



Instructions for Continued Airworthiness
McFarlane Aviation, LLC. FAA-STC Number ST02171AK-A, Cessna Tail Cone Reinforcement
Angle Splice.
FAA PMA Number: PQ3732CE

Manual No. 004

Notice: Verify that this document is the latest approved revision before use! Current version can be found at:

www.McFarlaneAviation.com/ICA

McFarlane Aviation, LLC.
696 E. 1700 Road
Baldwin City, Kansas 66006

Copyright 2023

Approved By:


Quality Assurance Manager


Engineering Manager


Production Manager

Table of Contents

| | Page |
|---|------|
| Record of Revisions | 3 |
| Introduction | 4 |
| Description | 4 |
| Airworthiness Limitations | 4 |
| Instruction for Continued Airworthiness | 4 |

Record of Revisions

| Rev Level | Date | Page | By | Explanation of Revision |
|-----------|-----------|------------|---------------|--|
| IR | 4/26/2019 | - | Doug Keller | Initial Release |
| A | 7/24/2020 | 3 & 4 | Doug Keller | Website change |
| B | 7/8/2021 | 4 | Doug Keller | Changed inspection schedule |
| C | 8/10/2021 | 4 | Doug Keller | Added signature block to Limitations |
| D | 8/12/2021 | 4 & 5 | Doug Keller | Added clarification to ICA |
| E | 8/31/2021 | 4 | Doug Keller | Referenced AD instead of Service Letter |
| F | 4/26/2023 | 1, 3, 4, 5 | Trevor Wuerth | Replace QMI references w/ McFarlane, Part Names corrected in Description |

Distribution of Changes

A current copy of this manual will be maintained on the McFarlane Aviation, LLC. Website
www.McFarlaneAviation.com/ICA

Introduction:

The **McFarlane Aviation, LLC** Cessna Tail Cone Reinforcement Angle Splice STC is designed to replace the OEM tail cone reinforcement angle in the area where cracks have been known to propagate.

Description:

The **McFarlane Aviation, LLC** Cessna tail cone reinforcement angle splice system is composed of a **RH** Tail Cone Reinforcement Angle Splice QMI-0712048-6R and a **LH** Tail Cone Reinforcement Angle Splice QMI-0712048-7R. The splices are to replace the OEM reinforcement angle in the area of high stress that is prone to cracking. This STC can also be used on aircraft that already have cracking as a means to return the aircraft back to an airworthy state.

Instructions for installation of this kit are detailed in the "Installation Instructions" which can be found on our web site: www.mcfarlaneaviation.com/installation.

Airworthiness Limitations

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

Limitations:

Currently there are no components of the **McFarlane Aviation, LLC** Cessna tail cone reinforcement angle splice Kit that have a time limited mandatory replacement. 2018-CE-060-AD: Cessna 180, 182, 185 Tail Cone AD specifies inspection of this area of known crack propagation every 500 flight hours or 5 years, whichever comes first. After installation of this STC kit, inspection will not be required until cumulating 500 flight hours or 5 years whichever comes first. After the initial inspection, inspections will be required every 500 flight hours or 5 years whichever comes first.

| | Name | Signature | Date |
|-------------|-------------|-----------|------|
| ACO Manager | August Asay | | |

Instruction for Continued Airworthiness:

Inspection Criteria

100 Hour / Annual

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

1. **Inspect** – The STC installed (3) AN426AD-4-6 flush rivets and the (1) AN470AD-5-7 rivet on both the LH & RH sides of the aircraft for loosening which will be evident by a blacking aft of the rivet heads. If loosening is discovered, remove the affected rivet(s) and replace them, if necessary due to oblong or damaged rivet hole(s) install the next larger diameter rivet in its place. To access the rivets for replacement, follow the Installations Instructions “ST02171AK-A INSTALL”, section 3.2 “Aircraft Preparation” steps 1-6.
2. **Inspect** – The STC installed (2) AN525-832 bolts on both the LH & RH sides of the aircraft for loosening which will be evident if the bolt is allowed to rotate freely with the application of a torque applied to the head of the bolt. If found to be loose tighten as necessary. To access the bolts for tightening, follow the Installations Instructions “ST02171AK-A INSTALL”, section 3.2 “Aircraft Preparation” steps 1-6. If unable to tighten, replace the bolt, washer, and nut and tighten per the Installations Instructions “ST02171AK-A INSTALL”, section 3.4 “Reinforcement Angle Splice Instructions” steps 6-8.
3. **Inspect** – for cracks or dents in the fuselage skin around the area of the splice installation. If cracks or dents are found remove the horizontal stabilizer and inspect per Cessna Service Letter SEL-55. Contact **McFarlane Aviation, LLC**, immediately any anomalies are found with the installed Tail Cone Reinforcement Angle Splice STC.
4. **Inspect** –The horizontal stabilizer for looseness. Grab the leading edge a push up and down observing any excessive play. Grab the LH & RH tips and push up and down as well as for and aft observing any excessive play. If excessive play is observed remove the horizontal stabilizer for further internal inspection. Inspect for cracks at the horizontal pivot point per Cessna Service Letter SEL-55. Contact **McFarlane Aviation, LLC**, immediately if any anomalies are found with the installed Tail Cone Reinforcement Angle Splice STC.
5. **Inspect** –The elevator and stabilizer trim movement to ensure that it is free and not under any restriction or binding. If restriction or binding is observed check to insure all cables and controls are free and operating normally. If all the controls and cables are free and operating normally, remove the horizontal stabilizer for further internal inspection.

-END-