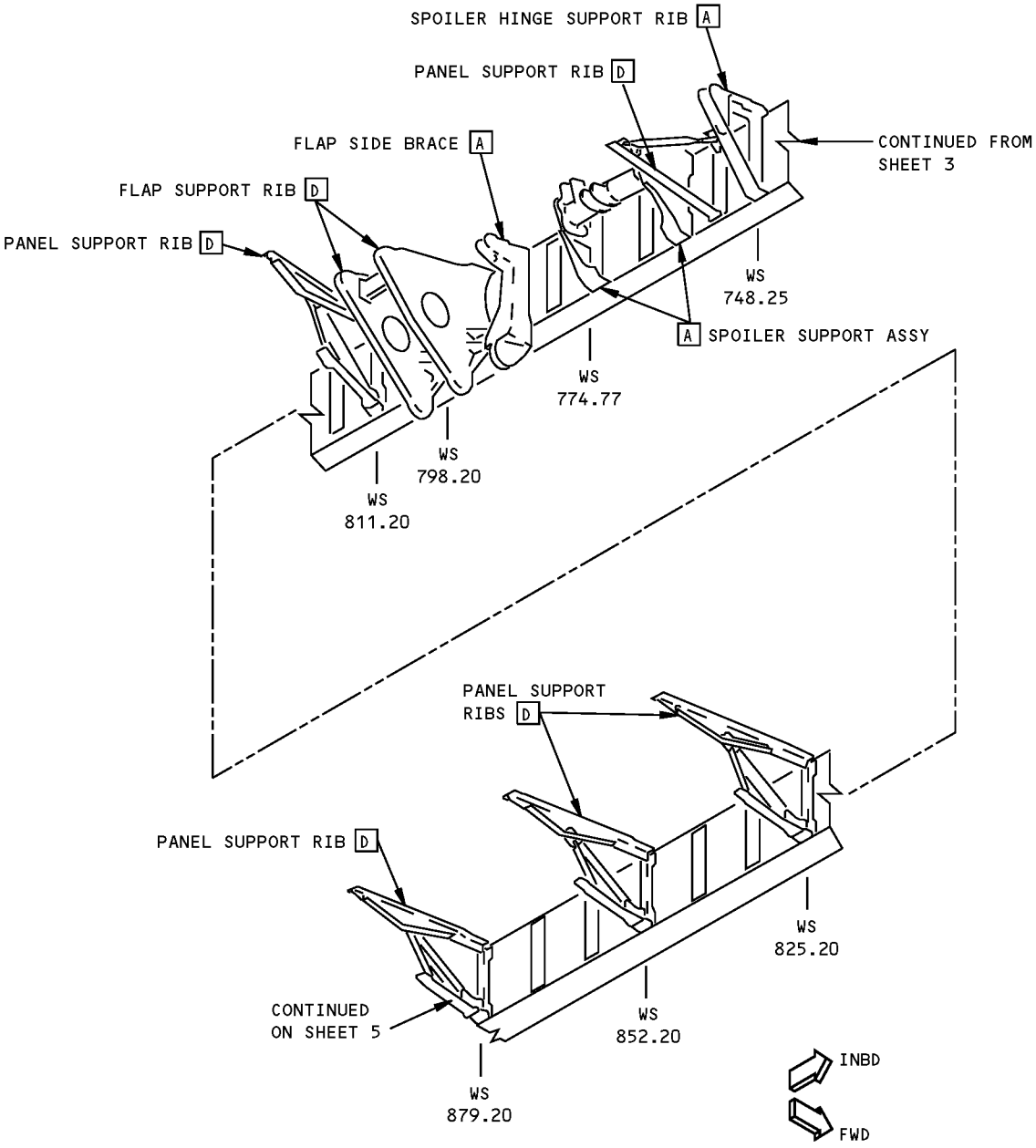


LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

Wing Fixed Trailing Edge Structure Repair - Ribs
Figure 201 (Sheet 2 of 5)



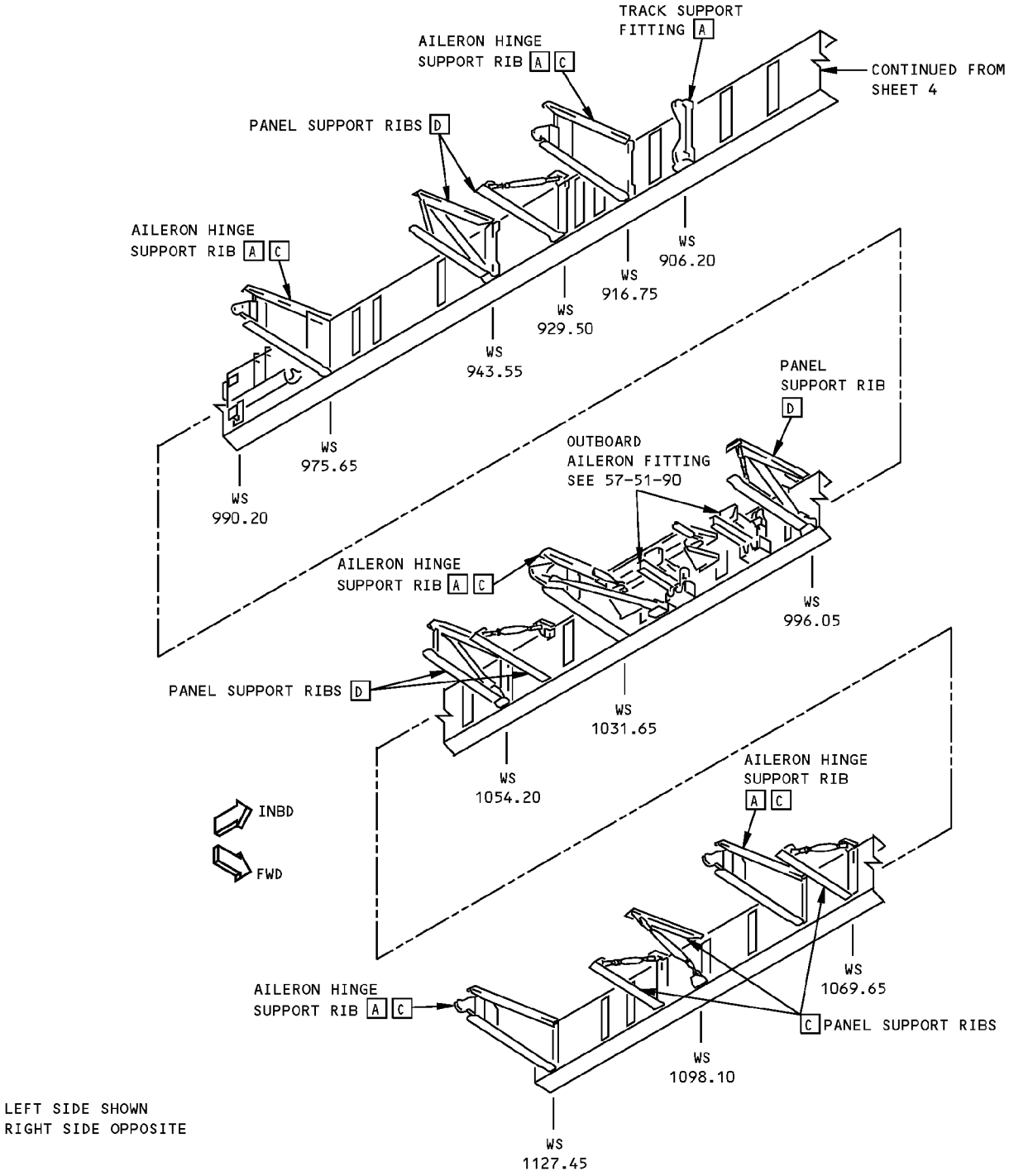
Wing Fixed Trailing Edge Structure Repair - Ribs
Figure 201 (Sheet 3 of 5)



LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE

DETAIL III

Wing Fixed Trailing Edge Structure Repair - Ribs
Figure 201 (Sheet 4 of 5)



DETAIL IV

Wing Fixed Trailing Edge Structure Repair - Ribs
Figure 201 (Sheet 5 of 5)

REPAIR 2 - WING FIXED TRAILING EDGE - INBOARD SPOILER SUPPORT BEAM

APPLICABILITY

THIS REPAIR IS APPLICABLE TO DAMAGED HORIZONTAL FLANGES ON THE UPPER AND LOWER CHORDS OF THE INBOARD SPOILER SUPPORT BEAMS.

NOTE: THE TOTAL LENGTH OF ALL EXTERNAL DOUBLERS ON ONE AIRCRAFT MUST NOT BE MORE THAN 36 INCHES (91.4 cm). IF THE TOTAL LENGTH OF EXTERNAL DOUBLERS IS GREATER THAN 36 INCHES (91.4 cm) CONTACT BOEING FOR AN EQUIVALENT DRAG/WEIGHT PENALTY.

REPAIR INSTRUCTIONS

1. Get access to the damaged area.
2. Blend out the damaged horizontal flange of the chord. See Detail II.
3. If the thickness of the horizontal flange after the corrosion blend out is between 0.050 inch (1.3 mm) and 0.065 inch (1.7 mm), do the external doubler repair given in Detail II. If the thickness of the horizontal flange after the corrosion blend out is 0.050 inch (1.3 mm) or less, cut out the damaged portion of the chord and do the splice repair given in Detail III. [F] The splice repair given in Detail III can be used as an alternative to the external doubler repair.
4. Make the repair parts. See Table I.
5. Assemble the repair parts and drill the fastener holes.
6. Disassemble the repair parts.
7. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the spoiler beam chord.
8. Apply a chemical conversion coating to the bare surfaces of the spoiler beam chord and repair parts. Refer to SRM 51-20-01.
9. Apply two layers of BMS 10-11, Type I primer to the repair parts and to the bare surface of the spoiler beam chord. Refer to SOPM 20-41-02.
10. Install the repair parts with BMS 5-95 sealant between the mating surfaces. Fill the blended out area with BMS 5-95 sealant, the spoiler beam chord is not cut out for a splice repair.
11. Install the fasteners wet with BMS 5-95 sealant.

NOTES

- WHEN YOU USE THIS REPAIR REFER TO:
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METALLIC MATERIALS
  - SRM 51-20-05 FOR REPAIR SEALING
  - SRM 51-40 FOR FASTENER CODE, INSTALLATION AND REMOVAL, HOLE SIZES AND EDGE MARGINS.

[A] THE MINIMUM WIDTH OF THE PART 1 DOUBLER IS 2.4 INCHES (61 mm).

[B] CHAMFER THE PART 1 DOUBLER A MINIMUM OF 6 TO 1 ON ALL EDGES DOWN TO A THICKNESS OF 0.020 INCH (0.51 mm).

[C] A MINIMUM OF 4 ROWS OF FASTENERS ARE REQUIRED ON EACH SIDE OF THE BLEND OUT.

[D] INSTALL AN EXTRA FASTENER BETWEEN EACH OF THE INITIAL FASTENERS ON THE AFT FLANGE OF THE LOWER CHORD.

[E] FILL ALL VOIDS WITH BMS 5-95 SEALANT.

[F] REMOVE AND REINSTALL STIFFENERS IN THE SPLICE AREA WITH PART 7 FILLER AS SHOWN. IF YOU FIND THAT FITTINGS AND/OR SUPPORTS ARE ATTACHED TO THE STIFFENER AT THE SPLICE LOCATION, SPLICE THE BEAM AT A LOCATION WHERE THE SPLICE WILL NOT AFFECT THE OPERATION OF AIRCRAFT SYSTEMS WHEN YOU REMOVE AND REINSTALL A STIFFENER.

[G] FILLET SEAL ALL EDGES WITH BMS 5-95 SEALANT TO MAKE A SMOOTH AERO DYNAMIC SURFACE.

Wing Fixed Trailing Edge - Inboard Spoiler Support Beam Repair
Figure 201 (Sheet 1 of 6)

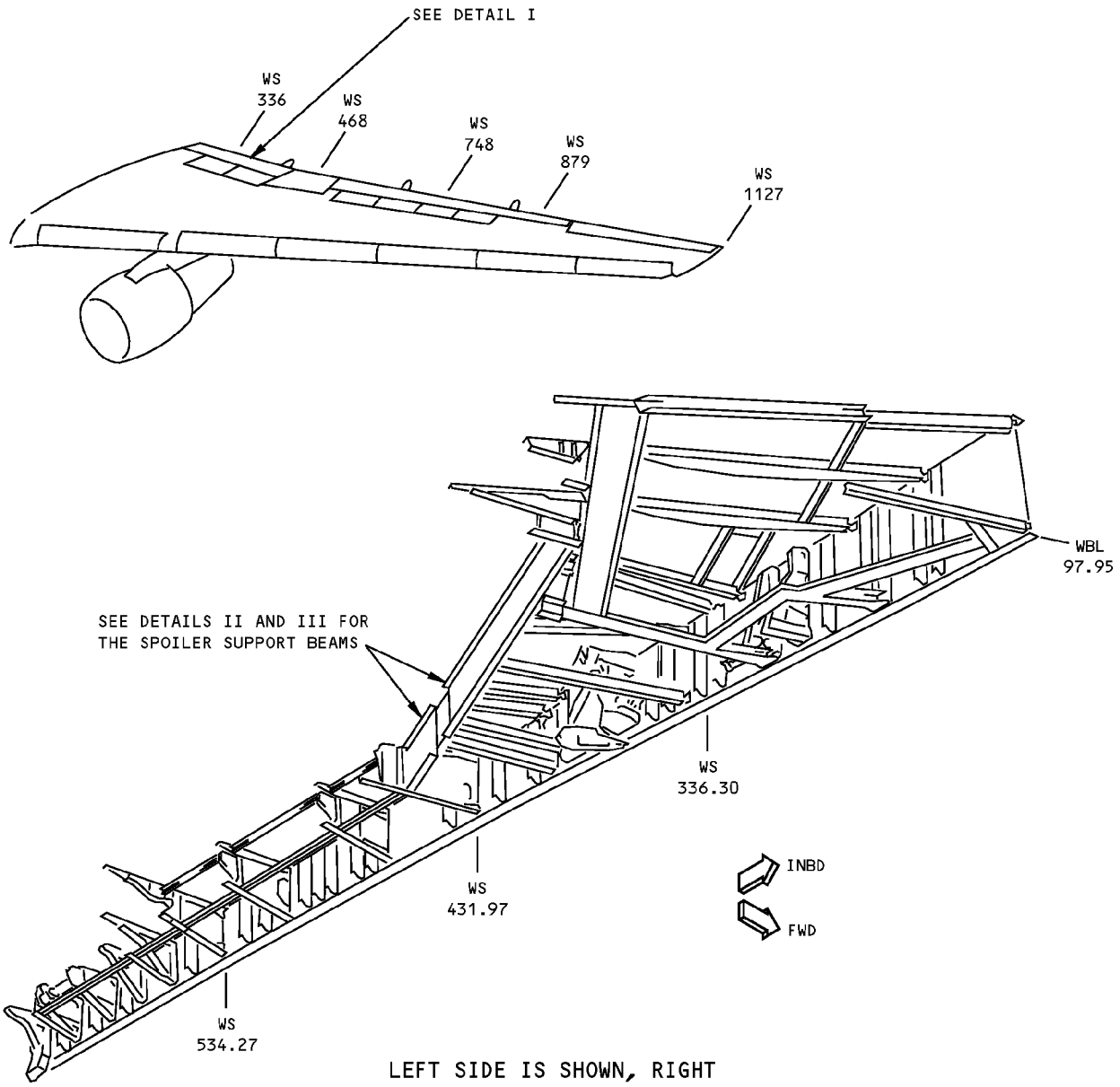
FASTENER SYMBOLS

- INITIAL FASTENER LOCATION. INSTALL A BACB30NW()K() HEX DRIVE BOLT WITH A BACC30M() COLLAR. SAME SIZE AS INITIAL FASTENERS USED. (UP TO 1/32 INCH DIAMETER OVERSIZE)
- INITIAL FASTENER LOCATION. INSTALL A BACB30NN()K() BOLT WITH EXISTING BACN30KE()B()NUTPLATES. 1/32 INCH OVERSIZE BOLT WITH OVERSIZE NUTPLATE IS PERMITTED AS NECESSARY.
- INITIAL FASTENER LOCATION. INSTALL A BACB30MY5K()HEX DRIVE BOLT WITH A BACC30M5 COLLAR. (UP TO 1/32 INCH DIAMETER OVERSIZE).
- INITIAL FASTENER LOCATION. INSTALL A BACB30NW6K()HEX DRIVE BOLT WITH A BACC30M6 COLLAR. (UP TO 1/32 INCH DIAMETER OVERSIZE).
- REPAIR FASTENER LOCATION. INSTALL A BACB30NN()K() BOLT WITH EXISTING BACN30KE()B()NUTPLATES. [D]

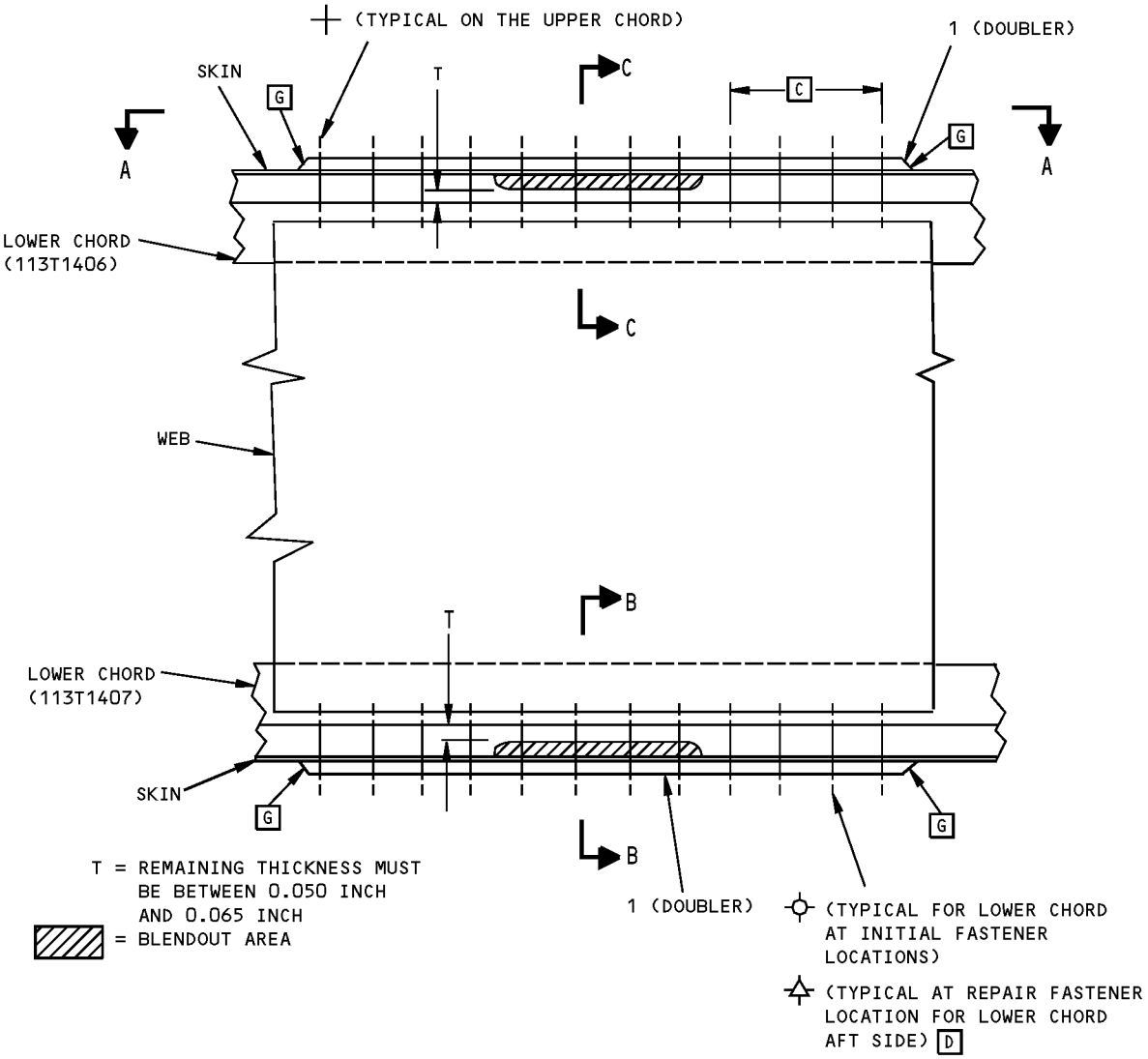
REPAIR MATERIAL			
PART		QTY	MATERIAL
1	DOUBLER	AS REQUIRED	0.10 INCH 7075-T6 CLAD [A] [B]
2	ANGLE	1	0.050 INCH 7075-T6
3	ANGLE	1	0.063 INCH 7075-T6
4	FILLER CHORD	1	SAME SHAPE AND MATERIAL AS THE INITIAL CHORD
5	ANGLE	1	0.050 INCH 7075-T6
6	ANGLE	1	0.063 INCH 7075-T6
7	FILLER	1	THICKNESS AS REQUIRED 7075-T6
8	FILLER CHORD	1	SAME SHAPE AND MATERIAL AS THE INITIAL CHORD
9	ANGLE	1	0.050 INCH 7075-T6
10	ANGLE	1	0.063 INCH 7075-T6
11	ANGLE	1	0.063 INCH 7075-T6
12	ANGLE	1	0.050 INCH 7075-T6

TABLE I

Wing Fixed Trailing Edge - Inboard Spoiler Support Beam Repair
Figure 201 (Sheet 2 of 6)



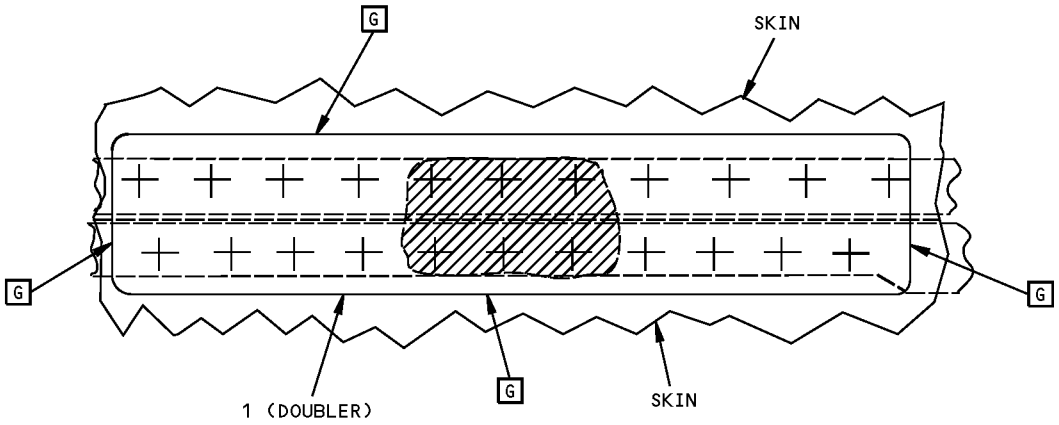
Wing Fixed Trailing Edge - Inboard Spoiler Support Beam Repair
Figure 201 (Sheet 3 of 6)



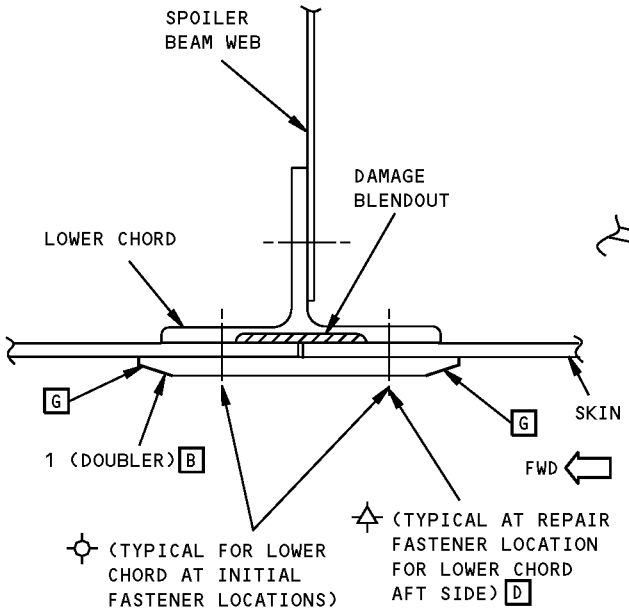
EXTERNAL DOUBLER REPAIR FOR SPOILER BEAM CHORD

DETAIL II

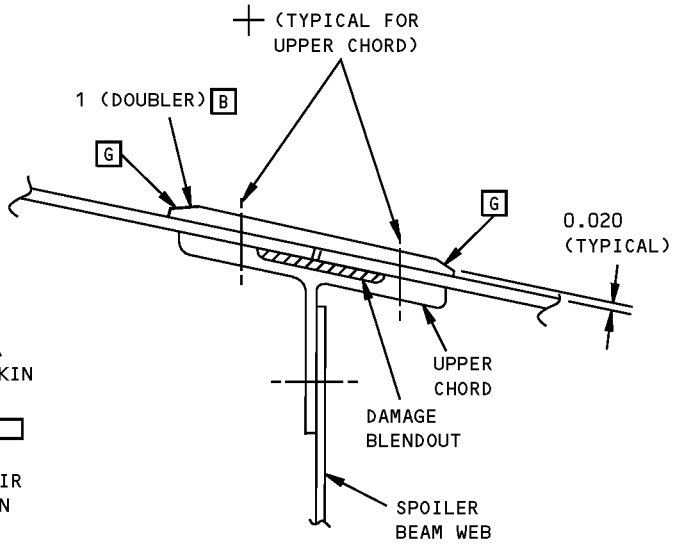
Wing Fixed Trailing Edge - Inboard Spoiler Support Beam Repair
Figure 201 (Sheet 4 of 6)



VIEW A-A
(TYPICAL)

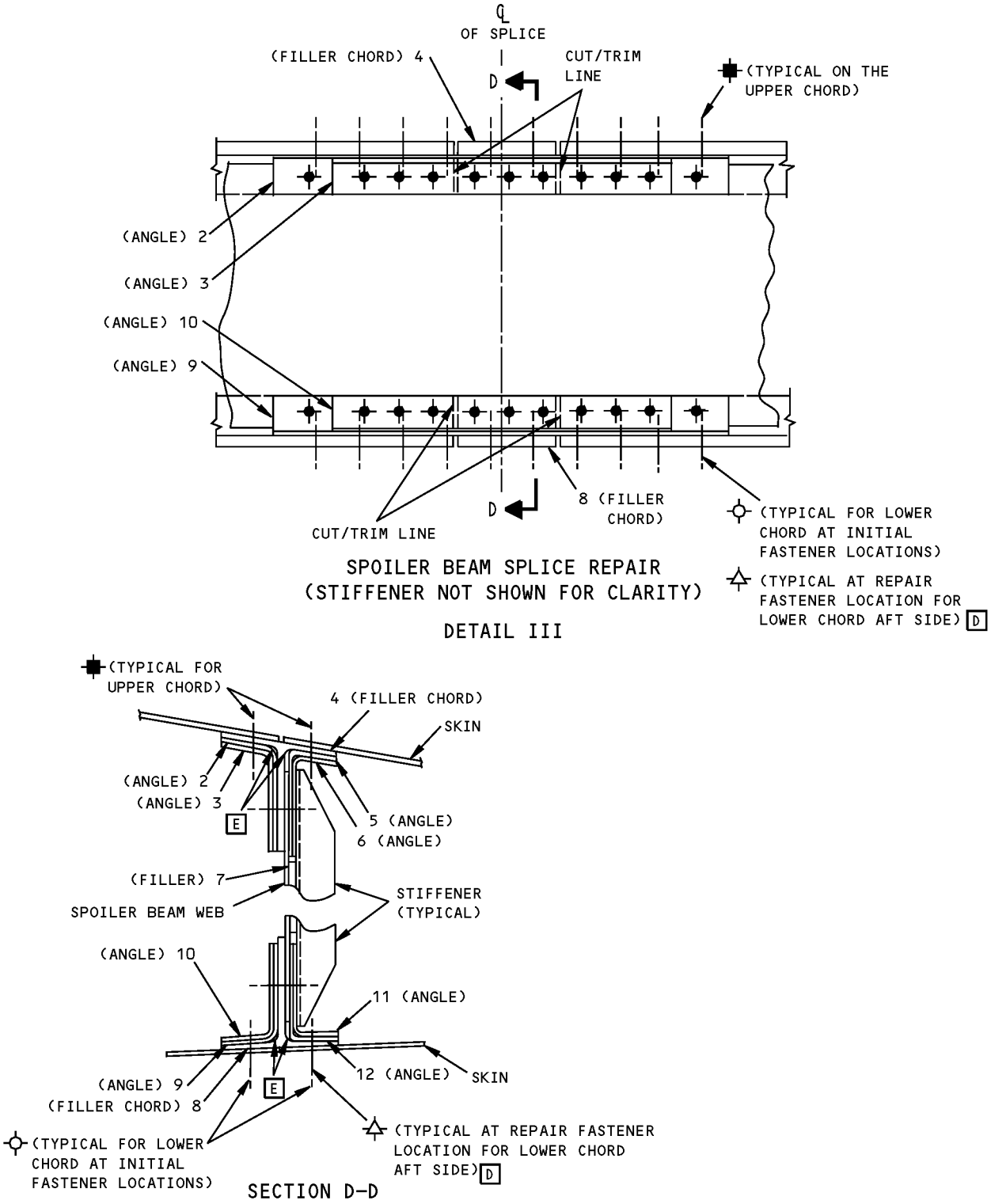


SECTION B-B
(TYPICAL)



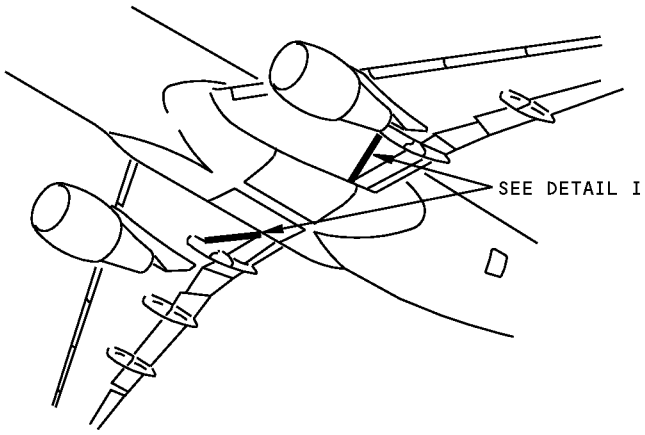
SECTION C-C
(TYPICAL)

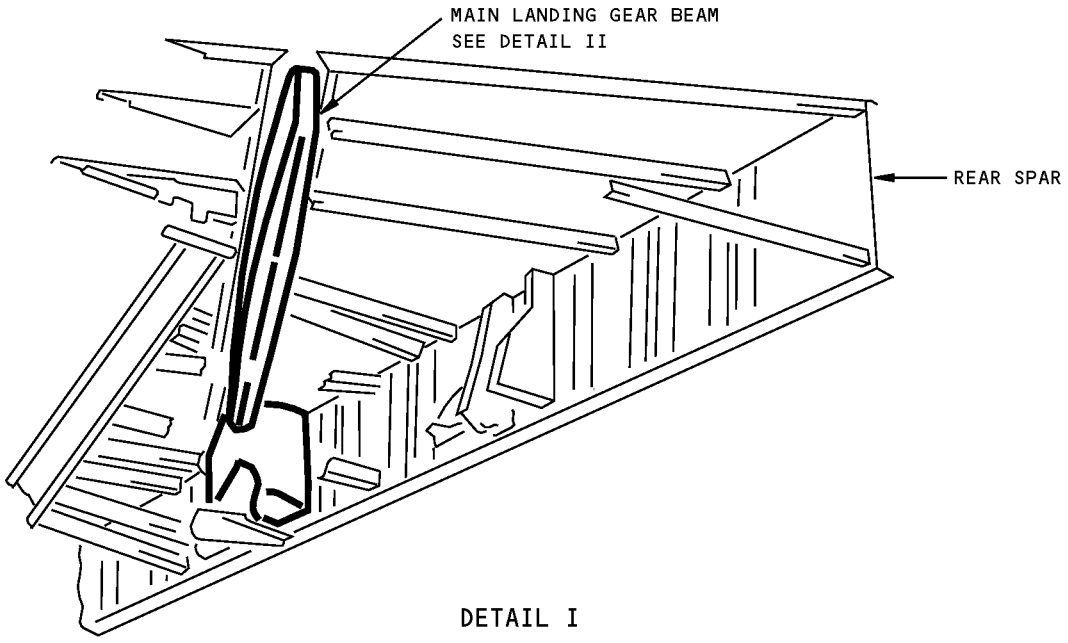
Wing Fixed Trailing Edge - Inboard Spoiler Support Beam Repair
Figure 201 (Sheet 5 of 6)



Wing Fixed Trailing Edge - Inboard Spoiler Support Beam Repair
Figure 201 (Sheet 6 of 6)

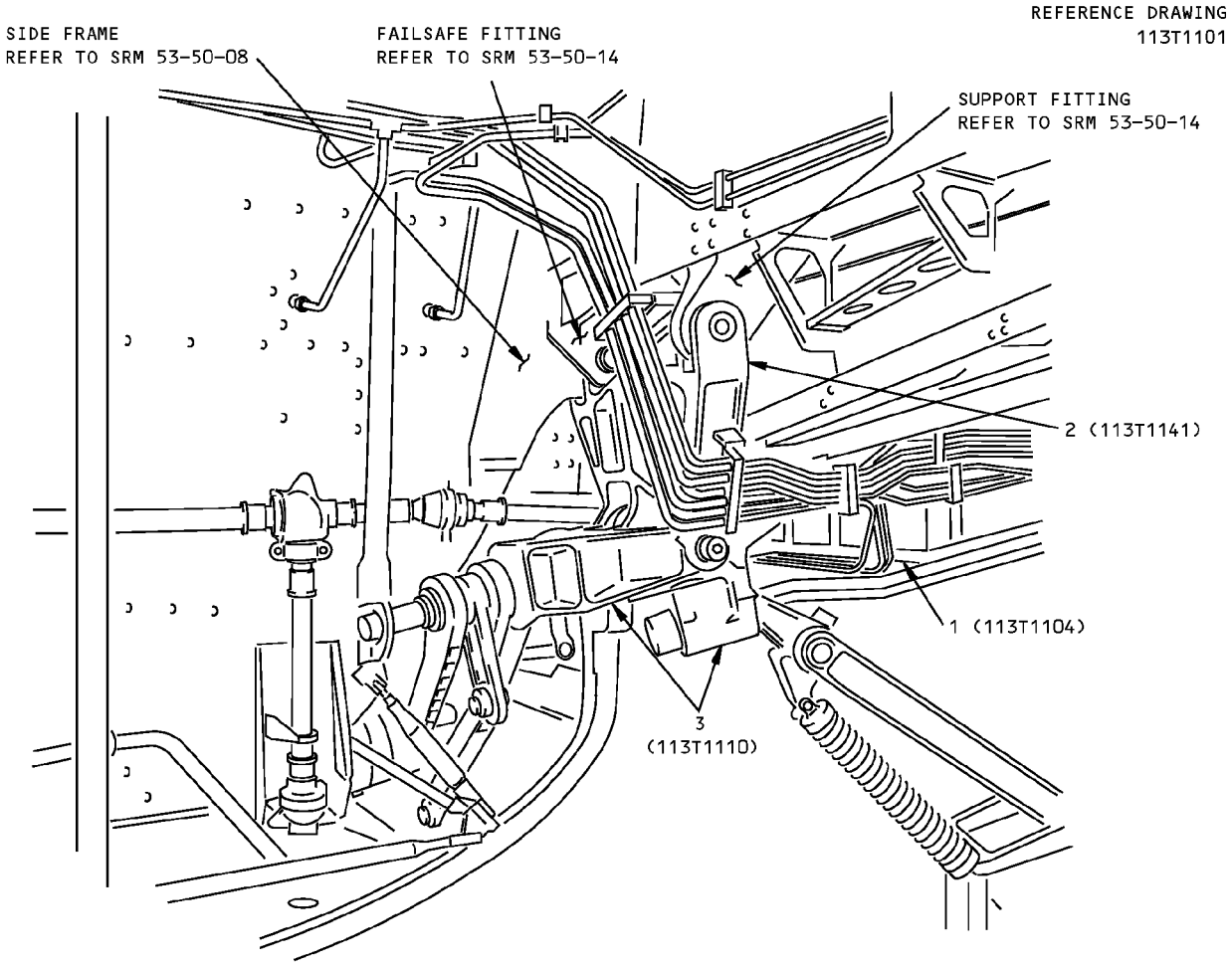
IDENTIFICATION 1 - MAIN LANDING GEAR BEAM AND INBOARD SUPPORT STRUCTURE





DETAIL I

Main Landing Gear Beam and Inboard Support Structure Identification
Figure 1 (Sheet 1 of 2)



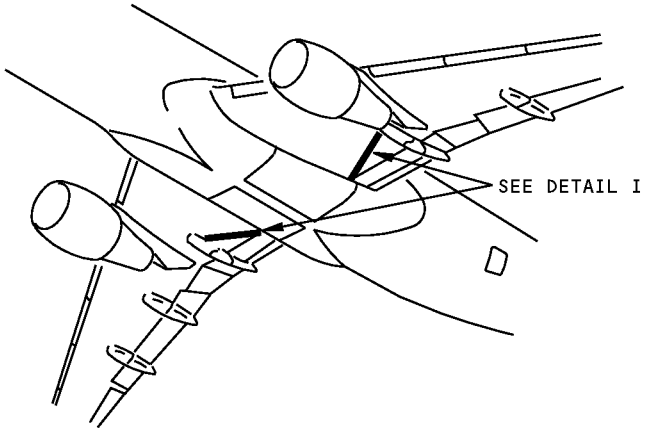
LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE
MAIN LANDING GEAR WHEEL WELL
DETAIL II

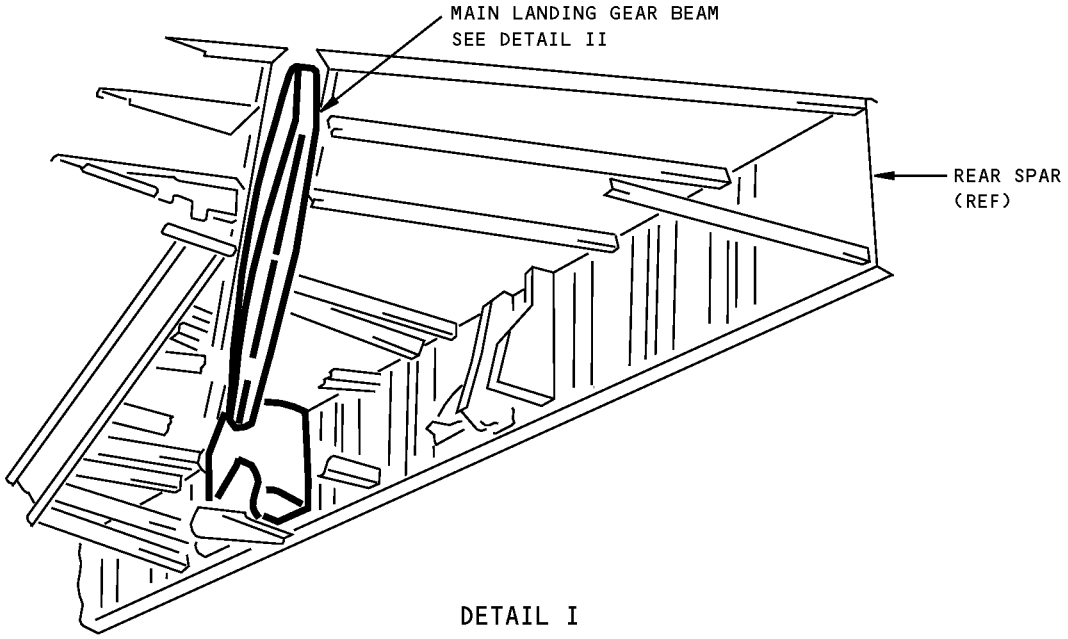
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	MAIN LANDING GEAR DOOR BEAM BEAM HALF		BONDED ASSEMBLY DIE FORGING 7050-T73652	
2	SUPPORT LINK		FORGING 7050-T736	
3	SIDE STRUT SWIVEL		FORGING 7050-T736	

LIST OF MATERIALS FOR DETAIL II

Main Landing Gear Beam and Inboard Support Structure Identification
Figure 1 (Sheet 2 of 2)

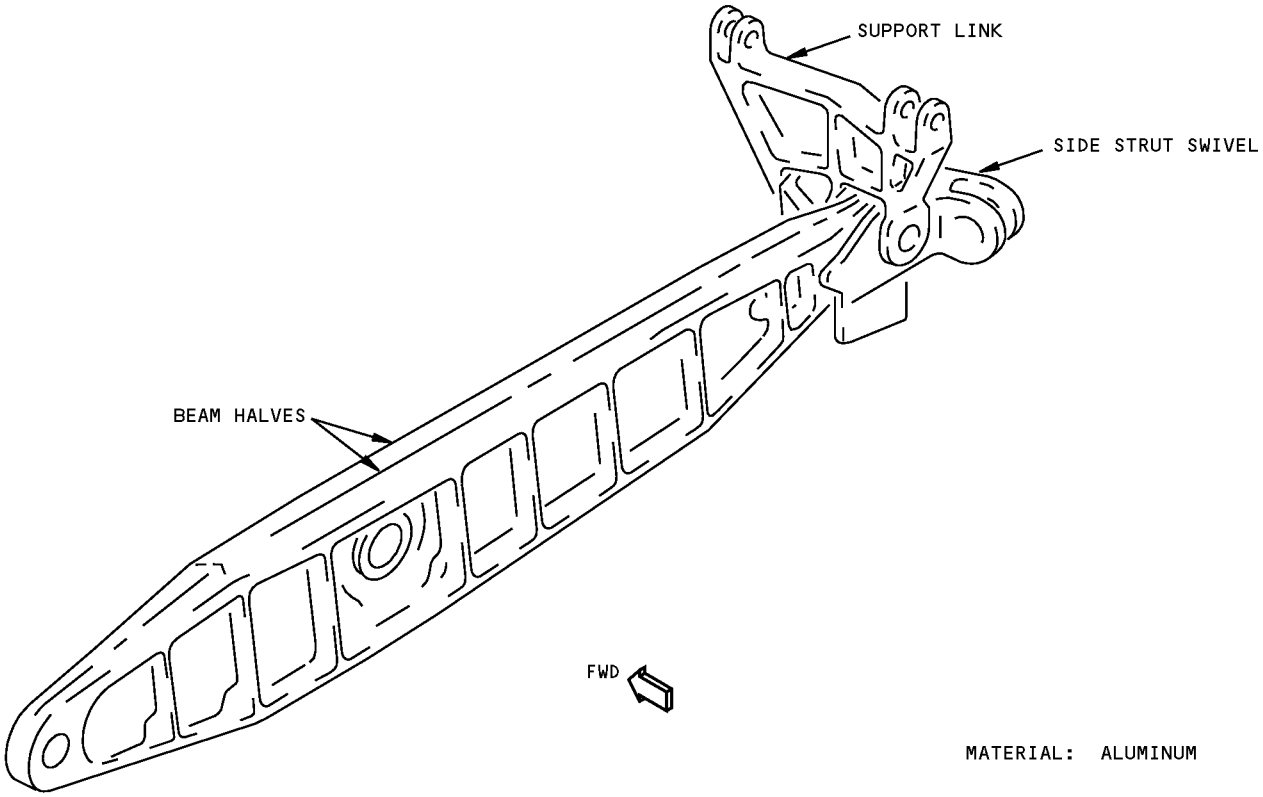
ALLOWABLE DAMAGE 1 - MAIN LANDING GEAR BEAM AND INBOARD SUPPORT STRUCTURE





DETAIL I

Main Landing Gear Beam and Inboard Support Structure Allowable Damage
Figure 101 (Sheet 1 of 4)



LEFT SIDE SHOWN
RIGHT SIDE OPPOSITE
DETAIL II

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
BEAM HALF SIDE STRUT SWIVEL	[A] SEE DETAIL VI	[B] SEE DETAIL VI	NOT PERMITTED	NOT PERMITTED
SUPPORT LINK	[A]	[B]	NOT PERMITTED	NOT PERMITTED
SIDE STRUT SWIVEL	[A]	[B]	NOT PERMITTED	NOT PERMITTED

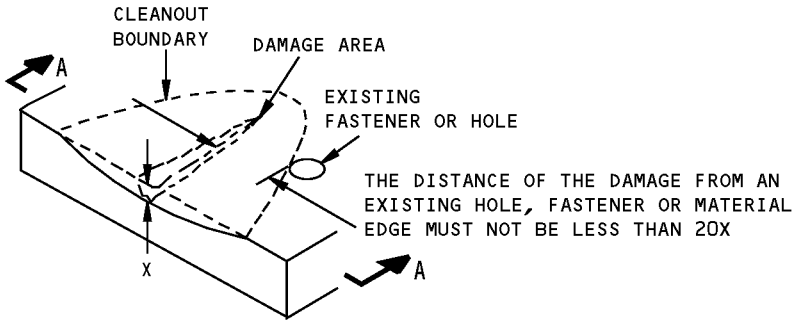
Main Landing Gear Beam and Inboard Support Structure Allowable Damage
Figure 101 (Sheet 2 of 4)

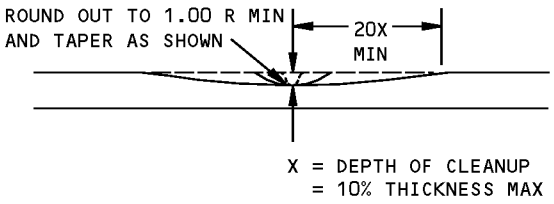
NOTES

- SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAIL IV.

[B] REMOVE DAMAGE AS GIVEN IN DETAILS III, IV, AND V.

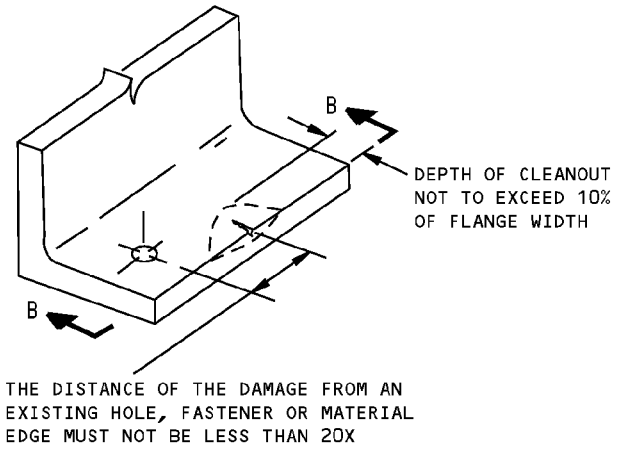


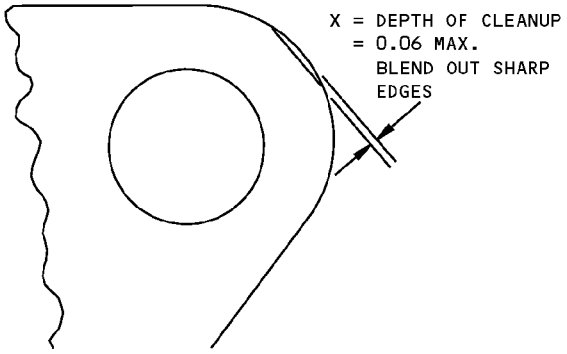


SECTION A-A

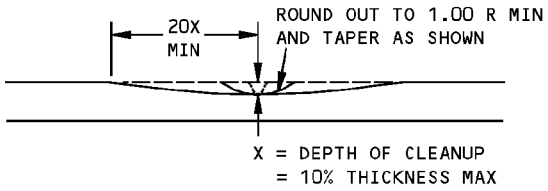
REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL III

Main Landing Gear Beam and Inboard Support Structure Allowable Damage
Figure 101 (Sheet 3 of 4)



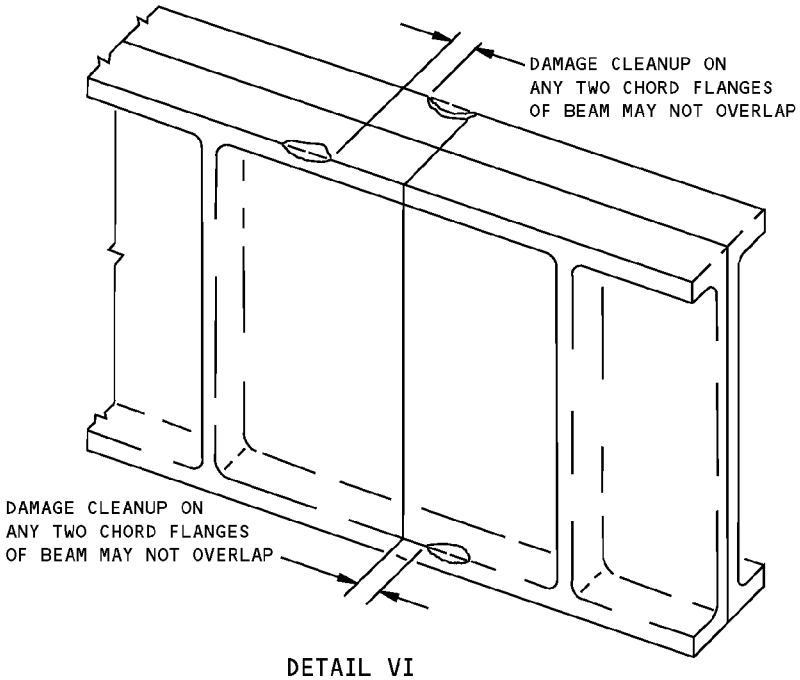


DAMAGE CLEANUP FOR EDGES OF LUG
DETAIL V



SECTION B–B

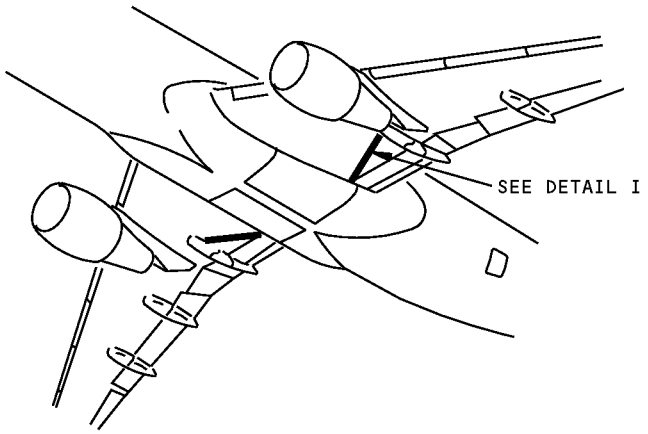
REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE
DETAIL IV

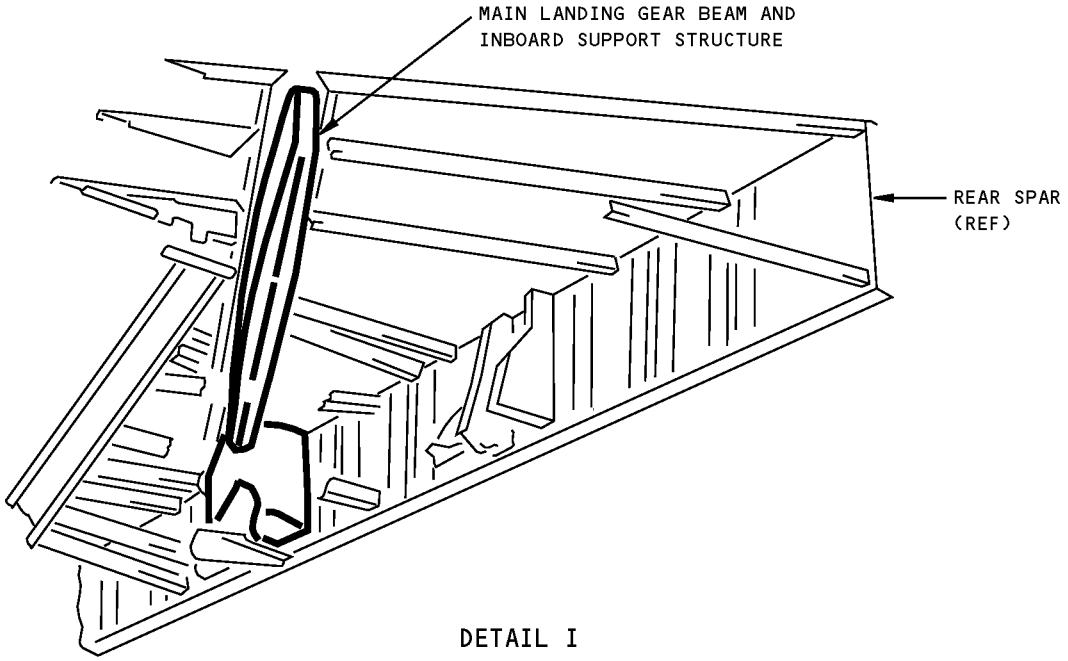


DETAIL VI

Main Landing Gear Beam and Inboard Support Structure Allowable Damage
Figure 101 (Sheet 4 of 4)

REPAIR 1 - MAIN LANDING GEAR BEAM AND INBOARD SUPPORT STRUCTURE





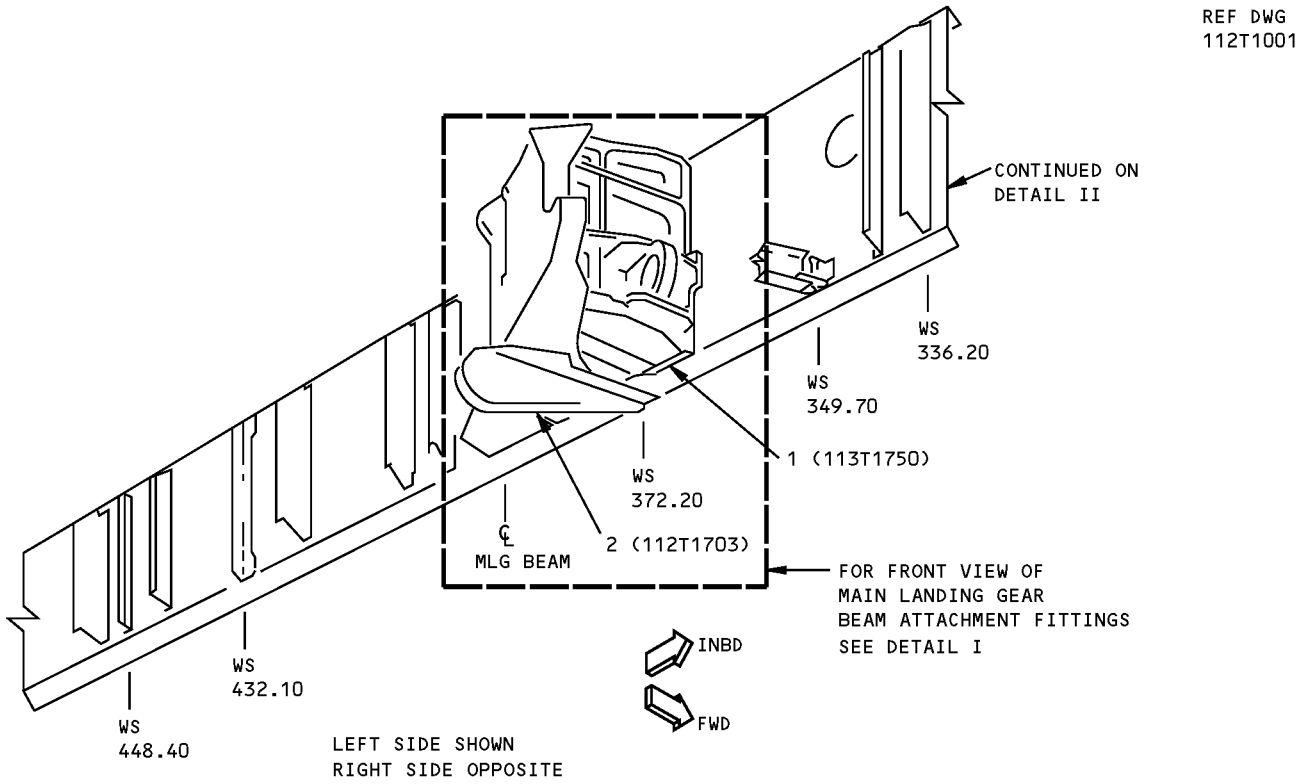
DETAIL I

NOTES

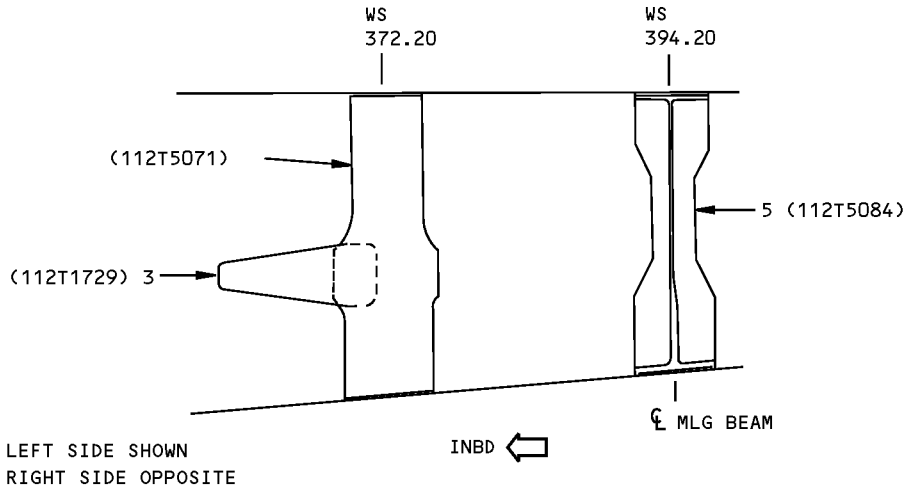
- NO TYPICAL REPAIRS TO MAIN LANDING GEAR BEAM, SIDE STRUT SWIVEL AND SUPPORT LINK AVAILABLE. SPECIFIC REPAIRS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE

Main Landing Gear Beam and Inboard Support Structure Repair
Figure 201

IDENTIFICATION 1 - MAIN LANDING GEAR ATTACHMENT FITTING



REAR SPAR ATTACHMENT FITTINGS



ATTACHMENT FITTINGS AT MAIN LANDING GEAR BEAM (FRONT VIEW)
DETAIL I

NOTES

[A] FOR CUM LINE NUMBER:
1 THRU 150

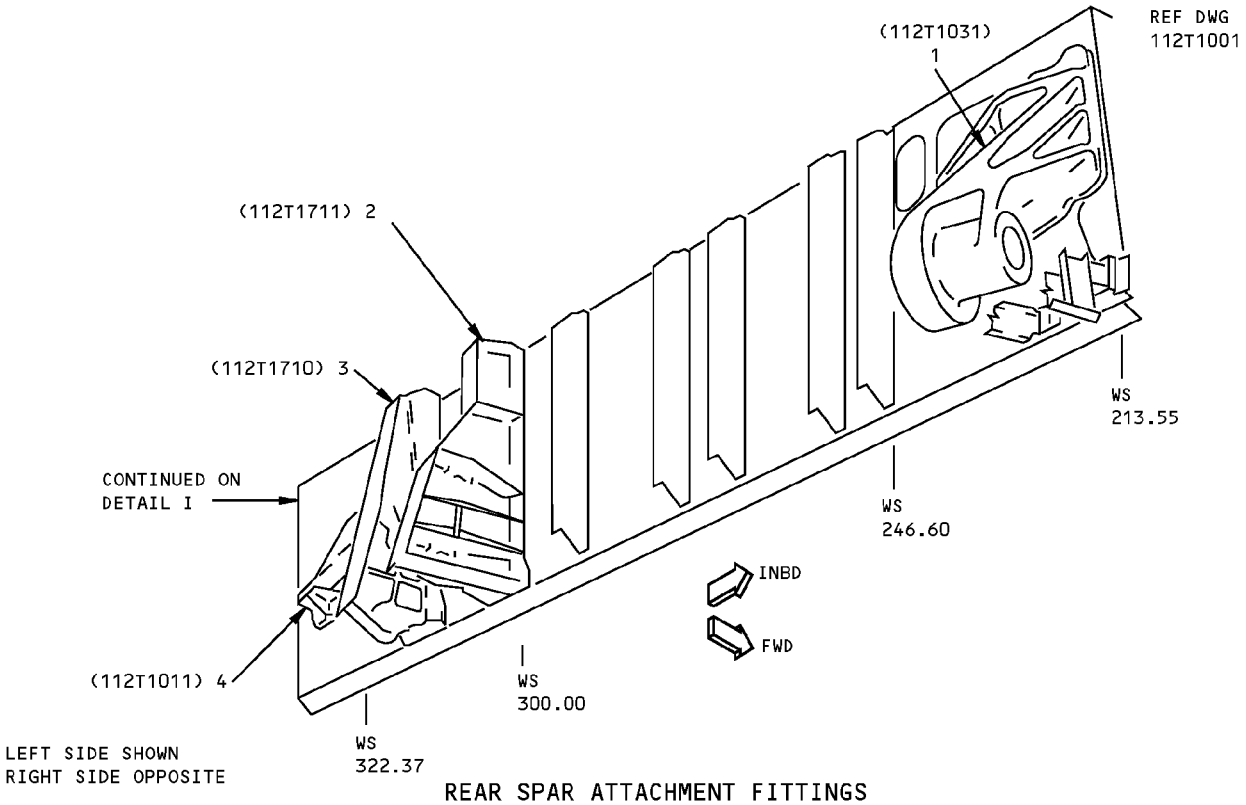
LIST OF MATL

Main Landing Gear Attachment Fitting Identification
Figure 1 (Sheet 1 of 3)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	MLG BEAM OUTBOARD SUPPORT FITTING ASSEMBLY			
	FORWARD FITTING		DIE FORGING 7175-T736	
	AFT FITTING		DIE FORGING 7175-T736	
	INBOARD FITTING		DIE FORGING 7175-T736	
	OUTBOARD FITTING		DIE FORGING 7175-T736	
2	OUTBOARD LOWER SUPPORT FITTINGS		DIE FORGING 6AL-4V TITANIUM OPTIONAL: FORGED BLOCK 6AL-4V TITANIUM COMP 6 ANNEALED	
3	ACTUATOR HORIZONTAL BACK-UP FITTING		DIE FORGING 7075-T73 OPTIONAL: FORGED BLOCK 7075-T73	A
4	BACK-UP FITTING		DIE FORGING 7175-T736	
5	SUPPORT FITTING		DIE FORGING 7175-T736	

LIST OF MATERIALS FOR ATTACHMENT FITTINGS REAR VIEW AND DETAIL I

Main Landing Gear Attachment Fitting Identification
Figure 1 (Sheet 2 of 3)



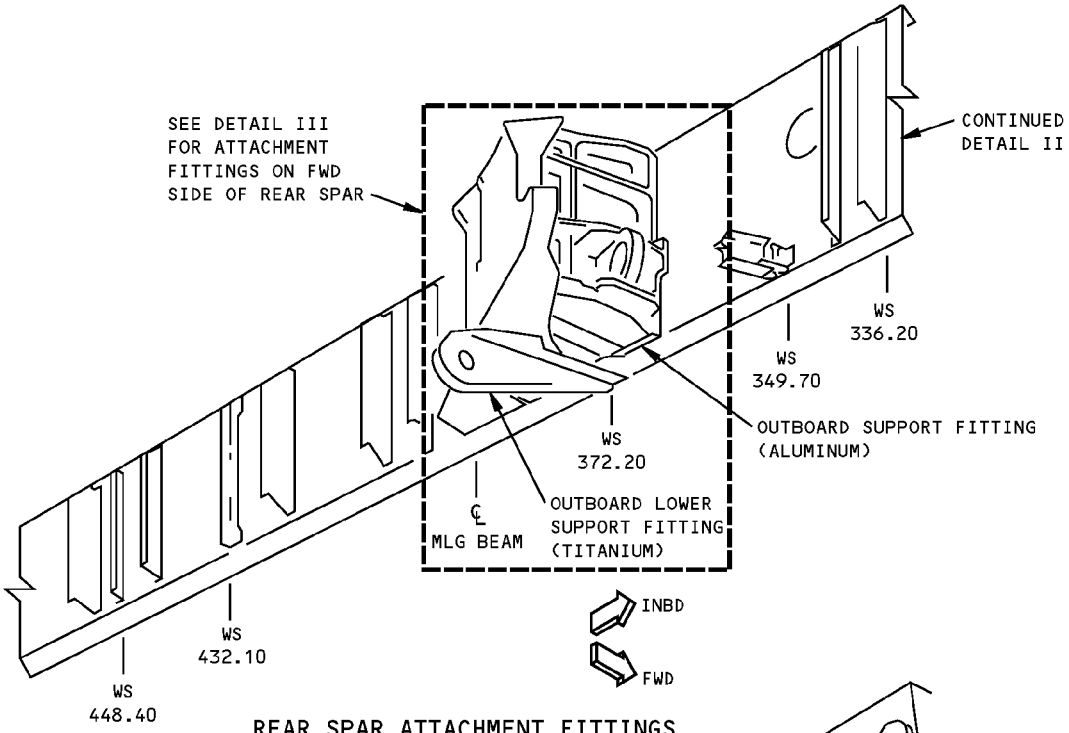
REAR SPAR ATTACHMENT FITTINGS
DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	DRAG BRACE SUPPORT FITTING		DIE FORGING 7050-T736	
2	INBD FWD TRUNNION BEARING SUPPORT			
	INBD FITTING		DIE FORGING 7175-T736 OPTIONAL: FORGED BLOCK 7175-T736	
	OUTBD FITTING		DIE FORGING 7175-T736 OPTIONAL: BAC1520-2171 7050-T76511	
3	OUTBD FWD TRUNNION BEARING SUPPORT			
	INBD FITTING		DIE FORGING 7175-T736 OPTIONAL: BAC1520-2172 7050-T76511	
	OUTBD FITTING		DIE FORGING 7175-T736 OPTIONAL: FORGED BLOCK 7175-T736	
4	FWD TRUNNION BEARING SUPPORT SIDE BRACE UPPER AND LOWER FITTINGS		DIE FORGING 7050-T736 OPTIONAL: FORGED BLOCK 7050-T73652	

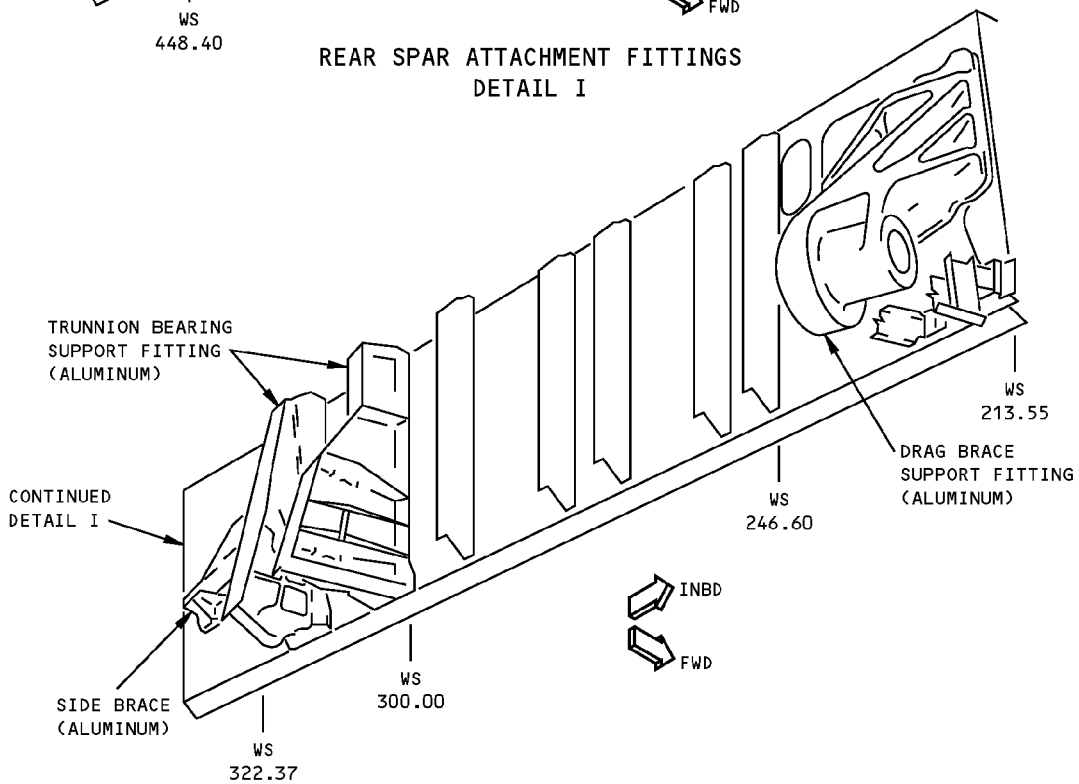
LIST OF MATERIALS FOR DETAIL II

Main Landing Gear Attachment Fitting Identification
Figure 1 (Sheet 3 of 3)

ALLOWABLE DAMAGE 1 - WING TRAILING EDGE FITTINGS

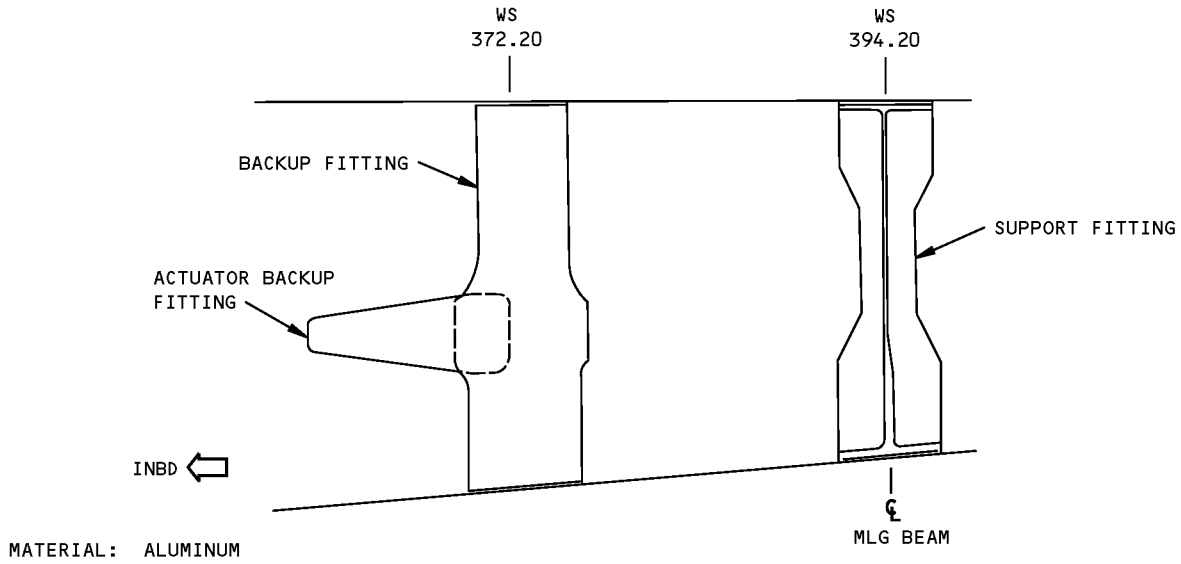


REAR SPAR ATTACHMENT FITTINGS
DETAIL I



REAR SPAR ATTACHMENT FITTINGS
DETAIL II

Wing Trailing Edge Fittings Allowable Damage
Figure 101 (Sheet 1 of 3)



MATERIAL: ALUMINUM

ATTACHMENT FITTINGS ON FWD SIDE OF REAR SPAR
DETAIL III

DESCRIPTION [C]	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
BEARING SUPPORT	[A]	[B]	NOT PERMITTED	NOT PERMITTED
SIDE BRACE	[A]	[B]	NOT PERMITTED	NOT PERMITTED
SUPPORT FITTING	[A]	[B]	NOT PERMITTED	NOT PERMITTED
DRAG BRACE	[A]	[B]	NOT PERMITTED	NOT PERMITTED
BACK-UP FITTING	[A]	[B]	NOT PERMITTED	NOT PERMITTED

NOTES

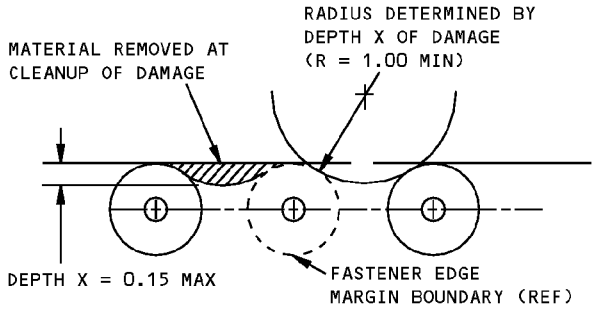
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- APPLY THE FINISH TO REWORKED AREA AS GIVEN IN AMM 51-21.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS IV AND VI.

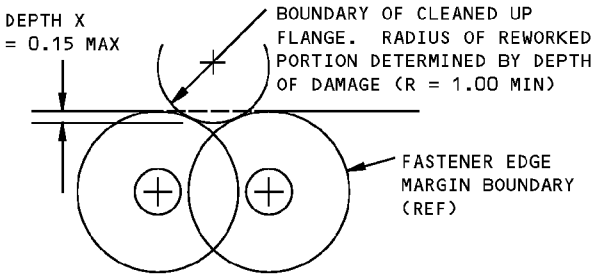
[B] FOR EDGE DAMAGE SEE DETAIL IV AND VI. FOR LUG DAMAGE SEE DETAIL V. FOR OTHER DAMAGE SEE DETAIL VII. 0.01 INCH (0.25 mm) MAXIMUM DAMAGE CLEANUP IS PERMITTED NEAR THE BUSHING.

[C] SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS LEFT OVER AFTER REWORK. SHOT PEENING IS NOT PERMITTED INSIDE THE LUG HOLES.

Wing Trailing Edge Fittings Allowable Damage
Figure 101 (Sheet 2 of 3)

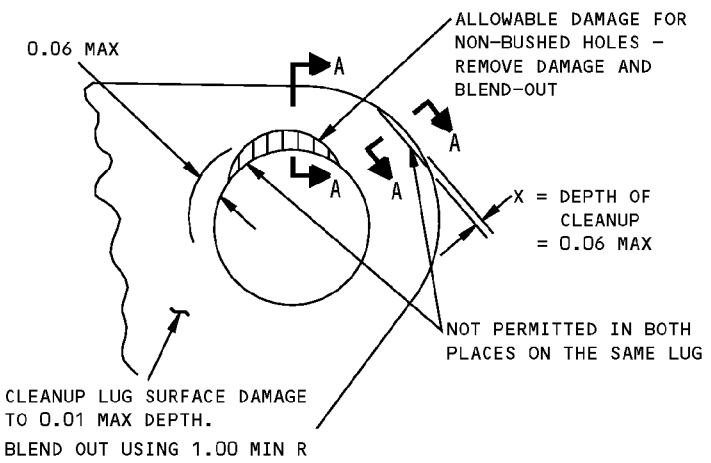


DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



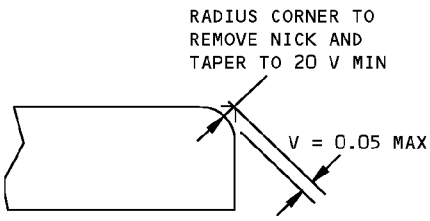
DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

DETAIL IV

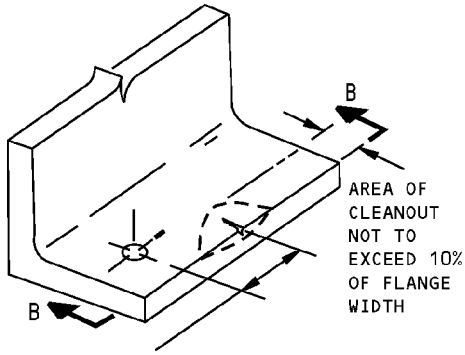


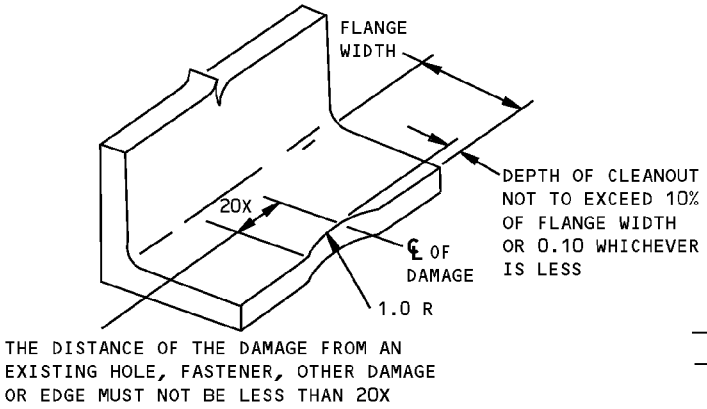
DAMAGE CLEANUP FOR EDGES OF LUG

DETAIL V



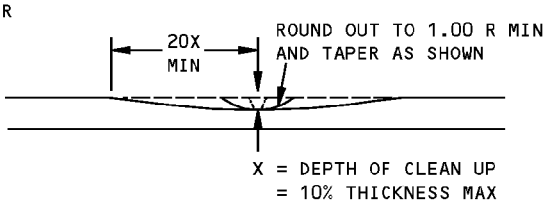
SECTION A-A
(ROTATED)





REMOVAL OF EDGE DAMAGE FROM FREE FLANGE WITHOUT FASTENERS

DETAIL VI

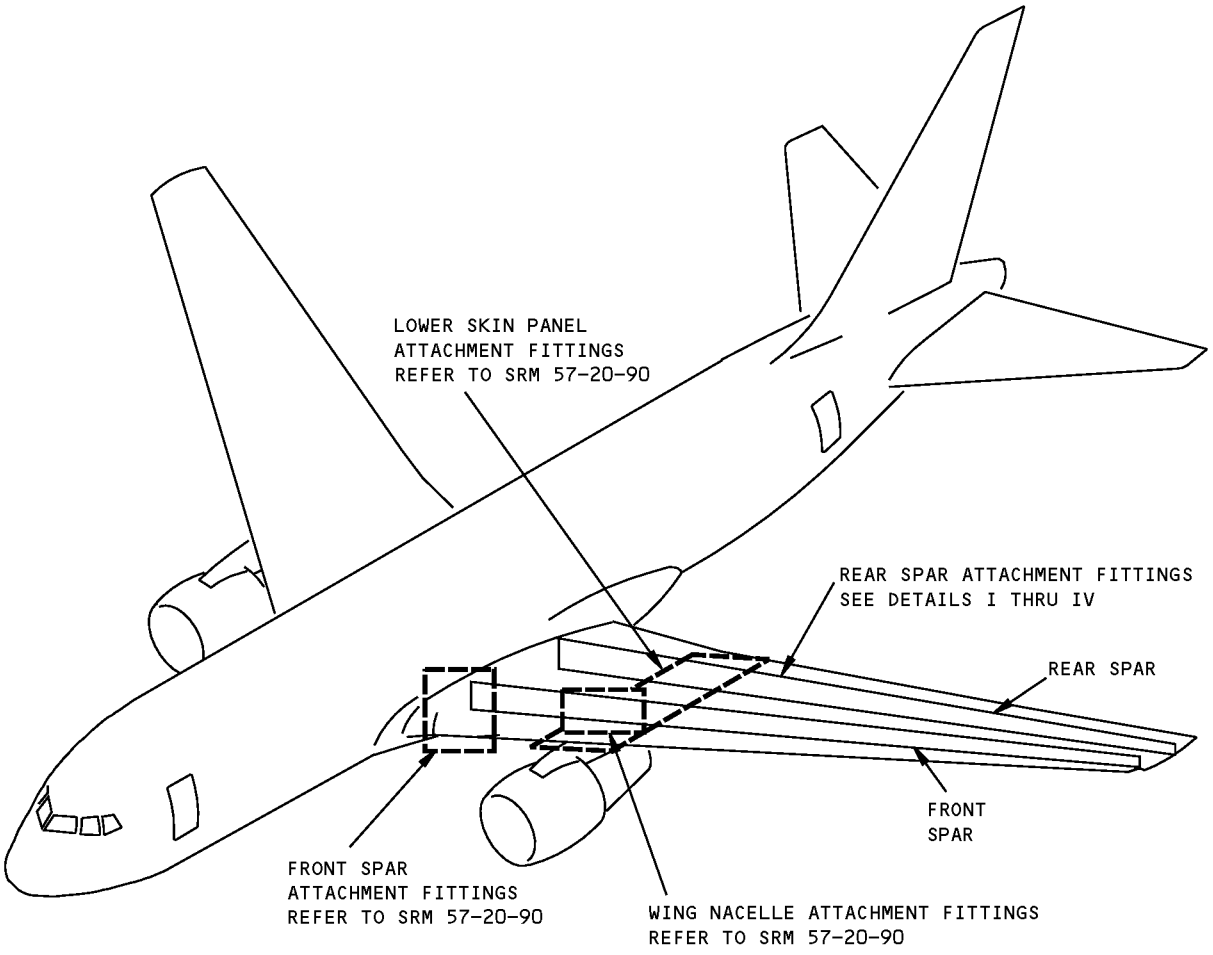


SECTION B-B

DETAIL VII

Wing Trailing Edge Fittings Allowable Damage
Figure 101 (Sheet 3 of 3)

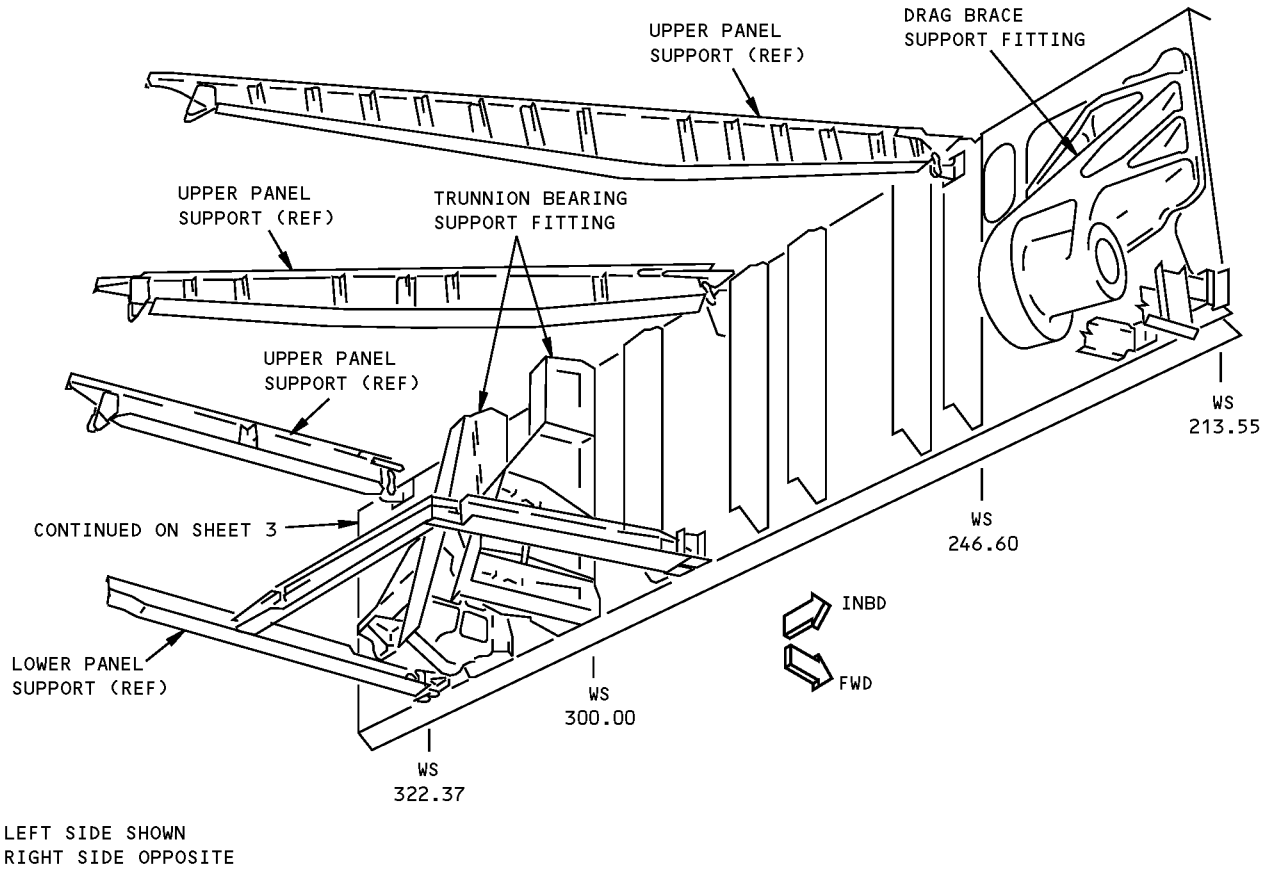
REPAIR 1 - OUTER WING TRAILING EDGE ATTACHMENT FITTING



NOTES

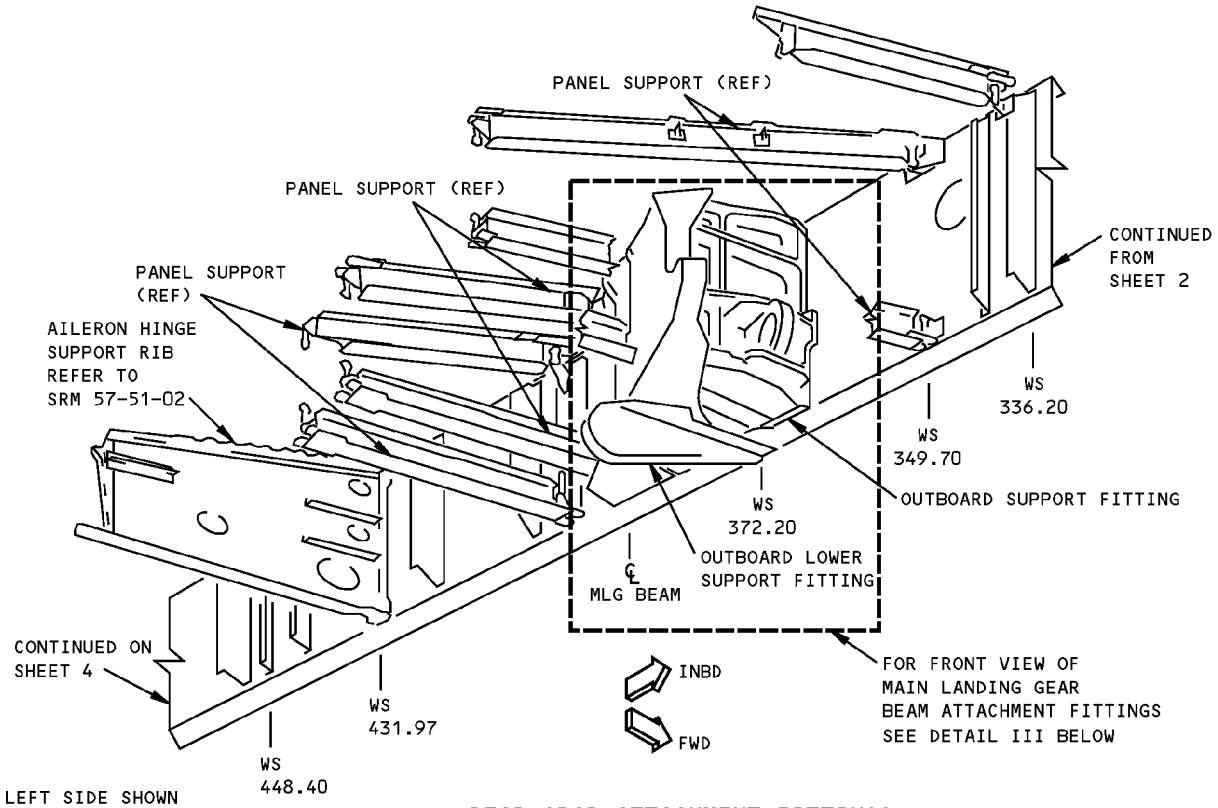
- THERE ARE NO TYPICAL REPAIRS TO FITTINGS. SPECIFIC REPAIRS TO FITTINGS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE.

Outer Wing Trailing Edge Attachment Fitting Repair
Figure 201 (Sheet 1 of 5)

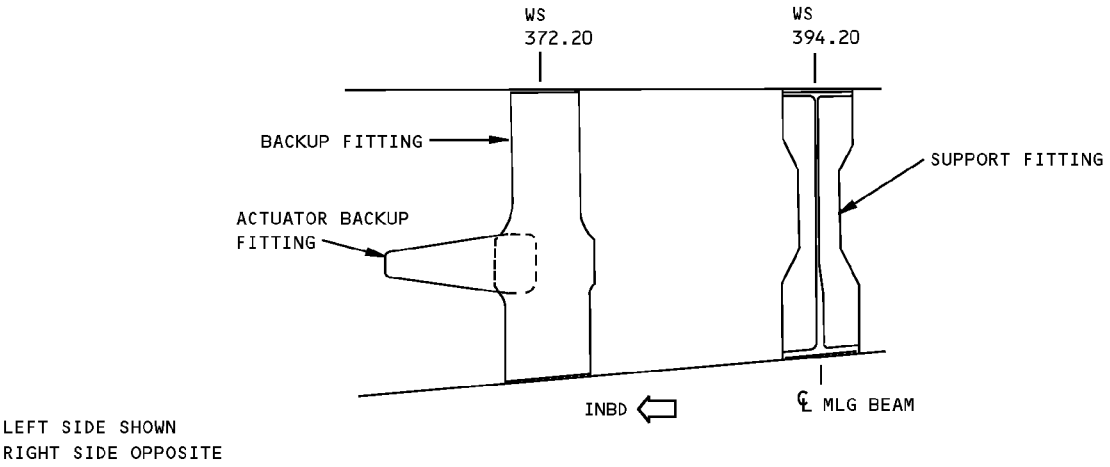


REAR SPAR ATTACHMENT FITTINGS
DETAIL I

Outer Wing Trailing Edge Attachment Fitting Repair
Figure 201 (Sheet 2 of 5)

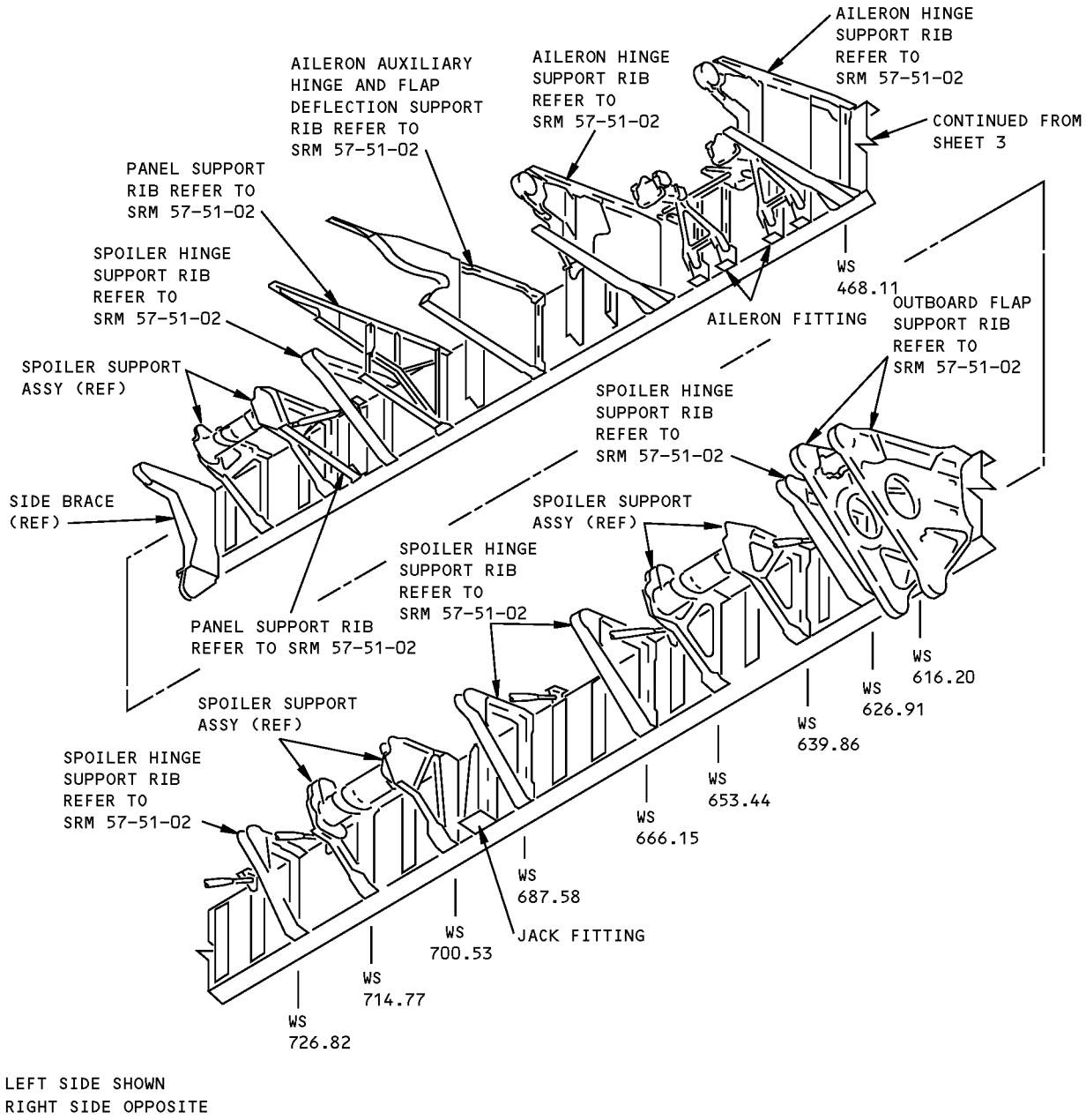


REAR SPAR ATTACHMENT FITTINGS
DETAIL II



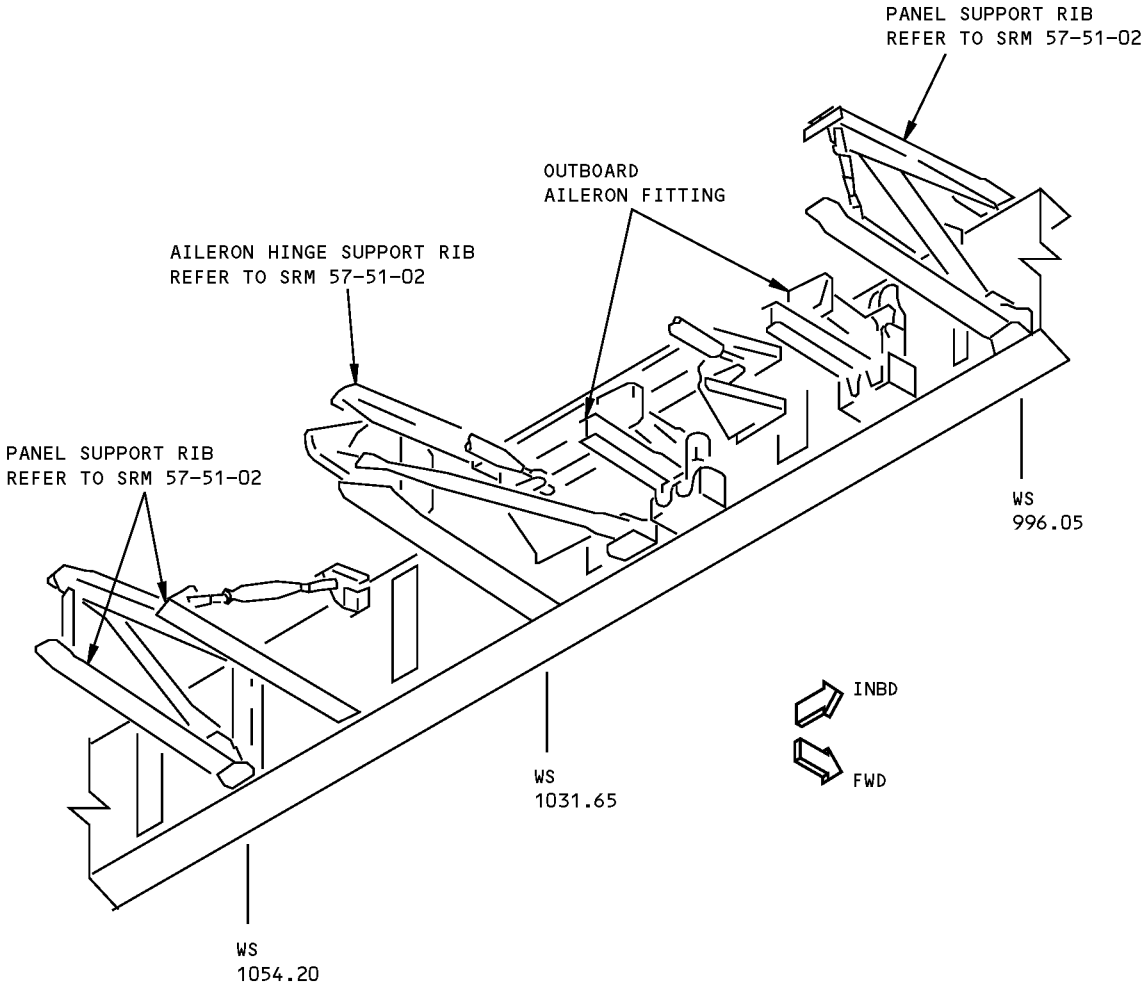
ATTACHMENT FITTINGS AT MAIN LANDING GEAR BEAM (FRONT VIEW)
DETAIL III

Outer Wing Trailing Edge Attachment Fitting Repair
Figure 201 (Sheet 3 of 5)



REAR SPAR ATTACHMENT FITTINGS
DETAIL IV

Outer Wing Trailing Edge Attachment Fitting Repair
Figure 201 (Sheet 4 of 5)



LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE

REAR SPAR ATTACHMENT FITTINGS
DETAIL V

Outer Wing Trailing Edge Attachment Fitting Repair
Figure 201 (Sheet 5 of 5)

REPAIR 2 - MAIN LANDING GEAR DRAG BRACE SUPPORT FITTING - BUSHING HOLES

REPAIR INSTRUCTIONS

WARNING: INSTALL THE LANDING GEAR LOCKS, DOOR LOCKS, AND DO NOT OPERATE THE AILERON AND SPOILER AT THE CONTROL WHEELS. PUT A WARNING SIGN ON THE LANDING GEAR HANDLES AND THE CONTROL WHEELS IN THE FLIGHT COMPARTMENT TO PREVENT THE RETRACTION OF THESE COMPONENTS DURING THIS REPAIR. RETRACTION OF THE LANDING GEAR AND THE FAST OPERATION OF THE DOORS MAY CAUSE INJURY TO PEOPLE OR DAMAGE EQUIPMENT, IF THE LOCKS ARE NOT PROPERLY INSTALLED. REFER TO AMM 32-00-00.

NOTE: To keep the correct alignment of the upper spindle, it is necessary to use a special tool when you remove the damage from the main landing gear drag brace support fitting. To remove the bushings and machine the drag brace support fitting, get the part number 2BOF112T1031 tool from the Boeing Company.

You can use this repair to remove damage from the small support hole only, the large support hole only, or the two support holes. You are permitted to remove a maximum of 0.100 inch (which includes the insurance cut) off each inside diameter.

If this is the first time you have used this tool, it is recommended that you tell the Boeing AOG group to help you set and operate the tool.

1. Remove the main gear drag brace upper spindle. Refer to AMM 32-11-13. Remove or move all the tubing or other equipment that could cause clearance problems when you install the tools.
2. Measure and make a record of the distances between the inboard and outboard faces of the fitting and between each bushing face and its adjacent fitting face . See Detail I.
3. Remove the migrated or damaged bushings from the support holes. Use the bushing removal tools included in the Boeing 2BOF112T1031 tool kit. Measure and make a record of the flange and thicknesses of the removed bushings.
4. Remove the sealant from the support holes and the side faces of the support fitting. Use a hardwood or phenolic scraper. Do not use a metal scraper.
5. Remove the protective finish from the support holes and the outboard face where the stand-off plate (from the 2BOF112T1031 boring tool kit) will attach. Refer to SOPM 20-30-02.

WARNING: USE MECHANICAL VENTILATION OR RESPIRATORY PROTECTION WHEN YOU WORK IN A CONFINED SPACE OR AREA. DO NOT PERMIT SOLVENT TO CONTACT YOUR SKIN, EYES, AND CLOTHING.

WEAR EYE PROTECTION. KEEP THE SOLVENT AND ITS GASES AWAY FROM SOURCES OF HEAT, FIRE OR SPARKS. THE SOLVENT AND ITS GASES ARE DANGEROUS TO BREATHE AND TOUCH, AND ARE FLAMMABLE.

6. Clean the grease and unwanted material from the support holes and grease passages. Remove the lubrication fitting (Zerk) if necessary.
7. Do a high frequency eddy-current (HFEC) inspection to find the amount of damage in the support holes. Refer to NDT Part 6, 51-00-01 for aluminum part surface inspection procedures.
8. If the support holes have no corrosion, galling, or other damage, continue with procedures to shot peen the support holes as given in step 18.

CAUTION: MAKE SURE THE BORING TOOL IS CORRECTLY ALIGNED BEFORE YOU MACHINE THE HOLES. IF THE TOOL IS NOT ALIGNED, THE SUPPORT HOLES WILL NOT BE CUT IN THE CORRECT LOCATIONS, OR THE DAMAGE MAY NOT BE REMOVED BEFORE THE SUPPORT HOLES BECOMES LARGER THAN IS PERMITTED.

9. Install the 2BOF112T1031 boring tool. Use the instructions included with the tool.

CAUTION: BECAUSE OF THE TOOL'S DESIGN AND SET UP, IT IS NECESSARY TO MACHINE THE INBOARD SMALL SUPPORT HOLE BEFORE THE OUTBOARD LARGE SUPPORT HOLE. IF THE SEQUENCE IS NOT OBEYED, THE SUPPORT HOLES WILL NOT BE ALIGNED AND CONCENTRIC.

10. Machine the support holes as necessary to remove the damage. See Detail II. The support fitting is made of 7050-T736 aluminum. When you machine the support holes:
    a. Do not increase the diameter more than 0.015 inch on a single cut.
    b. The maximum inside diameters permitted before you make the insurance cuts are:
        - 4.5811 inch for the small support hole and
        - 5.2812 inch for the large support hole.
    c. Make sure you keep the support holes concentric. The maximum permitted tolerance between the support holes is 0.0005 inch.

Main Landing Gear Drag Brace Support Fitting - Repair of the Bushing Holes
Figure 201 (Sheet 1 of 6)

REPAIR INSTRUCTIONS (CONT)

11. If necessary, machine the outboard and/or inboard side faces of the support fitting under flanges of the bushings. See Detail II.
    a. Keep a surface finish of 125 microinches R_a or better
    b. Keep the minimum radius of 0.5 inch between the machined side faced and the adjacent initial side face
    c. Do not remove more than 0.015 inch in depth on a single cut
    d. The maximum permitted depth of the removed material on each side is 0.10 inch.

CAUTION: DO NOT REMOVE THE ATTACH PLATE AND THE CLAMP ASSEMBLIES FOR ALIGNMENT UNTIL ALL NECESSARY MACHINING AND INSURANCE CUT ARE COMPLETED. IF THE ALIGNMENT TOOLS ARE REMOVED BEFORE THE FINAL CUT, THE SUPPORT HOLES WILL NOT BE ALIGNED AND CONCENTRIC.

12. Remove the boring tool to get access and do a HFEC inspection to make sure the damage has been removed. Do not remove the attach plate and the clamp assemblies.
13. If there is still damage, repeat steps 7 through 10 until there is no more damage.
14. Make a minimum of two cuts in the support holes to get the total increase in diameter of 0.020 inch for the insurance cut.
    a. Do not increase the diameter more than 0.015 inch on a single cut.
    b. Do not increase the diameters larger than permitted. See Detail II.
    c. Keep a surface finish of 63 microinches R_a or better.
15. Keep the minimum radius as shown in Detail II for the change between the machined support hole surfaces and the initial hole surface.
16. Make a chamfer on the edges of the support holes. Keep a surface finish of 125 microinches R_a or better on the chamfer. Hone the machined edges as necessary to remove gouges and burrs. See Detail II.
17. Do another HFEC inspection to make sure no additional cracks, gouges or other damage were made.
18. Shot peen the support holes at the locations specified in Detail II. Use a shot size of 230-550, intensity 0.012A to 0.019A, and coverage 2.0. As an alternative, you may flap peen the hole. Refer to SOPM 20-10-03.
19. If necessary, hone the support holes to get the final surface finish and diameter. If you hone the holes:
    a. Keep a surface finish on the hole(s) of 63 microinches R_a or better.
    b. Do not increase the diameter more than 0.003 inch to get the necessary surface finish.
    c. Do not remove more material than is permitted. See Detail II.
20. Apply a chemical conversion coating to the machined surfaces of the support holes and side faces of the support fitting.
21. Apply two layers of BMS 10-11, Type I primer to the bare surfaces of the support fitting. Do not get primer in the grease fitting lube hole, or on the hole surfaces that touch the bushings. Let the primer fully dry before you install the bushings.
22. Make the replacement bushings. See Table I and Details III and IV. [C] [D] If the side face of the support fitting was machined, increase the thickness of the bushing flange to make allowance for the removed material. [B] When you make the bushings:
    a. Keep a surface finish of 32 microinches R_a or better on the inside diameter of the bushings
    b. Keep a surface finish of 63 microinches R_a or better on the other surfaces.
23. Do a dye penetrant inspection of the bushings to make sure there are no surface defects. Refer to SOPM 20-20-02. Use Type I, method C, sensitivity level 3 or better for the inspection.
24. Cadmium plate the bushings. Refer to SOPM 20-42-05 for the procedure necessary for the QQ-P-416 Type 2, Class 2 cadmium plate. [C]

WARNING: WEAR PROTECTIVE CLOTHING AND WORK IN A VENTILATED AREA TO PREVENT INJURY WHEN YOU WORK WITH LIQUID NITROGEN. LIQUID NITROGEN IS APPROXIMATELY MINUS 320°F (-196°C).

25. Prepare the bushings for installation with the shrink fit method. Use liquid nitrogen at -320°F (-196°C). Soak the bushing cups (from the 2B0F112T1031 tool kit) and the bushings in the liquid nitrogen until the boiling stops. Refer to SOPM 20-50-03.
26. Apply a thin layer of BMS 5-95 sealant to the surfaces of the support fitting where the bushings are to be installed.

Main Landing Gear Drag Brace Support Fitting - Repair of the Bushing Holes
Figure 201 (Sheet 2 of 6)

REPAIR INSTRUCTIONS (CONT)

27. Install the bushings as quickly as possible. Use the threaded rod assembly, and cups (from the 2BOF112T1031 tool kit) to hold the bushing flange tightly against the face of the support fitting until the assembly is at room temperature.
28. If the inside diameter has decreased to less than the permitted dimension, then it is necessary to hone the inside diameter of the bushings to the permitted dimension. See Details III and IV. Keep a surface finish of 32 microinches R_a or better. Make sure the inside diameters of the two bushings are concentric within a maximum of 0.0008 inch.

WARNING: USE MECHANICAL VENTILATION OR RESPIRATORY PROTECTION WHEN YOU WORK IN A CONFINED SPACE OR AREA. DO NOT PERMIT SOLVENT TO CONTACT YOUR SKIN, EYES, AND CLOTHING. WEAR EYE PROTECTION. KEEP THE SOLVENT AND ITS GASES AWAY FROM SOURCES OF HEAT, FIRE OR SPARKS. THE SOLVENT AND ITS GASES ARE DANGEROUS TO BREATHE AND TOUCH, AND ARE FLAMMABLE.

29. Clean the support hole and side faces with a ketone based solvent. Remove the honing oil and abrasive material.
30. Apply a fillet seal of BMS 5-95 sealant between the flanges of the bushings and the side faces of the support fitting. Refer to SRM 51-20-05.
31. Apply a fillet seal of BMS 5-95 selant between the inside edge of the bushings and the initial hole surface. Make sure you keep a clear path for the grease to flow from the lube hole in the support fitting to the grease grooves in the bushings.
32. Install a new grease fitting if necessary.
33. Apply a layer of BMS 10-60, Type II, BAC707 color gray gloss enamel to the surfaces of the support fitting. Do not apply enamel to the bushing holes, bushing faces, or grease fitting. Refer to AMM 51-21.
34. Install the components that were removed to get access.
35. Assemble the main landing gear drag brace and the upper spindle. Refer to AMM 32-11-13.

NOTES

- WHEN YOU USE THIS REPAIR, REFER TO:
  - AMM 32-11-13 MAIN GEAR DRAG BRACE UPPER AND LOWER SPINDLES - REMOVAL/INSTALLATION
  - AMM 51-21 FOR STRUCTURES FINISHES
  - NDT PART 6, 51-00-00, FOR EDDY-CURRENT INSPECTION PROCEDURES
  - SOPM 20-30-02 FOR STRIPPING OF PROTECTIVE FINISHES
  - SOPM 20-41-02 FOR APPLICATION OF FINISHES
  - SOPM 20-42-05 FOR BRIGHT CADMIUM PLATING
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - SRM 51-20-05 FOR SEALING OF REPAIRS.

[A] IF THE DIAMETER OF THE SMALL SUPPORT HOLE OR THE LARGE SUPPORT HOLE IS MORE THAN PERMITTED AFTER THE DAMAGE HAS BEEN REMOVED, GET A NEW SUPPORT FITTING OR GET MORE REPAIR INSTRUCTIONS FROM BOEING.

[B] IF IT IS NECESSARY TO MACHINE A SIDE FACE OF THE SUPPORT FITTING, YOU MUST INCREASE THE ADJACENT BUSHING FLANGE THICKNESS BY AN AMOUNT EQUAL TO THE DEPTH OF MATERIAL REMOVED FROM THE SIDE FACE. THIS IS NECESSARY TO KEEP THE FACE OF THE BUSHING IN ITS INITIAL LOCATION. IF THE INITIAL LOCATION OF A BUSHING FACE CHANGES, IT CAN CHANGE THE OPERATION OF THE DRAG BRACE. THE TOTAL INSTALLED THICKNESS OF THE PART 1 AND PART 2 BUSHING FLANGES PLUS THE THICKNESS OF THE SUPPORT FITTING MUST BE BETWEEN 11.49 AND 11.52 INCHES.

[C] CADMIUM PLATE ONLY THE OUTSIDE SURFACES OF THE PART 1 AND 2 BUSHINGS. DO NOT CADMIUM PLATE THE INSIDE DIAMETERS OF THE PART 1 AND 2 BUSHINGS.

[D] AFTER THE SUPPORT HOLE HAS BEEN MACHINED, PEENED, AND HONED (IF NECESSARY) MAKE THE OUTER DIAMETER OF EACH CADMIUM PLATED BUSHING:

- FROM 1.0015 X (THE MEASURED INSIDE DIAMETER OF THE SUPPORT HOLE)
- TO 1.0020 X (THE MEASURED INSIDE DIAMETER OF THE SUPPORT HOLE).
- MAKE AN ALLOWANCE OF 0.0003 INCH FOR THE CADMIUM PLATING ON THE OUTSIDE DIAMETER OF THE BUSHING. MAKE SURE YOU KEEP THE INSIDE AND OUTSIDE DIAMETERS OF THE BUSHING CONCENTRIC. THE TOLERANCE BETWEEN THE DIAMETERS IS 0.0005 INCH.

Main Landing Gear Drag Brace Support Fitting - Repair of the Bushing Holes
Figure 201 (Sheet 3 of 6)

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	LARGE BUSHING	1	7.00 INCH OUTSIDE DIAMETER X 1.50 INCH WALL THICKNESS AL-NI-BRONZE TUBE AS SPECIFIED IN AMS 4640
2	SMALL BUSHING	1	6.25 INCH OUTSIDE DIAMETER X 1.50 INCH WALL THICKNESS AL-NI-BRONZE TUBE AS SPECIFIED IN AMS 4640

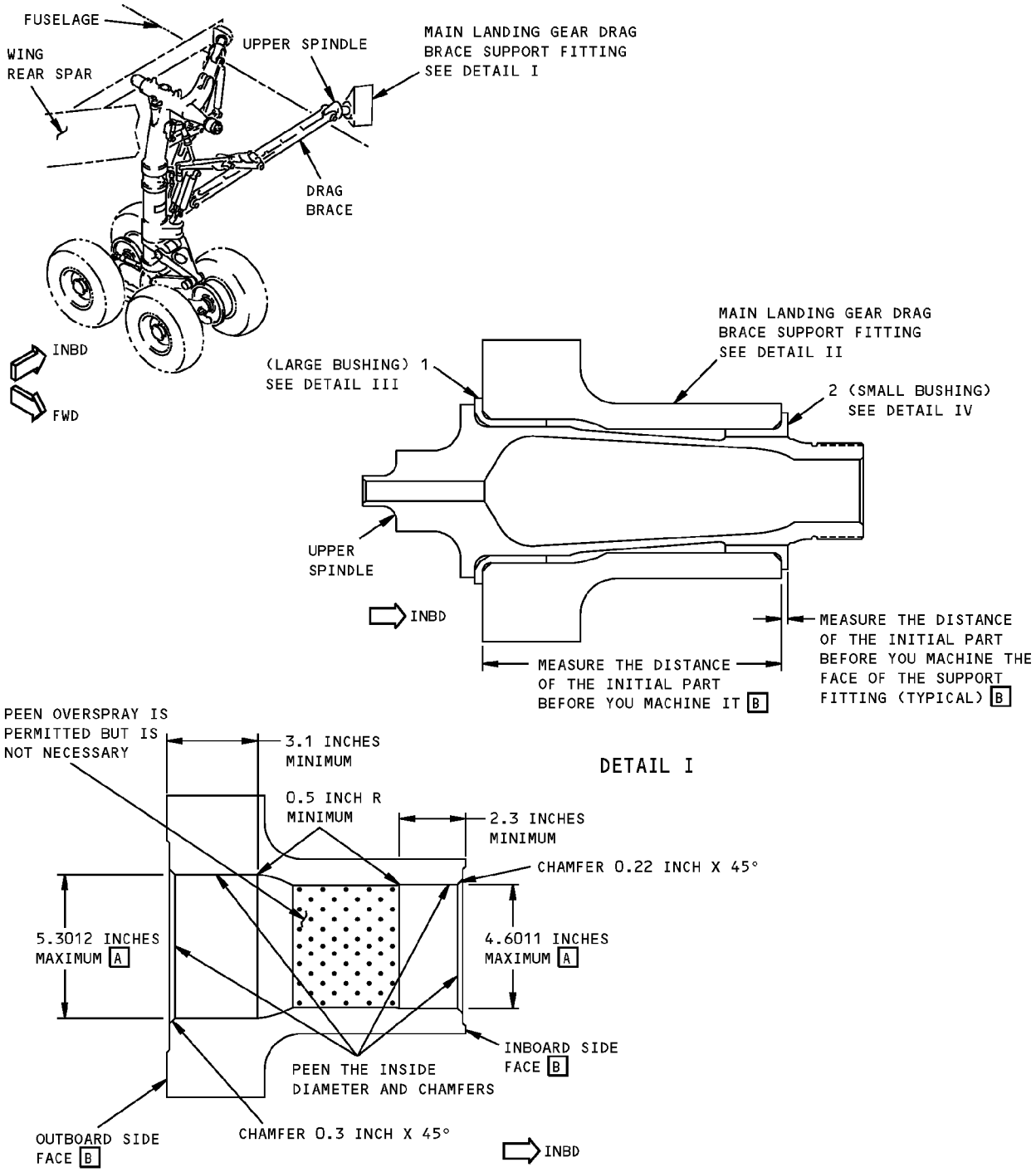
TABLE I

INITIAL BUSHING PART NUMBER	* AMOUNT OF DIAMETER OVERSIZE	* MEASURED I.D. OF THE SUPPORT HOLE IN THE SUPPORT FITTING, INCH	NECESSARY O.D. OF CAD PLATED BUSHING, INCH (0.15 TO 0.20% BIGGER THAN I.D.)
112T1032-1	0.0000	5.2000 5.2012	5.208-5.210 5.209-5.212
(LARGE BUSHING)	0.1000	5.3000 5.3012	5.308-5.311 5.309-5.312
112T1032-3	0.0000	4.5000 4.5011	4.507-4.509 4.508-4.510
(SMALL BUSHING)	0.1000	4.6000 4.6011	4.607-4.609 4.608-4.610

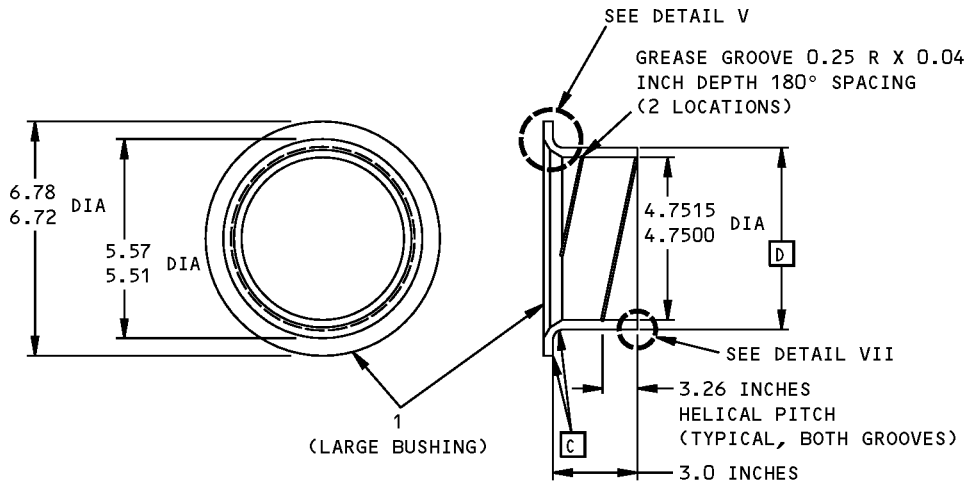
* INTERPOLATE FOR DIFFERENT OVERSIZE AND MEASURED I.D.

TABLE II

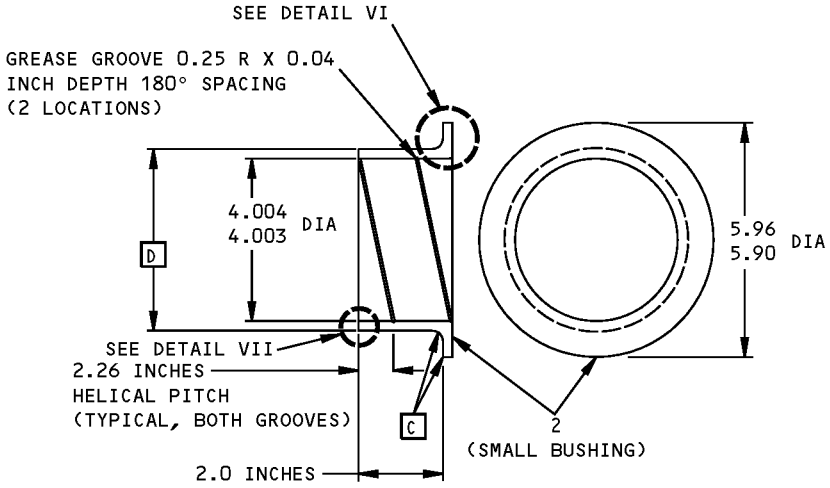
Main Landing Gear Drag Brace Support Fitting - Repair of the Bushing Holes
Figure 201 (Sheet 4 of 6)



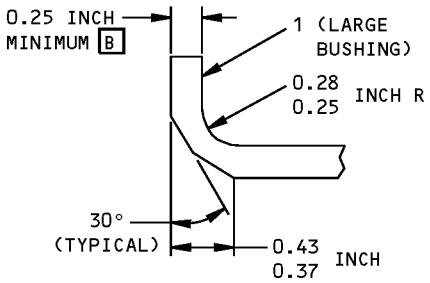
Main Landing Gear Drag Brace Support Fitting - Repair of the Bushing Holes
Figure 201 (Sheet 5 of 6)



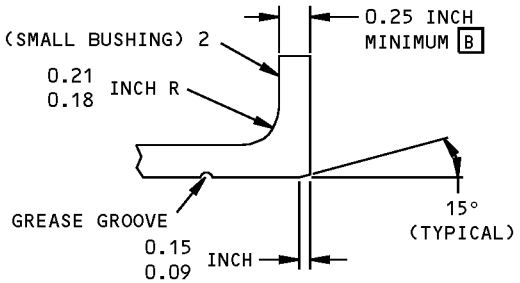
DETAIL III



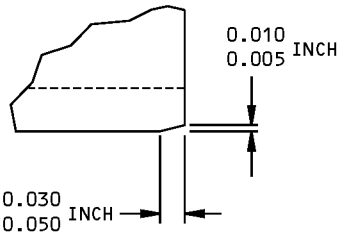
DETAIL IV



DETAIL V



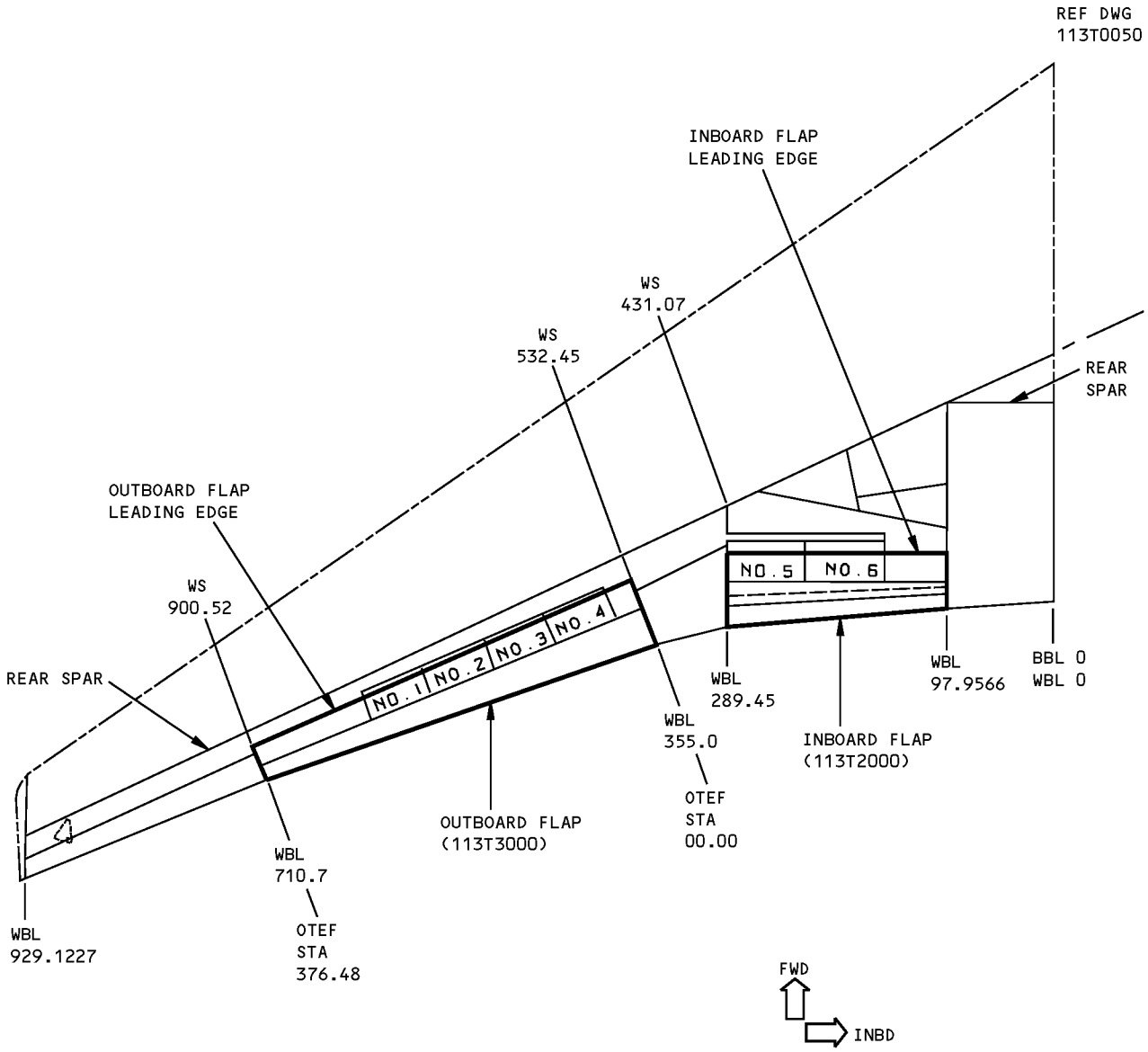
DETAIL VI



DETAIL VII

Main Landing Gear Drag Brace Support Fitting - Repair of the Bushing Holes
Figure 201 (Sheet 6 of 6)

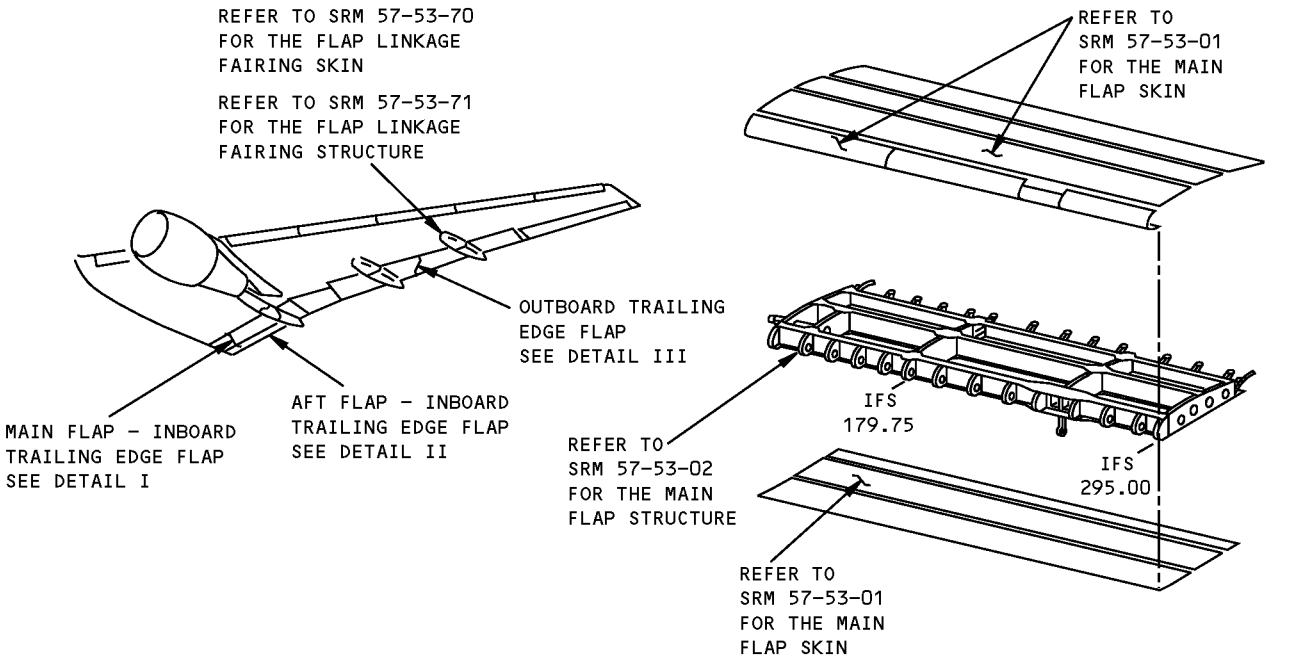
GENERAL - WING TRAILING EDGE FLAP



NOTES

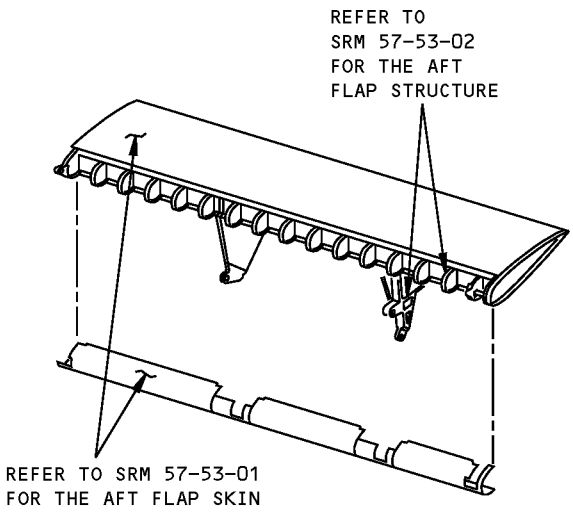
- REFER TO SRM 57-51-00 FOR THE FIXED TRAILING EDGE AND MAIN LANDING GEAR SUPPORT STRUCTURE.
- REFER TO SRM 57-60-00 FOR THE AILERONS.
- REFER TO SRM 57-70-00 FOR THE SPOILERS.

Wing - Trailing Edge Flaps
Figure 1



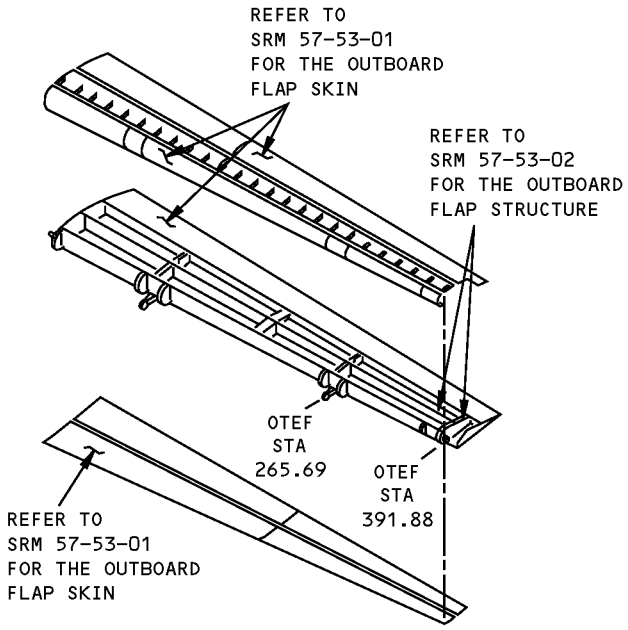
MAIN FLAP - INBOARD TRAILING EDGE FLAP

DETAIL I



AFT FLAP - INBOARD TRAILING EDGE FLAP

DETAIL II



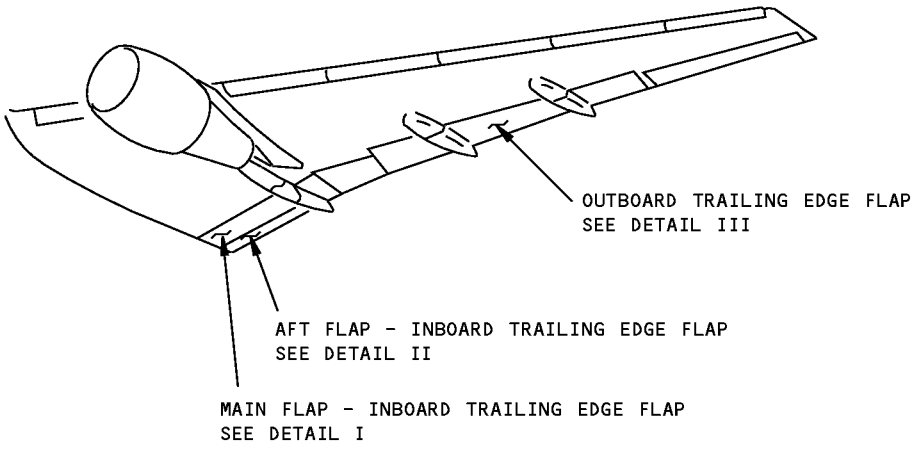
OUTBOARD TRAILING EDGE FLAP

DETAIL III

Trailing Edge Flap Structure Diagram
Figure 2

IDENTIFICATION 1 - TRAILING EDGE FLAP SKIN

REF DWG
113T2201
113T2301
113T3100



NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION

[B] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGE BANDS AND AREAS WITH DOUBLERS

[C] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 285, 250°F (121°C) CURE

[D] GRAPHITE/EPOXY FABRIC PER BMS 8-168, TYPE II, CLASS II, STYLE 3K-70-PW, 250°F (121°C) CURE

[E] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, TYPE 120, CLASS III, GRADE 1, 250°F (121°C) CURE

[F] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 120, 250°F (121°C) CURE

[G] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, TYPE 1581 CLASS III, GRADE 1, 250°F (121°C) CURE

[H] BMS 5-129 FILM ADHESIVE TYPE 2, GRADE 5, CLASS 2A

[I] FOR CUM LINE NUMBER: 132

[J] FOR CUM LINE NUMBERS: 136 THRU 589

[K] FOR CUM LINE NUMBERS: 590 AND ON

[L] FOR CUM LINE NUMBERS: 132 THRU 218

[M] FOR CUM LINE NUMBERS: 219 AND ON

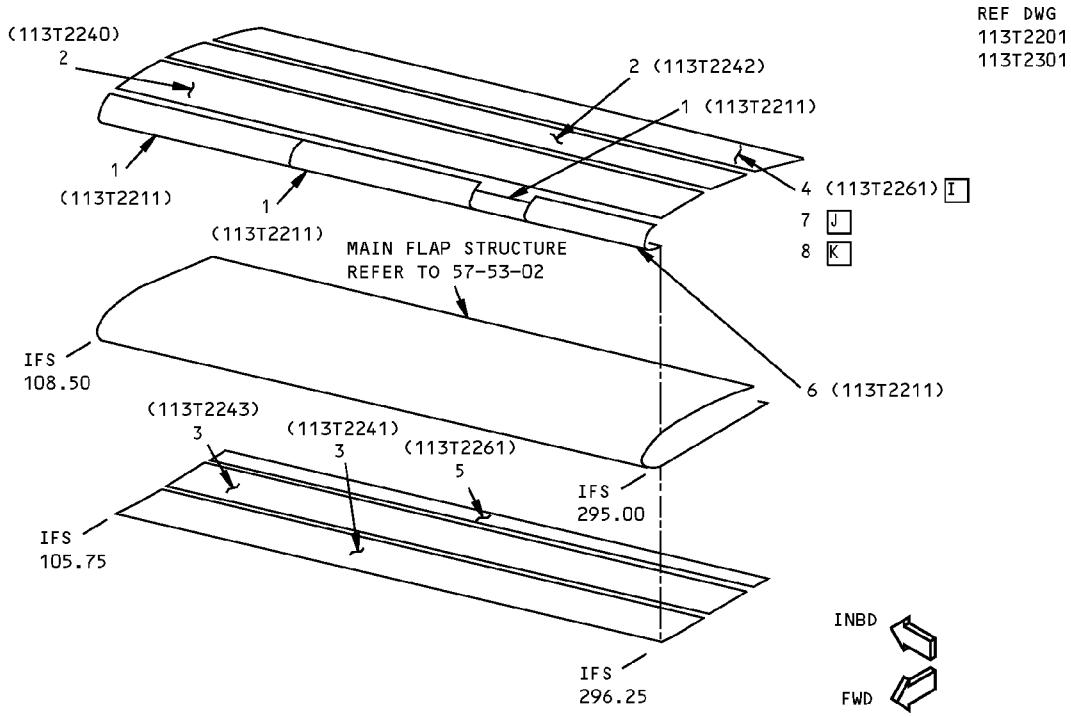
[N] FOR CUM LINE NUMBERS: 132 THRU 579

[O] FOR CUM LINE NUMBERS: 581 AND ON

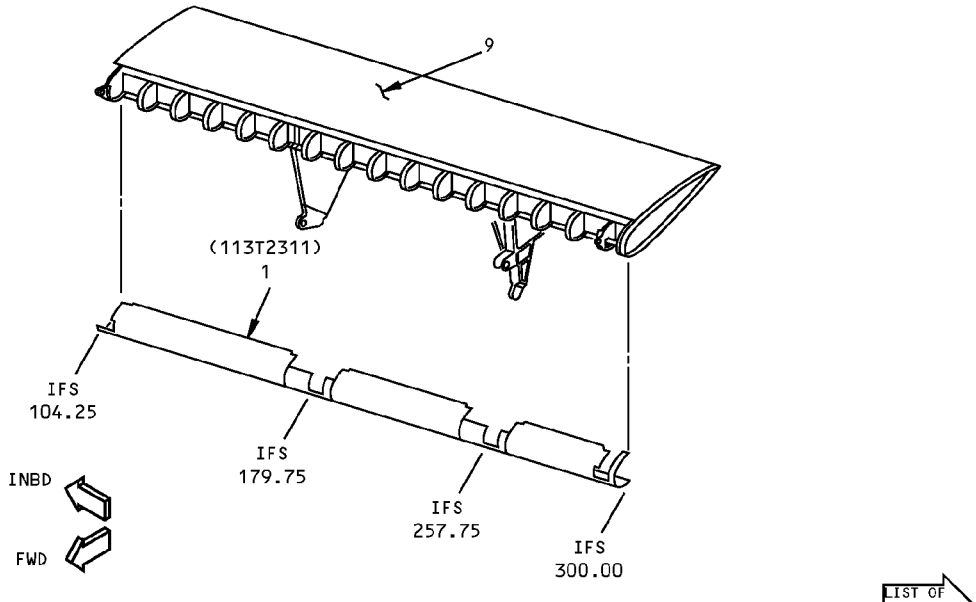
[P] FOR CUM LINE NUMBERS: 132 THRU 599

[Q] FOR CUM LINE NUMBERS: 601 AND ON

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 1 of 11)



MAIN FLAP - INBOARD TRAILING EDGE FLAP
DETAIL I



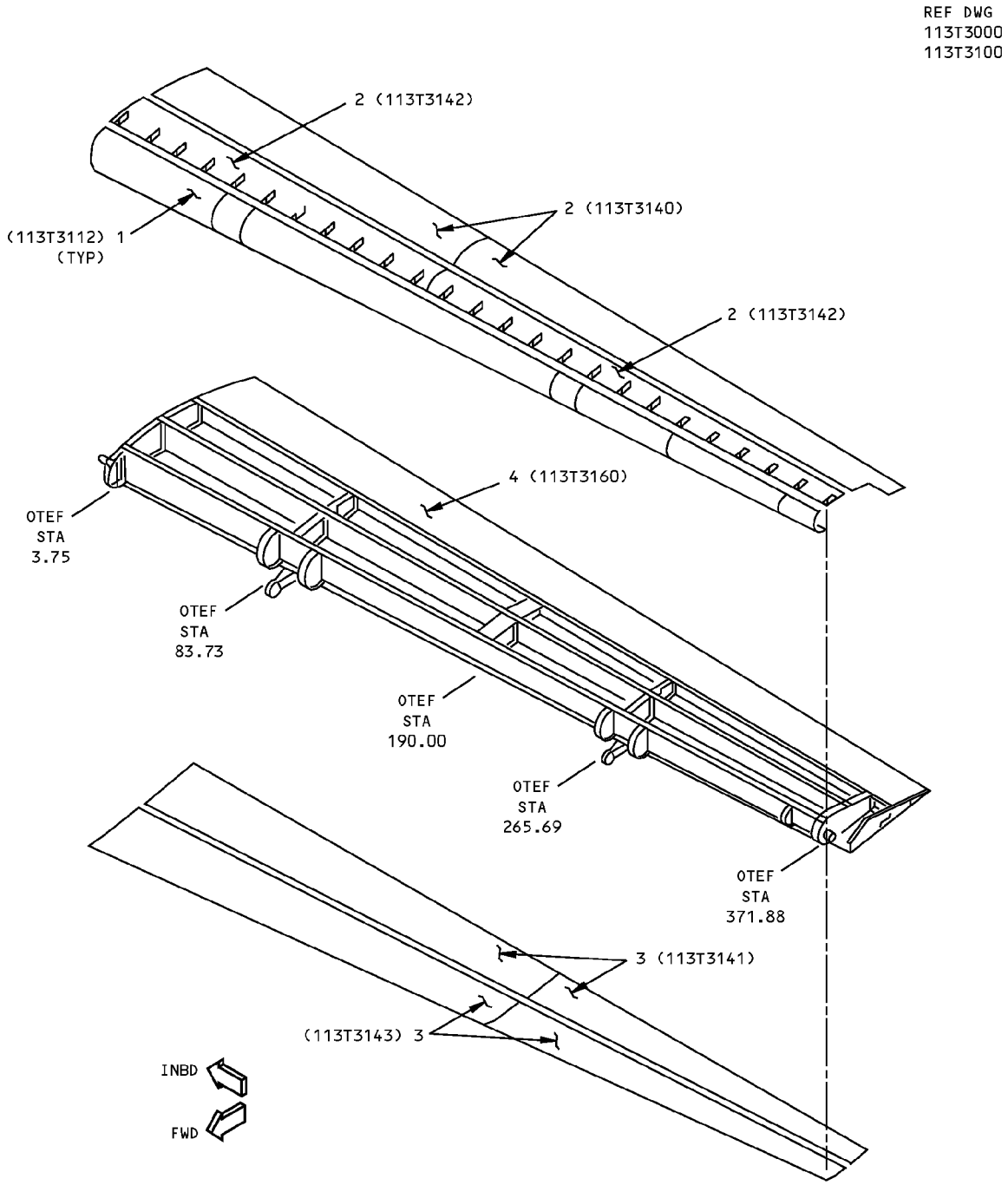
AFT FLAP - INBOARD TRAILING EDGE FLAP
DETAIL II

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 2 of 11)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	LE SKIN	0.125	2024-T3 OPTIONAL: 2024-T42 (CHEM-MILLED TO 0.057 MINIMUM)	
2	UPPER PANEL			
	INNER SKIN	0.012	2024-T3	
	OUTER SKIN	0.100	2024-T3 (CHEM-MILLED TO 0.019 MINIMUM)	
	CORE		ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 3-10N, FORM B	
3	LOWER PANEL			
	INNER SKIN	0.012	2024-T3	
	OUTER SKIN BOND			
	SKIN	0.125	2024-T3 (CHEM-MILLED TO 0.019 MINIMUM)	
	OUTER PLIES		SEE DETAIL IV	
	CORE		ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 3-10N, FORM B	
4	UPPER COVE PANEL		ARAMID/GRAPHITE/FIBERGLASS/EPOXY HONEYCOMB SANDWICH	[I]
	SKIN		SEE DETAIL VI	
	CORE		NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE 5, GRADE 3.0	
5	LOWER COVE PANEL		ARAMID/EPOXY LAMINATE SEE DETAIL V	
6	LE SKIN		ARAMID/EPOXY HONEYCOMB SANDWICH	
	SKIN		SEE DETAIL VII	
	CORE		OVEREXPANDED NOMEX HONEYCOMB PER BMS 8-124, CLASS 4, TYPE 6, GRADE 3.0	
7	UPPER COVE PANEL		GRAPHITE/FIBERGLASS/EPOXY HONEYCOMB SANDWICH	[J]
	SKIN		SEE DETAIL VI	
	CORE		NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE 5, GRADE 3.0	
8	UPPER COVE PANEL		FILM ADHESIVE/GRAPHITE/FIBERGLASS/EPOXY HONEYCOMB SANDWICH	[K]
	SKIN		SEE DETAIL VI	
	CORE		NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE 5, GRADE 3.0	
9	TE WEDGE ASSY		ARAMID/EPOXY-ALUMINUM HONEYCOMB SANDWICH	
	UPPER SKIN PANEL	0.012	2024-T3 (MULTI-GAGE)	
	LOWER SKIN-INNER PLIES	0.032	2024-T3	
	LOWER SKIN-OUTER PLIES		SEE DETAIL IX	
	CORE		ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 3-10N, FORM A	
	DENSE CORE		ALUMINUM HONEYCOMB PER BMS 4-4, TYPE 2-15N, FORM A OPTIONAL: TYPE 2-20, FORM A	

LIST OF MATERIALS FOR DETAILS I AND II

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 3 of 11)



OUTBD TRAILING EDGE FLAP
DETAIL III

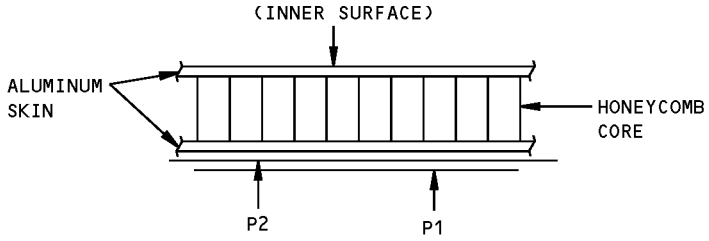
LIST OF MATL

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 4 of 11)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	NOSE SKIN		ARAMID/EPOXY HONEYCOMB SANDWICH	
	SKIN		SEE DETAIL VIII	
	CORE		NOMEX HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0.	
2	UPPER PANEL		ALUMINUM HONEYCOMB SANDWICH	
	OUTER SKIN	0.125	7075-T6 (CHEM-MILLED TO 0.013 INCH MINIMUM)	
	INNER SKIN	0.012	7075-T6	
	CORE		ALUMINUM HONEYCOMB AS GIVEN IN BMS 4-4, TYPE 3-10N, FORM B.	
3	LOWER PANEL			
	OUTER SKIN	0.100	2024-T3 (CHEM-MILLED TO 0.013 INCH MINIMUM)	
	INBOARD INNER SKIN	0.012	2024-T3	
	MID-OUTBOARD INNER SKIN	0.012	7075-T6	
	OUTBOARD INNER SKIN	0.012	2024-T3	
	CORE		ALUMINUM HONEYCOMB AS GIVEN IN BMS 4-4, TYPE 3-10N, FORM B.	
4	TRAILING EDGE WEDGE ASSEMBLY		ARAMID/FIBERGLASS/EPOXY HONEYCOMB SANDWICH	
	SKINS		SEE DETAIL X	
	CORE		NOMEX HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0.	

LIST OF MATERIALS FOR DETAIL III

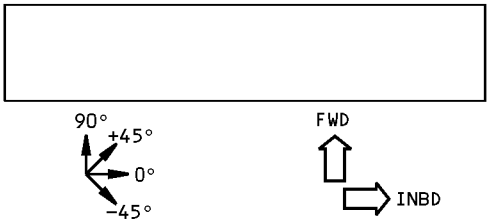
Trailing Edge Flap Skin Identification
Figure 1 (Sheet 5 of 11)



SECTION THRU HONEYCOMB LOWER PANEL

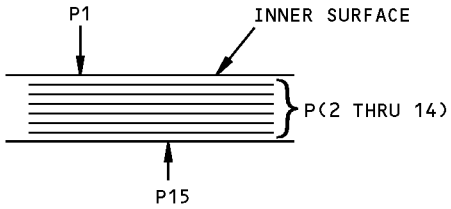
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
3 (DETAIL I)	P1	[C]	±45°
	P2	[C]	±45°

PLY TABLE [B]



PLY ORIENTATION DIAGRAM

MAIN FLAP – INBD TRAILING EDGE FLAP
DETAIL IV



LOWER COVE PANEL – SKIN BOND LAYUP

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5 (DETAIL I)	P1	[E]	OPTIONAL
	P(2 THRU 14)	[C]	0°
	P15	[E]	OPTIONAL

PLY TABLE [B]

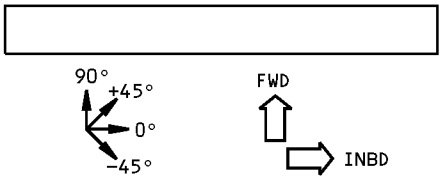
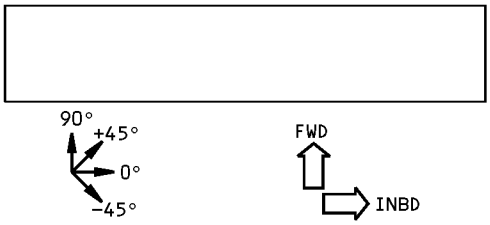


DIAGRAM OF PLY ORIENTATION

MAIN FLAP – INBD TRAILING EDGE FLAP
DETAIL V

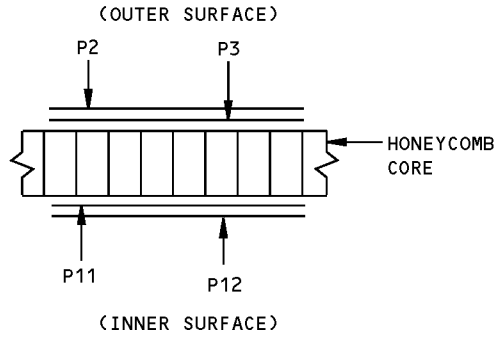
Trailing Edge Flap Skin Identification
Figure 1 (Sheet 6 of 11)



PLY ORIENTATION DIAGRAM

ITEM NO.	PLY NO.	MATERIAL	PLY [A] ORIENTATION
4 (DETAIL I)	P2	[C]	0°
	P3	[D]	0°
	P11	[D]	0°
	P12	[C]	0°

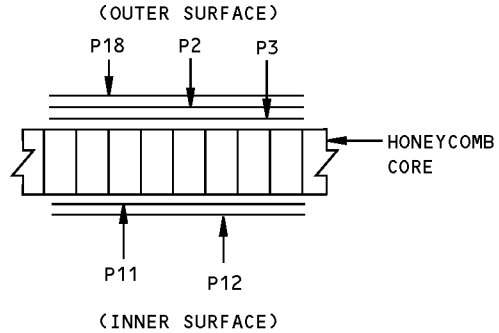
PLY TABLE [B] [I]



SECTION THRU HONEYCOMB PANEL FOR ITEMS 4 AND 7 [I] [J]

ITEM NO.	PLY NO.	MATERIAL	PLY [A] ORIENTATION
7 (DETAIL I)	P2	[G]	0°
	P3	[D]	0°
	P11	[D]	0°
	P12	[G]	0°

PLY TABLE [B] [J]



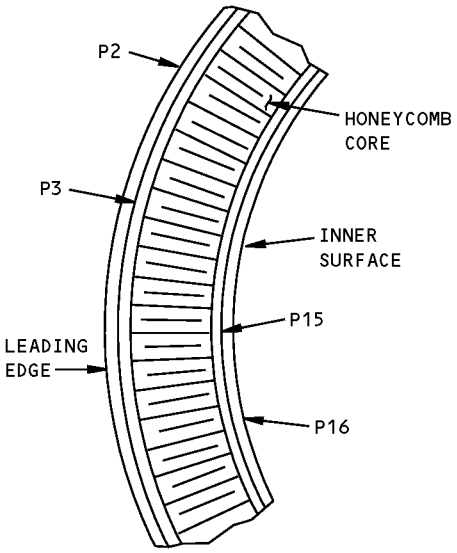
SECTION THRU HONEYCOMB PANEL FOR ITEM 8 [K]

ITEM NO.	PLY NO.	MATERIAL	PLY [A] ORIENTATION
8 (DETAIL I)	P2	[G]	0°
	P3	[D]	0°
	P11	[D]	0°
	P12	[G]	0°
	P18	[H]	0°

PLY TABLE [B] [K]

MAIN FLAP – INBD TRAILING EDGE FLAP
DETAIL VI

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 7 of 11)



SECTION THRU HONEYCOMB PANEL

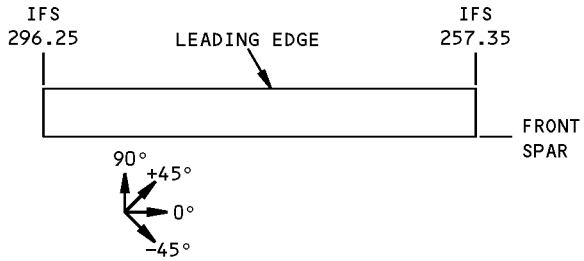


DIAGRAM OF PLY ORIENTATION

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
6 (DETAIL I)	P2	[C]	+45°
	P3	[F]	-45°
	P15	[F]	-45°
	P16	[C]	+45°

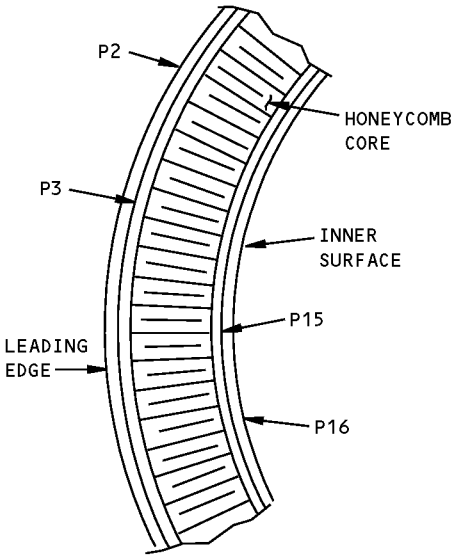
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
6 (DETAIL I)	P2	[G]	+45°
	P3	[F]	-45°
	P15	[F]	-45°
	P16	[C]	+45°

PLY TABLE [B] [M]

MAIN FLAP - INBD TRAILING EDGE FLAP
DETAIL VII

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 8 of 11)



SECTION THRU HONEYCOMB PANEL

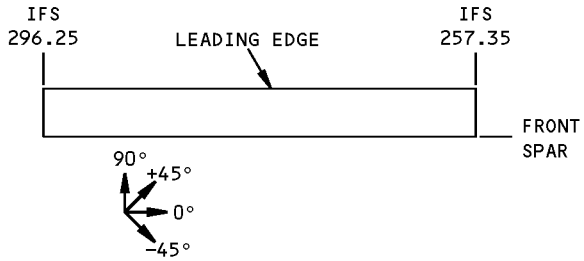


DIAGRAM OF PLY ORIENTATION

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1 (DETAIL III)	P2	[C]	+45°
	P3	[F]	-45°
	P15	[F]	-45°
	P16	[C]	+45°

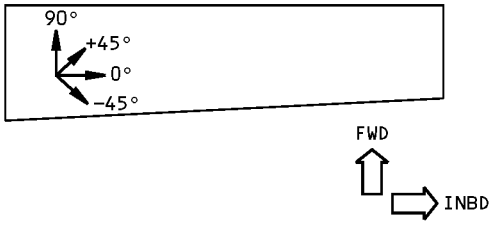
PLY TABLE [B] [L]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1 (DETAIL III)	P2	[G]	+45°
	P3	[F]	-45°
	P15	[F]	-45°
	P16	[C]	+45°

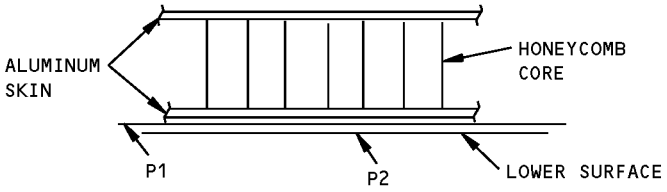
PLY TABLE [B] [M]

OUTBD TRAILING EDGE FLAP
DETAIL VIII

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 9 of 11)



PLY ORIENTATION DIAGRAM



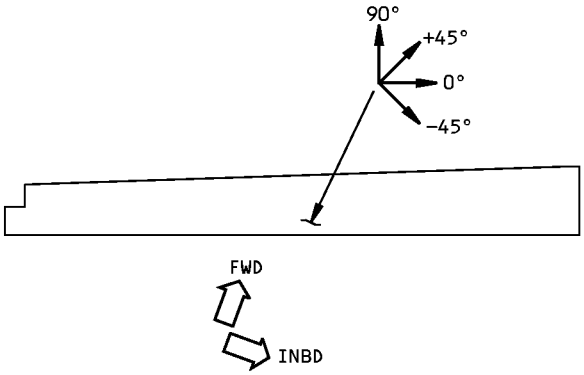
SECTION THRU HONEYCOMB TE WEDGE

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
9 (DETAIL II)	P1	[C]	OPTIONAL
	P2		

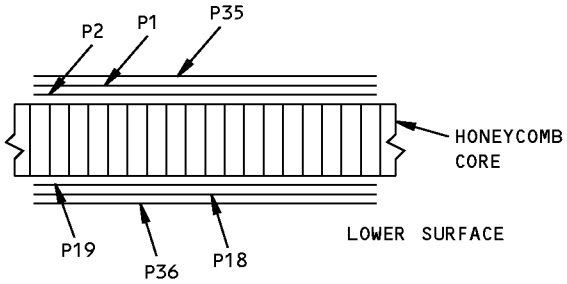
TABLE I [B]

AFT FLAP – INBD TRAILING EDGE FLAP
DETAIL IX

Trailing Edge Flap Skin Identification
Figure 1 (Sheet 10 of 11)



PLY ORIENTATION DIAGRAM



SECTION THRU HONEYCOMB TRAILING EDGE WEDGE

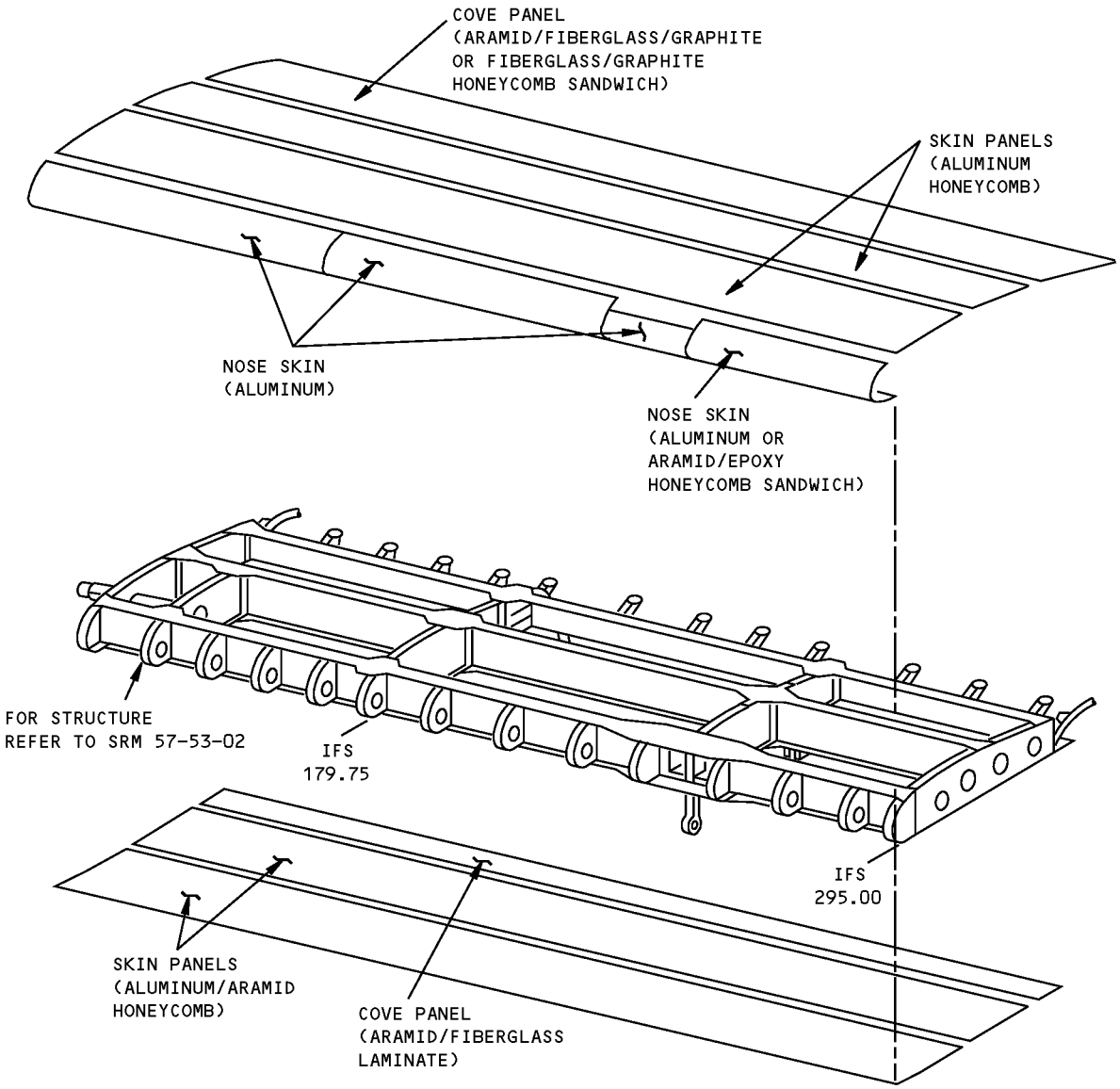
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P1,P18	[E] [N]	90°
		[G] [O]	
	P2,P19	[E] [N]	0°
		[G] [O]	
	P35	[E] [N]	0°
		[G] [O]	---
	P36	[E] [P]	90°
		[H] [Q]	---

PLY TABLE [B]

OUTBOARD TRAILING EDGE FLAP
DETAIL X

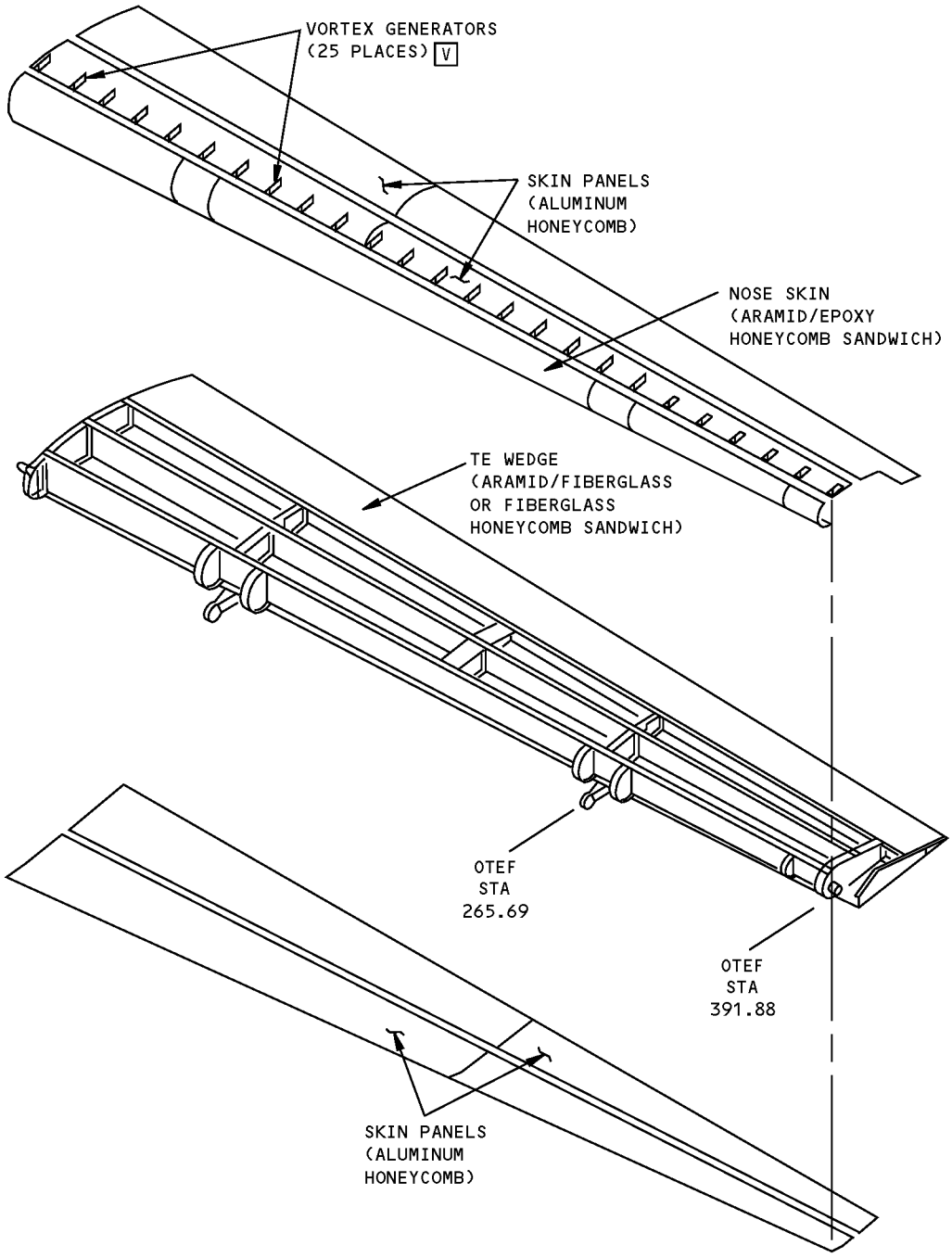
Trailing Edge Flap Skin Identification
Figure 1 (Sheet 11 of 11)

ALLOWABLE DAMAGE 1 - TRAILING EDGE FLAP SKIN



MAIN FLAP – INBD TRAILING EDGE FLAP

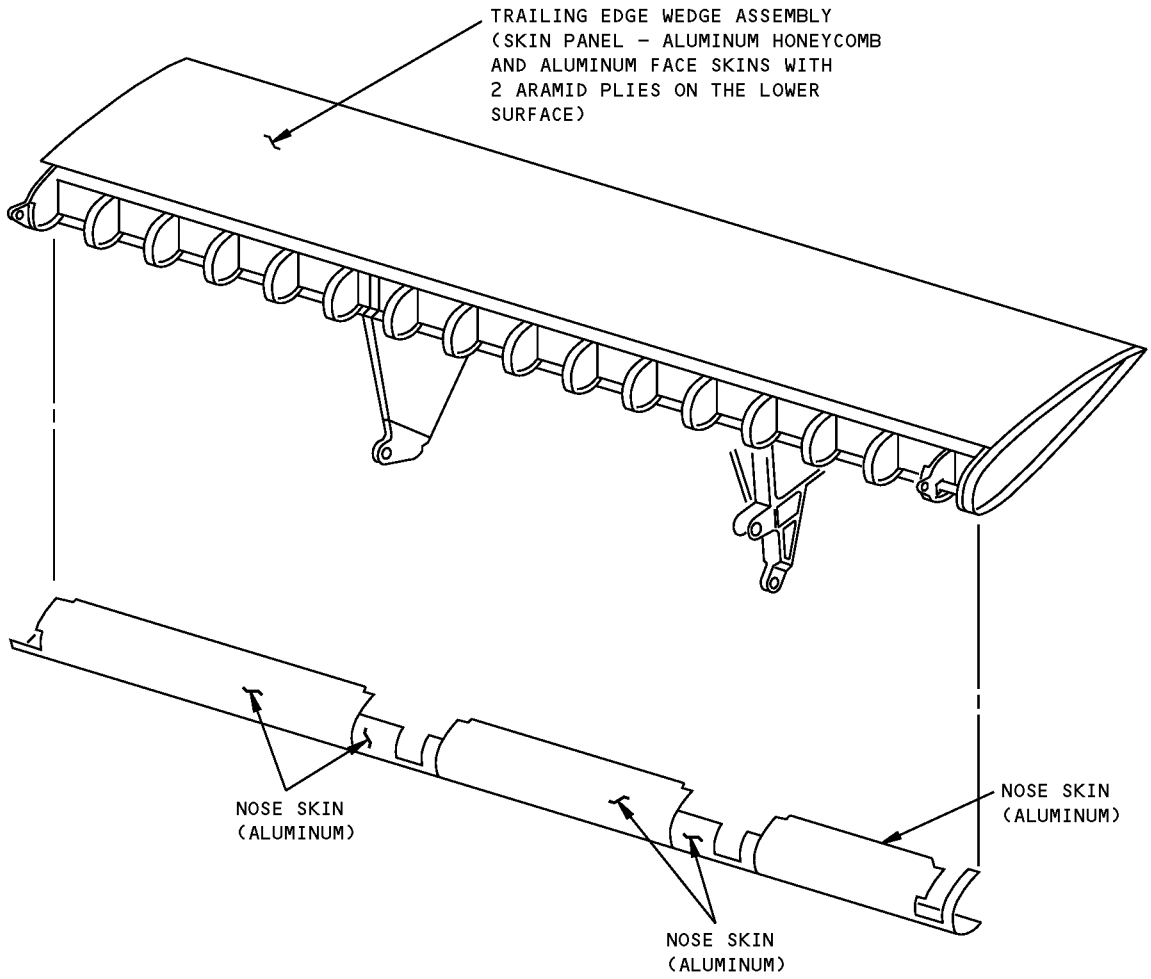
Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 1 of 9)



OUTBOARD TRAILING EDGE FLAP

Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 2 of 9)

REF DWG
113T2301



AFT FLAP – INBOARD TRAILING EDGE FLAP

Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 3 of 9)

DESCRIPTION	CRACKS	NICKS AND GOUGES	DENTS	HOLES AND PUNCTURES	DELAMINATION	NOSE SKIN WEAR DAMAGE
NOSE SKIN (ALUMINUM)	A	B	C	D	--	W
SKIN PANELS (ALUMINUM HONEYCOMB)	E	B	C	G	H	--
COVE PANELS COMPOSITE	I	J	K	L	M	--
NOSE SKIN (ARAMID/FIBERGLASS HONEYCOMB SANDWICH)	I	J	K	L	M	--
OUTBOARD TRAILING EDGE FLAP TRAILING EDGE WEDGE PANEL T	I	J	K	L	M	--
LOWER COVE PANEL	S	Q	K	Q	R	--

TABLE I

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS GIVEN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

A CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS I AND III.

B REMOVE DAMAGE AS GIVEN IN DETAILS I,II OR III. THE MAXIMUM PERMITTED DEPTH OF CLEANUP, AS SHOWN IN DETAIL II FOR REMOVAL OF NICK OR GOUGE DAMAGE ON A SURFACE, IS 10 PERCENT OF THE GAGE.

C SEE DETAIL IV. DENT DAMAGE IS PERMITTED IF THE DEPTH "Y" DOES NOT EXCEED 0.10 INCH (2.5 mm), A/Y IS NOT LESS THAN 30 AND THERE IS NO EVIDENCE OF PULLED OR LOOSE RIVETS, SHARPCREASES, GOUGES, SCRATCHES OR CRACKING. THE DIAMETER OF THE DENT MUST NOT BE GREATER THAN 6.0 INCHES (15 cm) AND MUST BE A MINIMUM OF 3.0 INCHES (7.5 cm) FROM ANY OTHER DENT OR EDGE. DENTS MORE THAN 3.0 INCHES (7.5 cm) AND LESS THAN 6.0 INCHES (15 cm) IN DIAMETER CAN BE FILLED. FOR DENTS THAT EXCEED THESE LIMITS, REFER TO SRM 51-70-01 FOR ALUMINUM NOSE SKIN AND SRM 51-70-10 FOR ALUMINUM HONEYCOMB SKIN PANELS.

D CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAXIMUM DIAMETER AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO A FASTENER HOLE OR OTHER DAMAGE. FILL HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

E 2.0 INCHES (50.8) MAX LENGTH IN THE HONEYCOMB AREA. STOP DRILL THE ENDS OF THE CRACK WITH A 0.25 INCH (6 mm) DIAMETER HOLE. CLEAN UP EDGE CRACKS AS GIVEN IN DETAILS I AND III. CRACKS THROUGH CONSECUTIVE FASTENERS OR THROUGH THE PANEL EDGEBAND ARE PERMITTED IF THE DAMAGE DOES NOT EXCEED 10% OF THE EDGEBAND LENGTH PER SIDE. PROTECT DAMAGE AS GIVEN IN F.

F REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT, OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT AT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF THE TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

G 0.25 INCH (6 mm) MAXIMUM DIAMETER IS PERMITTED IF THE DAMAGE IS A MINIMUM OF 3 D FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. U

H REMOVE EDGE DELAMINATION AS GIVEN IN DETAILS I OR III. 3.0 INCHES (7.5 cm) MAXIMUM DIAMETER IS PERMITTED IN OTHER AREAS IF THAT EDGE OF DELAMINATION IS A MINIMUM OF 3.0 (7.5 cm) INCHES FROM A FASTENER LOCATION OR 12.0 INCHES (30 cm) FROM ANY OTHER DELAMINATION.

Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 4 of 9)

NOTES (CONT)

[I] REMOVE EDGE CRACKS AS GIVEN IN DETAILS I OR III. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. 1.50 INCHES MAXIMUM DIAMETER IS PERMITTED FOR A SINGLE DAMAGE SITE IN HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 1.50. SEE DETAIL V FOR DAMAGE CRITERIA. PROTECT DAMAGE THAT IS NOT REWORKED AS GIVEN IN [N].

[J] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY IF THERE IS NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS I AND III. REFER TO [L] FOR FIBER DAMAGE IN OTHER AREAS.

[K] DENTS RESULT IN DELAMINATION AND FIBER DAMAGE AND MUST BE TREATED AS A HOLE OR PUNCTURE DAMAGE.

[L] 1.50 INCHES MAXIMUM DIAMETER IS PERMITTED FOR A SINGLE DAMAGE SITE IN THE HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 1.5. SEE DETAIL V FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. PROTECT DAMAGE THAT IS NOT REWORKED AS GIVEN IN [N].

[M] REMOVE EDGE DELAMINATION AS GIVEN IN DETAILS I OR III. 1.50 INCHES MAXIMUM DIAMETER IS PERMITTED FOR A SINGLE DAMAGE SITE IN HONEYCOMB AREA. MULTIPLE DAMGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 1.5. SEE DETAIL V FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. DO A REPAIR NO LATER THAN 1200 FLIGHTS AFTER THE DAMAGE.

[N] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR NO LATER THAN 1200 FLIGHTS AFTER THE DAMAGE.

[O] DAMAGE IS PERMITTED ON THE SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS I AND III. [U]

[P] DELETED

[Q] 0.50 INCH MAXIMUM DIAMETER IS PERMITTED IF THE DAMAGE IS A MINIMUM OF 3 D FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. [U]

[R] 1.00 INCH MAXIMUM DIAMETER IS PERMITTED IN THE HONEYCOMB AREA. A MAXIMUM OF 0.03 INCH DELAMINATION FROM EDGE IS PERMITTED. [F]

[S] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS, WHICH MUST BE REMOVED AS GIVEN IN DETAILS I AND III. [F]

[T] INSPECTION OF DAMAGE AREA AS GIVEN IN DETAIL V IS REQUIRED FOR FORWARD ONE-THIRD OF WEDGE ONLY.

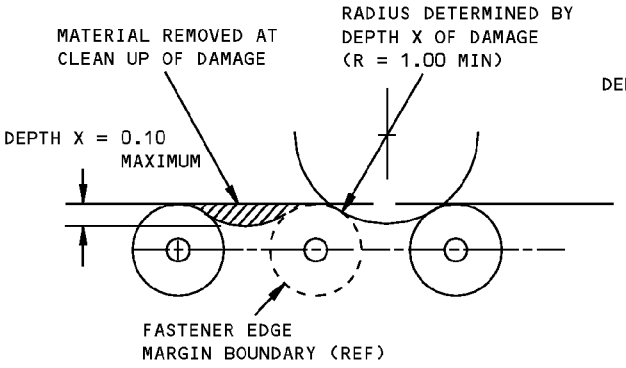
[U] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "2A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

[V] REFER TO THE 767 AIRPLANE FLIGHT MANUAL, APPENDIX CDL, FOR OPERATIONAL LIMITS ON MISSING VORTEX GENERATORS.

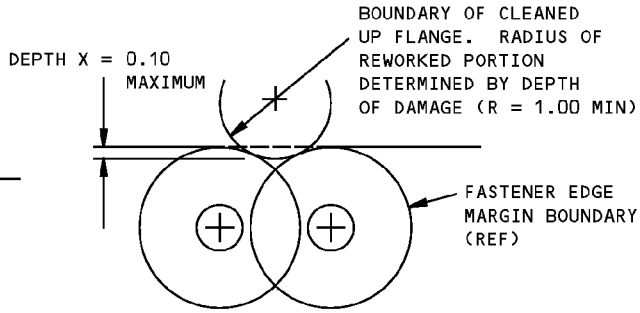
[W] IF THE DAMAGE IS INSIDE THE 4-INCH AREA THAT IS SHOWN IN DETAIL VI, THEN THESE PROCEDURES ARE APPLICABLE:

- REMOVE THE DAMAGE AND DO THE CLEANUP AS SHOWN IN DETAIL II.
- MEASURE THE THICKNESS OF THE SKIN. THE MINIMUM PERMITTED SKIN THICKNESS, AFTER THE CLEANUP, IS 0.032 INCH. IF THE SKIN THICKNESS IS LESS THAN 0.032 INCH, THE AIRPLANE IS PERMITTED TO OPERATE IF:
  1. THERE ARE NO CRACKS AND,
  2. THE DAMAGED AREA IS INSPECTED EVERY "A" CHECK FOR CRACKS AND THE NOSE SKIN IS REPLACED AT THE NEXT "C" CHECK
- LOOK FOR CRACKS. CRACKS ARE NOT PERMITTED. DO A PENETRANT INSPECTION AFTER THE CLEANUP. REFER TO SOPM 20-20-02 FOR THE PENETRANT INSPECTION METHODS.
- FILL THE DAMAGED AREA WITH BMS 5-28, TYPE 3 POTTING COMPOUND. REFER TO SRM 51-70-01. APPLY THE POTTING COMPOUND TO REPLACE THE INITIAL CONTOUR OF THE SKIN. MAKE THE FINISH SMOOTH.
- FOR AFT FLAP NOSE SKIN WEAR, ADJUST THE COVE PANEL BULB SEAL TO GET THE CLEARANCES THAT ARE SHOWN IN THE AIRPLANE MAINTENANCE MANUAL. REFER TO AMM 27-51-06, FIGURE 204.
- FOR MAIN FLAP NOSE SKIN WEAR, ADJUST THE THE WING FIXED TRAILING EDGE PANEL BULB SEAL TO GET THE CLEARANCES THAT ARE SHOWN IN THE AIRPLANE MAINTENANCE MANUAL. REFER TO AMM 27-51-03, FIGURE 404.

Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 5 of 9)

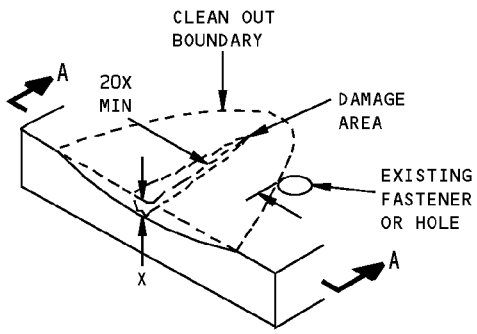


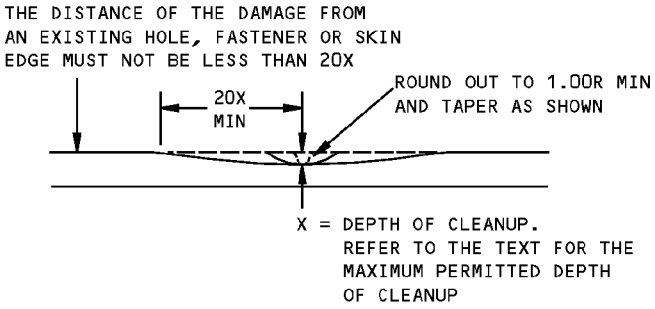
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

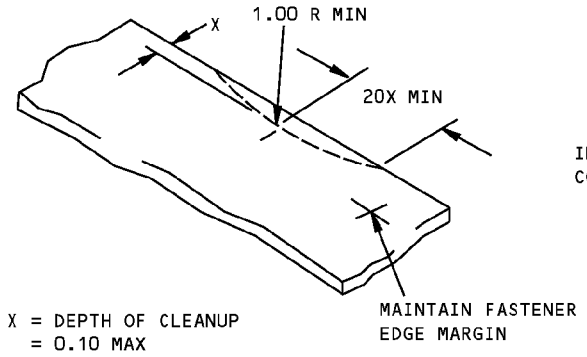
DETAIL I



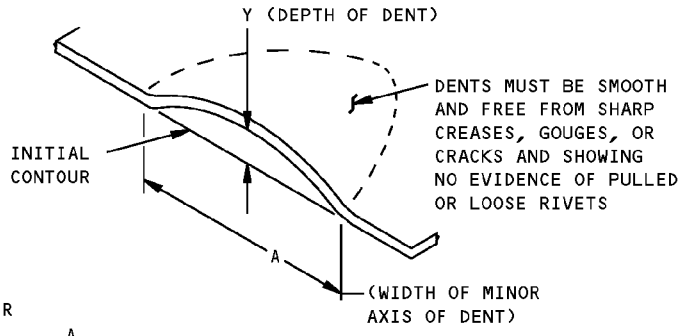


SECTION A–A

REMOVAL OF NICK OR GOUGE DAMAGE ON A SURFACE
DETAIL II

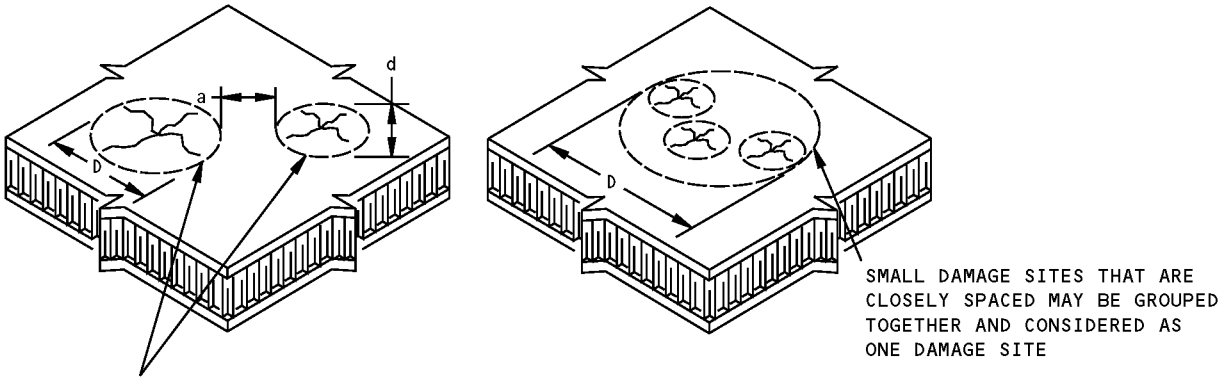


REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL III



ALLOWABLE DAMAGE FOR DENT
DETAIL IV

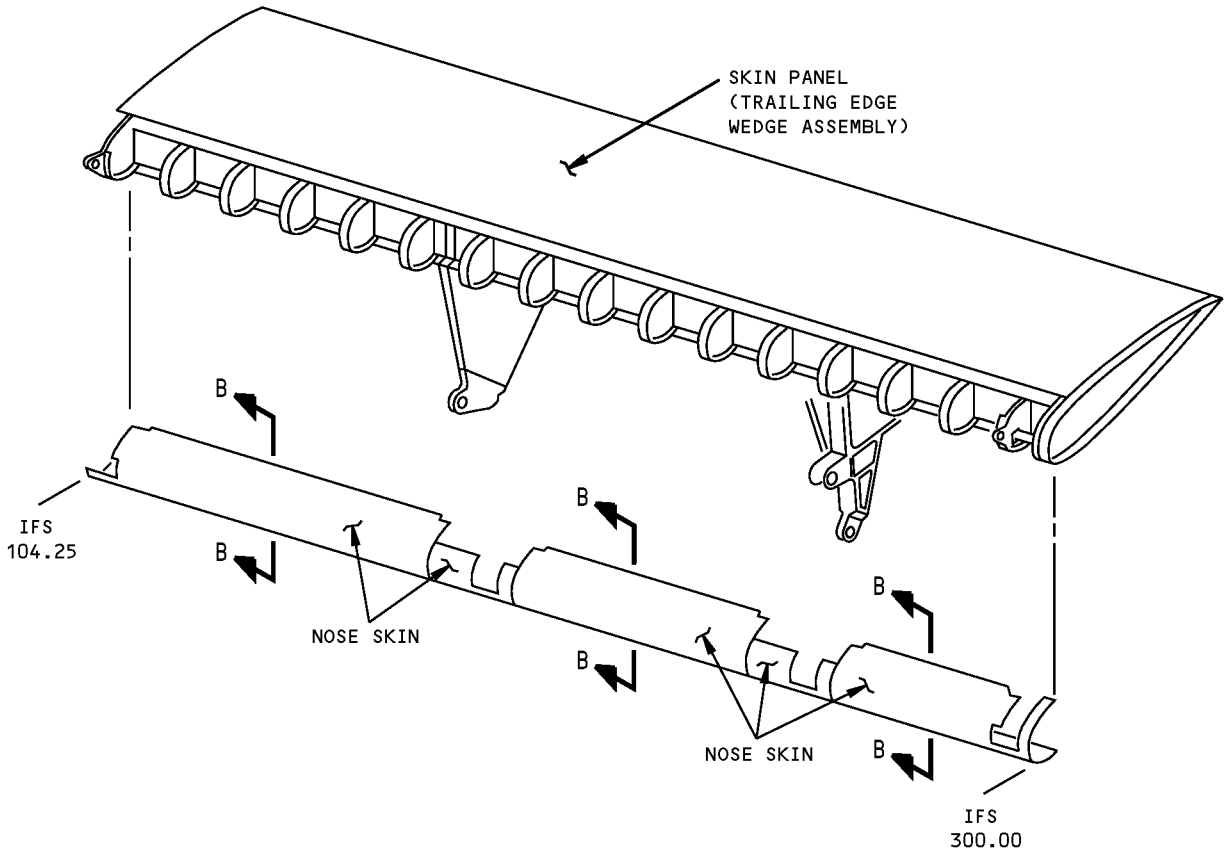
Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 6 of 9)

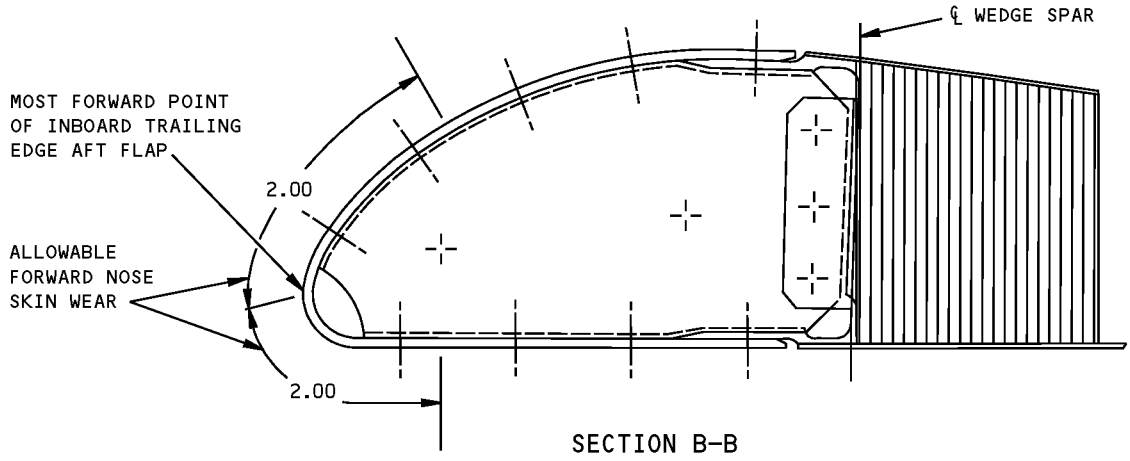


- DAMAGE TO COMPOSITE PANELS EXPOSED TO MULTIPLE IMPACTS, I.E., HAIL DAMAGE, CAN BE DETECTED BY USING INSTRUMENTED NON-DESTRUCTIVE INSPECTION METHODS OR BY TAPPING THE SUSPECTED DAMAGE AREA WITH A SMALL METALLIC DISK OBJECT. INSPECTION SHOULD COVER THE AREA WITHIN 3 DIAMETERS AROUND THE EDGE OF THE VISIBLE DAMAGE SITE. FOR TAP TEST, USE A SOLID METAL DISK AND TAP THE DAMAGE AREA LIGHTLY BUT FIRMLY. VOID AREAS SHOULD PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA.
- DAMAGE SITE IS ANY SINGLE AREA OF A PANEL WHERE A DENT, CRACK, DELAMINATION, PUNCTURE OR ANY COMBINATION OF THESE EXIST. SMALL DAMAGE SITES THAT ARE CLOSELY SPACED MAY BE GROUPED TOGETHER AND CONSIDERED AS ONE DAMAGE SITE
- "D" IS DETERMINED BY MEASURING THE DIAMETER OF A CIRCLE DRAWN AROUND DENT, CRACK, OR OTHER DAMAGE, WHICHEVER IS GREATER
- "a" IS THE DISTANCE BETWEEN TWO ADJACENT DAMAGE SITES
- "d" IS THE DIAMETER OF THE SMALLER OF TWO ADJACENT DAMAGE SITES
- CALCULATE a/D BY DIVIDING DISTANCE "a" BY DIAMETER "D"
- DAMAGE IS ALLOWED WHEN "D" IS EQUAL TO OR LESS THAN THE MAXIMUM ALLOWABLE "D" FROM TABLE I AND WHEN a/D IS EQUAL TO OR GREATER THAN THE MINIMUM a/D GIVEN IN TABLE I

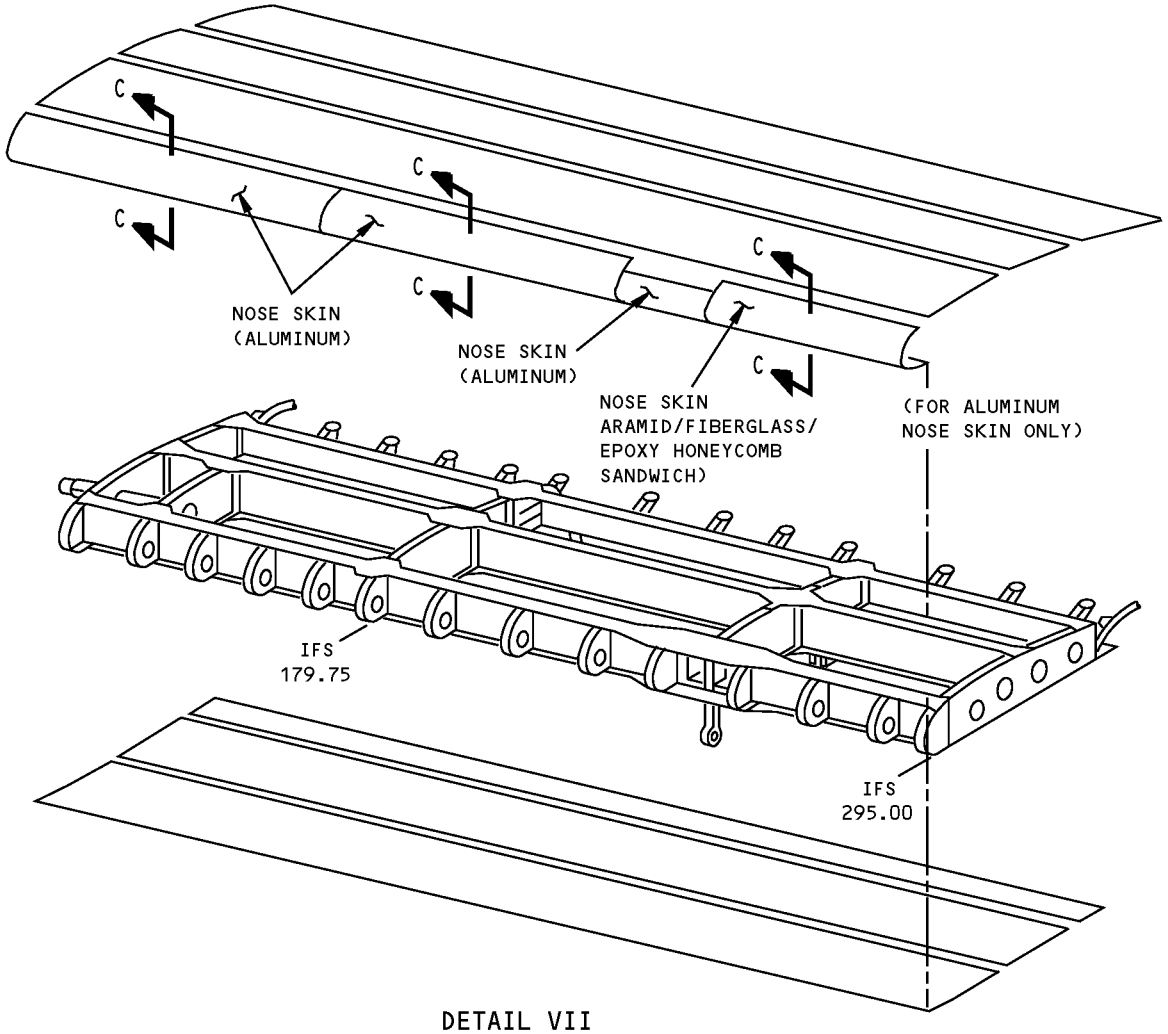
DAMAGE SIZING AND SPACING DATA
FOR COMPOSITE PANELS
DETAIL V

Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 7 of 9)



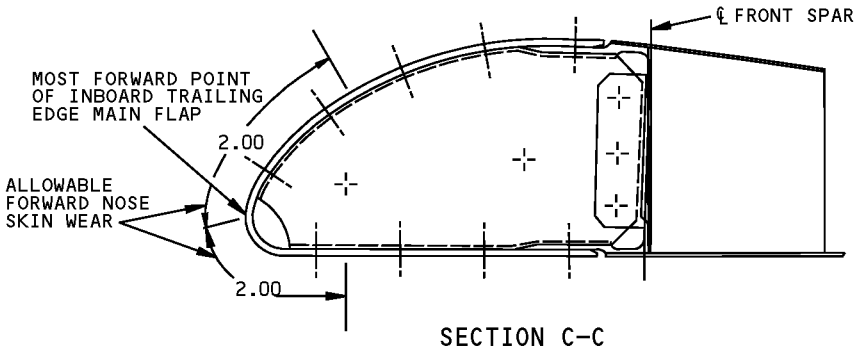


Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 8 of 9)



DETAIL VII

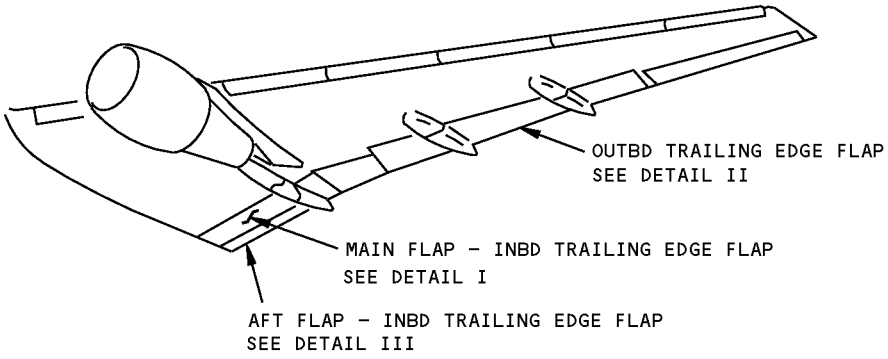
MAIN FLAP - INBOARD TRAILING EDGE FLAP



SECTION C-C

Trailing Edge Flap Skins Allowable Damage
Figure 101 (Sheet 9 of 9)

REPAIR 1 - WING TRAILING EDGE FLAP SKIN



NOTES

- WHEN YOU USE THIS REPAIR REFER TO:
  - AMM 51-20 FOR FINISHES.
  - SRM 51-10-01 FOR THE AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE REPAIR EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01 CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

[A] REFER TO SRM 51-70-03 FOR REPAIRS TO ARAMID PLIES USED FOR DEBRIS PROTECTION OF ALUMINUM HONEYCOMB PANELS. EXTRA REPAIR PLIES ARE NOT REQUIRED.

[B] MINIMUM SPACING (EDGE TO EDGE), 6 INCHES (15 cm) BETWEEN REPAIRS.

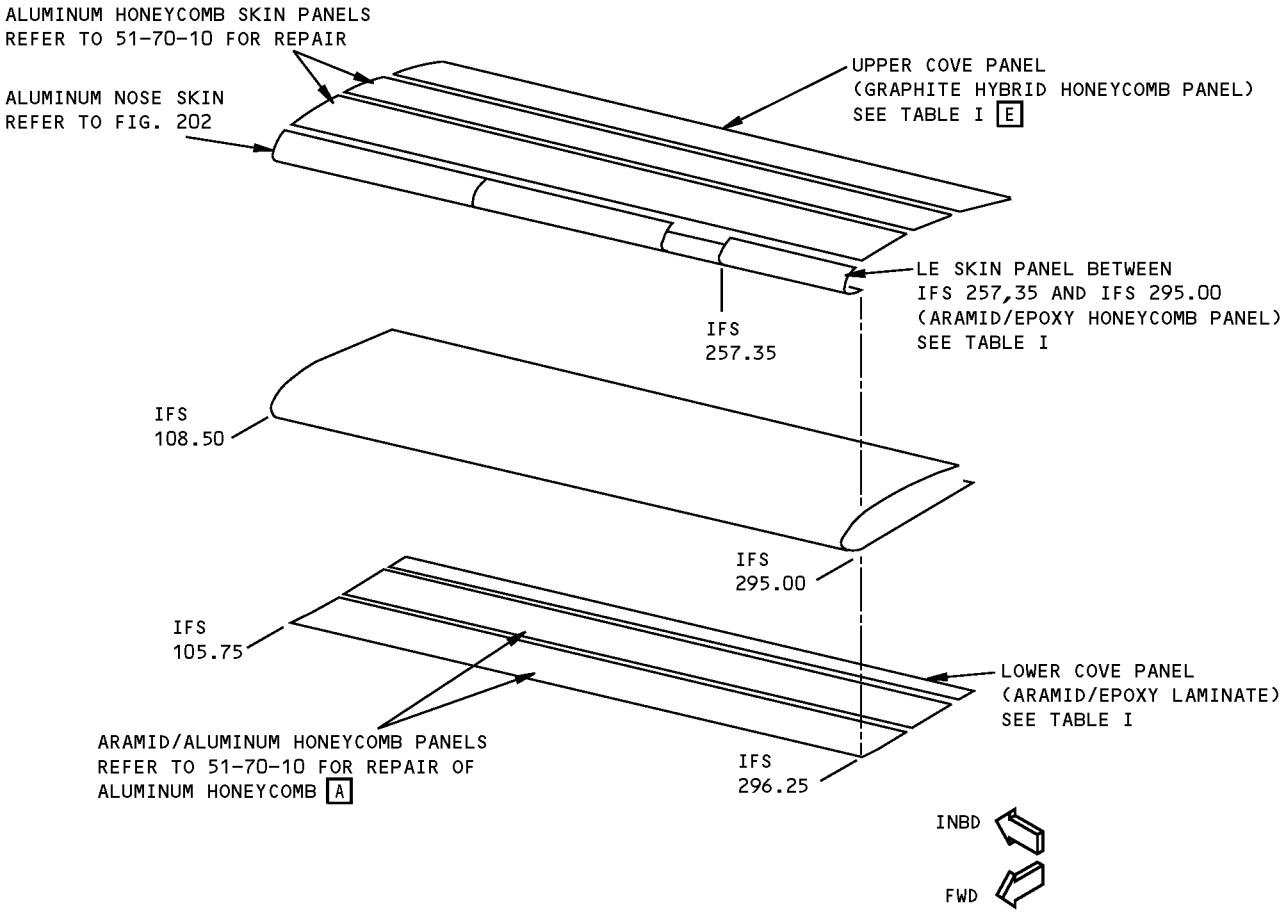
[C] LIMITED TO REPAIR OF DAMAGE TO ONE FACE-SHEET SKIN AND HONEYCOMB CORE. INSPECT INTERIM REPAIR EVERY AIRPLANE "C" CHECK. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. INTERIM REPAIRS HAVE FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS CONTAINED HEREIN.

[D] WHERE BMS 5-95 SEALANT IS APPLIED ON EXTERIOR SURFACE OF PANEL AT MANUFACTURE, REAPPLY BMS 5-95 SEALANT ON REWORKED AREAS PRIOR TO THE APPLICATION OF ENAMEL FINISH. REFER TO AMM 51-21-12.

[E] FOR INCREASED REPAIR SIZES USING 200°F WET LAY UP AS GIVEN IN SRM 51-70-17 SEE SERVICE BULLETIN 767-57-0062.

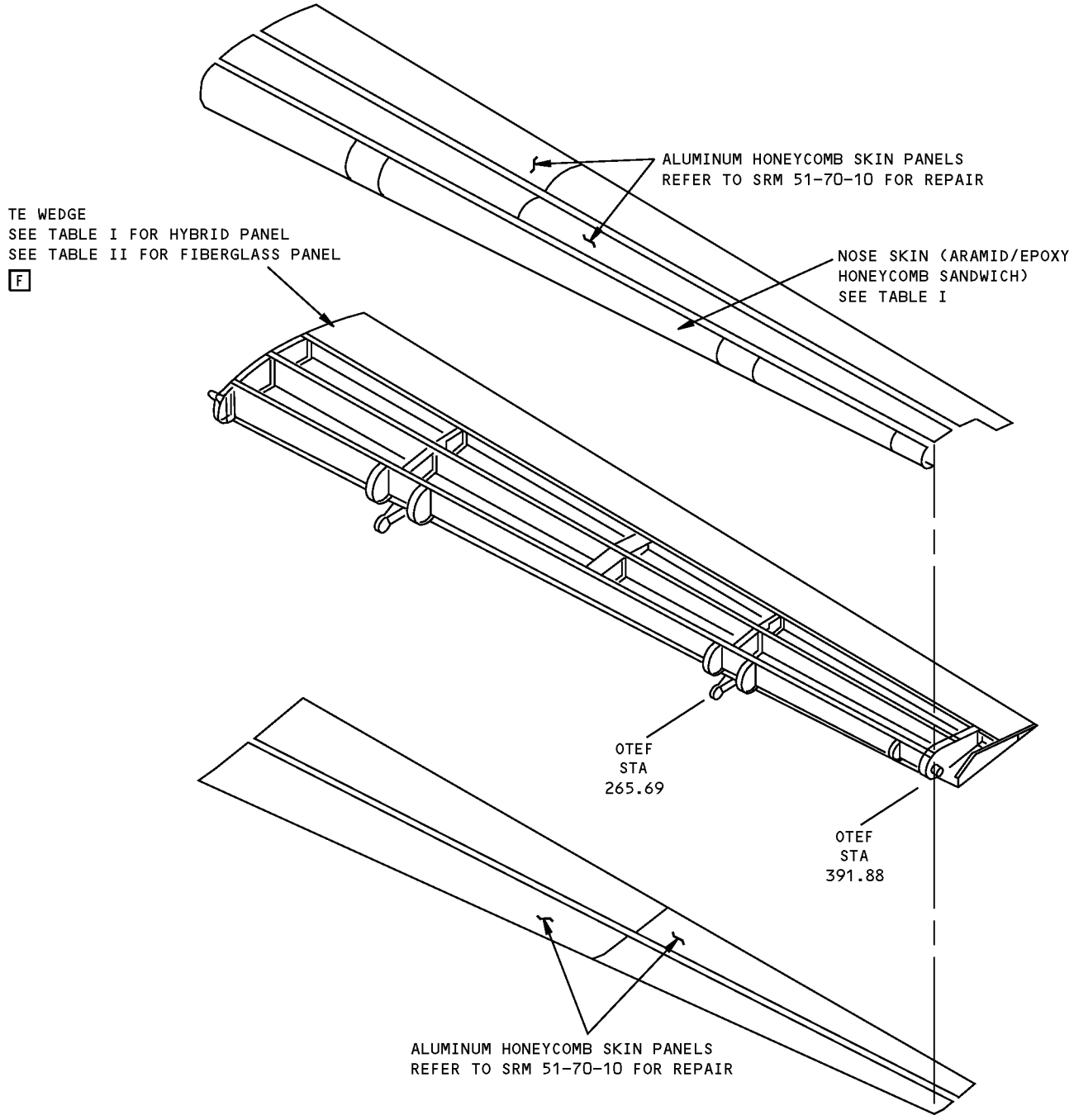
[F] FOR INCREASED REPAIR SIZES USING 200°F WET LAY UP AS GIVEN IN SRM 51-70-17 SEE SERVICE BULLETIN 767-57-0061.

Wing Trailing Edge Flap Skin Repair
Figure 201 (Sheet 1 of 6)



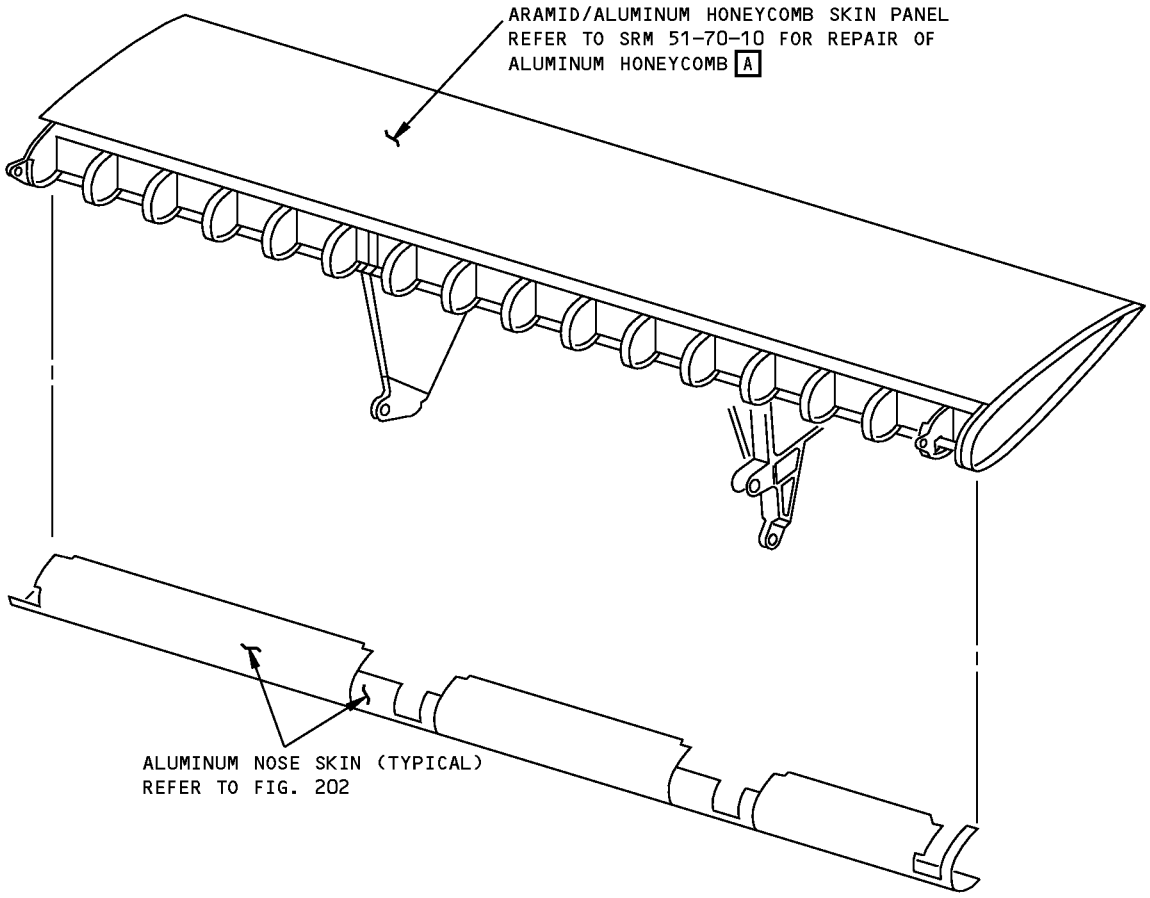
MAIN FLAP - INBOARD TRAILING EDGE FLAP
DETAIL I

Wing Trailing Edge Flap Skin Repair
Figure 201 (Sheet 2 of 6)



OUTBOARD TRAILING EDGE FLAP
DETAIL II

Wing Trailing Edge Flap Skin Repair
Figure 201 (Sheet 3 of 6)



AFT FLAP - INBOARD TRAILING EDGE FLAP
DETAIL III

Wing Trailing Edge Flap Skin Repair
Figure 201 (Sheet 4 of 6)

DAMAGE	INTERIM REPAIRS [C]	PERMANENT REPAIRS		
	WET LAYUP ROOM TEMP/150°F (66°C) CURE (SRM 51-70-03) [B]	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03) [B]	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05)
CRACKS	UP TO 4.0 INCHES (100 mm) LONG, REPAIR WITH PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.N	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (100 mm) MAXIMUM DIAMETER NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.N	8.0 INCHES (200 mm) MAXIMUM DIAMETER NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES AS GIVEN IN FACESHEET REPAIRED	16.0 INCHES (400 mm) MAXIMUM DIAMETER NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES AS GIVEN IN FACESHEET REPAIRED [E] [F]	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS GIVEN IN SRM 51-70-03 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE			
DENTS	UP TO 4.0 INCHES (100 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. OVER 4.0 INCHES (100 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE			

REPAIR DATA FOR 250°F (121°C) CURE ARAMID/GRAPHITE/FIBERGLASS HONEYCOMB PANELS [D]
TABLE I

Wing Trailing Edge Flap Skin Repair
Figure 201 (Sheet 5 of 6)

DAMAGE	INTERIM REPAIRS [C]	PERMANENT REPAIRS		
	WET LAYUP ROOM TEMP/150°F (66°C) CURE (SRM 51-70-06) [B]	WET LAYUP 150°F (66°C) CURE (SRM 51-70-06) [B]	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-07)
CRACKS	UP TO 4.0 INCHES (100 mm) LONG, REPAIR WITH PATCH AS GIVEN IN SRM 51-70-06, PAR. 5.N	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE	CLEAN UP DAMAGE AND REPAIR AS HOLE
HOLES	4.0 INCHES (100 mm) MAX DIA NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-06, PAR. 5.N	8.0 INCES (200 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES AS GIVEN IN FACESHEET REPAIRED	16.0 INCES (400 mm) MAX DIA NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES AS GIVEN IN FACESHEET REPAIRED [F]	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS SHOWN IN SRM 51-70-06 IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE			
DENTS	UP TO 4.0 INCHES (100 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-06, PAR. 5.L OVER 4.0 INCHES (100 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS HOLE			

REPAIR DATA FOR 250°F (121°C) CURE FIBERGLASS HONEYCOMB PANELS
TABLE II

Wing Trailing Edge Flap Skin Repair
Figure 201 (Sheet 6 of 6)

REPAIR 2 - TRAILING EDGE FLAP - ALUMINUM NOSE SKIN

REPAIR INSTRUCTIONS

1. Cut out damaged portion of skin in a rectangular shape with the major axis parallel to wing spar. Round corners to 0.5 inch (12.7 mm) radius.
2. Make repair parts. Form to contour of skin.
3. Locate, drill, and countersink the fastener holes.
4. Remove all nicks, burrs, scratches, and sharp edges from original and repair parts.
5. Alodize the repair parts.
6. Apply one coat of BMS 10-11 primer to surfaces of repair parts.
7. Fit doublers and straps through the rectangular hole. Apply a faying surface seal with BMS 5-95 to all mating surfaces. Install BACR15CE(5)D fasteners wet with BMS 5-95.
8. Fit repair plate onto doublers. Use a faying surface seal with BMS 5-95 and NAS1739E5 rivets.
9. Fill gaps between skin and repair plate with BMS 5-79.
10. Restore original finish.

NOTES

- REFER TO THE FOLLOWING WHEN MAKING THIS REPAIR:
  - SRM 51-10-02 FOR THE INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-10-01 FOR THE AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE REPAIR EXCEEDS THE LIMITS, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED
  - SRM 51-20-05 FOR THE SEALING OF REPAIRS
  - SRM 51-20-01 FOR THE PROTECTIVE TREATMENT OF METAL
  - SRM 51-40-00 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES, AND EDGE MARGINS.

[A] FOR REPAIR PLATE, USE SAME GAGE AS ORIGINAL SKIN. FOR DOUBLERS AND STRAPS, USE NEXT THICKER GAGE. ORIGINAL SKIN THICKNESS MUST BE MEASURED IN CHEM-MILLED AREAS.

[B] DO NOT COUNTERSINK MORE THAN 70% OF SHEET THICKNESS TO PREVENT KNIFE-EDGING OF SKIN.

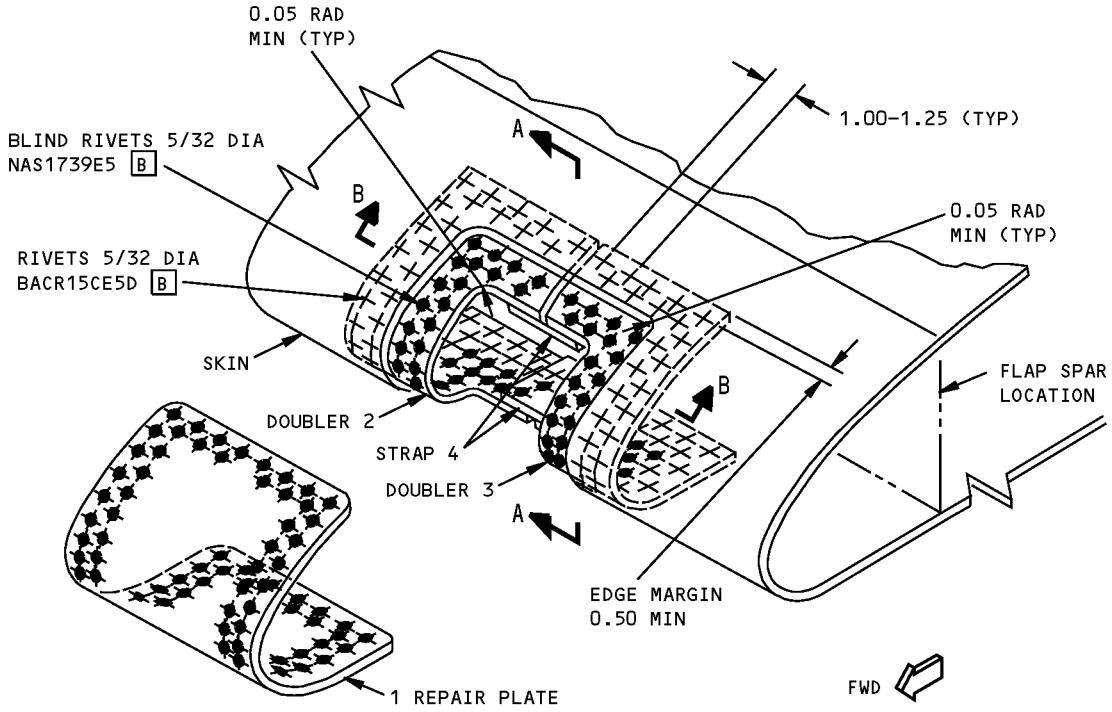
SYMBOLS

BLIND RIVET REPAIR FASTENERS

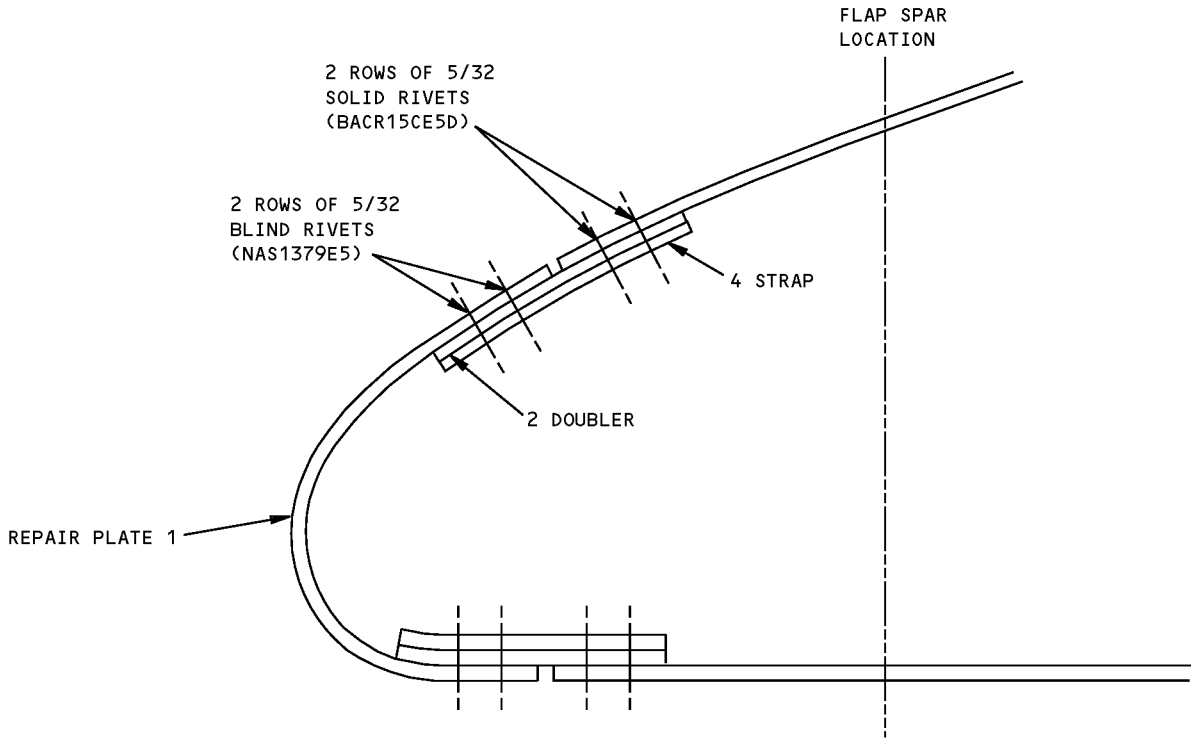
SOLID RIVET REPAIR FASTENERS

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	REPAIR PLATE	1	2024-T3 [A]
2	DOUBLER	1	0.071 CLAD 2024-T3
3	DOUBLER	1	0.071 CLAD 2024-T3
4	STRAP	2	0.071 CLAD 2024-T3

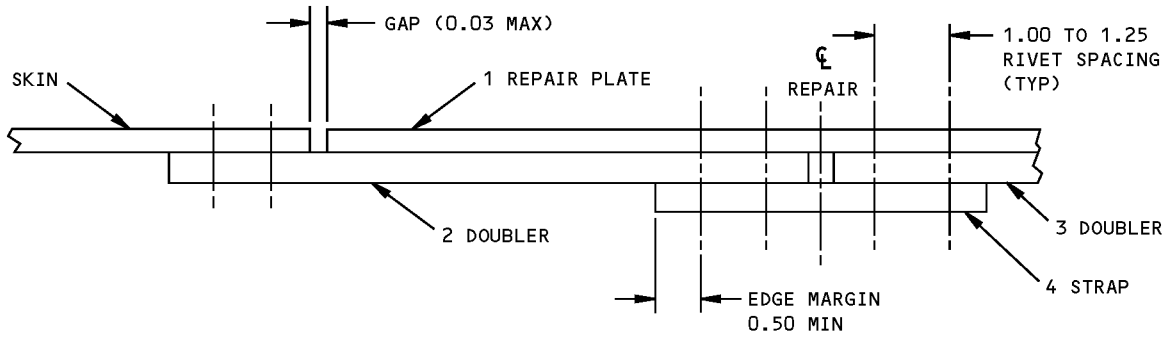
Trailing Edge Flap Nose Skin Repair - Aluminum
Figure 201 (Sheet 1 of 3)



Trailing Edge Flap Nose Skin Repair - Aluminum
Figure 201 (Sheet 2 of 3)



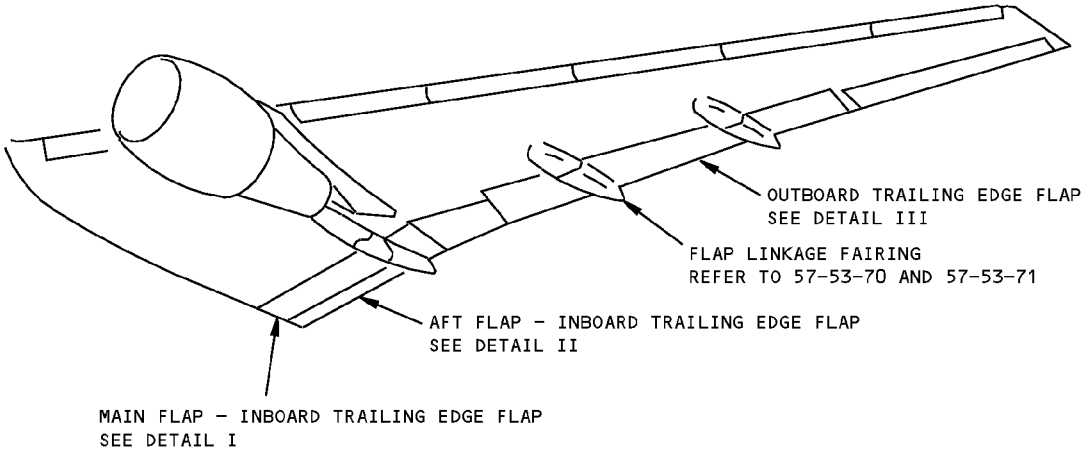
SECTION A-A



SECTION B-B

Trailing Edge Flap Nose Skin Repair - Aluminum
Figure 201 (Sheet 3 of 3)

IDENTIFICATION 1 - TRAILING EDGE FLAP STRUCTURE



NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION

[B] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGE BANDS AND AREAS WITH DOUBLERS

[C] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 285, 250°F (121°C) CURE

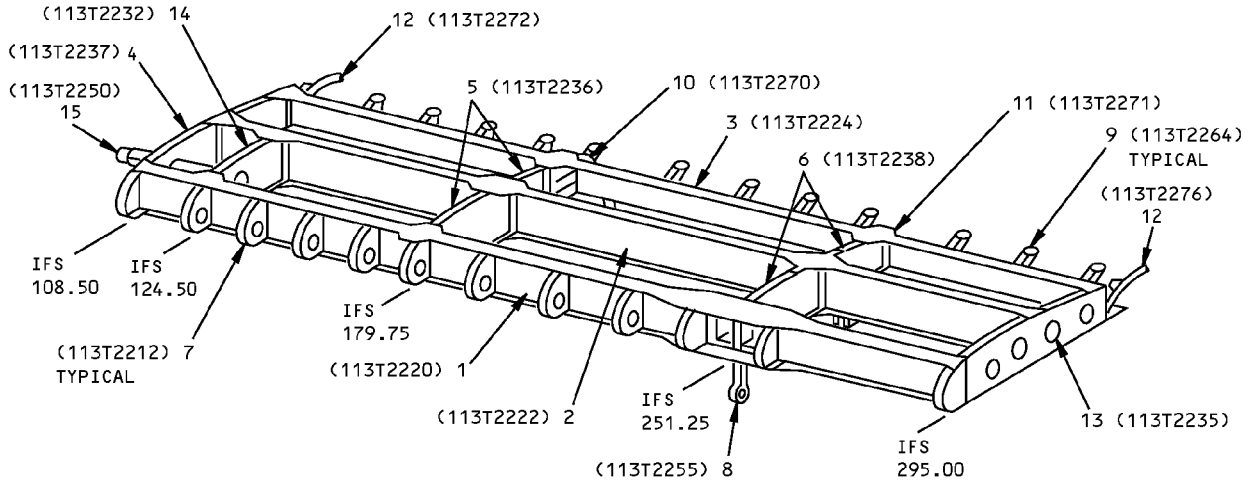
[D] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, TYPE 120, CLASS III, GRADE 1, 250°F (121°C) CURE

[E] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 120, 250°F (121°C) CURE

[F] FOR ALL EXTENDED RANGE AIRPLANES, AND AIRPLANES WITH IMPROVED TAKEOFF AND LANDING PROVISIONS

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 1 of 9)

REF DWG
113T2201



MAIN FLAP – INBOARD TRAILING EDGE FLAP

DETAIL I

LIST OF MATL

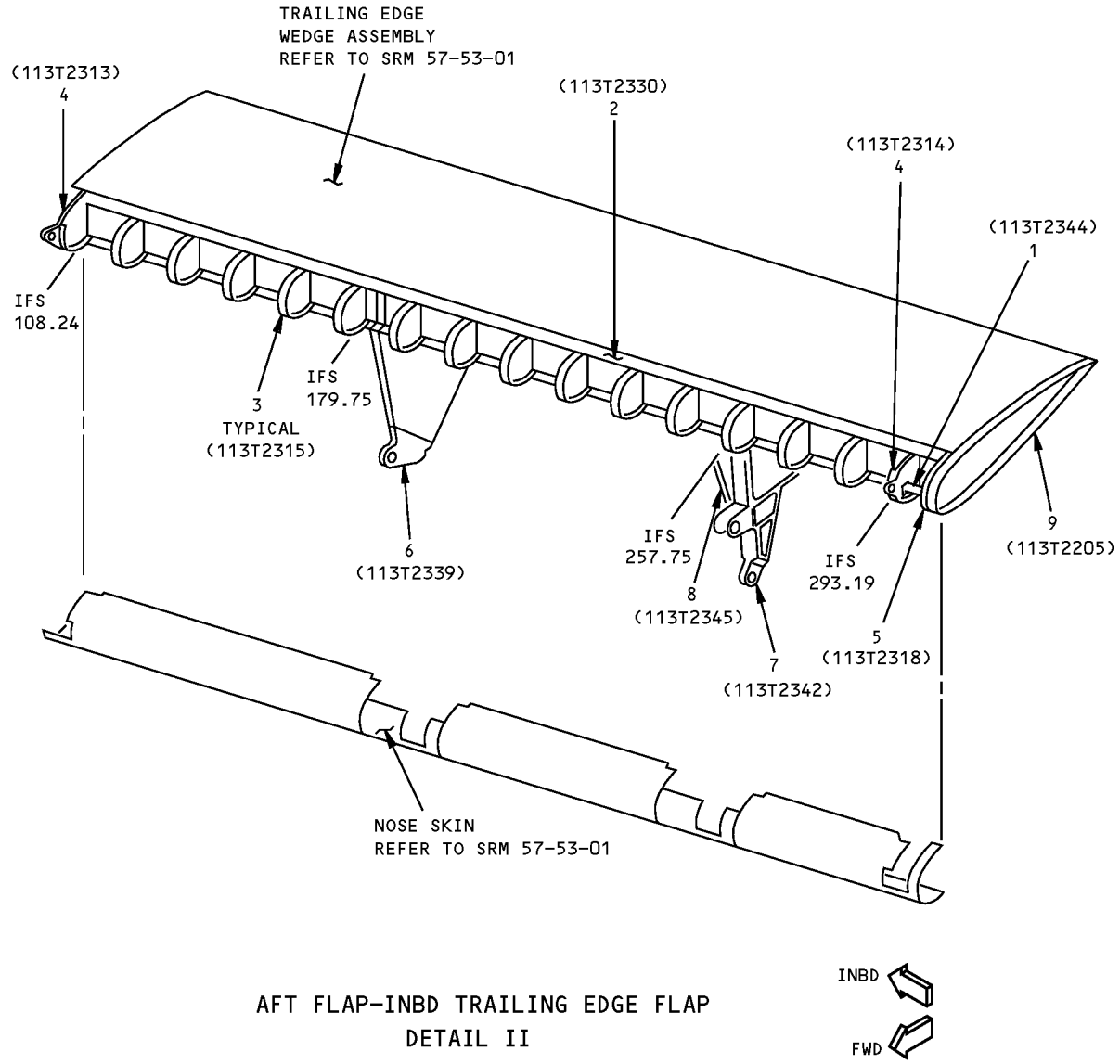
Trailing Edge Flap Structure Identification
Figure 1 (Sheet 2 of 9)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FRONT SPAR ASSEMBLY			
	WEB	0.063	2024-T3	
	UPPER CHORD		BAC1510-1035 2024-T3511	
			OPTIONAL: BAC1514-2600 2024-T3511	
	LOWER CHORD		BAC1509-100527 2024-T3511	
			OPTIONAL: BAC1503-100676 2024-T3511	
2	MID SPAR ASSEMBLY			
	WEB	0.063	2024-T3	
	UPPER FORWARD CHORD		BAC1509-100522 2024-T3511	
			OPTIONAL: BAC1503-100677 2024-T3511	
	UPPER AFT CHORD		BAC1510-1134 2024-T3511	
			OPTIONAL: BAC1503-100677 2024-T3511	
	LOWER CHORD		BAC1518-896 2024-T3511	
			OPTIONAL: BAC1505-101216 2024-T3511	
3	REAR SPAR ASSEMBLY			
	WEB	0.063	2024-T3	
	UPPER CHORD		BAC1518-897 2024-T3511	
			OPTIONAL: BAC1506-3322 2024-T3511	
	LOWER CHORD		BAC1518-898 2024-T3511	
			OPTIONAL: BAC1505-100090 2024-T3511	
4	INBOARD END RIB		FORGING 7075-T73	
5	HINGE SUPPORT RIB ASSEMBLY			
	FORWARD RIB		FORGING 7075-T73	
	AFT RIB		FORGING 7075-T73	
6	SUPPORT RIB		FORGING 7075-T73	
7	NOSE RIB	0.063	CLAD 2024-T42	
8	FITTING		FORGING 7075-T73	
9	STRUT		BAR 7075-T73511	
10	INBOARD HINGE FITTING		FORGING 7075-T73	
11	OUTBOARD HINGE FITTING		FORGING 7075-T73	
12	TRACK		4340M STEEL BAR AS GIVEN IN BMS 7-76 HT TR 275-300 KSI	
13	OUTBOARD END RIB	0.800	7075-T62	
14	SUPPORT RIB		FORGING 7075-T73	
15	TORQUE TUBE		TUBE 4.70 OD X 1.20 WALL 4330M	
			OPTIONAL: 5.00 OD X 1.20 WALL 4330M	
			HT-TR 220-240 KSI	

LIST OF MATERIALS FOR DETAIL I

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 3 of 9)

REF DWG
113T2301



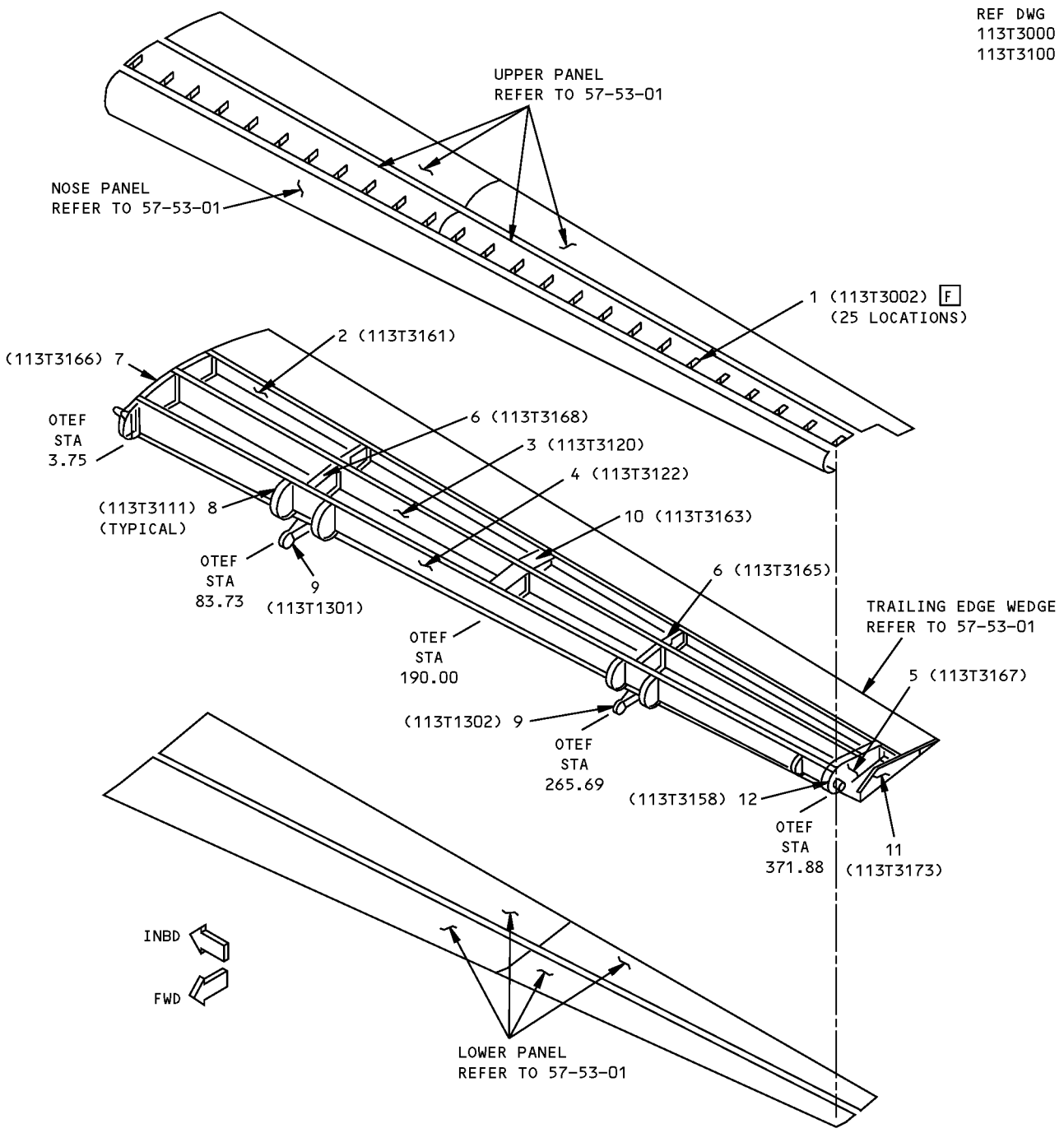
AFT FLAP-INBD TRAILING EDGE FLAP
DETAIL II

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 4 of 9)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FAIRING SUPPORT		FORGING 7075-T73	
2	WEDGE SPAR		BAR 2024-T3511	
3	NOSE RIB	0.063	CLAD 2024-T42	
4	END RIB		FORGING 7075-T73	
5	AUXILIARY RIB		FIBERGLASS/EPOXY LAMINATE AS GIVEN IN BMS 8-79, TYPE 1581, OPTIONAL: TYPE 7781, 250°F (121°C) CURE	
6	INBOARD HINGE ASSY HINGE FITTING SIDE SKIN NOSE SKIN		 FORGING 7075-T73 SEE DETAIL IV FIBERGLASS/EPOXY LAMINATE (6 PLIES) AS GIVEN IN BMS 8-79, TYPE 1581, CLASS III, GRADE 1, 250°F (121°C) CURE	
7	OUTBOARD HINGE FITTING		FORGING 7075-T73	
8	SIDE STRUT		BAR 7075-T73511	
9	CLOSURE RIB ASSEMBLY SKIN RIB		ARAMID/FIBERGLASS/EPOXY LAMINATE SEE DETAIL V SEE DETAIL VI	

LIST OF MATERIALS FOR DETAIL II

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 5 of 9)



OUTBOARD TRAILING EDGE FLAP
DETAIL III

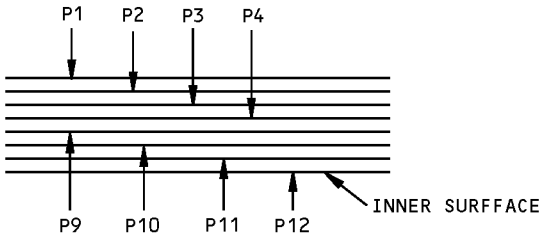
LIST OF MATL

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 6 of 9)

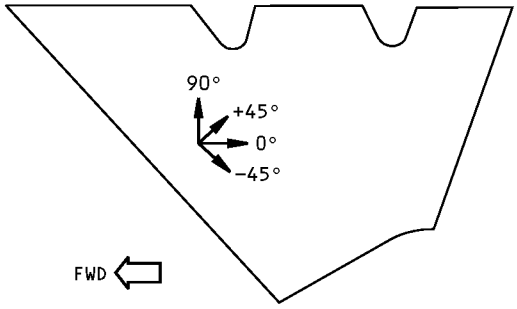
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	VORTEX GENERATOR		AND10133-1001 2024-T3511 OPTIONAL: 7075-T6511	F
2	WEDGE SPAR		BAC1509-100458 2024-T3511	
3	MID SPAR			
	WEB	0.050	2024-T3	
	UPR CHORD		BAC1518-899 7075-T73511 OPTIONAL: BAC1505-101190 7075-T73511	
	LWR CHORD (FWD AND AFT)		BAC1509-100523 2024-T3511 OPTIONAL: BAC1503-100650 2024-T3511	
4	FRONT SPAR			
	WEB	0.050	2024-T3	
	UPR CHORD		BAC1510-1136 7075-T73511 OPTIONAL: BAC1503-100651 7075-T73511	
	LWR CHORD		BAC1509-100524 2024-T3511 OPTIONAL: BAC1503-100649 2024-T3511	
5	OUTBD END RIB		FORGING 7075-T73	
6	SUPPORT RIB			
	FWD RIB		FORGING 7075-T73	
	AFT RIB		FORGING 7075-T73	
7	INBD END RIB		FORGING 7075-T73	
8	NOSE RIB	0.063	7075-T62	
9	HINGE FITTING ASSY			
	OUTER ELEMENT		FORGING TI-10V-2FE-3AL	
	INNER ELEMENT		FORGING TI-6AL-4V	
10	SPLICE RIB		FORGING 7075-T73	
11	CLOSURE END RIB	0.063	7075-T62	
12	END NOSE RIB		CASTING A357-T61	

LIST OF MATERIALS FOR DETAIL III

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 7 of 9)



INBD HINGE-SIDE SKIN BOND LAYUP



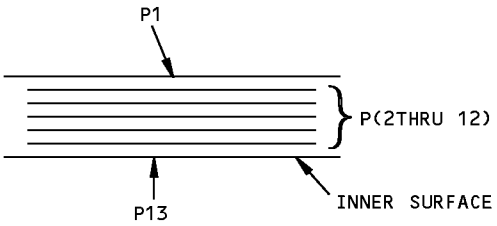
PLY ORIENTATION DIAGRAM

ITEM NO.	PLY NO.	MATERIAL	PLY [A] ORIENTATION
6	P1	[D]	NOT REQUIRED
	P2	[E]	0°
	P3	[C]	0°
	P4	[C]	45°
	P9	[C]	45°
	P10	[C]	0°
	P11	[E]	0°
	P12	[D]	NOT REQUIRED

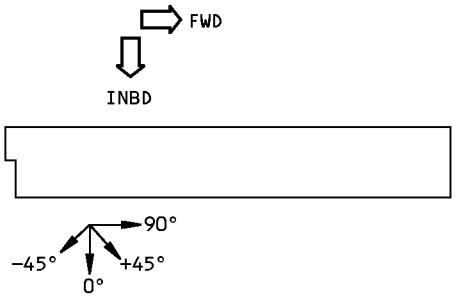
TABLE II [B]

AFT FLAP - INBOARD TRAILING EDGE FLAP
DETAIL IV

Trailing Edge Flap Structure Identification
Figure 1 (Sheet 8 of 9)



CLOSURE RIB - SKIN BOND LAYUP

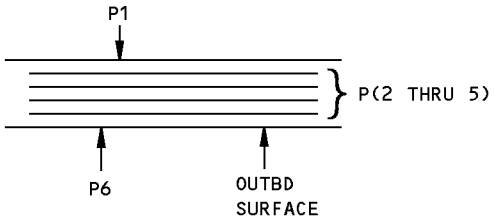


PLY ORIENTATION DIAGRAM

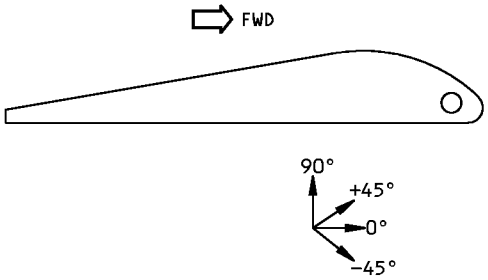
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
9	P1	[D]	0°
	P(2 THRU 12)	[C]	
	P13	[D]	

TABLE III [B]

AFT FLAP - INBOARD TRAILING EDGE FLAP
DETAIL V



CLOSURE RIB - RIB BOND LAYUP



PLY ORIENTATION DIAGRAM

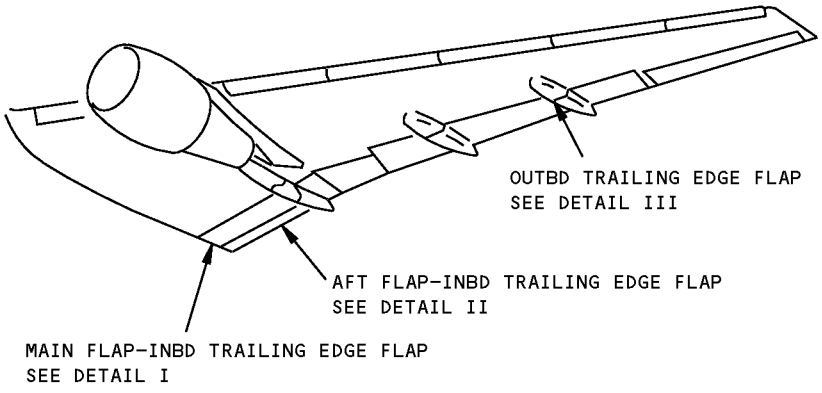
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
9	P1	[D]	90°
	P(2 THRU 5)	[C]	
	P6	[D]	

TABLE IV [B]

AFT FLAP - INBOARD TRAILING EDGE FLAP
DETAIL VI

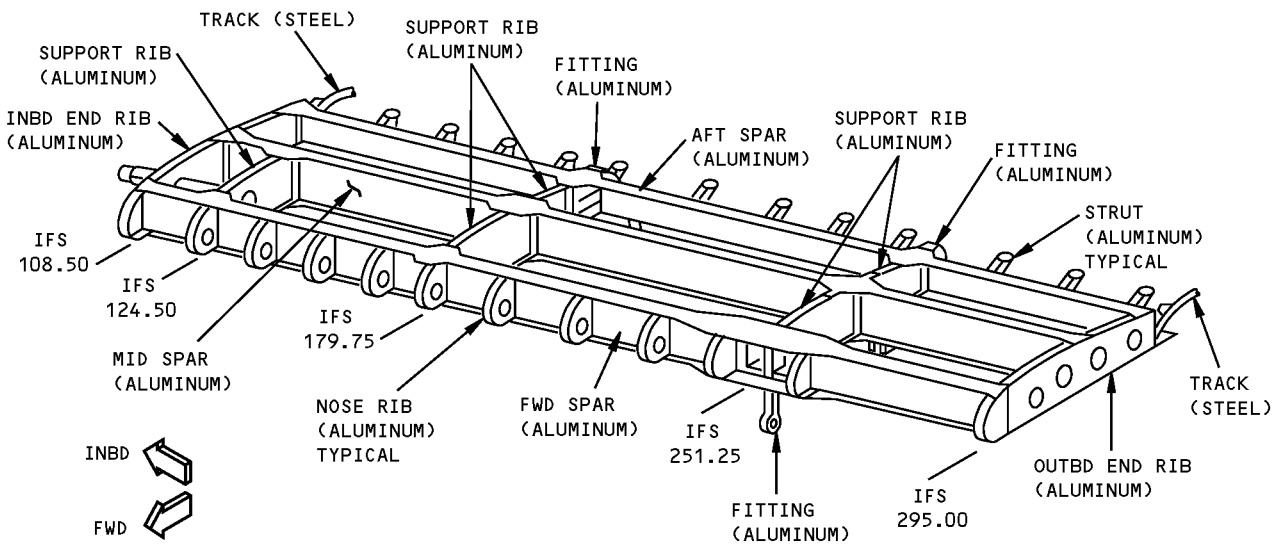
Trailing Edge Flap Structure Identification
Figure 1 (Sheet 9 of 9)

ALLOWABLE DAMAGE 1 - TRAILING EDGE FLAP STRUCTURE



Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 1 of 10)

REF DWG
113T2201

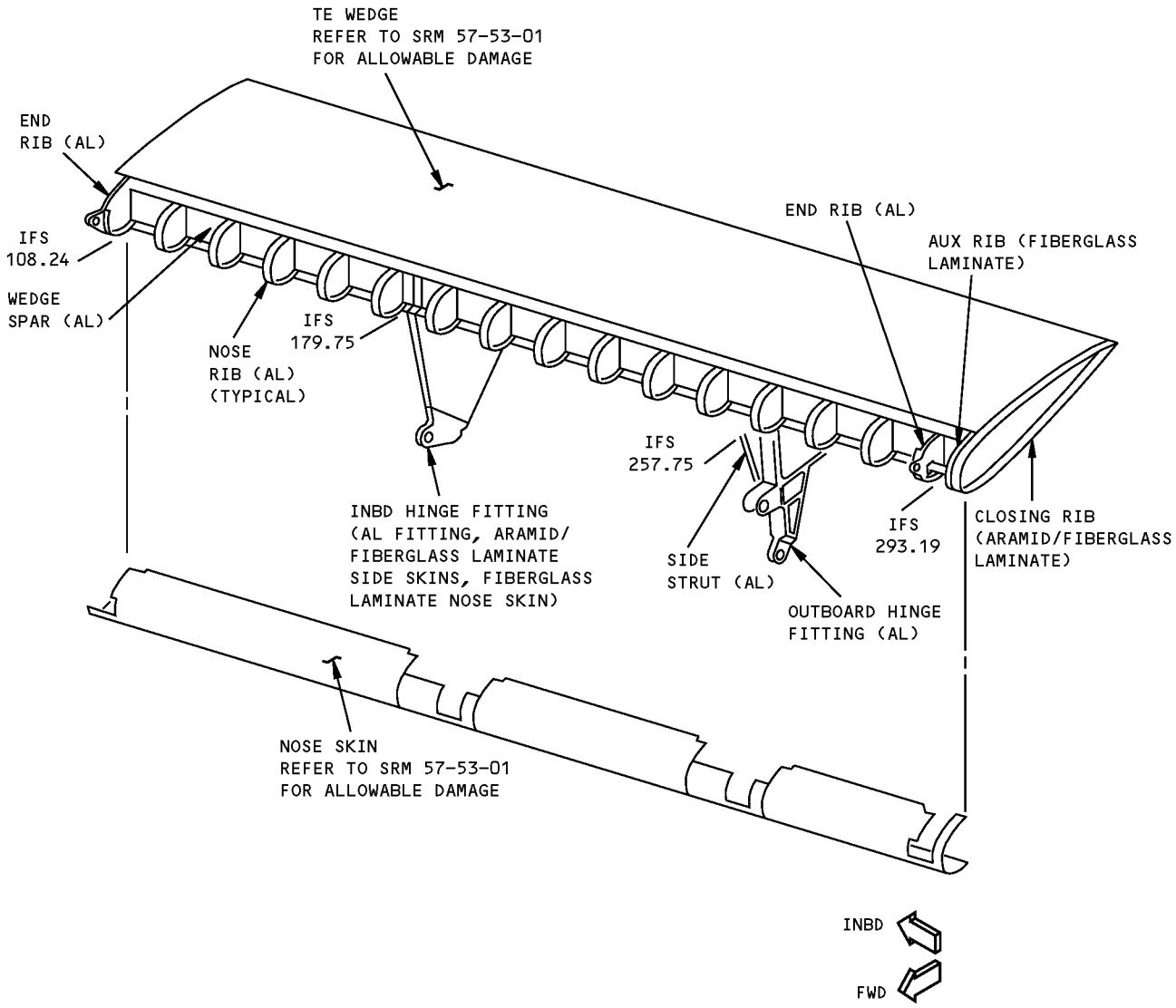


MAIN FLAP - INBOARD TRAILING EDGE FLAP
DETAIL I

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
FWD, MID, AND AFT SPAR UPR AND LWR CHORD [Q]	[A]	[F]	NOT PERMITTED	NOT PERMITTED
WEB	[B]	[G]	SEE DETAIL VI	[M]
NOSE RIB	[C]	[H]	SEE DETAIL VI	PERMITTED IN WEB ONLY [M]
SUPPORT RIB [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
INBD END RIB ALUMINUM FORGING [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
OUTBD END RIB	[C]	[H]	SEE DETAIL VI	PERMITTED IN WEB ONLY [M]
FITTING [Q]	[D]	[I]	NOT PERMITTED	NOT PERMITTED
STRUT [Q]	[A]	[F]	NOT PERMITTED	NOT PERMITTED
TRACK [P]	[D]	[J]	NOT PERMITTED	NOT PERMITTED

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 2 of 10)

REF DWG
113T2301



AFT FLAP - INBD TRAILING EDGE FLAP
DETAIL II

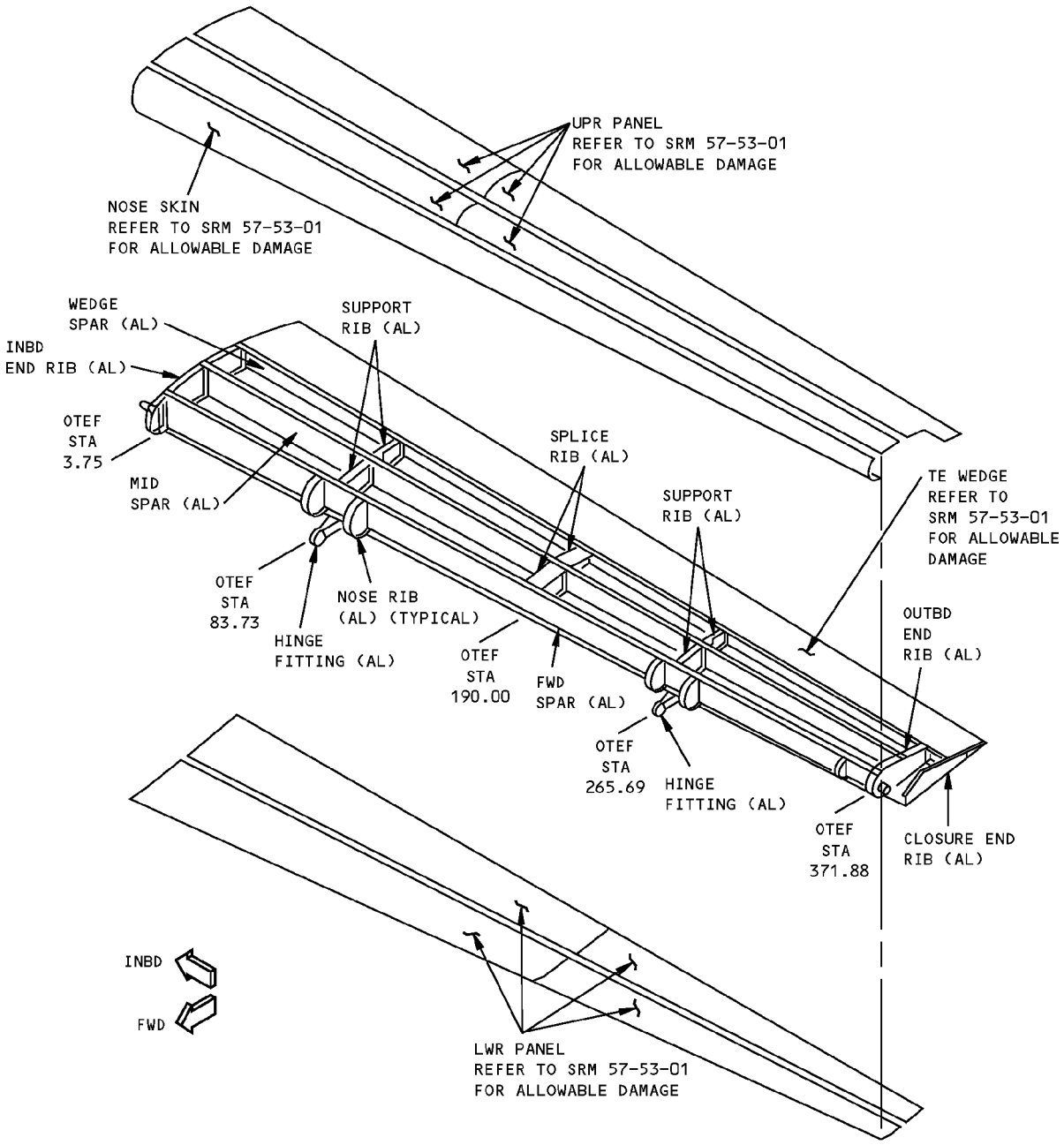
Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 3 of 10)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	DELAMINATION
WEDGE SPAR [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]	——
NOSE RIB	[C]	[H]	SEE DETAIL VI	PERMITTED IN WEB ONLY [M]	——
END RIB [Q]	[D]	[J]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]	——
CLOSURE RIB					
SKIN	[E]	[K]	[L]	[N]	[O]
RIB	[E]	[K]	[L]	[N]	[O]
AUX RIB	[E]	[K]	[L]	[N]	[O]
INBD HINGE					
FITTING [Q]	[D]	[J]	NOT PERMITTED	NOT PERMITTED	——
SIDE SKIN	[E]	[K]	[L]	[N]	[O]
NOSE SKIN	[E]	[K]	[L]	[N]	[O]
OUTBD HINGE FTG [Q]	[D]	[J]	NOT PERMITTED	NOT PERMITTED	——
SIDE STRUT [Q]	[A]	[J]	NOT PERMITTED	NOT PERMITTED	——

ALLOWABLE DAMAGE FOR DETAIL II

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 4 of 10)

REF DWG
11373000
11373100



OUTBD TRAILING EDGE FLAP
DETAIL III

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 5 of 10)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
WEDGE SPAR [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
FWD AND MID SPAR UPR AND LWR CHORD [Q]	[A]	[F]	NOT PERMITTED	NOT PERMITTED
WEB	[B]	[G]	SEE DETAIL VI	[M]
INBD END RIB [Q]	[D]	[J]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
OUTBD END RIB [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
SUPPORT RIB [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
SPLICE RIB [Q]	[D]	[I]	NOT PERMITTED	PERMITTED IN WEB ONLY [M]
CLOSURE END RIB	[C]	[H]	SEE DETAIL VI	PERMITTED IN WEB ONLY [M]
NOSE RIB	[C]	[H]	SEE DETAIL VI	PERMITTED IN WEB ONLY [M]
HINGE FITTING [Q]	[D]	[J]	NOT PERMITTED	NOT PERMITTED

ALLOWABLE DAMAGE FOR DETAIL III

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 6 of 10)

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS THAT MUST BE REMOVED AS GIVEN IN DETAILS IV AND XII.

[B] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS THAT MUST BE REMOVED AS GIVEN IN DETAILS IV AND VIII.

[C] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS THAT MUST BE REMOVED AS GIVEN IN DETAILS IV AND X.

[D] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS THAT MUST BE REMOVED AS GIVEN IN DETAILS IV AND IX.

[E] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS THAT MUST BE REMOVED AS GIVEN IN DETAILS IV AND VIII. [R]

[F] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, VII AND XII.

[G] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, VII AND VIII.

[H] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, VII AND X.

[I] REMOVE DAMAGE AS GIVEN IN DETAILS IV, V, VII AND IX.

[J] FOR EDGE DAMAGE SEE DETAIL IX. FOR LUG DAMAGE SEE DETAIL XI. FOR OTHER DAMAGE SEE DETAIL V. DAMAGE IS NOT PERMITTED NEAR BUSHINGS.

[K] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS IV AND VIII. [R]

[L] 1.5 INCHES (38 mm) MAX DIA IS PERMITTED IF THERE IS NO DELAMINATION OR FIBER DAMAGE. ONE DENT PER SQUARE FOOT OF AREA IS PERMITTED IF IT IS A MINIMUM OF 6.00 INCHES (150 mm) FROM ANY OTHER DENT. DENTS GENERALLY INDICATE FIBER DAMAGE OR DELAMINATION. SEE [N] OR [O] IF THERE IS SUCH DAMAGE.

[M] CLEAN OUT DAMAGE UP TO 0.25 INCH (6 mm) MAX DIA AND NOT CLOSER THAN 1.0 INCH (25.4 mm) TO A FASTENER HOLE OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

[N] 0.50 INCH (12.7 mm) MAX DIA IS PERMITTED IF IT IS A MIN OF 2.5 D FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. [R]

[O] 0.50 INCH (12.7 mm) MAX DIA IS PERMITTED. A MAXIMUM OF 0.03 INCH (0.76 mm) DELAMINATION FROM THE EDGE IS PERMITTED. PROTECT THE EDGE DAMAGE AS GIVEN IN. [R]

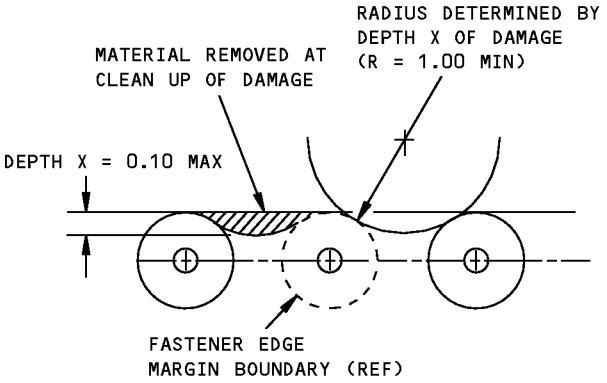
[P] CLEANUP IS NOT PERMITTED IN AREAS OF ROLLER CONTACT.

[Q] SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS LEFT OVER AFTER REWORK.

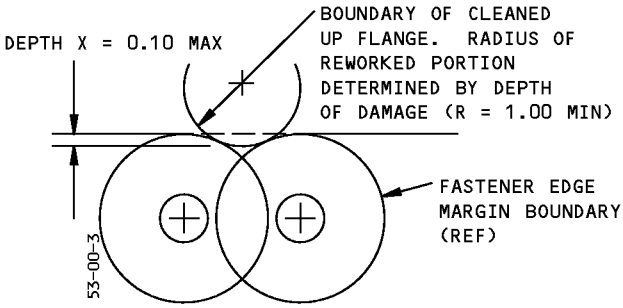
[R] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

[S] ACCUMULATED LENGTH OF CRACKS MUST NOT EXCEED 10% OF FLANGE LENGTH. DISTANCE BETWEEN STOP HOLES OF ADJACENT CRACKS MUST NOT BE LESS THAN 4.00 INCHES (100 mm).

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 7 of 10)

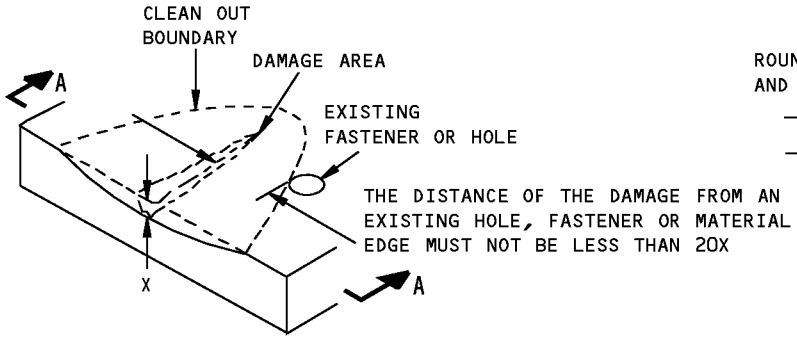


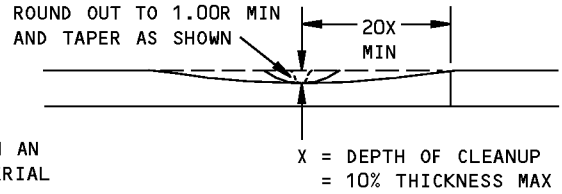
DAMAGE CLEAN UP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



DAMAGE CLEAN UP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

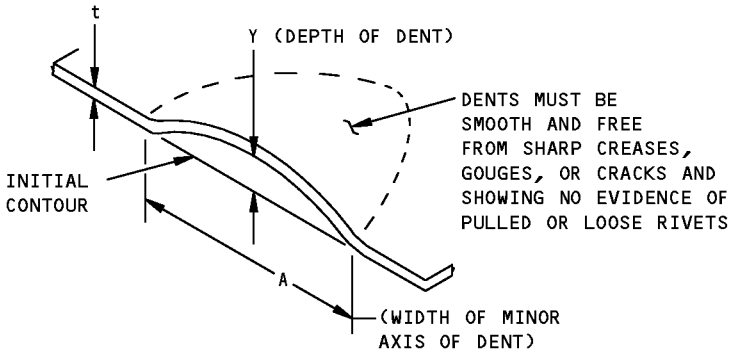
DETAIL IV





SECTION A-A

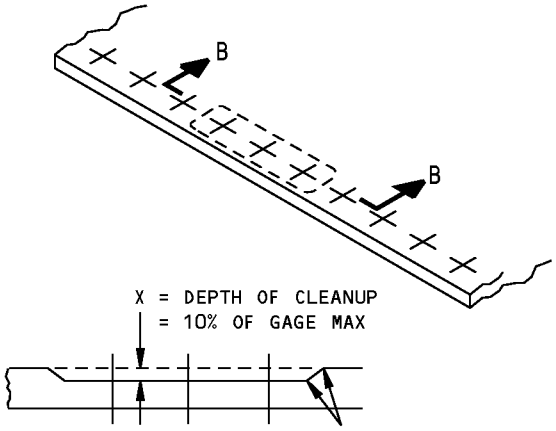
REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL V



$\frac{A}{Y}$ MUST NOT BE LESS THAN 30

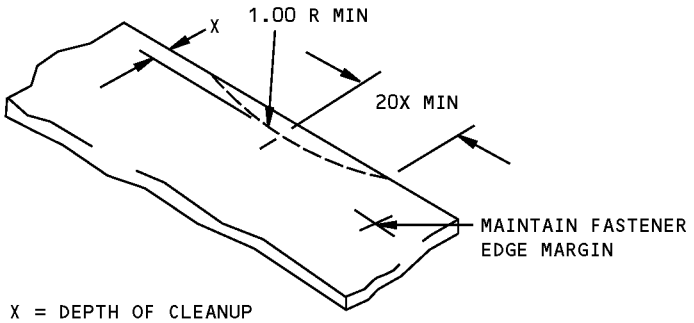
Y MUST NOT EXCEED t

ALLOWABLE DAMAGE FOR DENT
DETAIL VI

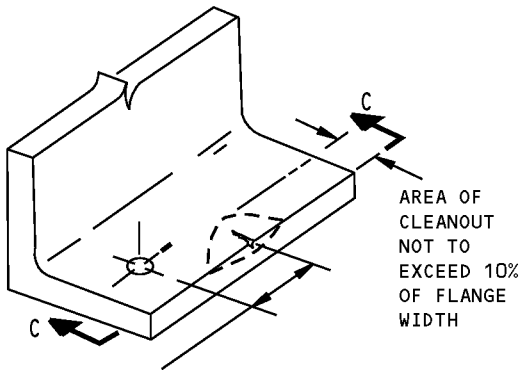


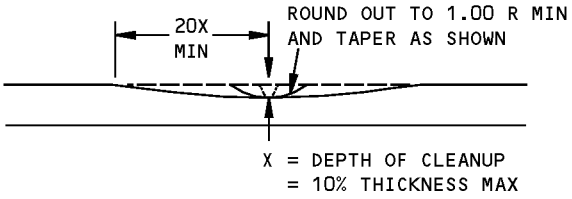
SECTION B-B
CORROSION CLEANUP
DETAIL VII

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 8 of 10)



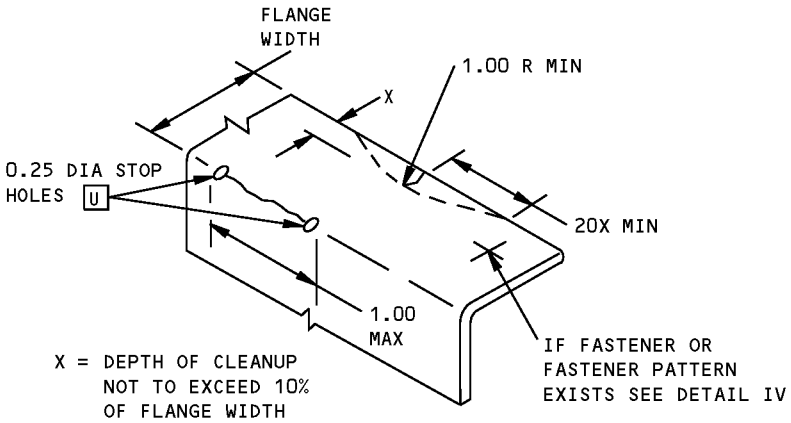
REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE (WEB)
DETAIL VIII





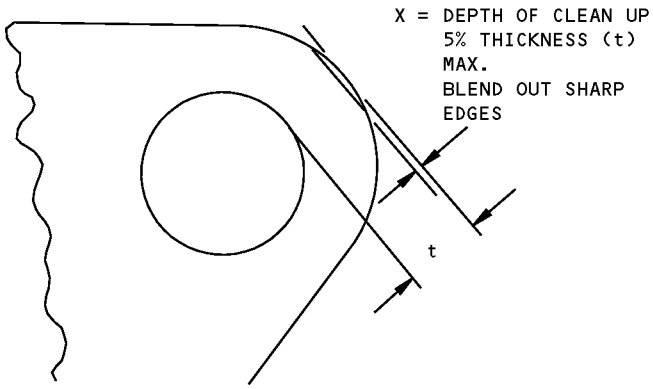
SECTION C–C

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL IX

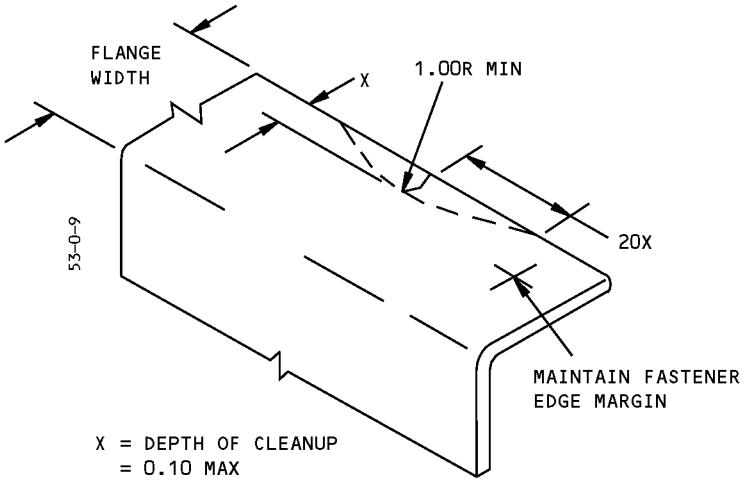


(FORMED MEMBER)
DETAIL X

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 9 of 10)



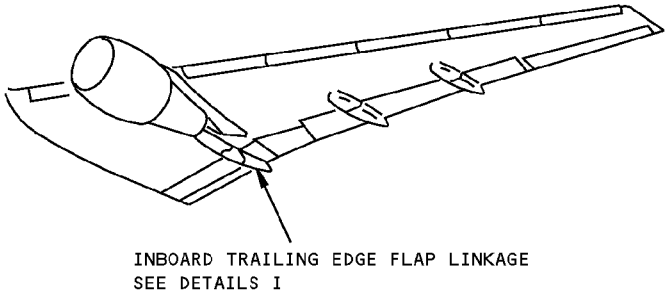
DAMAGE CLEAN UP FOR EDGES OF LUG
DETAIL XI

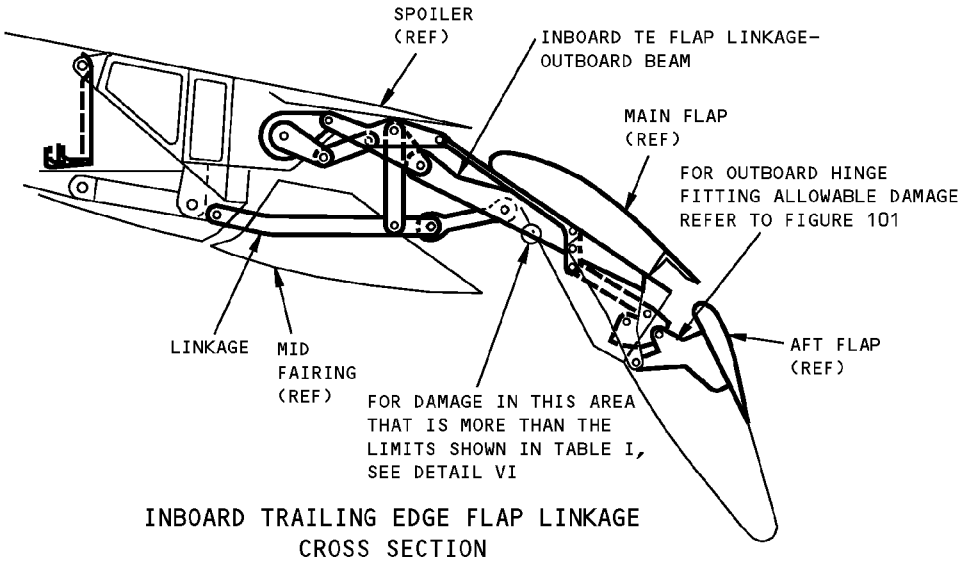


REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL XII

Trailing Edge Flap Structure Allowable Damage
Figure 101 (Sheet 10 of 10)

ALLOWABLE DAMAGE 2 - INBOARD TRAILING EDGE FLAP LINKAGE





INBOARD TRAILING EDGE FLAP LINKAGE
CROSS SECTION

DETAIL I

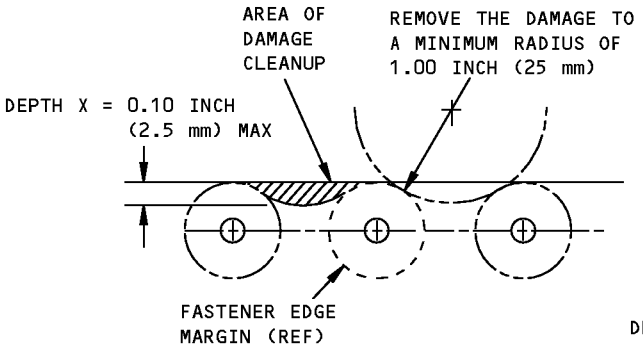
DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
INBOARD TE FLAP 9-10 BEAM ASSEMBLY 1-3 BEAM ASSEMBLY 2-8 LINK ASSEMBLY 3-10 LINK ASSEMBLY 4-5 DRIVE ARM ASSEMBLY 5-8 LINK ASSEMBLY 6-9 BEAM ASSEMBLY INNER BEAM, OUTER BEAM	NO CRACKS ARE PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS SHOWN IN DETAILS III AND IV.	FOR EDGE DAMAGE, SEE DETAIL II. FOR LUG DAMAGE, SEE DETAIL V.	NOT ALLOWED	NOT ALLOWED

ALLOWABLE DAMAGE FOR DETAIL I
TABLE I

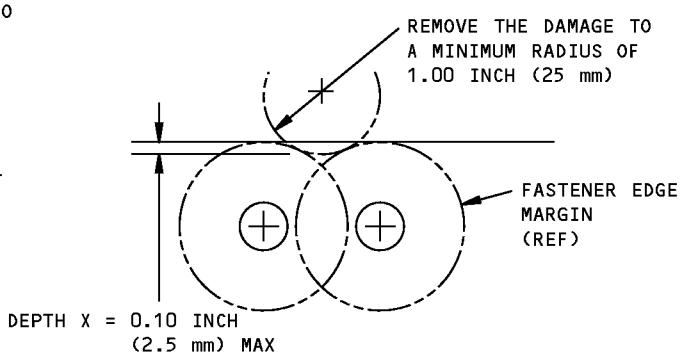
Inboard Trailing Edge Flap Linkage Allowable Damage
Figure 101 (Sheet 1 of 4)

NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- FOR THE SURFACES THAT ARE REWORKED:
  1. SHOT PEEN AS GIVEN IN SRM 51-20-06
  2. APPLY A CHEMICAL CONVERSION COATING TO THE BARE SURFACE. REFER TO SRM 51-20-01.
  3. APPLY ONE LAYER OF BMS 10-11, TYPE I YELLOW PRIMER AS GIVEN IN SOPM 20-41-02, D6-51702.
  4. APPLY ONE LAYER OF BMS 10-60 BOEING COLOR 707 GRAY GLOSS ENAMEL.
- REFER TO CMM 27-51-97 FOR BUSHING AND BEARING REPLACEMENT.

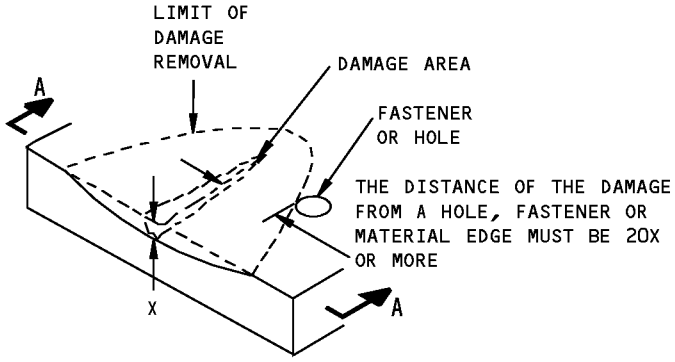


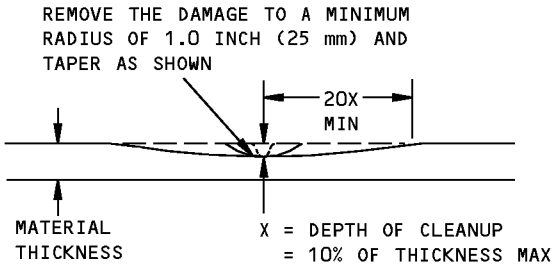
REMOVAL OF DAMAGE AT EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



REMOVAL OF DAMAGE AT EDGES WHERE FASTENER EDGE MARGINS OVERLAP

DETAIL II

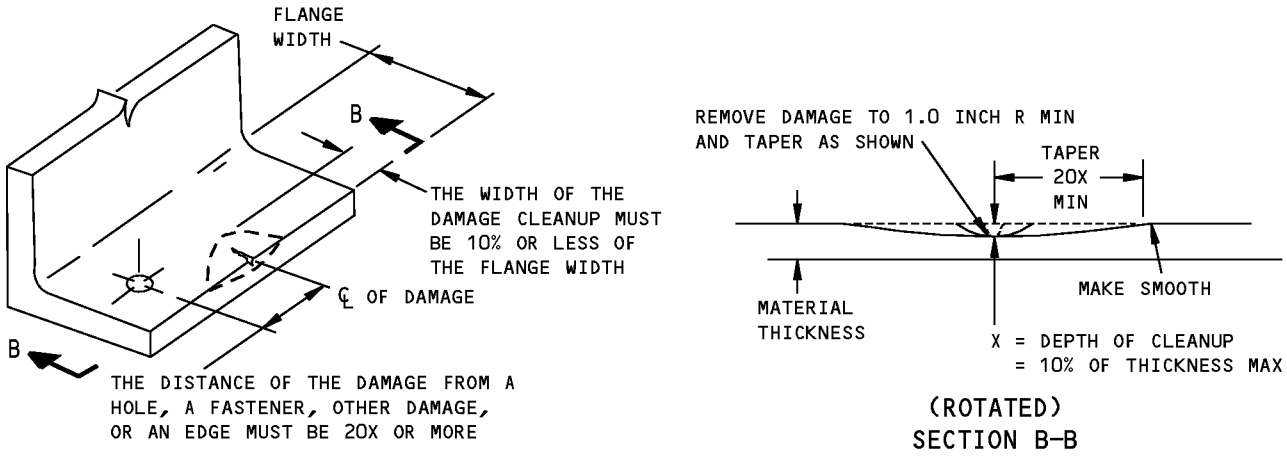




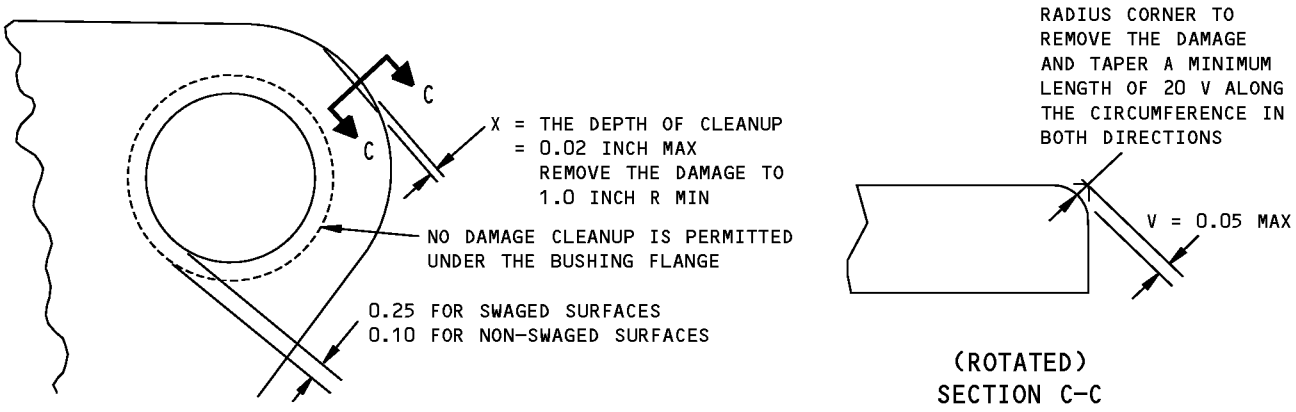
SECTION A-A

REMOVAL DAMAGE ON A SURFACE
DETAIL III

Inboard Trailing Edge Flap Linkage Allowable Damage
Figure 101 (Sheet 2 of 4)

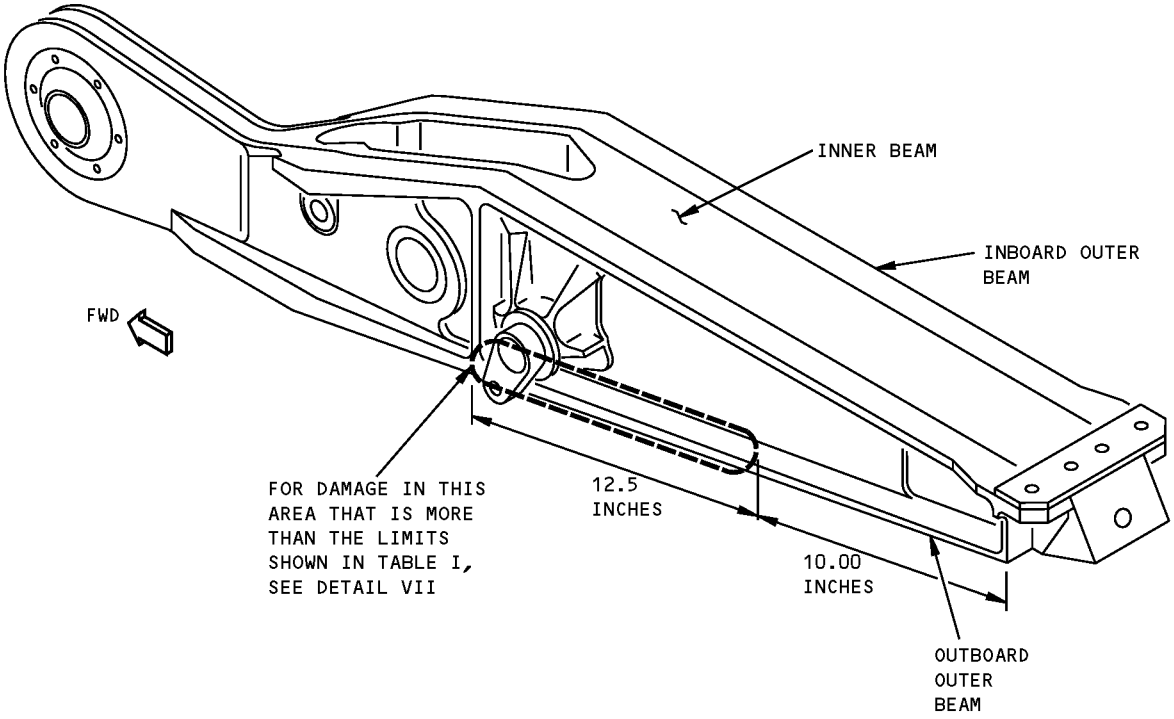


REMOVAL OF DAMAGE ON A SURFACE
DETAIL IV

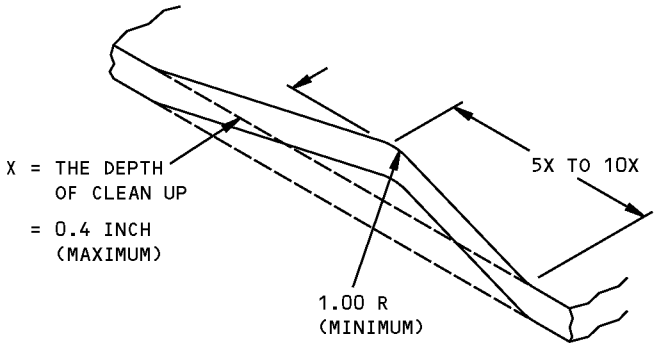


REMOVAL OF DAMAGE OF LUG
DETAIL V

Inboard Trailing Edge Flap Linkage Allowable Damage
Figure 101 (Sheet 3 of 4)



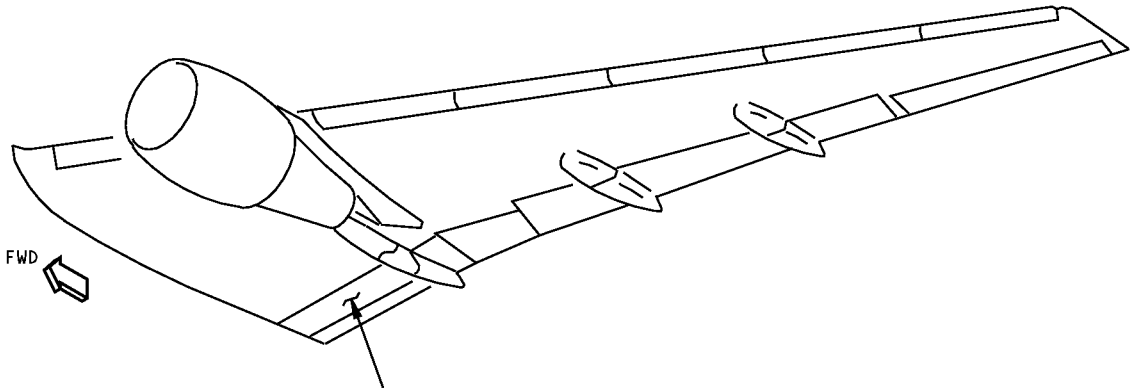
INBOARD TRAILING EDGE FLAP 9–10 BEAM ASSEMBLY
DETAIL VI



REMOVAL OF DAMAGE ON THE FLANGE OF THE INBOARD AND OUTBOARD OUTER BEAM
DETAIL VII

Inboard Trailing Edge Flap Linkage Allowable Damage
Figure 101 (Sheet 4 of 4)

ALLOWABLE DAMAGE 3 - INBOARD TRAILING EDGE FLAP TORQUE TUBE



NOTES

- CRACKS, DENTS, HOLES OR PUNCTURES ARE NOT PERMITTED.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- USE A 10 POWER MAGNIFIER TO DO A VISUAL INSPECTION FOR SURFACE WEAR OR NICK DAMAGE.
- REFER TO SOPM 20-10-01 FOR THE REPAIR AND REFINISH OF HIGH STRENGTH STEEL.

  CAUTION: DO NOT OVERHEAT THE TORQUE TUBE WHEN YOU USE A POWER TOOL TO REMOVE THE DAMAGE. CHECK THE SURFACE OF THE BLENDED AREA AFTER EACH PASS. IF THE PART IS NOT TOO HOT TO TOUCH, THE AREA HAS NOT BEEN OVERHEATED. IF THE TUBE BECOMES TOO HOT TO TOUCH, DO A SURFACE TEMPER ETCH INSPECTION FOR HEAT DAMAGE. USE AMMONIUM PERSULFATE TO DO THE SURFACE ETCH INSPECTION ON THE REWORKED AREA. REFER TO SOPM 20-10-02 FOR THE SURFACE TEMPER ETCH INSPECTION PROCEDURE.
- CLEAN THE AREA WHERE THE DAMAGE WAS REMOVED ON THE TORQUE TUBE. USE CLEAN 150 GRIT OR FINER ALUMINUM OXIDE ABRASIVE PAPER.
- USE A 10 POWER MAGNIFIER TO DO A VISUAL INSPECTION TO MAKE SURE THAT ALL DAMAGE IS REMOVED.
- BEFORE SHOT PEENING THE REWORKED AREA, DO A HIGH FREQUENCY EDDY CURRENT (HFEC) INSPECTION OF THE AREA TO MAKE SURE THAT THERE IS NO CRACK DAMAGE. REFER TO NDT PART 6, 51-00-12 OR 51-00-21.
- SHOT PEEN REWORKED AREAS AFTER YOU DO THE INSPECTION AND BEFORE YOU APPLY CADMIUM PLATING AND PRIMER TO REWORKED AREA. USE SHOT NUMBER 170-460, INTENSITY 0.016A, COVERAGE 2.0. REFER TO SOPM 20-10-03.

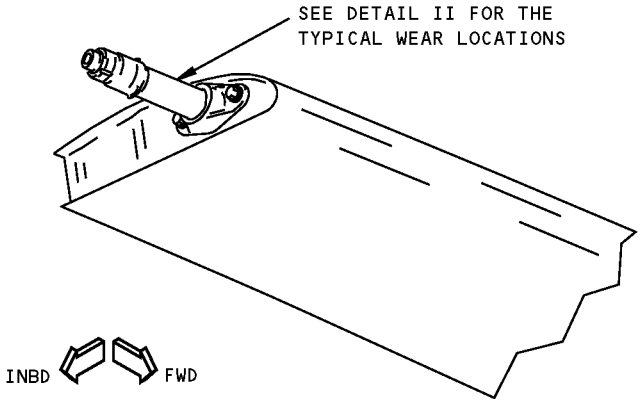
[A] DAMAGE REMOVAL PERMITTED ON ANY SINGLE DAMAGE SITE WITH THE MAXIMUM DEPTH OF CLEANUP Y = 0.100 INCH (25.4 mm) OR FOR TWO DAMAGE SITES LOCATED AT THE SAME INBOARD FLAP STATION, THE MAXIMUM DEPTH OF CLEANUP X = 0.050 INCH (12.7 mm). THE MINIMUM ALLOWABLE OUTER TUBE DIAMETER AFTER REWORK IS 3.07 INCHES (78 mm). MAKE THE SURFACE FINISH IN THE REWORKED AREA 125 MICROINCHES Ra OR BETTER. SEE DETAIL II, SECTION A-A.

[B] DAMAGE REMOVAL PERMITTED ON ANY SINGLE DAMAGE SITE OR ON TWO DAMAGED SITES LOCATED AT THE SAME INBOARD FLAP STATION, THE MAXIMUM DEPTH OF CLEANUP X OR Y EQUALS TO 0.100 INCH (25.4 mm). THE MINIMUM ALLOWABLE OUTER TUBE DIAMETER AFTER REWORK IS 3.07 INCHES (78 mm). MAKE THE SURFACE FINISH IN THE REWORKED AREA 125 MICROINCHES Ra OR BETTER. SEE DETAIL II, SECTION A-A.

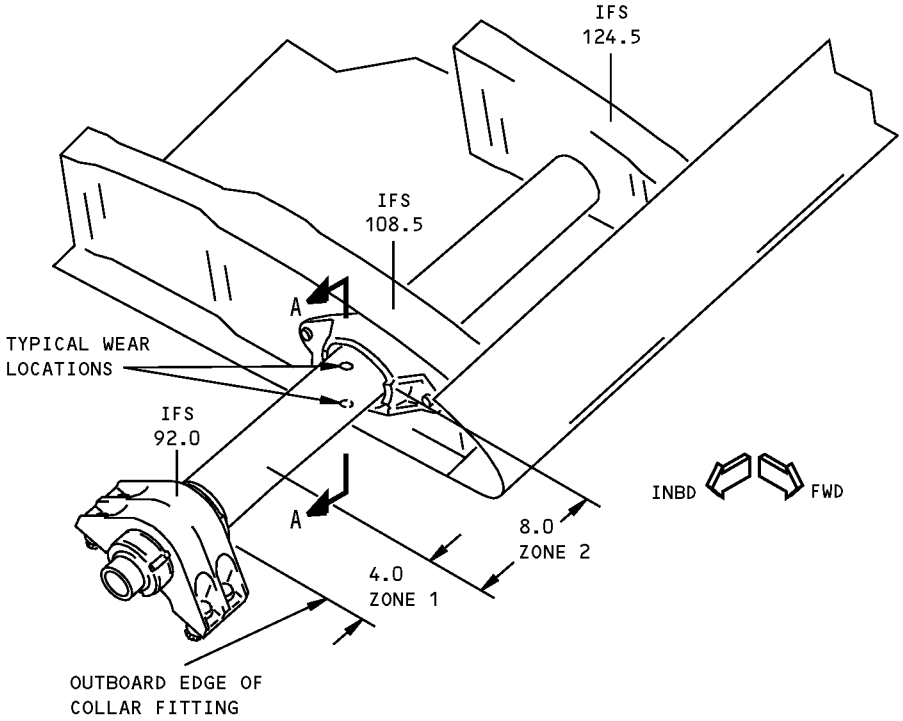
[C] APPLY LOCAL LOW HYDROGEN EMBRITTLEMENT CADMIUM PLATE TO THE REWORKED AREAS. REFER TO SOPM 20-42-10.

[D] APPLY ONE COAT OF BMS 10-11, TYPE I PRIMER AND ONE COAT OF BMS 10-60, TYPE I ENAMEL TO THE REWORKED AREAS. AS AN ALTERNATIVE, APPLY BMS 10-79, TYPE III PRIMER AND BMS 10-60, TYPE II ENAMEL TO THE REWORKED AREAS. REFER TO SOPM 20-42-10.

Inboard Trailing Edge Flap Torque Tube Allowable Damage
Figure 101 (Sheet 1 of 3)



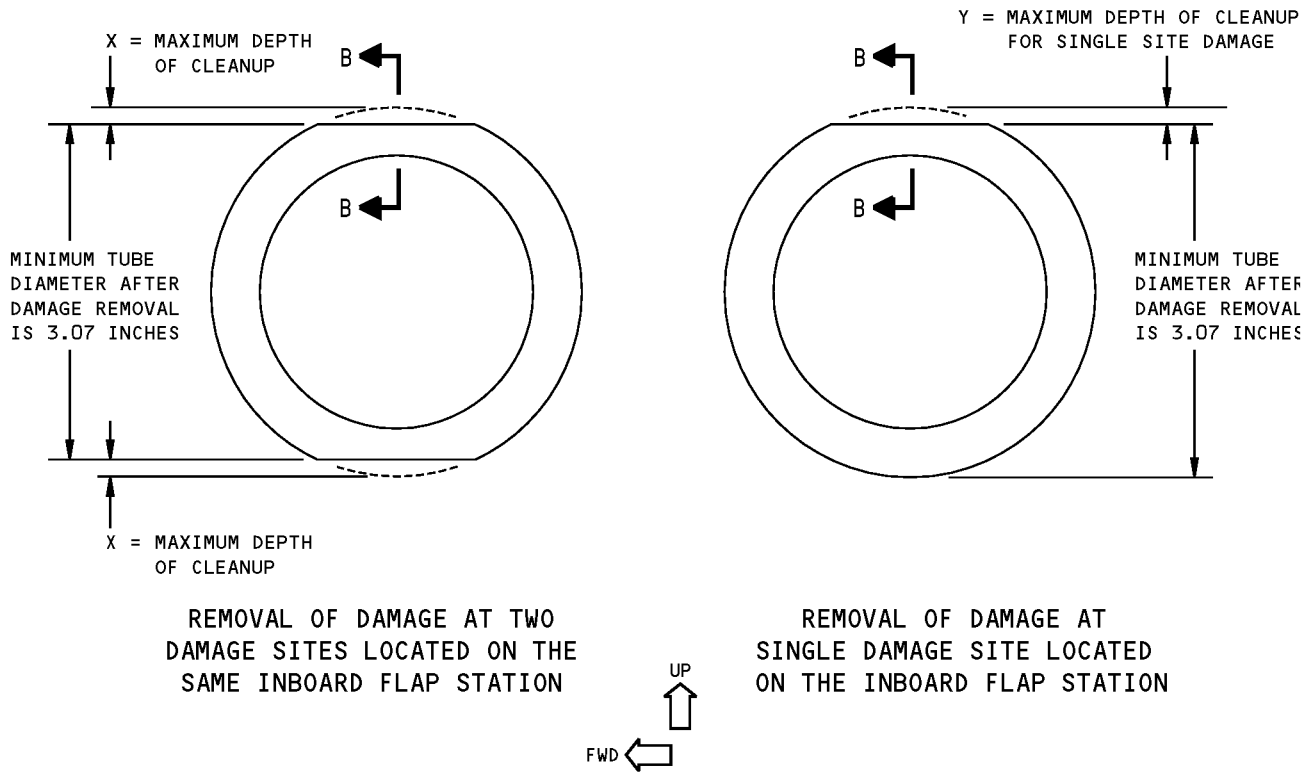
INBOARD TRAILING EDGE FLAP
DETAIL I



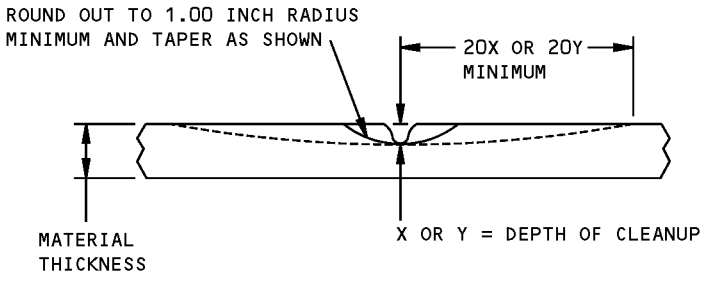
DETAIL II

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
ZONE 1	NOT ALLOWED	A C D	NOT ALLOWED	NOT ALLOWED
ZONE 2	NOT ALLOWED	B C D	NOT ALLOWED	NOT ALLOWED

Inboard Trailing Edge Flap Torque Tube Allowable Damage
Figure 101 (Sheet 2 of 3)



SECTION A–A



SECTION B–B

Inboard Trailing Edge Flap Torque Tube Allowable Damage
Figure 101 (Sheet 3 of 3)

REPAIR 1 - MAIN FLAP INBOARD TRAILING EDGE HINGE FITTING CRACK

APPLICABILITY
THIS REPAIR IS APPLICABLE TO THE CRACK DAMAGE ON THE INBOARD HINGE FITTING FOR THE INBOARD TRAILING EDGE MAIN FLAP.

REPAIR INSTRUCTIONS

1. Get access to the damaged area.
2. Cut and remove the crack damage on the hinge fitting tabs. Make the cut radius a minimum of 0.75 inch and make the edges of cut smooth to 125 microinches R_a. See Detail II, Section A-A.
3. Do a penetrant inspection of the cut edges of the hinge fitting tab to make sure all of the crack is removed. Refer to SOPM 20-20-02.
4. Make the repair parts. See Detail IV and Table I.
5. Assemble the repair parts and drill the fastener holes. Maintain a 2D minimum edge margin. See Detail III.
6. Disassemble the repair parts.
7. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts.
8. Apply chemical conversion coating to the repair parts and to the bare surfaces of the cut edges. Refer to SRM 51-20-01.
9. Apply two layers of BMS 10-79, Type III primer to the repair parts and the bare surfaces of the cut edges. Refer to SOPM 20-44-04.
10. Assemble the repair parts with BMS 5-95 sealant between mating surfaces. Refer to SRM 51-20-05.
11. Install the fasteners. Install the hex drive bolts wet with BMS 5-95 sealant.

NOTES

- D = FASTENER DIAMETER
- ALL DIMENSIONS ARE GIVEN IN INCHES UNLESS SPECIFIED OTHERWISE
- WHEN YOU USE THIS REPAIR REFER TO:
  - SOPM 20-20-02 FOR PENETRANT INSPECTION PROCEDURES
  - SOPM 20-44-04 FOR THE APPLICATION OF FINISHES
  - SRM 51-20-01 FOR PROTECIVE TREATMENT OF METAL
  - SRM 51-20-01 FOR SEALING OF REPAIRS
  - SRM 51-20-05 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS.

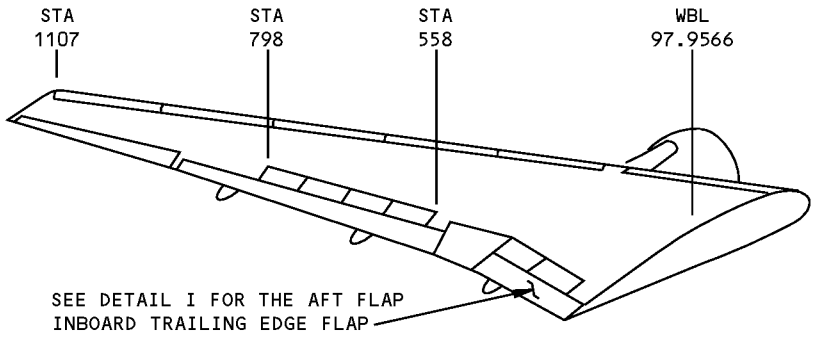
[A] AS AN ALTERNATIVE, USE AND10134-2007, AND10134-2403 OR AND10134-2407 THICKER EXTRUSIONS IN LIEU OF THE PLATE STOCK. DO NOT MACHINE THE THICKNESS DOWN TO 0.125 INCH.

FASTENER SYMBOLS

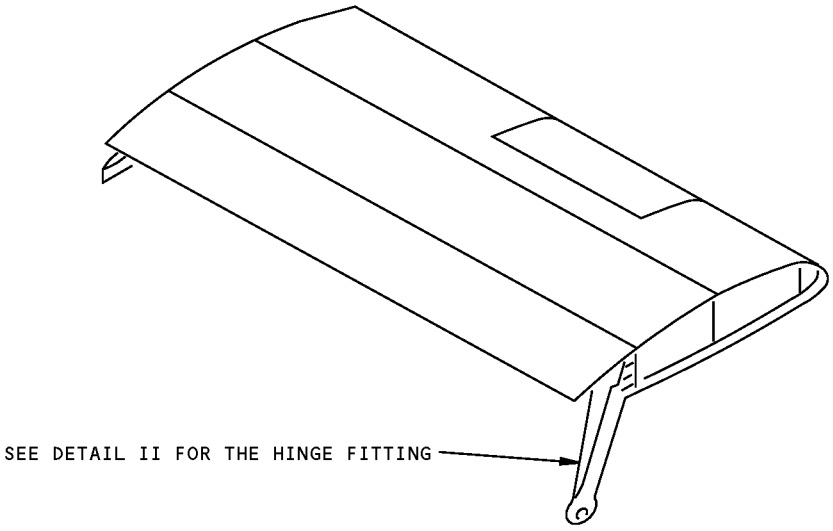
- REFERENCE FASTENER LOCATION.
- INITIAL FASTENER LOCATION, INSTALL A BACR15AD7AD RIVET.
- REPAIR FASTENER LOCATION, INSTALL A BACB30NX6K() HEX DRIVE BOLT AND A BACC30X6 COLLAR.

REPAIR MATERIAL			
PART		QTY	MATERIAL
1	ANGLE	1	0.125, 7075-T6 PLATE 1.5 X 2.0 DIMENSIONS ADJUST TO FIT AS NECESSARY [A]
2	ANGLE	1	0.125, 7075-T6 PLATE 1.5 X 2.0 DIMENSIONS ADJUST TO FIT AS NECESSARY [A]
3	FILLER	1	CLAD 2024-T3 OR 7075-T6. THICKNESS AS NECESSARY TO FILL THE GAP. MAXIMUM GAP PERMITTED BEFORE FASTENERS ARE INSTALLED IS 0.01 INCH.

Main Flap Inboard Trailing Edge Hinge Fitting Crack Repair
Figure 201 (Sheet 1 of 5)



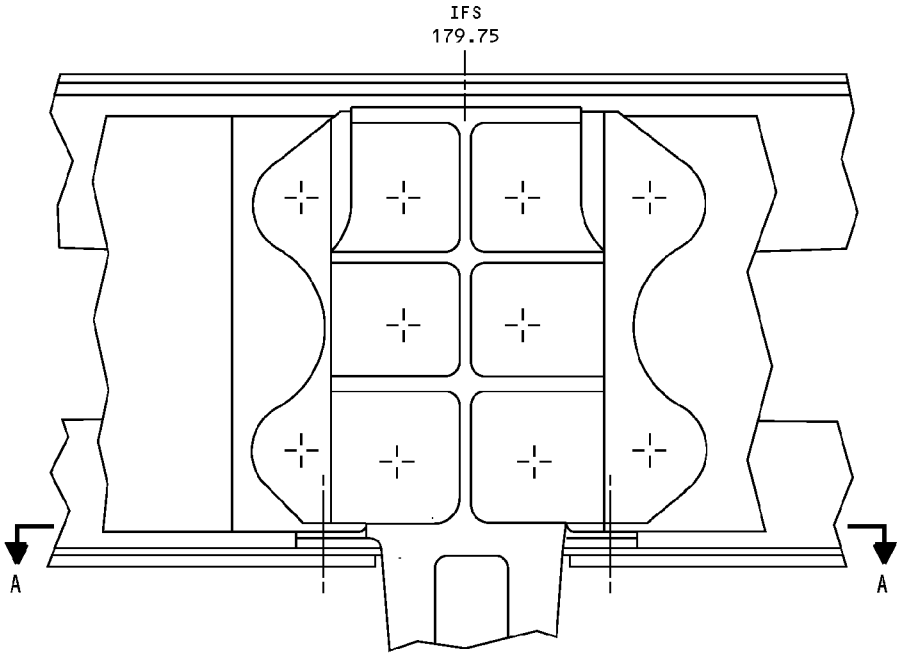
LEFT WING IS SHOWN, RIGHT WING IS OPPOSITE



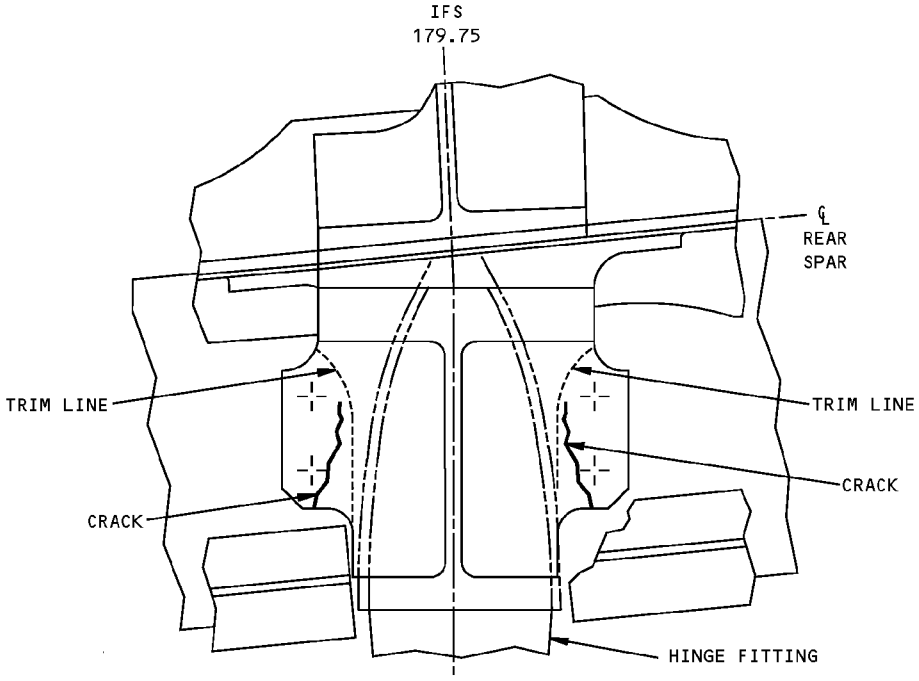
MAIN FLAP INBOARD TRAILING EDGE FLAP

DETAIL I

Main Flap Inboard Trailing Edge Hinge Fitting Crack Repair
Figure 201 (Sheet 2 of 5)

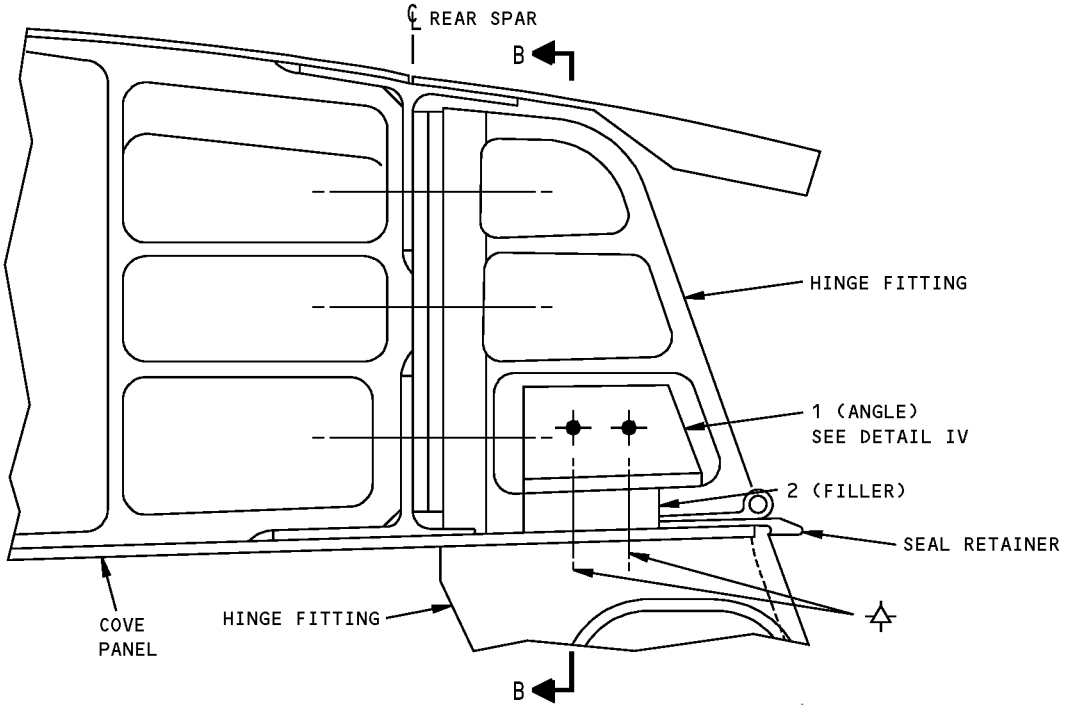


DETAIL II

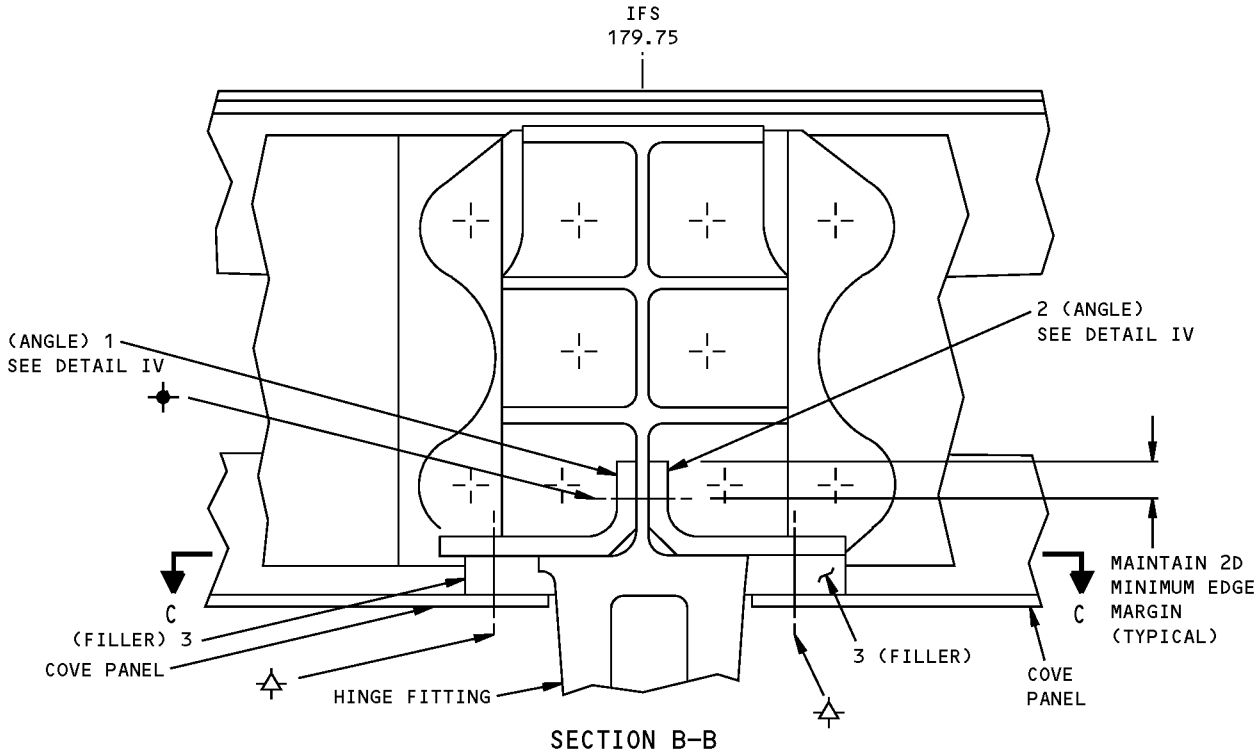


SECTION A–A

Main Flap Inboard Trailing Edge Hinge Fitting Crack Repair
Figure 201 (Sheet 3 of 5)

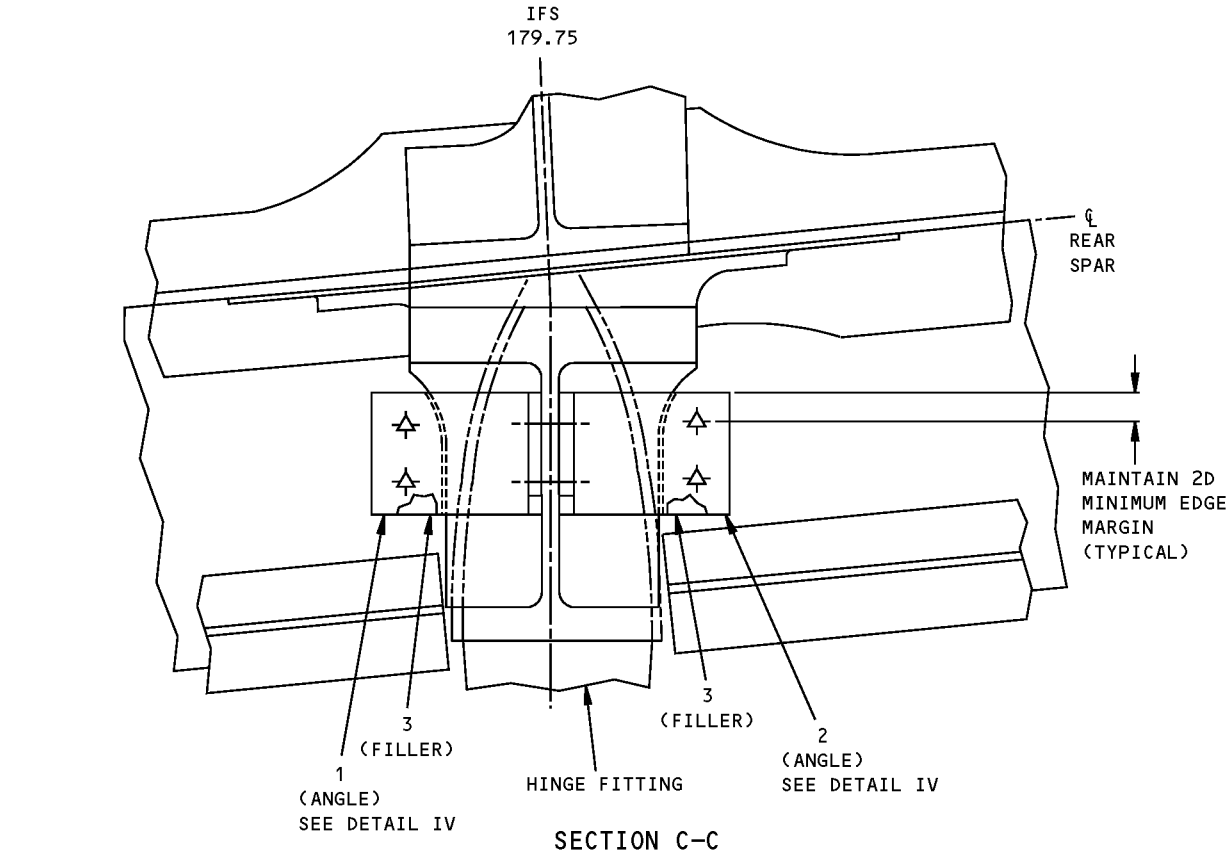


DETAIL III



SECTION B–B

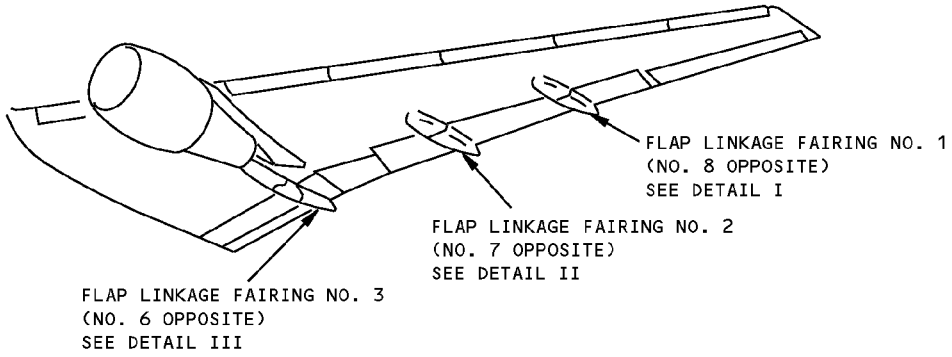
Main Flap Inboard Trailing Edge Hinge Fitting Crack Repair
Figure 201 (Sheet 4 of 5)



Main Flap Inboard Trailing Edge Hinge Fitting Crack Repair
Figure 201 (Sheet 5 of 5)

IDENTIFICATION 1 - FLAP LINKAGE FAIRING SKIN

REF DWG
113T1700
113T1800



LEFT SIDE SHOWN
RIGHT SIDE SIMILAR

NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION

[B] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGE BANDS AND AREAS WITH DOUBLERS

[C] DIAGRAM OF PLY ORIENTATION, SEE PLY TABLE FOR PLY ORIENTATION AND MATERIAL

[D] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, TYPE 120, CLASS III, GRADE I, 250°F (121°C) CURE

[E] ARAMID/EPOXY FABRIC PER BMS 8-219, STYLE 285, 250°F (121°C) CURE

[F] GRAPHITE/EPOXY FABRIC PER BMS 8-168, TYPE II, CLASS II, STYLE 3K-70-PW, 250°F (121°C) CURE

[G] GRAPHITE/EPOXY TAPE PER BMS 8-168, TYPE II, CLASS I, GRADE 190, 250°F (121°C) CURE

[H] FIBERGLASS/EPOXY FABRIC PER BMS 8-79, TYPE 1581, CLASS III, GRADE I, 250°F (121°C) CURE

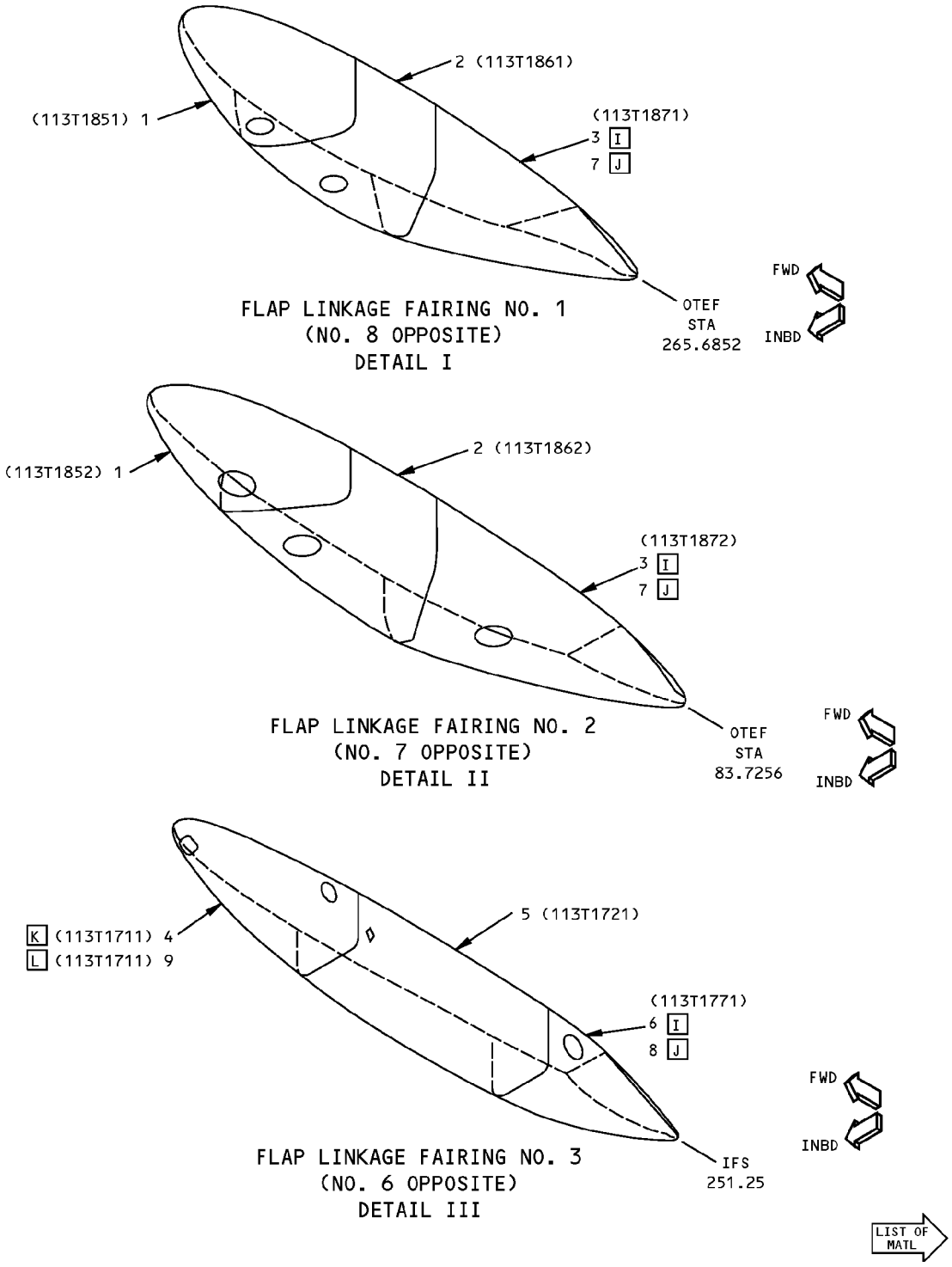
[I] FOR CUM LINE NUMBERS: 1 THRU 134

[J] FOR CUM LINE NUMBERS: 135 AND ON

[K] FOR CUM LINE NUMBERS: 1 THRU 207

[L] FOR CUM LINE NUMBERS: 208 AND ON

Flap Linkage Fairing Skin Identification
Figure 1 (Sheet 1 of 6)

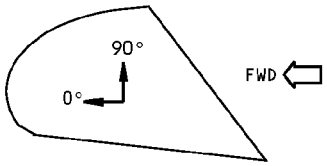


Flap Linkage Fairing Skin Identification
Figure 1 (Sheet 2 of 6)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SKIN PANEL SKIN CORE		ARAMID/FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL IV NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	
2	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL V NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	
3	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL VI NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	[I]
4	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VII NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	[K]
5	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VIII NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	
6	SKIN PANEL SKIN CORE		ARAMID/GRAPHITE/FIBERGLASS/EPOXY HONEYCOMB SANDWICH SEE DETAIL IX NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	[I]
7	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VI NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	[J]
8	SKIN PANEL SKIN CORE		FIBERGLASS/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IX NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	[J]
9	SKIN PANEL SKIN CORE		FIBERGLASS/ARAMID/GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VII NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE VI, GRADE 3.0	[L]

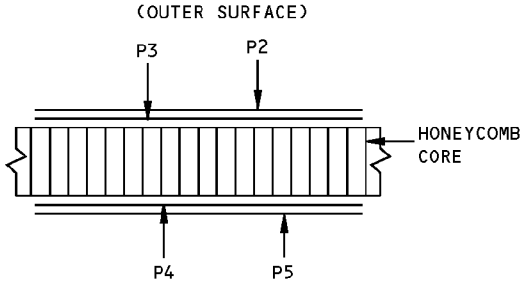
LIST OF MATERIALS FOR DETAILS I, II AND III

Flap Linkage Fairing Skin Identification
Figure 1 (Sheet 3 of 6)



PLAN VIEW

VIEW ON PANEL [C]

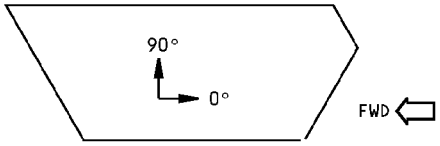


SECTION THRU PANELS

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
1	P2, P5	[D]	90°
	P3	[E]	-45°
	P4	[E]	+45°

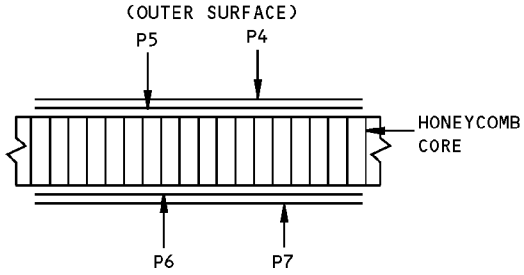
PLY TABLE [B]

DETAIL IV



PLAN VIEW

VIEW ON PANEL [C]



SECTION THRU PANELS

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P4, P7	[E]	0°
	P5	[F]	-45°
	P6	[F]	+45°

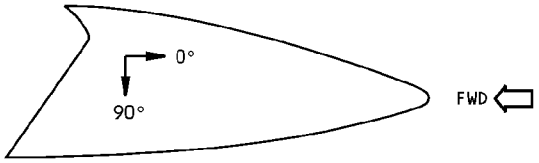
PLY TABLE [B] [K]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2	P4	[H]	0°
	P5	[F]	-45°
	P6	[F]	+45°
	P7	[E]	0°

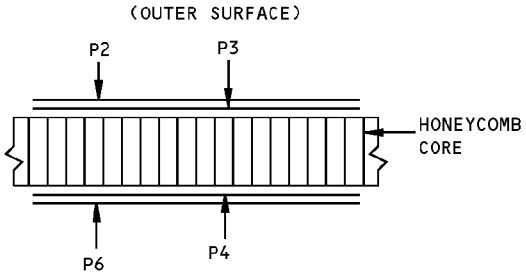
PLY TABLE [B] [L]

DETAIL V

Flap Linkage Fairing Skin Identification
Figure 1 (Sheet 4 of 6)



ITEM 3 OR 7
VIEW ON PANEL [C]



SECTION THRU PANELS

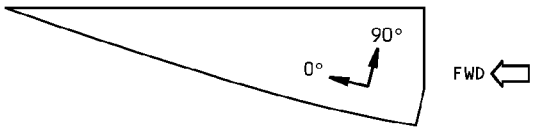
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
3	P2	[E]	90°
	P3, P4	[F]	90°
	P6	[D]	90°

PLY TABLE [B] [I]

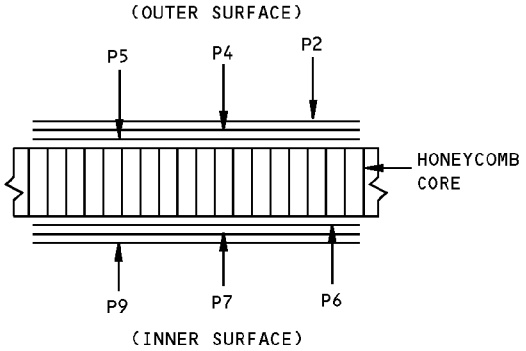
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
7	P2	[H]	90°
	P3, P4	[F]	90°
	P6	[D]	90°

PLY TABLE [B] [J]

DETAIL VI



VIEW ON PANEL [C]



SECTION THRU PANELS

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
4	P2, P9	[E]	0°
	P4, P7	[G]	90°
	P5, P6	[F]	90°

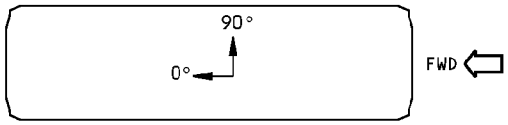
PLY TABLE [B] [K]

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
9	P2	[H]	0°
	P4, P7	[G]	90°
	P5, P6	[F]	90°
	P9	[E]	0°

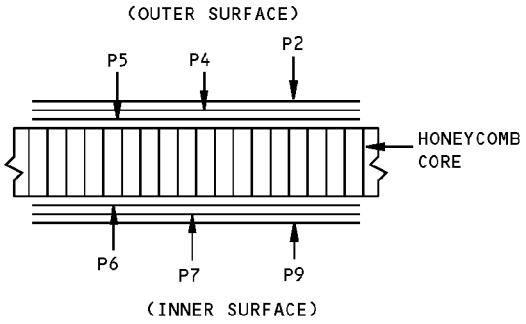
PLY TABLE [B] [L]

DETAIL VII

Flap Linkage Fairing Skin Identification
Figure 1 (Sheet 5 of 6)



VIEW ON PANEL [C]

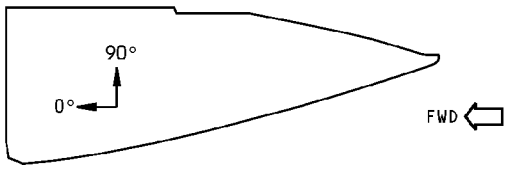


SECTION THRU PANELS

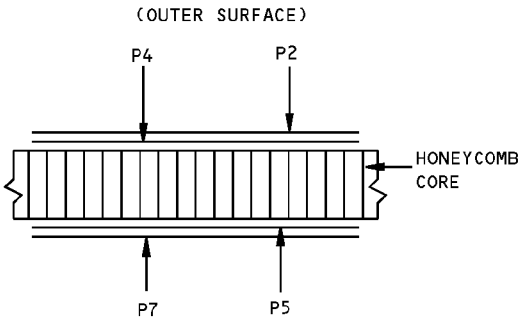
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
5	P2, P9	[D]	0°
	P4, P7	[G]	90°
	P5, P6	[F]	0° OR 90°

PLY TABLE [B]

DETAIL VIII



ITEM 6 OR 8
VIEW ON PANEL [C]



SECTION THRU PANELS

ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
6	P2	[E]	0°
	P4, P5	[F]	90°
	P7	[D]	0° OR 90°

PLY TABLE [B] [I]

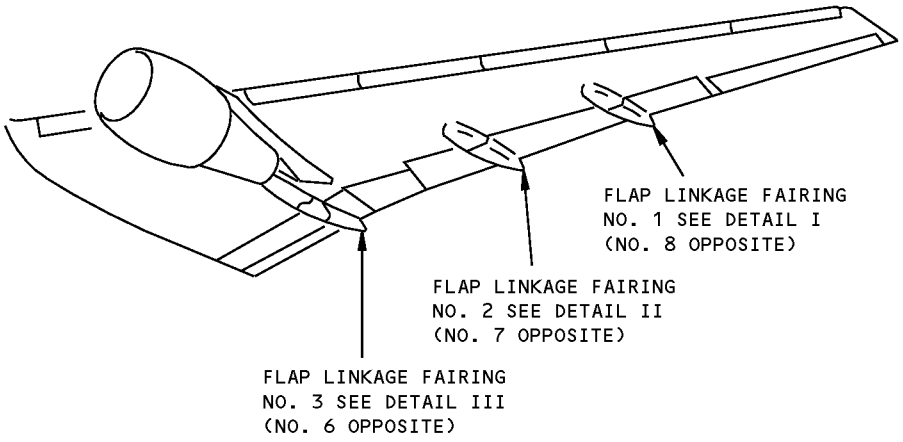
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
8	P2	[H]	0°
	P4, P5	[F]	90°
	P7	[D]	0° OR 90°

PLY TABLE [B] [J]

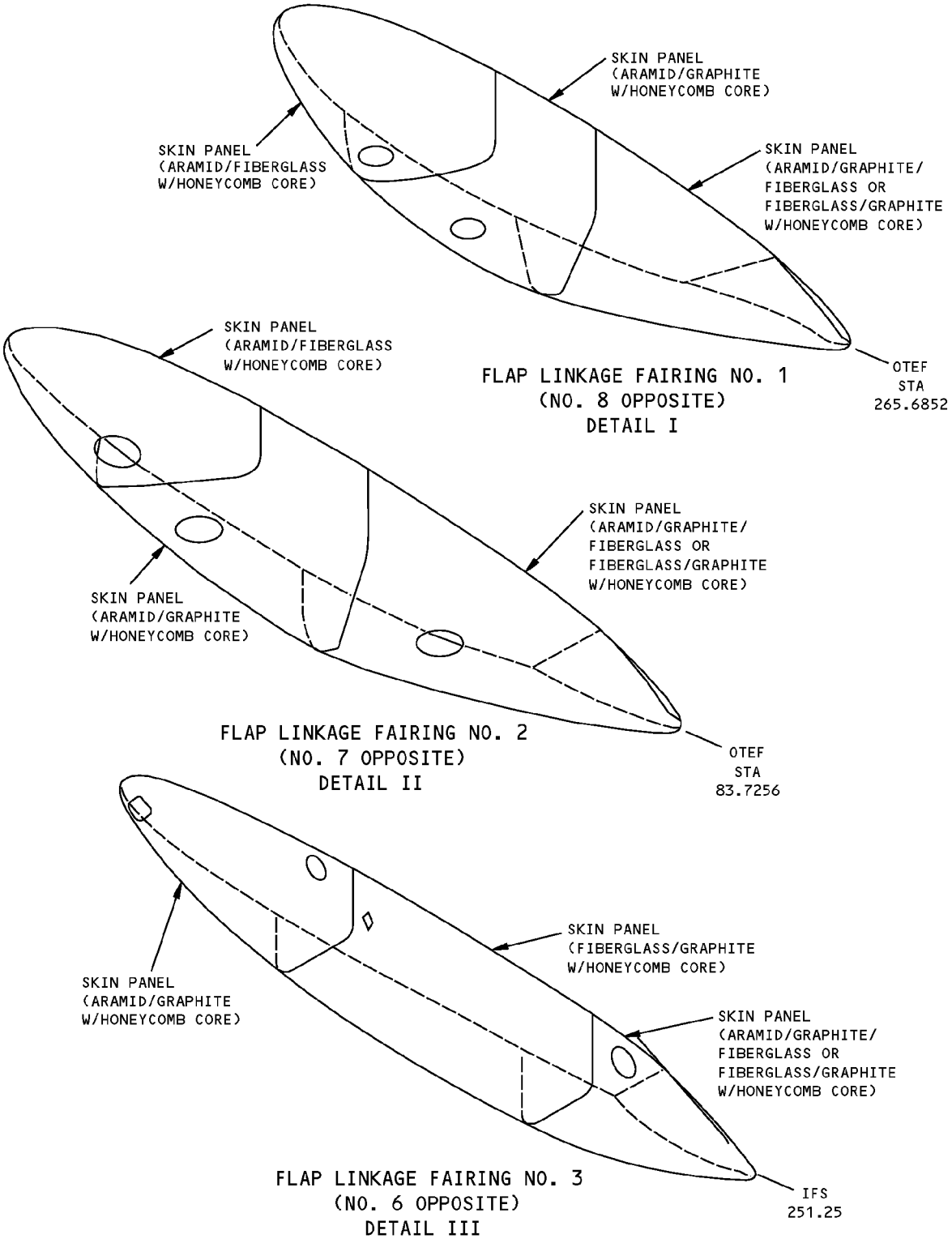
DETAIL IX

Flap Linkage Fairing Skin Identification
Figure 1 (Sheet 6 of 6)

ALLOWABLE DAMAGE 1 - FLAP LINKAGE FAIRING SKIN



Flap Linkage Fairing Skin Allowable Damage
Figure 101 (Sheet 1 of 4)



Flap Linkage Fairing Skin Allowable Damage
Figure 101 (Sheet 2 of 4)

DESCRIPTION	CRACKS	NICKS AND GOUGES	DENTS	HOLES AND PUNCTURES	DELAMINATION
SKIN PANELS	[B] [C]	[D]	[E]	[F]	[G] [H]

TABLE I

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO NDT 51-05-01 FOR TAP TEST INSPECTION OF HONEYCOMB SANDWICH STRUCTURE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS GIVEN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- DAMAGE TO PANEL EDGES MAY BE CONFINED TO DELAMINATION OR MAY TAKE A FORM WHICH RESULTS IN DAMAGE TO FIBERS AND A LOSS OF EFFECTIVE CROSS-SECTIONAL AREA. THIS TYPE OF DAMAGE SHOULD BE REMOVED AND THE LIMITATIONS GIVEN FOR CRACKS APPLIED.

[A] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAXIMUM OF 125°F [52°C]) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH BMS 5-95 OR EQUIVALENT. APPLY ONE LAYER OF ALUMINUM FOIL TAPE (SPEED TAPE) OVER THE DAMAGED AREA WITH A MINIMUM OF TWO INCHES OVERLAP. RECORD THE LOCATION AND INSPECT THE TAPE AT 300 FLIGHT CYCLE INTERVALS. REPLACE THE TAPE IF THERE IS ANY PEELING OR DETERIORATION. REPAIR THE DAMAGE AT OR BEFORE 3,000 FLIGHT CYCLES.

[B] CRACKS IN THE HONEYCOMB AREA ARE PERMITTED UP TO A MAXIMUM OF 2.0 INCHES (50 mm) LENGTH PER SQUARE FOOT OF AREA. ALL CRACKS MUST BE A MINIMUM OF 6.0 INCHES (15 cm) AWAY FROM ANY OTHER CRACK.

[C] CRACKS THROUGH CONSECUTIVE FASTENERS OR THROUGH THE PANEL EDGEBAND ARE PERMITTED IF THE DAMAGE DOES NOT EXCEED 10% OF THE EDGEBAND LENGTH PER SIDE. [A]

ONE CRACK (PER FAIRING), UP TO A MAXIMUM LENGTH OF 1.5 INCHES (38 mm) IS PERMITTED FROM THE EDGE OF THE FAIRING PANEL TO A FASTENER LOCATION, IF THE FOLLOWING CONDITIONS ARE MET:

- DO A TAP TEST OF THE AREA ADJACENT TO THE CRACK TO MAKE SURE NO DELAMINATION EXISTS. IF DELAMINATION IS FOUND, IT MUST NOT BE LARGER THAN SPECIFIED IN [H].
- THERE ARE NO LOOSE FASTENERS IN THE ADJACENT AREA
- THE CRACKED EDGEBAND AREA IS PROTECTED AS SPECIFIED IN [A].
- THE CRACK IS INSPECTED AND REPAIRS ARE ACCOMPLISHED AS SPECIFIED IN TABLE II.

[D] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAIL IV. [A]

[E] DENTS GENERALLY RESULT IN FIBER DAMAGE OR DELAMINATION. HOWEVER, IF THERE IS NO FIBER DAMAGE OR DELAMINATION, DENTS UP TO 1.5 INCHES (38 mm) DIA MAX ARE PERMITTED. ONE DENT PER SQUARE FOOT OF AREA IS PERMITTED. IT MUST BE A MINIMUM OF 6 INCHES FROM ANY OTHER DAMAGE, FASTENER HOLE, OR PANEL EDGE. IF THERE IS FIBER DAMAGE OR DELAMINATION, REFER TO THE APPLICABLE DAMAGE DATA IN THE TABLE.

[F] 1.0 INCH (25.4 mm) MAXIMUM DIA IS PERMITTED IN THE HONEYCOMB AREA ONLY IF THE DAMAGE IS A MINIMUM OF 2.5 INCHES (64 mm) DIAMETER FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. [A]

[G] 1.0 INCH (25.4 mm) MAXIMUM DIA IS PERMITTED IN THE HONEYCOMB AREA. DO A REPAIR TO DELAMINATION IN THE HONEYCOMB AREA AS GIVEN IN SRM 51-70 AND TABLE II, NOTE 2.

[H] DELAMINATION THAT IS FOUND IN THE EDGEBAND OR ADJACENT TO AN EDGEBAND CRACK, IS PERMITTED UP TO 0.5 INCH (12.7 mm) ON EACH SIDE OF THE CRACK, FOR A TOTAL OF ONE INCH DIAMETER MAXIMUM. DELAMINATION MUST BE SEALED WITH BMS 5-95 SEALANT OR EQUIVALENT. THE DELAMIATION MUST BE INSPECTED AND REPAIRS DONE AS GIVEN IN TABLE II.

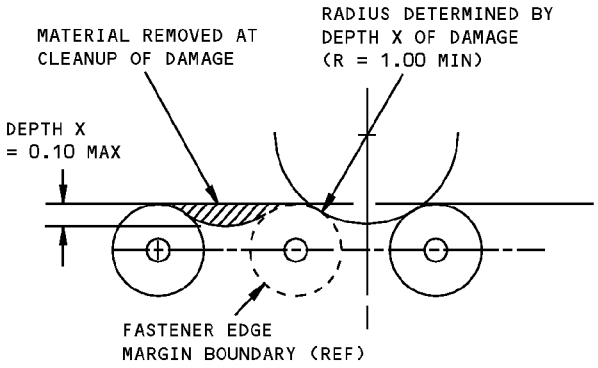
Flap Linkage Fairing Skin Allowable Damage
Figure 101 (Sheet 3 of 4)

DAMAGE INSPECTION AND REPAIR REQUIREMENT			
THRESHOLD	METHOD	INTERVAL	REFERENCE
NOTE 1	TAP TEST AND VISUAL INSPECTION	NOTE 1	NDT PART 1, 51-05-01
NOTE 2	REPAIR	NOT APPLICABLE	SRM 57-53-70 FIGURE 201

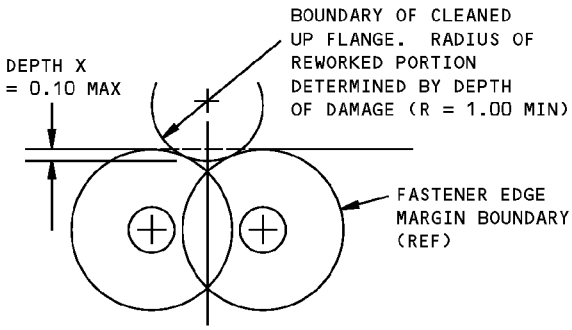
NOTE 1: DO THE INSPECTION OF THE DAMAGE AT 300 FLIGHT CYCLES FROM THE DATE THE DAMAGE IS FOUND. REPEAT THE INSPECTION UNTIL A REPAIR IS DONE AS GIVEN IN NOTE 2.

NOTE 2: REPAIR THE DAMAGED AREA ON OR BEFORE 3,000 FLIGHT CYCLES OR 18 MONTHS, WHICHEVER COMES FIRST, FROM THE DATE THE DAMAGE IS FOUND.

TABLE II



DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP

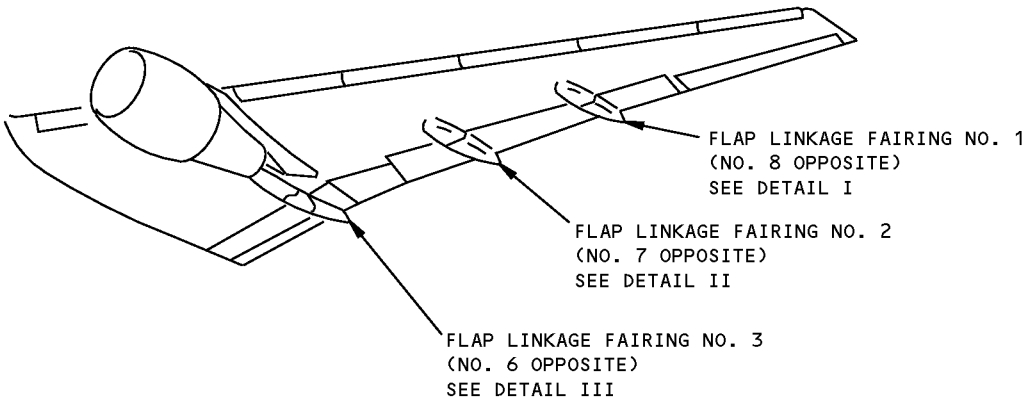


DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

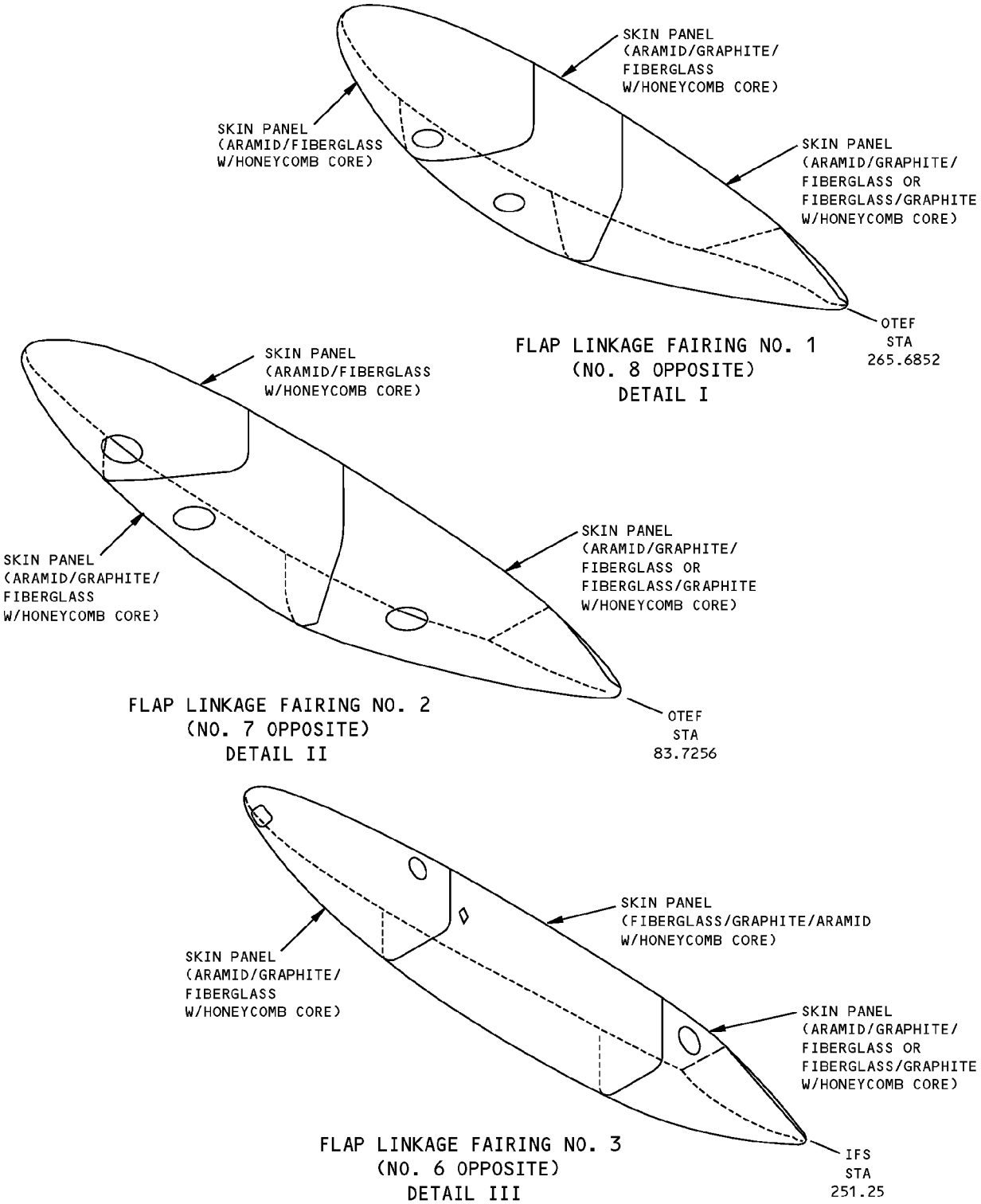
DETAIL IV

Flap Linkage Fairing Skin Allowable Damage
Figure 101 (Sheet 4 of 4)

REPAIR 1 - FLAP LINKAGE FAIRING SKIN



Flap Linkage Fairing Skin Repairs
Figure 201 (Sheet 1 of 3)



Flap Linkage Fairing Skin Repairs
Figure 201 (Sheet 2 of 3)

DAMAGE	INTERIM REPAIRS	PERMANENT REPAIRS		
	WET LAYUP ROOM TEMP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP ROOM TEMP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05)
CRACKS	UP TO 4.0 INCHES (101.6 mm) LONG, REPAIR WITH PATCH AS SHOWN IN SRM 51-70-03, PARAGRAPH 5.N.	CLEAN UP DAMAGE AND REPAIR AS A HOLE	CLEAN UP DAMAGE AND REPAIR AS A HOLE	CLEAN UP DAMAGE AND REPAIR AS A HOLE
HOLES	4.0 INCHES (101.6 mm) MAXIMUM DIAMETER IS NOT MORE THAN 30 PERCENT OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS SHOWN IN SRM 51-70-03, PARAGRAPH 5.N. [C]	8.0 INCHES (203.2 mm) MAXIMUM DIAMETER IS NOT MORE THAN 50 PERCENT OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES FOR EACH FACE SHEET REPAIRED [C]	16.0 INCHES (406.4 mm) MAXIMUM DIAMETER IS NOT MORE THAN 50 PERCENT OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES FOR EACH FACE SHEET REPAIRED	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS A HOLE			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS SHOWN IN SRM 51-70-03 IF THERE IS FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE			
DENTS	UP TO 4.0 INCHES (101.6 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS SHOWN IN SRM 51-70-03, PARAGRAPH 5.L. OVER 4.0 INCHES (101.6 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE			

REPAIR DATA FOR 250°F (121°C) CURE COMPOSITE PANELS [D]

NOTES

- REFINISH REWORKED AREAS AS SHOWN IN AMM 51-20
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE IS MORE THAN THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE

[A] LIMITED TO REPAIR OF ONE FACESHEET SKIN AND HONEYCOMB CORE. INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST AT A MAXIMUM OF 3000 FLIGHT CYCLES OR 18 MONTHS, WHICHEVER OCCURS FIRST. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO SRM 51-70-03, PAR. 4.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN

[B] DO NOT EXTEND GRAPHITE/EPOXY REPAIR PLIES INTO PANEL EDGEBAND

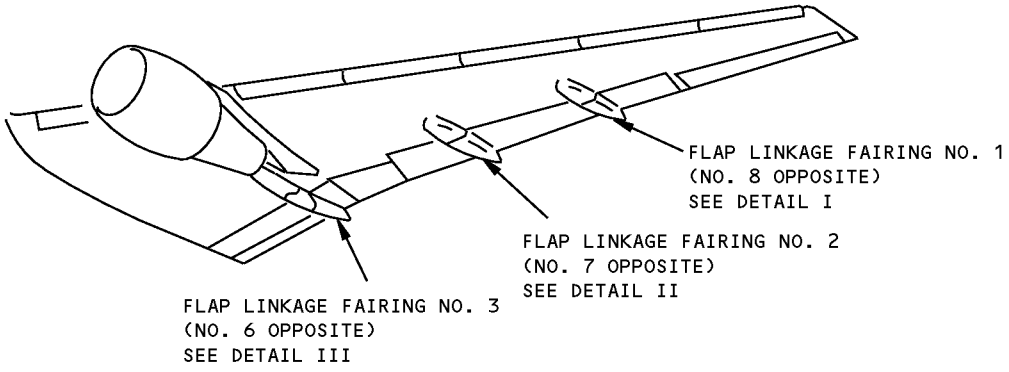
[C] MINIMUM SPACING (EDGE TO EDGE) SHALL BE 6.0 INCHES (152.4mm) BETWEEN CORE REPAIRS

[D] FOR ADDED PROTECTION AGAINST MOISTURE INGESTION, INCORPORATION OF SERVICE BULLETIN 767-51-0008 FOR AIRPLANES 2 THRU 105 IS RECOMMENDED. FOR PANELS WITH EXISTING MOISTURE BARRIER COATING, REAPPLY BMS 5-95 SEALANT ON REWORKED AREAS PRIOR TO THE APPLICATION OF ENAMEL FINISH. REFER TO AMM 51-21-12

Flap Linkage Fairing Skin Repairs
Figure 201 (Sheet 3 of 3)

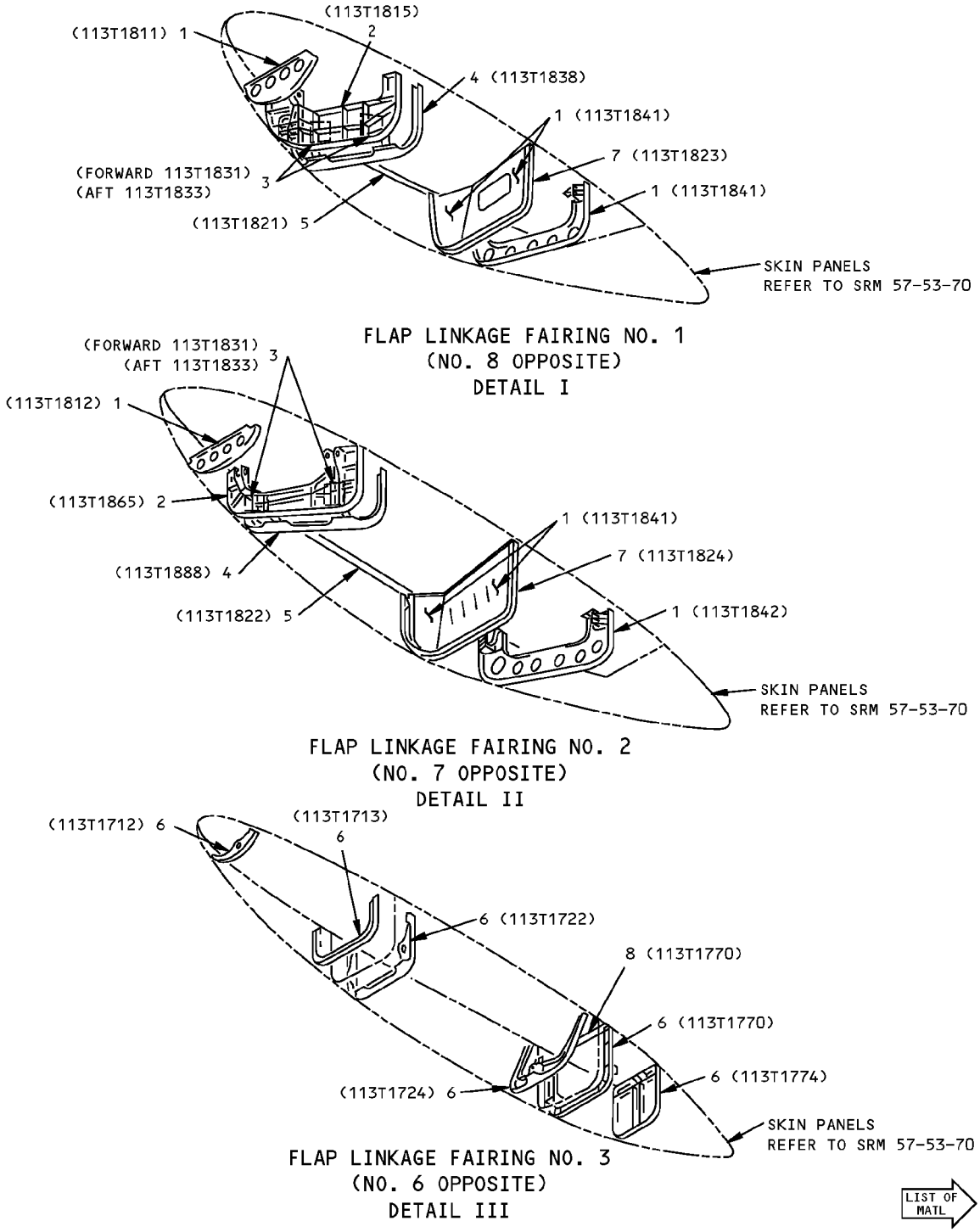
IDENTIFICATION 1 - FLAP LINKAGE FAIRING STRUCTURE

REF DWG
113T1700
113T1800



LEFT SIDE SHOWN
RIGHT SIDE EQUIVALENT

Flap Linkage Fairing Structure Identification
Figure 1 (Sheet 1 of 3)



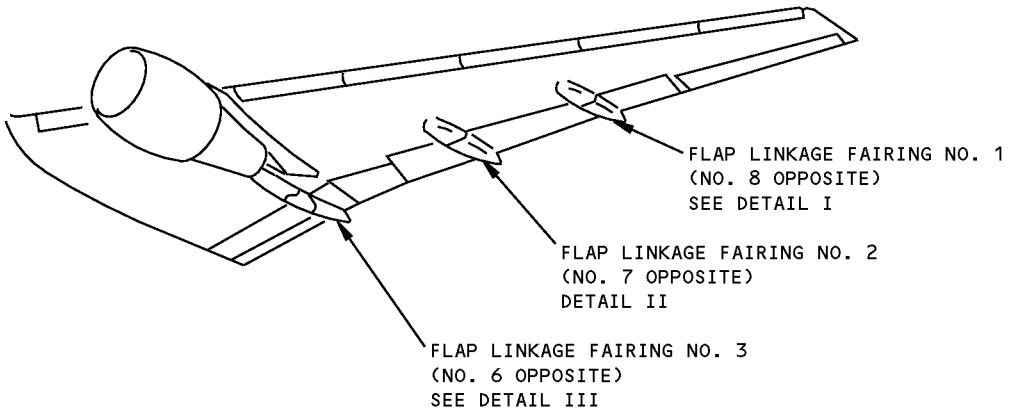
Flap Linkage Fairing Structure Identification
Figure 1 (Sheet 2 of 3)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	BULKHEAD	0.063	CLAD 7075-T6	
2	BULKHEAD		FORGING 7075-T73 OPTIONAL: PLATE 7075-T7351	
3	HINGE FITTINGS			
	FORWARD		FORGING 7075-T73 OPTIONAL: PLATE 7075-T73	
	AFT		FORGING 7075-T73 OPTIONAL: BAR 7075-T73	
4	FRAME	0.063	7075-T6	
5	BEAM	0.080	CLAD 7075-T6	
6	FRAME		FORGING 7075-T73	
7	FRAME		CASTING A356-T61 OPTIONAL: FORGING 7075-T73	
8	INTERCOSTAL		AND10136-1701 7075-T6511	

LIST OF MATERIALS FOR DETAILS I,II AND III

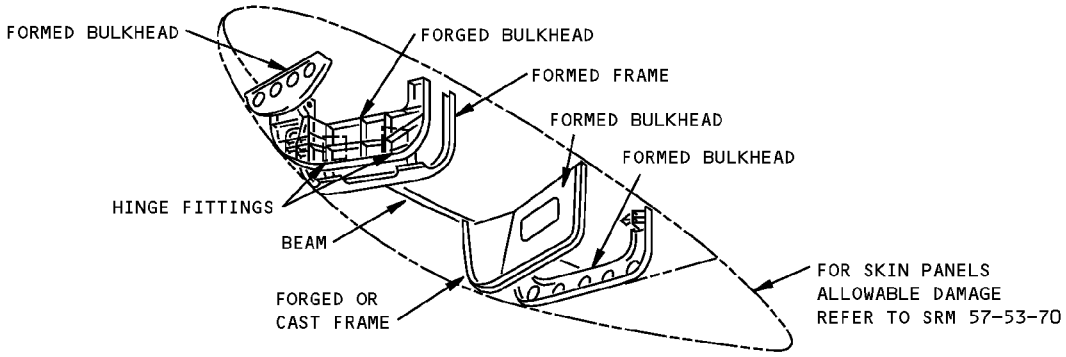
Flap Linkage Fairing Structure Identification
Figure 1 (Sheet 3 of 3)

ALLOWABLE DAMAGE 1 - FLAP LINKAGE FAIRING STRUCTURE

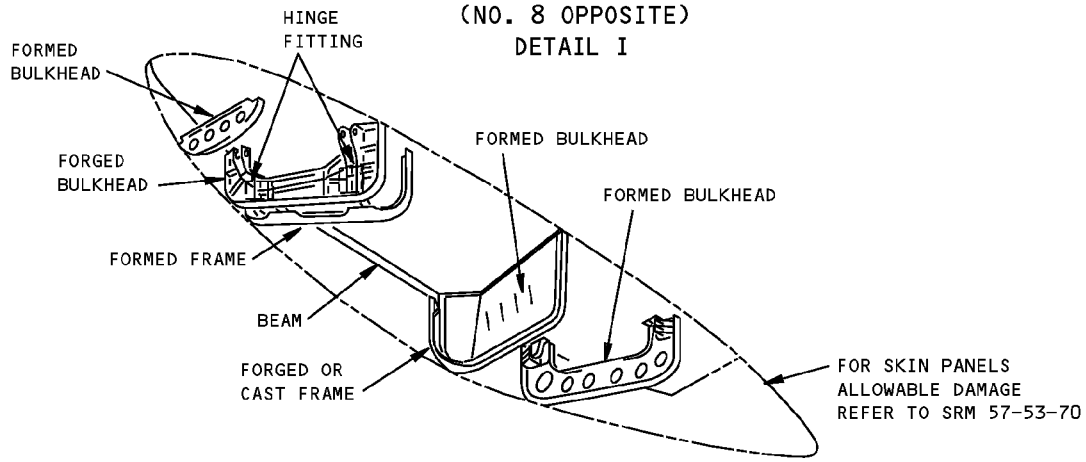


LEFT SIDE SHOWN
RIGHT SIDE SIMILAR

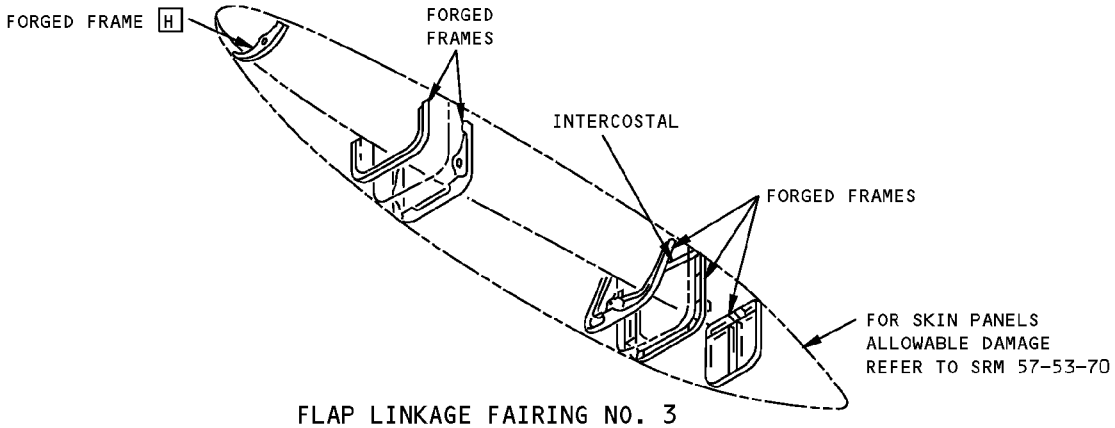
Flap Linkage Fairing Structure Allowable Damage
Figure 101 (Sheet 1 of 5)



FLAP LINKAGE FAIRING NO. 1
(NO. 8 OPPOSITE)
DETAIL I



FLAP LINKAGE FAIRING NO. 2
(NO. 7 OPPOSITE)
DETAIL II



FLAP LINKAGE FAIRING NO. 3
(NO. 6 OPPOSITE)
DETAIL III

Flap Linkage Fairing Structure Allowable Damage
Figure 101 (Sheet 2 of 5)

ITEM	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
FORMED BULKHEADS	A	C	SEE DETAIL VI	G
FORGED BULKHEADS F	B	D	NOT PERMITTED	NOT PERMITTED
FORMED FRAMES	A	C	SEE DETAIL VI	G
FORGED FRAMES F	B	D	NOT PERMITTED	NOT PERMITTED
BEAMS	A	C	SEE DETAIL VI	G
HINGED FITTINGS F	B	E	NOT PERMITTED	NOT PERMITTED
INTERCOSTAL F	B	D	NOT PERMITTED	NOT PERMITTED

NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

A CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS IV AND VIII.

B CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS IV AND IX.

C REMOVE DAMAGE AS GIVEN IN DETAILS IV,V,VII, AND VIII.

D REMOVE DAMAGE AS GIVEN IN DETAILS IV,V,VII, AND IX.

E FOR EDGE DAMAGE SEE DETAIL IX. FOR LUG DAMAGE SEE DETAIL X. FOR OTHER DAMAGE SEE DETAIL V. DAMAGE IS NOT PERMITTED NEAR BUSHINGS.

F SHOT PEEN REWORKED AREAS AS GIVEN IN SRM 51-20-06 (EXCEPT CASTINGS). SHOT PEEN INTENSITIES WILL VARY WITH THICKNESS LEFT AFTER REWORK.

G CLEAN OUT DAMAGE UP TO 0.19 INCH (4.8 MM) MAXIMUM DIAMETER AND NOT CLOSER THAN 2D TO NEAREST HOLE, MATERIAL EDGE OR OTHER DAMAGE. FILL THE HOLE WITH A 2117-T3 OR T4 ALUMINUM RIVET INSTALLED WET WITH BMS 5-95 SEALANT. ALL OTHER HOLES MUST BE REPAIRED.

H SHOT PEENING IS NOT REQUIRED.

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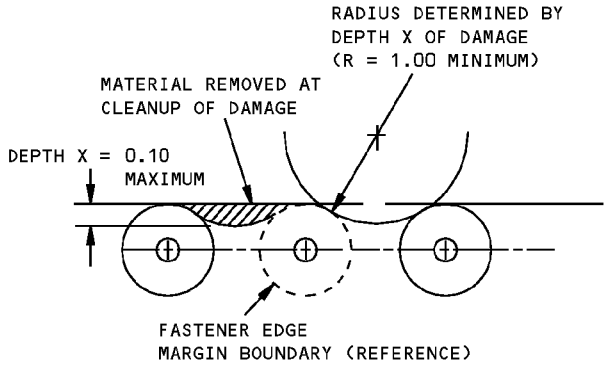
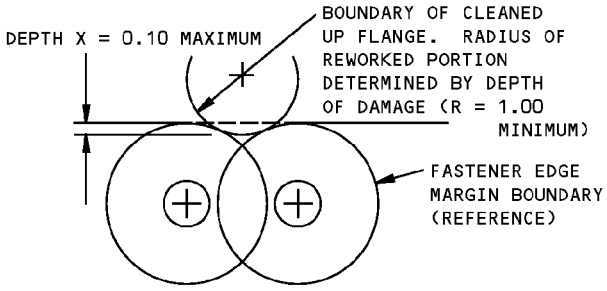
Flap Linkage Fairing Structure Allowable Damage
Figure 101 (Sheet 3 of 5)

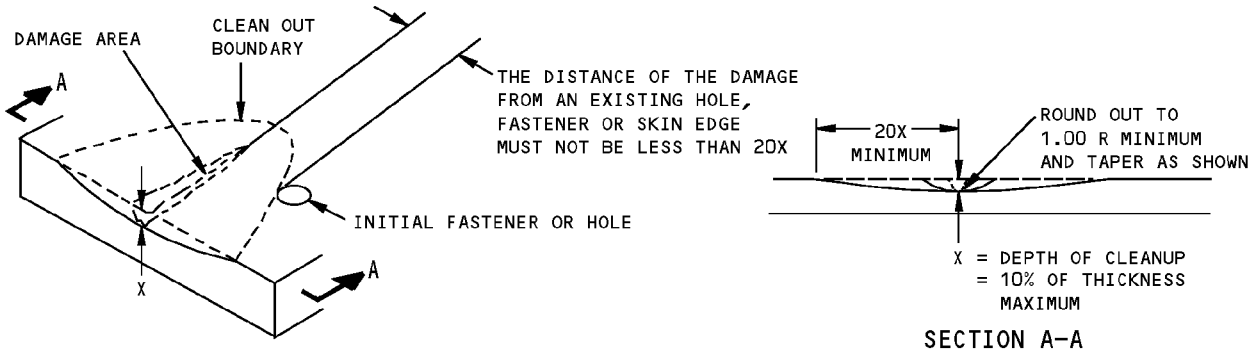


DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



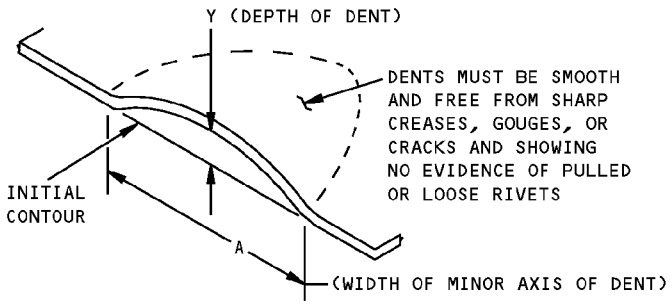
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

DETAIL IV



SECTION A-A

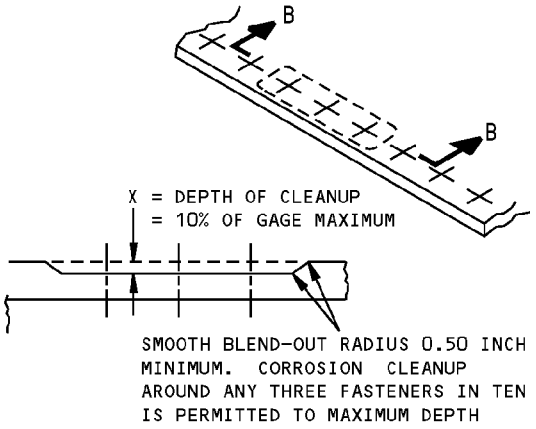
REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL V



$\frac{A}{Y}$ MUST NOT BE LESS THAN 30

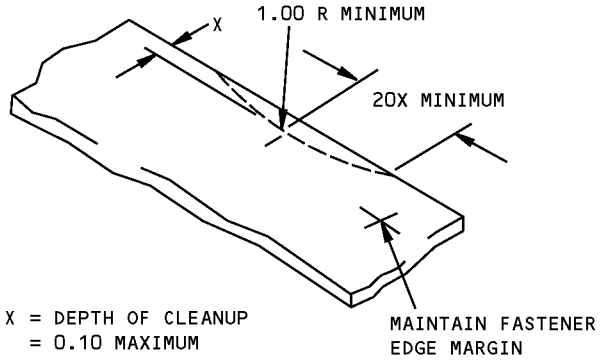
Y MUST NOT EXCEED 0.100

ALLOWABLE DAMAGE FOR DENT
DETAIL VI

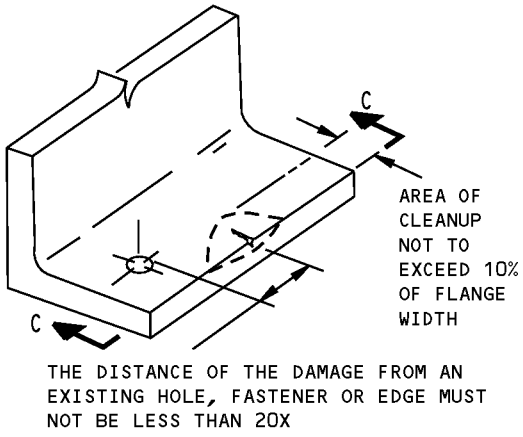


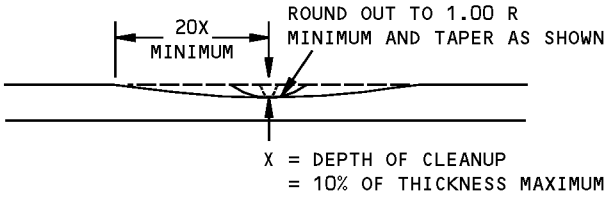
SECTION B-B
CORROSION CLEANUP
DETAIL VII

Flap Linkage Fairing Structure Allowable Damage
Figure 101 (Sheet 4 of 5)



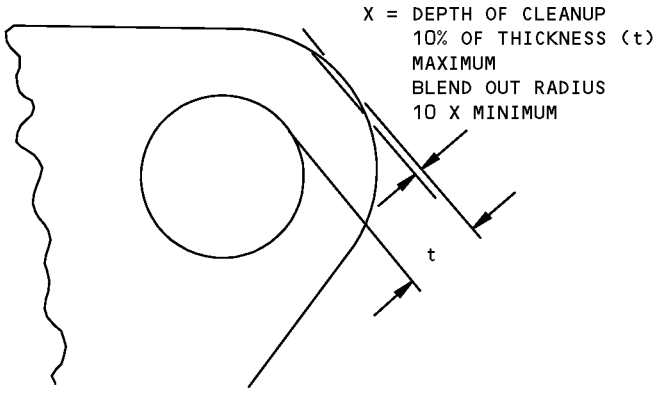
REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL VIII





SECTION C–C

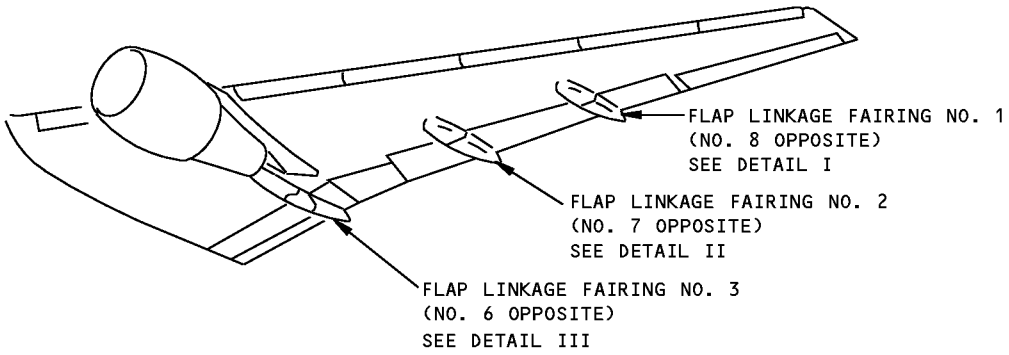
REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL IX



DAMAGE CLEANUP FOR EDGES OF LUG
DETAIL X

Flap Linkage Fairing Structure Allowable Damage
Figure 101 (Sheet 5 of 5)

REPAIR 1 - FLAP LINKAGE FAIRING STRUCTURE



REPAIR INSTRUCTIONS

REFER TO SRM 51-70-11 FOR TYPICAL FORMED SECTION REPAIRS

NOTES

- REFER TO THE FOLLOWING WHEN YOU USE THIS REPAIR:
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL.
- DAMAGED COMPONENTS IN FLAP LINKAGE FAIRING MAY BE REPLACED. THERE ARE NO TYPICAL REPAIRS TO PARTS THAT ARE MADE FROM FORGINGS, CASTINGS OR PLATE. SPECIFIC REPAIRS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE.

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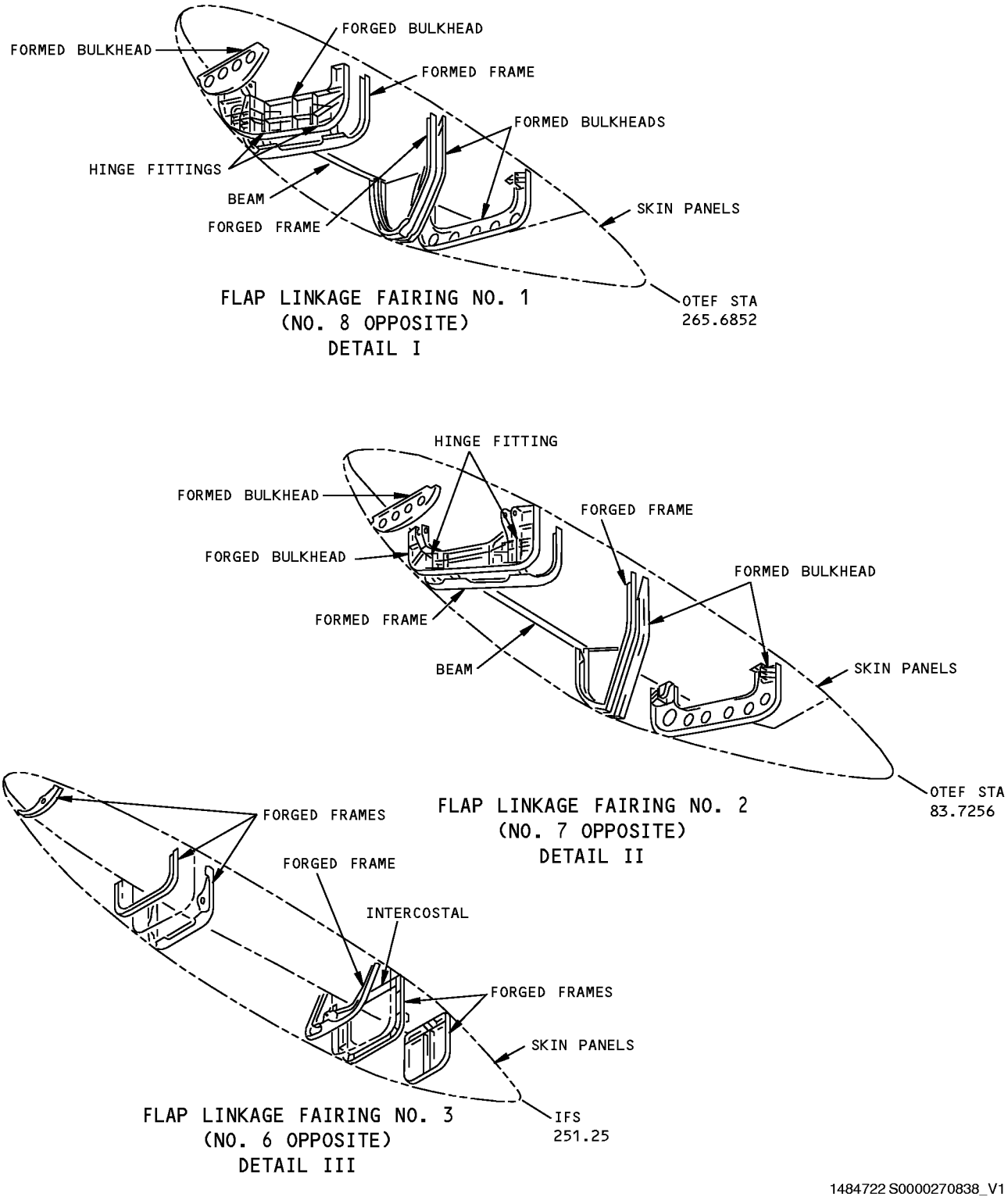
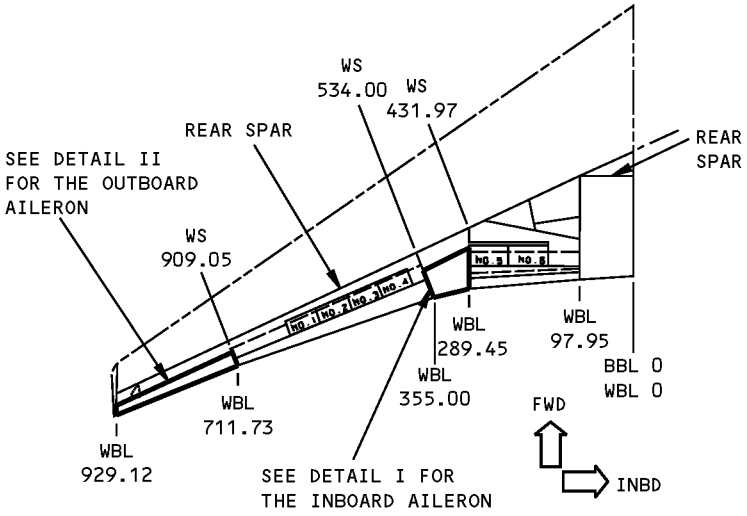
Flap Linkage Fairing Structure Repair
Figure 201 (Sheet 1 of 2)

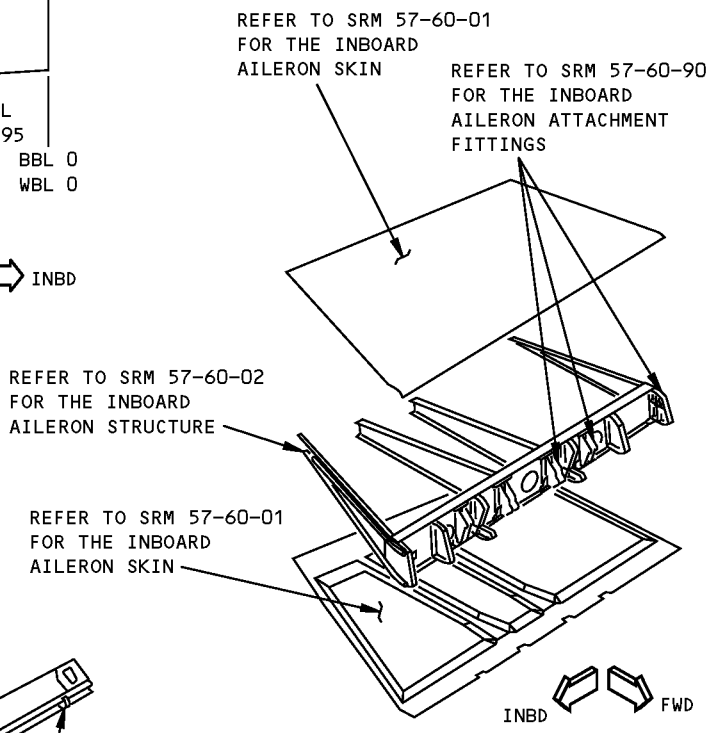


1484722 S0000270838_V1

Flap Linkage Fairing Structure Repair
Figure 201 (Sheet 2 of 2)

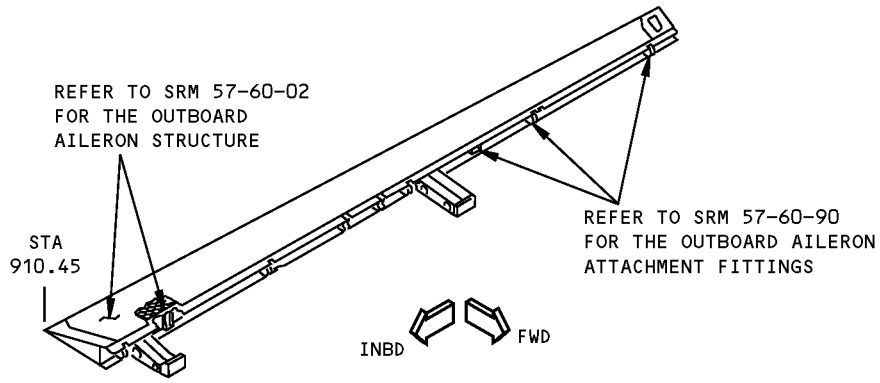
GENERAL - AILERON STRUCTURAL DIAGRAM





INBOARD AILERON

DETAIL I



OUTBOARD AILERON

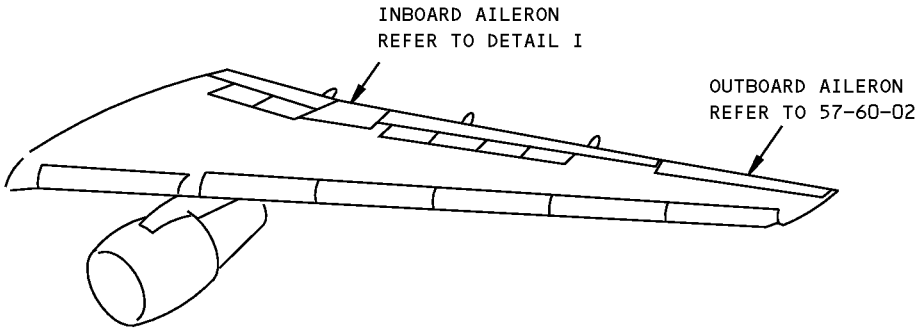
DETAIL II

NOTES

- REFER TO SRM 57-51-00 FOR FIXED TRAILING EDGE AND MAIN LANDING GEAR SUPPORT STRUCTURE
- REFER TO SRM 57-53-00 FOR TRAILING EDGE FLAPS
- REFER TO SRM 57-70-00 FOR SPOILERS

Aileron Diagram
Figure 1

IDENTIFICATION 1 - INBOARD AILERON SKIN



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME

NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION

[B] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGEBANDS AND AREAS WITH DOUBLERS

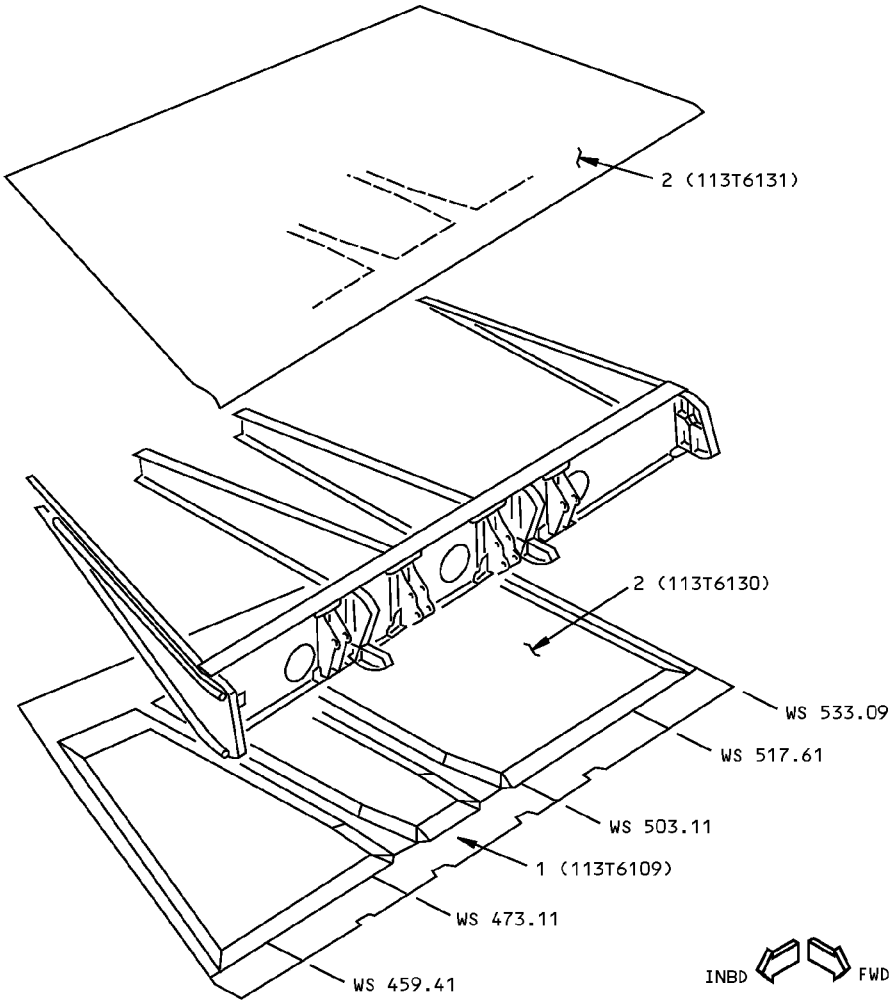
[C] DIAGRAM OF PLY ORIENTATION. SEE PLY TABLE FOR PLY ORIENTATION AND MATERIAL

[D] GRAPHITE/EPOXY FABRIC AS GIVEN IN BMS 8-212, TYPE IV, CLASS 2, STYLE 3K-70-PW, 350°F (177°) CURE

[E] FIELD AREAS ARE LIMITED IN SIZE. REFER TO BOEING DRAWINGS FOR PLY LAY-UP CONFIGURATION

Inboard Aileron Skin Identification
Figure 1 (Sheet 1 of 4)

REF DWG
113T6000



INBOARD AILERON
DETAIL I

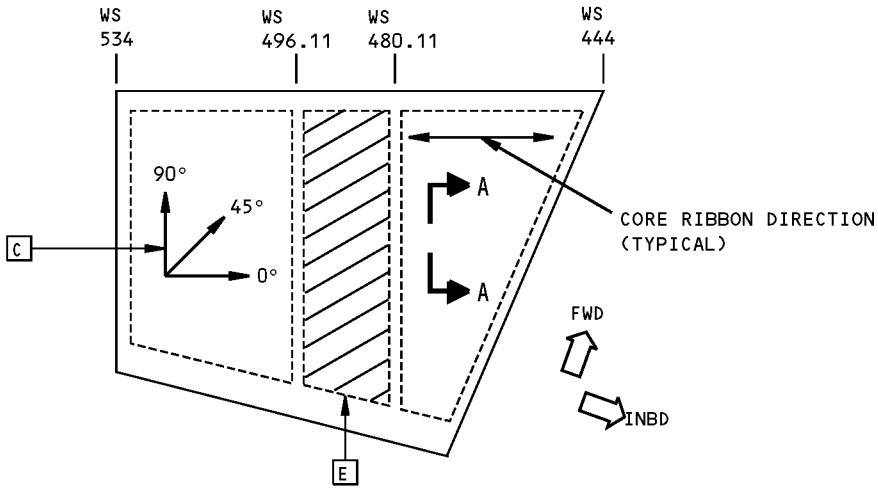
LIST OF MATL

Inboard Aileron Skin Identification
Figure 1 (Sheet 2 of 4)

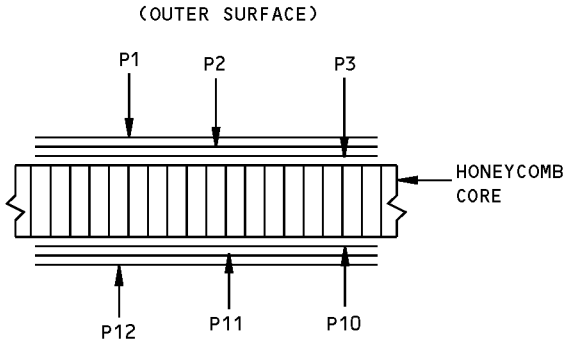
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	LOWER NOSE ACCESS PANEL		ARAMID/EPOXY HONEYCOMB SANDWICH	
	SKIN [E]		FIBERGLASS FABRIC AS GIVEN IN BMS 8-79, TYPES 120 AND 1581	
	CORE		NONMETALLIC HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	
2	UPPER AND LOWER SKIN PANELS		GRAPHITE/EPOXY HONEYCOMB SANDWICH	
	SKIN		SEE DETAIL II	
	CORE		NONMETALLIC HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	

LIST OF MATERIALS FOR DETAIL I

Inboard Aileron Skin Identification
Figure 1 (Sheet 3 of 4)



VIEW ON PANEL



SECTION A–A

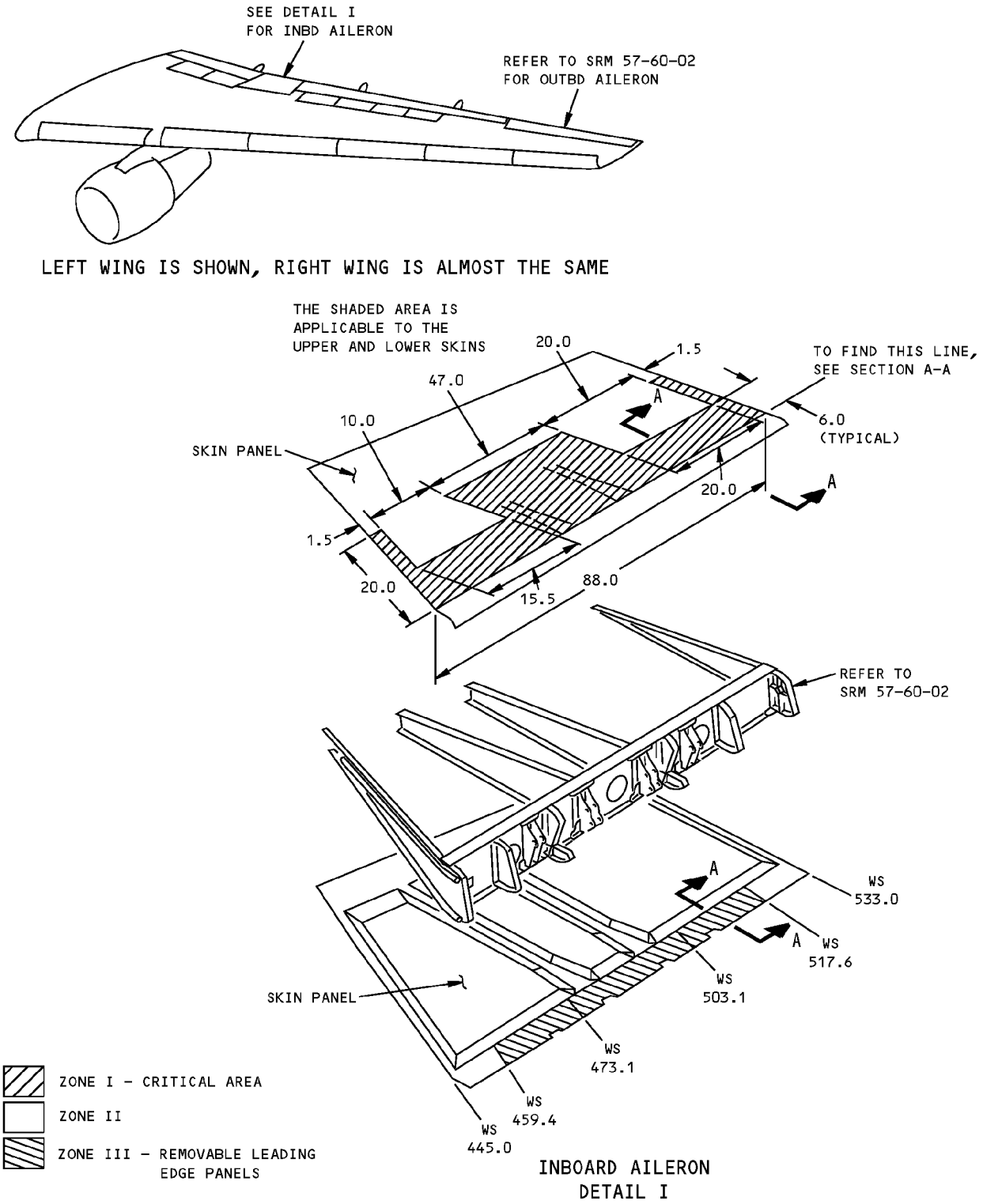
ITEM NO.	PLY NO.	MATERIAL	PLY ORIENTATION [A]
2 (DETAIL I)	P1,P3,P10,P12	[D]	+45°
	P2,P11	[D]	0 OR 90°

PLY TABLE [B]

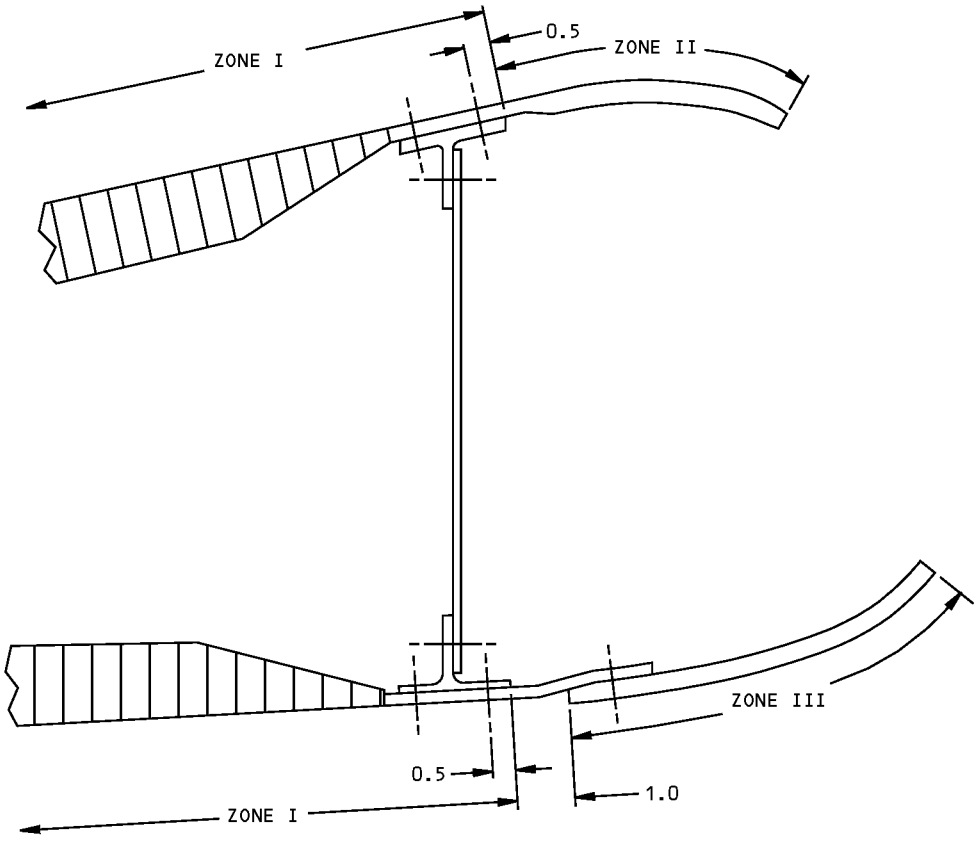
INBOARD AILERON
DETAIL II

Inboard Aileron Skin Identification
Figure 1 (Sheet 4 of 4)

ALLOWABLE DAMAGE 1 - INBOARD AILERON SKIN



Inboard Aileron Skin Allowable Damage
Figure 101 (Sheet 1 of 5)



SECTION A–A

Inboard Aileron Skin Allowable Damage
Figure 101 (Sheet 2 of 5)

SEE DETAIL IV FOR DAMAGE TO THE HONEYCOMB AREA OF THE PANEL. DAMAGE TO ONE FACESHEET AND HONEYCOMB CORE IS PERMITTED ON EACH PANEL. DAMAGE TO BOTH FACESHEETS OF A PANEL MUST BE REPAIRED. [A]	MAXIMUM DIAMETER "D"		MINIMUM DISTANCE		
	VISIBLE DAMAGE	DELAMI-NATION	"a" (USE THE LARGER OF THE TWO DIMENSIONS)		"E"
ZONE I	0.25 INCH (6 MM)	0.25 INCH (6 MM)	8d	8D	3D
ZONE II	2.0 INCHES (51 MM)	2.0 INCHES (51 MM)	3d	2.5D	1 INCH [B] (25.4 MM)
ZONE III	3.0 INCHES (76.2 MM)	3.0 INCHES (76.2 MM)	2d	0.75D	1 INCH [B] (25.4 MM)

HONEYCOMB AREA OF THE PANEL
TABLE I

ALL ZONES SEE DETAILS II AND III FOR DAMAGE TO THE EDGE OF THE PANEL. DAMAGE IS NOT PERMITTED IN ZONE I FOR MORE THAN 300 FLIGHT HOURS IF THERE IS DAMAGE TO MORE THAN ONE FASTENER HOLE AT THE HINGE FITTING ATTACH FASTENERS. [A]	EDGEBAND DELAMINATION IS PERMITTED IF IT IS: - NOT MORE THAN 0.25 INCH (6 MM) WIDE - ONLY ONE DELAMINATION ALLOWED THROUGH THE THICKNESS - NOT MORE THAN ONE FASTENER HOLE IN SIX AND IS NO MORE THAN 10% OF THE TOTAL LENGTH OF THE EDGEBAND ON A SIDE
	NICKS, GOUGES, SCRATCHES, AND CRACKS ARE PERMITTED ON THE SURFACE OF THE PANEL IF THEY ARE: - NOT MORE THAN 0.25 INCH (6 MM) WIDE - A MAXIMUM OF ONE PLY IN DEPTH - A MAXIMUM LENGTH OF 10% OF THE EDGEBAND

EDGEBAND OR LAMINATE AREA OF THE PANEL
TABLE II

NOTES

- SEE TABLE I FOR DAMAGE TO HONEYCOMB AREAS.
- SEE TABLE II FOR DAMAGE TO EDGEBANDS AND LAMINATE AREAS.
- THESE ALLOWABLE DAMAGE LIMITS HAVE FAA APPROVAL IF THE INSPECTIONS SHOWN IN THIS FIGURE ARE COMPLETED AT THE SPECIFIED TIMES.
- WHEN YOU USE THIS REPAIR REFER TO:
  - AMM 51-21 TO APPLY THE FINISH TO THE REWORKED AREA
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS.
- SCRATCHES ON THE SURFACE THAT DO NOT DAMAGE THE FIBERS ARE ALLOWED. DAMAGE THAT EXCEEDS THE ALLOWABLE DAMAGE LIMITS IN TABLES I AND II MUST BE REPAIRED AT THIS TIME.

[A] PROTECT THE DAMAGE FROM THE ENTRANCE OF WATER, SUNLIGHT, OR OTHER FOREIGN MATTER.

REMOVE ANY CONTAMINATION AND MOISTURE FROM THE DAMAGED AREA. DO ONE OF THE STEPS THAT FOLLOW:

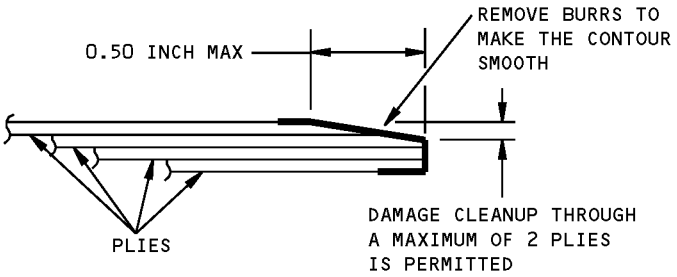
1. SEAL THE DAMAGED AREA WITH ALUMINUM FOIL TAPE (SPEED TAPE). KEEP A RECORD OF THE LOCATION AND MAKE AN INSPECTION EVERY "A" CHECK. REPLACE THE TAPE IF ANY DAMAGE IS FOUND. REPAIR THE DAMAGE AT THE NEXT "C" CHECK.

   OR

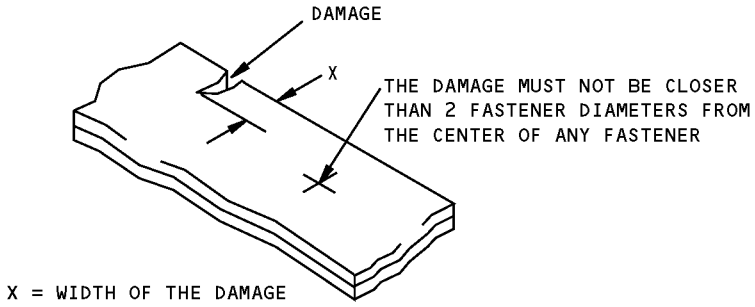
2. APPLY A SEALING RESIN AS SPECIFIED IN SRM 51-70-03.

[B] SEE TABLE II FOR DAMAGE THAT IS CLOSER THAN 1.0 INCH (25.4 MM) TO A FASTENER.

Inboard Aileron Skin Allowable Damage
Figure 101 (Sheet 3 of 5)



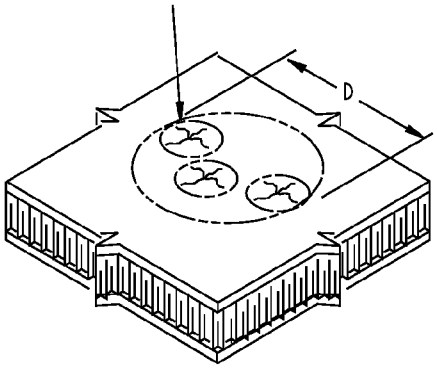
DAMAGE CLEANUP AND SEALING
OF EDGE EROSION
DETAIL II



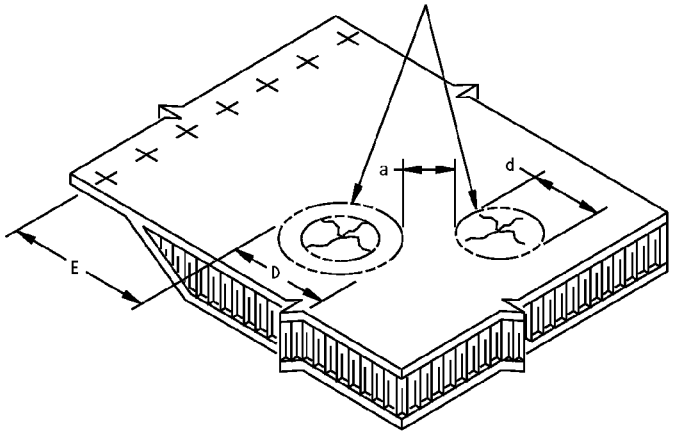
REMOVAL OF DAMAGE ON AN EDGE
DETAIL III

Inboard Aileron Skin Allowable Damage
Figure 101 (Sheet 4 of 5)

MEASURE SMALL DAMAGE AREAS THAT ARE NEAR EACH OTHER AS ONE DAMAGE AREA.



THESE DAMAGED AREAS HAVE DELAMINATION THAT IS LARGER THAN THE DAMAGE THAT CAN BE SEEN. USE THE DIAMETER OF THE DELAMINATION FOR D OR d. IF THERE IS NOT ANY DELAMINATION, THEN USE THE DIAMETER OF THE DAMAGE THAT CAN BE SEEN FOR D OR d.



- FOR MANY SMALL DAMAGE AREAS (FOR EXAMPLE, DAMAGE CAUSED BY HAIL), FIND THE DAMAGE WITH INSTRUMENTED NONDESTRUCTIVE INSPECTION (NDI) PROCEDURES. MAKE THE INSPECTION ON AN AREA 3 DIAMETERS LARGER ALL AROUND THAN THE DAMAGE THAT CAN BE SEEN.

  IF INSTRUMENTATION IS NOT AVAILABLE, USE THE TAP TEST. WITH A SMALL SOLID METAL OBJECT, HIT THE SURFACE LIGHTLY. THE SOUND WILL BE HIGH IN GOOD AREAS BUT LOW IN DISBONDED AREAS. THE TAP TEST IS NOT AN ACCURATE PROCEDURE TO FIND DAMAGE. WHEN POSSIBLE, USE THE NDI PROCEDURES.

- A DAMAGE AREA IS WHERE THERE IS A DENT, CRACK, DELAMINATION, PUNCTURE OR ANY OF THESE TOGETHER. MEASURE SMALL DAMAGE AREAS NEAR EACH OTHER AS ONE DAMAGE AREA.
- MAKE A CIRCLE AROUND THE DAMAGED AREA. "D" IS THE DIAMETER OF THE CIRCLE. REFER TO TABLE I FOR THE MAXIMUM "D".
- "D" IS THE LARGER DIAMETER OF ANY TWO ADJACENT DAMAGE AREAS.
- "d" IS THE SMALLER DIAMETER OF ANY TWO ADJACENT DAMAGE AREAS.
- "a" IS THE DISTANCE BETWEEN ANY TWO ADJACENT DAMAGE AREAS. REFER TO TABLE I FOR THE MINIMUM "a".
- "E" IS THE MINIMUM DISTANCE BETWEEN A DAMAGE AREA AND THE PANEL EDGE OR EDGE ATTACHMENT FASTENERS. REFER TO TABLE I FOR THE MINIMUM "E".

- DAMAGE THAT EXCEEDS THE ALLOWABLE DAMAGE LIMITS IN TABLE I MUST BE REPAIRED AT THIS TIME. SUBSEQUENT DAMAGE TO THIS PANEL MUST BE A MINIMUM DISTANCE "a" AWAY FROM THE DAMAGE. FOR DAMAGE THAT DOES NOT EXCEED THE ALLOWABLE DAMAGE LIMITS IN TABLE I, REMOVE MOISTURE FROM THE DAMAGED AREA. USE A VACUUM AND HEAT (A MAXIMUM OF 125°F (52°C)) TO REMOVE MOISTURE FROM THE HONEYCOMB CELLS. DO ONE OF THE STEPS THAT FOLLOW:

  1. SEAL THE DAMAGED AREA WITH ALUMINUM FOIL TAPE (SPEED TAPE). KEEP A RECORD OF THE LOCATION. REPAIR THE DAMAGE NO LATER THAN THE NEXT STRUCTURES "C" CHECK. DO A VISUAL INSPECTION OF THE SPEED TAPE AT EVERY "A" CHECK. REPLACE THE TAPE IF ANY PEELING OR DETERIORATION OF THE TAPE IS FOUND. REPAIR ANY DAMAGE THAT HAS BECOME LARGER THAN WHAT THE ALLOWABLE DAMAGE LIMITS PERMIT.

     OR

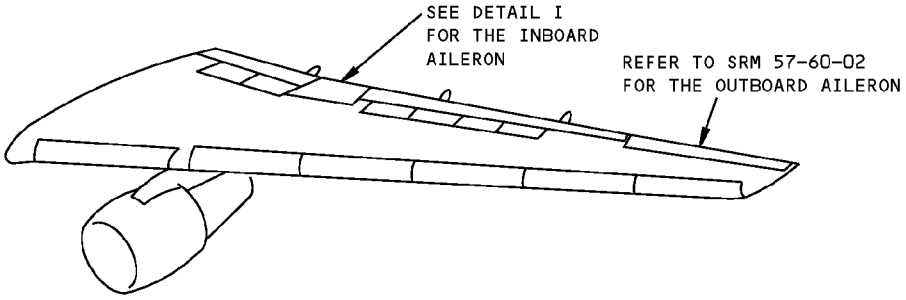
  2. APPLY A SEALING RESIN AS SPECIFIED IN SRM 51-70-03.

SIZE OF AND DISTANCE BETWEEN DAMAGE AREAS FOR COMPOSITE PANELS

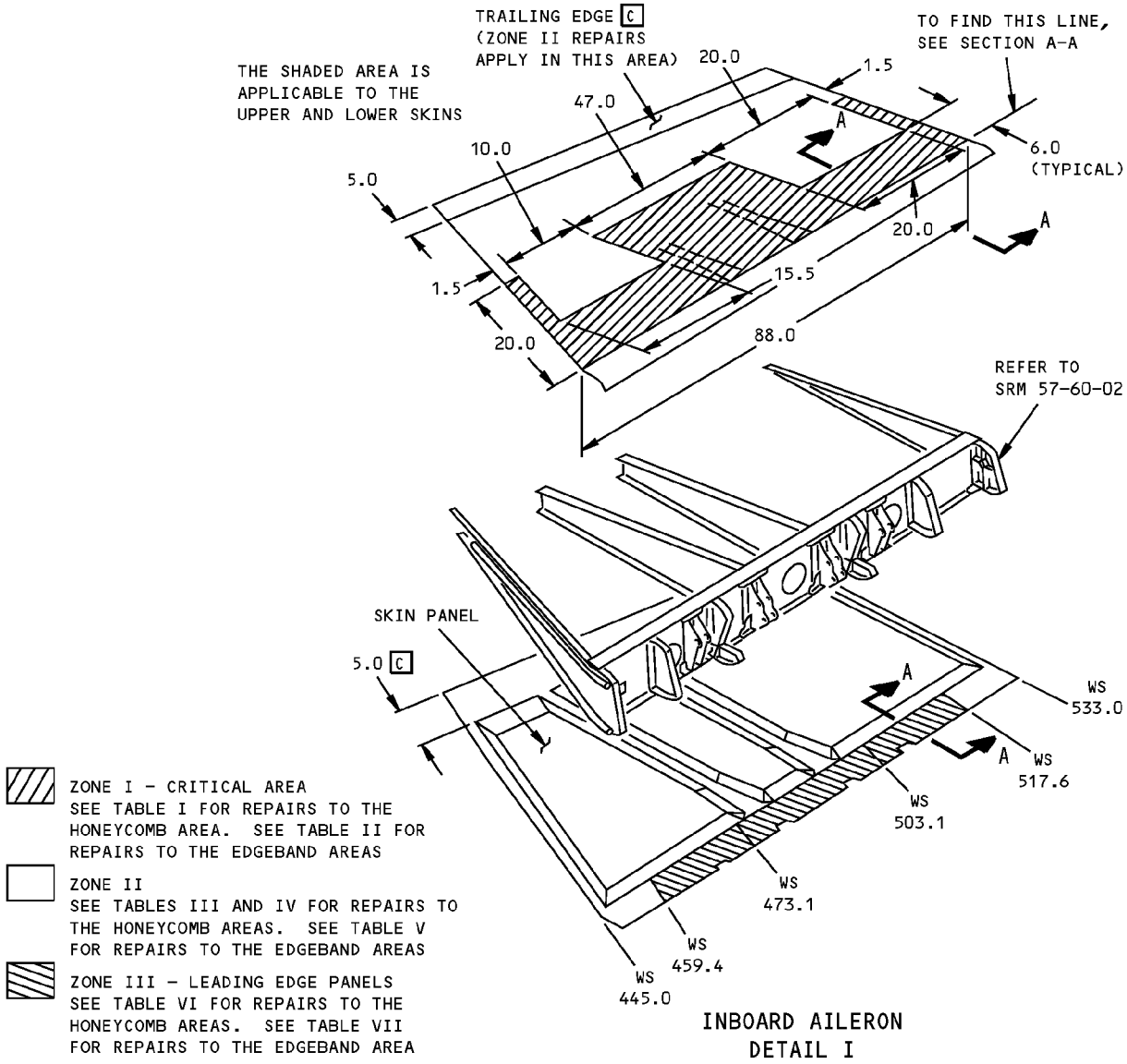
DETAIL IV

Inboard Aileron Skin Allowable Damage
Figure 101 (Sheet 5 of 5)

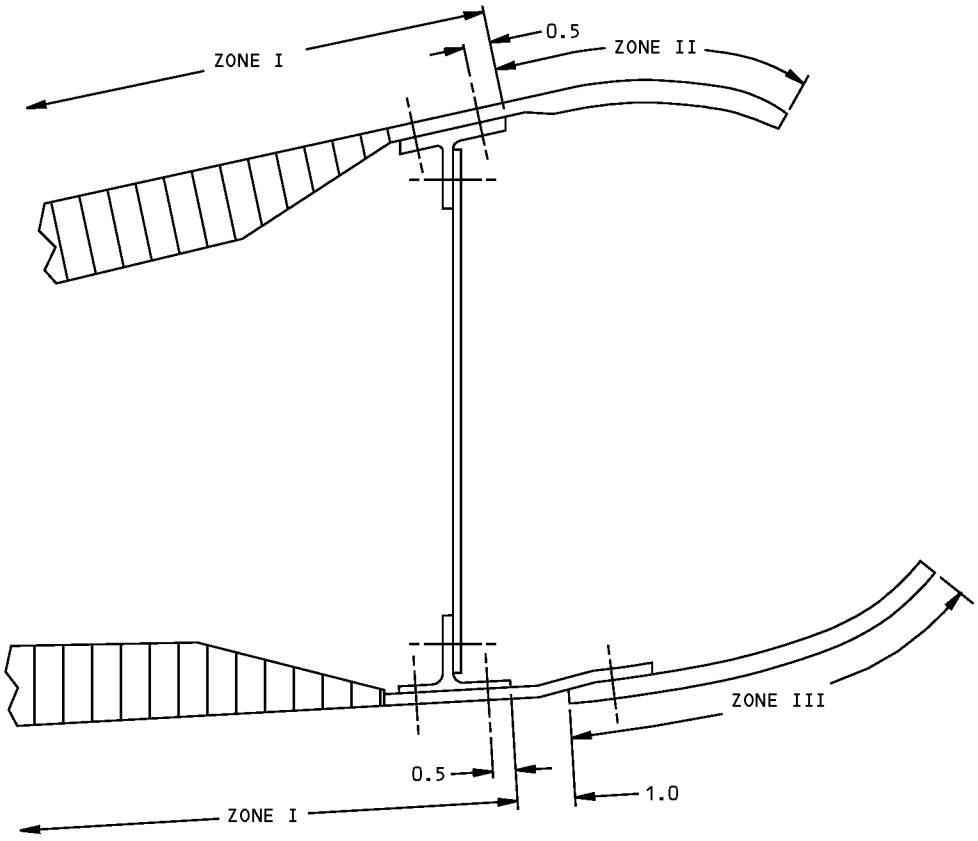
REPAIR 1 - INBOARD AILERON SKIN



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME



Inboard Aileron Skin Repair
Figure 201 (Sheet 1 of 9)



SECTION A-A

Inboard Aileron Skin Repair
Figure 201 (Sheet 2 of 9)

NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- FINISH REWORKED AREAS AS GIVEN IN AMM 51-21.
- THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.

[A] LIMITED TO REPAIR OF DAMAGE TO ONE FACE-SHEET SKIN AND HONEYCOMB CORE. KEEP THE REPAIR A MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE.

[B] INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST AT THE NEXT AIRPLANE "A" CHECK. CONTINUE TO INSPECT THE REPAIR AT EVERY SUBSEQUENT AIRPLANE "C" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO SRM 51-70-03, PAR. 4.I. AND THE NONDESTRUC-TIVE TEST MANUAL, D634T301.

[C] 350°F (177°C) TEMPERATURES WILL DAMAGE THE SEALANT WHERE THE TWO PANELS ARE ATTACHED. 350°F (177°C) REPAIRS ARE PROHIBITED IN THIS AREA UNLESS YOU DISASSEMBLE THE AILERON PANELS BEFORE YOU DO A 350°F (177°C) REPAIR.

[D] REFER TO SRM 51-20-01 FOR THE REPAIR OF FINISH CRACKS ON GRAPHITE COMPOSITE PARTS.

[E] THE REPAIR LIMITS THAT FOLLOW ONLY APPLY IF BMS 8-301, CLASS 2, RESIN IS USED.

[F] INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST EVERY AIRPLANE "C" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO SRM 51-70-03, PAR. 4.I. AND NDT D634T301.

[G] KEEP THE REPAIR A MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE.

[H] THE TOTAL LENGTH OF ALL REPAIRS TO AN ATTACH FLANGE MUST NOT BE MORE THAN 10% OF THE FULL ATTACH FLANGE LENGTH.

Inboard Aileron Skin Repair
Figure 201 (Sheet 3 of 9)

DAMAGE	INTERIM REPAIRS [B]	PERMANENT REPAIRS		
	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03) [E]	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05)	350°F (177°C) CURE (SRM 51-70-04)
CRACKS [D]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.
HOLES AND PUNCTURES	1.0 INCH (25.4 mm) MAX DIA. USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED [A].	5.0 INCHES (127 mm) MAX DIA. USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED. [A]	2.0 INCHES (51 mm) MAX DIA. USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED. [A]	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS A HOLE.			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE.			
DENTS	UP TO 2.0 INCHES (51 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. OVER 2.0 INCHES (51 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			

REPAIR DATA FOR 350°F (177°C) CURE GRAPHITE HONEYCOMB PANELS - ZONE I
TABLE I

Inboard Aileron Skin Repair
Figure 201 (Sheet 4 of 9)

DAMAGE	PERMANENT REPAIRS	
	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	350°F (177°C) CURE (SRM 51-70-04)
HOLES AND PUNCTURES	REPAIR TO TWO FASTENER HOLES IN TEN CAN BE DONE AS GIVEN IN SRM 51-70-17, PAR. 4.L. FOR ALL OTHER DAMAGE UP TO 2.0 INCHES (50 mm) IN DIAMETER, REPAIR AS GIVEN IN SRM 51-70-17, PAR. 4.G. [G] [H]	REPAIR TO TWO FASTENER HOLES IN TEN CAN BE DONE AS GIVEN IN SRM 51-70-04, PAR. 5.L. FOR ALL OTHER DAMAGE, REPAIR AS GIVEN SRM 51-70-04, PAR. 5.G.
DELAMI-NATION	CUT OUT AND REPAIR AS A HOLE.	CUT OUT AND REPAIR AS A HOLE.
EDGE EROSION	FOR DAMAGE NOT EXCEEDING 35% OF EDGEBAND THICKNESS, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.N. FOR GREATER DAMAGE, REPAIR AS GIVEN IN:	
	SRM 51-70-17, PAR. 4.G.	SRM 51-70-04, PAR. 5.G.
CRACKS [D]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE.	

REPAIR DATA FOR EDGEBANDS OF 350°F (177°C) CURE GRAPHITE HONEYCOMB PANELS - ZONE I
TABLE II

Inboard Aileron Skin Repair
Figure 201 (Sheet 5 of 9)

DAMAGE	INTERIM REPAIRS [B]	INTERIM REPAIRS [F]	PERMANENT REPAIRS
	WET LAYUP 150°F (66°C) (SRM 51-70-03) [E]	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03) [E]	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)
CRACKS [D]	UP TO 3.0 INCHES (76 mm) LONG, REPAIR WITH PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.N. [A]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.
HOLES AND PUNCTURES	3.0 INCHES (76 mm) MAXIMUM DIAMETER FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.B. [A]	4.0 INCHES (100 mm) MAXIMUM DIAMETER USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED. [G]	12.0 INCHES (300 mm) MAXIMUM DIAMETER USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED. [G]
DELAMI-NATION	CUT OUT AND REPAIR AS HOLE.		
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE.		
DENTS	UP TO 3.0 INCHES (76 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. OVER 3.0 INCHES (76 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.		

WET LAYUP REPAIR DATA FOR 350°F (177°C) CURE GRAPHITE HONEYCOMB PANELS - ZONE II
TABLE III

DAMAGE	PERMANENT REPAIRS	
	250°F (121°C) CURE (SRM 51-70-05)	350°F (177°C) CURE (SRM 51-70-04)
HOLES AND PUNCTURES	6.0 INCHES (150 mm) MAXIMUM DIAMETER. USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED. [G]	NO SIZE LIMIT
OTHER	CUT OUT AND REPAIR CRACKS AND DELAMINATION AS A HOLE. [D]	

PREPREG REPAIR DATA FOR 350°F (177°C) CURE GRAPHITE HONEYCOMB PANELS - ZONE II
TABLE IV

Inboard Aileron Skin Repair
Figure 201 (Sheet 6 of 9)

DAMAGE	INTERIM REPAIRS [B]	PERMANENT REPAIRS		
	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05)	350°F (177°C) CURE (SRM 51-70-04)
HOLES AND PUNCTURES	REPAIR TO TWO FASTENER HOLES IN TEN CAN BE DONE AS GIVEN IN SRM 51-70-03, PAR. 5.K. FOR ALL OTHER DAMAGE UP TO 2.0 INCHES (51 mm) IN DIAMETER, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.G. [G] [H]	REPAIR TO TWO FASTENER HOLES IN TEN CAN BE DONE AS GIVEN IN SRM 51-70-17, PAR. 4.K. FOR ALL OTHER DAMAGE UP TO 10.0 INCHES (254 mm) IN DIAMETER, REPAIR AS GIVEN IN SRM 51-70-17, PAR. 4.G. [G] [H]	REPAIR TO TWO FASTENER HOLES IN TEN CAN BE DONE AS GIVEN IN SRM 51-70-05, PAR. 5.K. FOR ALL OTHER DAMAGE UP TO 5.0 INCHES (127 mm) IN DIAMETER, REPAIR AS GIVEN IN SRM 51-70-05, PAR. 5.G. [G] [H]	REPAIR DAMAGE TO FASTENER HOLES AS GIVEN IN SRM 51-70-04, PAR. 5.K. FOR ALL OTHER DAMAGE, REPAIR AS GIVEN IN SRM 51-70-04, PAR. 5.G.
DELAMI-NATION	IF DELAMINATION FROM PANEL EDGE IS NO LESS THAN 2D FROM ANY FASTENER HOLE, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.A.(2). ANY OTHER DELAMINATION MUST BE CUT OUT AND REPAIRED AS A HOLE	CUT OUT AND REPAIR AS A HOLE.	CUT OUT AND REPAIR AS A HOLE.	CUT OUT AND REPAIR AS A HOLE.
EDGE EROSION	———	FOR DAMAGE NOT EXCEEDING 35% OF EDGEBAND THICKNESS, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.N. FOR GREATER DAMAGE, REPAIR AS GIVEN IN: SRM 51-70-17, PAR. 4.G.	SRM 51-70-05, PAR. 5.G.	SRM 51-70-04, PAR. 5.G.
CRACKS [D]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE.			
DENTS	UP TO 3.0 INCHES (76 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. OVER 3.0 INCHES (76 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			

REPAIR DATA FOR 350°F (177°C) CURE GRAPHITE PANEL EDGBANDS – ZONE II
TABLE V

Inboard Aileron Skin Repair
Figure 201 (Sheet 7 of 9)

DAMAGE	INTERIM REPAIRS [B]	INTERIM REPAIRS [F]	PERMANENT REPAIRS	
	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03)[E]	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03)[E]	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05)
CRACKS	UP TO 4.0 INCHES (100 mm) LONG REPAIR WITH PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.N. [A]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.
HOLES AND PUNCTURES	4.0 INCHES (100 mm) MAXIMUM DIAMETER. FILL WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.B. [A]	12.0 INCHES (300 mm) MAXIMUM DIAMETER. USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED [G].	NO SIZE LIMIT. USE TWO EXTRA REPAIR PLIES ON EACH FACESHEET THAT IS REPAIRED.	NO SIZE LIMIT
DELAMI-NATION	CUT OUT AND REPAIR AS A HOLE.			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE.			
DENTS	UP TO 2.0 INCHES (51 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. OVER 2.0 INCHES (51 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			

REPAIR DATA FOR 250°F (121°C) CURE ARAMID HONEYCOMB PANELS - ZONE III
TABLE VI

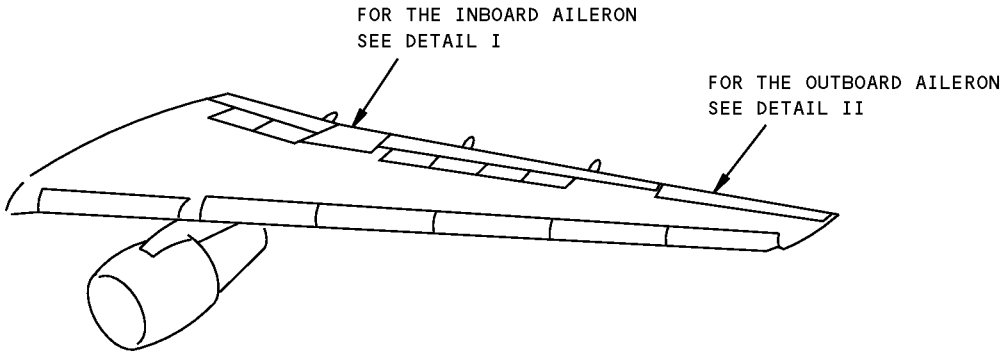
Inboard Aileron Skin Repair
Figure 201 (Sheet 8 of 9)

DAMAGE	INTERIM REPAIRS [B]	PERMANENT REPAIRS	
	WET LAYUP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP 200°F (93°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05)
HOLES AND PUNCTURES	REPAIR TO TWO FASTENER HOLES IN TEN CAN BE DONE AS GIVEN IN SRM 51-70-03, PAR. 5.K. FOR ALL OTHER DAMAGE UP TO 4.0 INCHES (100 mm) IN DIAMETER, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.G.	REPAIR DAMAGE TO FASTENER HOLES AS GIVEN IN SRM 51-70-17, PAR. 4.K. FOR ALL OTHER DAMAGE, REPAIR AS GIVEN IN SRM 51-70-17, PAR. 4.G.	REPAIR DAMAGE TO FASTENER HOLES AS GIVEN IN SRM 51-70-05, PAR. 5.K. FOR ALL OTHER DAMAGE, REPAIR AS GIVEN IN SRM 51-70-05, PAR. 5.G.
DELAMI-NATION	IF DELAMINATION FROM PANEL EDGE IS NO LESS THAN 2D FROM ANY FASTENER HOLE, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.A.(2). ANY OTHER DELAMINATION MUST BE CUT OUT AND REPAIRED AS A HOLE.	CUT OUT AND REPAIR AS A HOLE.	CUT OUT AND REPAIR AS A HOLE.
EDGE EROSION	--------	FOR DAMAGE NOT EXCEEDING 35% OF EDGEBAND THICKNESS, REPAIR AS GIVEN IN SRM 51-70-03, PAR. 5.N. FOR GREATER DAMAGE, REPAIR AS GIVEN IN: SRM 51-70-17, PAR. 4.G.	SRM 51-70-04, PAR. 5.G.
CRACKS	CLEAN UP DAMAGE AND REPAIR AS A HOLE.		
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. IF FIBER DAMAGE OR DELAMINATION EXISTS, REPAIR AS A HOLE.		
DENTS	UP TO 3.0 INCHES (76 mm) DIAMETER WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7, POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03, PAR. 5.L. OVER 3.0 INCHES (76 mm) DIAMETER OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.		

REPAIR DATA FOR EDGEBANDS OF 250°F (121°C) CURE ARAMID HONEYCOMB PANELS - ZONE III
TABLE VII

Inboard Aileron Skin Repair
Figure 201 (Sheet 9 of 9)

IDENTIFICATION 1 - AILERON STRUCTURE



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME

NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION.

[B] EPOXY IMPREGNATED FIBERGLASS WOVEN FABRIC AS GIVEN IN BMS 8-139, TYPE 120, 350°F (177°C) CURE.

[C] GRAPHITE/EPOXY FABRIC AS GIVEN IN BMS 8-212, TYPE IV, CLASS 2, STYLE 3K-70-PW, 350°F (177°C) CURE.

[D] GRAPHITE/EPOXY PREPREG TAPE AS GIVEN IN BMS 8-212, TYPE 3, CLASS 1, GRADE 145, 350°F (177°C) CURE.

[E] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGEBAND AND AREAS WITH DOUBLERS.

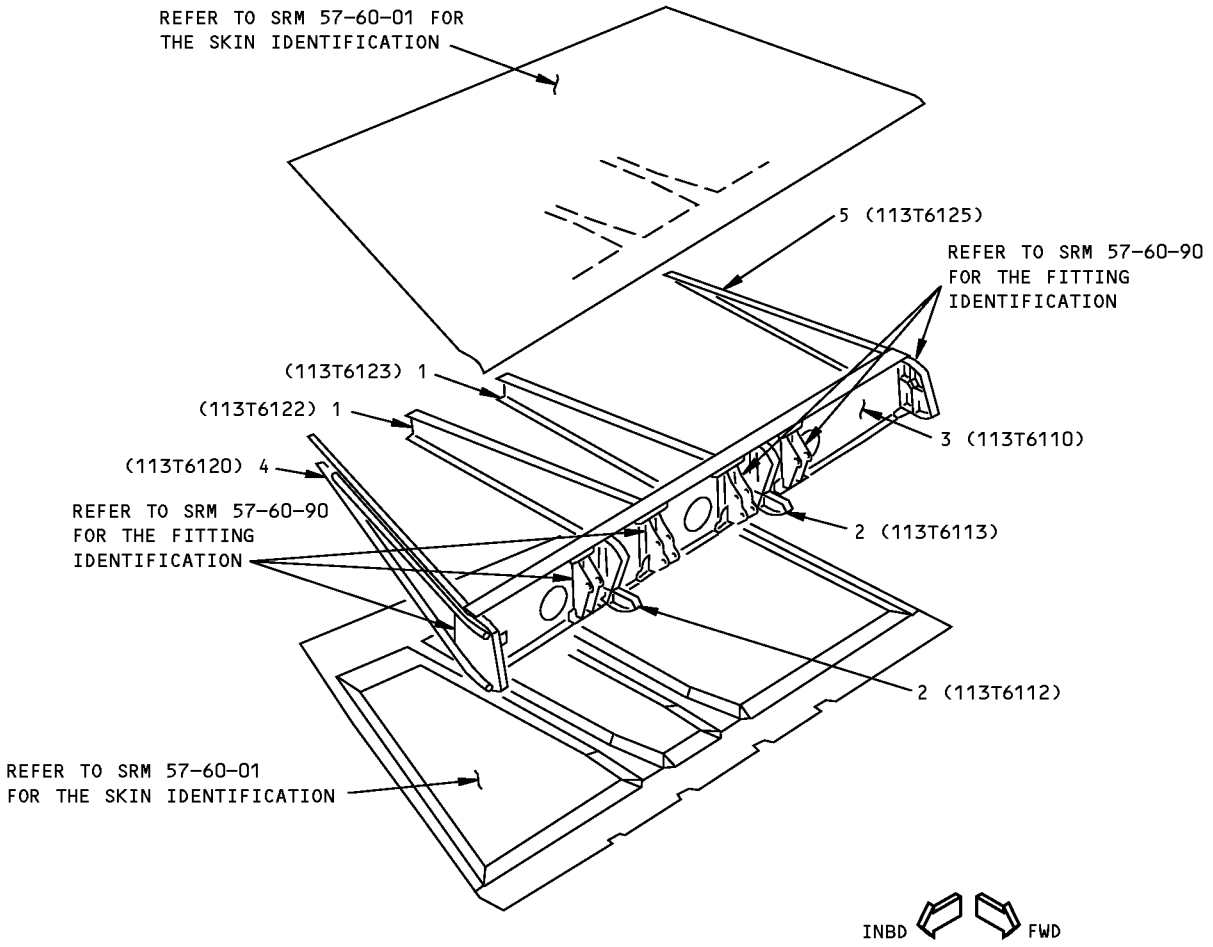
[F] DIAGRAM OF PLY ORIENTATION. SEE APPLICABLE TABLE FOR INDIVIDUAL PLY ORIENTATION AND MATERIAL.

[G] FOR AIRPLANES WITH CUM LINE NUMBERS 250 AND ON AND FOR AIRPLANES WITH SERVICE BULLETIN 767-51-0010 OR 767-51-0012 INCORPORATED.

[H] FOR AIRPLANES WITH CUM LINE NUMBERS: 301 AND ON

Aileron Structure Identification
Figure 1 (Sheet 1 of 7)

REFERENCE DRAWING
113T6000



INBOARD AILERON
DETAIL I

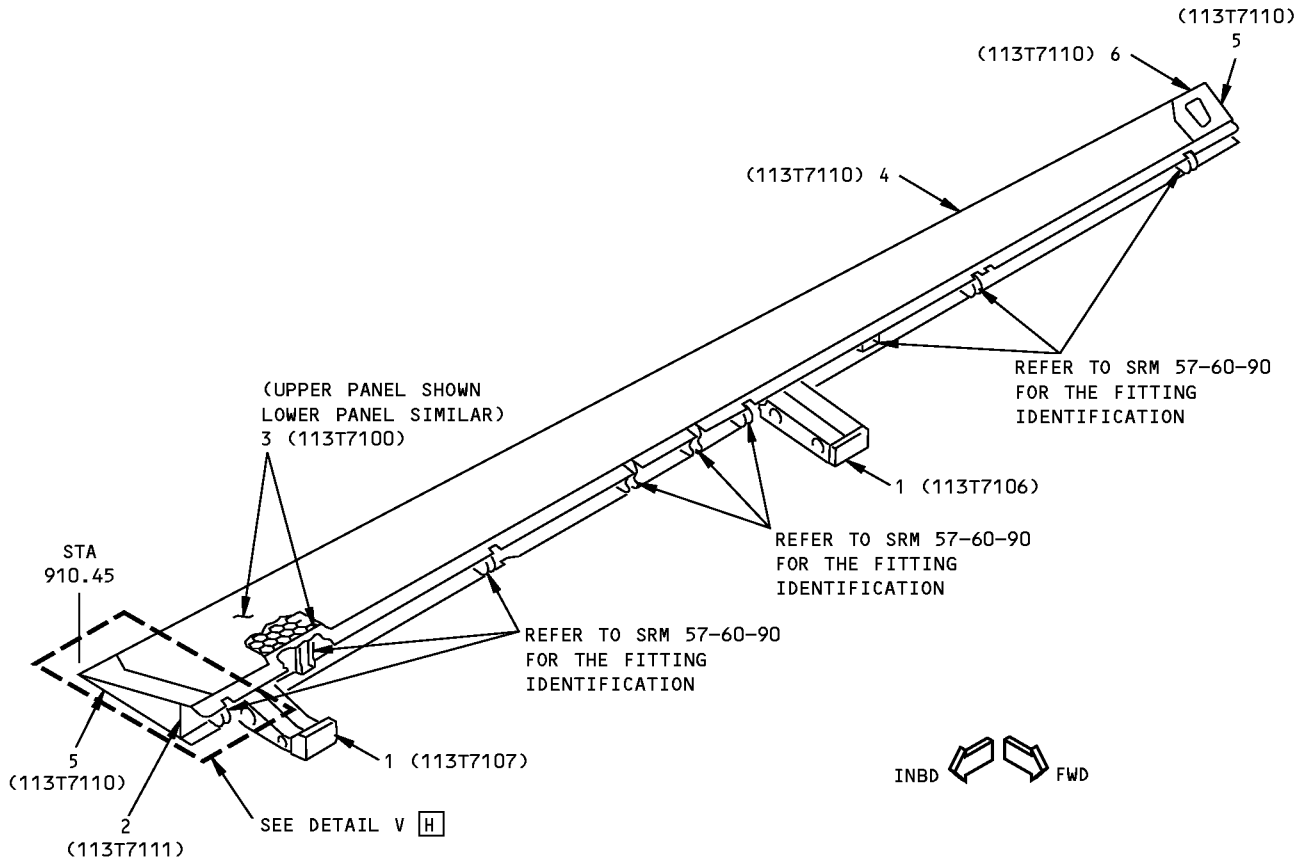
Aileron Structure Identification
Figure 1 (Sheet 2 of 7)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	ACTUATOR RIB ASSEMBLY			
	UPPER CHORD AND LOWER CHORD		7075-T7351 PLATE (OPTIONAL: 7075-T73511 BAR)	
	WEB	0.032	7075-T6; 2 PLY BONDED ASSEMBLY	
	DOUBLER	0.025	7075-T6 SHEET	
	SPLICE PLATE	0.10	7075-T73 SHEET	
	STIFFENERS		AND10133-1003 7075-T73511 (OPTIONAL: AND10133-1003 2024-T3511)	
2	NOSE RIB ASSEMBLY			
	FORMED RIB		7075-T7351 PLATE	
3	SPAR ASSEMBLY			
	UPPER CHORDS		BAC1506-2060 7075-T73	
	LOWER CHORDS		BAC1505-101099 7075-T73	
	WEBS	0.040	7075-T6; 2 PLY BONDED ASSEMBLY	
	DOUBLER	0.040	CLAD 7075-T6 SHEET	
	STIFFENERS		BAC1503-100384 2024-T3511	
4	INBD CLOSURE RIB ASSEMBLY			
	UPPER CHORD		BAC1514-749 7075-T73	
	LOWER CHORD		AND10133-1402 7075-T73	
	WEB	0.032	7075-T6; 2 PLY BONDED ASSEMBLY	
	STIFFENERS		AND10133-0702 7075-T73	
5	OUTBD CLOSURE RIB ASSEMBLY			
	UPPER CHORD AND LOWER CHORD		AND10133-1402 7075-T73	
	WEB	0.032	7075-T6; 2 PLY BONDED ASSEMBLY	
	STIFFENERS		AND10133-0702 7075-T73	

LIST OF MATERIALS FOR DETAIL I

Aileron Structure Identification
Figure 1 (Sheet 3 of 7)

REFERENCE DRAWING
113T7000



OUTBOARD AILERON

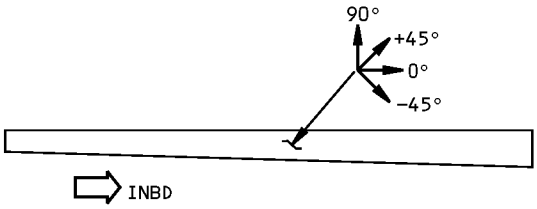
DETAIL II

Aileron Structure Identification
Figure 1 (Sheet 4 of 7)

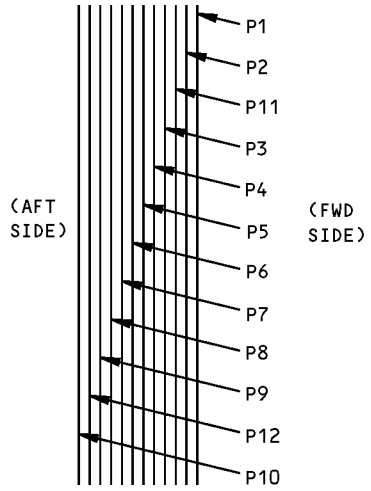
ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	BALANCE ARM ASSEMBLY			
	BALANCE ARM		FORGING 7075-T73	
	COVER	0.071	7075-T62	
	BRACKET	0.050	7075-T62	
	WEIGHT SUPPORT		FORGING 7075-T73	
	BALANCE WEIGHT		TUNGSTEN ALLOY PER MIL-T-21014, CLASS I, TYPE 2	
2	SPAR		GRAPHITE/EPOXY LAMINATE SEE DETAIL III	
3	UPPER AND LWR PANELS		GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IV	
	SKIN			
	CORE		NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	
4	TRAILING EDGE WEDGE		GRAPHITE/EPOXY FABRIC PER BMS 8-212, TYPE 4, CLASS 2, STYLE 3K-70-PW	
5	OUTBD AND INBD CAPS		FIBERGLASS/EPOXY PER BMS 8-79, TYPE 1581	
6	CONDUCTIVE FRAME	0.020	2024-T3	G

LIST OF MATERIALS FOR DETAIL II

Aileron Structure Identification
Figure 1 (Sheet 5 of 7)



VIEW ON SPAR [F]

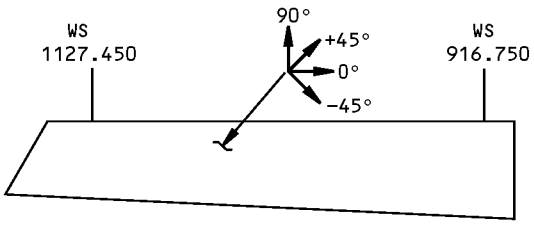


SECTION THRU SPAR

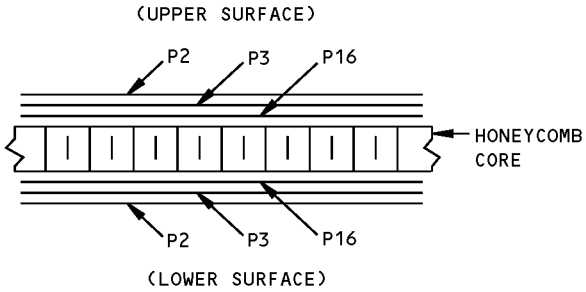
ITEM NO.	PLY NUMBER	MATERIAL	PLY ORIENTATION [A]
2	P1	[B]	NOT REQ'D
	P2	[C]	±45°
	P3	[C]	0°
	P4	[C]	0°
	P5	[C]	0°
	P6	[C]	±45°
	P7	[C]	0°
	P8	[C]	0°
	P9	[C]	0°
	P10	[C]	±45°
	P11	[D]	90°
	P12	[D]	90°

PLY TABLE FOR DETAIL III [E]

DETAIL III



VIEW ON AILERON [F]



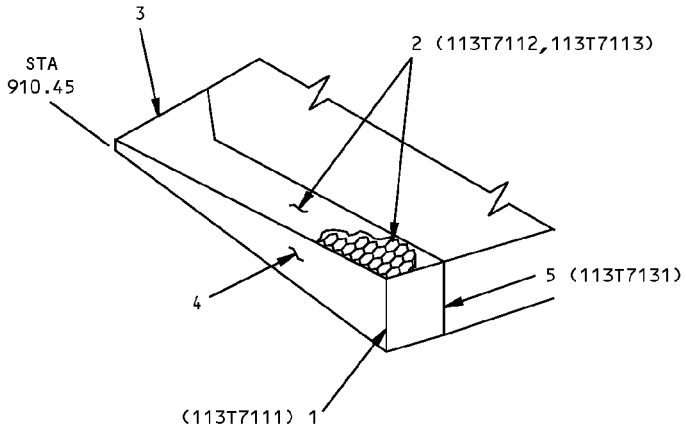
ITEM NO.	PLY NUMBER	MATERIAL	PLY ORIENTATION [A]
3	P2	[C]	+45°
	P3	[C]	+45°
	P16	[C]	+45°

PLY TABLE FOR DETAIL IV [E]

DETAIL IV

Aileron Structure Identification
Figure 1 (Sheet 6 of 7)

REF DWG
113T7110



AILERON EXTENSION FOR AIRPLANES WITH STRUCTURAL
PROVISION FOR FUEL JETTISON CAPABILITIES

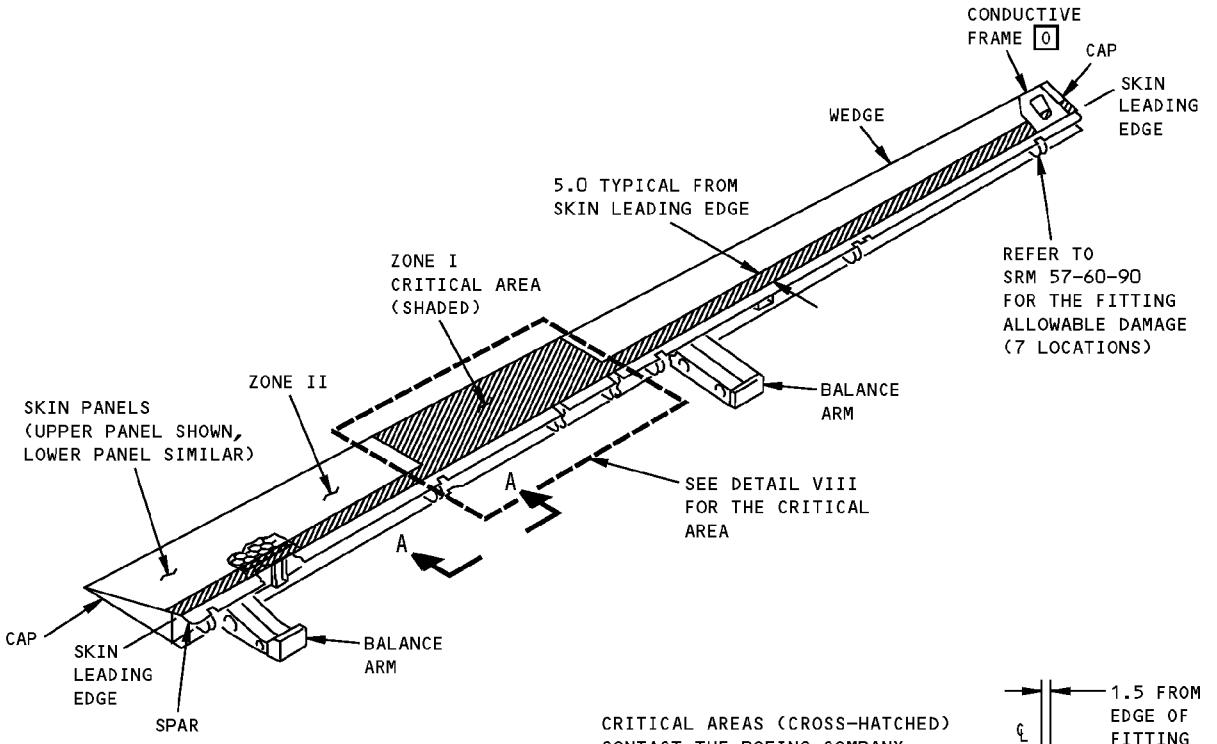
DETAIL V [H]

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	SPAR		GRAPHITE/EPOXY LAMINATE SEE DETAIL III	
2	UPPER AND LWR PANELS SKIN		GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL IV	
	CORE		NOMEX HONEYCOMB PER BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	
3	TRAILING EDGE WEDGE		GRAPHITE/EPOXY FABRIC PER BMS 8-212, TYPE III, CLASS 2, STYLE 3K-135-8H	
4	INBD CAPS		FIBERGLASS/EPOXY PER BMS 8-79, TYPE 1581	
5	CLOSURE RIB		FIBERGLASS/EPOXY PER BMS 8-79, TYPE 1581	

LIST OF MATERIALS FOR DETAIL V [H]

Aileron Structure Identification
Figure 1 (Sheet 7 of 7)

ALLOWABLE DAMAGE 1 - OUTBOARD AILERON STRUCTURE



ITEM	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	PANEL DELAMINATION
SKIN PANELS O ZONE I	P	B	C	P	P
SKIN PANELS O ZONE II	A	B	C	A	A
CAPS	E	F	C	G	H
SPAR	E	N	C	G	H
BALANCE ARM BRACKET	K	L	SEE DETAIL III	NOT PERMITTED	—
FITTING	I	J	NOT PERMITTED	NOT PERMITTED	—
WEIGHT SUPPORT FITTING	I	J	NOT PERMITTED	NOT PERMITTED	—

TABLE I

Outboard Aileron Structure Allowable Damage
Figure 101 (Sheet 1 of 6)

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA-APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE DAMAGE EXCEEDS THE LIMITS GIVEN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- RESTORE DAMAGED ALUMINUM FLAME SPRAY OR CONDUCTIVE COATING AS GIVEN IN SRM 51-70-14.
- REFER TO SRM 51-60-01 FOR BALANCING REQUIREMENTS.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] DAMAGE TO SKIN PANEL EDGES MAY BE A COMBINATION OF EDGE DELAMINATION AND/OR CRACKS, GOUGES, ETC., WHICH CAN RESULT IN FIBER DAMAGE AND A LOSS OF CROSS-SECTIONAL AREA. REMOVE EDGE DAMAGE AS GIVEN IN DETAILS I AND V. 1.50 INCHES (38 mm) (IS THE MAX DIA PERMITTED FOR A SINGLE DAMAGE SITE IN THE HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 2.0. SEE DETAIL IX FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. PROTECT DAMAGE THAT IS NOT REWORKED AS GIVEN IN [D].

[B] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY WITH NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS I AND V. REFER TO [A] FOR FIBER DAMAGE IN OTHER AREAS.

[C] DENTS RESULT IN DELAMINATION AND FIBER DAMAGE AND MUST BE TREATED AS A HOLE OR PUNCTURE DAMAGE.

[D] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH 50 FLIGHTS. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF THE TAPE. DO A REPAIR NO LATER THAN 300 FLIGHTS AFTER THE DAMAGE.

[E] 1.0 INCH (25.4 mm) MAX LENGTH IN HONEYCOMB AREA IS PERMITTED PER SQUARE FOOT OF AREA IF IT IS A MINIMUM OF 6 INCHES (150 mm) FROM ANY OTHER CRACK. EDGE CRACKS MUST BE REMOVED AS GIVEN IN DETAILS I AND V. PROTECT DAMAGE AS GIVEN IN [M].

[F] REMOVE DAMAGE AS GIVEN IN DETAILS I,II AND V.

[G] 0.50 INCH (12.7 mm) MAX DIA IS PERMITTED IF THE DAMAGE IS A MIN OF 3.0 D FROM OTHER DAMAGE OR MATERIAL EDGE. DO NOT CLEAN UP DAMAGE EXCEPT TO REMOVE RESIN BURRS EXTENDING INTO SURFACE CONTOUR. PROTECT DAMAGE AS GIVEN IN [M].

[H] 1.0 INCH (25.4 mm) MAX DIA IS PERMITTED IN HONEYCOMB AREA. A MAX OF 0.03 INCH (0.7 mm) DELAMINATION FROM THE EDGE IS PERMITTED. DO A REPAIR TO DELAMINATION IN HONEYCOMB AREA AS GIVEN IN SRM 51-70 NO LATER THAN THE NEXT "C" CHECK. PROTECT EDGE DAMAGE AS GIVEN IN [M].

[I] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAIL VII. SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

[J] FOR EDGE DAMAGE SEE DETAIL I OR VII. FOR LUG DAMAGE SEE DETAIL VI. FOR OTHER DAMAGE SEE DETAIL II OR IV. DAMAGE IS NOT PERMITTED NEAR BUSHINGS. SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

[K] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS I AND V.

[L] REMOVE DAMAGE AS GIVEN IN DETAILS I,II AND IV.

[M] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH AIRPLANE "A" CHECK. REPLACE THE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF THE TAPE. DO A REPAIR NO LATER THAN THE NEXT AIRPLANE "C" CHECK.

[N] DAMAGE IS PERMITTED ON SURFACE RESIN ONLY WITH NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE AS GIVEN IN DETAILS I,II, OR V. REFER TO [G] FOR FIBER DAMAGE IN OTHER AREAS.

Outboard Aileron Structure Allowable Damage
Figure 101 (Sheet 2 of 6)

NOTES (CONT)

[0] A PARTIALLY MISSING UPPER OR LOWER SURFACE CONDUCTIVE FRAME COULD RESULT IN DAMAGE TO THE OUTBOARD AILERON DURING A LIGHTNING STRIKE. DAMAGE TO THE LOWER SURFACE CONDUCTIVE FRAME COULD RESULT IN DEGRADED PERFORMANCE TO THE TWO OUTBOARD AILERON STATIC DISCHARGERS.

A PARTIALLY MISSING UPPER SURFACE CONDUCTIVE FRAME IS PERMITTED IF:

- THE THREE ATTACH BOLTS THROUGH THE AILERON SPAR FLANGE AND THE GROUND STRAPS THAT ATTACH TO THE REAR SPAR ARE ATTACHED AND UNDAMAGED
- YOU SMOOTHLY SAND THE EXPOSED ADHESIVE ON THE UPPER SURFACE OF THE OUTBOARD AILERON
- YOU APPLY A FILLET SEAL TO THE REST OF THE CONDUCTIVE FRAME EDGE WITH BMS 5-95 SEALANT
- YOU REPLACE THE CONDUCTIVE FRAME AT THE SUBSEQUENT "C" CHECK, OR BEFORE 5000 FLIGHT HOURS.

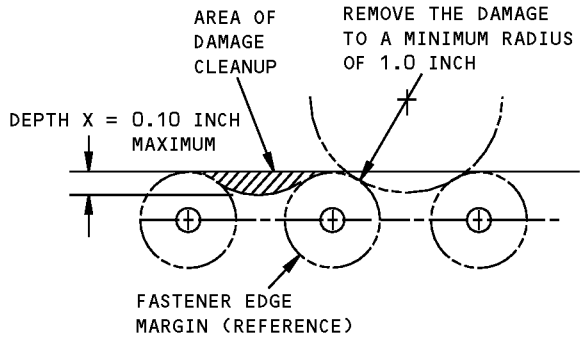
A PARTIALLY MISSING LOWER SURFACE CONDUCTIVE FRAME IS PERMITTED IF:

- THE ITEMS DESCRIBED FOR THE UPPER SURFACE CONDUCTIVE FRAME ARE SATISFACTORY
- THREE WINGTIP STATIC DISCHARGERS ARE UNDAMAGED OR THE RESISTANCE MEASURED BETWEEN THE BASE OF THE STATIC DISCHARGERS ON THE LOWER SURFACE CONDUCTIVE FRAME AND THE GROUND STRAP ATTACH BOLTS IS NO GREATER THAN 0.10 OHM. THE RESISTANCE IS MEASURED AS GIVEN IN SOPM 20-11-03. NOTE THAT THE REQUIREMENTS FOR CONTINUED OPERATION WITH DAMAGED STATIC DISCHARGERS IS DESCRIBED IN THE APPENDIX CONFIGURATION DEVIATION LIST (CDL) OF THE AIRPLANE FLIGHT MANUAL.

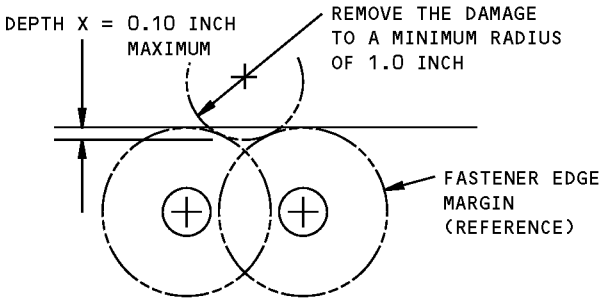
CRITICAL AREA (SHADED) CONTINUES BELOW CONDUCTIVE FRAME TO SKIN LEADING EDGE.

[P] DAMAGE TO SKIN PANEL EDGES MAY BE A COMBINATION OF EDGE DELAMINATION AND/OR CRACKS, GOUGES, ETC., WHICH CAN RESULT IN FIBER DAMAGE AND A LOSS OF CROSS-SECTIONAL AREA. REMOVE EDGE DAMAGE AS GIVEN IN DETAILS I AND V. 0.25 INCHES IS THE MAX DIA PERMITTED FOR A SINGLE DAMAGE SITE IN THE HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 8.0. THE DAMAGE MUST BE A MINIMUM OF 3D FROM OTHER FASTENERS OR THE PANEL EDGE. SEE DETAIL IX FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED TO ONE SURFACE AND HONEYCOMB CORE ONLY. PROTECT DAMAGE THAT IS NOT REWORKED AS GIVEN IN [D].

Outboard Aileron Structure Allowable Damage
Figure 101 (Sheet 3 of 6)

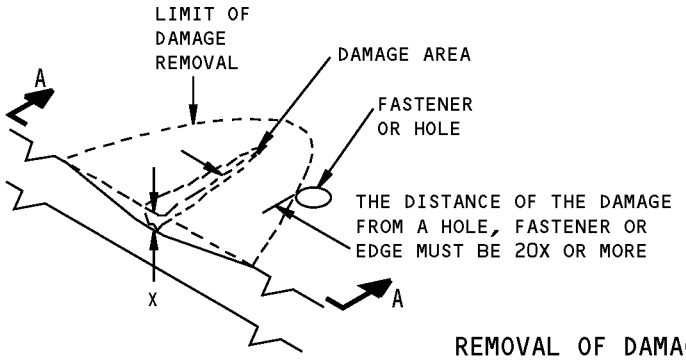


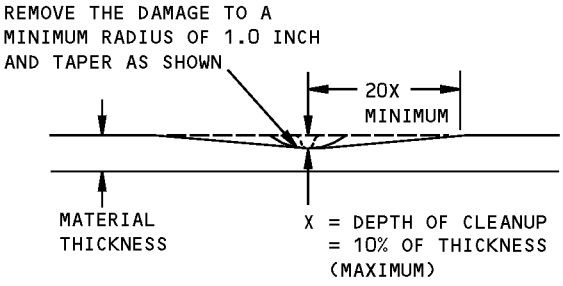
REMOVAL OF DAMAGE AT EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



REMOVAL OF DAMAGE AT EDGES WHERE FASTENER EDGE MARGINS OVERLAP

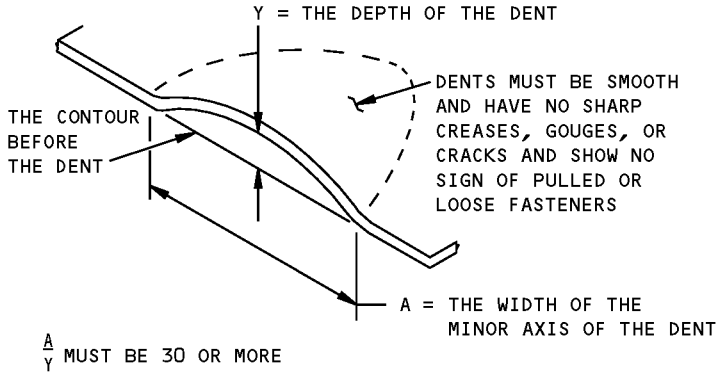
DETAIL I



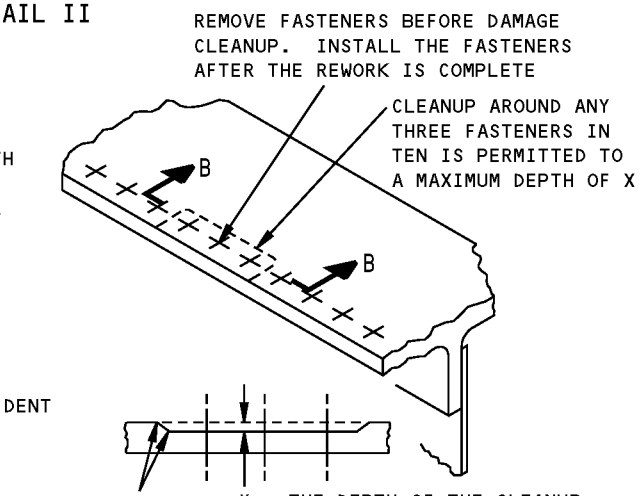


SECTION A–A

REMOVAL OF DAMAGE ON A SURFACE
DETAIL II



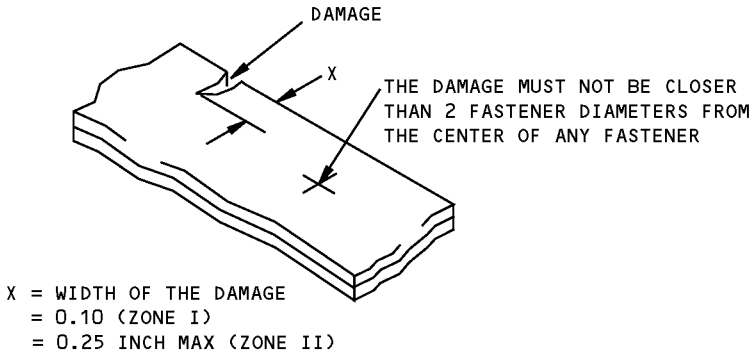
DENT DAMAGE PERMITTED
DETAIL III



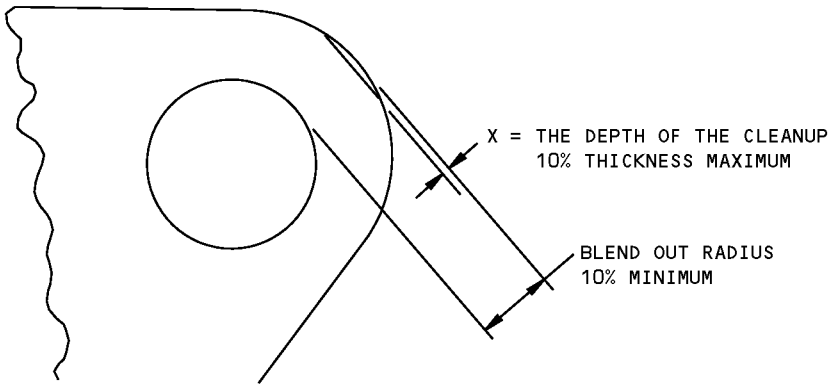
SECTION B–B

REMOVAL OF CORROSION DAMAGE
DETAIL IV

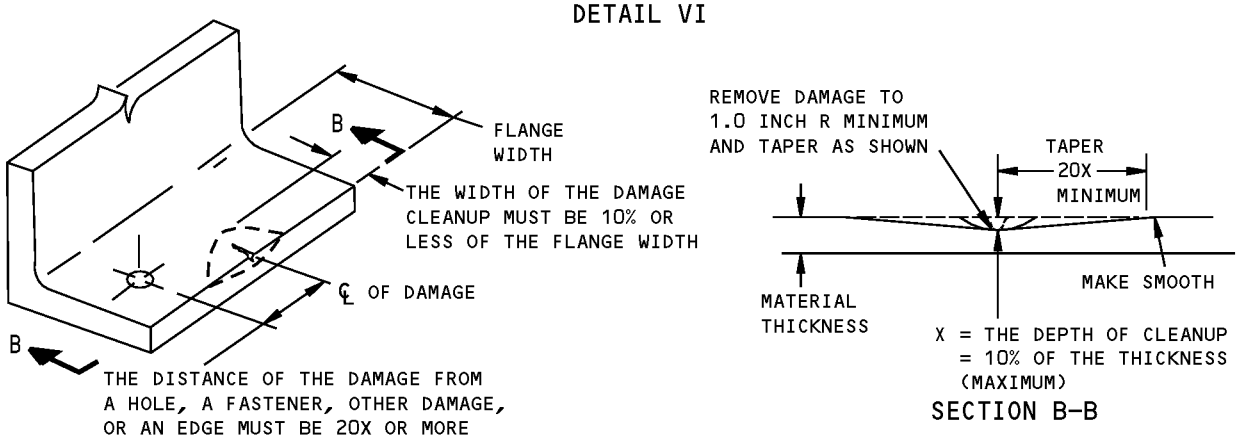
Outboard Aileron Structure Allowable Damage
Figure 101 (Sheet 4 of 6)



REMOVAL OF DAMAGE ON AN EDGE
DETAIL V

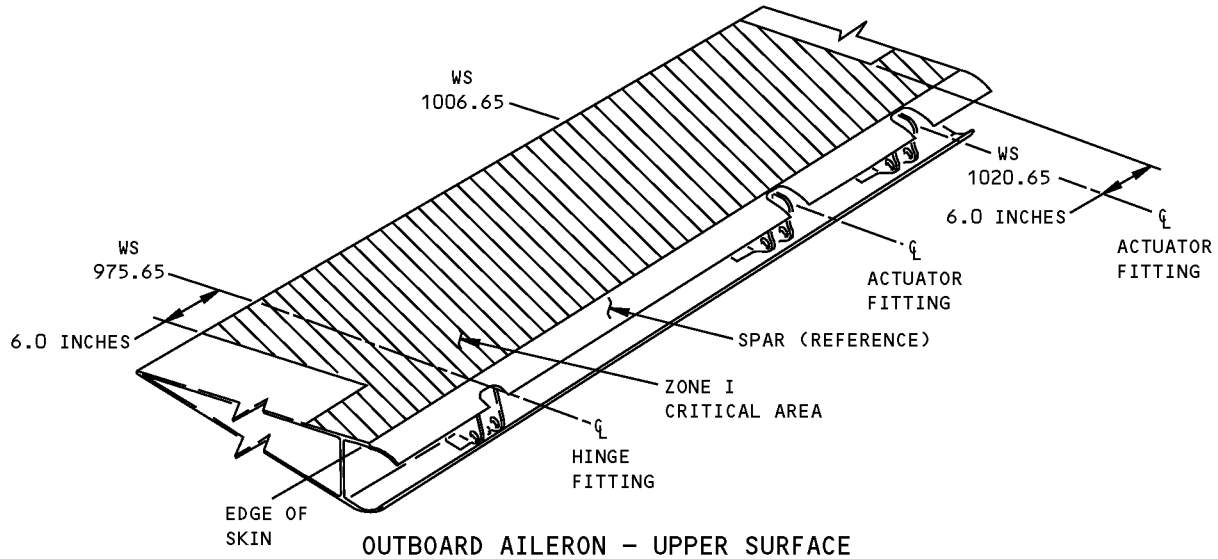


REMOVAL OF DAMAGE ON A LUG
DETAIL VI

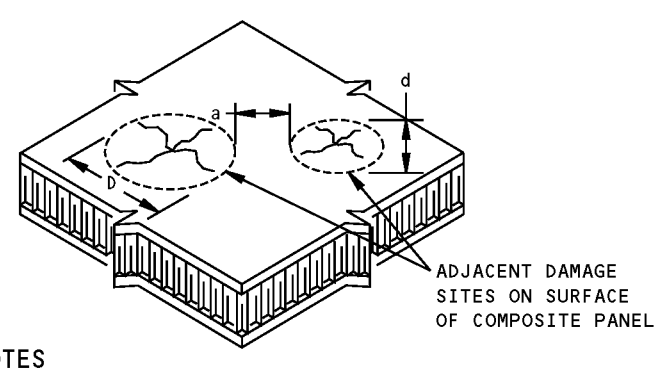


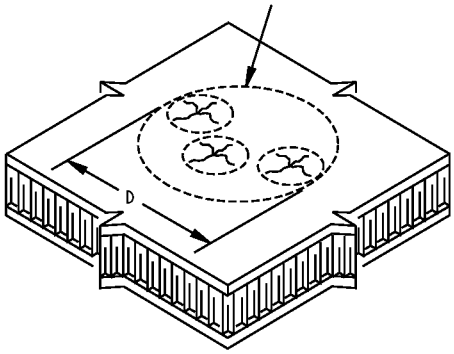
REMOVAL OF DAMAGE ON A SURFACE
DETAIL VII

Outboard Aileron Structure Allowable Damage
Figure 101 (Sheet 5 of 6)



OUTBOARD AILERON – UPPER SURFACE
LOCATION OF CRITICAL AREA
DETAIL VIII





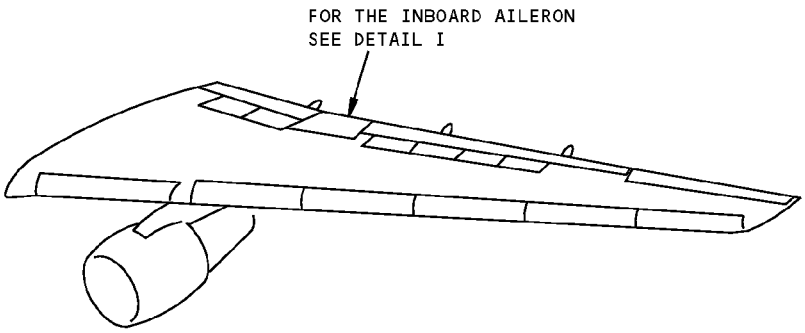
NOTES

- DAMAGE TO COMPOSITE PANELS EXPOSED TO MULTIPLE IMPACTS, I.E., HAIL DAMAGE, CAN BE DETECTED BY USING INSTRUMENTED NON-DESTRUCTIVE INSPECTION METHODS OR BY TAPPING THE SUSPECTED DAMAGE AREA WITH A SMALL METALLIC DISK OBJECT. INSPECTION SHOULD COVER THE AREA WITHIN 3 DIAMETERS AROUND THE EDGE OF THE VISIBLE DAMAGE SITE. FOR TAP TEST, USE A SOLID METAL DISK AND TAP THE DAMAGE AREA LIGHTLY BUT FIRMLY. VOID AREAS SHOULD PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA.
- DAMAGE SITE IS ANY SINGLE AREA OF A PANEL WHERE A DENT, CRACK, DELAMINATION, PUNCTURE OR ANY COMBINATION OF THESE EXIST. SMALL DAMAGE SITES THAT ARE CLOSELY SPACED MAY BE BE GROUPED TOGETHER AND CONSIDERED AS ONE DAMAGE SITE.
- "D" IS DETERMINED BY MEASURING THE DIAMETER OF A CIRCLE DRAWN AROUND A DENT, A CRACK, OR OTHER DAMAGE, WHICHEVER IS GREATER.
- "a" IS THE DISTANCE BETWEEN TWO ADJACENT DAMAGE SITES.
- "d" IS THE DIAMETER OF THE SMALLER OF TWO ADJACENT DAMAGE SITES.
- CALCULATE a/D BY DIVIDING THE DISTANCE "a" BY THE DIAMETER "D".
- THE DAMAGE IS PERMITTED WHEN "D" AND a/D AGREE WITH THE LIMITS GIVEN IN TABLE I.

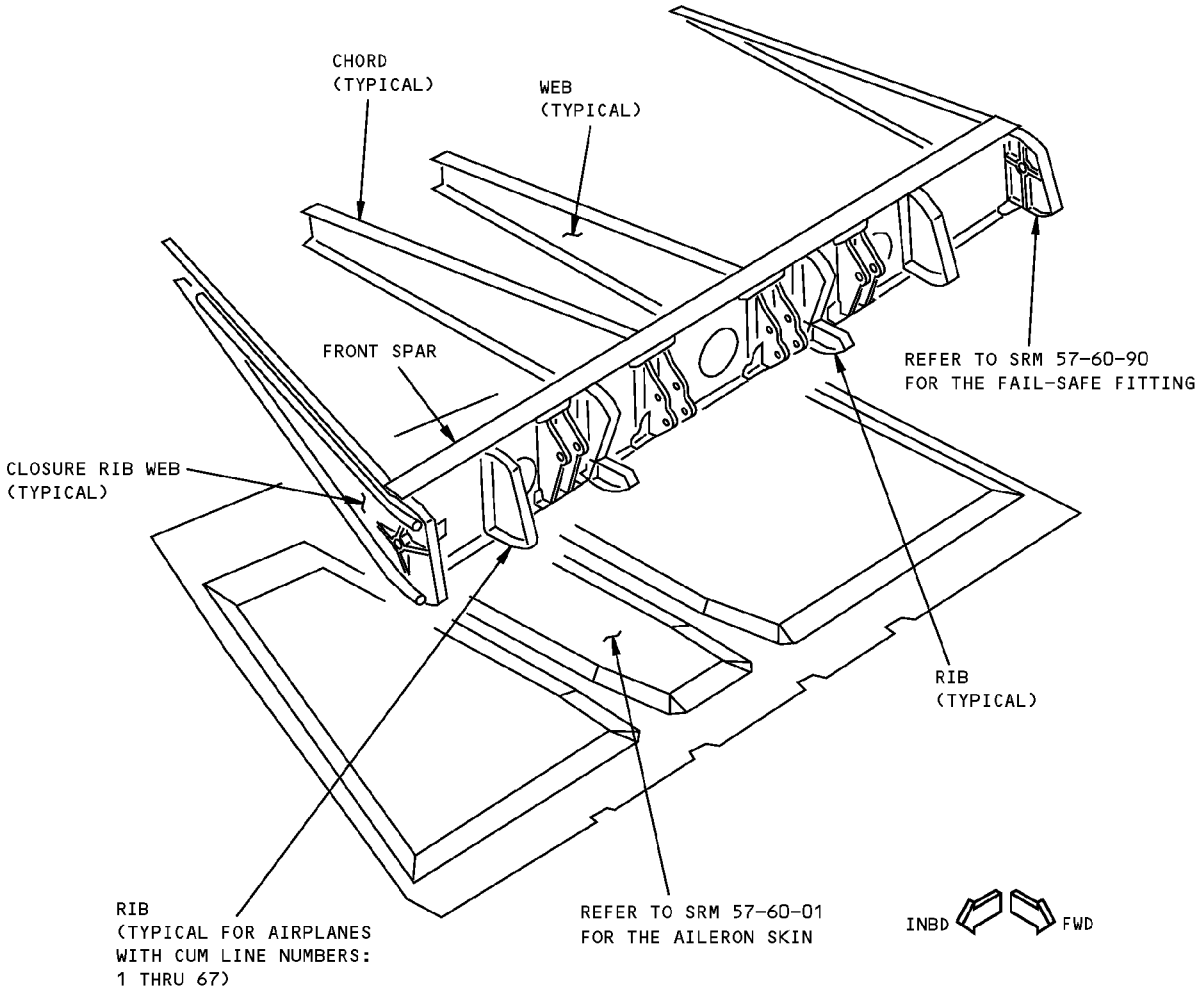
DAMAGE SIZING AND SPACING DATA FOR COMPOSITE PANELS
DETAIL IX

Outboard Aileron Structure Allowable Damage
Figure 101 (Sheet 6 of 6)

ALLOWABLE DAMAGE 2 - INBOARD AILERON STRUCTURE



LEFT WING IS SHOWN, RIGHT SIDE IS ALMOST THE SAME



INBOARD AILERON
DETAIL I

Inboard Aileron Structure Allowable Damage
Figure 101 (Sheet 1 of 3)

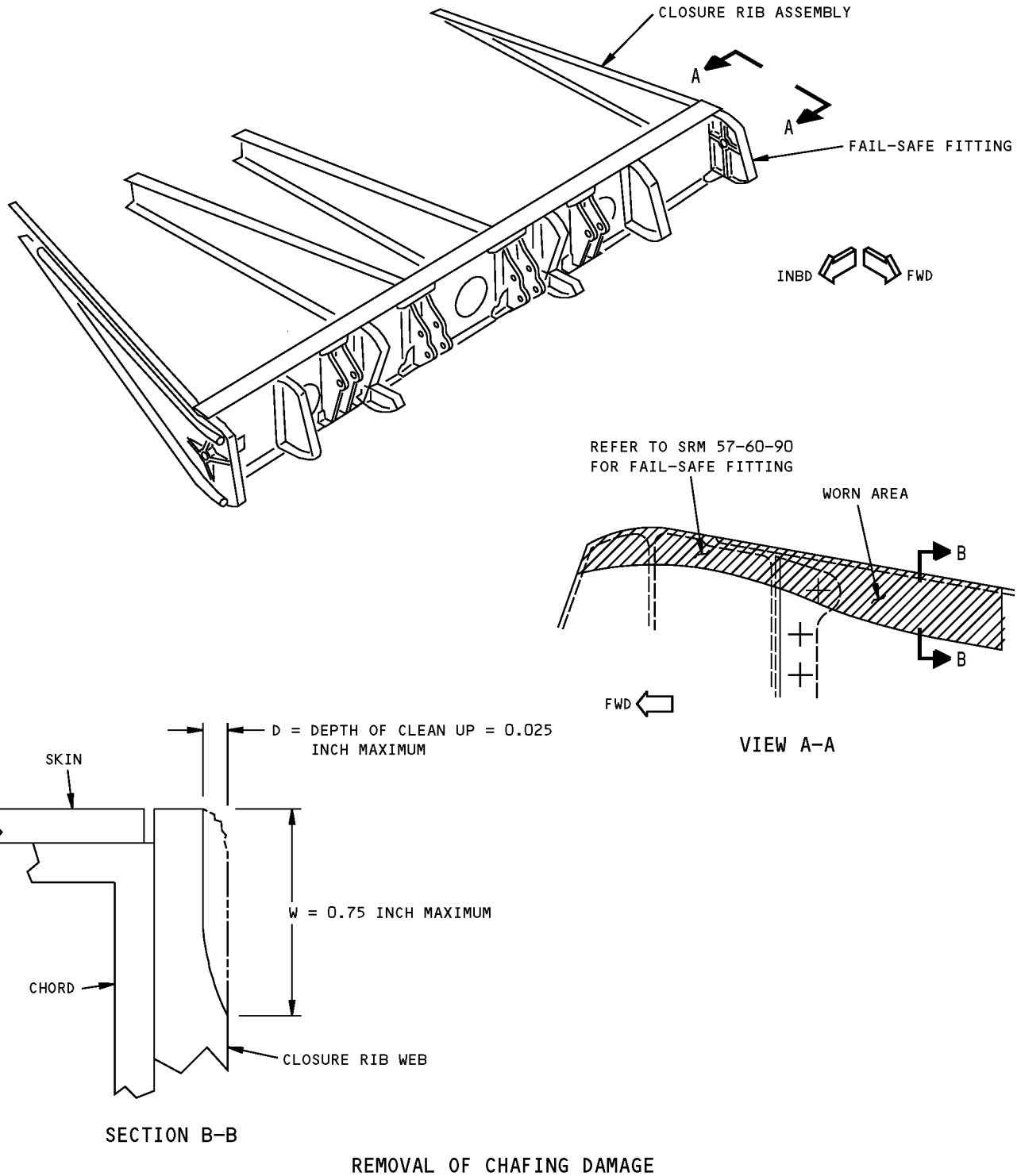
DESCRIPTION	CHAFING DAMAGE
OUTBOARD CLOSURE RIB WEB	EXAMINE FOR LOOSE FASTENERS, OUT OF TOLERANCE FASTENER HOLES, OR CRACKS. REMOVE CHAFING DAMAGE AS SHOWN IN DETAIL II. [A]

NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL.
- REFER TO AMM 51-21 TO APPLY THE FINISH TO THE REWORKED AREA.
- REFER TO SOPM 20-20-02 FOR PENETRANT INSPECTION PROCEDURES.

[A] AFTER THE DAMAGE IS REMOVED, DO A PENETRANT INSPECTION FOR CRACKS AND THEN APPLY THE FINISH TO THE REWORKED AREA.

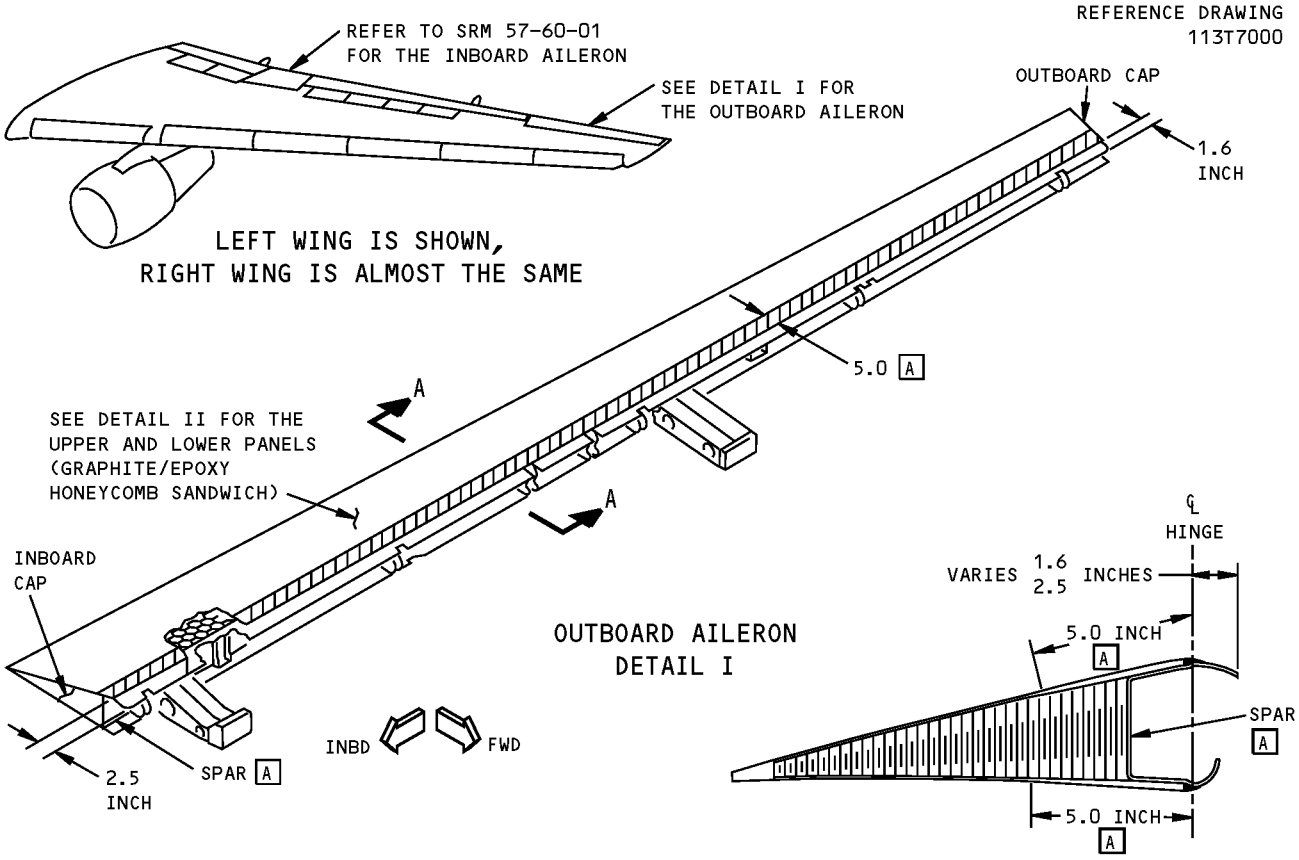
Inboard Aileron Structure Allowable Damage
Figure 101 (Sheet 2 of 3)



REMOVAL OF CHAFING DAMAGE
DETAIL II

Inboard Aileron Structure Allowable Damage
Figure 101 (Sheet 3 of 3)

REPAIR 1 - OUTBOARD AILERON STRUCTURE



NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE REPAIR EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01 CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- REFER TO SRM 51-20-01 FOR THE REPAIR OF FINISH CRACKS ON GRAPHITE COMPOSITE PARTS.
- REFER TO SRM 51-60-01 FOR BALANCING REQUIREMENTS.
- RESTORE DAMAGED ALUMINUM FLAME SPRAY OR CONDUCTIVE COATING PER SRM 51-70-14.
- REFINISH REWORKED AREAS PER AMM 51-20.

[A] CRITICAL AREA; CONSULT THE BOEING COMPANY FOR REPAIRS.

[B] INSPECT INTERIM REPAIR USING INSTRUMENTED NDI METHODS OR "TAP" TEST EVERY AIRPLANE "C" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO SRM 51-70-03, PAR. 4.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.

[C] MINIMUM SPACING (EDGE TO EDGE), 6 INCHES (150 mm) BETWEEN REPAIRS.

[D] SKIN PANEL ASSEMBLY MANUFACTURED WITH BMS 8-212 PREPREG FABRIC (350°F/177°C CURE) AND BONDED TO HONEYCOMB AT 250°F/121°C. USE BMS 8-168 PREPREG FABRIC (250°F/121°C CURE) FOR REPAIR.

Outboard Aileron Structure Repair
Figure 201 (Sheet 1 of 2)

DAMAGE	INTERIM REPAIRS	PERMANENT REPAIRS		
	WET LAYUP ROOM TEMP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP ROOM TEMP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP 200-230°F (93-110°C) CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05) [D]
CRACKS	UP TO 3.0 INCHES (76.2 mm) LONG, REPAIR WITH PATCH AS GIVEN IN SRM 51-70-03. [B] [C]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.
HOLES	3.0 INCHES (76.2 mm) MAX DIA, NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03. [B] [C]	6.0 INCHES (150 mm) MAX DIA, NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED. [C]	12.0 INCHES (300 mm) MAX DIA, NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED. [C]	NO SIZE LIMIT
DELAMINATION	CUT OUT AND REPAIR AS A HOLE.			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS GIVEN IN SRM 51-70-03. IF THERE IS FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			
DENTS	UP TO 3.0 INCHES (76.2 mm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03. OVER 3.0 INCHES (76.2 mm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			

DETAIL II

Outboard Aileron Structure Repair
Figure 201 (Sheet 2 of 2)

REPAIR 2 - INBOARD AILERON, OUTBOARD CLOSURE RIB WEB

1. Applicability

A. Repair 2 is applicable to damage on the inboard aileron, outboard closure rib web that:

(1) is greater than 0.025 inches (0.635 mm) in depth.

2. General

A. Repair 2 is a category A repair. Refer to 51-00-06, GENERAL to find the definitions of the different categories of repairs.

B. D = Fastener Diameter.

3. References

Reference	Title
51-00-06, GENERAL	Structural Repair Definitions
51-20-01, GENERAL	Protective Treatment of Metallic and Nonmetallic Repair Parts
51-20-13, GENERAL	Surface Roughness Finish Requirements
51-40-02, GENERAL	Fastener Installation and Removal
51-40-05, GENERAL	Fastener Hole Sizes
51-40-06, GENERAL	Fastener Edge Margins
NDT Part 6, 51-00-01	Aluminum Part Surface Inspection (Meter Display)
SOPM 20-20-02	Penetrant Methods of Inspection
SOPM 20-41-02	Application of Chemical and Solvent Resistant Finishes

4. Repair Instructions

A. Get access to the damaged area.

B. Remove the necessary fasteners in the area of the damage. Refer to 51-40-02, GENERAL.

C. Cut and remove the damaged part of the web. Refer to Figure 201/REPAIR 2, Detail II.

(1) Keep a 2D minimum edge margin between initial fasteners and the edges of the cutout. Refer to 51-40-06, GENERAL.

(2) Keep a minimum of 125 microinches Ra surface roughness or smoother on the edge of the cutout. Refer to 51-20-13, GENERAL.

D. Do a High Frequency Eddy Current (HFEC) inspection of the damaged area to make sure that all the damage is removed. Refer to NDT Part 6, 51-00-01 for HFEC procedures. Remove the damage and repeat the inspection until all damage is removed. The penetrant inspection is permitted as an alternative to the HFEC inspection. Refer to SOPM 20-20-02 for the penetrant inspection procedure.

E. Make the repair parts. Refer to Table 201 and Figure 201/REPAIR 2, Detail II. Keep a minimum of 2D edge margin on all the repair parts. Keep 4D to 6D fastener spacing.

NOTE: This repair can use a joggle instead of a filler. To do this, joggle the top and bottom edges above the chords. Do not make the filler listed in Table 201.

F. Assemble the repair parts and drill the fastener holes. Refer to 51-40-05, GENERAL. Keep a minimum of 2D edge margin on all the repair parts. Keep 4D to 6D fastener spacing. You can use Class 1 hole sizes for fasteners installed on the rib chords.

G. Disassemble the repair parts.

H. Remove the nicks, scratches, gouges, burrs, and sharp edges from the repair parts and the web.

I. Apply a chemical conversion coating to the repair parts and to the bare surfaces of the web. Refer to 51-20-01, GENERAL.

J. Apply one layer of BMS 10-11, Type I primer to the repair parts and to the bare surfaces of the web. Refer to SOPM 20-41-02.

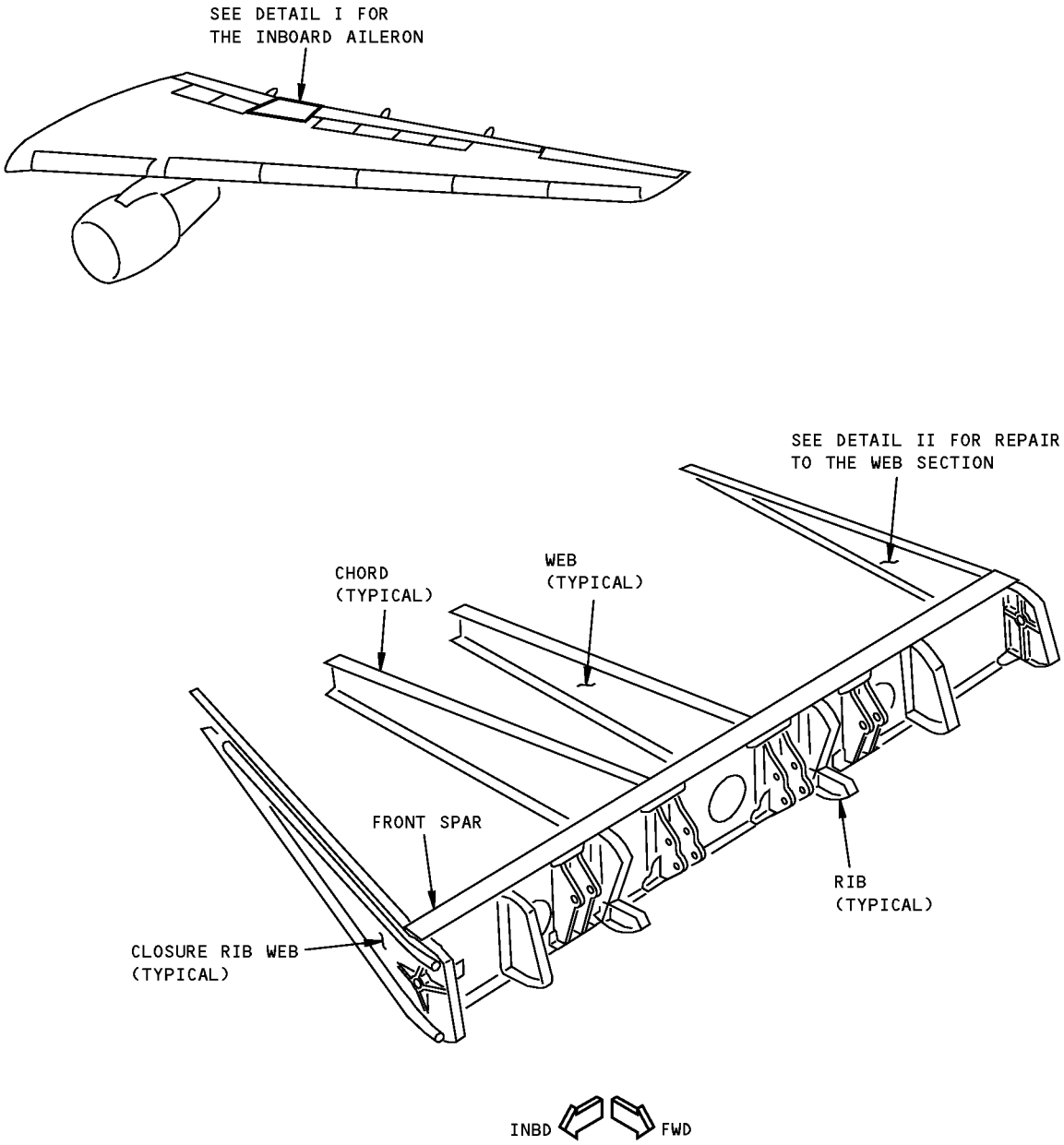
K. Install the repair parts with BMS 5-95 sealant between the mating surfaces.

L. Install the fasteners.

M. Apply 2 layers of BMS 10-11, Type 1 finish to the repair area. Refer to SOPM 20-41-02.

Table 201:

REPAIR MATERIAL			
ITEM	PART	QTY	MATERIAL
1	SPLICE PLATE	1	7075-T6 CLAD, 0.071 INCH THICK
2	WEB	1	7075-T6 CLAD, 0.071 INCH THICK
3	FILLER	1	7075-T6 CLAD, 0.094 INCH THICK

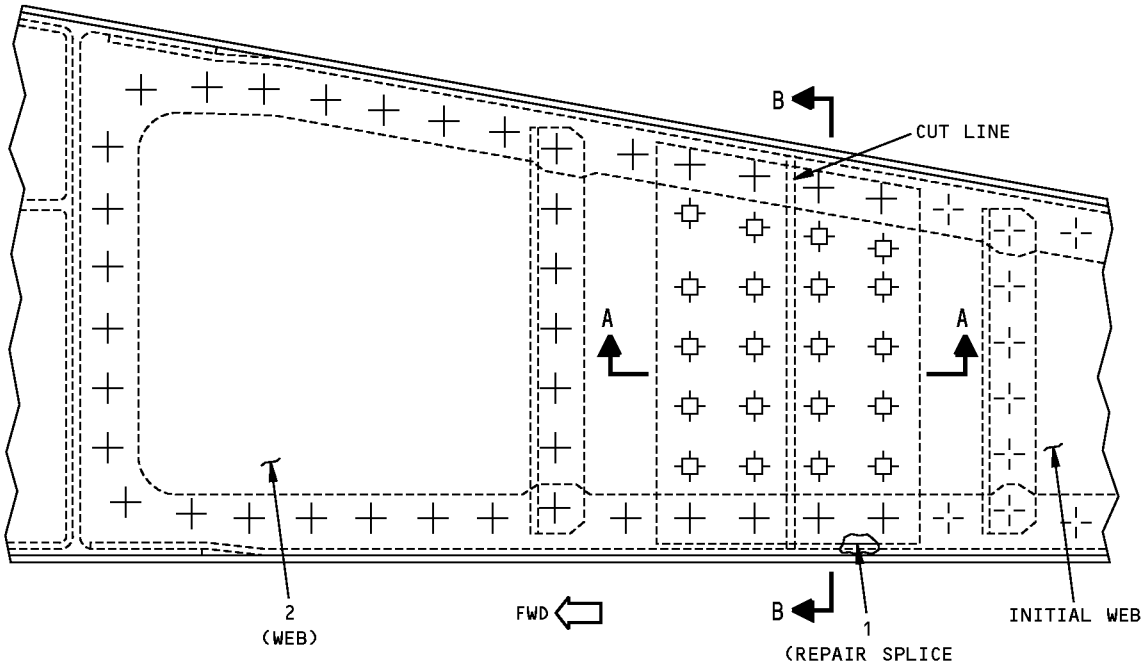


LEFT SIDE IS SHOWN, RIGHT SIDE IS ALMOST THE SAME

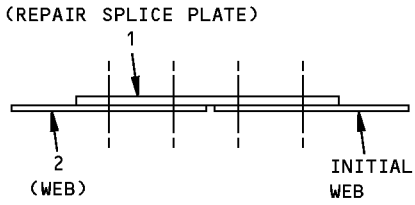
INBOARD AILERON
DETAIL I

U49881 S0000201120_V1

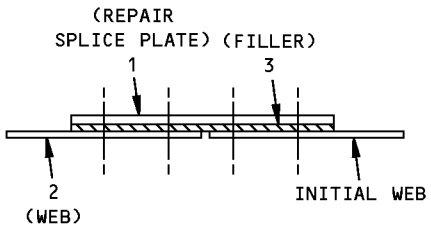
Inboard Aileron, Outboard Rib Web Repair
Figure 201 (Sheet 1 of 2)



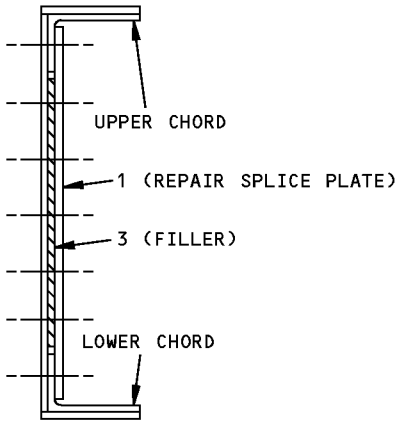
REPAIR TO THE WEB SECTION
DETAIL II



(PART 1 REPAIR SPLICE PLATE JOGGLED AT CHORDS)
SECTION A-A



(FILLER BETWEEN PART 1 REPAIR SPLICE PLATE AND WEBS)
SECTION A-A



SECTION B-B

FASTENER SYMBOLS

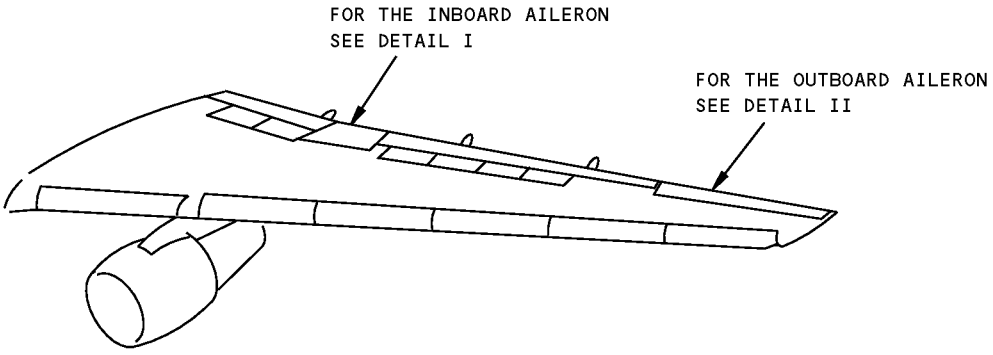
-┼- REFERENCE FASTENER LOCATION.

┼ INITIAL FASTENER LOCATION. INSTALL SAME TYPE AND DIAMETER FASTENER AS INITIAL FASTENER (UP TO 1/32 INCH DIAMETER OVERSIZE).

⌖ REPAIR FASTENER LOCATION. INSTALL A BACR15CE6KE, BACR15CE6D, OR BACR15CE6AD

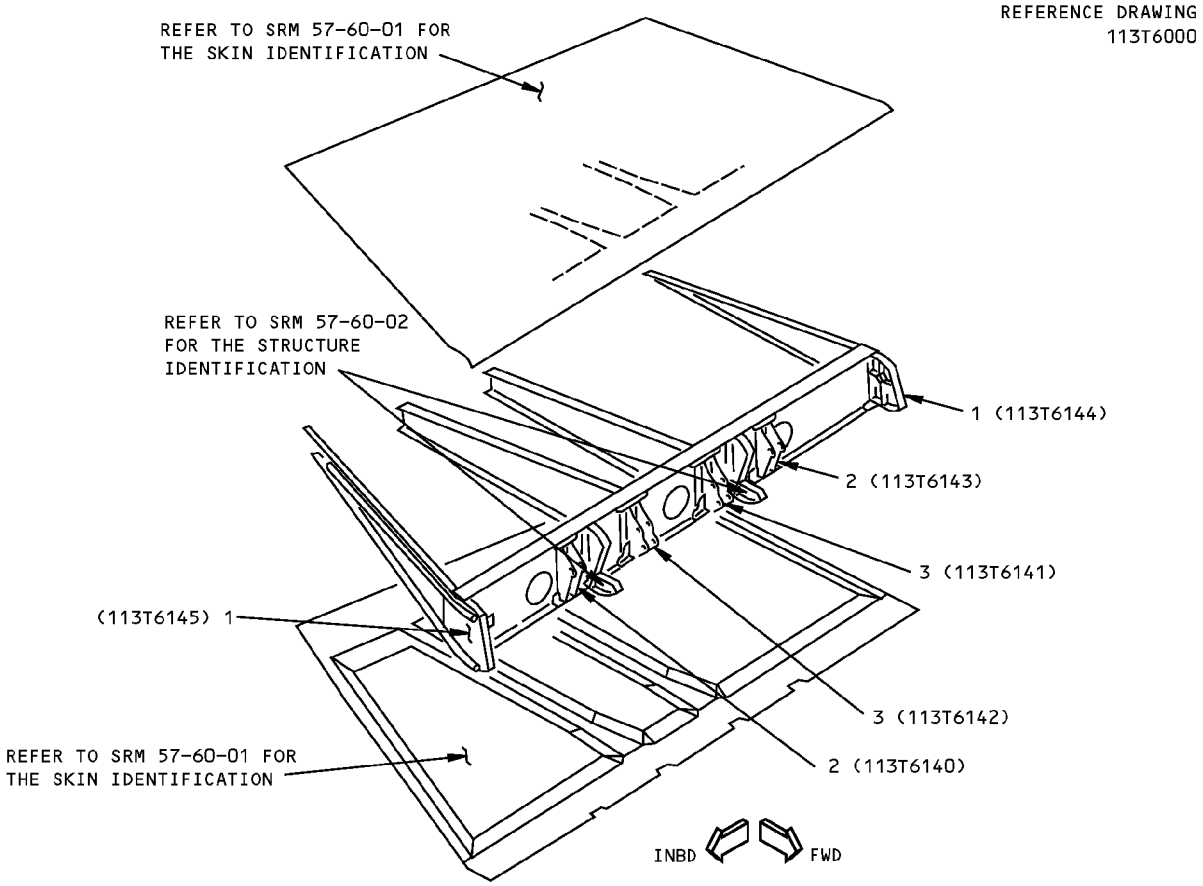
Inboard Aileron, Outboard Rib Web Repair
Figure 201 (Sheet 2 of 2)

IDENTIFICATION 1 - AILERON FITTING



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME

Aileron Fitting Identification
Figure 1 (Sheet 1 of 3)



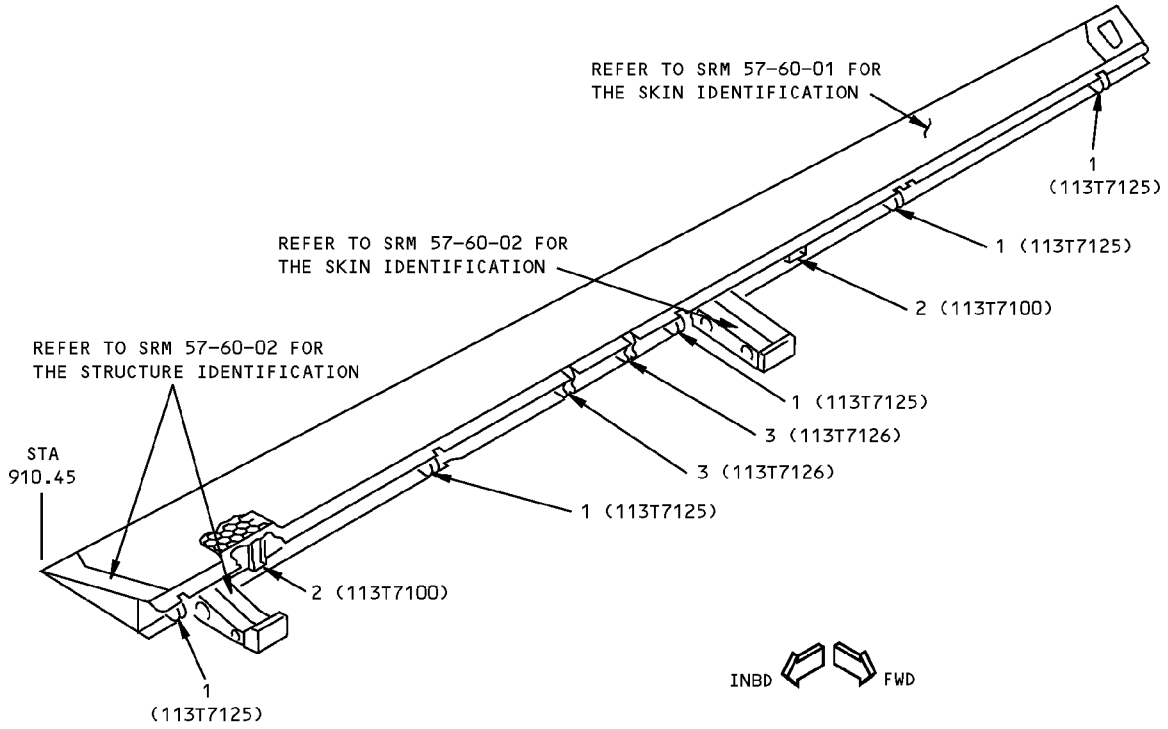
INBOARD AILERON
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	FAIL-SAFE FITTING		FORGING 7075-T73	
2	HINGE FITTING		FORGING 7075-T73	
3	ACTUATOR FITTING		FORGING 7075-T73	

LIST OF MATERIALS FOR DETAIL I

Aileron Fitting Identification
Figure 1 (Sheet 2 of 3)

REFERENCE DRAWING
113T7000



OUTBOARD AILERON

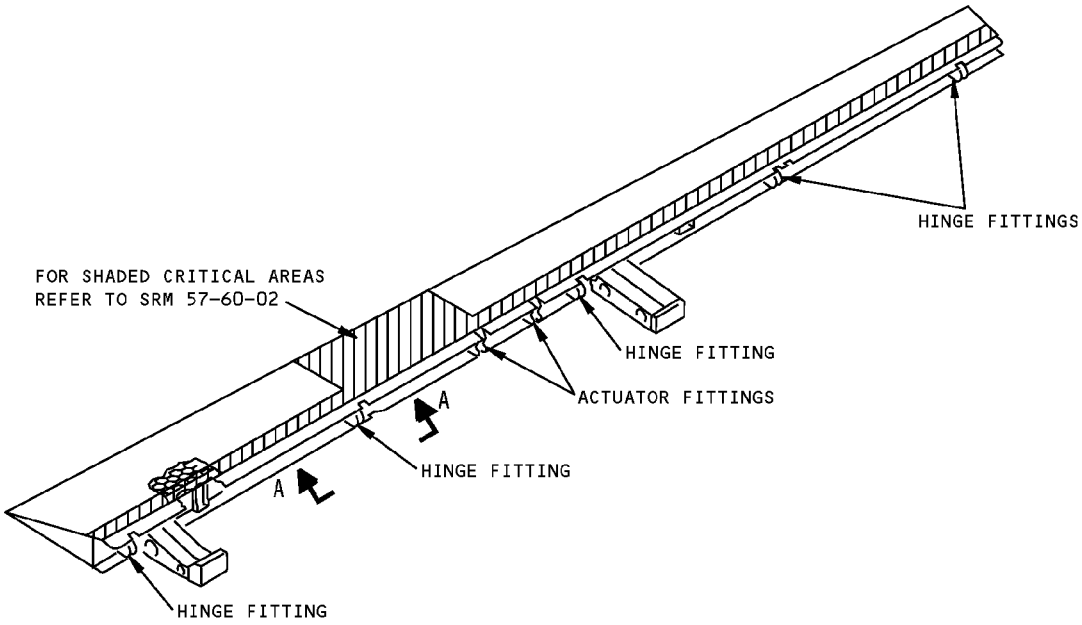
DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	HINGE FITTING		FORGING 7075-T73	
2	HOIST FITTING		FIBERGLASS/EPOXY AS GIVEN IN BMS 8-79, TYPE 1581, CLASS III, GRADE 1	
3	ACTUATOR FITTING		FORGING 7075-T73	

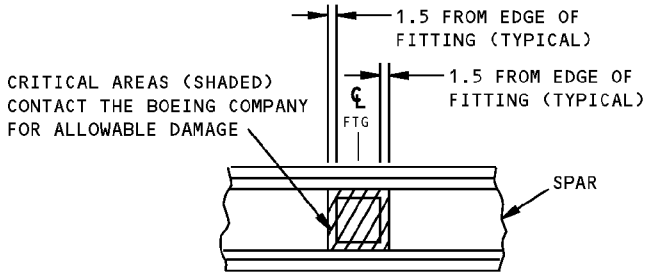
LIST OF MATERIALS FOR DETAIL II

Aileron Fitting Identification
Figure 1 (Sheet 3 of 3)

ALLOWABLE DAMAGE 1 - OUTBOARD AILERON FITTING



OUTBOARD AILERON



TYPICAL FITTING ATTACH TO SPAR
VIEW A-A

ITEM	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	PANEL DELAMINATION
HINGE FITTING	A	B	NOT PERMITTED	NOT PERMITTED	-----
ACTUATOR FITTING	A	B	NOT PERMITTED	NOT PERMITTED	-----

Outboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 1 of 4)

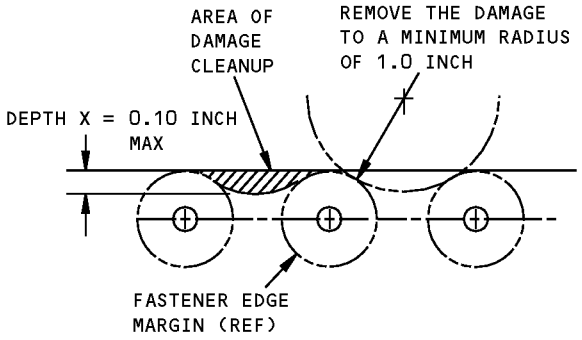
NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA-APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE DAMAGE EXCEEDS THE LIMITS GIVEN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE
- REFER TO SRM 51-60-01 FOR BALANCING REQUIREMENTS
- REFER TO SRM 51-70-14 FOR RESTORING DAMAGED ALUMINUM FLAME SPRAY OR CONDUCTIVE COATING
- REFER TO AMM 51-20 TO REFINISH REWORKED AREAS.

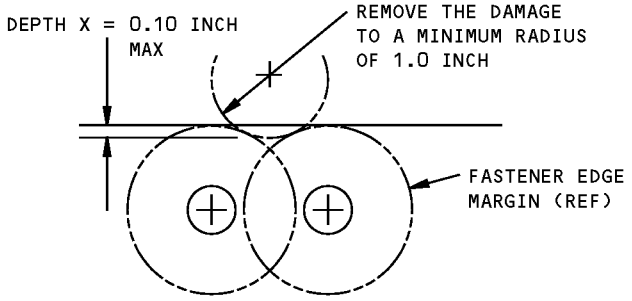
[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAIL V. SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

[B] FOR EDGE DAMAGE SEE DETAIL I OR V. FOR LUG DAMAGE SEE DETAIL IV. FOR OTHER DAMAGE SEE DETAIL II OR III. DAMAGE IS NOT PERMITTED NEAR BUSHINGS. SHOT PEEN REWORKED AREA AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.

Outboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 2 of 4)

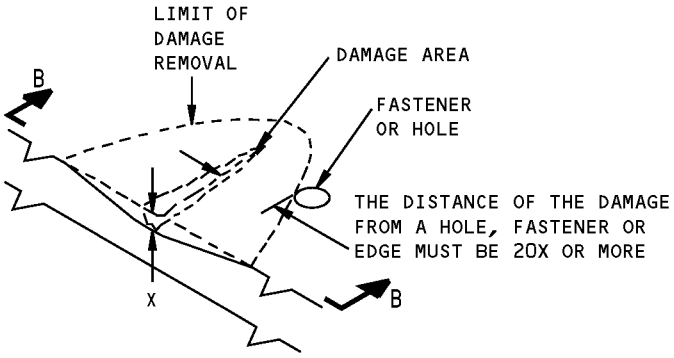


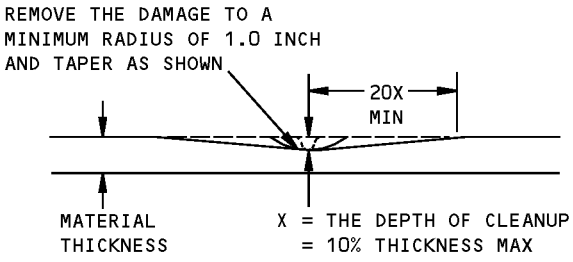
REMOVAL OF DAMAGE AT EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP



REMOVAL OF DAMAGE AT EDGES WHERE FASTENER EDGE MARGINS OVERLAP

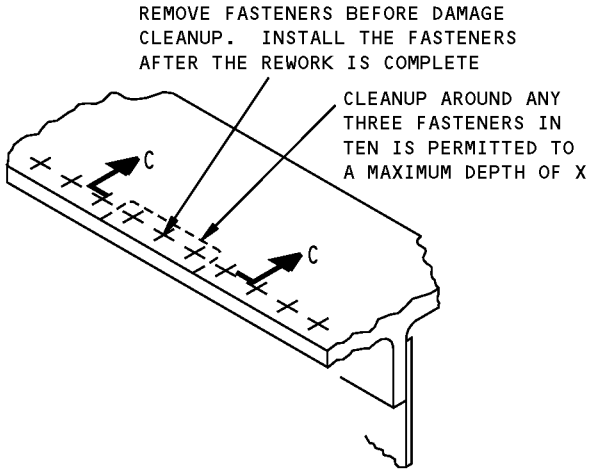
DETAIL I

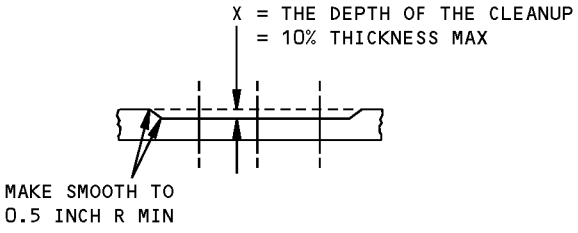




SECTION B–B

REMOVAL OF DAMAGE ON A SURFACE
DETAIL II

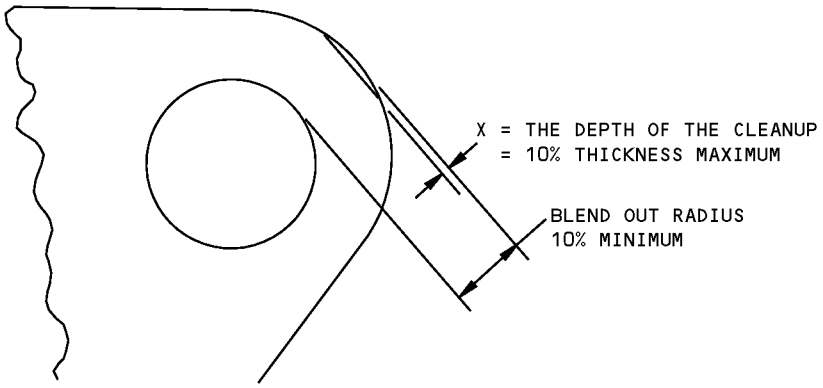




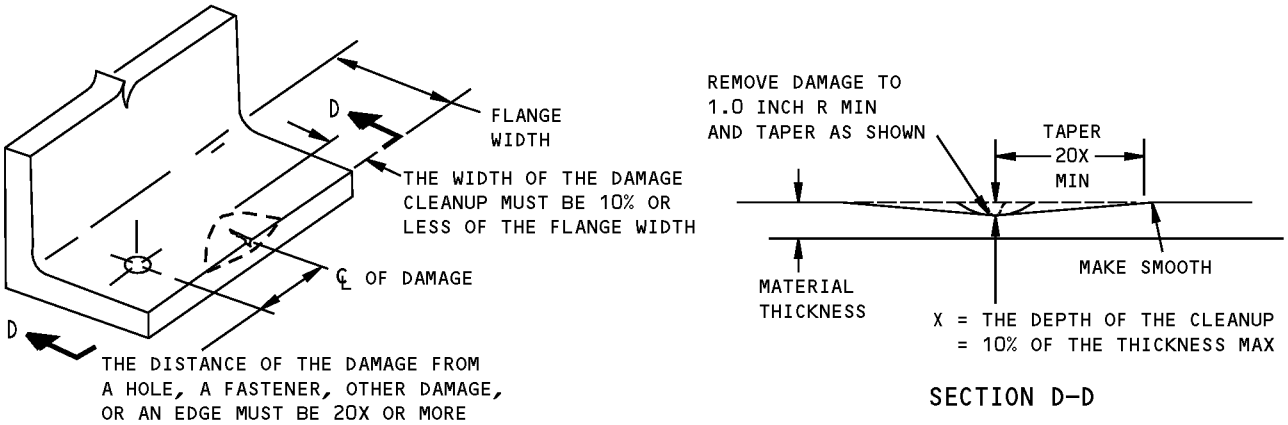
SECTION C–C

REMOVAL OF CORROSION DAMAGE
DETAIL III

Outboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 3 of 4)



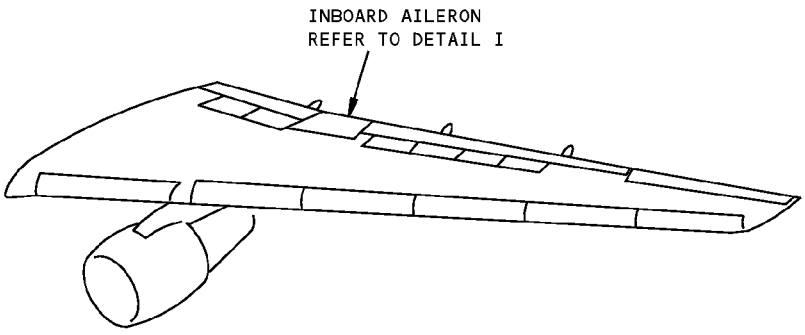
DAMAGE CLEANUP FOR EDGES OF LUG
DETAIL IV



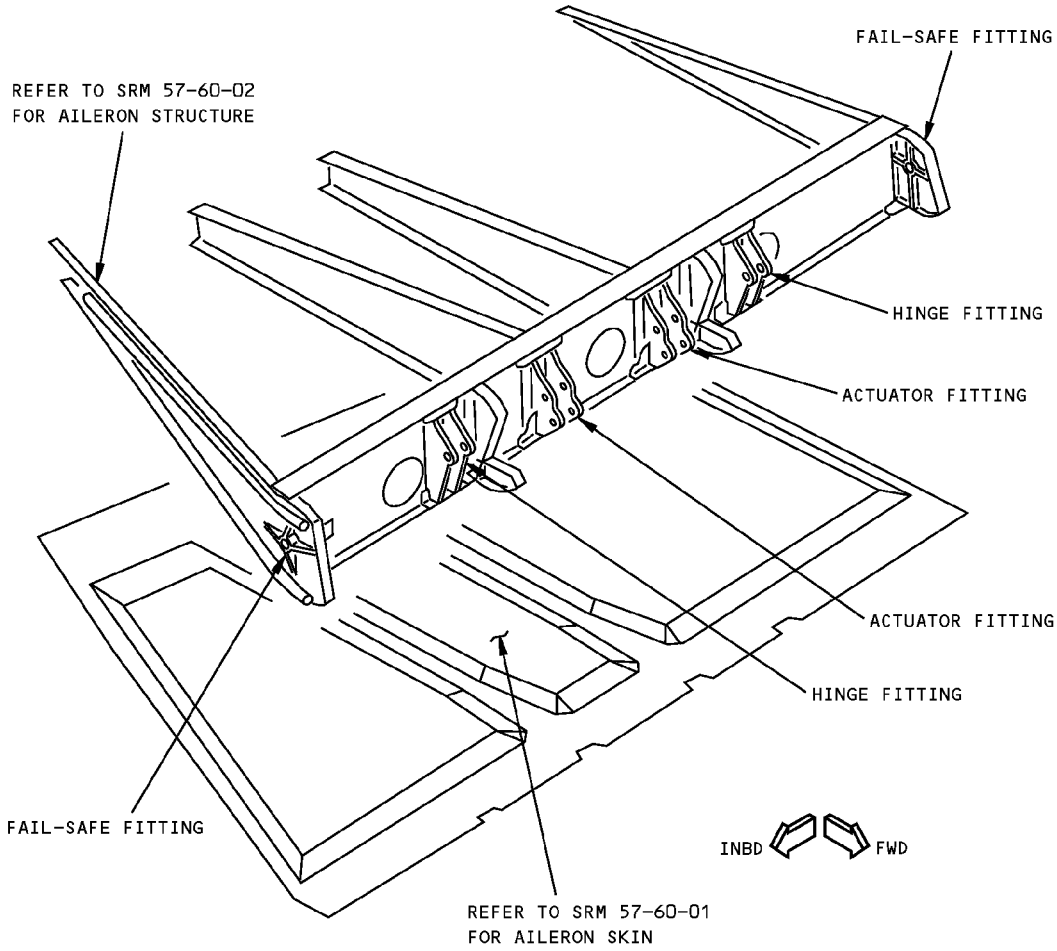
REMOVAL OF DAMAGE ON A SURFACE
DETAIL V

Outboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 4 of 4)

ALLOWABLE DAMAGE 2 - INBOARD AILERON FITTING



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME



INBOARD AILERON
DETAIL I

Inboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 1 of 3)

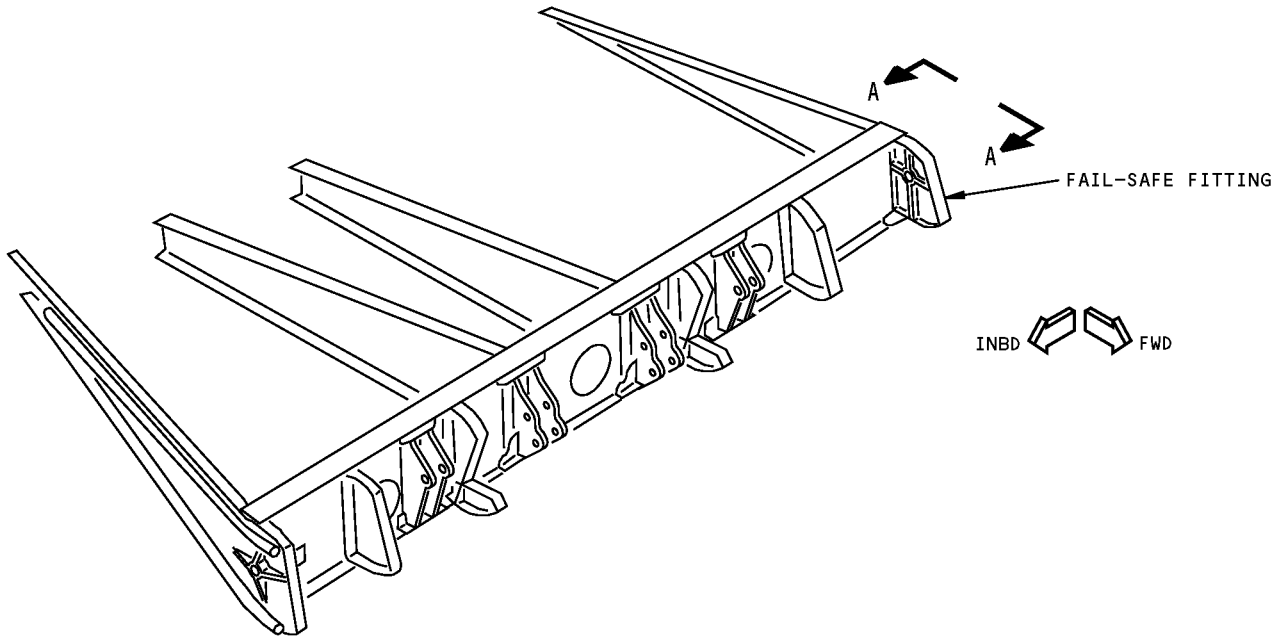
DESCRIPTION	CHAFING DAMAGE - REMOVE CHAFING DAMAGE AS SHOWN IN DETAIL II	
OUTBOARD FAIL-SAFE FITTING	IF THE THICKNESS REMAINING AFTER CLEAN UP (T) IS GREATER THAN OR EQUAL TO 0.045 INCH (1.14 mm) (T ≥ 0.045 INCH).	DO A PENETRANT INSPECTION FOR CRACKS, THEN SHOT PEEN THE REWORKED SURFACE.
	IF THE THICKNESS REMAINING AFTER CLEAN UP (T) IS GREATER THAN OR EQUAL TO 0.030 INCH (0.76 mm) AND LESS THAN 0.045 INCH (1.14 mm) (0.030 INCH ≤ T < 0.045 INCH).	REMOVE CHAFING DAMAGE AS SHOWN IN DETAIL II. THIS IS A TIME-LIMITED REPAIR. DO A CLOSE VISUAL INSPECTION FOR CRACKS AT EVERY A-CHECK OR 45 DAYS, WHICHEVER COMES FIRST. IF CRACKS ARE FOUND, REPLACE THE FITTING. IF CRACKS ARE NOT FOUND, DO THE REPEAT INSPECTION EVERY A-CHECK AND REPLACE THE FITTING AT THE NEXT C-CHECK, OR 18 MONTHS, WHICHEVER COMES FIRST.
	IF THE THICKNESS REMAINING AFTER CLEAN UP (T) IS LESS THAN 0.030 INCH (0.76 mm) (T < 0.030 INCH).	REPLACE THE FITTING

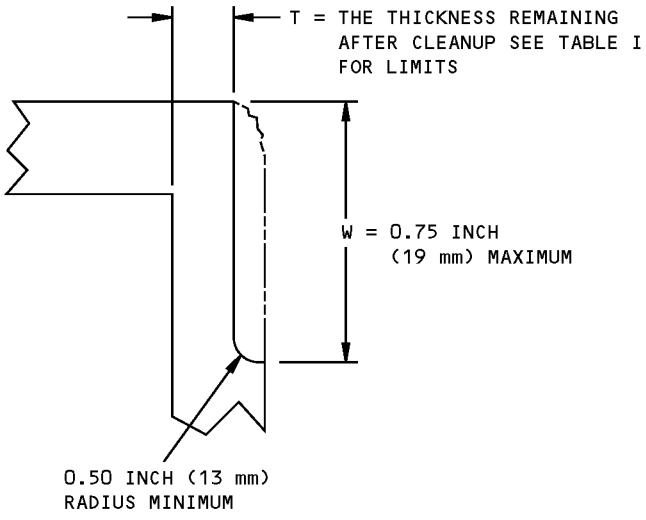
ALLOWABLE DAMAGE LIMITS
TABLE I

NOTES

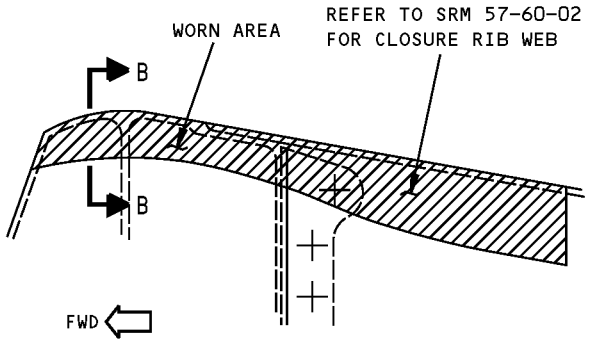
- REFER TO AMM 51-21 TO APPLY THE FINISH TO THE REWORKED AREA.
- REFER TO SOPM 20-10-03 FOR SHOT PEENING PROCEDURES.
- REFER TO SOPM 20-20-02 FOR PENETRANT INSPECTION PROCEDURES.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL.

Inboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 2 of 3)





SECTION B-B

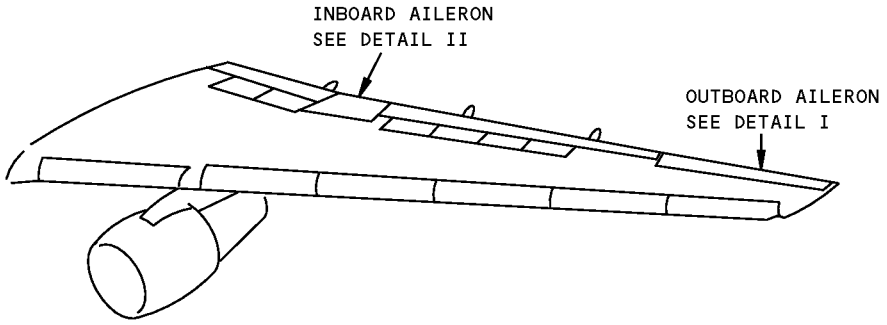


VIEW A-A

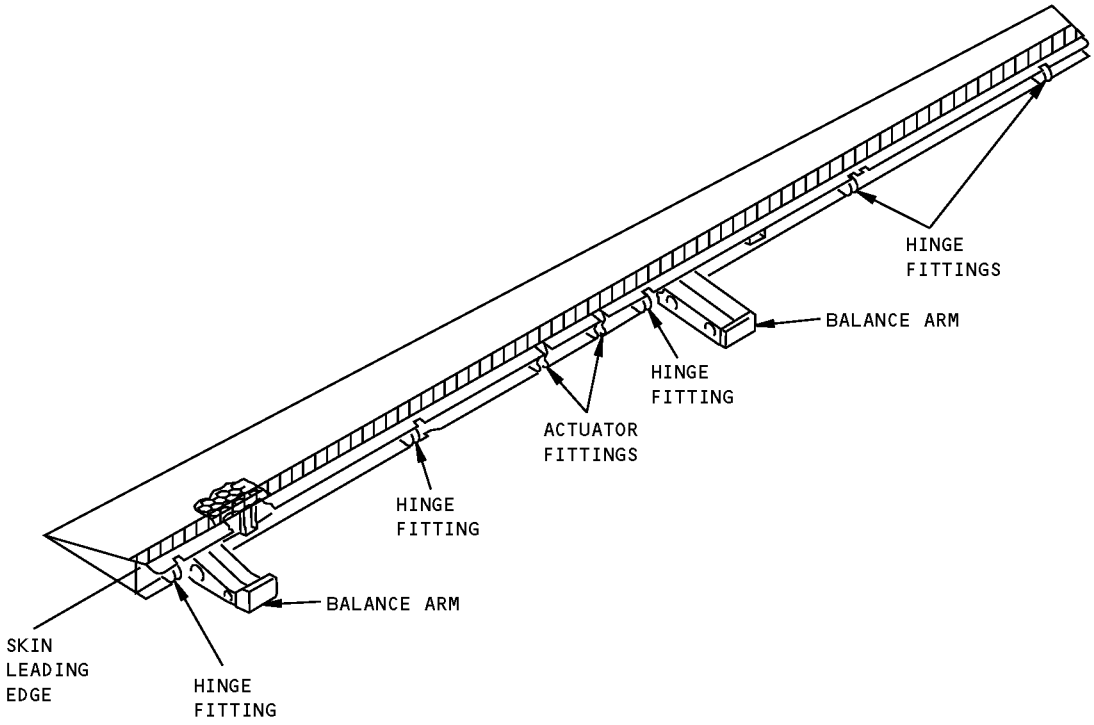
REMOVAL OF CHAFING DAMAGE
DETAIL II

Inboard Aileron Fitting Allowable Damage
Figure 101 (Sheet 3 of 3)

REPAIR 1 - AILERON ATTACHMENT FITTING



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME



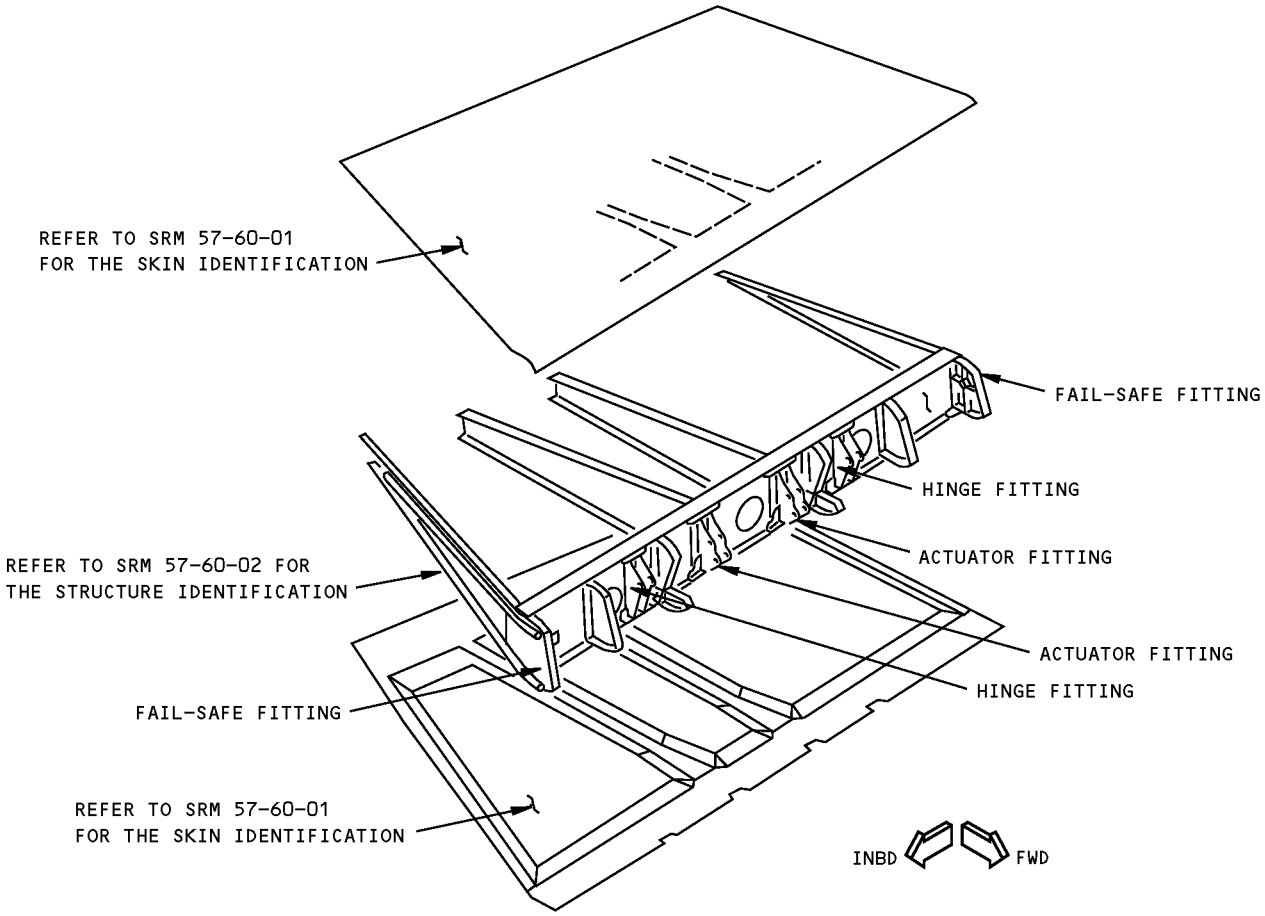
OUTBOARD AILERON

DETAIL I

NOTES

- THERE ARE NO TYPICAL REPAIRS TO FITTINGS AVAILABLE. SPECIFIC REPAIR TO FITTINGS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE.
- REFER TO SRM 57-60-02 FOR STRUCTURE IDENTIFICATION.

Aileron Attachment Fitting Repair
Figure 201 (Sheet 1 of 2)

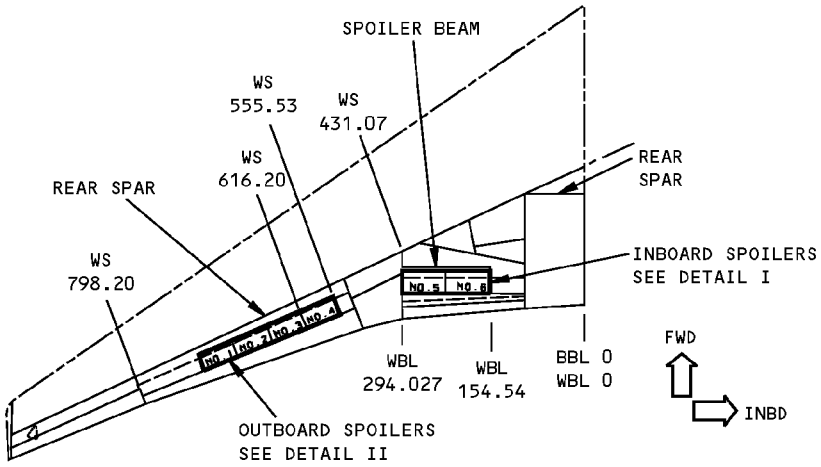


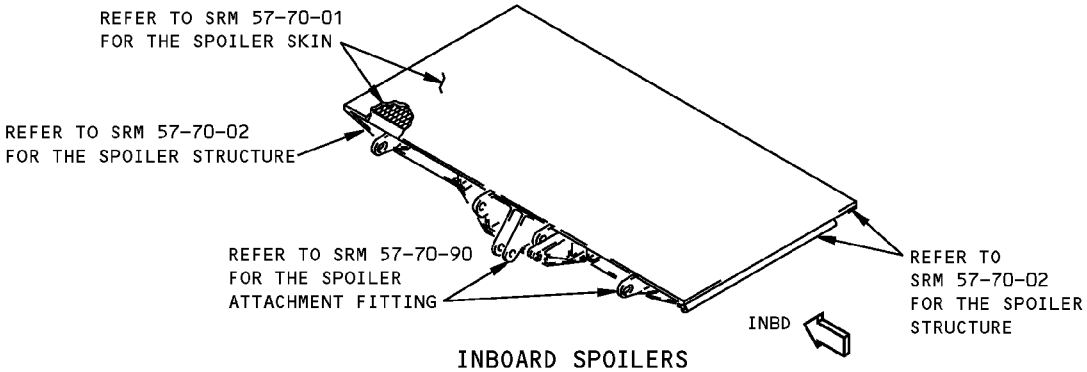
INBOARD AILERON

DETAIL II

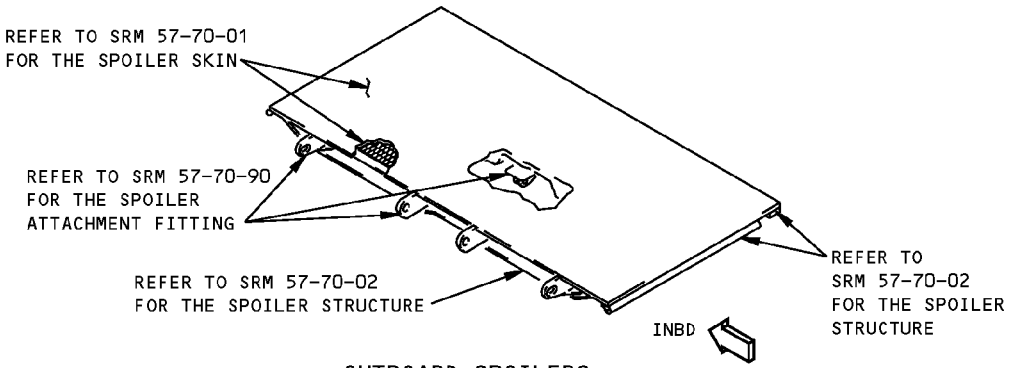
Aileron Attachment Fitting Repair
Figure 201 (Sheet 2 of 2)

GENERAL - SPOILER DIAGRAM





INBOARD SPOILERS
DETAIL I



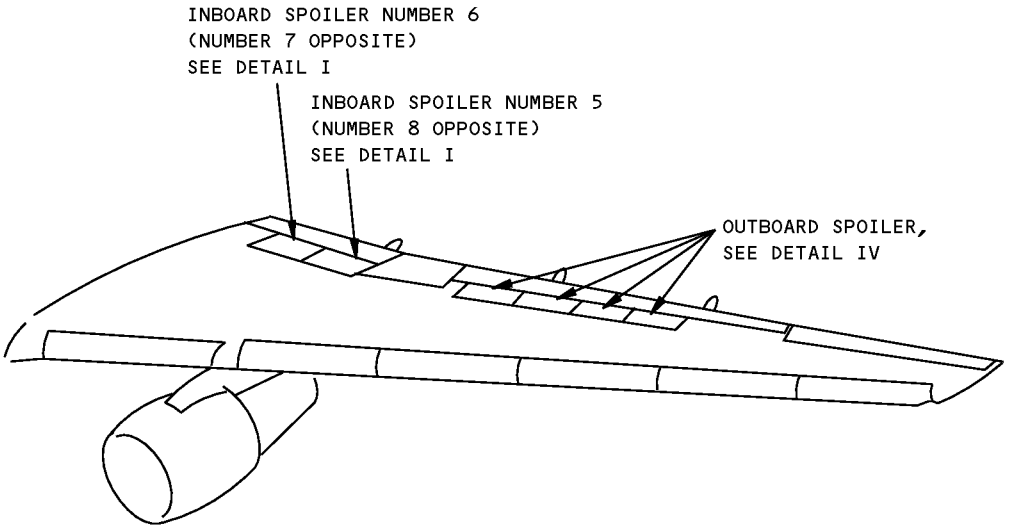
OUTBOARD SPOILERS
DETAIL II

NOTES

- REFER TO SRM 57-50-00 FOR TRAILING EDGE
- REFER TO SRM 57-60-00 FOR AILERONS
- REFER TO SRM 57-53-00 FOR TRAILING EDGE FLAPS

Spoiler Diagram
Figure 1

IDENTIFICATION 1 - SPOILER SKIN



LEFT WING IS SHOWN, RIGHT WING IS ALMOST THE SAME

NOTES

[A] PLY ORIENTATION CONVENTION, DEGREES INDICATED IS PARALLEL TO THE FABRIC WARP DIRECTION.

[B] GRAPHITE/EPOXY PREPREG FABRIC AS GIVEN IN BMS 8-212, TYPE IV, CLASS II, STYLE 3K-70-PW, 350°F (177°C) CURE.

[C] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGE BAND AND AREAS WITH DOUBLERS.

[D] DIAGRAM OF PLY ORIENTATION. SEE APPLICABLE TABLE FOR INDIVIDUAL PLY ORIENTATION AND MATERIAL.

[E] APPLICABLE TO SPOILERS NUMBER 5 AND NUMBER 8 FOR AIRPLANES WITH CUM LINE NUMBERS:

158,165,186,188-189,191-193,200-201,203, 207-209,214,216

APPLICABLE TO SPOILERS NUMBER 6 AND NUMBER 7 FOR AIRPLANES WITH CUM LINE NUMBERS:

2-105,158,165,176-177,179,185-186,188-189, 191-193,199-203,205-209,211-216,218-228, 230-232,235,237-238,240-242,244-249,251

[F] FOR AIRPLANES NOT LISTED IN. [E]

[G] FOR SPOILERS NUMBER 5 AND NUMBER 8, ITEM 1 IS OPTIONAL TO ITEM 2 FOR AIRPLANES WITH CUM LINE NUMBERS:

2-157,159-164,166-175,178,180-184,187,190, 194-198,204,210,217,229,233-234,236,239, 243,250,252-254,292,296,299,306,308,321, 338,347,362,373,375,383,486,524,527,532, 535

FOR SPOILERS NUMBER 6 AND NUMBER 7, ITEM 1 IS OPTIONAL TO ITEM 2 FOR AIRPLANES WITH CUM LINE NUMBERS:

106-157,159-164,166-175,178,180-184,187, 190,194-198,204,210,217,229,233-234,236, 239,243,250,252-325,327-476,486,524,527, 532,535

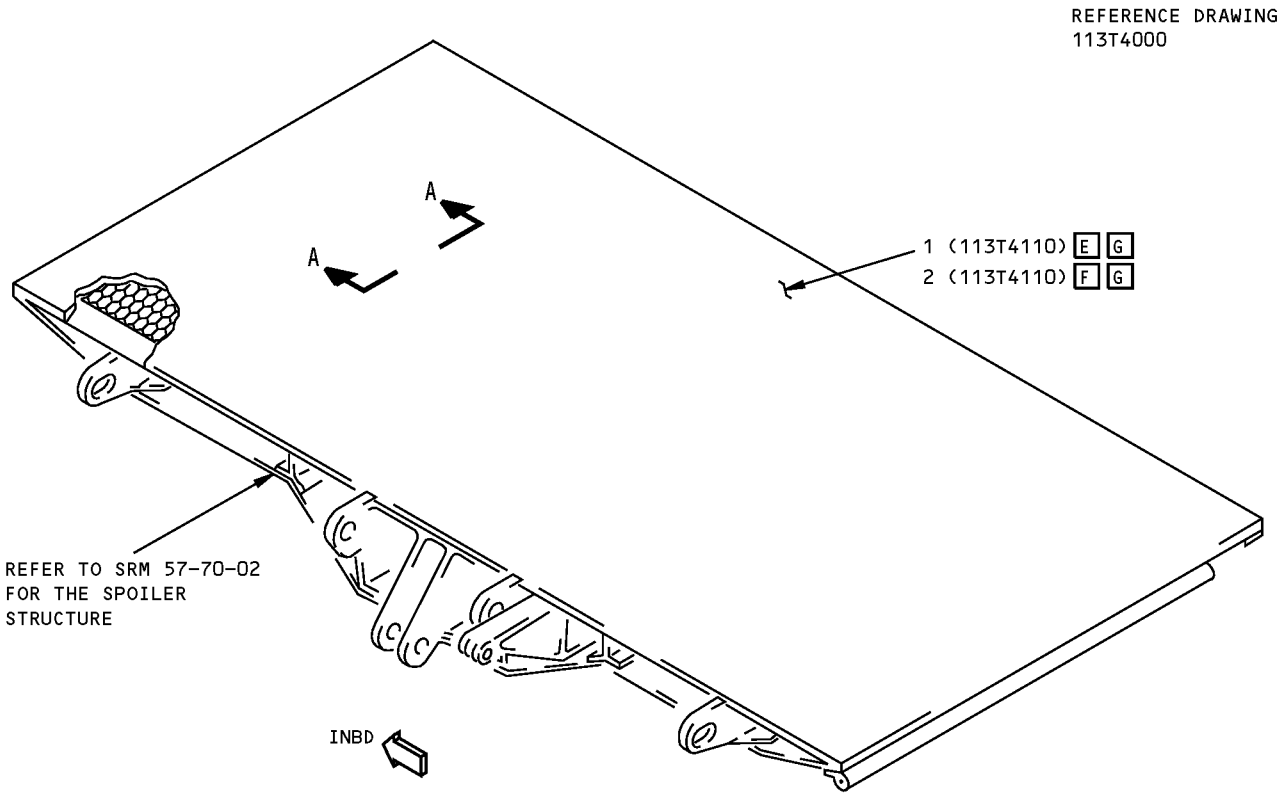
[H] FIBERGLASS PREPREG FABRIC AS GIVEN IN BMS 8-139, TYPE 120.

[I] FOR AIRPLANES WITH CUM LINE NUMBERS:

1-157,159-164,166-175,178,180-184,187-193, 200-201,203,207-209,214,216

[J] FOR AIRPLANES NOT LISTED IN. [I]

Spoiler Skin Identification
Figure 1 (Sheet 1 of 7)



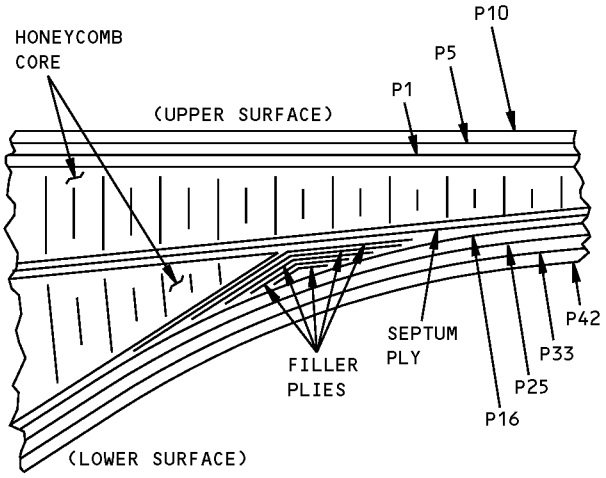
INBOARD SPOILERS NUMBER 5 AND NUMBER 6 ARE SHOWN, NUMBER 7 AND NUMBER 8 ARE OPPOSITE

DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	PANEL ASSEMBLY SKIN CORE		GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL II NONMETALLIC HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	E G
2	PANEL ASSEMBLY SKIN CORE		GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL III NONMETALLIC HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	F G

LIST OF MATERIALS FOR DETAIL I

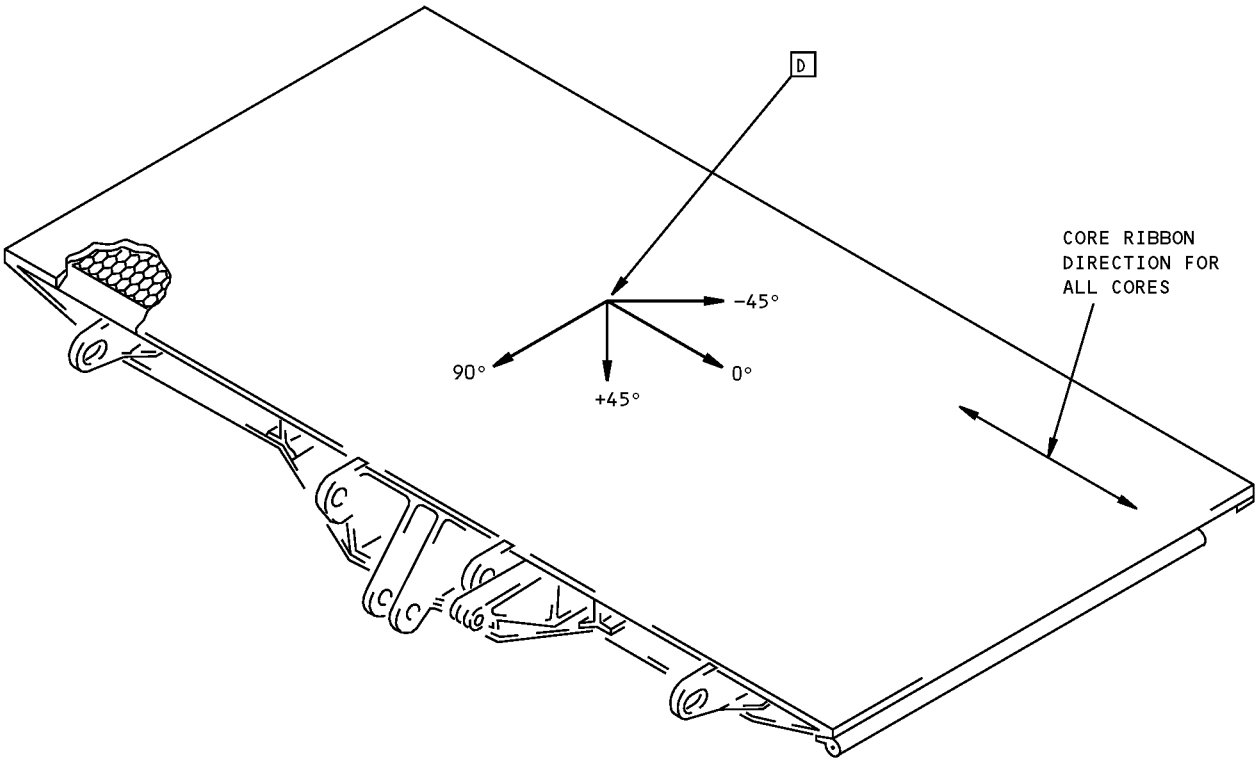
Spoiler Skin Identification
Figure 1 (Sheet 2 of 7)



ITEM NO.	PLY NUMBER	MATERIAL	PLY ORIENTATION [A]
1 (DETAIL I)	P1	[B]	+45°
	P5	[B]	0°
	P10	[B]	+45°
	P16	[B]	+45°
	P25	[B]	0°
	P33	[B]	0°
	P42	[B]	+45°
	SEPTUM PLY	[B]	0°
	FILLER PLIES	[B]	OPTIONAL

PLY TABLE [C]

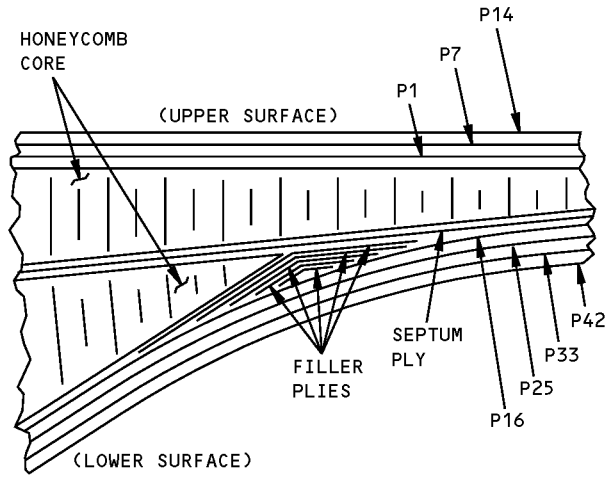
SECTION A-A



VIEW ON INBOARD SPOILER

DETAIL II

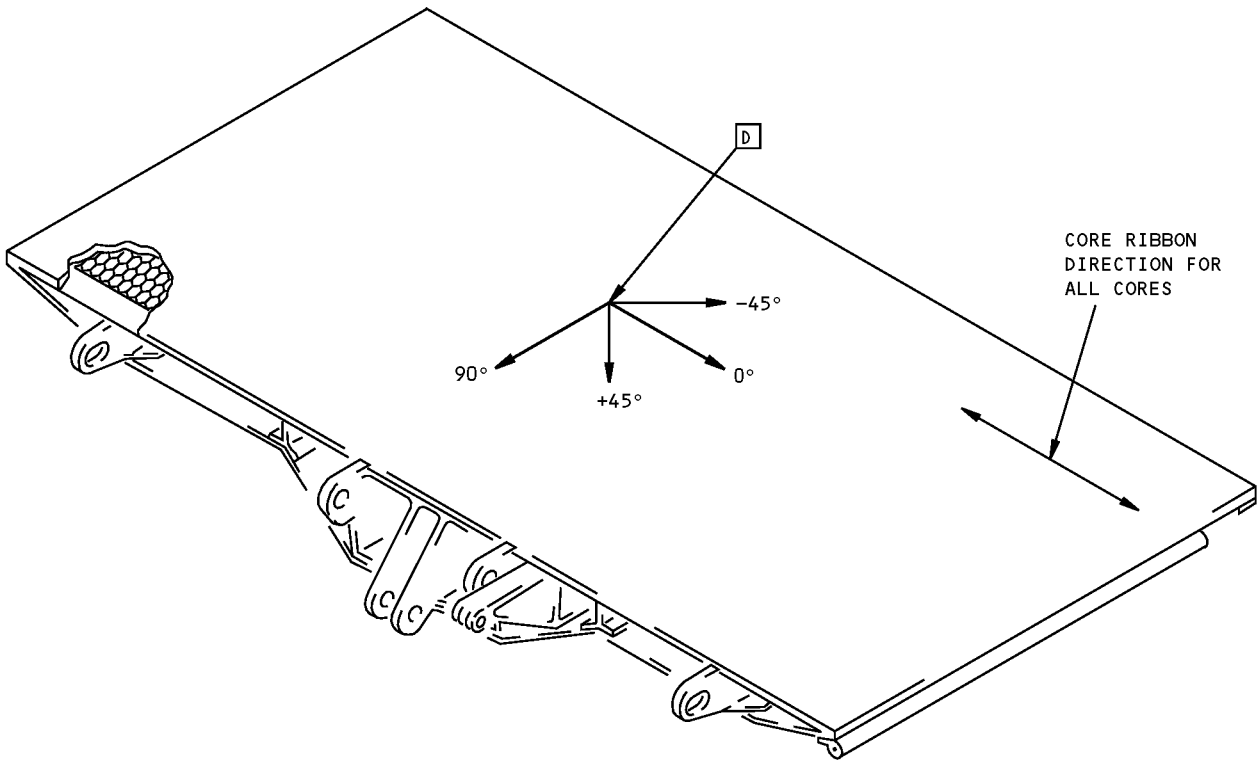
Spoiler Skin Identification
Figure 1 (Sheet 3 of 7)



ITEM NO.	PLY NUMBER	MATERIAL	PLY [A] ORIENTATION
2 (DETAIL I)	P1	[B]	+45°
	P7	[B]	0°
	P14	[B]	+45°
	P16	[B]	+45°
	P25	[B]	0°
	P33	[B]	0°
	P42	[B]	+45°
	SEPTUM PLY	[B]	0°
	FILLER PLIES	[B]	OPTIONAL

PLY TABLE [C]

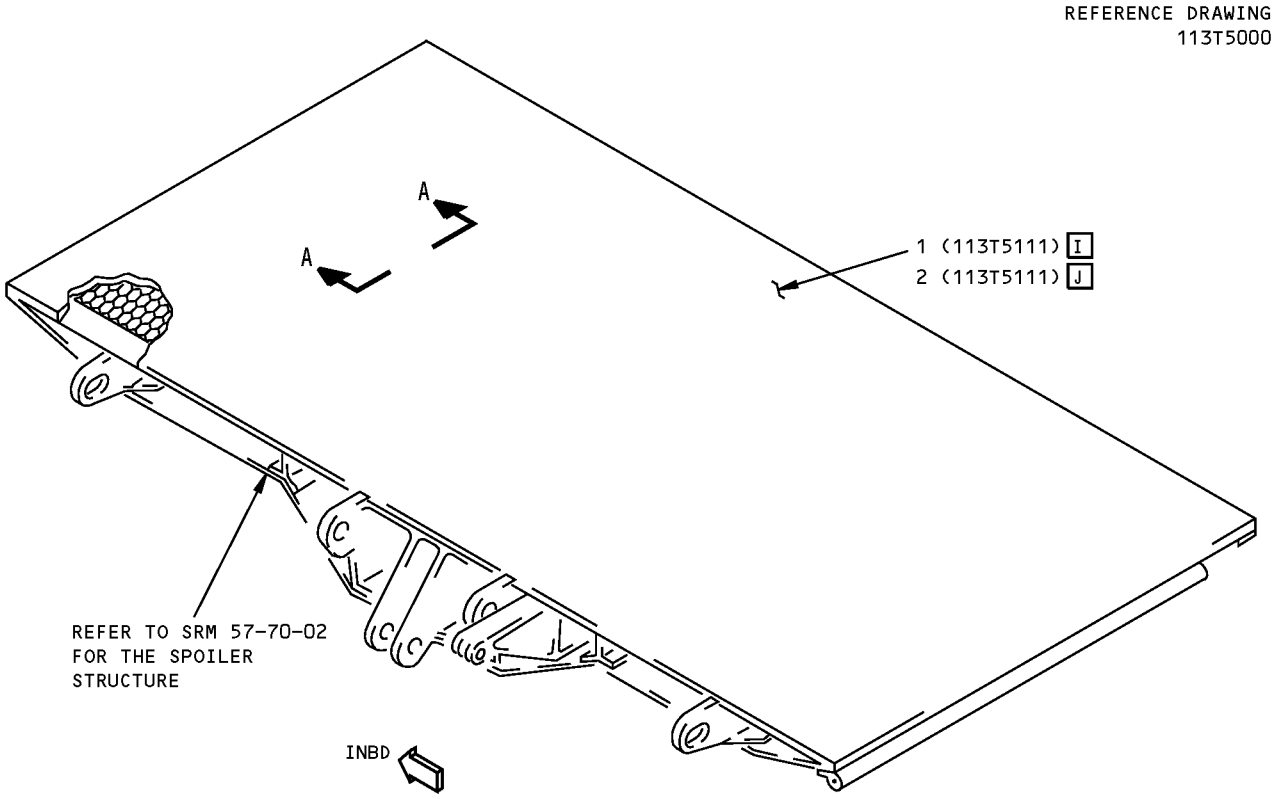
SECTION A-A



VIEW ON INBOARD SPOILER

DETAIL III

Spoiler Skin Identification
Figure 1 (Sheet 4 of 7)



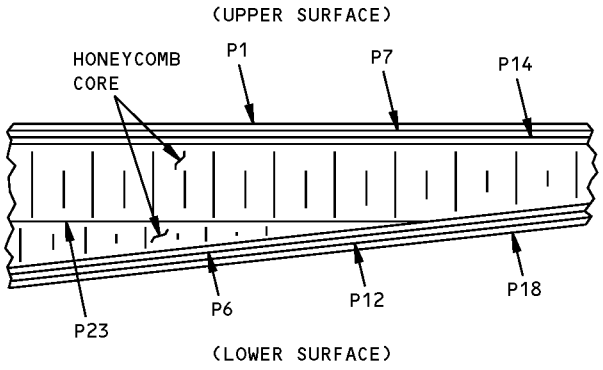
OUTBOARD SPOILERS NUMBERS 1 THROUGH 4 ARE SHOWN, NUMBERS 9 THROUGH 12 ARE OPPOSITE

DETAIL IV

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	PANEL ASSEMBLY SKIN CORE		GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL V NONMETALLIC HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	I
2	PANEL ASSEMBLY SKIN CORE		GRAPHITE/EPOXY HONEYCOMB SANDWICH SEE DETAIL VI NONMETALLIC HONEYCOMB AS GIVEN IN BMS 8-124, CLASS IV, TYPE V, GRADE 3.0	J

LIST OF MATERIALS FOR DETAIL IV

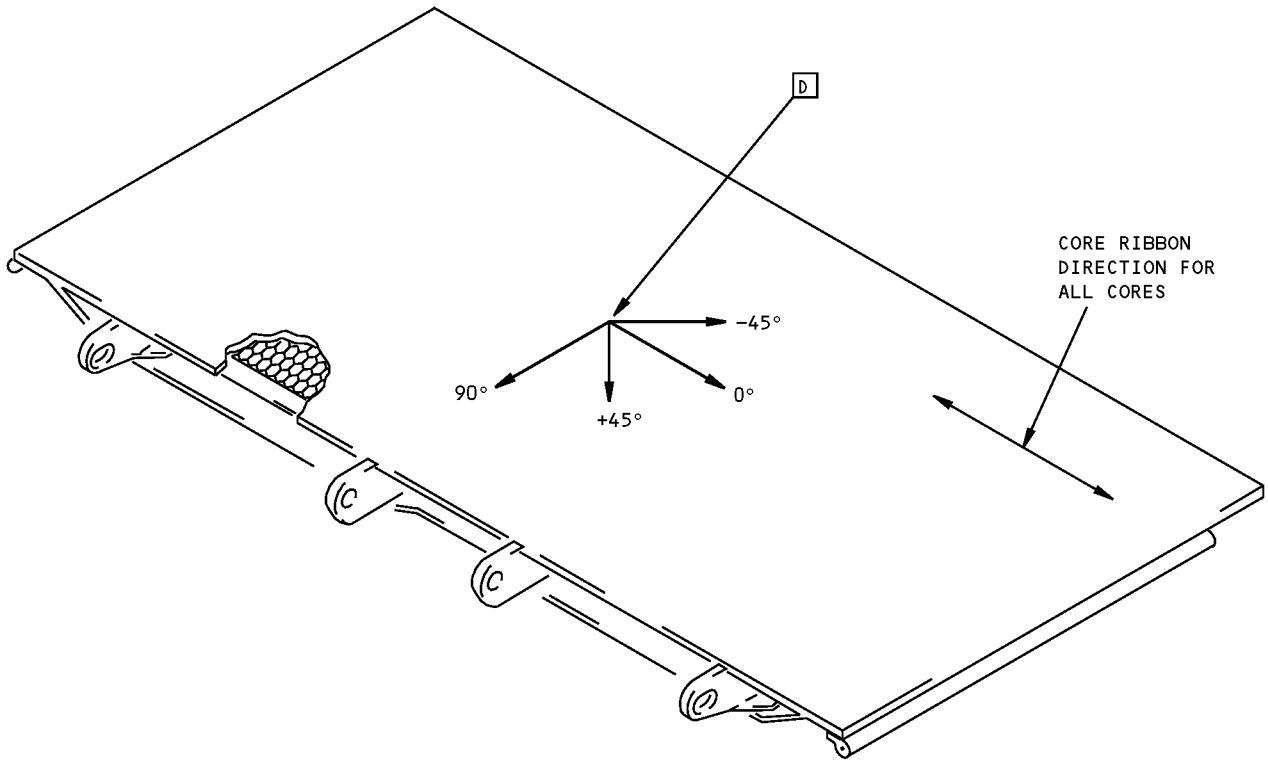
Spoiler Skin Identification
Figure 1 (Sheet 5 of 7)



SECTION A–A

ITEM NO.	PLY NUMBER	MATERIAL	PLY [A] ORIENTATION
1 (DETAIL IV)	P1	[B]	+45°
	P6	[B]	+45°
	P7	[B]	0°
	P12	[B]	0°
	P14	[B]	+45°
	P18	[B]	+45°
	P23	[H]	OPTIONAL

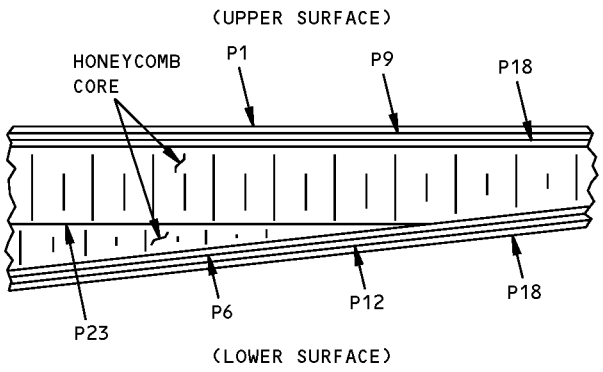
PLY TABLE [C]



VIEW ON OUTBOARD SPOILER

DETAIL V

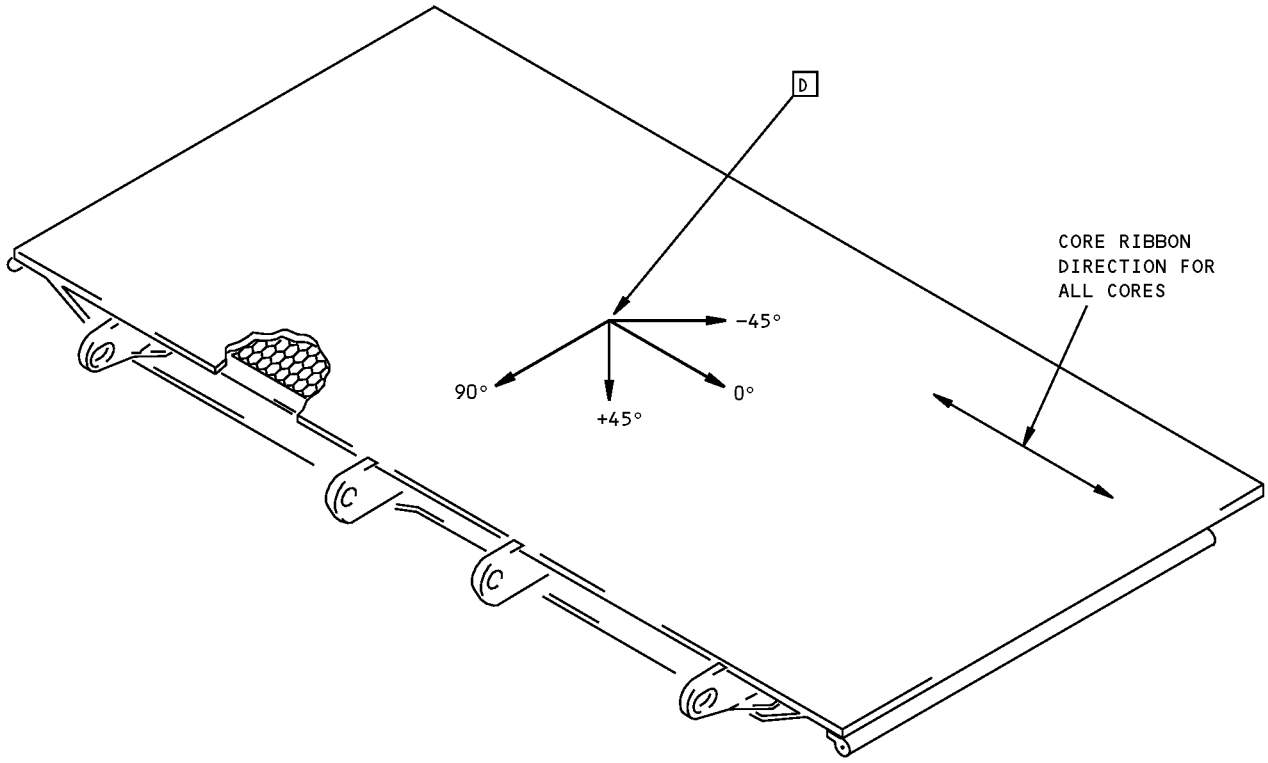
Spoiler Skin Identification
Figure 1 (Sheet 6 of 7)



SECTION A–A

ITEM NO.	PLY NUMBER	MATERIAL	PLY ORIENTATION [A]
1 (DETAIL IV)	P1	[B]	+45°
	P6	[B]	+45°
	P9	[B]	0°
	P12	[B]	0°
	P18	[B]	+45°
	P23	[H]	OPTIONAL

PLY TABLE [C]

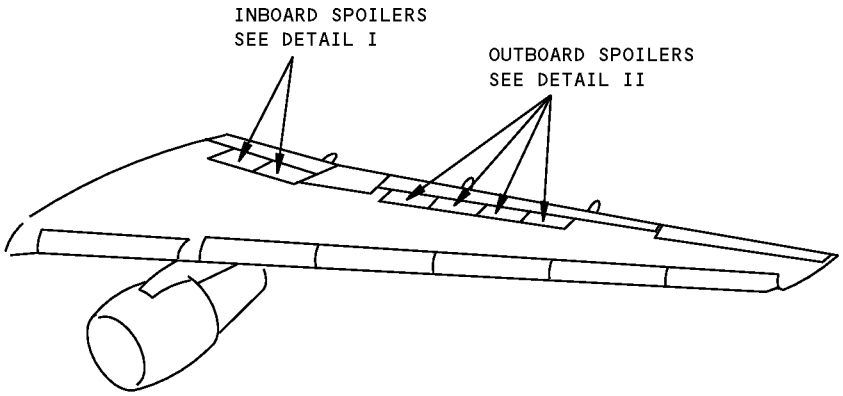


VIEW ON OUTBOARD SPOILER

DETAIL VI

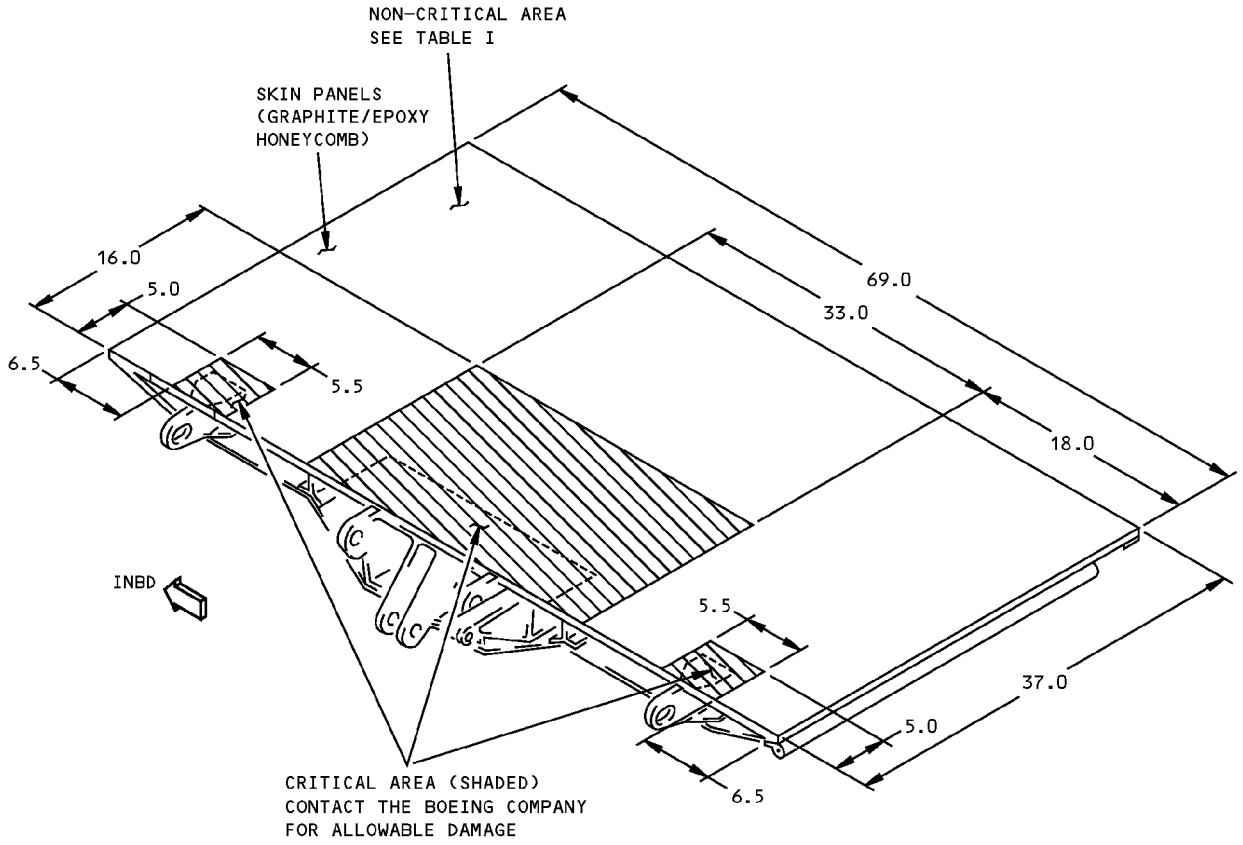
Spoiler Skin Identification
Figure 1 (Sheet 7 of 7)

ALLOWABLE DAMAGE 1 - SPOILER SKIN



Spoiler Skin Allowable Damage
Figure 101 (Sheet 1 of 6)

REFERENCE DRAWING
113T4110

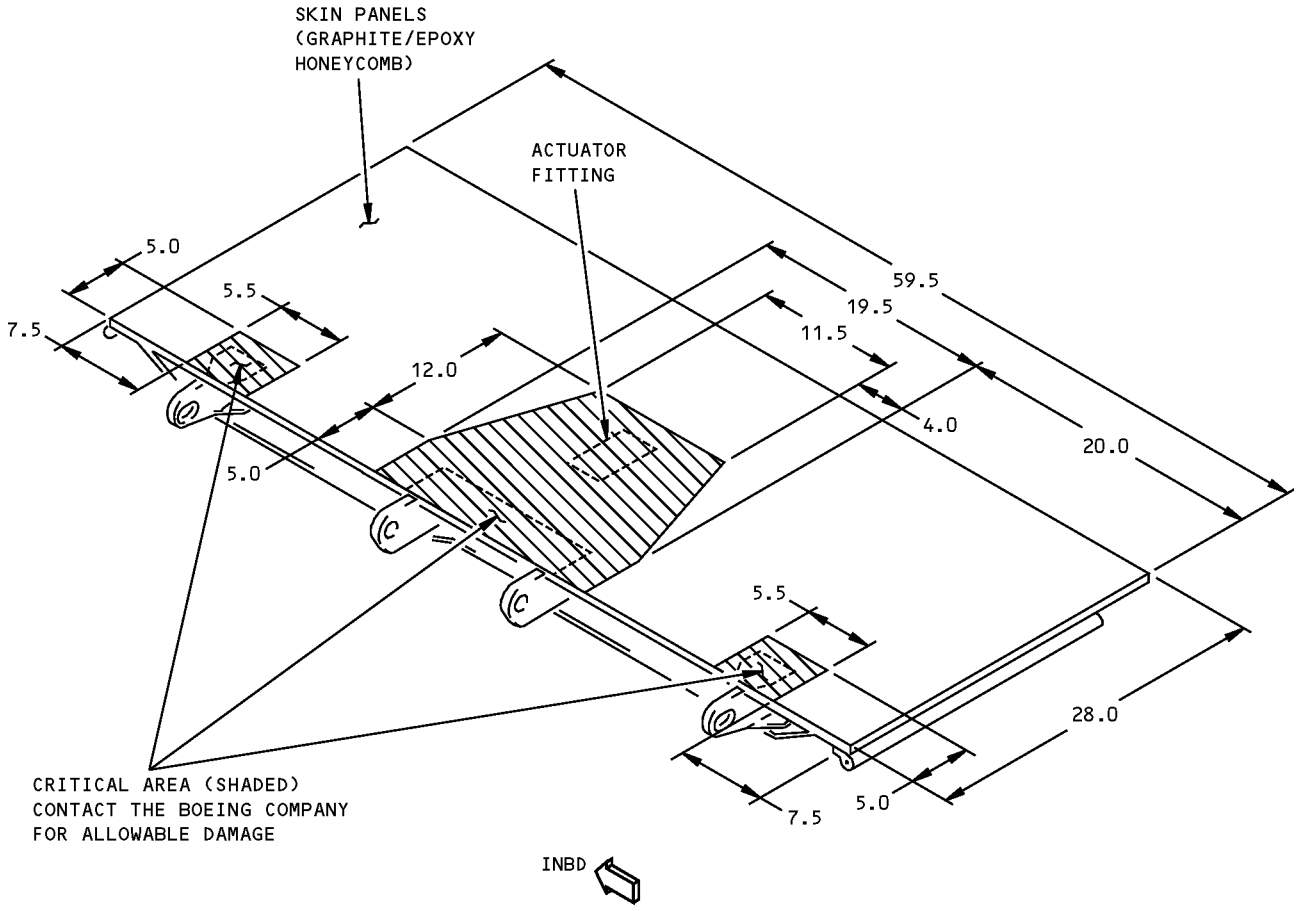


NOTE: ALL DIMENSIONS ARE IN INCHES.

INBOARD SPOILERS
DETAIL I

Spoiler Skin Allowable Damage
Figure 101 (Sheet 2 of 6)

REFERENCE DRAWING
113T5111



NOTE: ALL DIMENSIONS ARE IN INCHES.

OUTBOARD SPOILERS
DETAIL II

Spoiler Skin Allowable Damage
Figure 101 (Sheet 3 of 6)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	PANEL DELAMINATION
SKIN PANELS –	[A]	[B]	[C]	[A]	[A]

TABLE I

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE DAMAGE EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO LOSS OF PERFORMANCE INVOLVED.
- FINISH REWORKED AREAS AS GIVEN IN AMM 51-20.

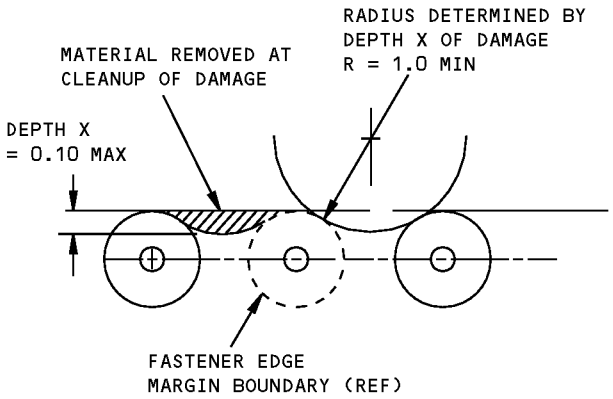
[A] DAMAGE TO SKIN PANEL EDGES MAY BE A COMBINATION OF EDGE DELAMINATION AND/OR CRACKS, GOUGES, ETC., WHICH CAN RESULT IN FIBER DAMAGE AND A LOSS OF CROSS-SECTIONAL AREA. REMOVE EDGE DAMAGE AS SHOWN IN DETAILS III AND IV. 1.50 INCHES (38 mm) MAX DIAMETER IS PERMITTED FOR A SINGLE DAMAGE SITE IN THE HONEYCOMB AREA. MULTIPLE DAMAGE SITES MUST NOT BE CLOSER THAN A MINIMUM OF a/D = 2.0. SEE DETAIL V FOR DAMAGE CRITERIA. DAMAGE IS PERMITTED ON ONE SURFACE AND IN THE HONEYCOMB CORE ONLY. PROTECT DAMAGED AREAS THAT ARE NOT REWORKED AS DESCRIBED IN. [D]

[B] DAMAGE IS PERMITTED ON THE SURFACE RESIN ONLY, IF THERE IS NO FIBER DAMAGE. CLEAN UP EDGE DAMAGE AS SHOWN IN DETAILS III AND IV. REFER TO [A] FOR FIBER DAMAGE IN OTHER AREAS.

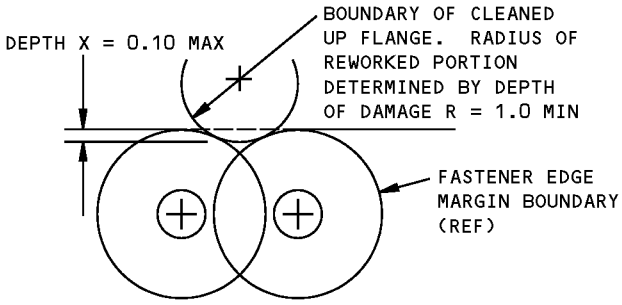
[C] DENTS RESULT IN DELAMINATION AND FIBER DAMAGE AND MUST BE EXAMINED WITH THE SAME PROCEDURE AS A HOLE OR A PUNCTURE.

[D] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) TO REMOVE MOISTURE FROM HONEYCOMB CELLS IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD THE LOCATION AND INSPECT EACH 100 FLIGHTS. REPLACE THE ALUMINUM FOIL TAPE IF ANY PEELING OR DETERIORATION IS EVIDENT. REPAIR NO LATER THAN 600 FLIGHTS AFTER DAMAGE.

Spoiler Skin Allowable Damage
Figure 101 (Sheet 4 of 6)

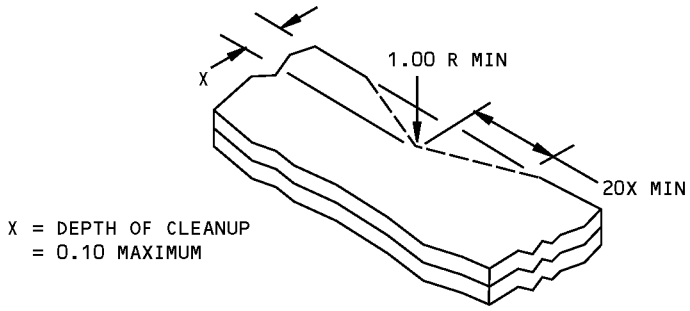


DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS DO NOT OVERLAP



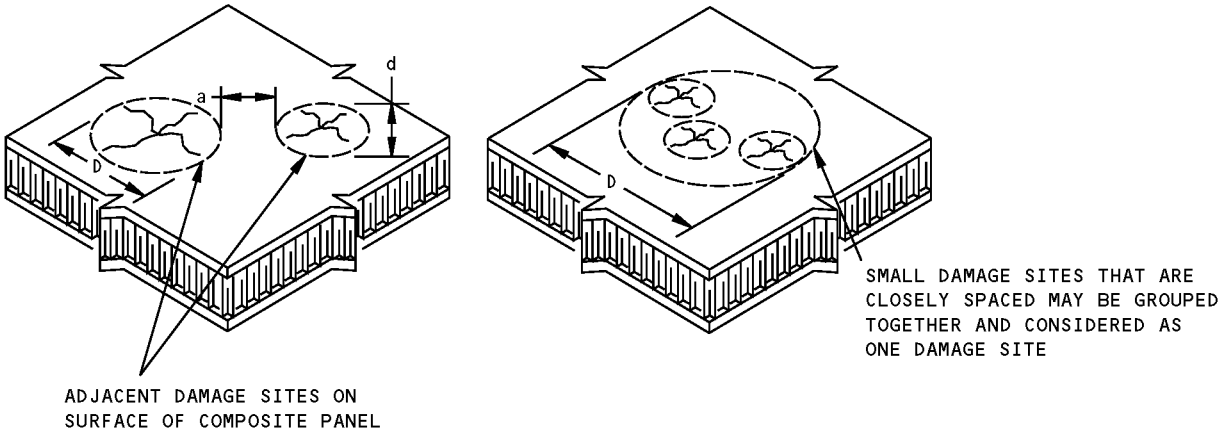
DAMAGE CLEANUP OF EDGES WHERE
FASTENER EDGE MARGINS OVERLAP

DETAIL III



REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL IV

Spoiler Skin Allowable Damage
Figure 101 (Sheet 5 of 6)

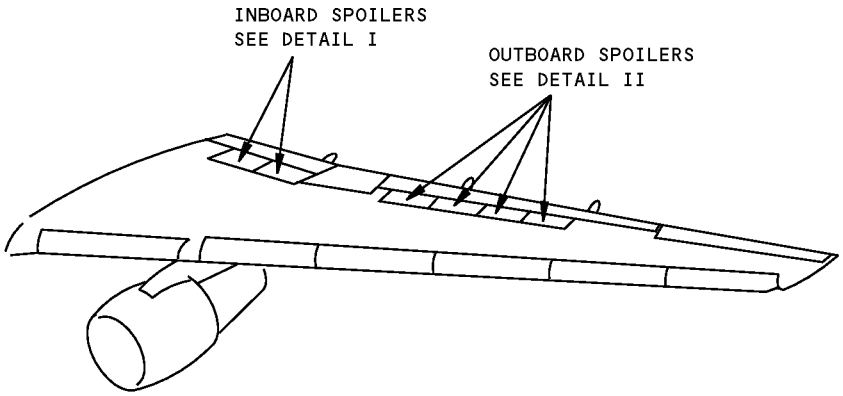


- DAMAGE TO COMPOSITE PANELS EXPOSED TO MULTIPLE IMPACTS, I.E., HAIL DAMAGE, CAN BE DETECTED BY USING INSTRUMENTED NON-DESTRUCTIVE INSPECTION METHODS OR BY TAPPING THE SUSPECTED DAMAGE AREA WITH A SMALL METALLIC DISK OBJECT. INSPECTION SHOULD COVER THE AREA WITHIN 3 DIAMETERS AROUND THE EDGE OF THE VISIBLE DAMAGE SITE. FOR TAP TEST, USE A SOLID METAL DISK AND TAP THE DAMAGE AREA LIGHTLY BUT FIRMLY. VOID AREAS SHOULD PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA.
- DAMAGE SITE IS ANY SINGLE AREA OF A PANEL WHERE A DENT, CRACK, DELAMINATION, PUNCTURE OR ANY COMBINATION OF THESE EXIST. SMALL DAMAGE SITES THAT ARE CLOSELY SPACED MAY BE GROUPED TOGETHER AND CONSIDERED AS ONE DAMAGE SITE.
- "D" IS DETERMINED BY MEASURING THE DIAMETER OF A CIRCLE DRAWN AROUND DENT, CRACK, OR OTHER DAMAGE, WHICHEVER IS GREATER.
- "a" IS THE DISTANCE BETWEEN TWO ADJACENT DAMAGE SITES.
- "d" IS THE DIAMETER OF THE SMALLER OF TWO ADJACENT DAMAGE SITES.
- CALCULATE a/D BY DIVIDING DISTANCE "a" BY DIAMETER "D".
- THE DAMAGE IS PERMITTED WHEN "D" AND a/D AGREE WITH THE LIMITS GIVEN IN TABLE I.

DAMAGE SIZING AND SPACING DATA
FOR COMPOSITE PANELS
DETAIL V

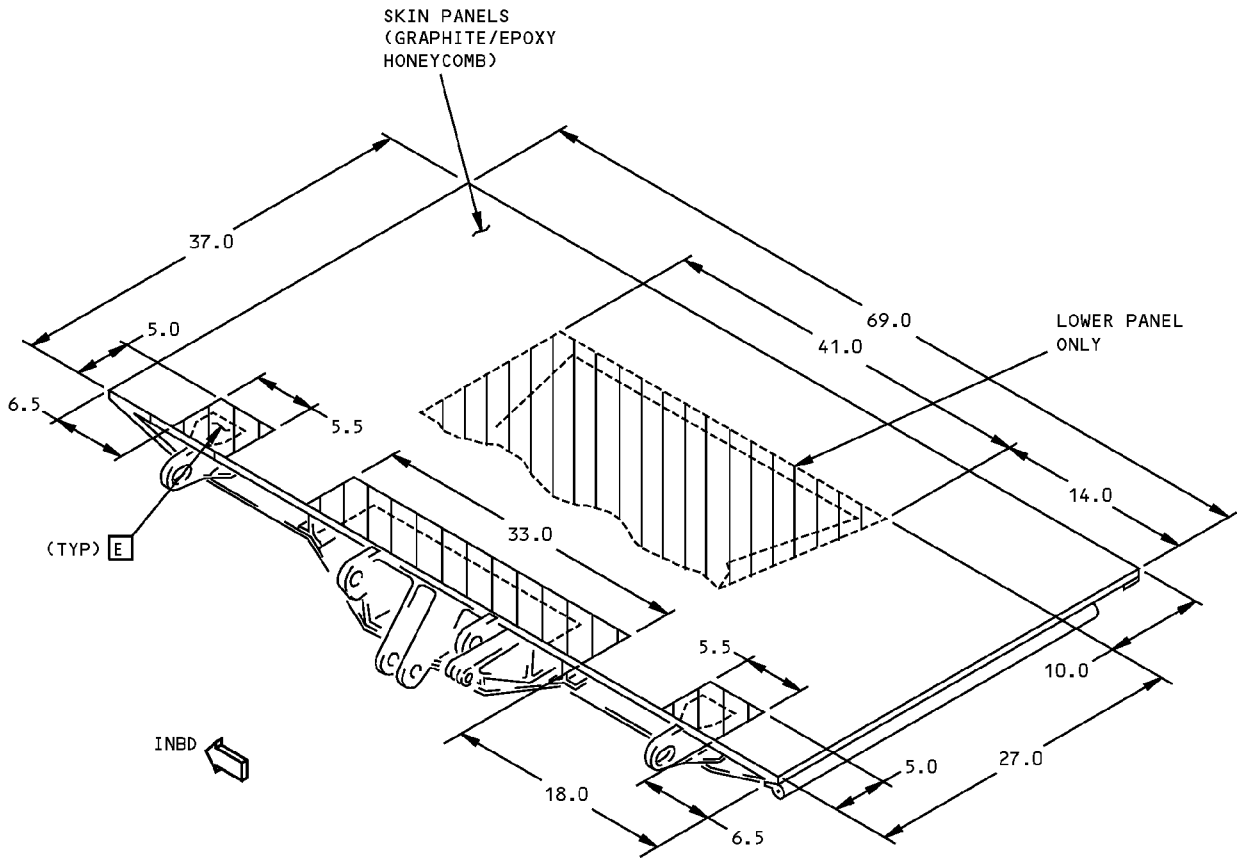
Spoiler Skin Allowable Damage
Figure 101 (Sheet 6 of 6)

REPAIR 1 - SPOILER SKIN



Spoiler Skin Repair
Figure 201 (Sheet 1 of 4)

REF DWG
113T4110

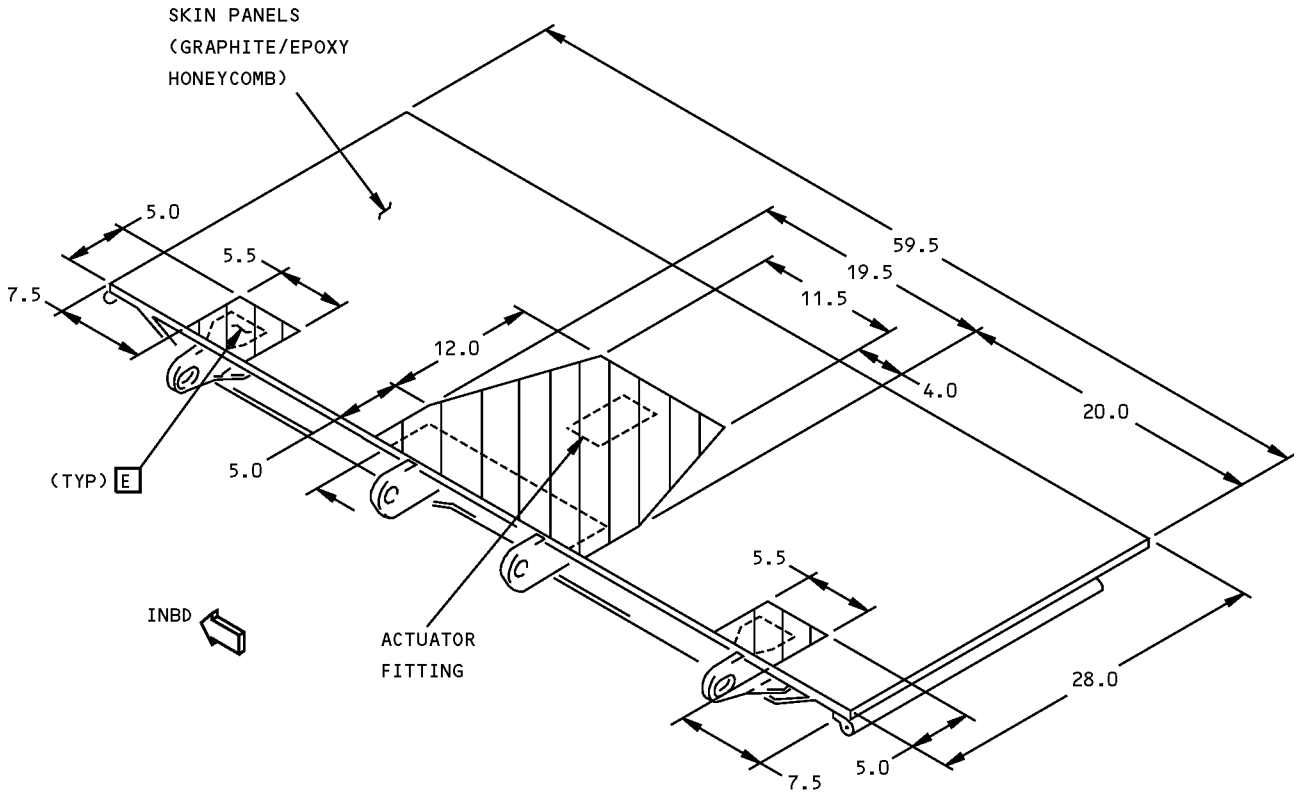


INBOARD SPOILERS
DETAIL I

NOTE: ALL DIMENSIONS ARE IN INCHES.

Spoiler Skin Repair
Figure 201 (Sheet 2 of 4)

REF DWG
113T5111



OUTBOARD SPOILERS
DETAIL II

NOTE: ALL DIMENSIONS ARE IN INCHES.

Spoiler Skin Repair
Figure 201 (Sheet 3 of 4)

DAMAGE	INTERIM REPAIRS [B]	PERMANENT REPAIRS		
	WET LAYUP ROOM TEMP 150°F (66°C) CURE (SRM 51-70-03)	WET LAYUP 200-230°F (93-110°C)CURE (SRM 51-70-17)	250°F (121°C) CURE (SRM 51-70-05) [D]	350°F (177°C) CURE (SRM 51-70-04)
CRACKS	UP TO 3.0 INCHES (76.2 mm) LONG, REPAIR WITH PATCH AS GIVEN IN SRM 51-70-03. [A]	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.	CLEAN UP DAMAGE AND REPAIR AS A HOLE.
HOLES	3.0 INCHES (76.2 mm) MAX DIA, NOT TO EXCEED 30% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03. [A]	12.0 INCHES (300 mm) MAX DIA, NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED. [C]	6.0 INCHES (150 mm) MAX DIA, NOT TO EXCEED 50% OF SMALLEST DIMENSION OF HONEYCOMB PANEL AT THE DAMAGE LOCATION. USE TWO EXTRA PLIES PER FACESHEET REPAIRED. [C]	NO SIZE LIMIT
DELAMINATION	CUT OUT AND REPAIR AS A HOLE.			
NICKS AND GOUGES	IF THERE IS NO FIBER DAMAGE OR DELAMINATION, FILL NICKS OR GOUGES AS GIVEN IN SRM 51-70-03. IF THERE IS FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			
DENTS	UP TO 3.0 INCHES (76.2 mm) DIA WITH NO FIBER DAMAGE OR DELAMINATION, FILL WITH BMS 5-28, TYPE 7 POTTING COMPOUND AND PATCH AS GIVEN IN SRM 51-70-03. [C] OVER 3.0 INCHES (76.2 mm) DIA OR WITH FIBER DAMAGE OR DELAMINATION, REPAIR AS A HOLE.			

REPAIR DATA FOR 350°F CURE GRAPHITE HONEYCOMB PANELS

NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- REFER TO SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN SRM 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED.
- REFER TO SRM 51-20-01 FOR THE REPAIR OF FINISH CRACKS ON GRAPHITE COMPOSITE PARTS.
- FINISH REWORKED AREAS AS GIVEN IN AMM 51-20.

[A] LIMITED TO REPAIR OF DAMAGE TO ONE FACESHEET SKIN AND HONEYCOMB CORE. ONE REPAIR PER SQUARE FOOT OF AREA AND MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR EDGE OF PANEL.

[B] INSPECT INTERIM REPAIR USING INSTRUMENTED NDT METHODS OR "TAP" TEST EVERY AIRPLANE "2A" CHECK. FOR "TAP" TEST, USE A SOLID METAL DISK AND TAP THE REPAIR AREA LIGHTLY BUT FIRMLY. VOID AREAS WILL PRODUCE A DULL SOUND AS OPPOSED TO A SHARP RING ON A SOLID BONDED AREA. PERMANENT REPAIR IS REQUIRED IF ANY DETERIORATION IS EVIDENT. REFER TO SRM 51-70-03, PAR. 4.I. AND THE NONDESTRUCTIVE TEST MANUAL, D634T301. THIS REPAIR HAS FAA APPROVAL CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.

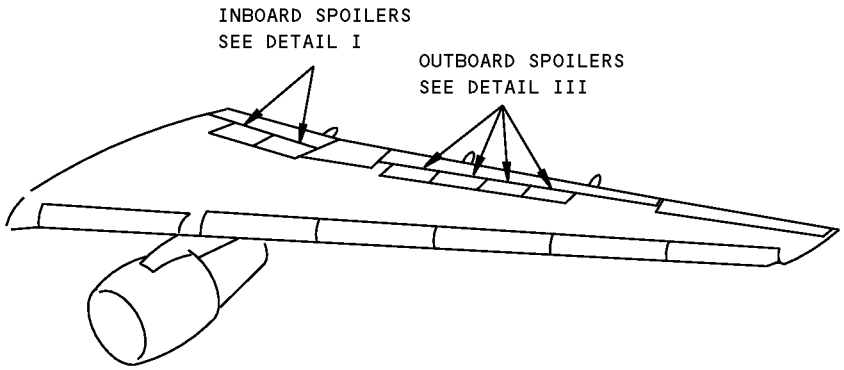
[C] ONE REPAIR PER SQUARE FOOT OF AREA AND A MINIMUM OF 6.0 INCHES (150 mm) (EDGE TO EDGE) FROM ANY OTHER DAMAGE, FASTENER HOLE, OR EDGE OF PANEL.

[D] FOR 250°F (121°F) REPAIR OF 350°F (177°C) GRAPHITE STRUCTURE USE BMS 8-168 TYPE II TAPE OR FABRIC. THE CLASS, GRADE AND STYLE SHALL BE THE SAME AS THE ORIGINAL PLIES.

[E] CRITICAL AREA (SHADED); CONTACT THE BOEING COMPANY FOR REPAIRS.

Spoiler Skin Repair
Figure 201 (Sheet 4 of 4)

IDENTIFICATION 1 - SPOILER STRUCTURE



NOTES

[A] PLY ORIENTATION CONVENTION, 0 DEGREES IS PARALLEL TO THE FABRIC WARP DIRECTION.

[B] FIBERGLASS PRE-PREG FABRIC BMS 8-139, TYPE 120

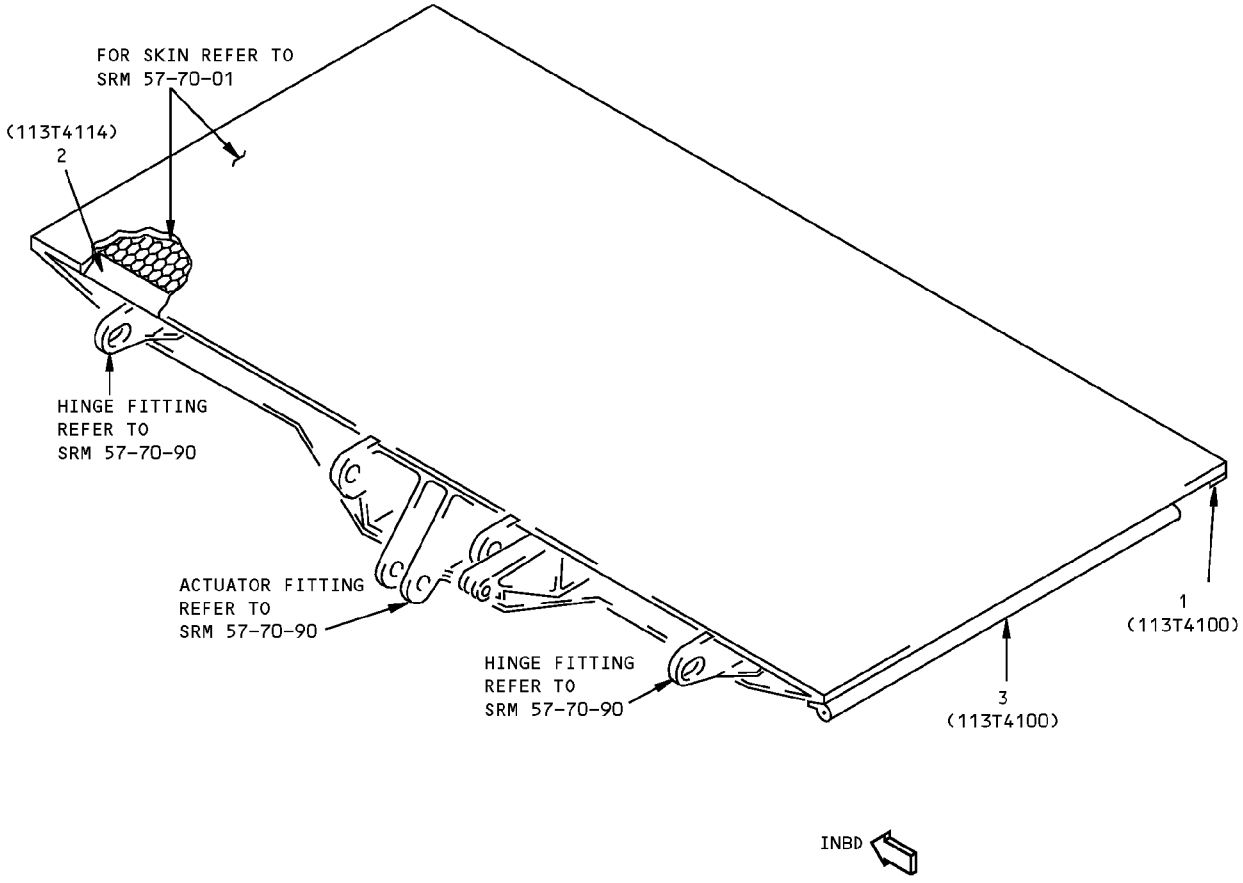
[C] GRAPHITE/EPOXY PRE-PREG FABRIC BMS 8-212, TYPE IV, CLASS 2, STYLE 3K-70-PW

[D] MATERIAL AND PLY ORIENTATION SHOWN FOR FIELD AREAS ONLY. SEE BOEING DRAWINGS FOR EDGE BAND AND AREAS WITH DOUBLERS.

[E] DIAGRAM OF PLY ORIENTATION. SEE APPLICABLE TABLE FOR INDIVIDUAL PLY ORIENTATION AND MATERIAL.

Spoiler Structure Identification
Figure 1 (Sheet 1 of 5)

REF DWG
113T4100



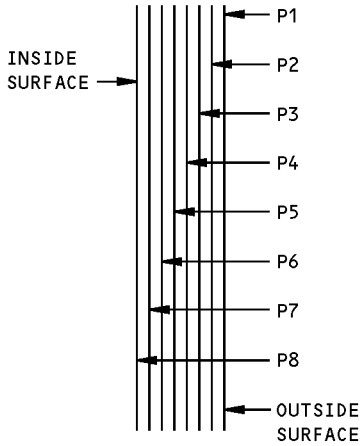
INBOARD SPOILERS
DETAIL I

LIST OF MATL

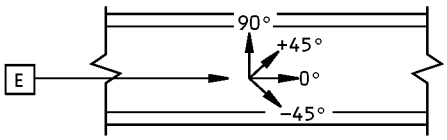
Spoiler Structure Identification
Figure 1 (Sheet 2 of 5)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RUB STRIP	0.060	PHENOLIC SHEET PER MIL-P-15035C, TYPE FBM; OR PER L-P-509, TYPE 2, GRADE CE	
2	SPAR		GRAPHITE/FIBERGLASS/EPOXY LAMINATE SEE DETAIL II	
3	AERODYNAMIC SEAL		POLYESTER RESIN IMPREGNATED DACRON FABRIC LAMINATE	

LIST OF MATERIALS FOR DETAIL I



SECTION THRU SPAR



VIEW ON SPAR LOOKING AFT

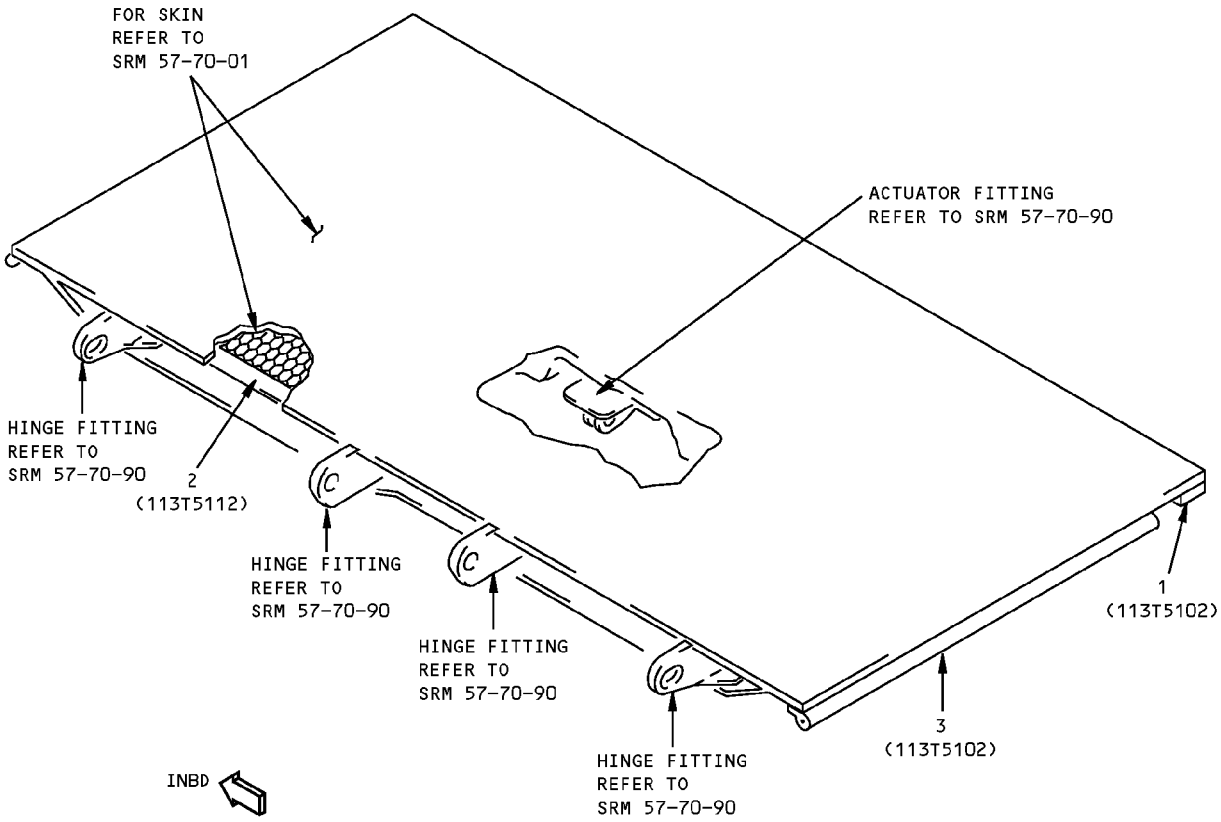
ITEM NO.	PLY NO.	MATERIAL	PLY [A] ORIENTATION
2	P1	[B]	OPTIONAL
	P2	[C]	+45°
	P3	[C]	0°
	P4	[C]	-45°
	P5	[C]	0°
	P6	[C]	-45°
	P7	[C]	0°
	P8	[C]	+45°

PLY TABLE [D]

DETAIL II

Spoiler Structure Identification
Figure 1 (Sheet 3 of 5)

REF DWG
113T5102



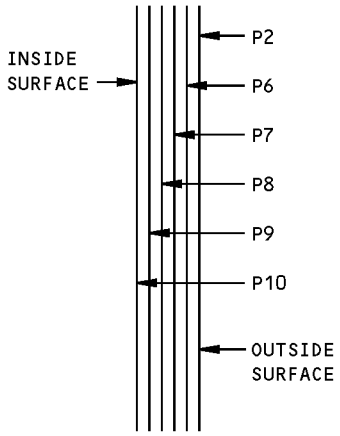
OUTBOARD SPOILERS
DETAIL III

LIST OF MATL

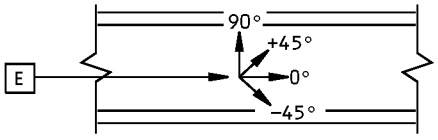
Spoiler Structure Identification
Figure 1 (Sheet 4 of 5)

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	RUB STRIP	0.060	PHENOLIC SHEET PER MIL-P-15035C, TYPE FBM; OR PER L-P-509, TYPE 2, GRADE CE	
2	SPAR		GRAPHITE/FIBERGLASS/EPOXY LAMINATE SEE DETAIL IV	
3	AERODYNAMIC SEAL		POLYESTER RESIN IMPREGNATED DACRON FABRIC LAMINATE	

LIST OF MATERIALS FOR DETAIL III



SECTION THRU SPAR



VIEW ON SPAR LOOKING AFT

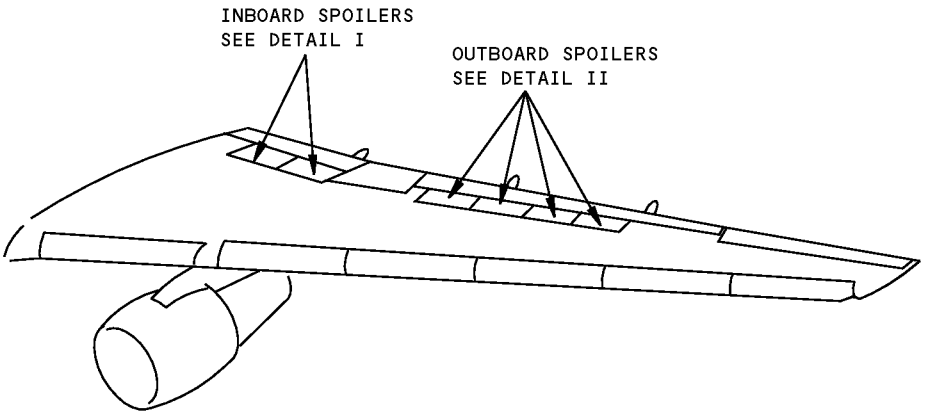
ITEM NO.	PLY NO.	MATERIAL	PLY [A] ORIENTATION
2	P2	[B]	OPTIONAL
	P6	[C]	+45°
	P7	[C]	-45°
	P8	[C]	0° OR 30°
	P9	[C]	-45°
	P10	[C]	+45°

PLY TABLE [D]

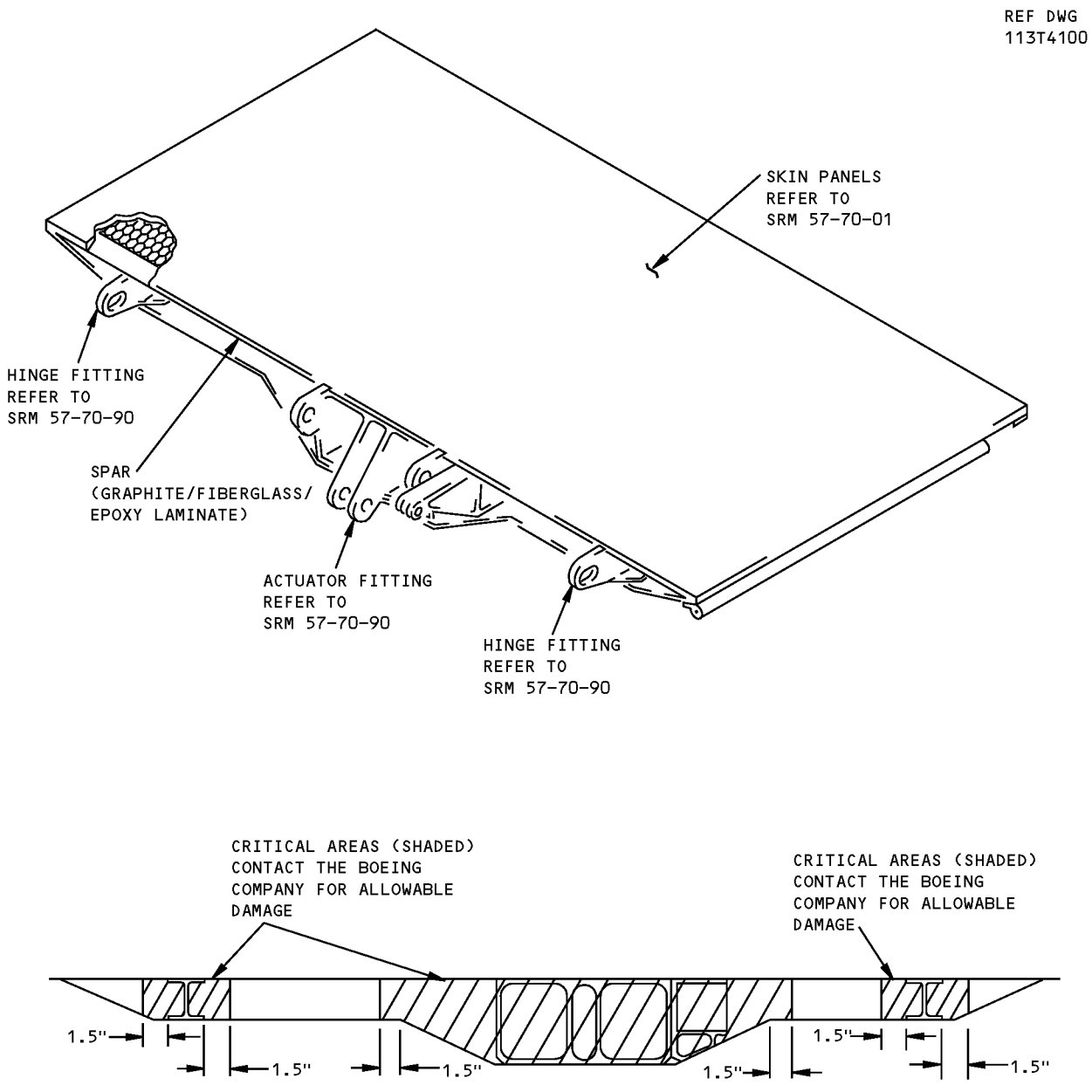
DETAIL IV

Spoiler Structure Identification
Figure 1 (Sheet 5 of 5)

ALLOWABLE DAMAGE 1 - SPOILER STRUCTURE



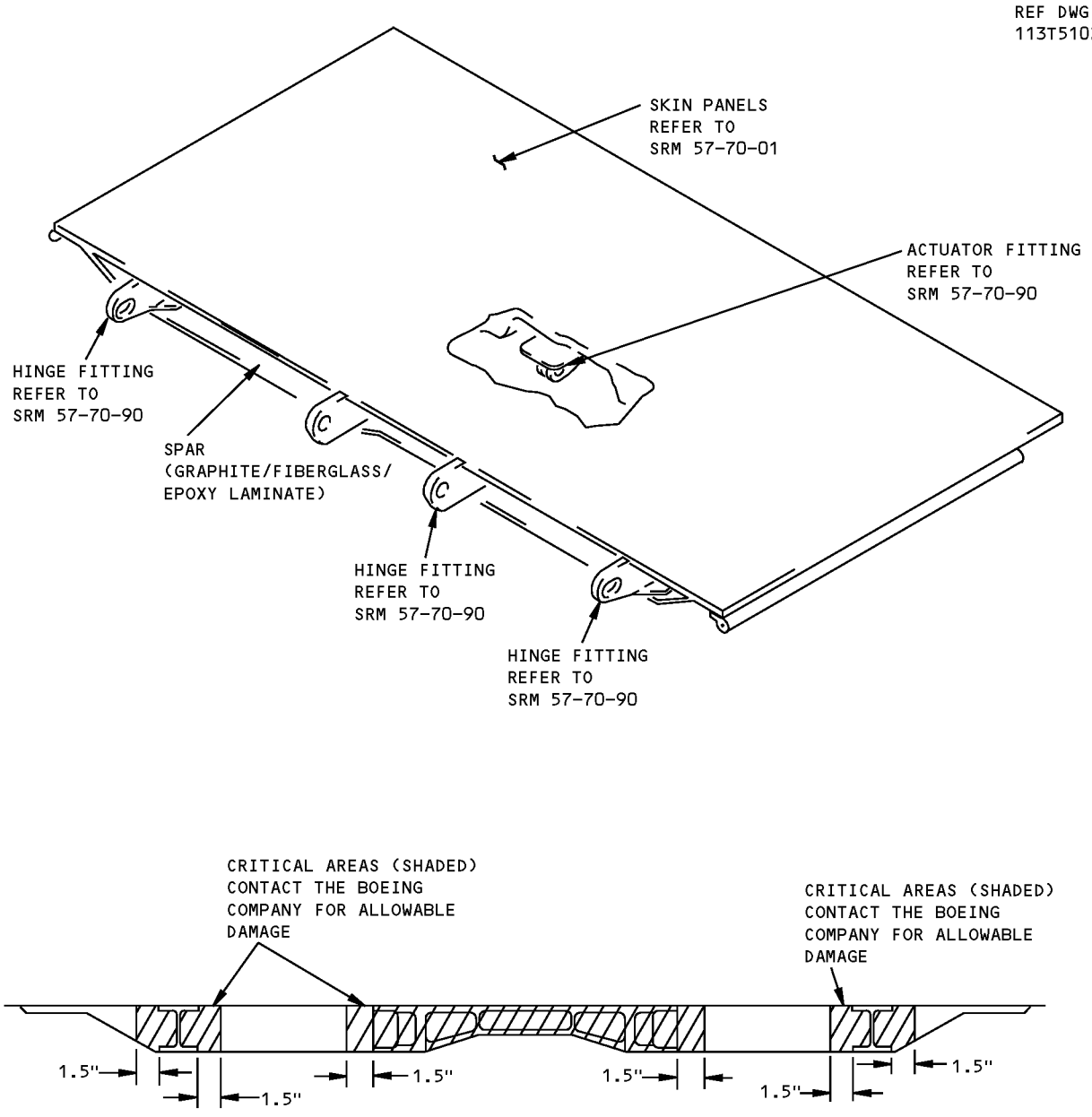
Spoiler Structure Allowable Damage
Figure 101 (Sheet 1 of 5)



VIEW ON SPAR

INBOARD SPOILERS
DETAIL I

Spoiler Structure Allowable Damage
Figure 101 (Sheet 2 of 5)



VIEW ON SPAR

OUTBOARD SPOILERS
DETAIL II

Spoiler Structure Allowable Damage
Figure 101 (Sheet 3 of 5)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES	PANEL DELAMINATION
SPAR	[B]	[C]	[D]	[E]	[F]

NOTES

- THESE ALLOWABLE DAMAGE LIMITS ARE FAA-APPROVED CONTINGENT ON ACCOMPLISHMENT OF THE INSPECTIONS AT THE INTERVALS CONTAINED HEREIN.
- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.
- DAMAGE TO PANEL EDGES MAY BE CONFINED TO DELAMINATION OR MAY TAKE A FORM WHICH RESULTS IN DAMAGE TO FIBERS AND A LOSS OF EFFECTIVE CROSS-SECTIONAL AREA. THIS TYPE OF DAMAGE SHOULD BE REMOVED AND THE LIMITATIONS GIVEN FOR CRACKS APPLIED.

[A] REMOVE MOISTURE FROM DAMAGE AREA. USE OF VACUUM AND HEAT (MAX OF 125°F (52°C)) IS RECOMMENDED. PROTECT DAMAGE FROM ENTRANCE OF WATER, SUNLIGHT OR OTHER FOREIGN MATTER BY SEALING WITH ALUMINUM FOIL TAPE (SPEED TAPE). RECORD LOCATION AND INSPECT AT AIRPLANE "A" CHECK. REPLACE ALUMINUM FOIL TAPE IF THERE IS PEELING OR DETERIORATION OF TAPE. DO A REPAIR TO THE DAMAGE, AS GIVEN IN ALLOWABLE DAMAGE 1, NO LATER THAN THE NEXT "C" CHECK.

[B] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAILS III AND IV. [A]

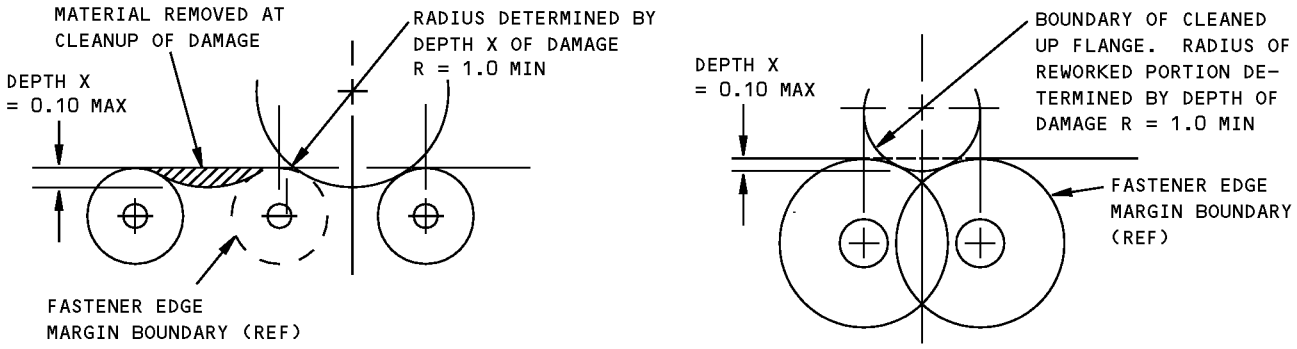
[C] DAMAGE IS PERMIITED ON SURFACE RESIN ONLY. DAMAGE TO FIBERS IS NOT PERMITTED. [A]

[D] DENTS GENERALLY RESULT IN FIBER DAMAGE OR DELAMINATION. HOWEVER, IF THERE IS NO FIBER DAMAGE OR DELAMINATION, DENTS UP TO 0.50 INCH (12.7 mm) DIA MAX ARE PERMITTED. ONE DENT PER SQUARE FOOT OF AREA IS PERMITTED. IT MUST BE A MINIMUM OF 6.0 INCHES (150 mm) FROM ANY OTHER DAMAGE, FASTENER HOLE OR PANEL EDGE. IF THERE IS FIBER DAMAGE OR DELAMINATION, REFER TO THE APPLICABLE DAMAGE DATA IN THE TABLE.

[E] 0.35 INCH (8.9 mm) MAXM DIA IS PERMITTED IF THE DAMAGE IS A MIN OF 3.0 D FROM OTHER DAMAGE, NEAREST HOLE, OR MATERIAL EDGE. [A]

[F] 0.50 INCH (12.7 mm) MAX DIA IS PERMITTED. A MAX OF 0.03 INCH (0.7 mm) DELAMINATION FROM THE EDGE IS PERMITTED. [A]

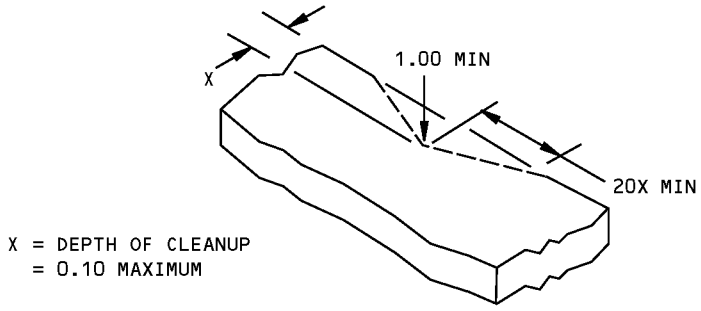
Spoiler Structure Allowable Damage
Figure 101 (Sheet 4 of 5)



DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP

DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

DETAIL III

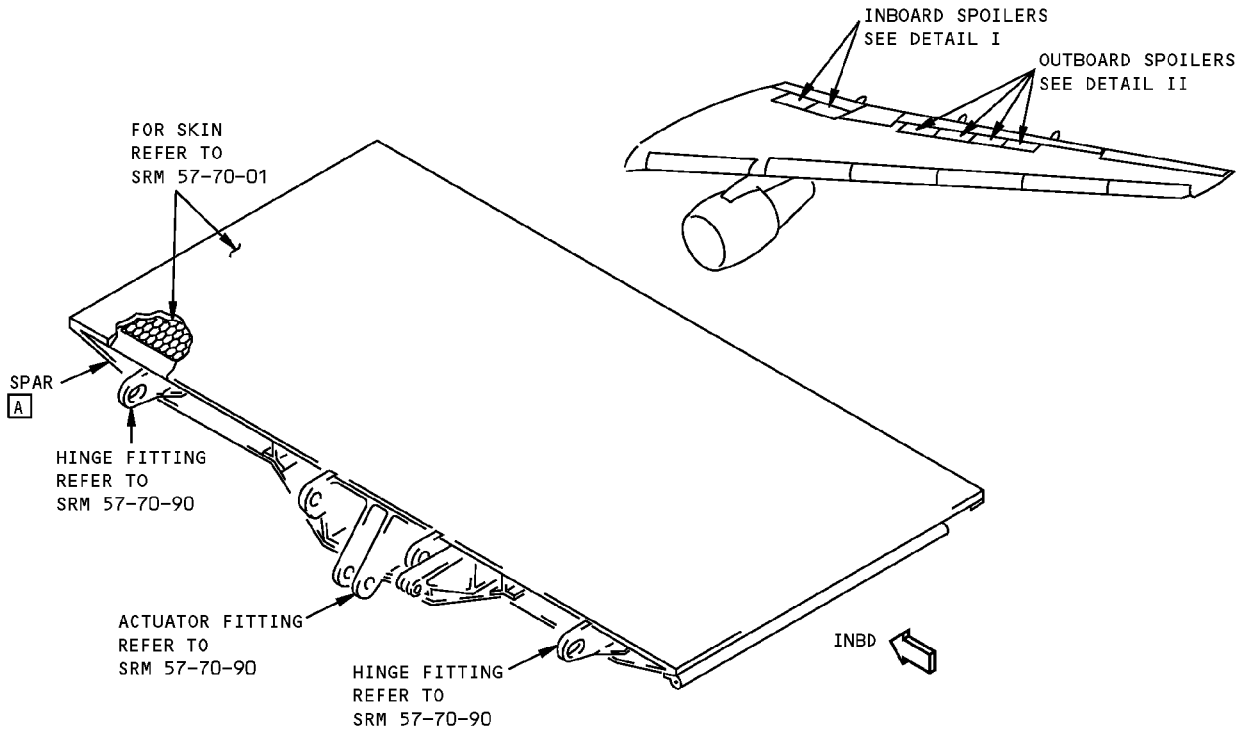


REMOVAL OF NICK OR CRACK DAMAGE ON AN EDGE

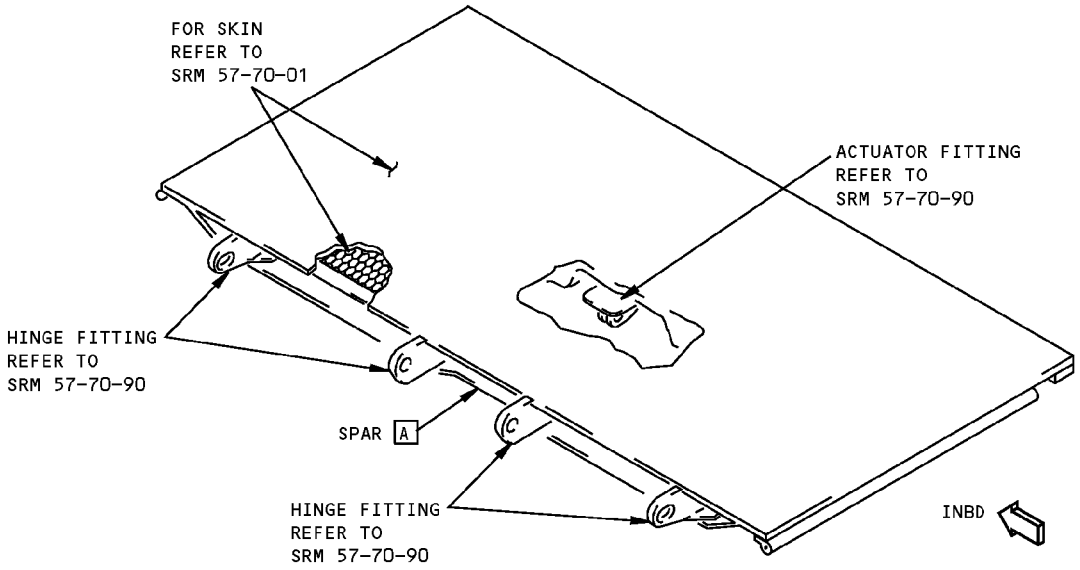
DETAIL IV

Spoiler Structure Allowable Damage
Figure 101 (Sheet 5 of 5)

REPAIR 1 - SPOILER STRUCTURE



INBOARD SPOILERS
DETAIL I



OUTBOARD SPOILERS
DETAIL II

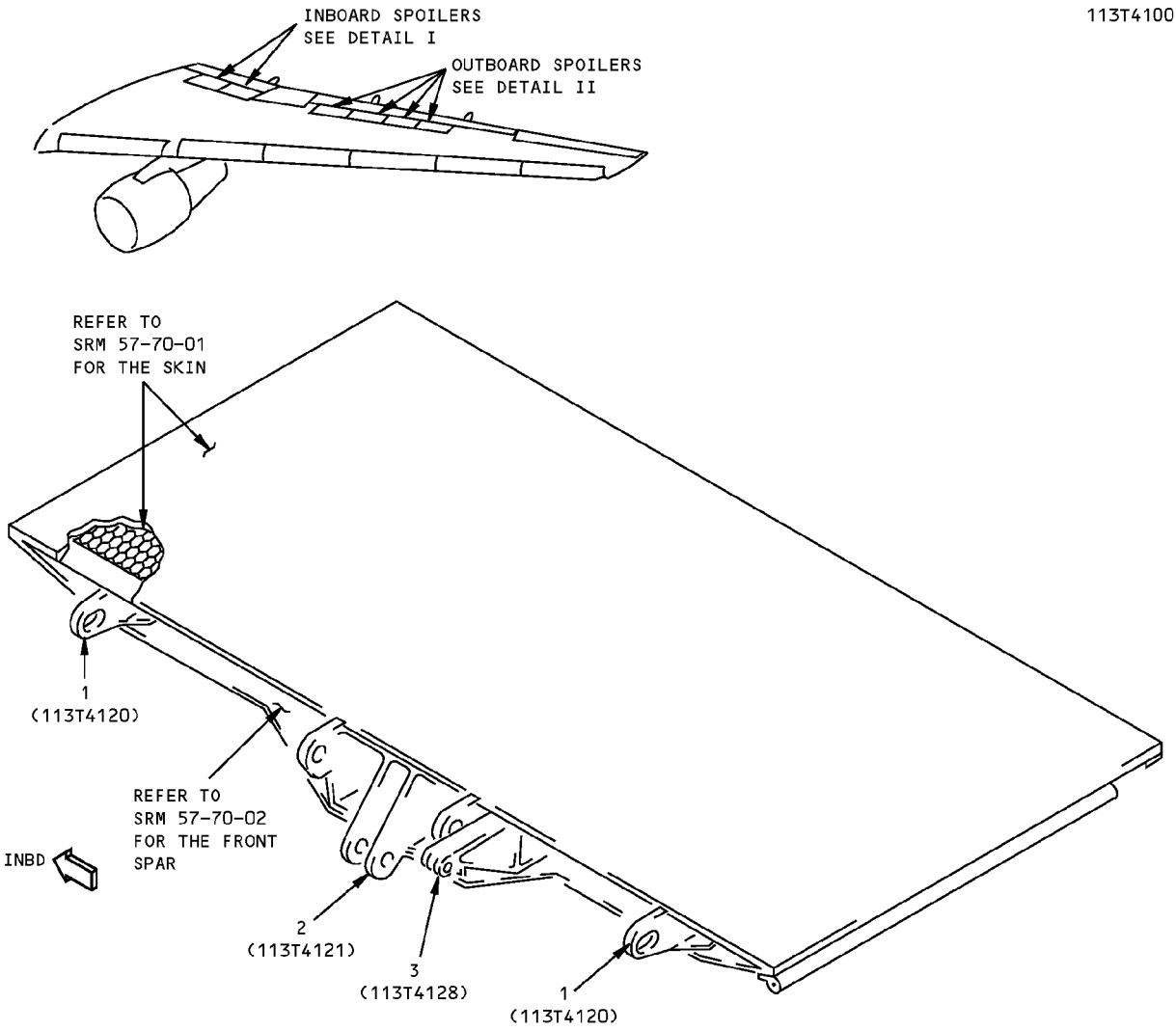
NOTES

A CRITICAL AREA; CONSULT THE BOEING COMPANY FOR REPAIRS

Spoiler Structure Repair
Figure 201

IDENTIFICATION 1 - SPOILER ATTACHMENT FITTING

REF DWG
113T4100



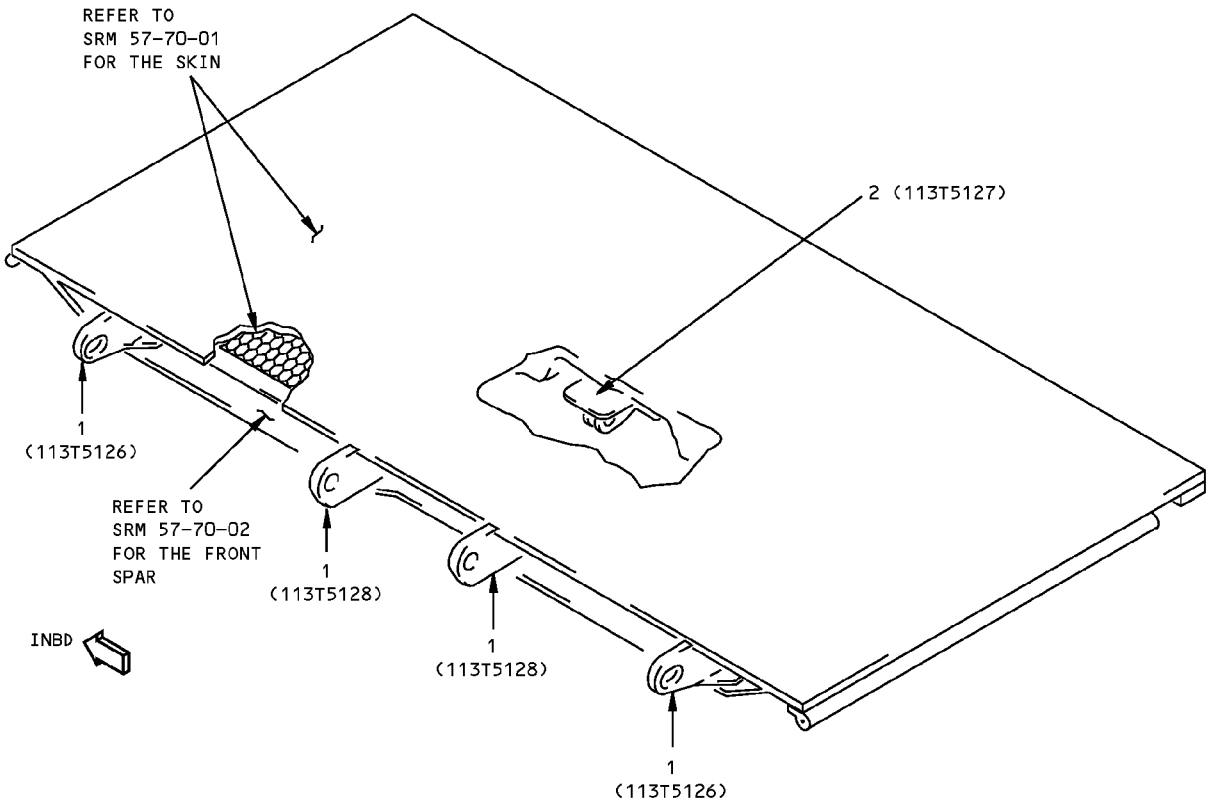
INBOARD SPOILERS
DETAIL I

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	HINGE FITTINGS		DIE FORGING 7075-T73	
2	ACTUATOR FITTING		DIE FORGING 7075-T73 OPTL: FORGED BLOCK 7075-T411	
3	THRUSTER FITTING		DIE FORGING 7075-T73 OPTL: FORGED BLOCK 7075-T411	

LIST OF MATERIALS FOR DETAIL I

Spoiler Attachment Fitting Identification
Figure 1 (Sheet 1 of 2)

REF DWG
113T5102



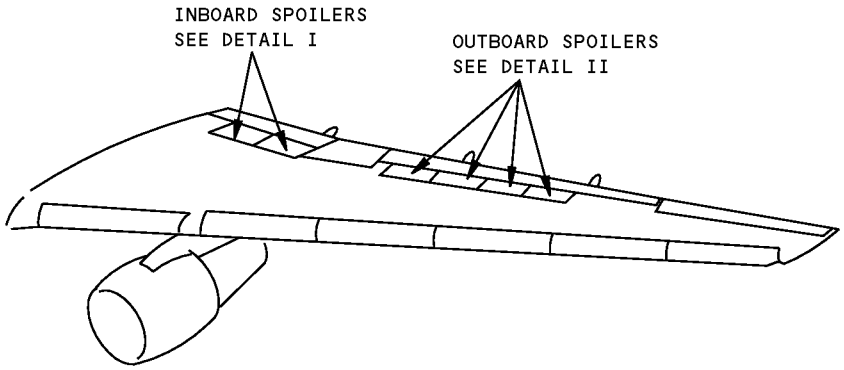
OUTBOARD SPOILERS
DETAIL II

ITEM	DESCRIPTION	GAGE	MATERIAL	EFFECTIVITY
1	HINGE FITTING		DIE FORGING 7075-T73	
2	ACTUATOR FITTING		DIE FORGING 7075-T73	

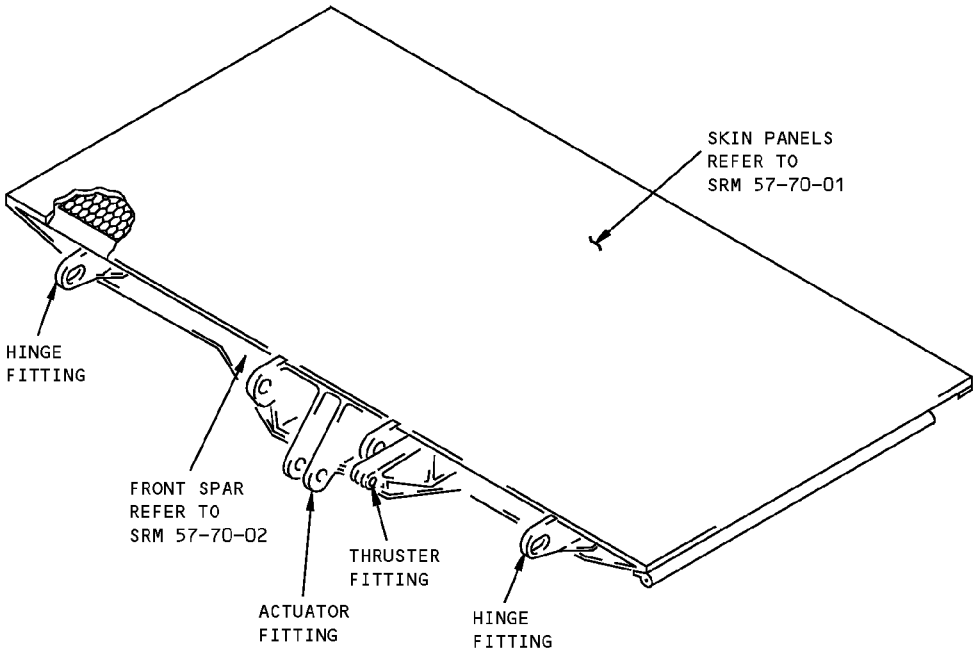
LIST OF MATERIALS FOR DETAIL II

Spoiler Attachment Fitting Identification
Figure 1 (Sheet 2 of 2)

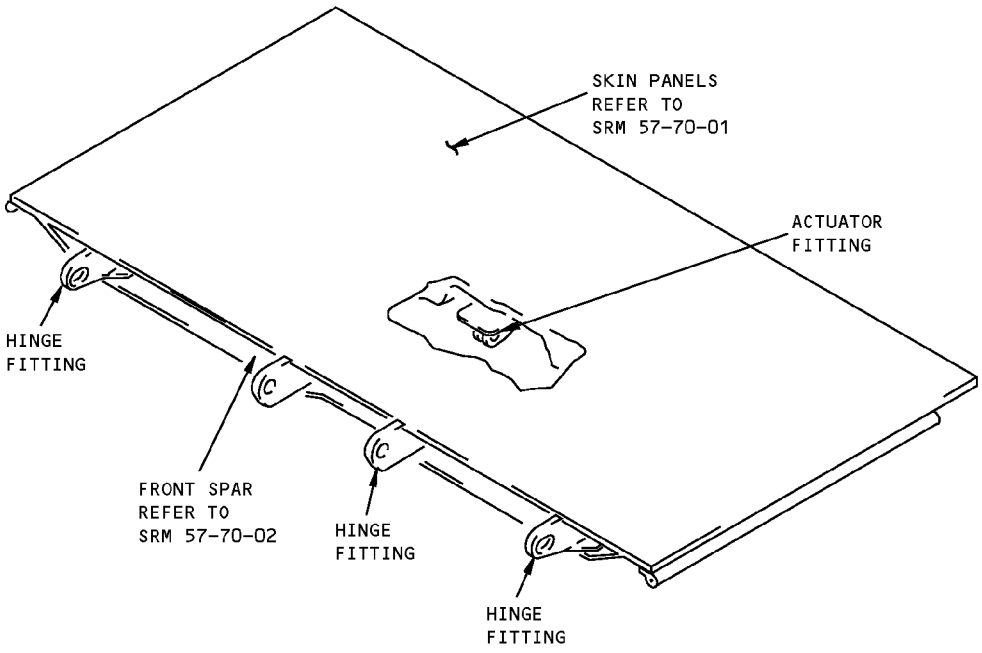
ALLOWABLE DAMAGE 1 - SPOILER ATTACHMENT FITTING



Spoiler Attachment Fitting Allowable Damage
Figure 101 (Sheet 1 of 4)



INBOARD SPOILERS
DETAIL I



OUTBOARD SPOILERS
DETAIL II

Spoiler Attachment Fitting Allowable Damage
Figure 101 (Sheet 2 of 4)

DESCRIPTION	CRACKS	NICKS, GOUGES AND CORROSION	DENTS	HOLES AND PUNCTURES
HINGE, ACTUATOR, AND THRUSTER FITTINGS	[A]	[B]	NOT PERMITTED	NOT PERMITTED

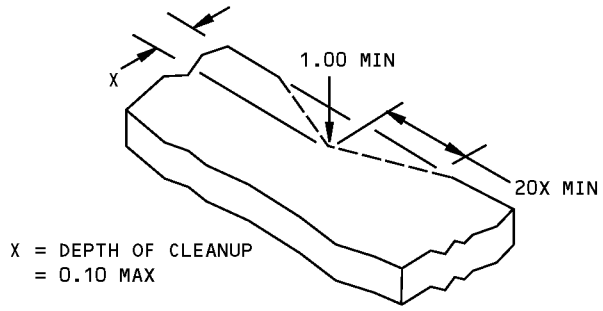
NOTES

- REFER TO SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE.
- SHOT PEEN ALL REWORKED SURFACES AS GIVEN IN SRM 51-20-06. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS REMAINING AFTER REWORK.
- APPLY THE FINISH TO REWORKED AREAS AS GIVEN IN AMM 51-20.

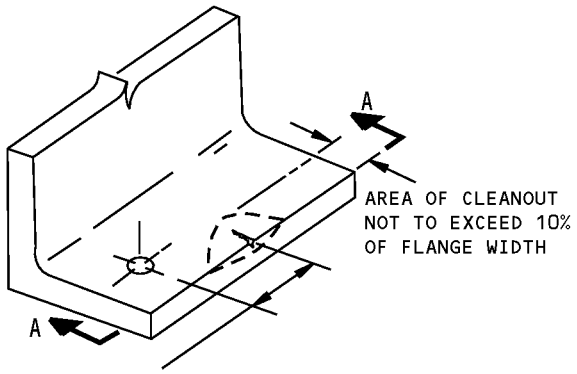
[A] CRACKS ARE NOT PERMITTED EXCEPT FOR EDGE CRACKS WHICH MUST BE REMOVED AS GIVEN IN DETAIL III.

[B] FOR EDGE DAMAGE SEE DETAIL IV. FOR LUG DAMAGE, SEE DETAIL V. FOR OTHER DAMAGE, SEE DETAIL VI. DAMAGE IS NOT PERMITED NEAR BUSHINGS.

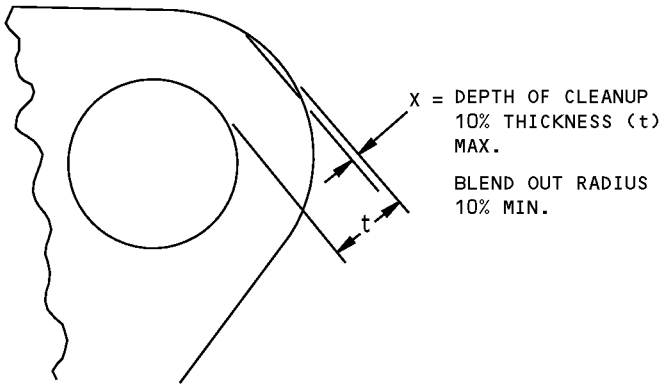
Spoiler Attachment Fitting Allowable Damage
Figure 101 (Sheet 3 of 4)



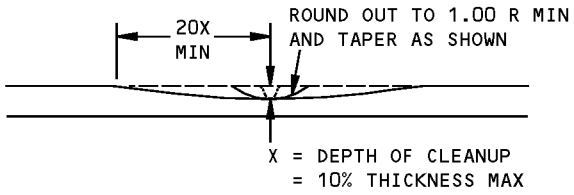
REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL III



THE DISTANCE OF THE DAMAGE FROM AN EXISTING HOLE, FASTENER OR MATERIAL EDGE MUST NOT BE LESS THAN 20X

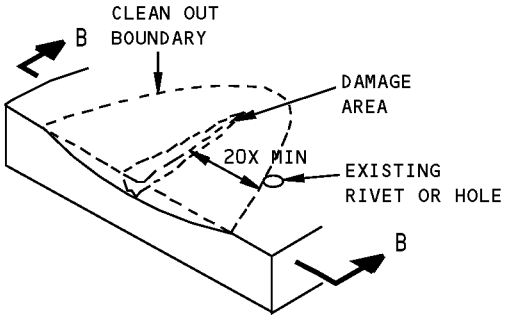


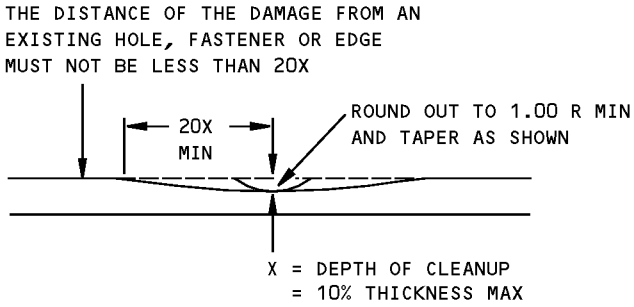
DAMAGE CLEANUP FOR EDGES OF LUG
DETAIL V



SECTION A–A

REMOVAL OF NICK OR CRACK
DAMAGE ON AN EDGE
DETAIL IV



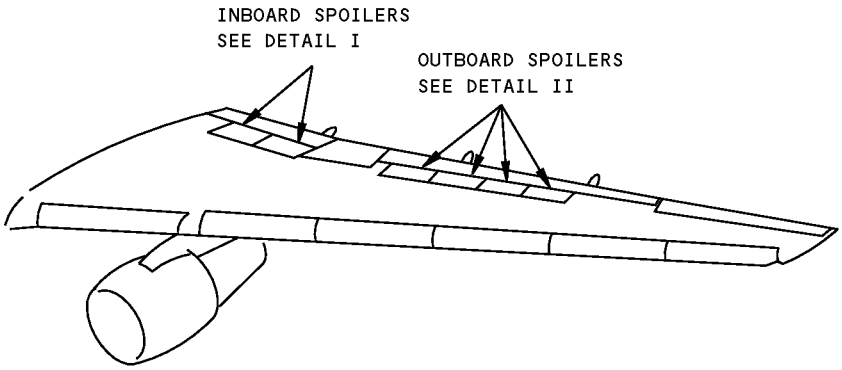


B–B

REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE
DETAIL VI

Spoiler Attachment Fitting Allowable Damage
Figure 101 (Sheet 4 of 4)

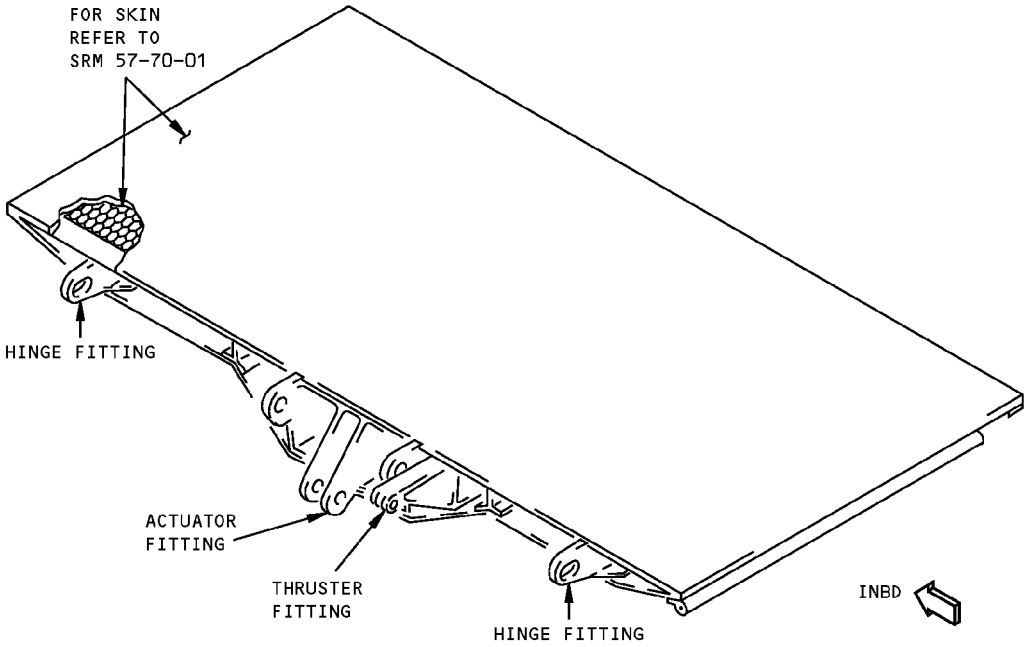
REPAIR GENERAL - SPOILER ATTACHMENT FITTINGS



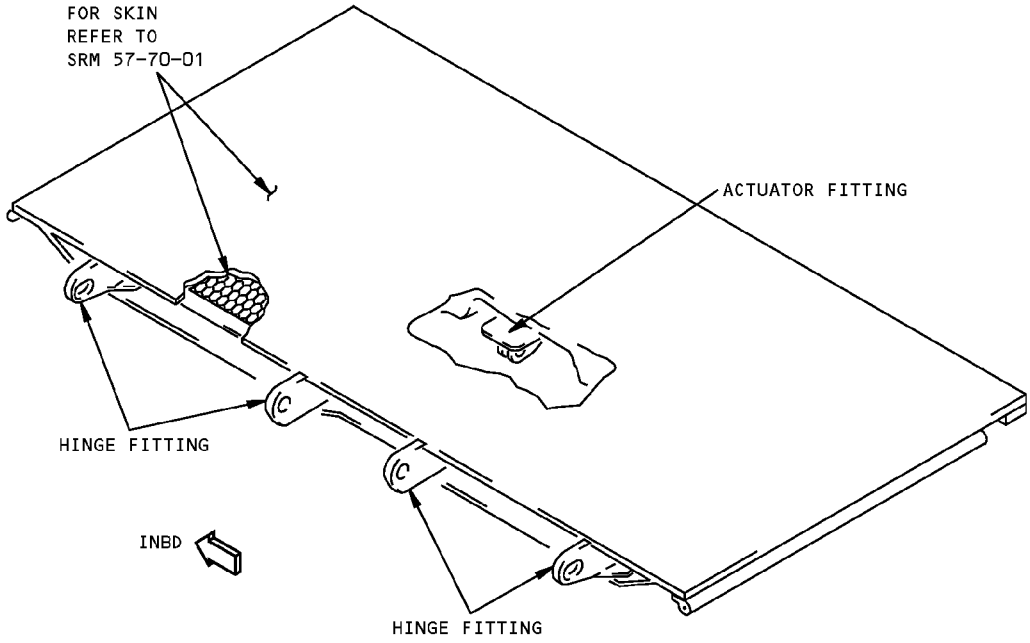
NOTES

- THERE ARE NO TYPICAL REPAIRS TO FITTINGS AVAILABLE. SPECIFIC REPAIRS TO FITTINGS WILL BE PROVIDED BASED ON SERVICE EXPERIENCE.
- REFER TO SRM 57-70-02 FOR STRUCTURE IDENTIFICATION.

Spoiler Attachment Fitting Repair
Figure 201 (Sheet 1 of 2)



INBOARD SPOILERS
DETAIL I



OUTBOARD SPOILERS
DETAIL II

Spoiler Attachment Fitting Repair
Figure 201 (Sheet 2 of 2)