



# Interagency Aviation Accident Prevention Bulletin



No. IA APB 23-04

July 24, 2023

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**Subject:** Freely Alta X Landing Gear Separations During Flight

**Area of Concern:** Uncrewed Aircraft Systems (UAS) Operations

**Distribution:** All UAS Operations

**Discussion:** The Freely Alta X may experience the loss of its landing gear if it is not installed properly. So far, there have been four separate incidents where the landing gear has been lost. Two SAFECOMs ([23-0185](#) and [23-0425](#)) have been filed to document these events.

Summary of SAFECOM [23-0185](#): During a flight, the lower right part of the horizontal landing gear detached. A preflight check was conducted by two pilots prior to the flight, and they confirmed that both legs were securely tightened.

Summary of SAFECOM [23-0425](#): Upon returning to the launch area, it was observed that the UAS was missing the right-side landing gear. After safely landing the aircraft, the remaining left leg was inserted into the right landing gear sleeve. The fastener started to feel tight, giving the false impression that it was fully inserted. However, further tightening revealed that the fastener was not properly secured.

In collaboration with the UAS manufacturer, Drone Amplified, the Department of Interior and U.S. Forest Service have conducted tests to address the issue of landing gear separation during flight with the current configuration. While Drone Amplified is developing an alternative replacement, an interim fix has been devised to mitigate the risk of losing the landing gear. This interim fix requires the purchase of the following straps:

- [VELCRO Brand 23in. x 7/8in. 1-Wrap Straps \(3pk\)](#)
- [VELCRO Brand 8in. x 1/2in. Reusable Ties \(50pk\)](#)

Key Points to ensure a safe flight:

- After each flight, the remote pilot in command must check the landing gear to ensure proper assembly to the aircraft.
- This check requires lifting the aircraft and preventing the weight of the UAS from tensioning the screw.
- Verify that the screw is fully seated. This applies to the skid screw, tension nuts, and screw that attaches to the frame of the UAS.



To install properly, follow these steps:

1. Take the Velcro strap and locate the end with the upper and lower pins. (Figure 1 & 4)
2. Insert the upper pin through one end of the Velcro strap, ensuring it goes all the way through. (Figure 1 & 4)
3. Insert the lower pin through the same end of the Velcro strap, making sure it aligns with the upper pin. (Figure 2)



Figure 1



Figure 2

4. Pull both pins through until they are securely held by the Velcro strap. (Figure 1 & 4)
5. Repeat steps 2-4 for the other end of the Velcro strap.
6. Now that both ends of the Velcro strap have the upper and lower pins inserted, position the strap around the brackets you want to secure. (Figure 2 & 3)



Figure 3

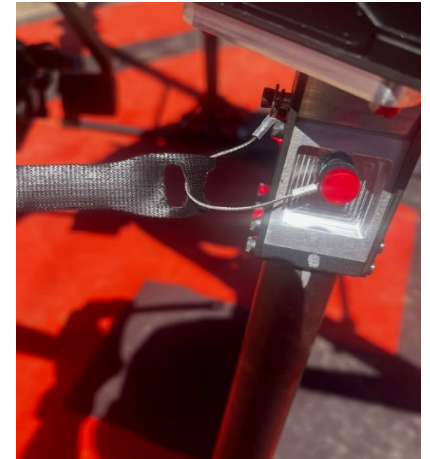


Figure 4

7. Wrap the Velcro strap tightly around the brackets, making sure the pins are on the outside and the Velcro is facing inward. (Figure 2 & 3)
8. Continue wrapping the Velcro strap completely around the brackets, ensuring it overlaps and forms a secure connection. (Figure 2 & 3)
9. Pull the Velcro strap tight to ensure a snug fit around the brackets.
10. Finally, press the Velcro together firmly to prevent the screws from separating and to secure the brackets in place.

For additional information contact the USFS UAS Division at 970-628-6631 or the OAS UAS Division at 208-433-5000

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