



Subject: Revision to GLH3000-14 Bungee Design (Double Bungee)

Background: Airglas had heard from some of our customers about situations in which snow load on the tips of the skis, were causing tips to sink under the snow. These situations typically occurred when moving at slow speeds or in a turn in wet heavy snow. We made a decision to modify our bungee cable, by adding an additional bungee for the PA18 style aircraft. This double bungee design provided additional resistance to the tip of the ski in these situations. The single bungee design has ski tips naturally shed the large snow load once the aircraft was moving forward faster.

Analysis:

Airglas new GLH3000-14 bungee design is used in all newly produced skis. This new design does not make the old design obsolete, it just improves the ability of the ski to have large snow loads without the tips dipping under the snow. The single bungee design is still more than adequate for the application. Unfortunately, the double bungee design cannot be added to the older single bungee rigging, due to requirement to replace the ice cutter cable in order for it to attach ski.

NOTE: The new double bungee design does provide improve large snow load ability, however it also has a disadvantage of putting additional force on the tail wheel of the ski. This force on the tail wheel could increase drag during takeoff.

It should also be noted that this double bungee design is only used on Piper style aircraft. In the Piper designs, the bungee is attached to the landing gear bolts. This creates a angular pull on the bungees, making them less effective than bungees attached to Cessna. In the Cessna ski rigging designs, the bungee is essentially vertical (Attached to forward fuselage rigging attach brackets) and improves the bungee efficiency.