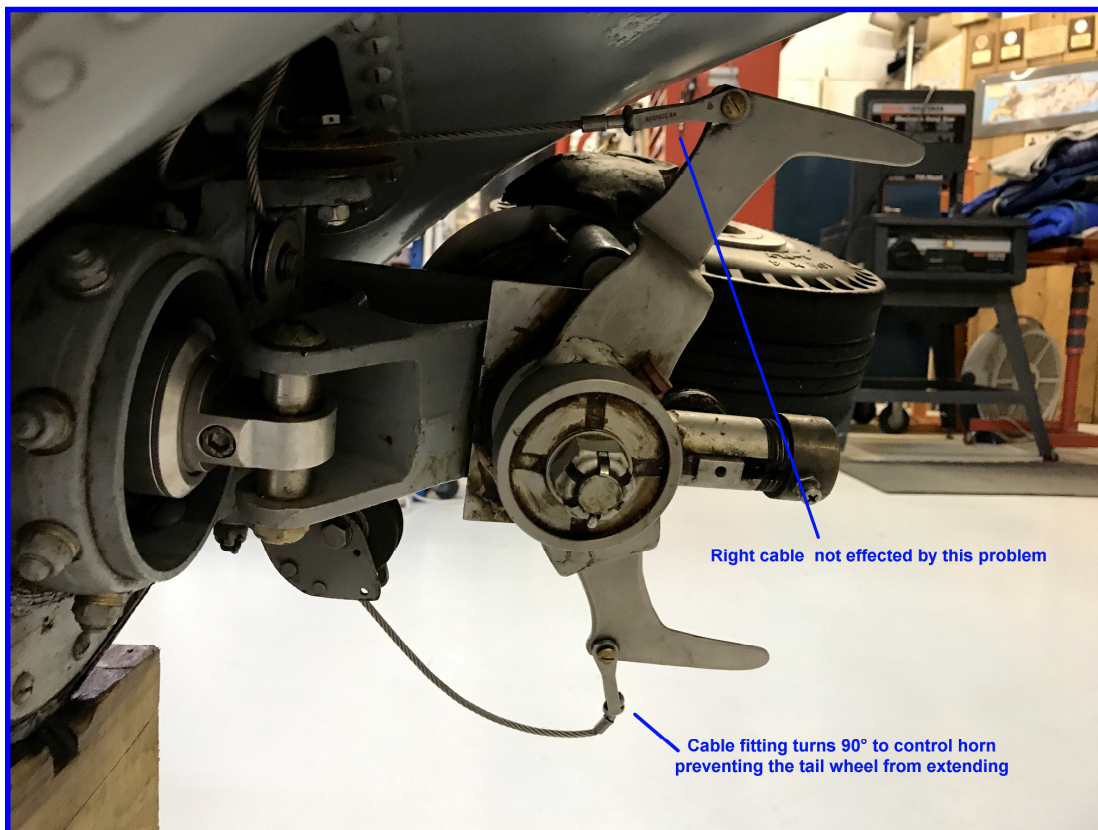


Tail Wheel Cable Guard

Note: This "fix" is only for Seabees with steerable tail wheels. The steering cables may need a small guard to prevent the following:

Background: It has happened on more than one occasion and by more than one Seabee Club member with tail wheel steering cables that jam up on landing gear extension. You are sitting on the water fat, dumb and happy when, upon gear extension for a ramping maneuver, you don't get a green light! You look out the side and see that the main gear is down so the tail wheel must be the culprit. You recycle the gear a few times and lo and behold the green light magically appears. Whew!

This scenario has happened quite a few times and is caused by the port side (left side) cable jamming up either around the control horn or the cable end fitting finding itself at 90-degrees or more to the control horn preventing the tail wheel from extending. It only seems to happen on the water, as I have not heard of it happening in flight. I think that any forward movement in the water causes the fitting to move rearward causing the problem. See photo below:



Tail wheel in retracted position. Left cable loosens enough to cause jamming.



Description: A small guard can be installed over the left tail wheel clevis where the cable joins the tail wheel control horn. It weighs nothing and there is absolutely no strain on the cables in any steering direction. The left cable seems to be the only cable requiring this fix. The right cable cannot get into a position where the cable can jam up. It may be worth doing both sides just in case. The Control horn clevis bolt length must be increased a size or two to accommodate the extra width of the guard-clevis-control horn assembly (Mine are AN23-13's).

Fabrication: The guard is simple to make and I did mine in about 30 minutes. The guard is made from .040" aluminum sheet but you can use almost anything as there is absolutely no strain on the guard and its only job is to keep the cable fitting from going past the 90-degree point. (McMaster-Carr has an aluminum channel – 1/16" wall x 3/8" ID x 5/8" Deep – P/N 9001K23, that would fit most applications and would save time). Make a cardboard pattern and check for the correct fit over the left cable clevis. When you are satisfied with the pattern, trace it out on your aluminum sheet and mark the seam lines. Cut out the guard and using a small bending brake, bend the guard at the seams at 90-degrees. The holes for the clevis bolt can be drilled through the guard and Voila! You are done! All that is left is to reinstall the guard over the clevis joint and install the longer clevis bolt with the correct cotter pin or safety device.

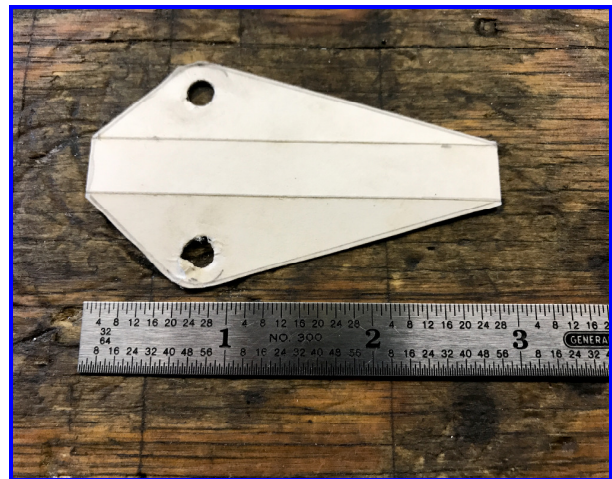
Testing: You can test for no restriction or binding by jacking up the tail and retracting the tail wheel MANUALLY! (Use only the hand pump to retract the tail wheel). The tail wheel can be moved left and right by hand to see if there is any binding. Lower the tail wheel and again move it left and right to check for binding. I almost guarantee there will be no strain on the system anywhere and your left steering cable will never jam up again.

This worked for me so please let me know your thoughts!

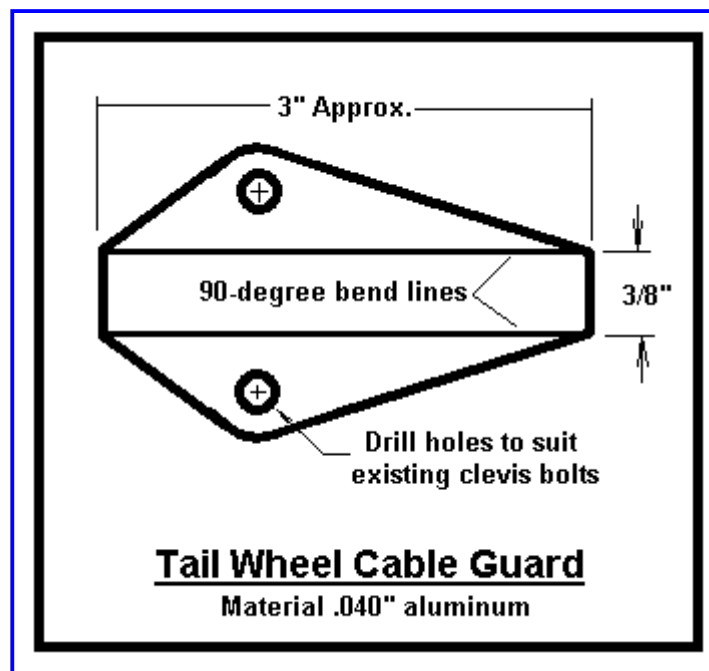
Photos and pattern:



Tail Wheel guard installed



Cardboard pattern



Tail Wheel Guard Pattern