

Zane Brown
Aviation Accident Investigator
AS-WPR

Date: 02/04/2026

Subject: WPR28LA028 / Tailwheel Assembly Examination

The pilot removed the tailwheel assembly from the accident airplane and shipped it to the National Transportation Safety Board for examination. The assembly was identified as an Alaskan Bushwheels (ABI) 3224-series tailwheel, a direct replacement part for the Scott 3200A tailwheel assembly originally supplied on the accident airplane model.

The origin and installation date for the installed tailwheel assembly could not be determined. A review of the airplane's maintenance logbooks and FAA airworthiness records contained no FAA approval records (FAA Form 337 and/or STC) covering the installation or replacement of an ABI tailwheel assembly. The ABI tailwheel was first manufactured and available via STC installation in 2002, followed by FAA PMA certification in 2007. The most recent aircraft logbook entry referring to tailwheel inspection or service was in April 1999.

The tailwheel assembly was received packaged in a shipping box. The box was intact and sealed when opened by the investigator. When the investigator removed the tailwheel assembly from the box, it was noted that the cotter pin was missing from the kingpin nut. Investigators had been previously advised by the pilot that he had disassembled the tailwheel assembly following the accident, then reassembled it.

The tailwheel assembly was disassembled, cleaned, and examined. The assembly contained excess grease, which was dirty and contained visible grit. The fiber thrust washer, thrust plate assembly, compression springs, and the upper and lower thrust washers were examined and found to be unremarkable. The dowel pin was also examined and was unremarkable. The center bushing, center bearing race, and cone bearing were examined and were unremarkable.

The following assembly components were observed to be worn or damaged:

A gouge was noted in the outer bore of the tailwheel head. The gouge appeared consistent with contact from the lock pawl.

The lock pawl exhibited rounded edges and displayed an appearance consistent with mechanical abrasion/cleaning, likely from the use of a mechanical wire wheel.

Slight outward material displacement was observed along each edge of the pawl slot on the outer race.

The inner race of the steering arm assembly displayed deep scratching and gouging at the lock notches.

The outer race of the tailwheel fork assembly contained gouge marks near the turn lock spring. The edges of the turn lock spring, where it engages with the steering arm notches, were rounded.

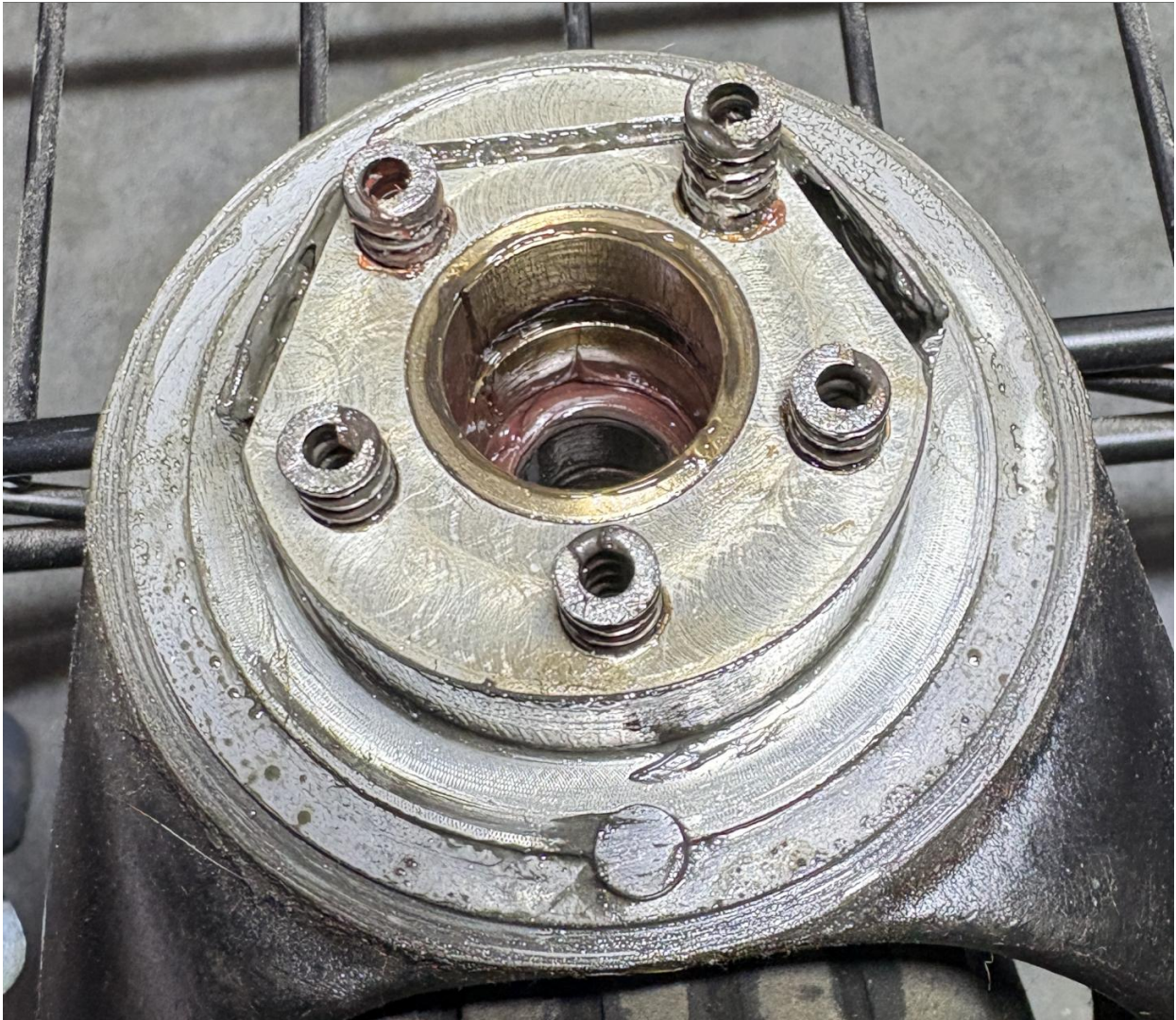
Following the examination, investigators loosely reassembled the tailwheel assembly, which was returned to the owner.



Photograph 1 – Tailwheel assembly, external, as received



Photograph 2 – Tailwheel assembly, brand marking and part number



Photograph 3 – Tailwheel assembly, internal, showing wire wheel marks



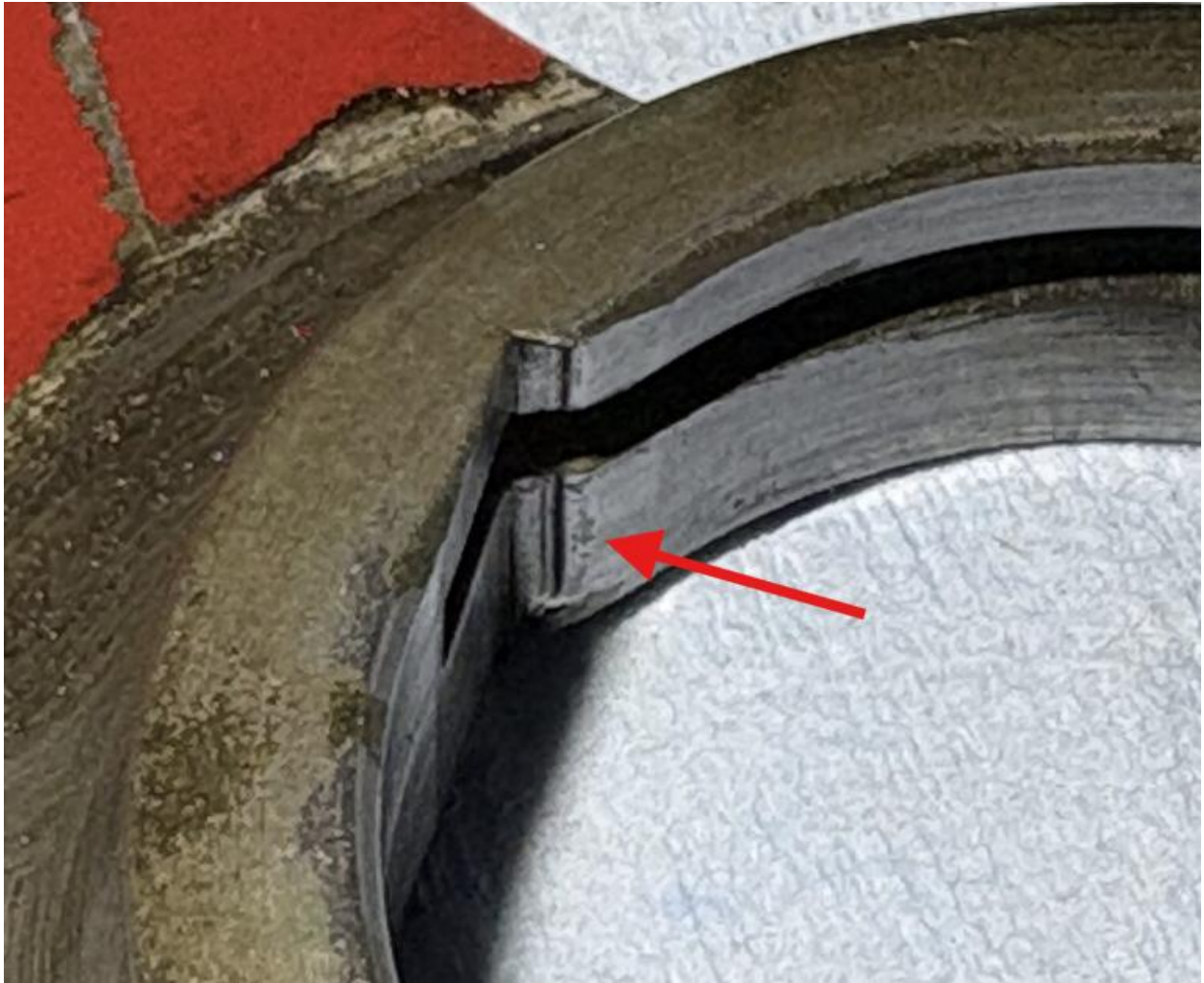
Photograph 4 – Tailwheel assembly, internal



Photograph 5 – Tailwheel head, disassembled
Arrows indicates gouges in outer bore, worn turn lock spring edges



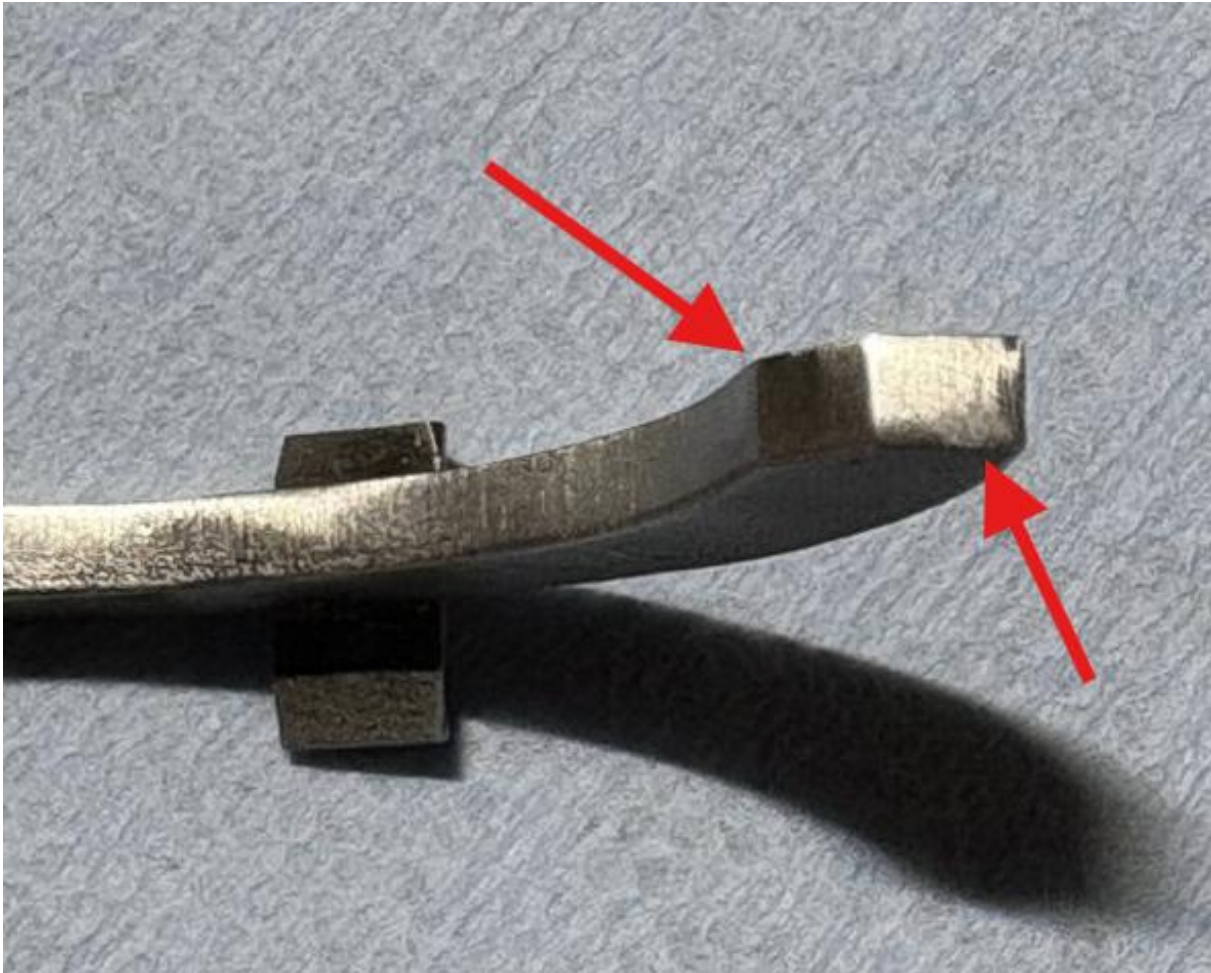
**Photograph 6 – Tailwheel steering arm assembly
Arrow indicates scratches/gouges at lock notch**



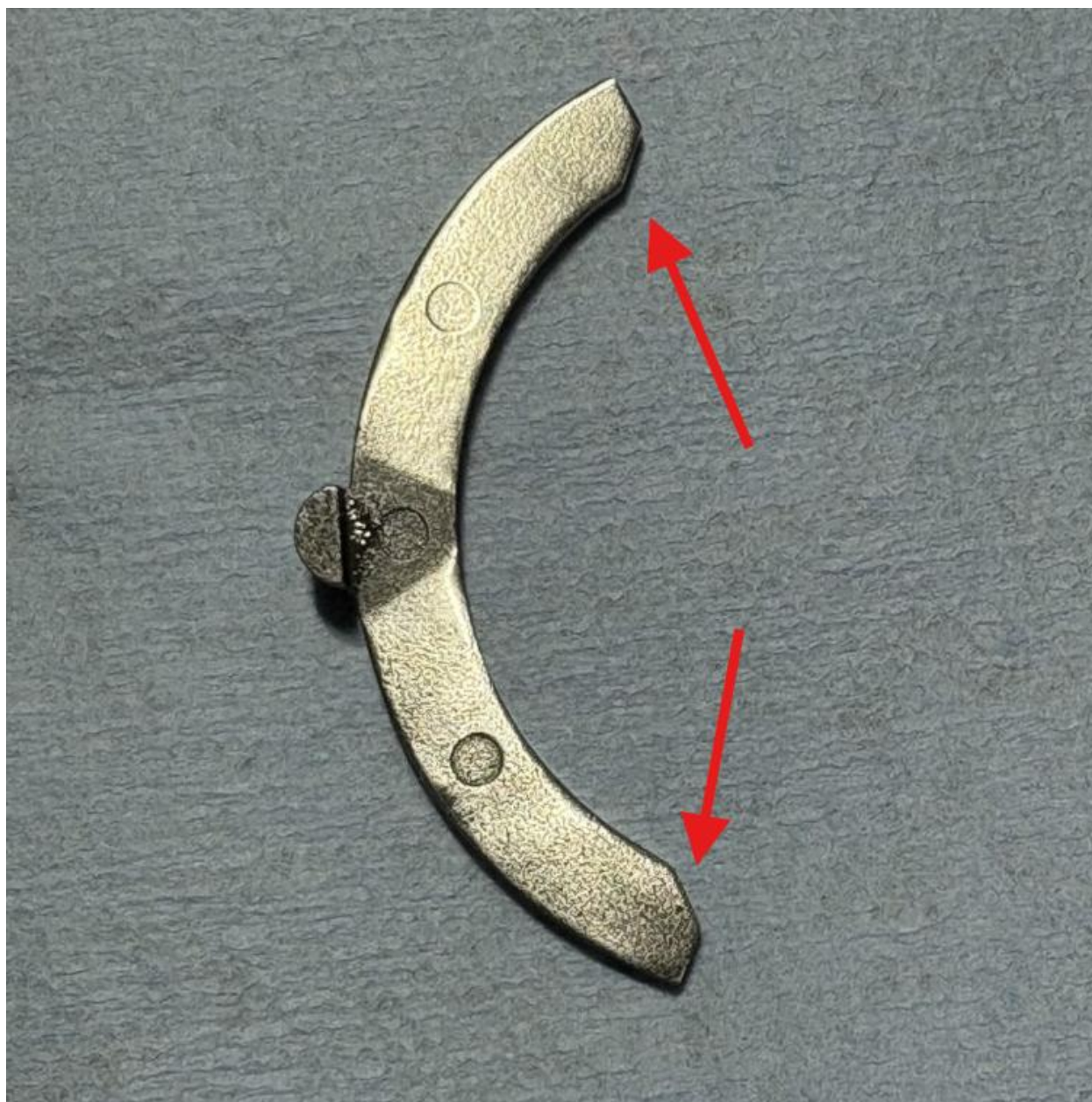
**Photograph 7 – Tailwheel steering arm assembly
Arrow indicates scratches/gouges at lock notch**



Photograph 8 – Tailwheel pawl, before grease removal



Photograph 9 – Tailwheel pawl
Arrows indicate worn/rounded areas



Photograph 10 – Tailwheel pawl
Arrows indicate worn/rounded edges



**Photograph 11 – Steering arm assembly, outer race
Arrow indicates outward material displacement along edge of pawl slot**



**Photograph 12 – Steering arm assembly, outer race
Arrow indicates outward material displacement along edge of pawl slot**