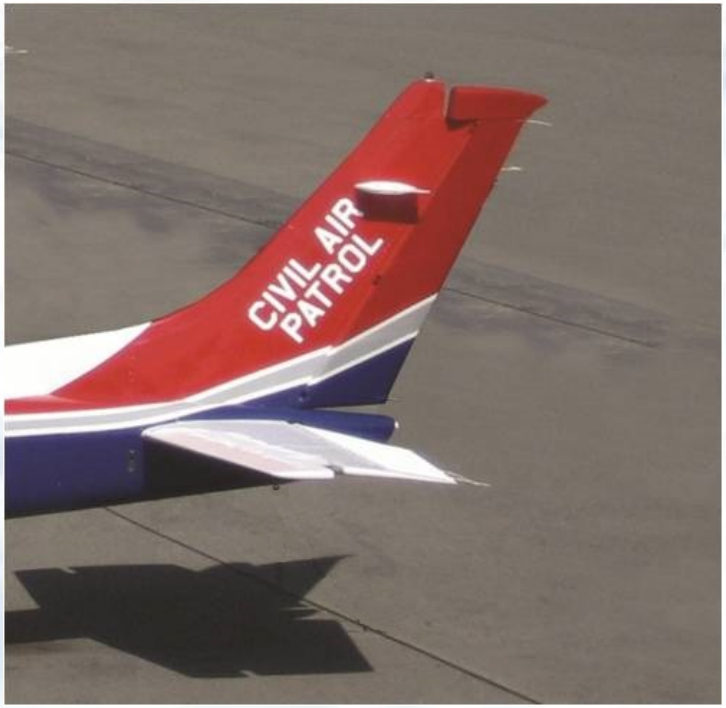
Civil Air Patrol

Tail Damage Prevention



CITIZENS SERVING COMMUNITIES

Tail Damage Prevention

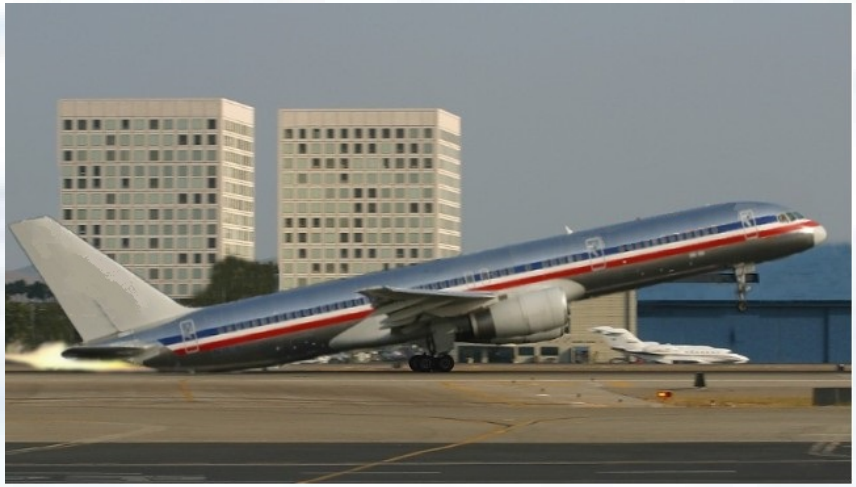
Overview

- Tail Strike Definition
- Preflight Inspection
- Surface Conditions
- Soft Taxi Ways & Runways
- Over-rotation During Takeoff
- Over-rotation During Landing
- Post Flight Inspection

Tail Damage Prevention

Definition

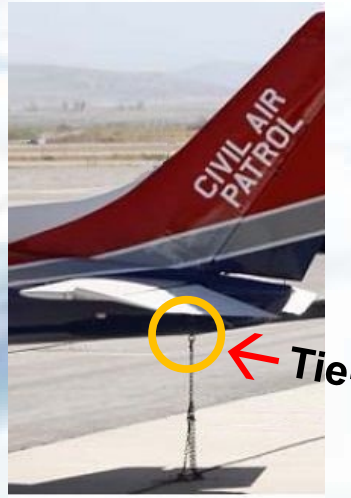
- A "**tail strike**" is when the tail of an aircraft hits the runway during high speed actions like take off or landing.
- May cause injury and is always expensive!
- Tail Strike Video

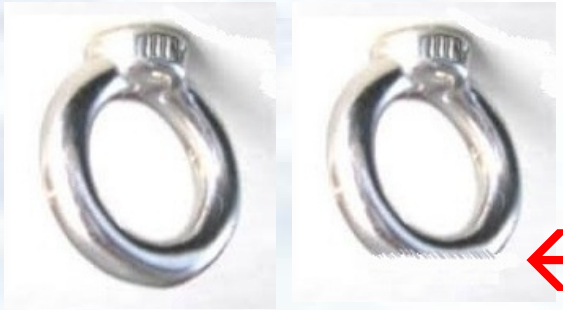


Tail Damage Prevention

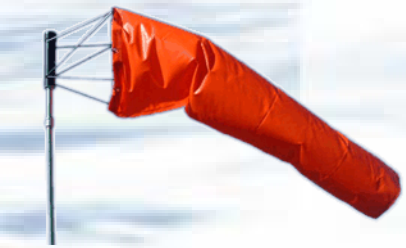
Preflight Inspection

- Inspect the underside of the aircraft.
  - Overall condition – paint, dents, etc.
  - Inspect tail tie-down ring – scrapes / grass
- Notify CAP personnel if undocumented damage is found; prior to flight.





Tail Damage Prevention



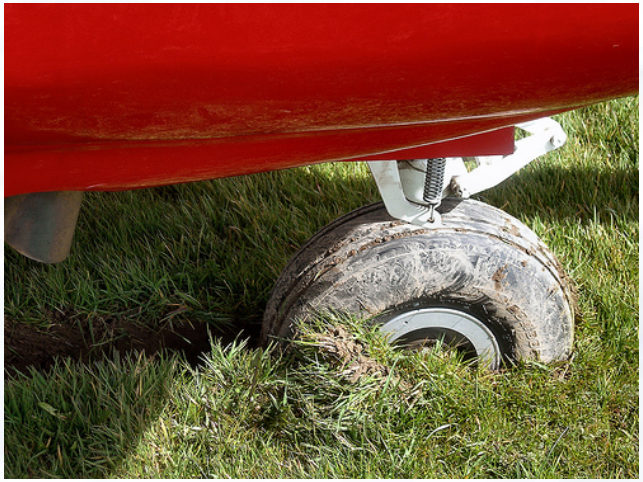
Surface Wind Conditions

- Departing the prepared surface – Avoid it!
  - X-winds contribute to prop & tail strikes.
  - May cause directional control issues.
  - Excessive or unexpected x-winds may drive aircraft off the prepared surface leading to possible prop & tail damage.
  - Be aware and prepared!

Tail Damage Prevention

Soft Taxiways & Soft Runways

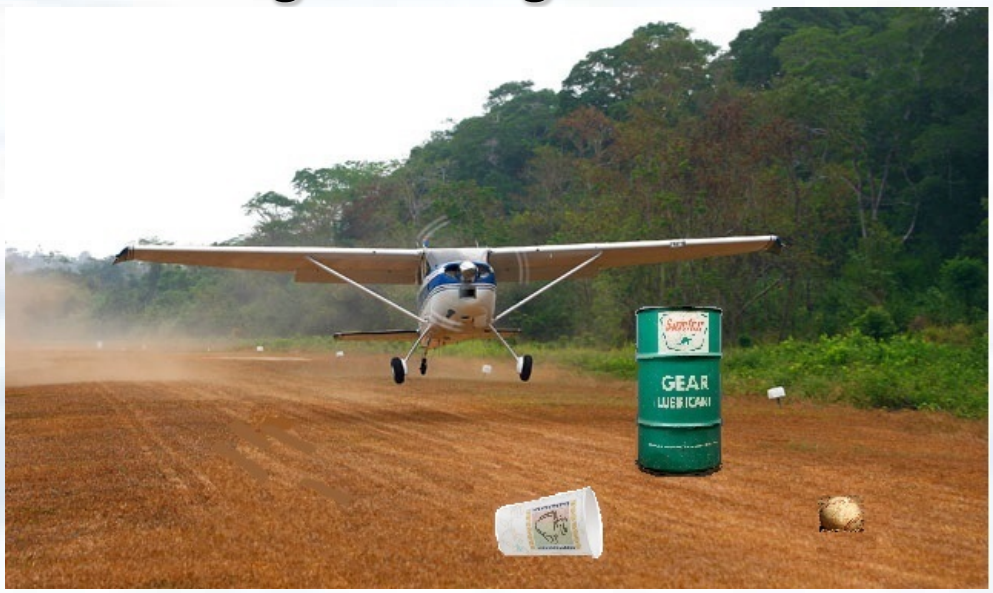
- Operate on dry soft surfaces when possible.
  - Potential for wheels to sink down during landing & taxi when the surface is wet, resulting in bounces causing propeller and/or tail strikes.



Tail Damage Prevention

Soft Taxiways & Soft Runways (Continued)

- FOD hazards – rocks, sticks, trash, etc.
- Loose FOD can fly up from prop wash or landing gear causing damage to tail section.



Tail Damage Prevention

Over-rotation During Takeoff

- Rotate to the recommended pitch angle.
- Maintain an established takeoff attitude.
- Avoid sudden flight control deviations.

Tail Damage Prevention

Over-rotation During Landing

- Over-rotation is a major cause of tail strikes.
- Maintain a safe sink rate during approach.
- Set established landing attitude and avoid excessive pitch angle in landing flare.
- Don’t try to salvage a bad landing.
- Go around when unsafe conditions occur (unpredictable x-winds, high sink rate, bounce, ballooning, bad feeling, etc.)

Tail Damage Prevention

Post-flight Inspection

- Inspect the Underside of Aircraft.
  - Overall condition – paint, dents, etc.
  - Inspect tail tie-down ring.
    - scrapes, bent, grass, etc.

- Notify CAP personnel and document if any damage is found during the post-flight inspection.

Tail Damage Prevention

Summary

- Tail Strike Definition
- Preflight Inspection
- Surface Conditions
- Soft Taxi Ways & Runways
- Over-rotation During Takeoff
- Over-rotation During Landing
- Post Flight Inspection

Tail Damage Prevention

Questions

Please be sure to utilize the local expertise in your chain of command to help with aviation related questions; your Unit, Wing, and Region Stan/Eval Officers (DOV) are a wealth of knowledge and are ready to assist.

Tail Damage Prevention

Acknowledgments

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Ms. Sylvia Wrigley – World Renowned Pilot & Aviation Author
University of North Dakota – Tail Strike Avoidance Video
Video Reference Web Link: http://aviation.wonderhowto.com/how-to/avoid-dangerous-runway-tailstrikes-cessna-172-skyhawk-aircraft-329375/

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