

LOG # RF 53

123  
10/19/96  
A-E

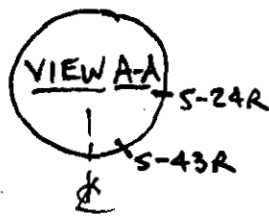
TARGET # \_\_\_\_\_

COORD: LAT \_\_\_\_\_

LONG \_\_\_\_\_

<u>PANEL SEGMENT</u>	<u>TARGET #</u>
A	8/4/96-64
B	C 686 GREEN
C	C 1025 GREEN
D	C 2087 GREEN
E	8/10/96-67

DEBRIS FIELD \_\_\_\_\_



B. HOCKING  
BOEING  
9/4/96

SEGMENT A - STA 1560 TO 1520,  
STG 34R TO 40R

SKIN:

- 1) SKIN PANEL IS SIGNIFICANTLY WARPED DEFORMED. IT HAS AN OVERALL CURVATURE ABOUT AN OUTBOARD RADIUS OF APPROXIMATELY 9 INCHES (ie, CENTER OF RADIUS OUTSIDE OF SKIN).
- 2) THERE ARE LOCALIZED DEFORMITIES AS WELL, THE MOST SIGNIFICANT BEING INWARD BULGING OF THE SKIN BETWEEN STRINGERS WHICH WOULD RESULT FROM AN INWARD ACTING PRESSURE APPLIED TO THE OUTSIDE SURFACE.
- 3) THERE ARE THREE NOTABLE SKIN TEARS: ONE IS LOCATED AT APPROXIMATELY STA 1547, BETWEEN STG'S 37R & 39R, ABOUT 7 INCH LONG. THE OTHER TWO ARE AT THE TWO FORWARD CORNERS OF THE PANEL, ONE ABOUT 12 INCHES LONG, AND THE OTHER ABOUT 9 INCHES LONG.

STRINGERS:

- 1) STRINGER 36R REMAINS ATTACHED TO THE SKIN FROM ABOUT STA 1540 TO STA 1560
- 2) STRINGER 37R REMAINS ATTACHED FROM STA 1521 TO STA 1560.
- 3) STRINGER 39R REMAINS ATTACHED FROM STA 1520 TO STA 1541.
- 4) STRS 34, 35, ~~36~~ 38, AND 40 ARE MISSING.
- 5) THE STRINGERS WHICH REMAIN ATTACHED ARE NOT SIGNIFICANTLY DEFORMED. FOR THE MOST PART, THEY HAVE RETAINED THEIR ORIGINAL SHAPE EXCEPT FOR SOME LOCALIZED DEFORMATION AT THE END FAILURE POINTS.

OTHER ITEMS:

- 1) FRAME-TO-SKIN SHEARTIES WERE NOT RETAINED BY THE PANEL EXCEPT AT STA 1540 BETWEEN STG 39R & 40R - IT IS CONSIDERABLY DEFORMED.

(CONTINUED)

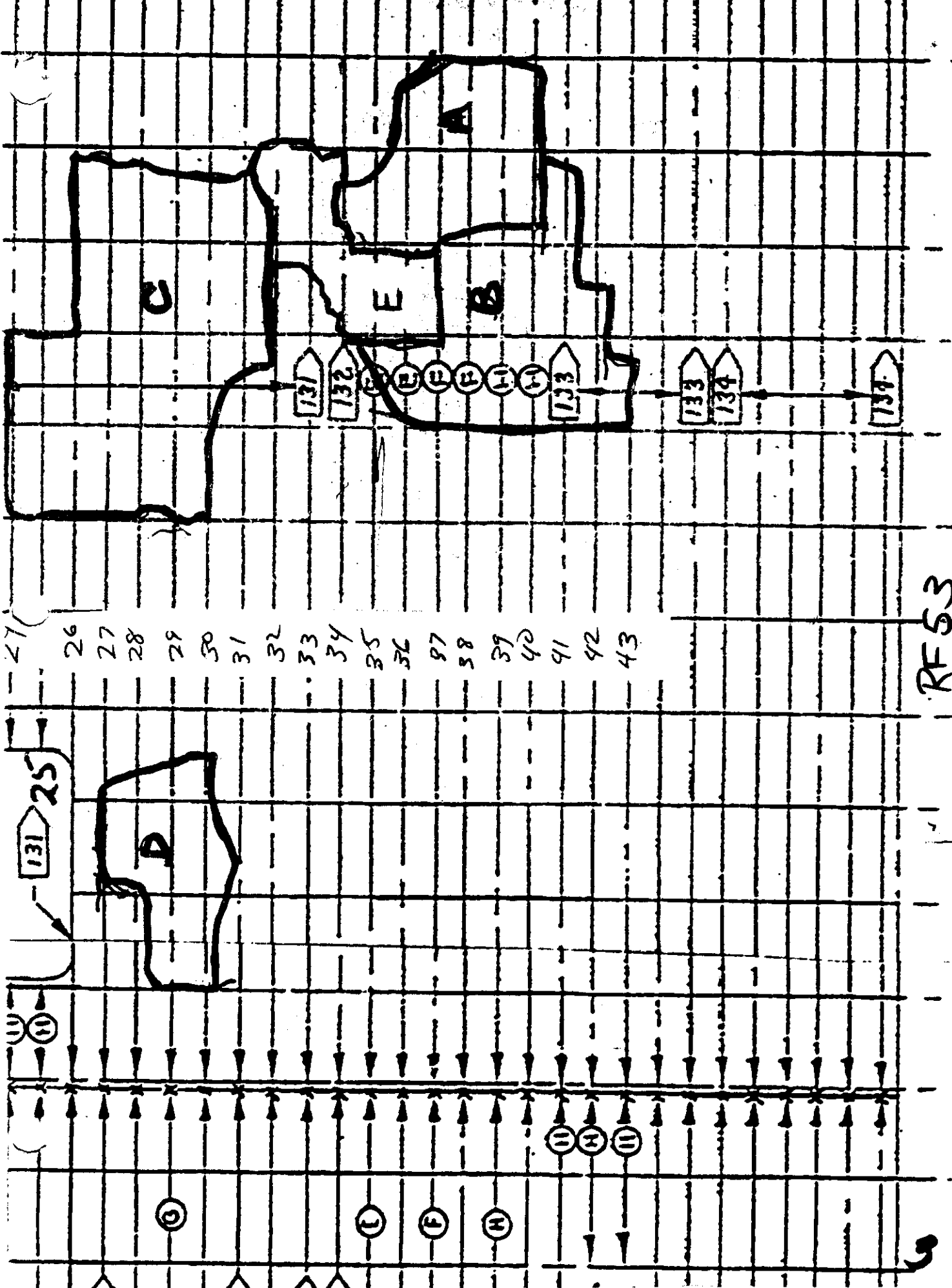
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1/7

Dennis Dostoy  
FRM  
10/19/96

Tom Todman  
FAA 10-18-96

Paul Gandy  
TBL 10-19-96



RF 53

1741 1720 170 1680 1660 1640 1620 1600 1580 1560 1540 1520

SEGMENT A (CONT.):

OTHER ITEMS (CONT.):

- 2) SEGMENTS OF OTHER SHEAR TIES (THE SKIN ATTACHMENT LEG) REMAIN AT STA 1540 BETWEEN STG 36R & 37R; AND AT STA 1560 BETWEEN STG 35R AND 36R.
- 3) REMNANTS OF STRINGER CLIPS REMAIN AT STA 1520, STG 39R; STA 1540, STG 37R & STG 39R; AT STA 1560, STG 36R.
- 4) THERE IS LIGHT SOOTING OF THE INBOARD SURFACE FROM STG 38R TO 40R.
- 5) THERE IS MODERATE SOOTING OF THE OUTBOARD SURFACE OVER THE ENTIRE SURFACE.
- 6) FRACTURE SURFACES APPEAR TO BE DUCTILE FAILURE.

SEGMENT B - STA 1540 TO 1600, STG 35R TO 43R

THE DEFORMATION OF SEGMENT B IS QUITE EXTREME AND IS THEREFORE SKETCHED ON THE FOLLOWING PAGE.

SKIN:

- 1) THIS SEGMENT IS NOTABLY DEFORMED WITH NUMEROUS CREASES, BENDS AND TEARS IN ALL DIRECTIONS.
- 2) THE SEGMENT THICKNESS RANGES FROM ABOUT 0.170 AT ITS FWD LOWER CORNER TO ABOUT 0.080 INCH AT ITS AFT UPPER CORNER.

STIFFENERS:

- 1) STRINGERS 35R, 36R, 37R, 38R, 39R, AND 40R ARE MISSING.
- 2) STRINGER 41R REMAINS ATTACHED FROM STA ~1547 TO STA ~1600.
- 3) STRINGER 42R REMAINS ATTACHED FROM STA ~1560 TO STA ~1600.

OTHER ITEMS:

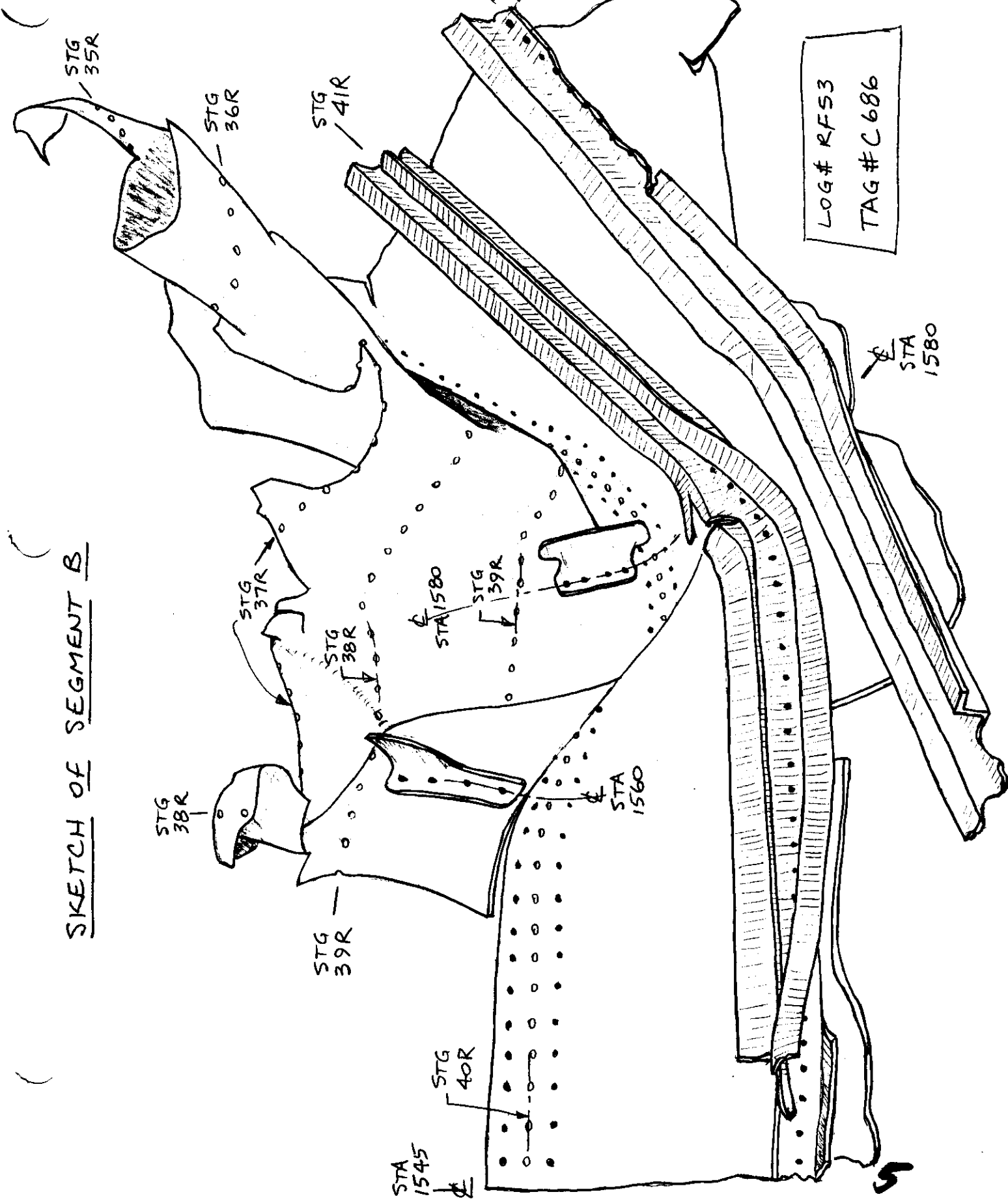
- 1) THE FRAME TO SKIN SHEAR TIE AT STA 1580 BETWEEN STG 39R AND 40R IS THE ONLY ONE REMAINING TOTALLY INTACT AND ATTACHED.
- 2) FRAME TO SKIN SHEAR TIE REMNANTS (THE LEG ATTACHING TO THE SKIN) CAN BE FOUND AT STA 1560 BETWEEN STG 38R AND STG 39R AND BETWEEN STG 39R AND 40R; AT STA 1580 BETWEEN STG 37R AND 38R.
- 3) NO STRINGER CLIPS REMAIN.
- 4) THERE IS NO APPARENT SOOTING OF THE INBOARD SURFACE EXCEPT AT POSSIBLY THE AFT, LOWER CORNER WHERE IT IS LIGHTLY SOOTED.
- 5) THE OUTER SURFACE IS LIGHTLY SOOTED AND EXHIBITS SOME "STREAKING" OF SOOTING.
- 6) FRACTURE SURFACES APPEAR TO BE DUCTILE FAILURE.

Dennis Harting  
FAM 10/19/96

Tom T. Toland  
FAA - 10-18-96

LOG # RF53

B. HOCKING  
BOEING  
9/4/96



SKETCH OF SEGMENT B

LOG # RF 53C (C-1025)

B. HOCKING  
9/4/96  
BOEING

SEGMENT C - STA 1540 TO 1620, STG 24R TO 32R

SKIN:

- 1) THE SKIN SEGMENT IS TWISTED AND TORN QUITE SIGNIFICANTLY. THE PANEL IS FOLDED OR CREASED BACK UPON ITSELF IN A FEW REGIONS.
- 2) SKIN GAGE APPEARS TO RANGE FROM 0.10 INCH TO 0.07 IN ACROSS THE PANEL.
- 3) A NUMBER OF BAYS APPEAR TO SHOW INWARD BULGING, WHICH WOULD RESULT FROM AN INWARDLY APPLIED PRESSURE LOADING ON THE OUTER SURFACE.

STRINGERS:

- 1) STG'S 24R, 25R, 27R ARE MISSING
- 2) STG 31R IS NOT ATTACHED TO THE PANEL BUT IT APPEARS THAT IT IS CAPTURED IN A CREASE.
- 3) ALL STRINGERS THAT REMAIN WITH THE PANEL ARE SIGNIFICANTLY BENT OR WARPED.
- 4) [ ]

OTHER ITEMS:

- 1) FAIRING ATTACHMENT ~~INSERTS~~ NUTPLATES REMAIN ATTACHED AT THE FOLLOWING LOCATIONS: STA 1565, STG 26 1/2 R; STA 1569, STG 26 3/4 R; STA 1577, STR 27 1/4 R; STA 1585, STG 27 3/4 R; STA 1589, STG 28R; STA 1596, STG 28 1/4 R; STA 1600, STG 28 1/2 R; STA 1604, STG 28 3/4 R; STA 1615, STG 29 1/4 R
- 2) REMNANTS OF FRAME TO SKIN SHEAR TIES REMAIN ATTACHED AT THE FOLLOWING LOCATIONS: STA 1560 BETWEEN S-27R & S-28R, BETWEEN S-28R AND S-29R; STA 1600 BETWEEN S-24R AND S-25R, BETWEEN S-25R AND S-26R, S-28R BETWEEN S-28R AND S-29R. INTACT SHEAR TIES REMAIN AT STA 1580 BETWEEN STG 28R AND 29R, AND AT STA 1600 BETWEEN S-27R AND S-28R. THE LATTER ONE ALSO RETAINS A SEGMENT OF FRAME WEB.
- 3) REMNANTS OF A STABILIZATION INTERCOSTAL REMAIN ATTACHED TO STG 30R SIDEWALL.
- 4) THERE IS NO APPARENT SOOTING OF THE PANEL.
- 5) FRACTURE SURFACES APPEAR TO BE DUCTILE FAILURE.
- 6) DEFORMATIONS OF THIS PANEL IS CHARACTERISTIC OF MANY OTHER PANELS ALL AROUND IT. BESIDES TEARS AND BENDS, IS RIPPLED AND CREASED, FOLDING BACK UPON ITSELF A NUMBER OF TIMES. SEE THE SKETCH OF SEGMENT B FOR AN EXAMPLE.

Tom TDDuno  
FAA 10-18-96

- [ ] STRINGER 26R REMAINS ATTACHED BETWEEN STA 1580 AND 1604, STRINGER 28R REMAINS ATTACHED BETWEEN STA 1578 AND 1600, STRINGER 29R REMAINS ATTACHED BETWEEN STA 1562 AND 1600, STG 30R REMAINS ATTACHED BETWEEN STA 1560 AND 1600. A 29 INCH LENGTH OF STG 31R (?) IS CAPTURED.

SEGMENT D

SKIN:

- 1) THIS SEGMENT OF PANEL IS CHARACTERISTIC OF OTHERS IN THIS REGION. IT IS TORN, CREASED AND BENT IN NUMEROUS DIRECTIONS.
- 2) THE SKIN HAS MILLED POCKETS WITH THICKER SURROUNDING LANDS. POCKET GAGES RANGE FROM .10 TO .14 INCH THICK. THE THICKER LANDS ARE ABOUT .25 INCH THICK.

STRINGERS:

- 1) STRINGERS ARE BADLY BENT, TORN AND FLATTENED.
- 2) A REMNANT OF STG 28R REMAINS ATTACHED BETWEEN STA 1683 AND STA 1687.
- 3) STR 29R IS BROKEN INTO TWO PIECES REMAINING ATTACHED FROM STA 1675 TO 1697 AND FROM 1697 TO 1720
- 4) STR 30R (LWR. AUX. SILL OUTER CHD) REMAINS ATTACHED FROM STA 1672 TO 1716.

OTHER ITEMS:

- 1) A PORTION OF THE DOOR 4 LOWER AUXILIARY SILL REMAINS ATTACHED INCLUDING OUTER CHORD, WEB AND INNER CHORD, HOWEVER THEY ARE ALL SEVERELY DAMAGED.
- 2) FRAME TO SKIN SHEAR TIE REMNANTS REMAIN ATTACHED AT STA 1680, STG 27R TO 28R; STG 29R TO 30R. ALSO AT STA 1700, STG 28R TO 29R, 29R TO 30R, AND 30R TO 31R
- 3) THERE IS NO APPARENT SOOTING OF THE PANEL.
- 4) FRACTURE SURFACES APPEAR TO BE DUCTILE FAILURE.
- 5) SEE SKETCH OF SEGMENT B FOR VISUAL DESCRIPTION OF CHARACTERISTIC PANEL DEFORMATIONS.

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9/5/96

LOG # RF53

SEGMENT E

STA 1540 TO 1580, STG 31R TO 37R

SKIN:

- 1) THE SKIN SEGMENT IS TWISTED, TORN & CREASED SIMILAR TO OTHER PANEL SEGMENTS IN ITS IMMEDIATE VICINITY (SEE SKETCH OF SEGMENT B FOR EXAMPLE)
- 2) SKIN GAGE APPEARS TO RANGE FROM 0.10 TO 0.08 INCH ACROSS THE PANEL.

STRINGERS:

- 1) STRINGER 34R REMAINS ATTACHED FROM STA 1546 TO 1580
- 2) STRINGER 35R REMAINS ATTACHED FROM STA 1564 TO 1580
- 3) ALL OTHER STRINGERS ARE MISSING.

OTHER ITEMS:

- 1) FRAME TO SKIN SHEAR TIE SEGMENTS WHICH REMAIN WITH THE PANEL ARE LOCATED AT STA 1540 BETWEEN STG 31R TO 32R, STR 32R TO 33R; STA 1580 BETWEEN ~~S-35R~~ STG 35R TO S-36R AND BETWEEN S-36R TO S-37R.
- 2) THERE IS LIGHT SOOTING OF THE OUTER SURFACE. PARTICULARLY THE REGION BELOW STG 34R POSSESSES STREAKED SOOTING. THERE IS NO APPARENT SOOTING OF THE ~~INBOARD~~ INBOARD SURFACE.
- 3) FRACTURE SURFACES APPEAR TO BE DUCTILE FAILURE.

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