Oxford Flying Club
Aviation Hazard or Incident Report (HIR)

To: OFC Safety Officer	From:	Date:
Note: Refer to Club website	[redacted] Note: Name is optional but helpful.	March 24, 2020

Description of incident or observed hazard: (Provide date, time, and location, as applicable. Include a detailed and accurate description while being as concise as possible.)

Refer to the attachment

Recommendations to eliminate, correct, or minimize the hazard:

Refer to the attachment

Safety Officer, or his/her designee, Investigation summary:

Safety Officer, or his/her designee, Name: Alan Amato
Date: 4/26/2020 v

Tracking # (assigned by Safety Officer): HIR-2020-005
Probability (assigned by Safety Officer): 4
Severity (assigned by Safety Officer): 2
Resulting Risk Code (assigned by Safety Officer): 2 **Acceptable Risk,** no further action needed

Note: Risk Assessment Code of 5 requires immediate notification of the Club President.

Corrective action taken (Completed by Safety Officer, or his/her designee):

Corrective action completion date _____by _____
INSTRUCTIONS: Fill out using additional sheets as necessary. Fold and forward completed form to the Oxford Flying Club Safety Officer.

Thank you for your interest in your Safety Program.

98819 Elevator pushback event.

On 03/24/2020 at about 16:30 EDT I was pushing N98819 into hangar NT9 when I heard a noise. The right elevator had struck a steel cabinet which was stacked in against the wall inside the hangar tail area. The elevator trailing edge had about 3/8" dent in upper and lower skin with a quarter inch tear in the upper surface. I was surprised at first because the airplane was evenly inside the two wheel guidance lines and the nose was on the center line and hadn't left it during push. However, I could see from the side that the airplane was now at about a 20-degree angle which brought the tail into the area where the cabinets were.

Initially I had not used this hangar before. When I arrived, I simply pulled the airplane out with the towbar.

When I returned from flying it away, I initially planned to use the tug. However, the tow clamp set up appeared too large for the 172. So I decided I would just push it by hand. I examined the hangar before pushing and noted the vertical steel beam that the tail must pass on its' left side as a hazard. I then placed the main chocks slightly forward of where the mains would sit. I noted that the white mainwheel lines were set up for wider gear (Seneca?). I pushed the plane until it was stopped with main gear outside the hangar but lined up in center with top of the tail lined up with black. I checked each wing tip for clearance and pushed the plane back. It hung up on the lip of the hangar floor and I had to push on the top of the cowl while bending down to reach the tow bar. The plane jumped the lip first with one wheel then the other. Around the time the nosewheel crossed the lip I stood up but could not see the top of tail of the airplane over the top of the cabin because the plane was now level with the hangar floor and I was outside, slightly downhill. This is when I heard the noise.

I believe the airplane yawed while crossing the lip of the hangar and then tracked into the cabinet. In my head, the plane seemed fine and the nose remained on the line and the wheels well inside the paint marks. But stepping out to the side I could see it was at an angle. I went back to the front and when standing straight

on the hangar floor where I could see the tail,I could see the black mark was substantially displaced.

I then called Wayne and sent him pictures of the damage. I entered the damage in the irregularity section of the airplane schedule. I had to pull the plane out of the hangar again to straighten it so this time I found someone to help me push it back in.

Recommendations:

For me I should have stopped as soon as the mainwheels jumped unevenly and rechecked the alignment. I was very surprised to realize how much the tail moved horizontally with a small change in yaw during pushback.

Also while rethinking this event for the 100th + time on the drive home I remembered hearing some discussion at a meeting that the tug could be hooked up to another point than the towbar mount, which is the nosewheel axle? Which, if true, of course, comes to me too late. With the tug you can maintain a somewhat more vertical posture with better visibility and a lot less distraction.

A general problem with putting our planes in the hangars is the chance of rash. The 182 it lives in NT20 so the operation in set up with the right tug and the correct markings. I got a nice checkout on this from my instructor during 182 club check. NT9 hangar is borrowed so it is not really set up for the 172. The floor markings don't match, the cabinets are in a place that is difficult to see and also reduces horizontal clearance. The 172 tail is lower than the 182 and the eye level necessary to line it up with the wall marking is higher than the 182. It may often disappear from view during pushback, especially for shorter people.