



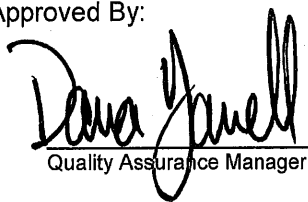
## McFarlane Aviation Products

### Instructions for Continued Airworthiness

McFarlane Aviation Inc. FAA-PMA Part Number MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, MC1221064-21, MC2622075-4, MC2622075-5, and MC2622075-6 Flap Tracks.  
FAA PMA Number: PQ3732CE

**Notice: Verify that this document is the latest approved revision before use! Current version can be found at: [www.McFarlaneAviation.com/ICA](http://www.McFarlaneAviation.com/ICA)**

Approved By:

  
Quality Assurance Manager

  
Engineering Manager

  
Production Manager

#### Revisions

Revision	Date	Summary
Original	12/23/2009	Original release
A	07/02/2010	Changes to Installation and Assistance Sections
B	09/02/2010	Changes to Flap Track Assembly Part Number Reference Chart
C	01/12/2012	Addition of MC2622075 series flap tracks and re-formatted to fit new standard.
D	12/20/2012	Added note for early 180 flap track eligibility

#### List of Effective Pages

Page	Rev/Date
1	C / 01/12/2012
2	D / 12/20/2012
3	D / 12/20/2012
4	C / 01/12/2012

## Instructions for Continued Airworthiness

**McFarlane Aviation Inc. FAA-PMA Part Number MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, MC1221064-21, MC2622075-4, MC2622075-5, and MC2622075-6 Flap Tracks.  
FAA PMA Number: PQ3732CE**

**Notice: Verify that this document is the latest approved revision before use! Current version can be found at:  
[www.McFarlaneAviation.com/ICA](http://www.McFarlaneAviation.com/ICA)**

### INTRODUCTION

This document is intended to provide for the continued airworthiness of McFarlane Aviation, Inc. PMA replacement flap tracks eligible for installation on various Cessna model aircraft. Part Numbers are: MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, MC1221064-21, MC2622075-4, MC2622075-5, and MC2622075-6. This document supplements the Cessna published service information for removal and installation of flap tracks.

### SYSTEM DESCRIPTION

Cessna Model Series 150, F150, 152, A152, 170B, 172, 172RG, FR172, P172, R172, 175, 177, 177RG, 180, 182, R182, T182, TR182, 185, 188, 205, 206, T206, 207, T207, 208, 210, P210, and T210 aircraft incorporate the use of flap tracks to control the angle and position of the flap control surfaces. McFarlane Aviation, Inc. flap tracks are a direct PMA replacement for Cessna P/Ns 0523231-14, 0525001-2, 1220048-1, 1221010-8, 1221064-19, 1221064-20, 1221064-21, 2622075-4, 2622075-5, and 2622075-6.

*Note: McFarlane Aviation, Inc. part numbers are derived from the corresponding OEM part number by adding a "MC" prefix.*

The McFarlane Aviation, Inc. flap tracks differ from the OEM parts in that a) they are manufactured from a higher strength aluminum alloy (P/N MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, and MC1221064-21 only) and b) do not have pre-drilled bracket rivet holes.

### SPECIAL OPERATING INFORMATION

*The control and operation of the flap control does not change with the installation of the new flap tracks; see applicable Cessna published information for the operational control of this system.*

### PART REMOVAL, REPLACEMENT, AND SERVICE INFORMATION

Refer to the applicable Cessna Model Service Manual for installation/maintenance instructions and the applicable Cessna Illustrated Parts Catalog for component part numbers.

*Note: In some cases, the flap track assembly and/or flap track part number can not be positively determined from the aircraft model/serial number. It is the responsibility of the installer to verify that the correct flap track has been obtained. This may be done by visual comparison and by taking measurements, including thickness, of the old and new parts as needed.*

Cessna Flap Track Assembly Part Number	Cessna Flap Track Part Number	McFarlane Flap Track Part Number
0523231-13	0523231-14 <sup>1</sup>	MC0523231-14
0523231-21		
0523231-23		
0525001-1	0525001-2 <sup>1</sup>	MC0525001-2
0525001-1S		
2425001-1		
1220058-1	1220048-1 <sup>1</sup>	MC1220048-1
1220052-2		
1221010-7	1221010-8 <sup>1</sup>	MC1221010-8
1221010-7AGW		
1221010-15		
1221010-16		
1221010-19		
1221010-19AGW		
1221010-20		
1221010-20AGW		
N/A	1221064-19 <sup>2</sup>	MC1221064-19
	1221064-20 <sup>2</sup>	MC1221064-20
	1221064-21 <sup>2</sup>	MC1221064-21
	2622075-1 or 2622075-4 <sup>2</sup>	MC2622075-4
	2622075-2 or 2622075-5 <sup>2</sup>	MC2622075-5
	2622075-3 or 2622075-6 <sup>2</sup>	MC2622075-6

<sup>1</sup> Part numbers do not appear in the Illustrated Parts Catalogs; only track assembly part numbers are listed.

<sup>2</sup> Part numbers appear directly in Illustrated Parts Catalogs; no assembly part numbers exist.

**FOR MODEL 180 ONLY:** Per existing service information, Cessna Model 180 series aircraft use flap track p/n MC1221010-8. However, it has been verified that some early 180s (s/n 604, 614, 30000-32661) may use flap track p/n MC0523231-14. The MC1221010-8 flap track (not including the bracket) is 0.25" thick and the flap track bracket does not fully cover the

## Instructions for Continued Airworthiness

McFarlane Aviation Inc. FAA-PMA Part Number MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, MC1221064-21, MC2622075-4, MC2622075-5, and MC2622075-6 Flap Tracks.  
FAA PMA Number: PQ3732CE

**Notice: Verify that this document is the latest approved revision before use! Current version can be found at: [www.McFarlaneAviation.com/ICA](http://www.McFarlaneAviation.com/ICA)**

track. The MC0523231-14 flap track (not including the bracket) is ~0.160" thick and the flap track bracket fully covers the track. The thinner MC0523231-14 flap track must **not** be installed in place of the thicker MC1221010-8 flap track.

The following instructions, specific to the McFarlane parts, apply:

**Installation of McFarlane Aviation, Inc. PMA replacement flap tracks must be accomplished in accordance with the Cessna service manual, FAA Advisory Circular 43.13-1B, Chapter 4, Section 4, and the following instructions by a certified A&P Mechanic with structural sheet metal experience.**

### Instructions:

1. Gain access to the flap track plate attachment rivets by drilling out the rivets along the wing trailing edge, ribs, and brackets as required to allow lowering the flap well skin as needed.
2. Drill out the flap track attachment plate rivets and remove the old flap track. Care must be taken to not enlarge or distort the rivet holes during rivet removal. See FAA Advisory Circular 43.13-1B, Chapter 4, Section 4, Paragraph 52 (b) for proper technique to drill rivets for removal.
3. Place removed flap track directly on top of the McFarlane replacement flap track.
4. Visually align both tracks using the flap roller cam slots allowing for the wear pattern of the removed flap track. Clamp the flap tracks together.
5. Using the existing rivet holes as a guide, drill two (non-adjacent) flap track rivet holes of the removed flap track to the McFarlane flap track, duplicating the hole size(s) found on the removed track.
6. Temporarily install the new flap track(s) using threaded hardware and the two holes drilled from the previous step.
7. Assure that the flap track slots are smooth and clean.
8. Temporarily install the flap as detailed in the applicable Cessna Service and Parts Manual. The flap actuation system does not have to be connected and rigged. Remove the flap push pull rods to allow manual operation of the flap. Raise and lower the flap by hand multiple times through its entire range of travel to assure proper function. Rollers should rotate and be evenly loaded (free in the slot) at all positions of operation. The flap must have clearance to the wing structure in all positions of operation.
9. Depending on the result of the functional test perform the following:
  - a. **If the flap cycles smoothly and completely**
    - i. Detach and remove the flap and flap track from the wing.
    - ii. Transfer and drill remaining holes in the new flap track(s) to match the remaining holes in the old flap track.
    - iii. Proceed to Step 10 for remainder of installation.
  - b. **If the flap cycles roughly, incompletely, binds, or does not move**
    - i. Adjust the two holes on the McFarlane flap track by elongating one edge of the hole(s) as needed for adjusted alignment. Reinstall track and repeat flap functional test until smooth cycling over the full range of flap travel is achieved.
    - ii. Transfer remaining holes to the new flap track(s) to match the remaining holes in the old flap track, incorporating any adjustments or translations made in the previous step.
    - iii. Proceed to Step 10 for remainder of installation.
10. Selection of proper rivet size and riveting procedure must be accomplished in accordance with AC 43.13-1B, Chapter 4, Section 4, Paragraphs 4-57 & 4-58. Rivets must be of the same material and head type and installed with the manufactured rivet head in the same orientation as the previous assembly. A minimum rivet edge distance (from center of rivet) of 1 x the rivet diameter is allowed for the flap tracks only. If rivets larger than original are required, evaluate and assure that the larger rivets will not interfere with the flap operation. Assure that adequate clearance is maintained between all rivets and the flap assembly in all positions. When evaluating clearances, allow for future flap track wear. If adequate clearance can not be maintained, replace the flap track attachment components as required.
11. Before installing the new rivets, coat the inside of the rivet holes and the new rivets with wet primer paint. Primer paint to be a corrosion resistant primer paint per MIL-PRF-23377 or similar.
12. Install new rivets in accordance with AC 43.13-1B, Chapter 4, Section 4.
13. Mask the flap track roller slots. Touch up the primer paint on the rivet heads and any areas of paint damage as required. Paint the assembly to match existing structure as required.
14. Assure that the flap track slots are smooth and clean before installing the flap attachment hardware.
15. Assemble and rig the flap as detailed in the applicable Cessna Service Manual. Assure proper function per the Cessna service manual while cycling the flap multiple times through its entire range of operation.

### TROUBLESHOOTING

Flap malfunctions that may be indicative of defective, damaged, or overly worn flap tracks include:

- Flap angle skewed during operation of flap control(s).
- Flap un-able to cycle completely through range of normal operation.
- Popping or cracking sounds coming from the flap/wing area during flap operation.
- Excessive flap fluttering or binding during flap operation.
- Excessive flap free play.

If any of the above malfunctions occur, inspect the flap tracks and brackets for alignment, excessive wear, cracks, or other damage. If the problem is attributed to the flap track it must be replaced.

### PLACARDS

None applicable

## Instructions for Continued Airworthiness

McFarlane Aviation Inc. FAA-PMA Part Number MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, MC1221064-21, MC2622075-4, MC2622075-5, and MC2622075-6 Flap Tracks.  
FAA PMA Number: PQ3732CE

**Notice: Verify that this document is the latest approved revision before use! Current version can be found at: [www.McFarlaneAviation.com/ICA](http://www.McFarlaneAviation.com/ICA)**

### DATA

All information to support the continued airworthiness of this replacement part is as defined herein and contained in:

- Relevant Cessna Model Maintenance Manuals.
- Relevant Cessna Model Service Manuals.
- Relevant Cessna Model Illustrated Parts Catalog.

### INSPECTION

McFarlane Aviation, Inc. Part Number MC0523231-14, MC0525001-2, MC1220048-1, MC1221010-8, MC1221064-19, MC1221064-20, and MC1221064-21 are to be inspected, for general condition and flap roller freedom of movement at the intervals per the relevant Cessna Model Service Manuals (50 hours). Maximum allowed flap track cam slot wear is limited to 0.6035" maximum slot width along any point in the cam slot. (This data made public through the Cessna service department.)

McFarlane Aviation, Inc. Part Number MC02622075-4, MC02622075-5, and MC02622075-6 are to be inspected per the Cessna Model 208 Series Maintenance Manual (Cessna document id number 02078-23-13 or later approved revision) with the same methods and frequency of the equivalent listed Cessna parts (02622075-1, 02622075-2, 02622075-3, 02622075-4, 02622075-5, and 02622075-6).

### RECOMMENDED OVERHAUL PERIODS

No additional overhaul time limitations exist with the use of these parts.

### AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sec. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved. No additional airworthiness limitations exist.

### ASSISTANCE & REVISIONS

ICA revisions shall be made available on the McFarlane website, [www.mcfarlaneaviation.com/ICA](http://www.mcfarlaneaviation.com/ICA). For questions or assistance regarding these Instructions for Continued Airworthiness (ICA), contact McFarlane Aviation, Inc via email or phone. Email: [engineering@mcfarlaneaviation.com](mailto:engineering@mcfarlaneaviation.com) Phone: 1-800-544-8594 (within the US) or 1-785-594-2741.