

A/C 0436 Tail Strike Damage Assessment – Rev A

A/C: N75436 (Y4255, YH124),

Total Hours: 33901:52,

Total Cycles: 11659

Revision A: Added STA867 and STA 887 Frames crack in figure 4-5 and 5-5

The aircraft sustained a tail strike in DEN on 6/9/2019. After accomplishing a preliminary visual inspection. The damage starts forward of STA 827 and ends at aft of STA 907 between S26L and S26R.

The damages have been found are listed below: (See attached photo for detail)

1. Skin worn through or crack at STA 827, STA847, STA867, STA 887 and STA 907.
2. Skin dent between the frames from STA 827 to STA 907.
3. STA847, STA 867 and STA 887 Frames cracked.
4. The stringer clips on S27L and S27R on STA 847, STA 867, STA 887 are buckled/bent.
5. The shear tie between S27L and S27R on STA 847 is cracked.
6. The Tailskid Cartridge is compressed

Based on the current finding:

Engineering suspects

1. The Stringer 27L and 27R are possibly deformed.
2. The shear tie at STA827, STA867, STA887 and STA 907 between S27L and S27R are possibly deformed.
3. The STA887 Skin Splice plate is possibly damaged.

It is required to trim out skin to evaluate all suspect damage for a possible repair.

Based on the previous repair experience, the skin repair will be a doubler and tripler repair. Due the damaged area is compounded curve especially aft STA 887. The capability to contour the doubler/tripler needs be considered. Engineering estimates the tripler size will be 27" by 100", Doulber will be 29" by 45" and 29" by 60".

If the replacement parts for Stringer, shear tie and clip is not available, and it have to fabricate in house. The heat treat capability is also need be considered.



Figure 1-1 External Skin RH View



Figure 1-2 External Skin LH View



Figure 2-1 STA 827 Skin

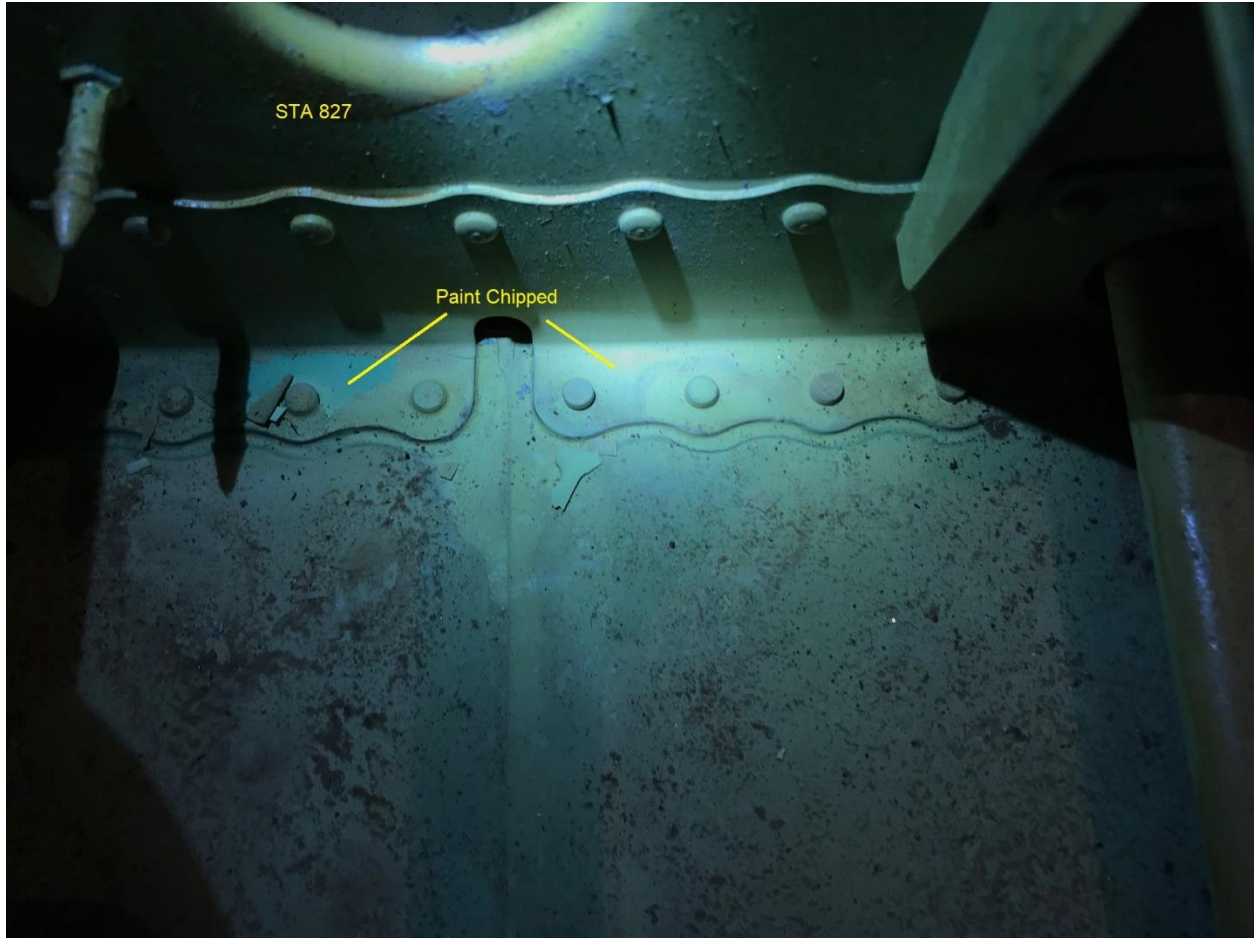


Figure 2-2 STA827 Shear tie



Figure 3-1 STA847 Skin



Figure 3-2 STA 847 Frame and Shear Tie



Figure 3-3 STA847 S27L Clip



Figure 3-4, STA 847, S27R Clip



Figure 1-1 STA867 Skin RH View



Figure 4-2 STA867 Skin LH View



Figure 4-3 STA867 S27L Clip



Figure 4-4 STA 867 S27R Clip



Figure 4-5 STA 867 Frame crack

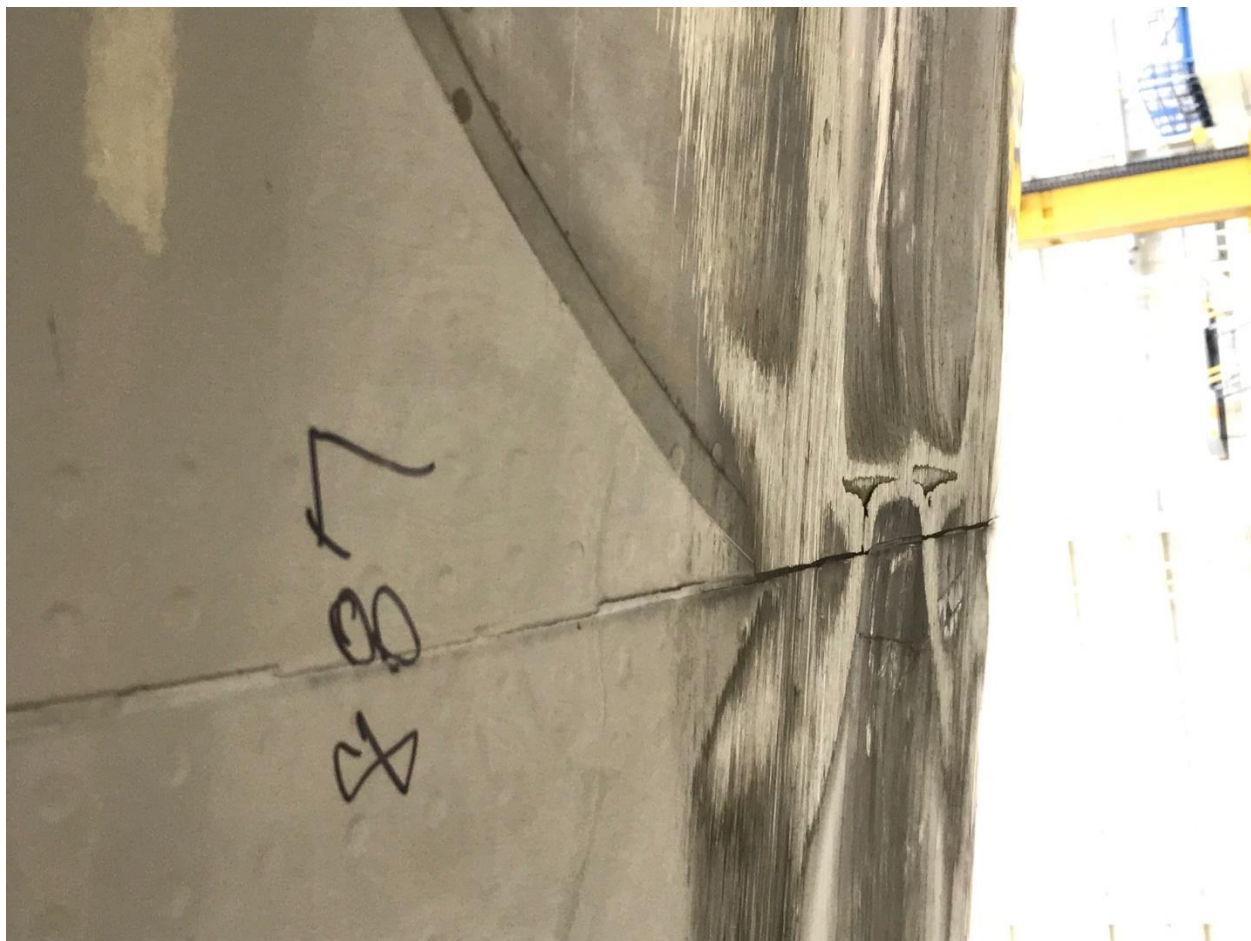


Figure 5-1 STA 887 Skin



Figure 5-2 STA887 Skin (Detail)



Figure 5-3 STA 887 S27L Clip



Figure 5-4 STA 887 S27R Clip

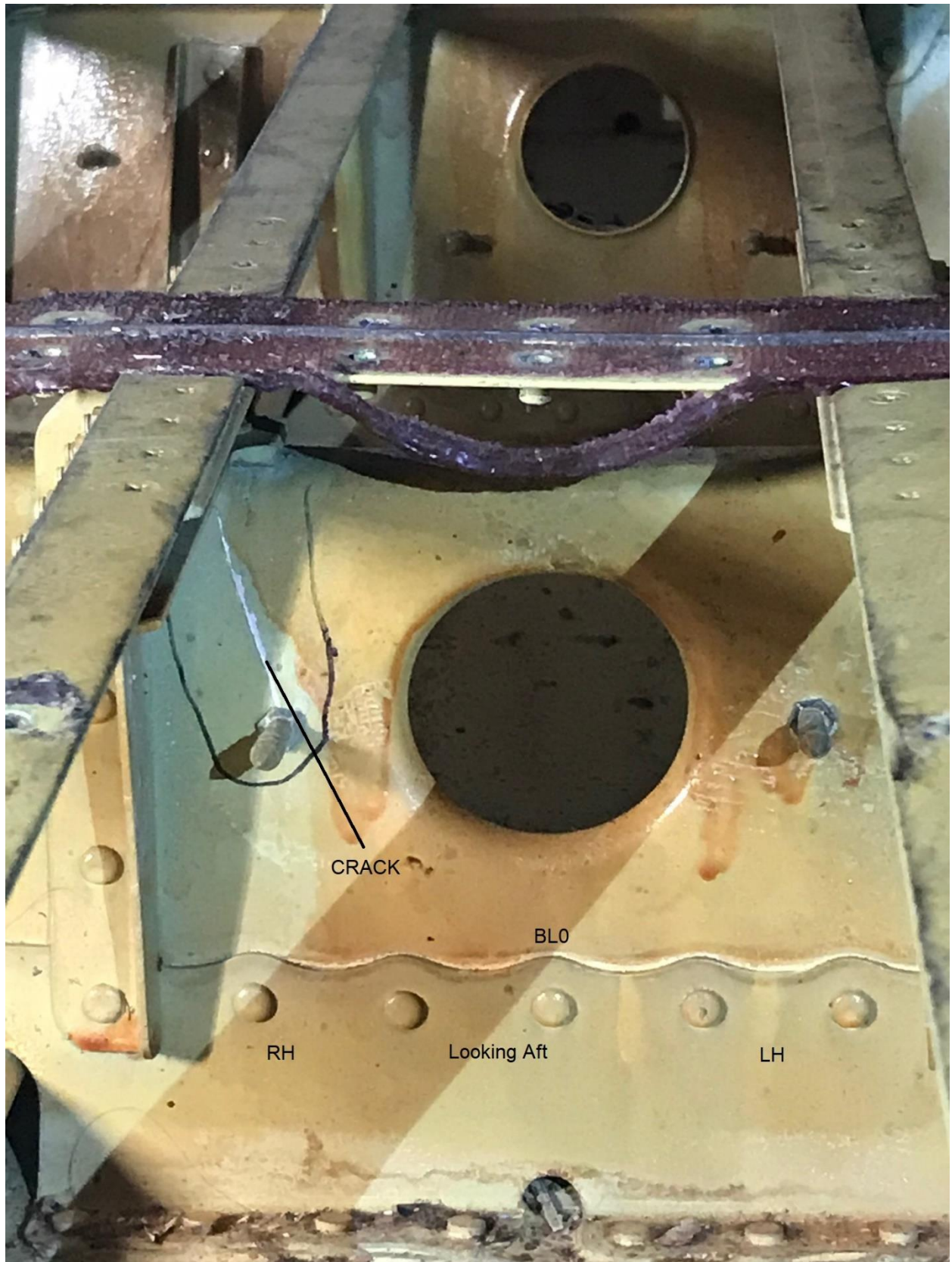


Figure 5-5 STA 887 Frame crack

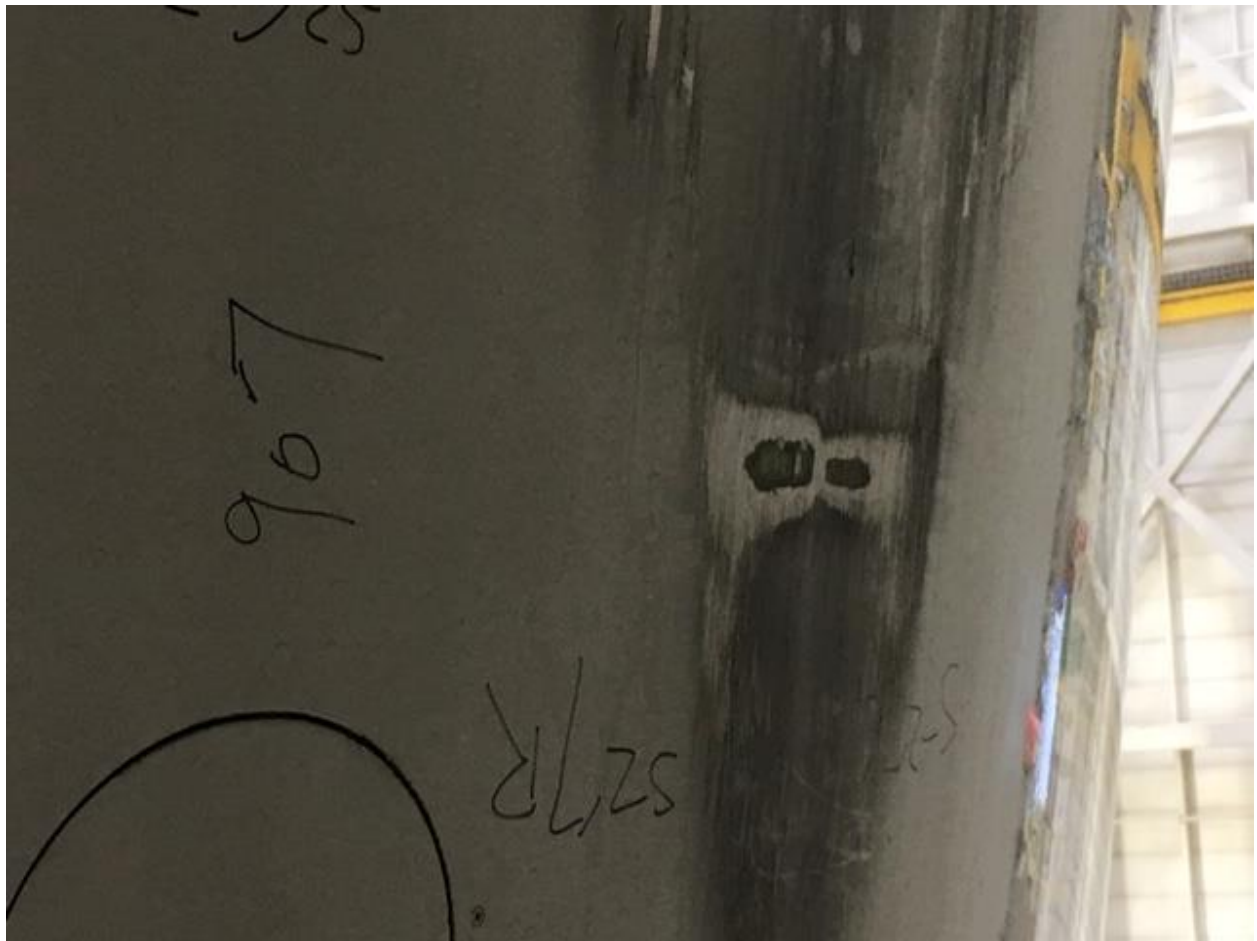


Figure 6 STA 907 Skin



Figure 7 S27 R between STA 847 and STA 867



Figure 8 Tailskid Cartridge