LOWER SKIN PANEL - WING CENTER TANK

CW-201
C-2147
GREEN

This section extends from S-1 to S-23. It was cut from the lower right hand wing skin (RW-3) to allow placement in the center tank reconstruction. The fracture line of the skin along the inboard edge is approx at RBL 98 from S-1 to S-5. The fracture edge from S-5 to Midspar (S-9) varies from RBL 120 to RBL 70 along its length. From the midspar to S-15 there is an extension of the skin that starts at RBL 98 and goes inb'd to RBL 30. Forward of S-15, the skin fracture extends diagonally from RBL 11 at S-15 to RBL 120 at S-23. Reference plan view diagram for complete details.

The inboard edge of the skin from rear spar to S-5 is curled down and the stringers are separated from the panel at S-1 to S-4. At S-5, the stringer matches the periphery of the panel and remained attached. At S-6 the majority of the stringer is missing except directly at the paddle fitting. The stringer at S-7 and S-8 are separated from the panel. Between S-6 and S-8 there is a portion of the panel that is fractured at RBL 110 and the outb'd edge is deflected downwards whereas the inb'd edge between S-7 and S-8 is bent upwards. The stringer at S-9 extends inb'd to RBL 45 and was separated from the skin segment (CW-205,CW-225, and CW-226). The midspar stringer and the skin is fractured at RBL 98. The skin between S-11 and S-13 extending inb'd has a very jagged fracture pattern and is bent both upwards and downwards at multiple locations. At S-14 (SWB2) the skin and stringer are both fractured at RBL 107. At the S-15 skin splice, the skin flange of the stringer remained attached to the skin. The skin portion between S-15 and S-23 exhibit general upward bending with multiple smaller curvature both upwards and downwards. There is also a fracture within the panel occurring from S-17 to SWB3 and from RBL 40 to RBL 65. There is a flap of skin broken out and bent upwards at S-20 and RBL 75. Just fwd of S-21, the skin is fractured from RBL 127 to RBL 100 and the outboard edge of the skin fwd of this fracture is bent down. There is evidence of impact marks and rub marks on the skin interior surface at various locations and the light yellow primer has been scraped off the skin at these location.

The lower splice paddle fittings both inb'd and outb'd of the side-of-body remain attached to both the stringers and the lower wing splice plate except at S-1 to S-4 on the outb'd wing side and the center section paddle fittings at S-22 and S-23 which are failed at the panel.

The vertical flange of the "T" chord at the right SOB rib is broken off. Refer to metallurgical notes for direction of failure.

All of the stringers that are not skin splice or SWB stingers are bent generally in the direction of the skin but their inboard end is twisted with free flange going forward. At the skin splice stringers, the skin flange remained attached to the skin panel. Of the fasteners that are remaining in the stringers, majority of these fasteners indicate tension type failures. Majority of the fastener holes on the skin exhibit no general elongation. There are locations on this panel (at SWB1, S-17, S-22) that exhibit slight elongation of the fastener holes in fore and aft direction. There is evidence of impact damage and rub marks on the upper surface nearly all of the paddle fitting and the free flange of the stringers. There is brown sealant applied to the paddle fitting and the stringer at S-1 to S-6 both inb'd and outb'd of the side-of body-rib.

The outb'd wing (Section 12) skin that is attached to this part was saw cut as mentioned earlier. At the end S-17, there is a skin penetration of a stiffener segment. The segment is approximately 2" X 1" and it remains embedded in the lower Section 12 wing skin. Other penetrations in the Section 12 lower skin are documented in the Section 12 wing notes.

There is evidence of upwards pillowing of the skin between the stringers for most of the entire CW-201 panel.

The exterior surface of the lower skin shows impact and rub marks at multiple location. There is evidence of fire damage and soot accumulation, but some areas show no soot accumulation. There is a distinct boundary between heavy and light soot directly at RBL 127.50. See Fire and Explosion Group notes for further documentation.

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FAA 12 06 96

TWA 12-6-96

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GREEN ALPA 12-6-96

Reimer BOEING 12/7/96

RW-3

R/H WING LOWER SURFACE

40° 39 49

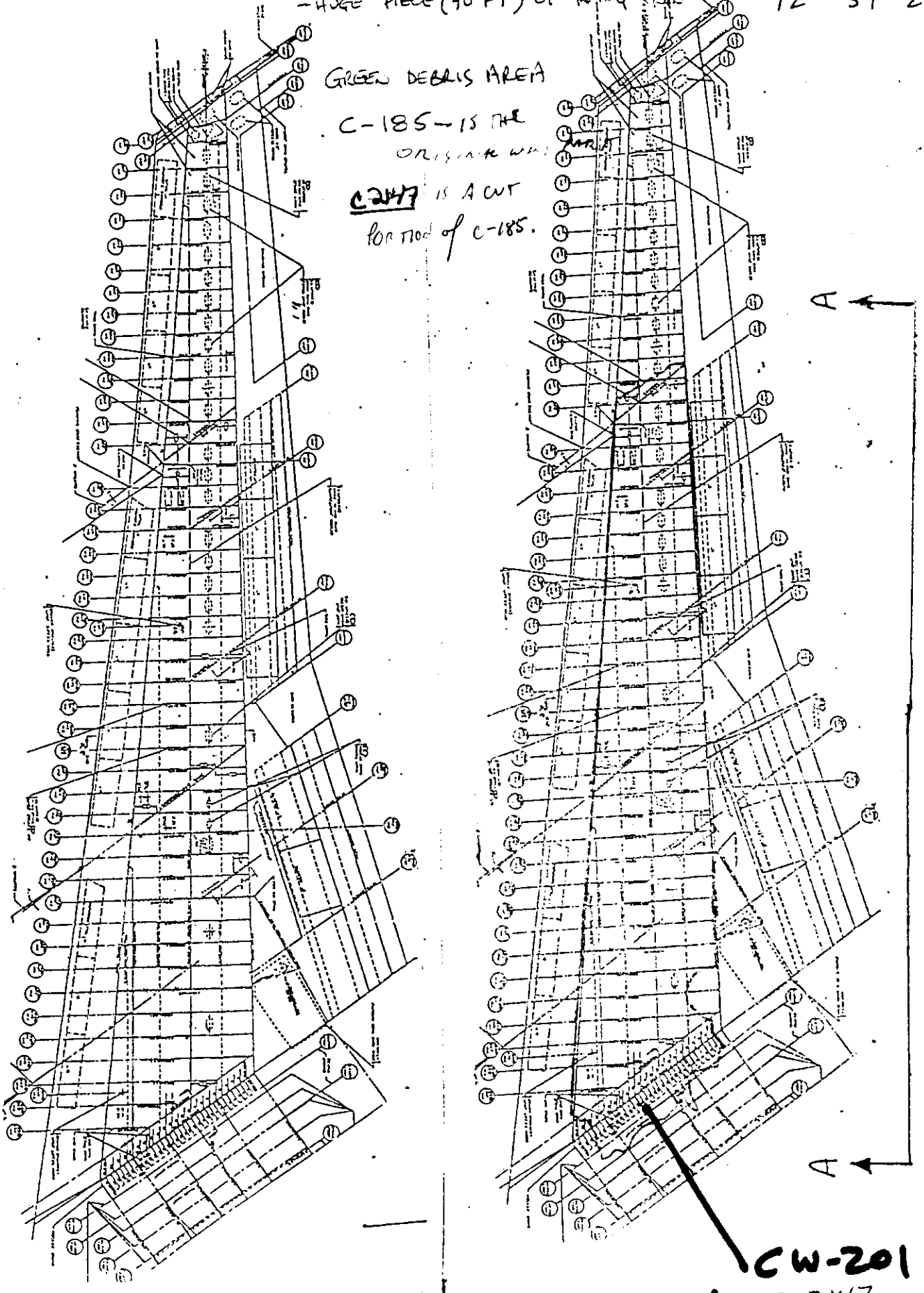
72° 37 28

-HUGE PIECE (90 FT) OF WING SKIN

GREEN DEBRIS AREA

C-185 - IS THE ORIGINAL WING

C2147 IS A CUT PORTION of C-185.



CW-201

C-2147

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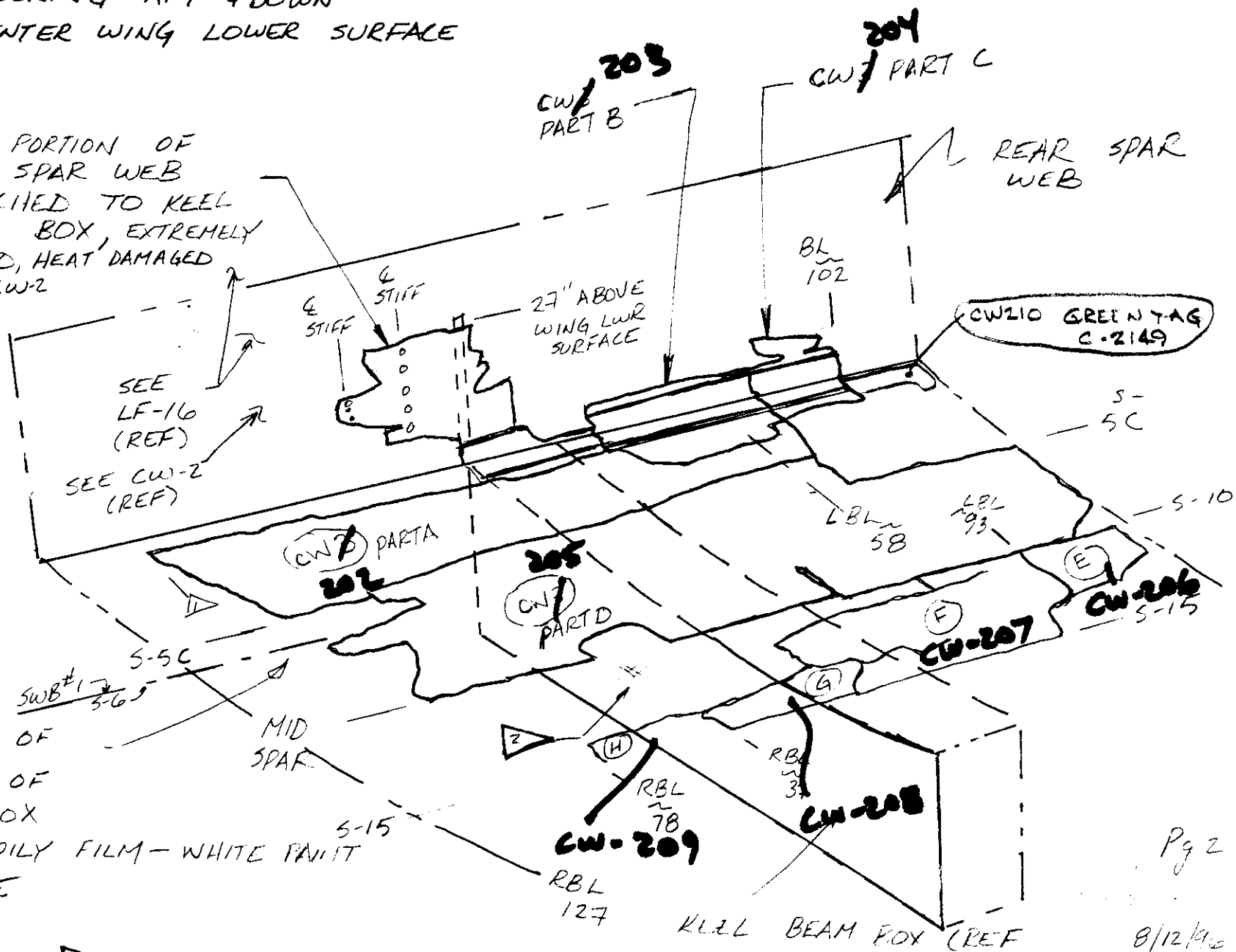
VIEW LOOKING AFT & DOWN
AT CENTER WING LOWER SURFACE



LWR SURFACE OF WING OUTB'D OF KEEL BEAM BOX HAS BLACK OILY FILM — WHITE PAINT NOT VISIBLE

Pg 2

8/12/96

2 ▷ RBL ~ 101

▷ NOTE, OUTB'D SURFACE OF KEEL BEAM BOX VERTICAL WEB EXTREMELY SOOTED UP TO 2 STIFF'S FWD OF SWB #1 SEE LF-14