

**CHAPTER**

**56**

**WINDOWS**



**757-200  
STRUCTURAL REPAIR MANUAL**

**CHAPTER 56  
WINDOWS**

| <b>Subject/Page</b>         | <b>Date</b> | <b>Subject/Page</b>         | <b>Date</b> | <b>Subject/Page</b> | <b>Date</b> |
|-----------------------------|-------------|-----------------------------|-------------|---------------------|-------------|
| EFFECTIVE PAGES             |             | 56-20-02 REPAIR 2 (cont)    |             |                     |             |
| 1                           | Jan 20/2009 | 203                         | Jan 20/2005 |                     |             |
| 2                           | BLANK       | 204                         | BLANK       |                     |             |
| 56-CONTENTS                 |             | 56-30-02 IDENTIFICATION 1   |             |                     |             |
| 1                           | Jan 20/2005 | 1                           | Jan 20/2005 |                     |             |
| 2                           | BLANK       | 2                           | Jan 20/2005 |                     |             |
| 56-10-02 IDENTIFICATION 1   |             | 56-30-02 ALLOWABLE DAMAGE 1 |             |                     |             |
| 1                           | Jan 20/2005 | 101                         | Jan 20/2007 |                     |             |
| 2                           | Jan 20/2005 | 102                         | Jan 20/2005 |                     |             |
| 3                           | Jan 20/2005 | 103                         | Jan 20/2005 |                     |             |
| 4                           | BLANK       | 104                         | BLANK       |                     |             |
| 56-10-02 IDENTIFICATION 2   |             |                             |             |                     |             |
| 1                           | Jan 20/2005 |                             |             |                     |             |
| 2                           | BLANK       |                             |             |                     |             |
| 56-10-02 ALLOWABLE DAMAGE 1 |             |                             |             |                     |             |
| 101                         | Jan 20/2005 |                             |             |                     |             |
| 102                         | Jan 20/2005 |                             |             |                     |             |
| 103                         | Jan 20/2005 |                             |             |                     |             |
| 104                         | Jan 20/2005 |                             |             |                     |             |
| 105                         | Jan 20/2005 |                             |             |                     |             |
| 106                         | BLANK       |                             |             |                     |             |
| 56-20-02 IDENTIFICATION 1   |             |                             |             |                     |             |
| 1                           | Jan 20/2005 |                             |             |                     |             |
| 2                           | Jan 20/2005 |                             |             |                     |             |
| 56-20-02 ALLOWABLE DAMAGE 1 |             |                             |             |                     |             |
| 101                         | Jan 20/2007 |                             |             |                     |             |
| 102                         | Jan 20/2005 |                             |             |                     |             |
| 103                         | Jan 20/2005 |                             |             |                     |             |
| 104                         | Jan 20/2005 |                             |             |                     |             |
| 56-20-02 REPAIR GENERAL     |             |                             |             |                     |             |
| 201                         | Jan 20/2005 |                             |             |                     |             |
| 202                         | BLANK       |                             |             |                     |             |
| 56-20-02 REPAIR 1           |             |                             |             |                     |             |
| 201                         | Jan 20/2005 |                             |             |                     |             |
| 202                         | Jan 20/2005 |                             |             |                     |             |
| 203                         | Jan 20/2005 |                             |             |                     |             |
| 204                         | BLANK       |                             |             |                     |             |
| 56-20-02 REPAIR 2           |             |                             |             |                     |             |
| 201                         | Jan 20/2005 |                             |             |                     |             |
| 202                         | Jan 20/2005 |                             |             |                     |             |

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

# 56-EFFECTIVE PAGES



**757-200**  
**STRUCTURAL REPAIR MANUAL**

**CHAPTER 56**  
**WINDOWS**

| <b><u>SUBJECT</u></b>                                    | <b><u>CHAPTER<br/>SECTION<br/>SUBJECT</u></b> |
|--|---|
| <b><u>FLIGHT COMPARTMENT WINDOW STRUCTURE</u></b>        | 56-10-02                                      |
| IDENTIFICATION 1 - Flight Compartment Window Structure   |   |
| IDENTIFICATION 2 - Flight Compartment Splice Straps      |   |
| ALLOWABLE DAMAGE 1 - Flight Compartment Window Structure |   |
| <b><u>CABIN WINDOW STRUCTURE</u></b>                     | 56-20-02                                      |
| IDENTIFICATION 1 - Cabin Window Structure                |   |
| ALLOWABLE DAMAGE 1 - Cabin Window Frames                 |   |
| REPAIR GENERAL - Cabin Window Frames                     |   |
| REPAIR 1 - Cabin Window Frame External Repair            |   |
| REPAIR 2 - Cabin Window Frame Forging Repair             |   |
| <b><u>DOOR WINDOW STRUCTURE</u></b>                      | 56-30-02                                      |
| IDENTIFICATION 1 - Door Window Structure                 |   |
| ALLOWABLE DAMAGE 1 - Door Window Frames                  |   |

# 56-CONTENTS

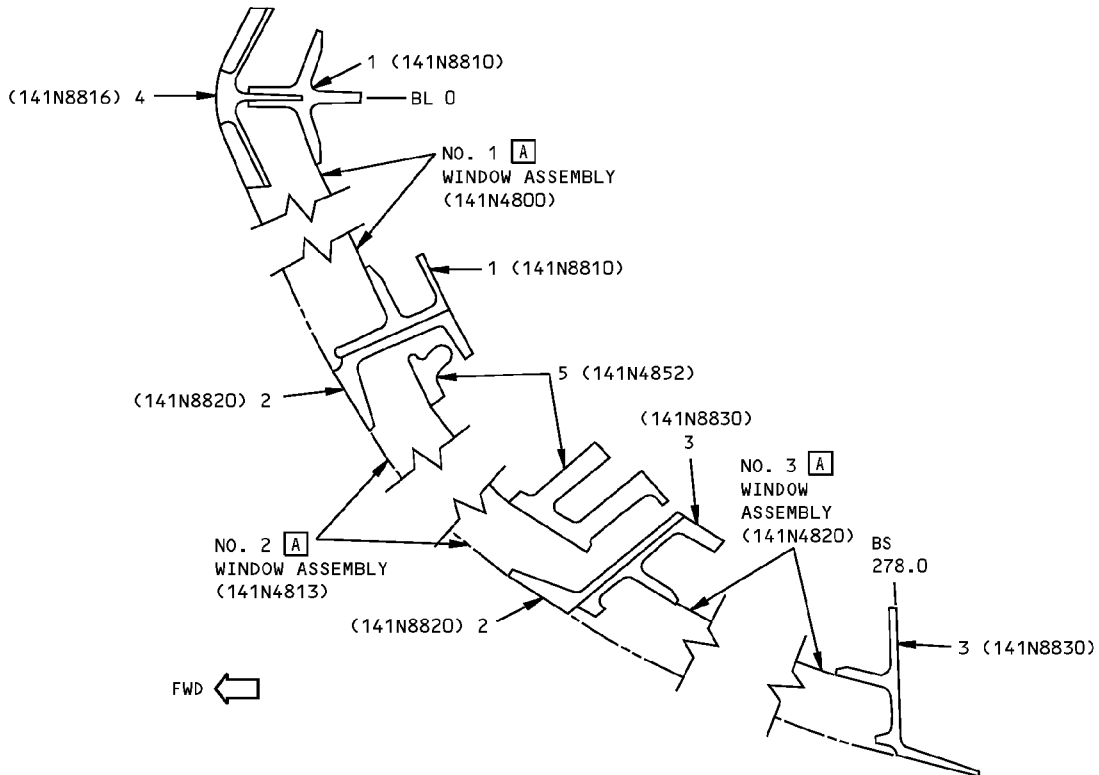
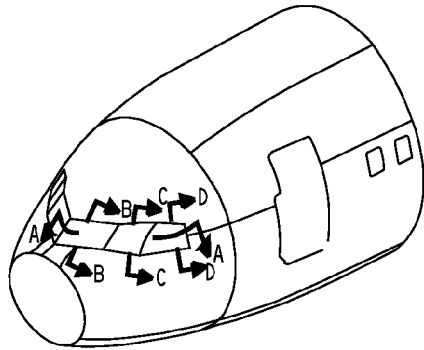
**757-200  
STRUCTURAL REPAIR MANUAL**

**IDENTIFICATION 1 - FLIGHT COMPARTMENT WINDOW STRUCTURE**

REF DWG  
141N8800

**NOTES**

**A** THE REFERENCED STRUCTURE IS A WARRANTIED WINDSHIELD ASSEMBLY. ATTEMPTED REWORK OR REPAIR MAY VOID THE WARRANTY OR THE SALVAGE VALUE, WHICHEVER IS APPLICABLE. DO NOT DISASSEMBLE.



LEFT SIDE SHOWN  
RIGHT SIDE OPPOSITE

**SECTION A-A**

| ITEM | DESCRIPTION        | GAGE | MATERIAL          | EFFECTIVITY |
|------|--------------------|------|-------------------|-------------|
| 1    | NO. 1 WINDOW FRAME |      | FORGING TI-6AL-4V |             |
| 2    | NO. 2 WINDOW FRAME |      | FORGING 7075-T73  |             |
| 3    | NO. 3 WINDOW FRAME |      | FORGING 7075-T73  |             |
| 4    | A-B POST FITTING   |      | FORGING TI-6AL-4V |             |
| 5    | OPENABLE FRAME     |      | FORGING 7075-T73  |             |

**LIST OF MATERIALS FOR SECTION A-A**

**Flight Compartment Window Structure  
Figure 1 (Sheet 1 of 3)**

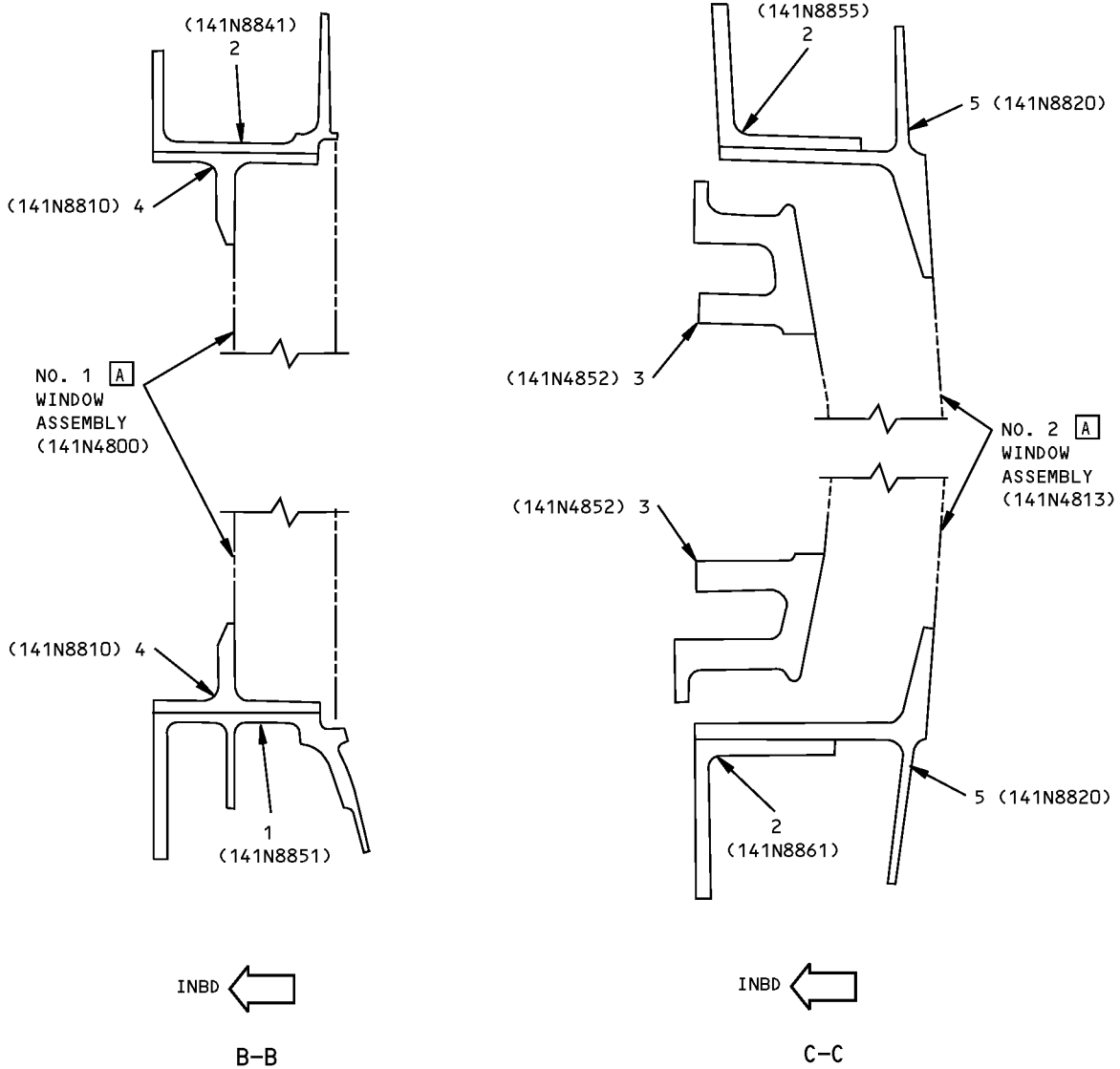
IDENTIFICATION 1

Page 1

Jan 20/2005

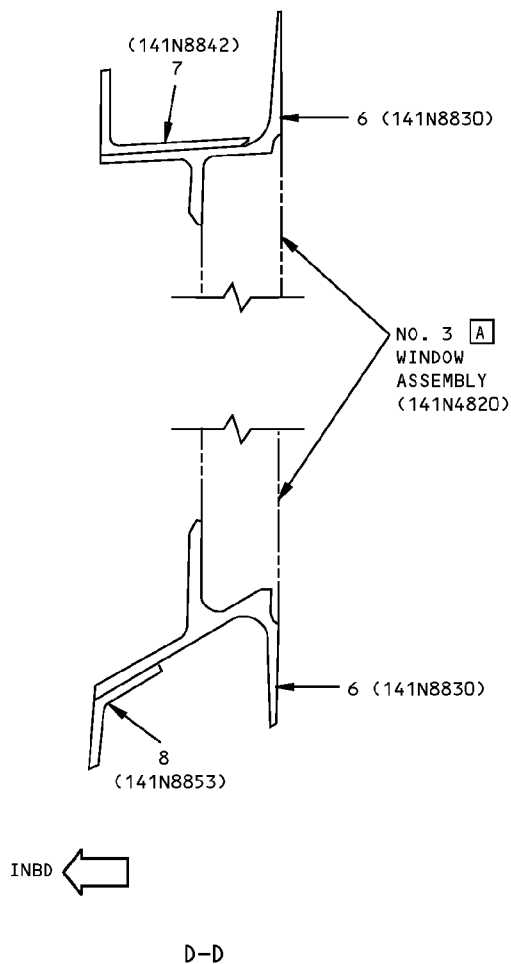
**56-10-02**

D634N201



**Flight Compartment Window Structure**  
**Figure 1 (Sheet 2 of 3)**

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| ITEM | DESCRIPTION        | GAGE | MATERIAL                   | EFFECTIVITY |
|------|--------------------|------|----------------------------|-------------|
| 1    | SILL FITTING       |      | FORGING TI-6AL-4V          |             |
| 2    | SILL FITTING       |      | FORGING 7075-T73           |             |
| 3    | OPENABLE FRAME     |      | FORGING 7075-T73           |             |
| 4    | NO. 1 WINDOW FRAME |      | FORGING TI-6AL-4V          |             |
| 5    | NO. 2 WINDOW FRAME |      | FORGING 7075-T73           |             |
| 6    | NO. 3 WINDOW FRAME |      | FORGING 7075-T73           |             |
| 7    | ANGLE              |      | BAC1503-100327 7075-T73511 |             |
| 8    | CHORD              |      | BAC1514-2610 7075-T6       |             |

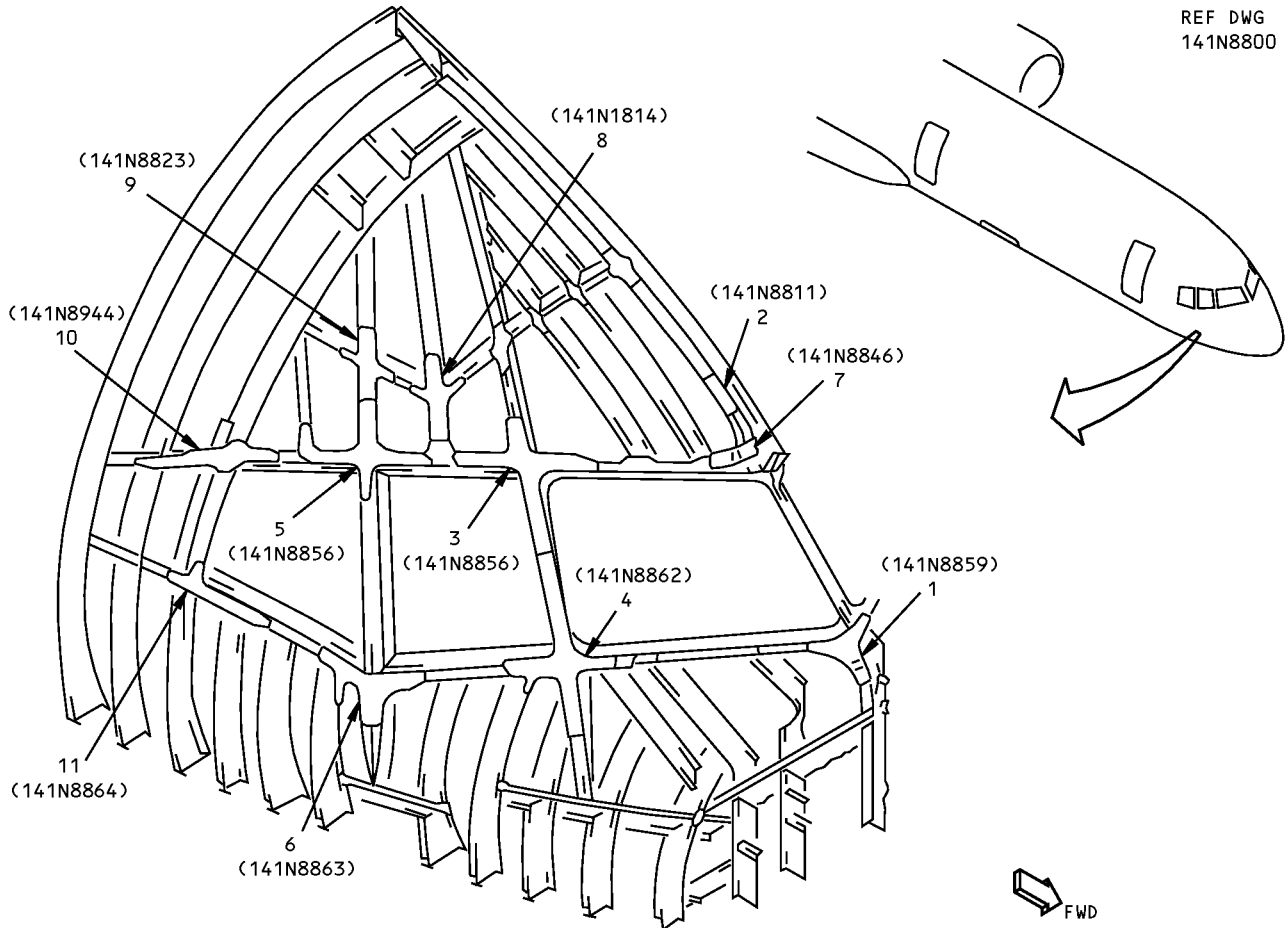
LIST OF MATERIALS FOR SECTIONS B-B, C-C, D-D

**Flight Compartment Window Structure  
Figure 1 (Sheet 3 of 3)**

**757-200  
STRUCTURAL REPAIR MANUAL**

**IDENTIFICATION 2 - FLIGHT COMPARTMENT SPLICE STRAPS**

REF DWG  
141N8800



| ITEM | DESCRIPTION                     | GAGE  | MATERIAL     | EFFECTIVITY |
|------|---------------------------------|-------|--------------|-------------|
| 1    | SPLICE PLATES<br>PLATE<br>PLATE | 0.500 | TI-6AL-4V    |             |
|      |                                 | 0.200 | TI-6AL-4V    |             |
| 2    | SPLICE PLATE                    | 0.080 | 2024-T3      |             |
| 3    | SPLICE PLATE                    | 0.375 | TI-6AL-4V    |             |
| 4    | SPLICE PLATE                    | 0.220 | TI-6AL-4V    |             |
| 5    | SPLICE PLATE                    | 0.200 | TI-6AL-4V    |             |
| 6    | SPLICE PLATE                    | 0.250 | TI-6AL-4V    |             |
| 7    | SPLICE PLATE                    | 0.180 | TI-6AL-4V    |             |
| 8    | SPLICE PLATE                    | 0.125 | CLAD 7075-T6 |             |
| 9    | SPLICE PLATE                    | 0.08  | CLAD 7075-T6 |             |
| 10   | SPLICE PLATE                    | 0.150 | TI-6AL-4V    |             |
| 11   | SPLICE PLATE                    | 0.19  | TI-6AL-4V    |             |

LIST OF MATERIALS

**Flight Compartment Splice Straps Identification  
Figure 1**

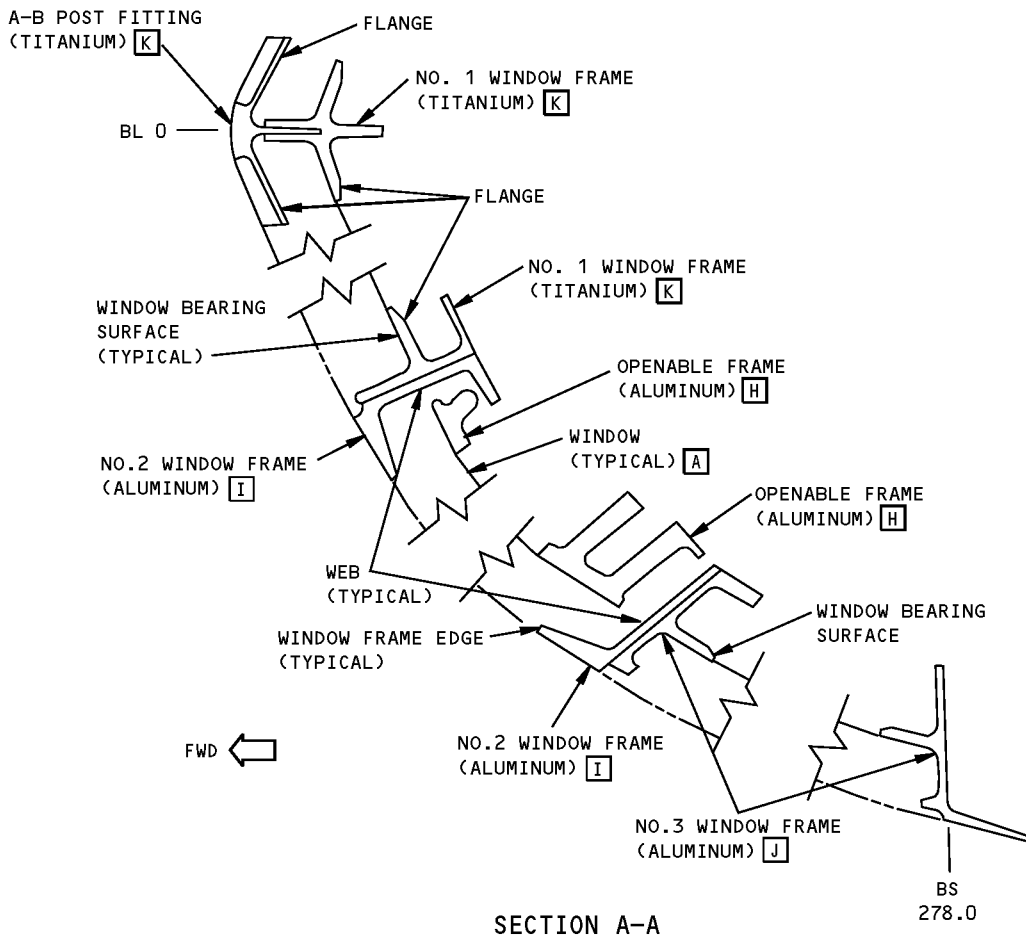
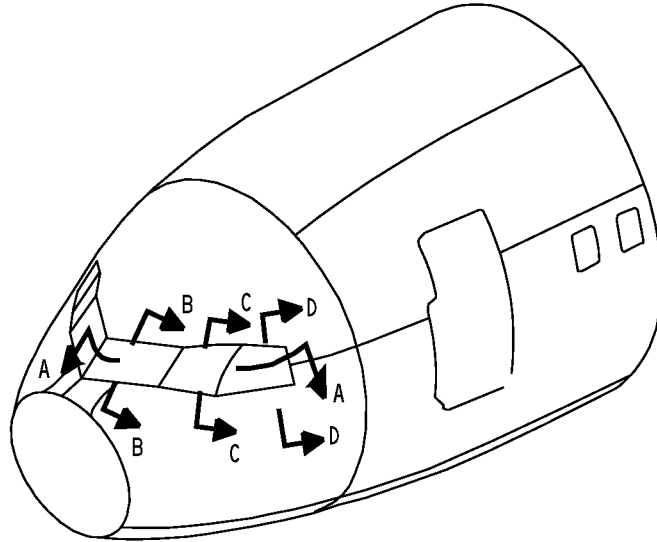
IDENTIFICATION 2  
Page 1  
Jan 20/2005

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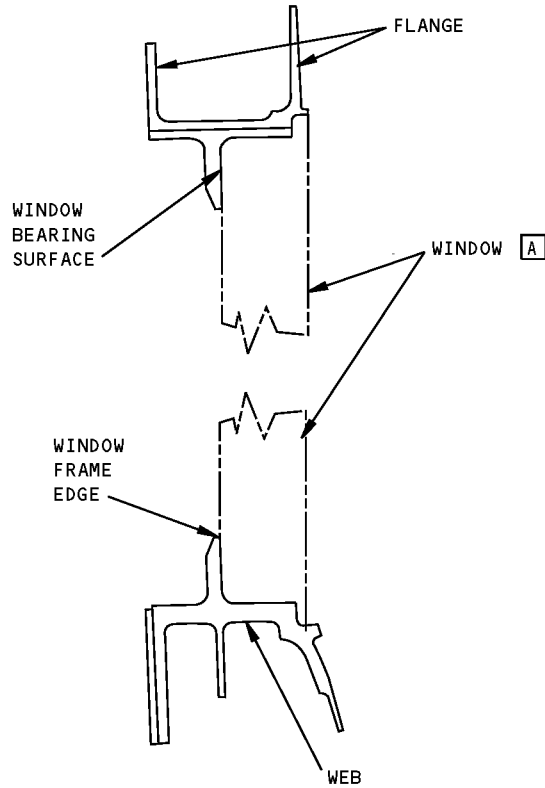
**ALLOWABLE DAMAGE 1 - FLIGHT COMPARTMENT WINDOW STRUCTURE**



**Allowable Damage - Flight Compartment Window Structure  
Figure 101 (Sheet 1 of 5)**



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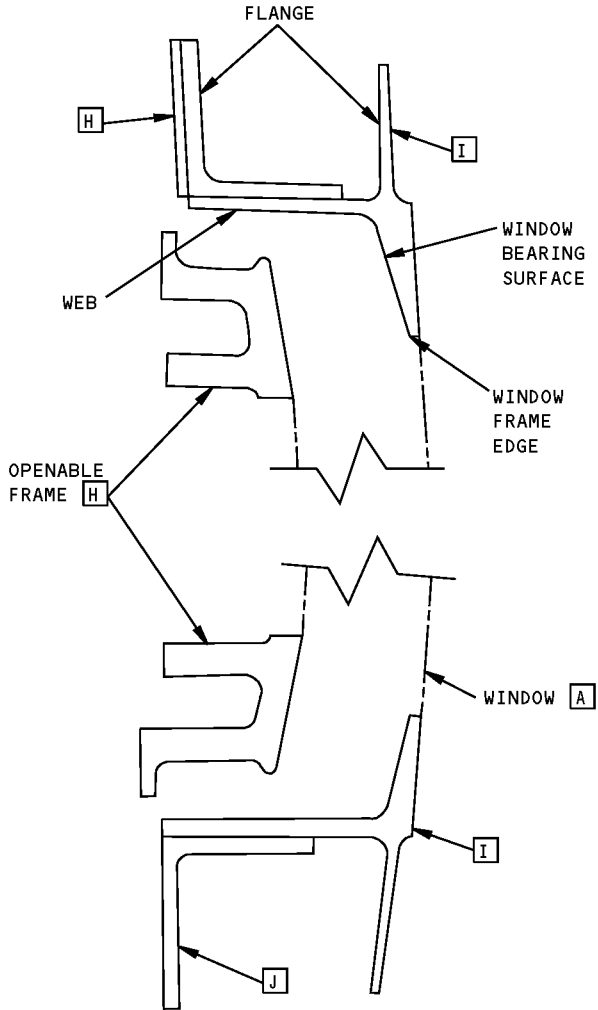
SECTION B-B

| DESCRIPTION            | CRACKS | NICKS, GOUGES,<br>SCRATCHES AND<br>CORROSION | DENTS | HOLES AND<br>PUNCTURES |
|------------------------|--------|--|-------|------------------------|
| WINDOW BEARING SURFACE | B      | 0.010 C                                      | F     | G                      |
| WINDOW FRAME EDGE      | B      | 0.050 D                                      | F     | NOT ALLOWED            |
| WEB                    | B      | 15% C  | F     | G                      |
| FLANGE SURFACE OR EDGE | B      | 15% C D E                                    | F     | G                      |
| OPENABLE FRAME         | B      | 15% C D E                                    | F     | G                      |

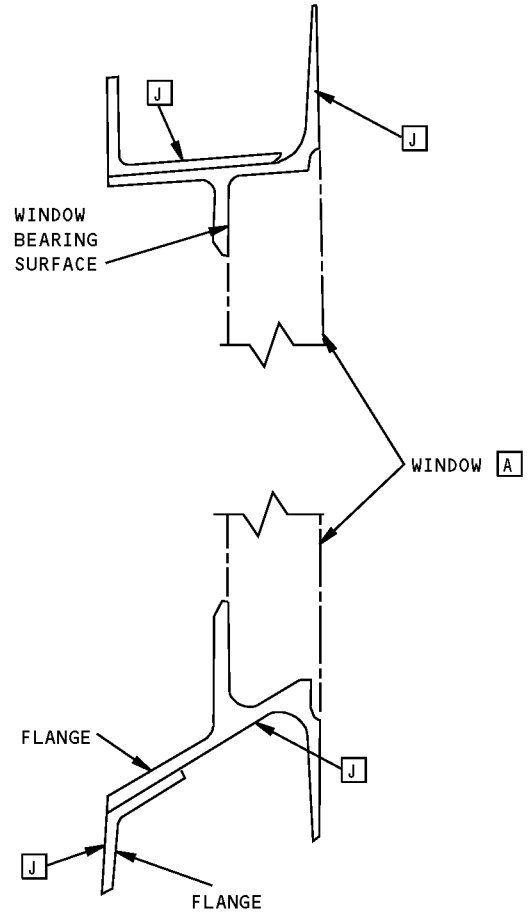
TABLE I

**Allowable Damage - Flight Compartment Window Structure  
Figure 101 (Sheet 2 of 5)**

**757-200  
STRUCTURAL REPAIR MANUAL**



SECTION C-C



SECTION D-D

**Allowable Damage - Flight Compartment Window Structure  
Figure 101 (Sheet 3 of 5)**

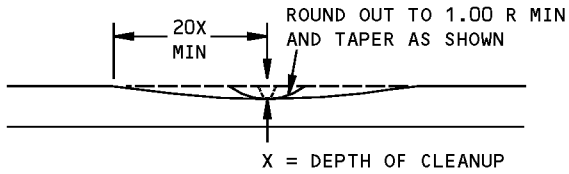
## STRUCTURAL REPAIR MANUAL

## NOTES

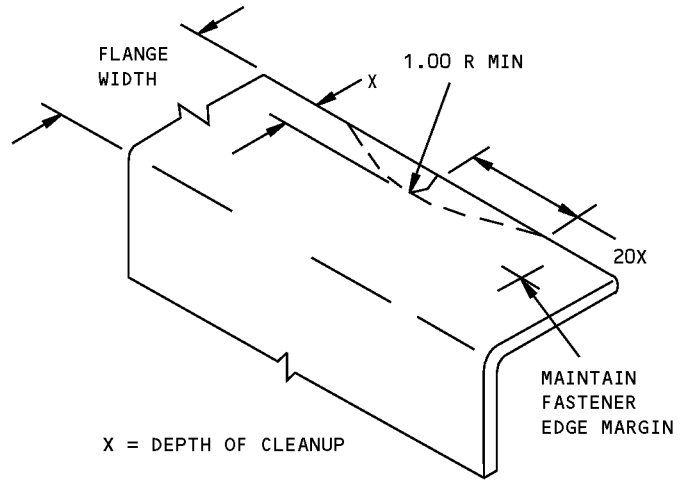
- A REPAIR IS REQUIRED WHEN THE DAMAGE EXCEEDS THE ALLOWABLE DAMAGE LIMITS OF TABLE I
- THE ALLOWABLE DAMAGE LIMITS OF TABLE I ARE A MAXIMUM AFTER ALL DAMAGE HAS BEEN REMOVED
- A** THE REFERENCED STRUCTURE IS A WARRANTIED WINDSHIELD ASSEMBLY. ATTEMPTED REWORK OR REPAIR MAY VOID THE WARRANTY OR THE SALVAGE VALUE, WHICHEVER IS APPLICABLE. DO NOT DISASSEMBLE
- B** ALL CRACKED PARTS MUST BE REPAIRED. CRACKS ON FLANGE EDGES AND SURFACES MUST BE REWORKED AS SHOWN IN DETAIL I, II OR III. THE DEPTH OF DAMAGE AFTER REWORK MUST NOT EXCEED THE REQUIREMENTS OF TABLE I FOR A NICK, GOUGE OR SCRATCH DAMAGE
- C** NICKS, GOUGES OR SCRATCH DAMAGE REMOVED ACCORDING TO DETAIL I OR III ARE ALLOWABLE PROVIDED THE MAXIMUM PERMISSIBLE DEPTH IS NOT EXCEEDED. AFTER REWORK FINISH TO 125 MICROINCHES  $R_a$ .
- D** NICKS ON EDGES OF FLANGES REMOVED ACCORDING TO DETAIL II ARE ALLOWED PROVIDED THE MAXIMUM DEPTH IS NOT EXCEEDED AND THE MINIMUM FASTENER EDGE MARGINS ARE MAINTAINED
- E** ALLOWABLE DAMAGE DEPTH BETWEEN FASTENERS MUST NOT EXCEED 15 PERCENT OF ORIGINAL MATERIAL THICKNESS. SEE DETAIL III
- F** MINOR DENTS AND SURFACE DEPRESSIONS WHICH DO NOT PENETRATE ANY DEEPER THAN THE LIMITS OF TABLE I FOR NICK, GOUGE OR SCRATCH DAMAGE AND WHICH DO NOT DISTORT THE OPPOSITE SURFACE OF THE MEMBER MAY BE REWORKED AS SHOWN IN DETAIL I OR III
- G** HOLES EQUAL IN DIAMETER TO THE ORIGINAL FASTENERS ARE ALLOWED PROVIDED THAT THERE IS A MINIMUM DISTANCE OF 2D FROM AN EXISTING FASTENER HOLE AND 1D FROM A FLANGE EDGE
- H** SHOT PEEN REWORKED AREAS AS GIVEN IN 20-10-03 OF COMPONENT MAINTENANCE MANUAL WITH SHOT NO. 230-550, INTENSITY 0.012A **L**
- I** SHOT PEEN REWORKED AREAS AS GIVEN IN 20-10-03 OF COMPONENT MAINTENANCE MANUAL WITH SHOT NO. 230-550, INTENSITY 0.010A **L**
- J** SHOT PEEN REWORKED AREAS AS GIVEN IN 20-10-03 OF COMPONENT MAINTENANCE MANUAL WITH SHOT NO. 230-550, INTENSITY 0.008A **L**
- K** SHOT PEEN REWORKED AREAS AS GIVEN IN 20-10-03 OF COMPONENT MAINTENANCE MANUAL WITH SHOT NO. 230-550, INTENSITY 0.003A-0.005A **L**
- L** SHOT PEEN INTENSITIES SHOWN FOR MANUFACTURED COMPONENTS. REFER TO SRM 51-20-06 FOR SHOT PEEN INTENSITIES REQUIRED DUE TO THICKNESS REDUCTION RESULTING FROM REWORK

Allowable Damage - Flight Compartment Window Structure  
Figure 101 (Sheet 4 of 5)

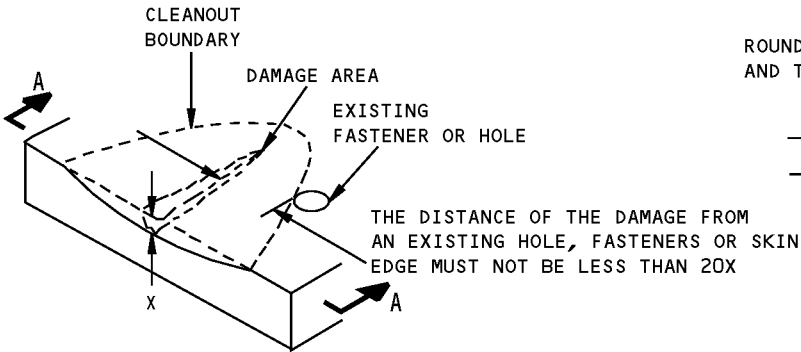
**757-200  
STRUCTURAL REPAIR MANUAL**



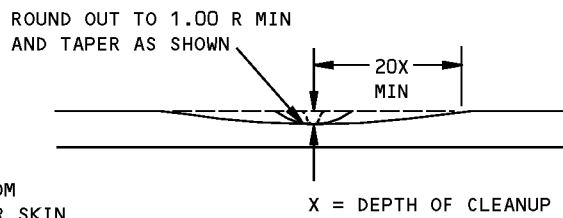
**SECTION THROUGH GOUGE  
REMOVAL OF NICK, OR GOUGE OR  
SCRATCH DAMAGE ON AN EDGE  
DETAIL I**



**REMOVAL OF NICK OR GOUGE  
DAMAGE ON AN EDGE  
DETAIL II**



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



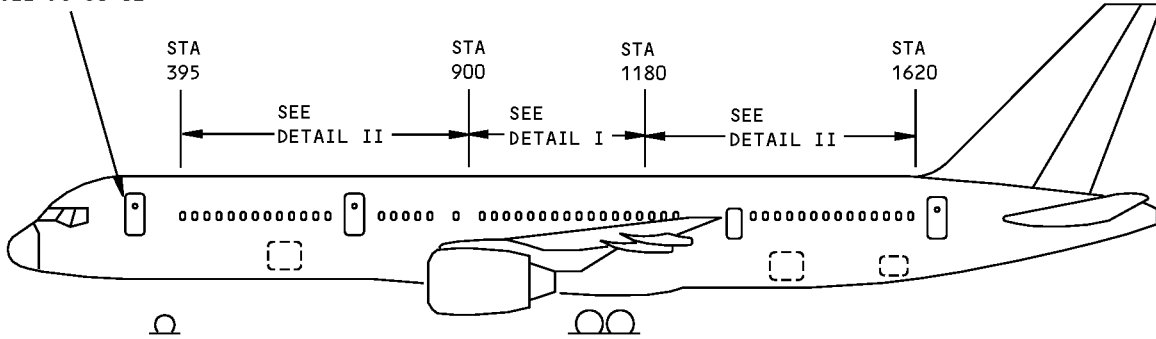
**SECTION A-A**

**Allowable Damage - Flight Compartment Window Structure  
Figure 101 (Sheet 5 of 5)**

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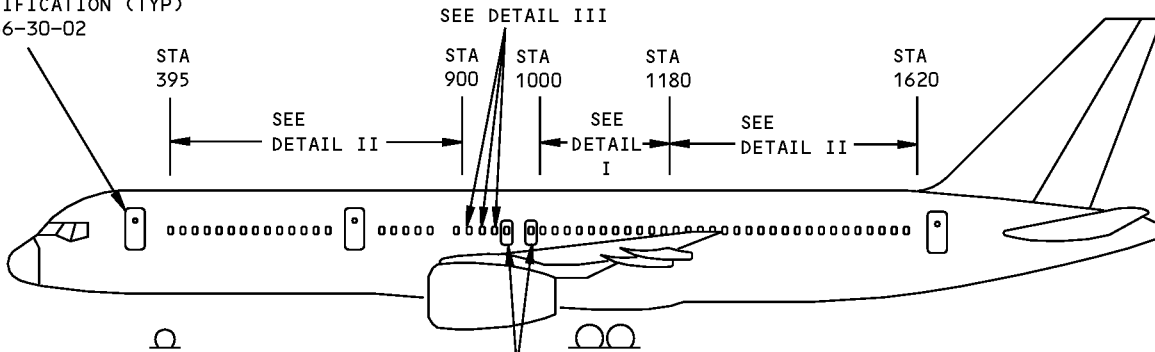
**IDENTIFICATION 1 - CABIN WINDOW STRUCTURE**

FOR DOOR  
WINDOW STRUCTURE  
IDENTIFICATION (TYP)  
SEE 56-30-02



FOR AIRPLANES WITH NO. 3 EMERGENCY EXIT DOOR

FOR DOOR  
WINDOW STRUCTURE  
IDENTIFICATION (TYP)  
SEE 56-30-02



FOR DOOR  
WINDOW STRUCTURE  
IDENTIFICATION  
SEE 56-30-02

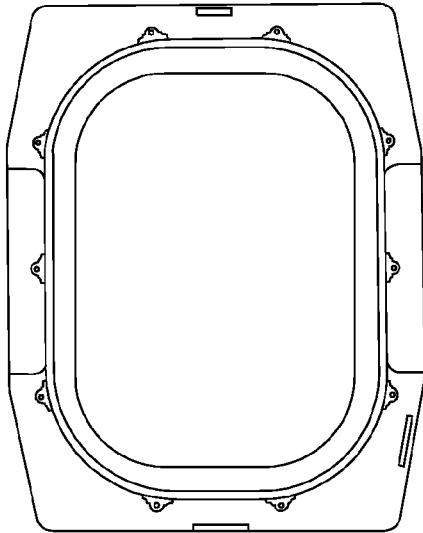
FOR AIRPLANES WITH OVERWING EMERGENCY EXIT DOORS

**NOTE**

- SEE SKIN PANEL INSTALLATION DRAWINGS FOR REFERENCE

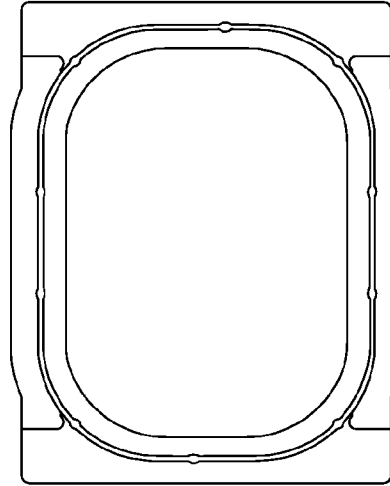
**Cabin Window Structure Identification  
Figure 1 (Sheet 1 of 2)**

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STRUCTURAL REPAIR MANUAL**



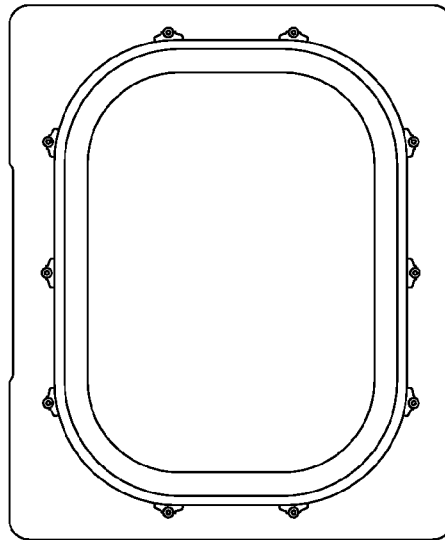
DETAIL I

← 1 (144N3250)



DETAIL II

← 1 (65-45787)  
(65-46864)



DETAIL III

← 1 (144N3251)

| ITEM | DESCRIPTION | GAGE | MATERIAL         | EFFECTIVITY |
|------|-------------|------|------------------|-------------|
| 1    | FRAME       |      | FORGING 7075-T73 |             |

LIST OF MATERIALS FOR DETAILS I, II AND III

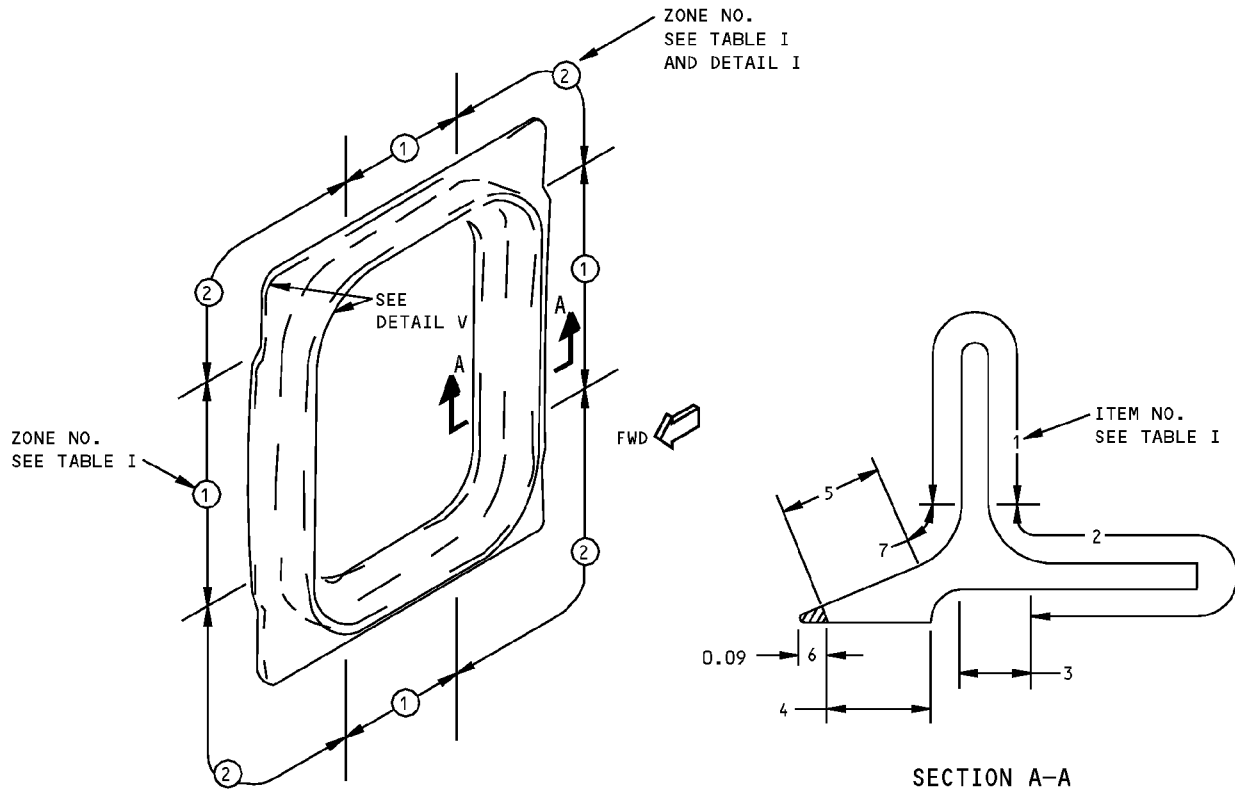
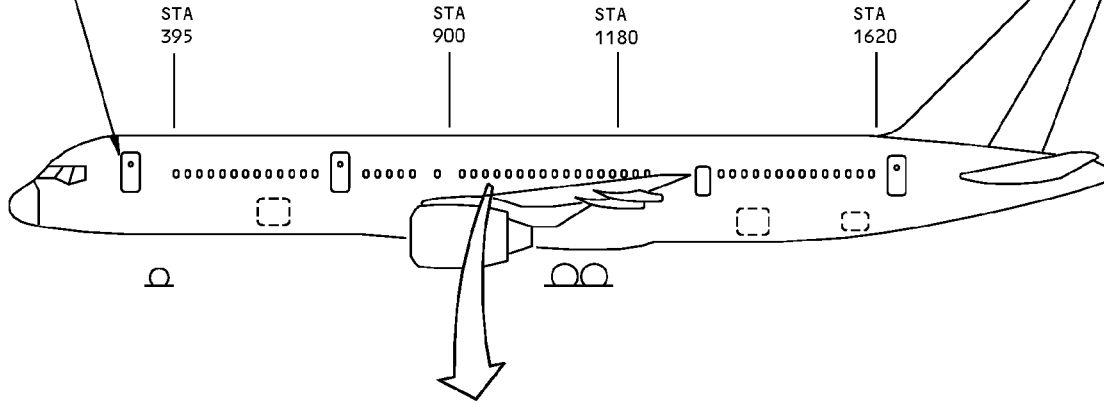
**Cabin Window Structure Identification  
Figure 1 (Sheet 2 of 2)**

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STRUCTURAL REPAIR MANUAL**

**ALLOWABLE DAMAGE 1 - CABIN WINDOW FRAMES**

REF DWGS  
140N2410

FOR DOOR  
WINDOW STRUCTURE  
IDENTIFICATION  
REFER TO 56-30-02



TYPICAL WINDOW FRAME

**Allowable Damage - Cabin Window Frames  
Figure 101 (Sheet 1 of 4)**

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| ZONE | ITEM | MAX ALLOWABLE DEPTH OF DAMAGE [E] | CRACKS | NICKS, GOUGES, SCRATCHES AND CORROSION | DENTS       | HOLES AND PUNCTURES |
|------|------|-----------------------------------|--------|--|-------------|---------------------|
| ①    | 1    | 0.062                             | [A]    | [B]                                    | NOT ALLOWED |                     |
|      | 2    | 0.050                             | [A]    | [B]                                    |             |                     |
|      | 3    | 0.040                             | [C]    | [B]                                    |             |                     |
|      | 4    | 0.030                             | [C]    | [B]                                    |             |                     |
|      | 5    | 0.030                             | [C]    | [B]                                    |             |                     |
|      | 6    | 0.090                             | [A]    | [A]                                    |             |                     |
|      | 7    | 0.031                             | [C]    | [B]                                    |             |                     |
| ②    | 1    | 0.031                             | [F]    | [B]                                    |             |                     |
|      | 2    | 0.031                             | [A]    | [B] [D]                                |             |                     |
|      | 3    | 0.020                             | [C]    | [B]                                    |             |                     |
|      | 4    | 0.015                             | [C]    | [B]                                    |             |                     |
|      | 5    | 0.015                             | [C]    | [B]                                    |             |                     |
|      | 6    | 0.062                             | [F]    | [A]                                    |             |                     |
|      | 7    | 0.031                             | [C]    | [B]                                    |             |                     |

TABLE I

**NOTES**

- REFINISH REWORKED AREAS PER 51-20 OF THE MAINTENANCE MANUAL
- SMOOTH ALL REWORKED SURFACES TO 125 MICRO-INCHES AND APPLY ALODINE
- SHOT PEEN ALL REWORKED SURFACES PER 51-20-06 BEFORE APPLYING ALODINE. SHOT PEEN INTENSITIES WILL VARY WITH THE THICKNESS LEFT AFTER REWORK
- REFER TO 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED
- REFER TO 51-40-06 FOR FASTENER EDGE MARGIN

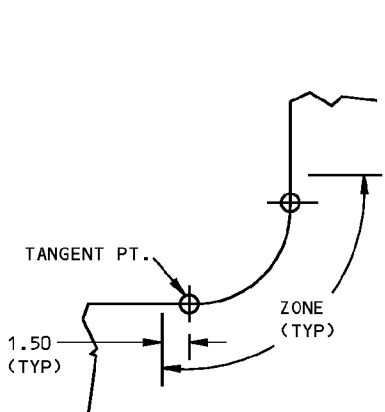
[A] DAMAGE ON EDGE OF A FLANGE REMOVED ACCORDING TO DETAILS II OR III IS ALLOWED, PROVIDED THE MAXIMUM DEPTH IS NOT EXCEEDED AND THE MINIMUM FASTENER EDGE MARGIN IS MAINTAINED. ALL OTHER CRACKS NOT ALLOWED

- [B] DAMAGE REMOVED PER DETAIL IV IS ALLOWED PROVIDED THE MAXIMUM PERMISSIBLE DEPTH IS NOT EXCEEDED
- [C] NO CRACKS ALLOWED. REPLACE FRAME
- [D] DAMAGE ON SURFACES IN THE REGIONS OF FASTENER HEADS OR COLLARS IS ALLOWED, PROVIDED THAT THE DAMAGE CAN BE REMOVED BY SPOTFACING AS SHOWN IN DETAIL V
- [E] REDUCTION IN CROSS-SECTIONAL AREA NOT TO EXCEED 15% OF ORIGINAL AREA
- [F] DAMAGE OF EDGE OF A FLANGE REMOVED ACCORDING TO DETAIL II IS ALLOWED, PROVIDED THE MAXIMUM DEPTH IS NOT EXCEEDED. ALL OTHER CRACKS NOT ALLOWED

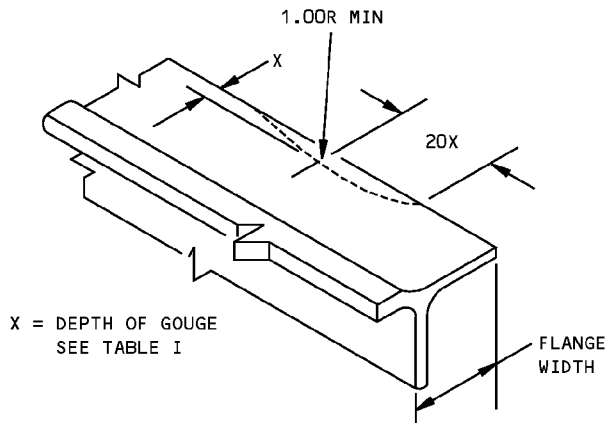
**Allowable Damage - Cabin Window Frames  
Figure 101 (Sheet 2 of 4)**



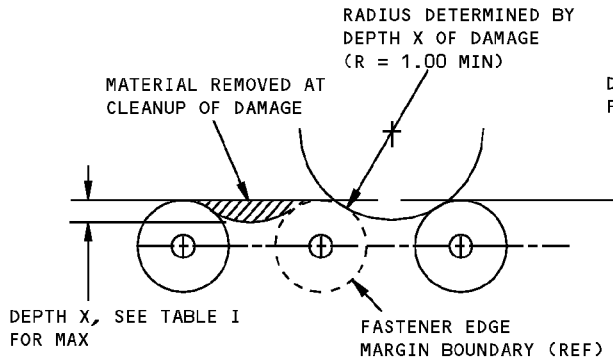
**STRUCTURAL REPAIR MANUAL**



DETAIL I

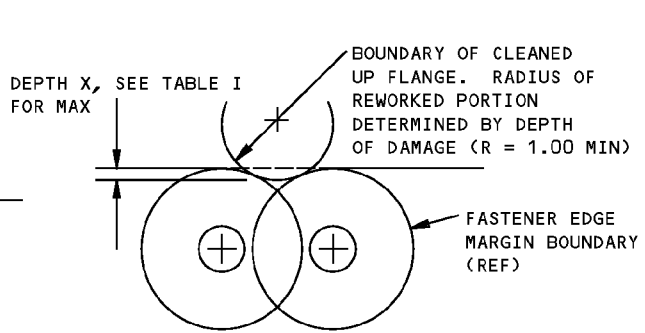


REMOVAL OF NICK OR  
GOUGE DAMAGE ON AN EDGE  
DETAIL II

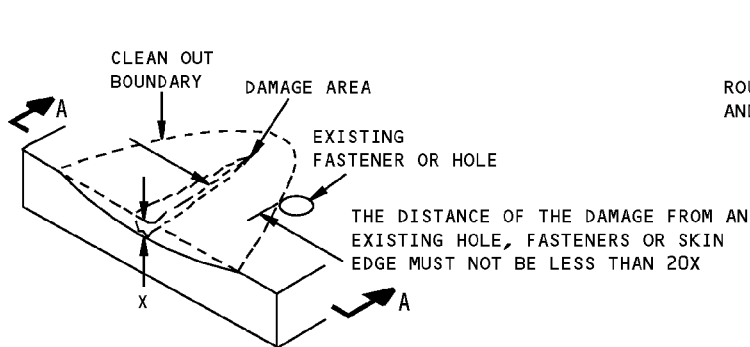


DAMAGE CLEANUP OF EDGES WHERE  
FASTENER EDGE MARGINS DO NOT OVERLAP

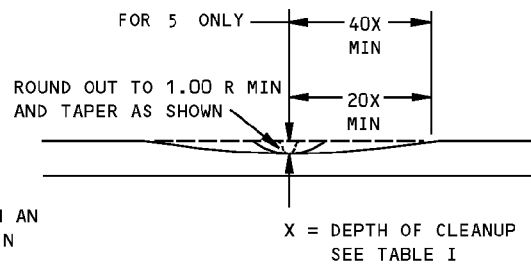
DETAIL III



DAMAGE CLEANUP OF EDGES WHERE  
FASTENER EDGE MARGINS OVERLAP



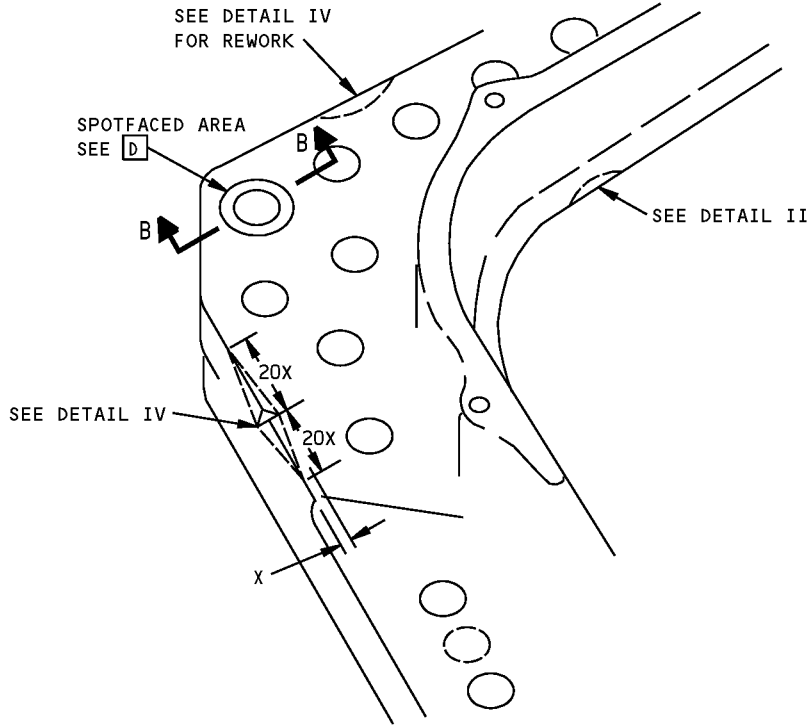
REMOVAL OF NICK, GOUGE AND SCRATCH DAMAGE ON A SURFACE  
DETAIL IV



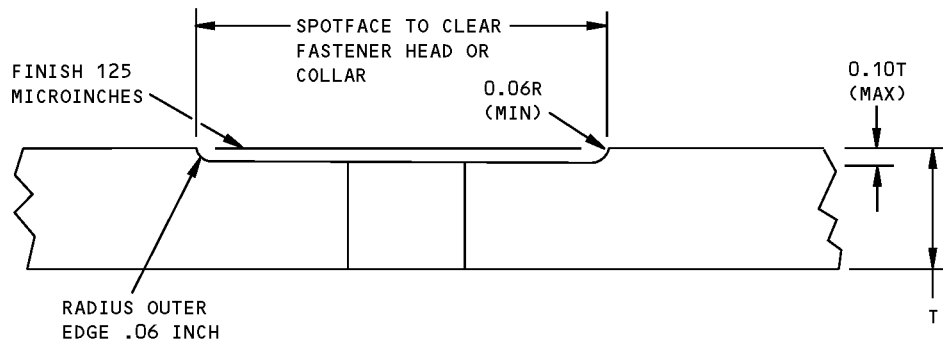
SECTION A-A

**Allowable Damage - Cabin Window Frames  
Figure 101 (Sheet 3 of 4)**

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**DETAIL V**



**SECTION B-B**

**Allowable Damage - Cabin Window Frames  
Figure 101 (Sheet 4 of 4)**

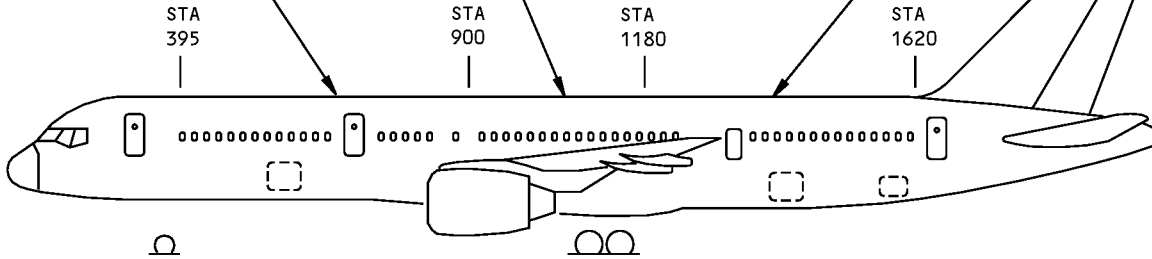
**757-200  
STRUCTURAL REPAIR MANUAL**

**REPAIR GENERAL - CABIN WINDOW FRAMES**

SEE REPAIR 1 AND 2  
FOR REPAIRS TO BS 395  
TO BS 900 WINDOW FRAMES

NO REPAIRS CURRENTLY  
AVAILABLE FOR WINDOW FRAME  
BETWEEN BS 900 TO 1180

SEE REPAIR 1 AND 2  
FOR REPAIRS TO BS 1180  
TO BS 1620 WINDOW FRAMES

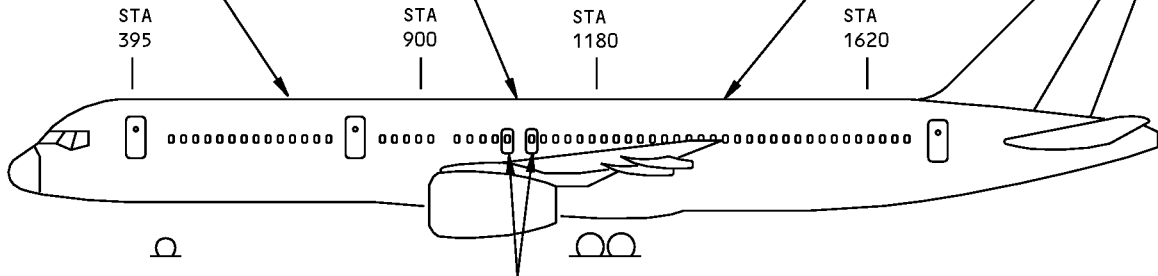


**FOR AIRPLANES WITH NO. 3 EMERGENCY EXIT DOOR**

SEE REPAIR 1 AND 2  
FOR REPAIRS TO BS 395  
TO BS 900 WINDOW FRAMES

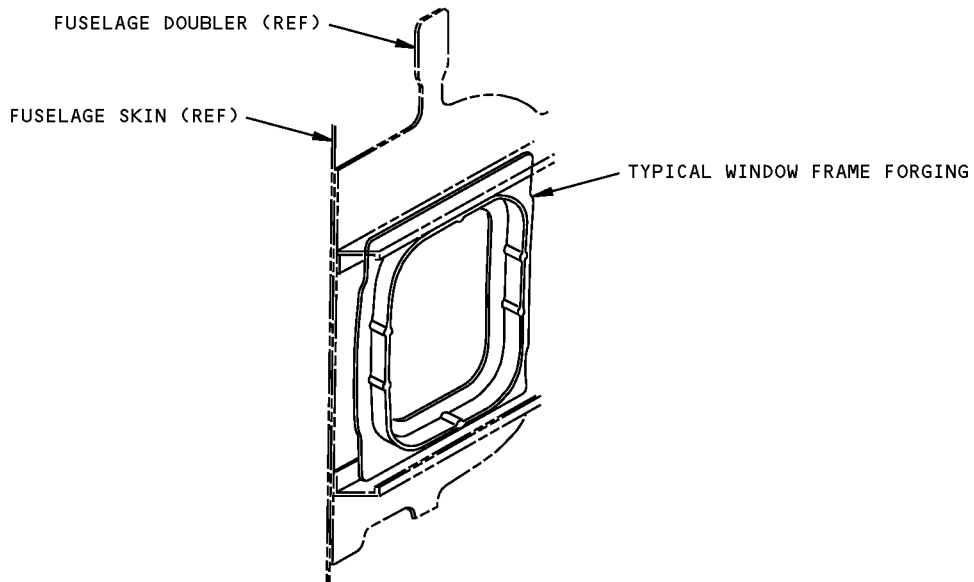
NO REPAIRS CURRENTLY  
AVAILABLE FOR WINDOW FRAME  
BETWEEN BS 900 TO 1180

SEE REPAIR 1 AND 2  
FOR REPAIRS TO BS 1180  
TO BS 1620 WINDOW FRAMES



FOR DOOR  
WINDOW STRUCTURE  
IDENTIFICATION  
SEE 56-30-02

**FOR AIRPLANES WITH OVERWING EMERGENCY EXIT DOORS**



**Cabin Window Frame Repair  
Figure 201**

**STRUCTURAL REPAIR MANUAL**

**REPAIR 1 - CABIN WINDOW FRAME EXTERNAL REPAIR**

**REPAIR INSTRUCTIONS**

1. This repair is for damage to cabin window frame in excess of that described in Allowable Damage 1 or for damage adjacent to fasteners common to skin. Clean up damage and maintain a minimum of 0.05 of sound material (see section A-A). Where damage is confined to the upper or lower flange only, doubler 1 is required, per detail II. Damage extending farther around the frame requires the use of doubler 2 per detail III. Extensive damage requires window frame replacement. **[B]**
2. Refer to Repair 1 for repair to cracks in the window forging.
3. Remove existing fasteners at locations which will be used during the repair.
4. Make the repair parts from the material listed in Table 1.
5. Break sharp edges of original and repair parts 0.015 R to 0.030 R.
6. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
7. Apply a protective alodine coating to the repair parts and the cut edges of the original parts as given in SRM 51-20-01.
8. Apply one coat of BMS 10-11, Type I primer to repair parts and the cut edges of the original parts as given in AMM 51-21.
9. Install repair washers in existing counter-sinks in skin.
10. Install the repair parts making a faying surface seal with BMS 5-95 sealant. Install fasteners wet with BMS 5-95 sealant.
11. Fill irregularities in window frame with BMS 5-28 Type 3 as required to provide smooth surface for window seal.

**NOTE:** To avoid undue hand work of epoxy filler, use a metal strip and parting film of polyethylene clamped up until cure is complete.

12. Restore original finish as given in AMM 51-21.

**NOTES**

- INSTALL ALL FASTENERS IN CLOSE REAMED HOLES
- REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
  - AMM 51-20 FOR INTERIOR AND EXTERIOR FINISHES
  - AMM 51-31 FOR SEALS AND SEALING
  - SRM 51-10-02 FOR INSPECTION AND REMOVAL OF DAMAGE
  - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS
  - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
  - SRM 51-20-05 FOR SEALING OF REPAIRS
  - SRM 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS
  - SRM 51-40-08 FOR COUNTERSINK WASHERS

**[A]** REPAIR PART 1 IS FOR DAMAGE IN THIS AREA (UPPER OR LOWER FRAME). LOCATE DOUBLER ON DAMAGED FRAME. DOUBLER SHOWN ON DAMAGED LOWER FRAME. FOR DAMAGED UPPER FRAME, ROTATE DOUBLER 180°

**[B]** WHEN FRAME REPLACEMENT IS NECESSARY INSTALL THE NEW FRAME MAKING A FAYING SURFACE SEAL WITH BMS 5-95 SEALANT

**[C]** WHEN USING 1/4" BOLTS TO REPLACE 3/16" BRILES RIVETS, MAKE SURE THAT THE BOLTS ARE AT LEAST 1/64" OVERSIZE IN ORDER TO COMPLETELY CLEAN OUT THE COUNTER BORE OF THE 3/16" BRILES RIVETS; REPAIR WASHERS WILL NOT BE NECESSARY

**FASTENER SYMBOLS**

- + ORIGINAL FASTENER LOCATION
- ◆ BACB30DY8-( )X TENSION LOCKBOLT AT EXISTING FASTENER LOCATION **[C]**
- ⊕ BACB30FQ8-( ) HEX DRIVE BOLT AT EXISTING FASTENER LOCATION **[C]**

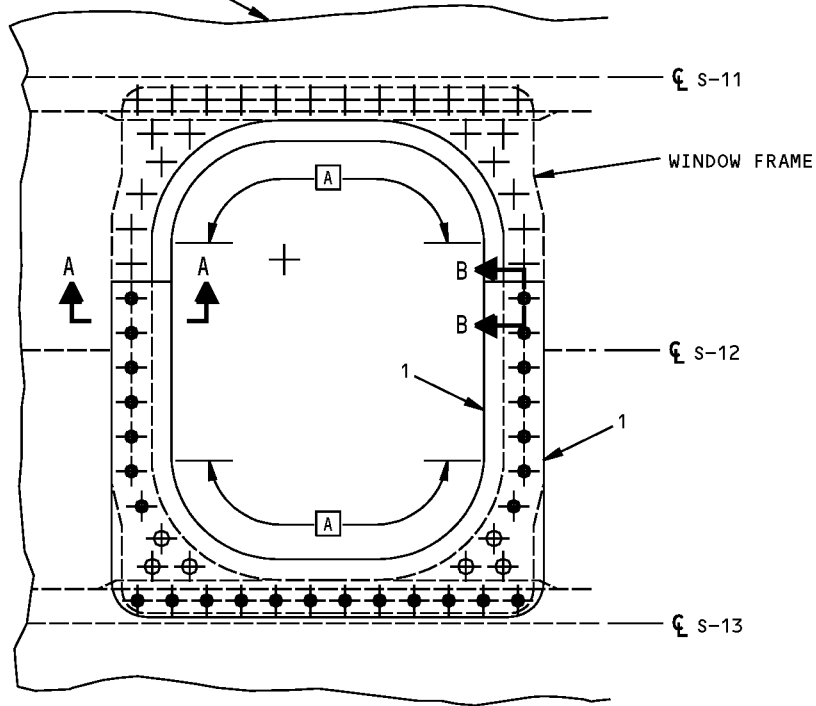
| REPAIR MATERIAL |                |         |                   |
|-----------------|----------------|---------|-------------------|
|                 | PART           | QTY     | MATERIAL          |
| 1               | DOUBLER        | 1       | 0.16 CLAD 2024-T3 |
| 2               | DOUBLER        | 1       | 0.16 CLAD 2024-T3 |
|                 | REPAIR WASHERS | AS REQD | SEE 51-40-08      |

TABLE I

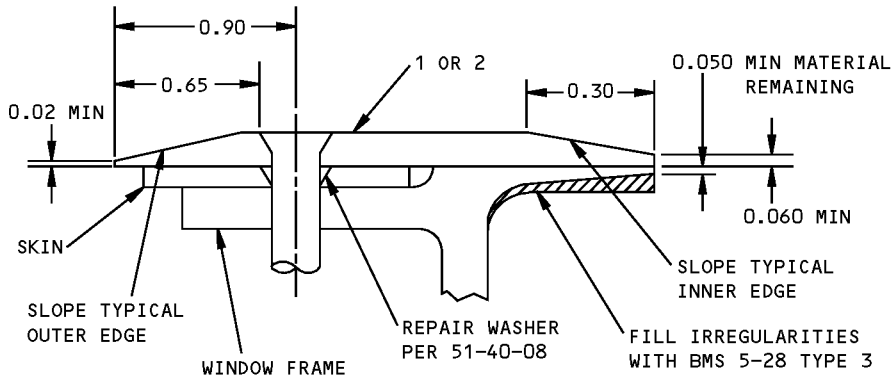
**Cabin Window Frame External Repair  
Figure 201 (Sheet 1 of 3)**

**757-200  
STRUCTURAL REPAIR MANUAL**

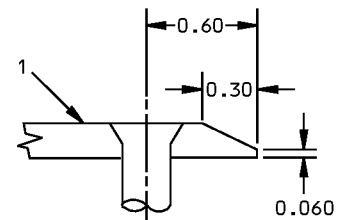
FUSELAGE SKIN AND DOUBLER



**DETAIL II**



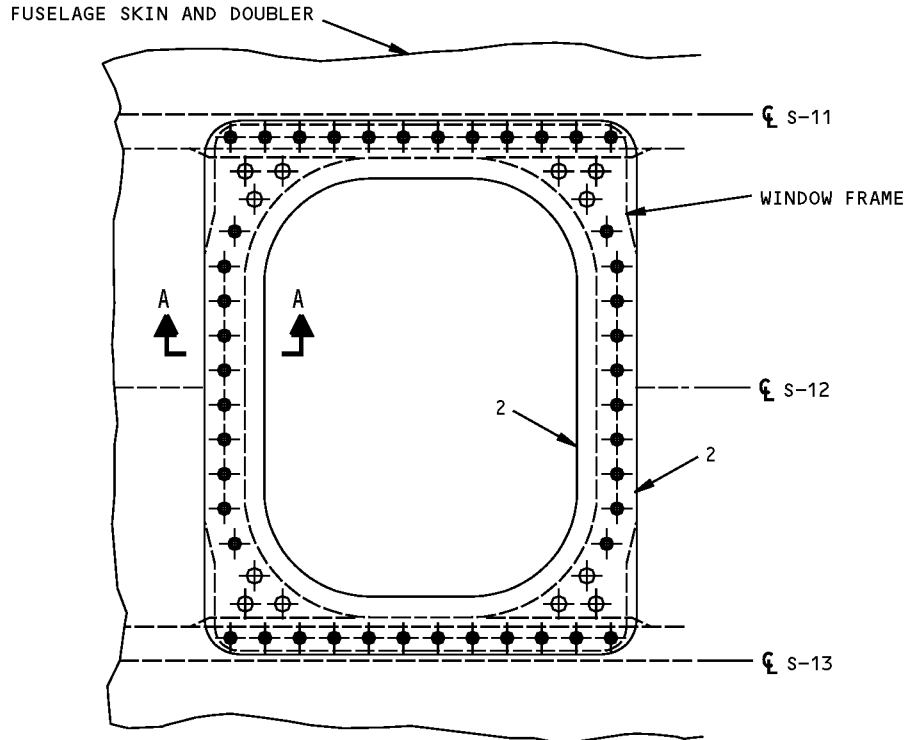
**SECTION A-A**



**SECTION B-B**

**Cabin Window Frame External Repair  
Figure 201 (Sheet 2 of 3)**

**757-200  
STRUCTURAL REPAIR MANUAL**



DETAIL III

**Cabin Window Frame External Repair  
Figure 201 (Sheet 3 of 3)**

**STRUCTURAL REPAIR MANUAL****REPAIR 2 - CABIN WINDOW FRAME FORGING REPAIR****REPAIR INSTRUCTIONS**

1. Remove original fasteners and sealant as required to accomplish repair.
2. Inspect the window forging area around the crack using eddy current NDT procedures to ensure that no other cracks are present. Notify Boeing if further cracking is found. **C**
3. Stop drill ends of cracks per 51-10-02.
4. Make the repair parts from the material listed in Table 1.
5. Break sharp edges of original and repair parts 0.015 R to 0.030 R.
6. Remove all nicks, scratches, burrs, sharp edges and corners from original and repair parts.
7. Apply a protective alodine coating to the repair parts and the cut edges of the original parts per 51-20-01.
8. Apply a protective cadmium plating to the CRES parts per 51-20-01.
9. Apply one coat of BMS 10-11, Type I primer to repair parts and the cut edges of the original parts per 51-21 of the 757 Maintenance Manual. For CRES repair parts use two coats primer.
10. Install repair washers in existing counter-sinks in skin.
11. Install the repair parts making a faying surface seal with BMS 5-95 sealant. Install fasteners wet with BMS 5-95 sealant.
12. Restore original finish as given in AMM 51-21.

**NOTES**

- THIS REPAIR IS ONLY FOR CRACKS WITHIN SHADED AREAS AS SHOWN IN THE REPAIR DIAGRAMS. CONTACT BOEING FOR DAMAGE IN OTHER AREAS
  - INSTALL ALL FASTENERS IN CLOSE REAMED HOLES
  - REFER TO THE FOLLOWING WHEN USING THIS REPAIR:
    - AMM 51-20 FOR INTERIOR AND EXTERIOR FINISHES
    - AMM 51-31 FOR SEALS AND SEALING
    - SRM 51-10-02 FOR INSPECTION AND REMOVAL DAMAGE
    - SRM 51-20-01 FOR PROTECTIVE TREATMENT OF METAL
    - SRM 51-20-05 FOR SEALING OF REPAIRS
    - SRM 51-40 FOR FASTENER CODE, REMOVAL, INSTALLATION, HOLE SIZES AND EDGE MARGINS
    - SRM 51-40-08 FOR COUNTERSINK WASHERS
    - SRM 51-10-01 FOR AERODYNAMIC SMOOTHNESS
  - PART SIX OF THE 737 NONDESTRUCTIVE TEST MANUAL FOR EDDY CURRENT INSPECTION PROCEDURES
- A** LOCATE DOUBLER ON DAMAGED FLANGE. DOUBLER SHOWN ON DAMAGED LOWER FLANGE. FOR DAMAGED UPPER FLANGE, ROTATE DOUBLER 180° AND INSTALL ANGLE PER DETAIL II
- B** FOR CRACK DAMAGE IN VERTICAL FLANGE(S) OR IN BOTH UPPER AND LOWER HORIZONTAL FLANGES USE A DOUBLER THAT ENCIRCLES ENTIRE FORGING PER DETAIL III
- C** EXTENSIVE DAMAGE REQUIRES WINDOW FRAME REPLACEMENT. WHEN FRAME REPLACEMENT IS NECESSARY, TO INSTALL THE NEW FRAME MAKING A FAYING SURFACE SEAL WITH BMS 5-95 SEALANT
- D** WHEN USING 1/4" BOLTS TO REPLACE 3/16" BRILES RIVETS, MAKE SURE THAT THE BOLTS ARE AT LEAST 1/64" OVERSIZE IN ORDER TO COMPLETELY CLEAN OUT THE COUNTERBORE OF THE 3/16" BRILES RIVETS; REPAIR WASHERS WILL NOT BE NECESSARY.

**Cabin Window Frame Forging Repair  
Figure 201 (Sheet 1 of 3)**

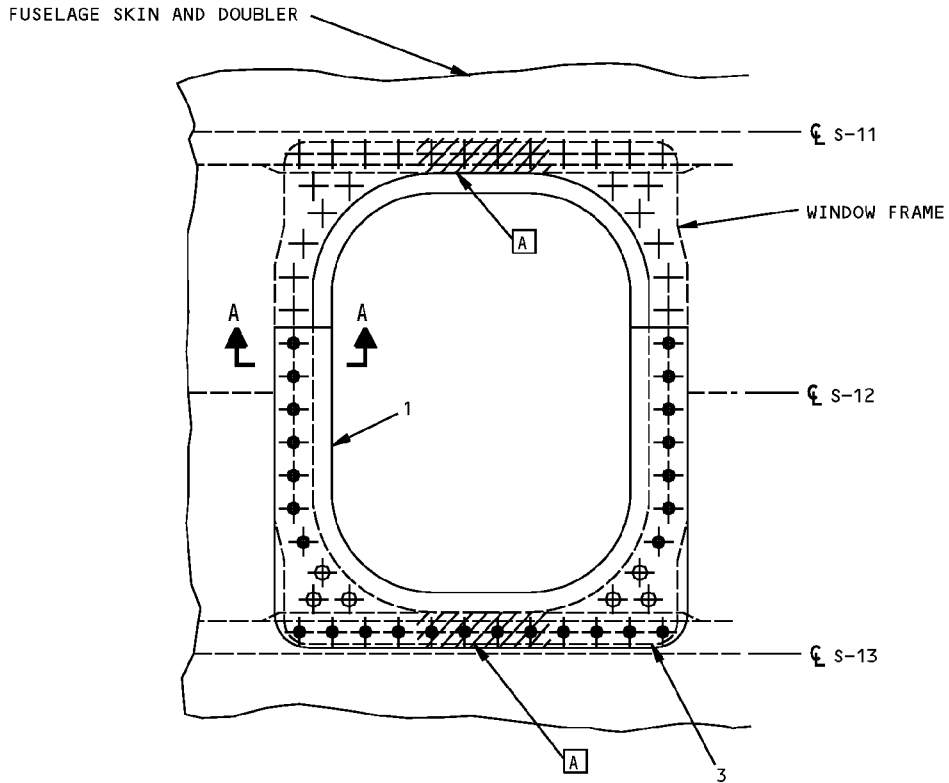
**757-200  
STRUCTURAL REPAIR MANUAL**

**SYMBOLS**

- + ORIGINAL FASTENER LOCATION
- BACB30DY8-(X) TENSION LOCKBOLT AT EXISTING FASTENER LOCATION D
- ⊕ BACB30FQ8-( ) HEX DRIVE BOLT AT EXISTING FASTENER LOCATION D

| REPAIR MATERIAL |         |     |                                  |
|-----------------|---------|-----|----------------------------------|
| PART            |         | QTY | MATERIAL                         |
| 1               | DOUBLER | 1   | 0.16 CLAD 2024-T3                |
| 2               | DOUBLER | 1   | 0.16 CLAD 2024-T3                |
| 3               | ANGLE   | 1   | 0.090 CRES AISI 301<br>HALF HARD |
| 4               | ANGLE   | 1   | 0.090 CRES AISI 301<br>HALF HARD |

TABLE I

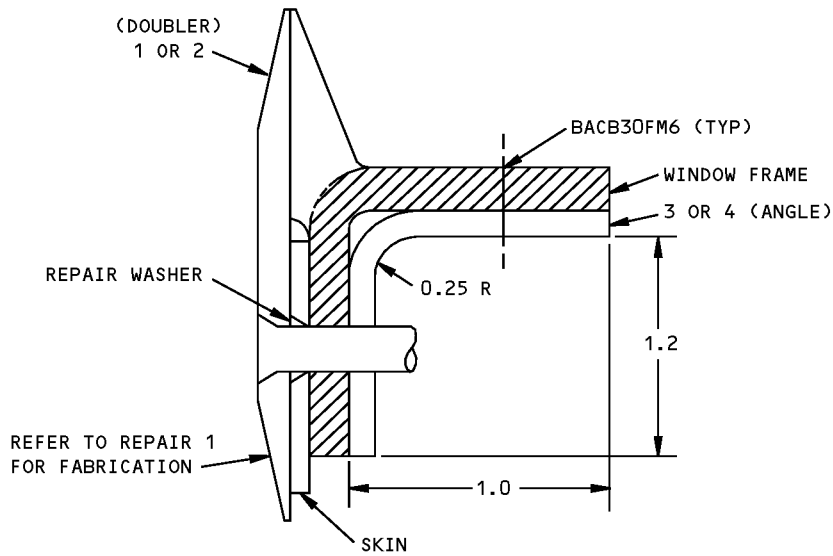
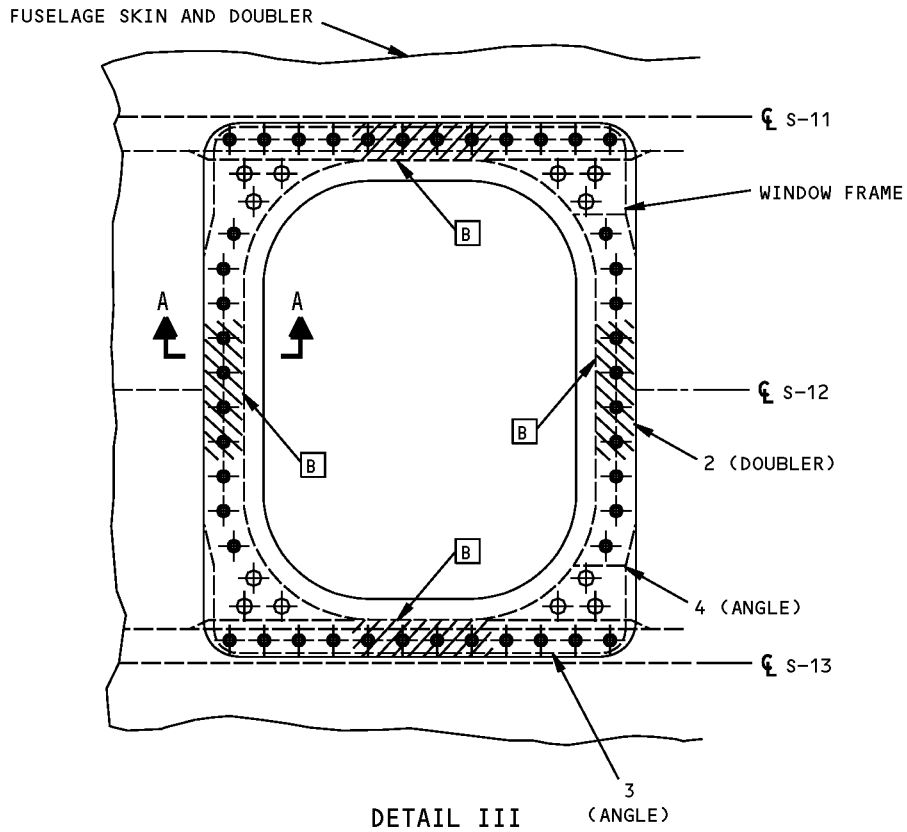


DETAIL II

**Cabin Window Frame Forging Repair  
Figure 201 (Sheet 2 of 3)**



**757-200  
STRUCTURAL REPAIR MANUAL**

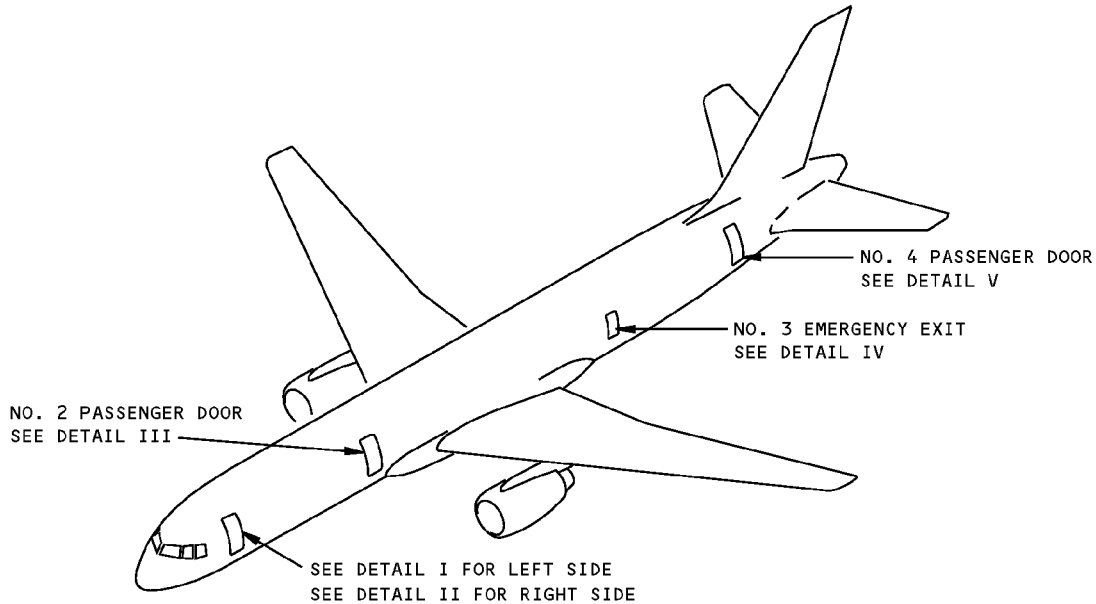


SECTION A-A (TYPICAL)  
ROTATED 90° CCW

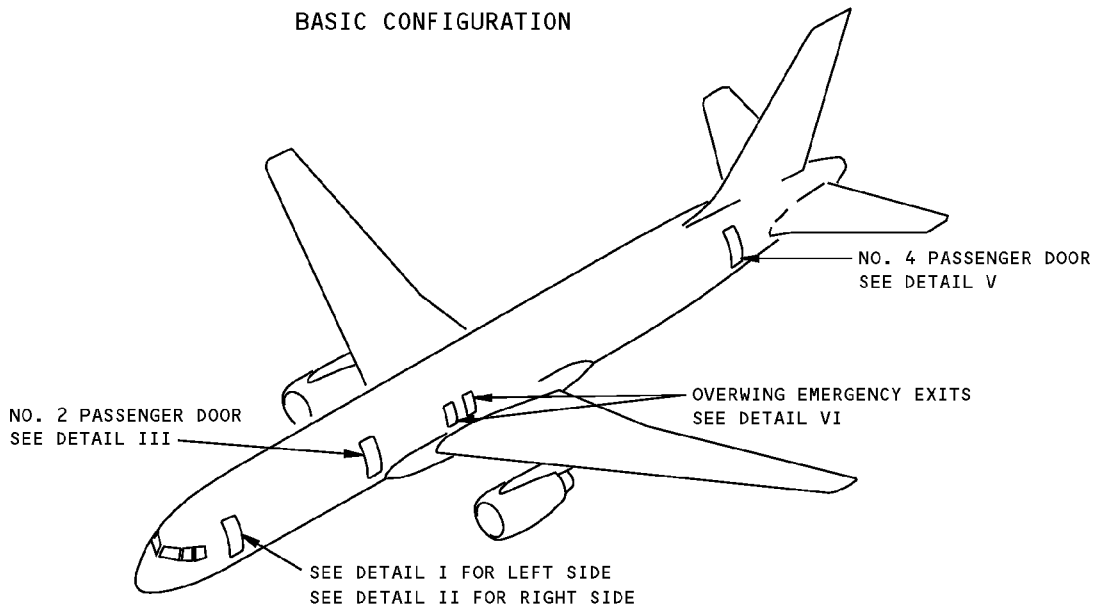
**Cabin Window Frame Forging Repair  
Figure 201 (Sheet 3 of 3)**

**757-200  
STRUCTURAL REPAIR MANUAL**

**IDENTIFICATION 1 - DOOR WINDOW STRUCTURE**



**AIRPLANES WITH NO. 3 EMERGENCY EXIT  
BASIC CONFIGURATION**



**AIRPLANES WITH OVERWING EMERGENCY EXITS  
BASIC CONFIGURATION**

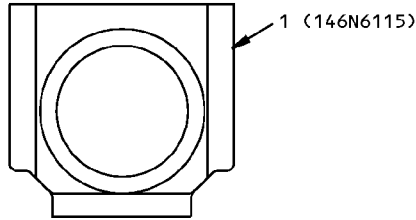
**NOTES**

- A** FOR CUM LINE NUMBERS:  
1 THRU 15
- B** FOR CUM LINE NUMBERS:  
16 AND ON

- C** FOR CUM LINE NUMBERS:  
1 THRU 16
- D** FOR CUM LINE NUMBERS:  
17 AND ON

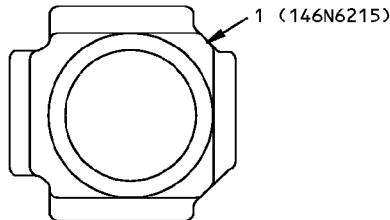
**Door Window Structure Identification  
Figure 1 (Sheet 1 of 2)**

**757-200  
STRUCTURAL REPAIR MANUAL**



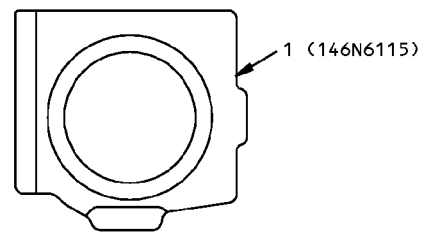
STA 357  
LEFT SIDE

DETAIL I



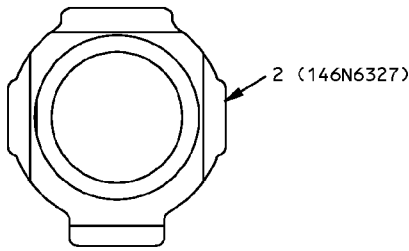
STA 350  
RIGHT SIDE

DETAIL II



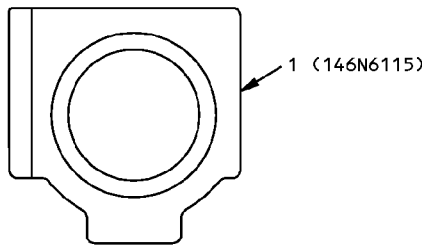
STA 710

DETAIL III



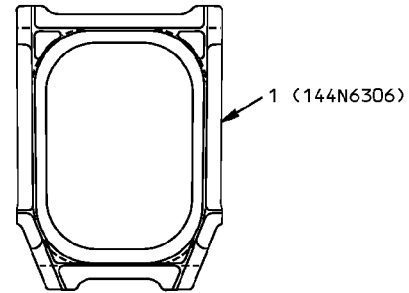
STA 1335.23

DETAIL IV



STA 1664

DETAIL V



STA 972 AND 1008

DETAIL VI

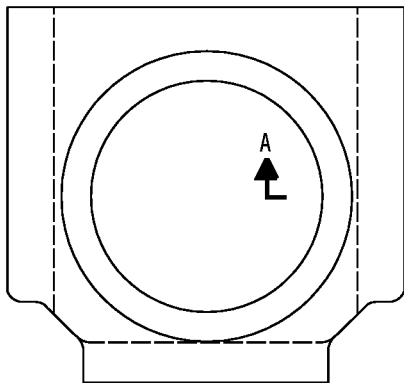
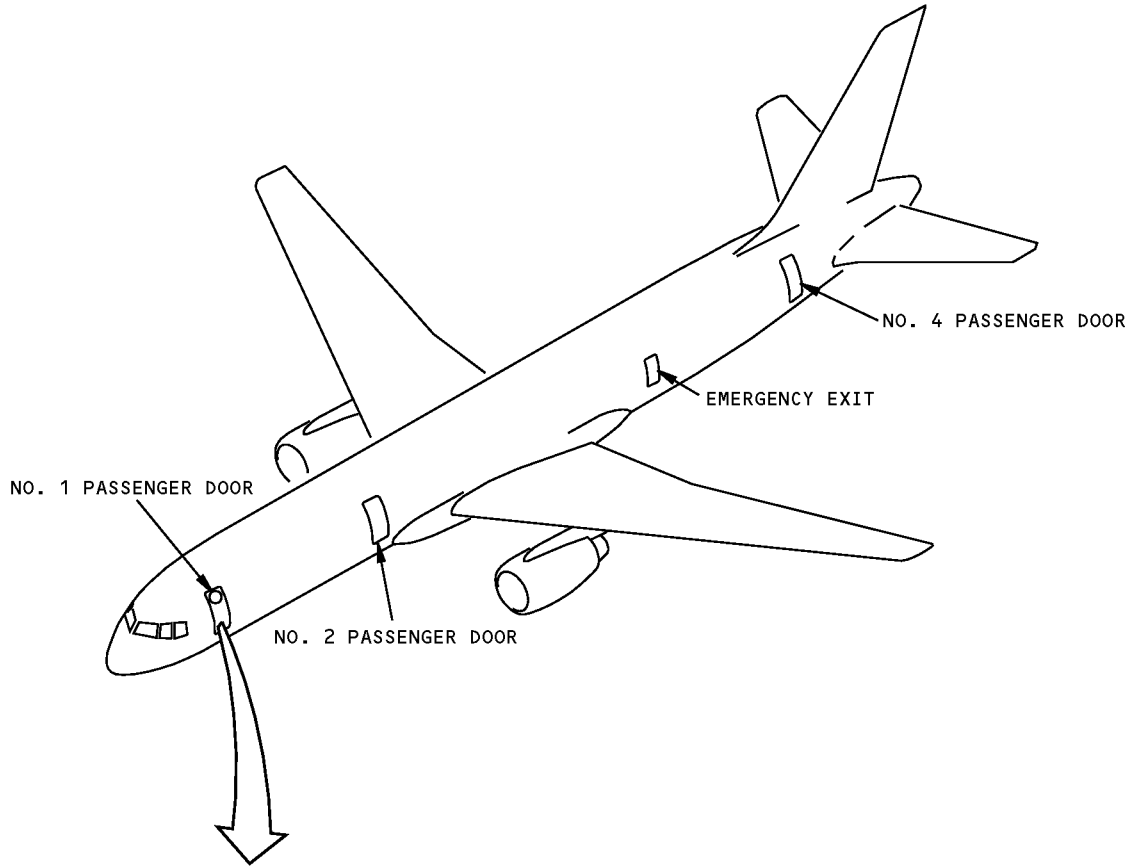
| ITEM | DESCRIPTION | GAGE | MATERIAL                       | EFFECTIVITY   |   |   |
|------|-------------|------|--------------------------------|---|---|---|
| 1    | FRAME       | 1.50 | 7075-T7351<br>7075-T73 FORGING | <table border="1"> <tr><td>A</td></tr> <tr><td>B</td></tr> </table> | A | B |
| A    |             |      |                                |   |   |   |
| B    |             |      |                                |   |   |   |
| 2    | FRAME       | 1.40 | 7075-T7351<br>7075-T73 FORGING | <table border="1"> <tr><td>C</td></tr> <tr><td>D</td></tr> </table> | C | D |
| C    |             |      |                                |   |   |   |
| D    |             |      |                                |   |   |   |
| 3    | FRAME       |      | 7075-T73 FORGING               |   |   |   |

LIST OF MATERIALS FOR DETAILS I THRU VI

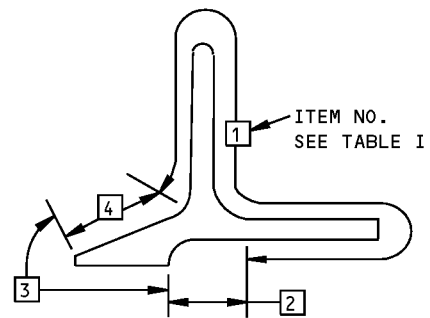
**Door Window Structure Identification  
Figure 1 (Sheet 2 of 2)**

**757-200  
STRUCTURAL REPAIR MANUAL**

**ALLOWABLE DAMAGE 1 - DOOR WINDOW FRAMES**



**VIEWING PORT FRAME  
NO. 1 DOOR SHOWN  
OTHERS SIMILAR**



**SECTION A-A**

**Allowable Damage - Door Window Frames  
Figure 101 (Sheet 1 of 3)**



757-200  
STRUCTURAL REPAIR MANUAL

| ITEM | CRACKS | NICKS, GOUGES, SCRATCHES AND CORROSION | DENTS       | HOLES AND PUNCTURES |
|------|--------|--|-------------|---------------------|
| 1    | A      | 0.020 MAX DEPTH B                      | NOT ALLOWED | NOT ALLOWED         |
| 2    | C      | 0.020 MAX DEPTH B                      | NOT ALLOWED | NOT ALLOWED         |
| 3    | A      | 0.030 MAX DEPTH B                      | NOT ALLOWED | NOT ALLOWED         |
| 4    | C      | 0.030 MAX DEPTH B                      | NOT ALLOWED | NOT ALLOWED         |

TABLE I

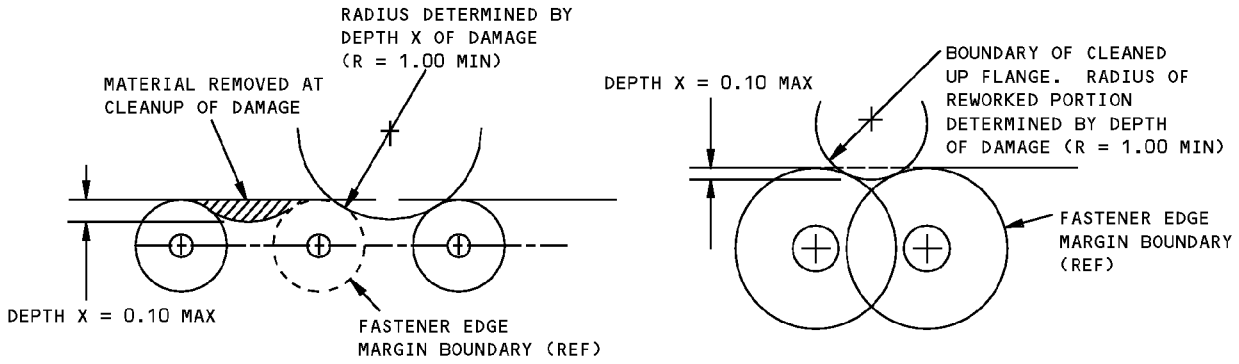
NOTES

- REFINISH REWORKED AREAS PER 51-20 OF THE MAINTENANCE MANUAL
- SMOOTH ALL REWORKED SURFACES TO 125 MICRO-INCHES
- SHOT PEEN ALL REWORKED SURFACES WITH SHOT NO. 230-250, .006A INTENSITY, COVERAGE 2.0. REFER TO 51-20-06
- ALODIZE ALL REWORKED SURFACES AFTER SHOT PEENING PER 51-20-01 AND APPLY ONE COAT OF BMS 10-11 TYPE 1 PRIMER IN ACCORDANCE WITH 51-21-10 OF THE 757 MAINTENANCE MANUAL
- REFER TO 51-10-01 FOR AERODYNAMIC SMOOTHNESS REQUIREMENTS. WHERE THE DAMAGE EXCEEDS THE LIMITS SHOWN IN 51-10-01, CONSIDERATION SHOULD BE GIVEN TO THE LOSS OF PERFORMANCE INVOLVED
- REFER TO 51-40-06 FOR FASTENER EDGE MARGIN

- A DAMAGE ON EDGE OF A FLANGE REMOVED ACCORDING TO DETAILS I OR II IS ALLOWED PROVIDED THE MAXIMUM DEPTH IS NOT EXCEEDED AND THE MINIMUM FASTENER EDGE MARGIN IS MAINTAINED. ALL OTHER CRACKS NOT ALLOWED
- B DAMAGE REMOVED PER DETAIL III IS ALLOWED PROVIDED THE MAXIMUM PERMISSABLE DEPTH IS NOT EXCEEDED
- C NO CRACKS ALLOWED. REPLACE FRAME

Allowable Damage - Door Window Frames  
Figure 101 (Sheet 2 of 3)

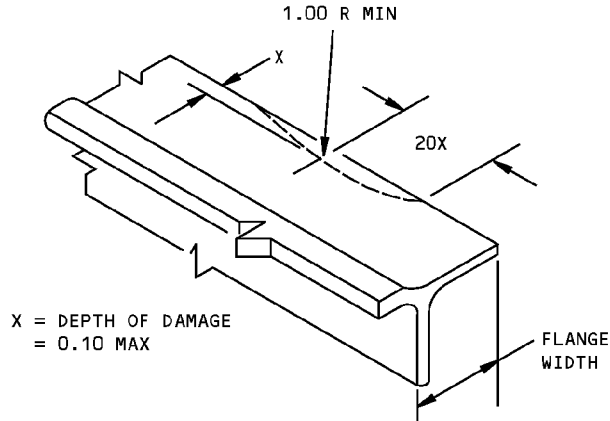
**STRUCTURAL REPAIR MANUAL**



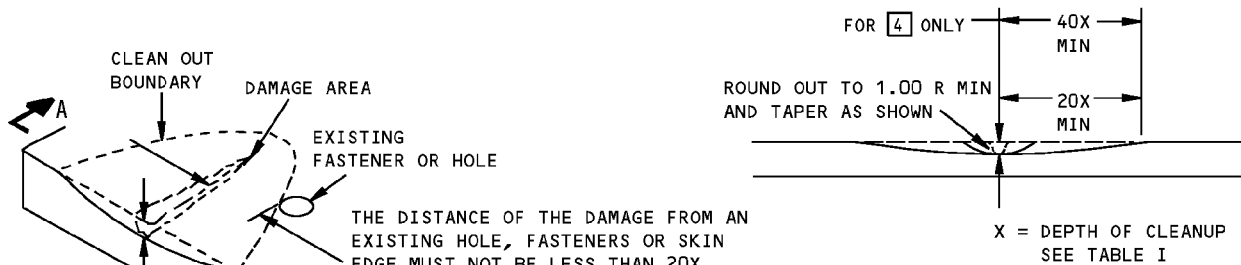
DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS DO NOT OVERLAP

DAMAGE CLEANUP OF EDGES WHERE FASTENER EDGE MARGINS OVERLAP

DETAIL I



DETAIL II



SECTION A-A

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

**Allowable Damage - Door Window Frames**  
**Figure 101 (Sheet 3 of 3)**