

Status: REQUIRED

Models and Serial Numbers: ALL Sonex, Waix, and Xenos Aircraft

Date of Issue: 06.28.11

Reference Number: ACV-SB-006

Description:

Sonex Aircraft has received 4 reports of the stainless steel bolts that secure the gear legs in standard gear motormounts breaking inside the titanium gear leg. All affected aircraft have logged more than 20 hours and/or more than 25 landings on turf runways. To date there have been no reports of bolt breakage on aircraft operated on paved runways. Three of the four reports have been on aircraft operating on rough runways.

Additionally, over-tightening of the nuts may have contributed to these failures.

Mandatory Inspection:

Prior to each flight inspect all stainless steel bolts securing the gear legs in the motormount (standard gear) or gear mount brackets (tri-gear), as well as the stainless steel bolts that secure the axles to the landing gear legs. Minimum inspection requirement is to try to turn each bolt with a wrench, observing the nut for similar movement. The bolts must be replaced with “steel” AN hardware prior to flight if there is any indication of a failed bolt. If both the bolt and the nut turn together DO NOT TIGHTEN the nut. This is acceptable until the hardware can be replaced.

Mandatory Corrective Action:

As soon as possible, replace all stainless steel bolts with drilled “steel” AN bolts of equivalent size, and replace the AN365 elastic stop nuts with AN310-4 castle nuts and MS24665-208 cotter.

Main Gear Installation:

AN4C-30A Bolt is replaced by AN4-30 Bolt (drilled)

AN4C-17 Bolt is replaced by AN4-17 Bolt (drilled)

AN365-428 Nut is replaced by AN310-4 Castle Nut and MS24665-208 Cotter Pin

Tail Wheel Installation:

AN4C-12A Bolt is replaced by AN4-12 Bolt (drilled)

AN365-428 Nut is replaced by AN310-4 Castle Nut and MS24665-208 Cotter Pin

Install the castle nut by tightening it until it is snug and then loosen the castle nut ¼ to ½ turn before installing the cotter pin. Do not over-tighten the castle nuts on installation.

Proper bolt sizes can be found in the “L” section of the aircraft blueprints.

Example: Sonex drawing SNX-L01, Detail A, AN4C-17 bolts and AN365-428 nuts to be replaced by AN4-17 bolts, AN310-4 Castle nuts, and MS MS24665-208 cotter pin.

Ongoing Inspection:

After the hardware has been replaced with drilled “steel” AN hardware and castle nuts, the inspection shall be conducted at each Condition Inspection of the aircraft.