



McFarlane Aviation Products

FAA PMA Number: PQ3732CE

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Instructions for Continued Airworthiness
McFarlane Aviation Inc. Replacement Seat Roller Housings
FAA-PMA Part Numbers:

MC0700645-1
 MC0700645-2
 MC0700645-3
 MC0700645-4
 MC1414104-25
 MC1414104-26
 MC1414104-39
 MC1414104-40
 MC1414104-41

MC1414104-42
 MC1414104-61
 MC1414104-65
 MC1414104-67
 MC1414104-71
 MC1414104-72
 MC1200603-38
 MC1200603-41
 MC1200603-42

MC1200603-41B
 MC1414104-25B
 MC1414104-39B
 MC1414104-61B
 MC1414104-65B
 MC1414104-67B
 MC0700645-1B

Approved By:

Quality Assurance Manager

Engineering Manager

Production Manager

Revisions

Revision	Date	Summary
Original	03/23/2012	Original release
A	05/22/2014	1) Added roller housing p/n MC1200603-41 & MC1200603-41B. 2) Added bracket p/n to housing part number list notes on pg 4. 3) Reversed order of part number list notes on pg 4. 4) Revised Figure 2a.

List of Effective Pages

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INTRODUCTION

This document is intended to provide for the installation and continued airworthiness of McFarlane Aviation, Inc., replacement seat roller housings eligible for installation on various aircraft manufactured by the Cessna aircraft company.

The seat roller housings discussed herein, replace parts originally installed by Cessna in aircraft built from 1963 thru 1986, on the *standard, vertically adjustable, full articulating, infinitely adjustable and power seats.*

For all items not related to the installation of the McFarlane Aviation, Inc. replacement seat roller housings, refer to the aircraft's service and parts manuals.

Seat configuration was an option item, decided when the aircraft was initially ordered from the factory. Consequently, it is not possible to determine which seats are installed in a given aircraft by model and serial number alone. The best method to identify the seat roller housings is to compare the illustration in Cessna Illustrated Parts Catalog, for the specific aircraft, to the seat being fitted, and note the required roller housing part number. McFarlane seat roller housings use the same part number as the corresponding Cessna roller housing but have an added "MC" prefix. Installation eligibility for the McFarlane seat roller housings is available at www.McFarlaneAviation.com and includes eligible Cessna aircraft by model and lists eligible seats by seat part numbers.

Note: FAA Airworthiness Directive 2011-10-09 requires recurring inspection of the seat roller housings. Seat roller housings that do not meet dimensional requirements listed in the Directive must be replaced. Installation of McFarlane seat roller housings does not negate the requirements of this or any other applicable FAA Airworthiness Directives.

SYSTEM DESCRIPTION

Seat roller housings are the means by which Cessna aircraft seats are attached to the floor mounted seat tracks. For this purpose, the housings feature tangs that fit around the track crown and enclosed seat rollers to ease movement of the seat as it travels fore and aft on the track.

The seat roller housings, subject to this ICA, are made from aluminum. The housings are available in numerous configurations, for different Cessna seats, and are made from one of two different aluminum extrusion profiles. Figure 1a below shows typical housings featuring the two different profile shapes.

These roller housings use seat rollers slightly larger than 5/8 inches in diameter and wear washers of approximately 7/8 inches in diameter.

For those seat rollers housings that feature a bottom bracket, riveted in place, McFarlane offers seat roller housings with the bracket (McFarlane p/n MC1414104-8) pre-installed, as seen in Figure 1b. Note: Some installations feature a bracket, for which a PMA replacement is not currently available from McFarlane Aviation.

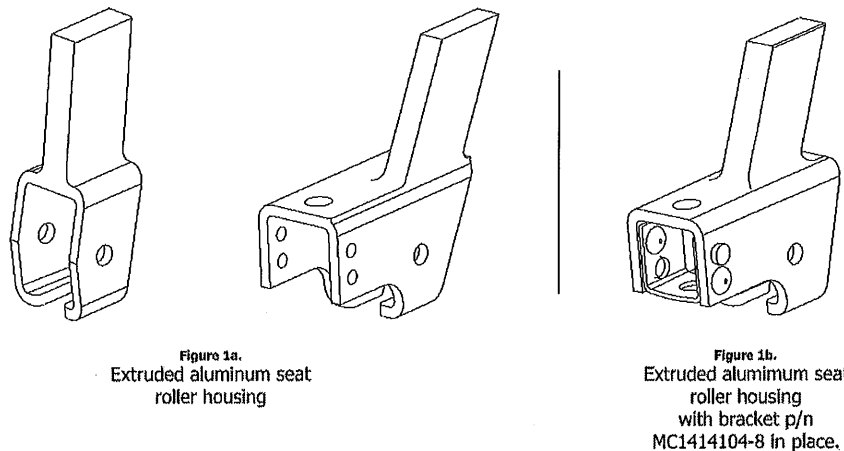


Figure 1. Types of replaceable seat roller housings manufactured by McFarlane.

Attachment of the Roller housing to the seat is made with either rivets or bolts as shown in Figure 2. Some of the seats use shims to properly locate the roller housing on the seat leg. Roller housings, such as that seen in Figure 1b, also provide guidance for the seat position *stop pin* (also referred to as a *locking pin*) that engages into the seat track. Holes in the roller housing and bracket guide the pin. A roll pin in the seat stop pin is captured between the bracket and the housing to limit the amount of vertical travel. In addition to the roll pin, some aircraft use a spring (between the bracket and housing) to apply positive downward pressure on the stop pin.

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SPECIAL OPERATING INFORMATION

Operation of the seat and the seat stop mechanism does not change with the installation of the McFarlane seat roller housings or bracket. See the aircraft's Pilot Operating Handbook and/or Aircraft Flight Manual for seat operation and adjustment procedures.

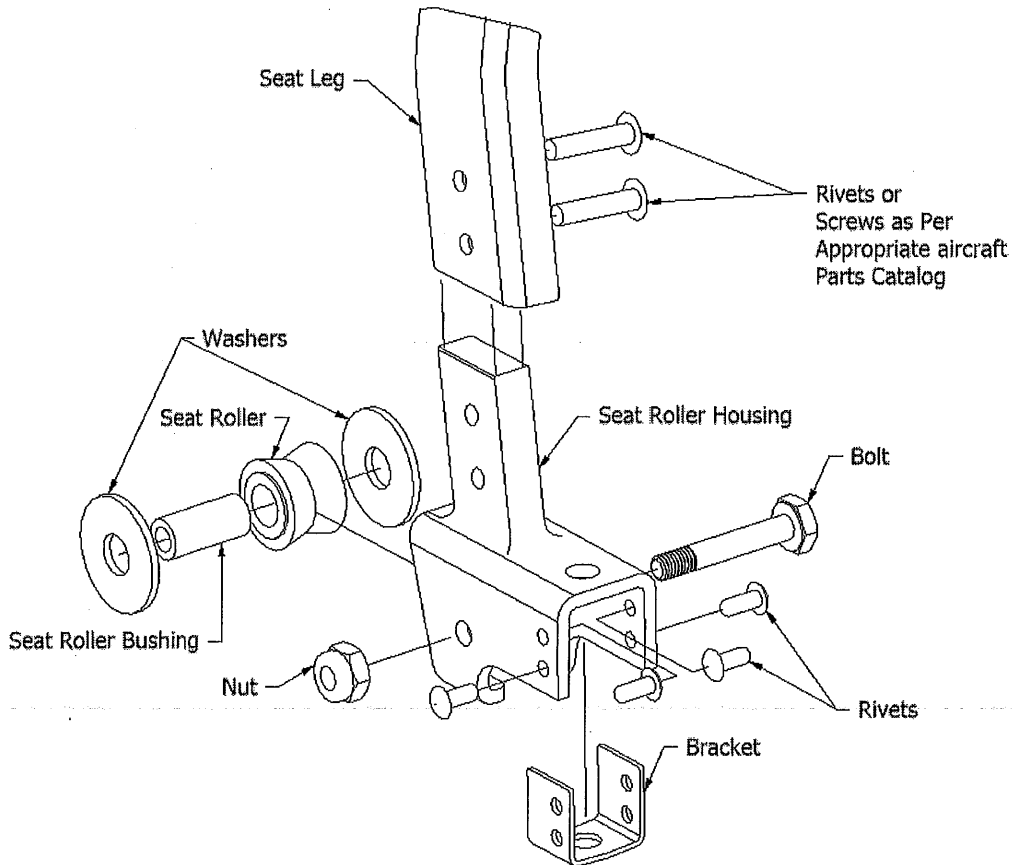


Figure 2. Typical extruded aluminum type seat roller housing/seat leg assembly.

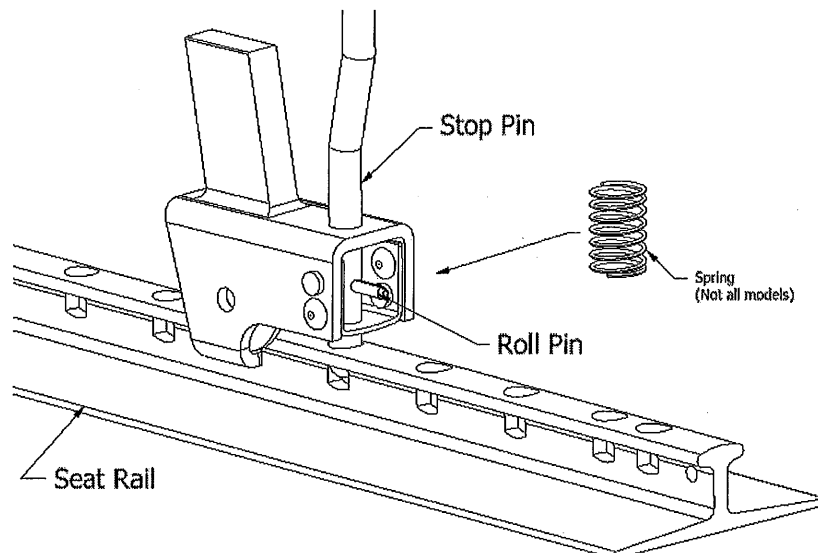


Figure 2a. Typical roller housing installed.

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PART REMOVAL, REPLACEMENT, AND SERVICE INFORMATION

Seat Roller Housings part numbers:

MC0700645-1‡	MC1414104-40	MC1414104-72‡	MC1414104-61B†
MC0700645-2	MC1414104-41	MC1200603-38	MC1414104-65B†
MC0700645-3	MC1414104-42	MC1200603-41‡	MC1414104-67B†
MC0700645-4	MC1414104-61‡	MC1200603-42	MC0700645-1B†
MC1414104-25‡	MC1414104-65‡	MC1200603-41B†	
MC1414104-26	MC1414104-67‡	MC1414104-25B†	
MC1414104-39‡	MC1414104-71‡	MC1414104-39B†	

‡: Denotes roller housings that require field installation of the bracket (McFarlane p/n MC1414104-8 or Cessna p/n 1414104-8) seen in Figure 2.

†: The "B" suffix indicates the seat roller housings that include McFarlane Bracket p/n MC1414104-8 pre-riveted to the housing.

Note: Replace one roller housing at a time to allow use of the other roller housings for alignment reference.

1. Remove the seat from the aircraft as per the applicable Cessna Aircraft Service Manual.
2. For the roller housing being replaced; remove the bolt and nut shown in Figure 2; remove the roller, washers and bushing from the roller housing.
 - a. Note that one or both of the front housings features the seat stop pin discussed above. For these installations, remove the roll pin and spring (if installed) from the stop pin in the housing.
3. Note the position of any shims that may be installed between the roller housing and the seat leg.
4. Remove the roller housing to be replaced from the seat leg by drilling out the rivets (if installed) or by removing the bolts that secure the housing to the seat leg.
 - a. For roller housings requiring field installation of the bracket seen in Figure 2.
 - i. If the previously installed bracket is to be used, separate the bracket from the old seat roller housing, by removing the rivets securing the bracket to the roller housing. Reinstall the bracket in the new roller housing, ensuring the stop pin hole in the bracket is aligned with the stop pin hole in the roller housing. Use standard aircraft riveting procedures as per AC43.13-1B, Chapter 4. (Note rivet head orientation as seen in Figures 1b and 2.)
 - ii. If a new bracket is to be installed, place the bracket in position in the new roller housing. Ensure the hole in the bracket is aligned with the seat stop pin hole in the roller housing. Install new rivets using the standard aircraft riveting procedures as per AC43.13-1B chapter 4.
5. Position the replacement roller housing on the seat leg. Temporarily secure with a clamp. If the roller housing was installed with shims, put the shims in place before securing the clamp.
 - a. If the seat roller housing also guides a stop pin, insert the stop pin through the hole in the top of the roller housing.
6. Place the seat on a flat surface as shown in Figure 3. Compare the alignment of the new seat roller housing to the other seat roller housings. Loosen the clamp and correct the alignment as required, making sure the roller housing is aligned with the other roller housings as shown in Figures 3, 4a, and 4b. Tighten the clamp.

Note: When checking seat roller housing alignment on the flat surface, make certain the stop pin is retracted in a manner that allows full contact of the roller housing to flat surface (reference plane).
7. Using the holes in the seat legs as guides, match drill the rivet or bolt holes into the roller housing.
8. Attach the new roller housing to the seat frame by installing new rivets or by reinstalling the bolts and nuts previously removed. If riveting, use standard aircraft riveting procedures as per AC43.13-1B, Chapter 4.
9. Assemble roller, bushing, and washers as shown in Figure 2 and insert the assembly into the roller housing. Consult the latest revised copy of FAA Airworthiness Directive 2011-10-09 for assembly requirements. Note: Roller, washers, and/or bushing may be replaced with new parts at this time.
 - a. Reinstall the roll pin (and spring, if used) into the stop pin.
10. Secure the roller, bushing and washers in the housing with the bolt. Torque, to the value specified in the applicable Cessna service manual.
 - a. Inspect the washer and roller fit in the housing. The roller must rotate freely.
11. Repeat the steps, as necessary, for each roller housing to be replaced.
12. Ensure all bolts and nuts, springs and pins that were removed are reinstalled and have been properly torqued and safetied.
13. Reinstall seat in aircraft as per the applicable Cessna Aircraft Service Manual and applicable Service Bulletins.
 - a. Inspect the seat roller housings for clearance from the seat tracks. With the seat in its normal operating position (i.e. no side force applied to the seat) the roller housing should not be contacting the seat track.
 - b. Move the seat throughout its range of travel on the seat track. The seat must move freely without binding. The seat roller housings must not gouge, abrade, or drag on the seat tracks.

Note: If, after alignment has been adjusted per these instructions, insufficient clearance and/or drag is detected, inspect the seat legs and other seat frame elements for wear or damage. Replace any seat frame elements found to be defective in accordance with the applicable aircraft service manual.

14. Ensure the requirements of FAA Airworthiness Directive 2011-10-09 have been met.

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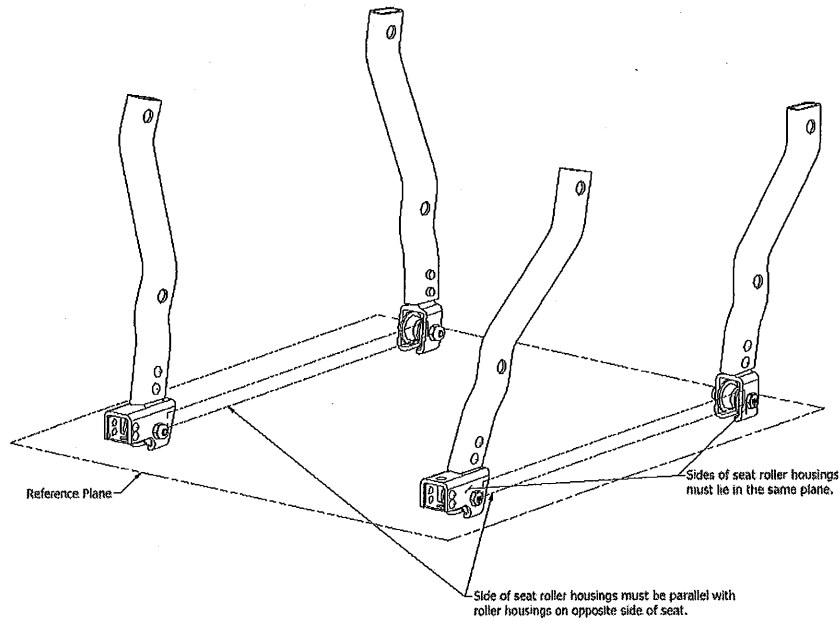


Figure 3.

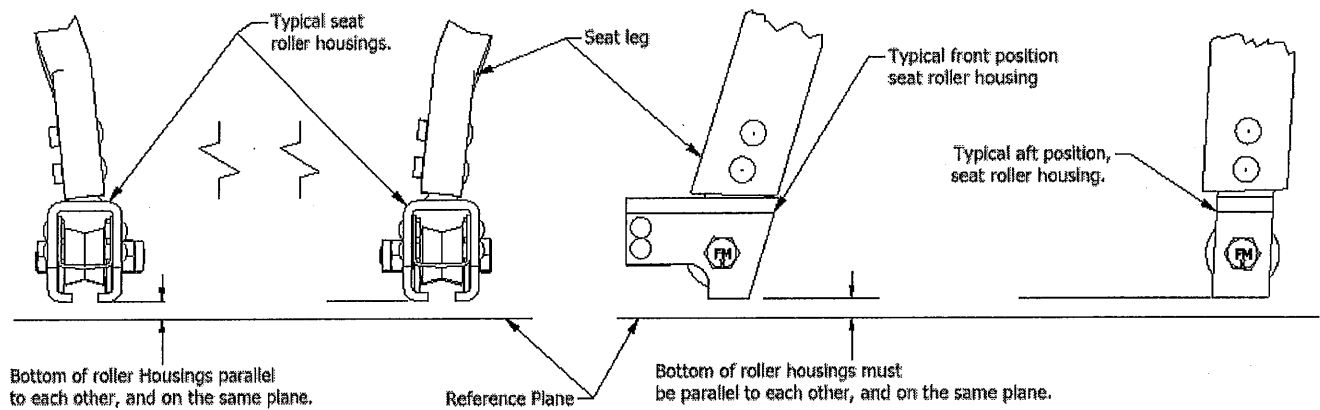


Figure 4a.
Front View
Roller housing detail.

Figure 4b.
Side view
Roller housing detail

Figure 4.

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Refer to the applicable Cessna Illustrated Parts Catalog for component part numbers not listed in this document.

TROUBLESHOOTING

Refer to FAA Airworthiness Directive 2011-10-09 for assembly and performance requirements of Cessna seat rollers, washers, and bushings.

PLACARDS

None applicable

DATA

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

- The applicable Cessna Aircraft Service Manual.
- The applicable Cessna Aircraft Illustrated Parts Catalog.
- FAA Airworthiness Directive 2011-10-09
- Cessna Service Bulletins and Letters.

INSPECTION

Consult the latest revision on FAA Airworthiness Directive 2011-10-09 for the frequency of repetitive inspections and other requirements.

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

The latest approved revision of this ICA will be made available on the McFarlane website, 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 Phone: 1-800-544-8594 (within the US) or 1-785-594-2741.