

Instructions for Continued Airworthiness

Bolt-on Tailwheel Shimmy Dampener for Scott & ABI 3200 & 3400 (not 3425) Series Tailwheel Assemblies

Keller Engineering Group, LLC.

18714 Mink Creek

Chugiak, AK 99567

FAA Project Number: ST02291AK-A

These instructions are to be included in the aircraft Maintenance Material when the Keller Engineering Group, LLC. Bolt-on Tailwheel Shimmy Dampener for Scott & ABI 3200 & 3400 (not 3425) Series Tailwheel Assemblies is installed.

The information contained in this manual supplements or supersedes the type design data only in those areas pertaining to this STC. For maintenance practices and procedures not contained in this document, consult the maintenance material, or other information, that was required by the applicable regulations under which this aircraft was type certified.

Record of Revisions

Rev Level	Date	Page	Author	Explanation of Revisions
IR	02/02/2021	-	Doug Keller	Initial Release
A	04/28/2021	1,2, & 3	Doug Keller	(not 3425) added
B	5/2/2022	5 & 6	Doug Keller	Updated drawings

Distribution of Changes

A current copy of this manual will be maintained on the Keller Engineering, LLC. website.

Introduction:

The Keller Engineering Group, LLC. Bolt-on Tailwheel Shimmy Dampener for Scott & ABI 3200 & 3400 (not 3425) Series Tailwheel Assemblies was designed to reduce and hopefully eliminate tailwheel shimmy.

Description:

The Keller Engineering Group, LLC. Bolt-on Tailwheel Shimmy Dampener for Scott & ABI 3200 & 3400 (not 3425) Series Tailwheel Assemblies will reduce or eliminate tailwheel shimmy. The tailwheel shimmy dampener is designed to compensate for improper tailwheel caster angle, reduced internal tailwheel assembly friction, and poor tail wheel maintenance. If the tailwheel assembly is not serviceable and loose, this shimmy dampener will likely not completely eliminate tailwheel shimmy.

Airworthiness Limitations:

“The Airworthiness Limitations section is FAA approved and specifies maintenance required under 14 CFR, Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.”

Limitations: None

Instructions for Continued Airworthiness:*Instruction Criteria*

100 Hour / Annual

(100 hour or Annual inspection interval, whichever comes first)

Inspect – The dampener assembly for any leaking hydraulic oil or presence of any prior hydraulic oil leaking.

If found, remove the shimmy dampener assembly from the aircraft. Remove the lid from the body and drain out all the 5606 hydraulic fluid. Remove the flapper assembly and relace both the upper O-ring and lower quad ring seals. Thoroughly clean out the shimmy dampener cavity and parts with clean compressed air. Replace the lid and screw it down with the same screws removed earlier. Use a liquid medium strength thread locker when re-installing each of the lid screws. Crack open both of the bleed screws on the shimmy dampener assembly. Place the shimmy dampener assembly vertically so that one bleed screw is located on the very bottom (lowest position) and the other bleed screw is on the very top (highest position). Fill the shimmy dampener assembly with MIL-PRF-5606H hydraulic fluid from the lower bleed screw until fluid runs out the upper bleed and no signs of air bubbles exist. Secure both bleed screws without introducing any air into the shimmy dampener assembly. Rotate the arm to ensure there is resistance in the rotation at the center position. Check for leaking hydraulic oil, if none is found re-install the shimmy dampener assembly back onto the

aircraft. If leaking still persists contact Keller Engineering Group for further assistance. Contact Keller Engineering Group if any questions arise and for replacement parts and seals.

Inspect – For adequate shimmy dampening.

If the tailwheel still shimmies, check the tailwheel assembly to ensure there are no loose parts or assemblies. If the tailwheel assembly is too worn out and not serviceable, the shimmy dampener will likely not completely eliminate tailwheel shimmy. If this is the case rebuild or replace the tailwheel assembly per the manufacture's recommendations.

If the tailwheel assembly is found to be in working serviceable condition remove the shimmy dampener assembly from the aircraft and bleed the shimmy dampener to remove any air and to ensure proper hydraulic fluid level as outlined in the previous inspection steps. If after re-installation, tailwheel shimmy still persists contact Keller Engineering Group for additional support.

Inspect - The entire assembly for any abnormalities: lose jam nuts, dents, bent parts, etc.

If lose jam nuts are found, ensure that the pushrod assembly is properly adjusted per the installation instructions and tightened down the jam nuts. Rotate the tailwheel assembly 360 degrees to ensure that it operates properly. If dents, bent parts, or any other abnormality is found, replace the affected parts. Contact Keller Engineering Group for replacement parts and for any further assistance.

-End-

ITEM	Part Number	Description	QTY
1	KEG-101	Shimmy Dampener Body	1
2	KEG-102	Shimmy Dampener Lid	1
3	KEG-103	Flapper Assembly	1
4	KEG-104	Shimmy Dampener Arm	1
5	KEG-120	Shimmy Dampener Bushing	1
6	AN960-716L	AN7 Flat Washer Thin	1
7	MS21043-6	Lock Nut	1
8	081-00100	Brake Bleeder Seat	2
9	079-00300	Brake Bleeder Screw	2
10	6-32 x 5/16"	Socket Head Cap Screw - Stainless Steel	10
11	Q4113-N70	Quad Ring, Buna-N, 70A Durometer	1
12	O-Ring -035	O-Ring, Buna-N 70A Durameter	1
13	3/32" x 1/4"	Dowel Pin, 18-8 Stainless Steel	2

NOTES:

- AFTER ASSEMBLY, FILL CAVITY WITH MIL-PRF-5606H HYDRAULIC FLUID AND ENSURE ALL AIR IS BLED OUT.
- USE REMOVABLE THREADLOCKER WHEN INSTALLING THE 10 6-32 X 5/16" SOCKET HEAD CAP SCREWS.
- USE PIPE THREAD SEALANT WHEN INSTALLING THE (2) BRAKE BLEEDER SEATS.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
IR	Initial Release	12/20/2020	DK
A	Added Dowel Pins and shortened Flapper Shaft	4/27/2022	DK

KELLER ENGINEERING GROUP, LLC.	
<small>FOR ARCHITECTS USE ONLY (AS SHOWN)</small>	DESCRIPTION: Shimmy Dampener Assembly
<small>DRAWN BY: DK</small>	<small>THIS DRAWING IS THE PROPERTY OF KELLER ENGINEERING GROUP, LLC. COPIES OF THIS DRAWING TO THIRD PARTIES WITHOUT THE EXPRESSED WRITTEN PERMISSION FROM KELLER ENGINEERING GROUP.</small>
<small>DATE: 12/20/2020</small>	<small>CHECKED BY: XX</small> UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. <small>1/31</small>
<small>CHECKED BY: XX</small>	DO NOT SCALE DRAWING
<small>DATE: XX/XX/XX</small>	PROJECT: Shimmy Dampener SCALE: 1:1
<small>PROJECT: Shimmy Dampener</small>	DRAWING NUMBER: KEG-100 SHT 1 OF 2 REV. A

