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Approved By:

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Revisions

Revision	Author	Date	Summary	
Original	CAL	01/23/2023	Original release	
Α	CRD	07/23/2024	Updated all figures with latest model revisions Changed "spring pin" to "spring pins" Updated McFarlane logo	

List of Effective Pages

Page	Revision	Date
All	Original	01/23/2023
Cover, 2, 3, 4	Â	07/23/2024

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INTRODUCTION

This document is intended to provide for the continued airworthiness of McFarlane Aviation, LLC. PMA door handle assembly eligible for installation on various Cessna aircraft. The handle part number is MC0711861-1 and is comprised of the handle base, handle lever, set screws, flat head screws, spring pins, and labels. For all items not related to the installation of the McFarlane Aviation, LLC. Door Handle Assembly, refer to the basic airplane model service and parts manuals.

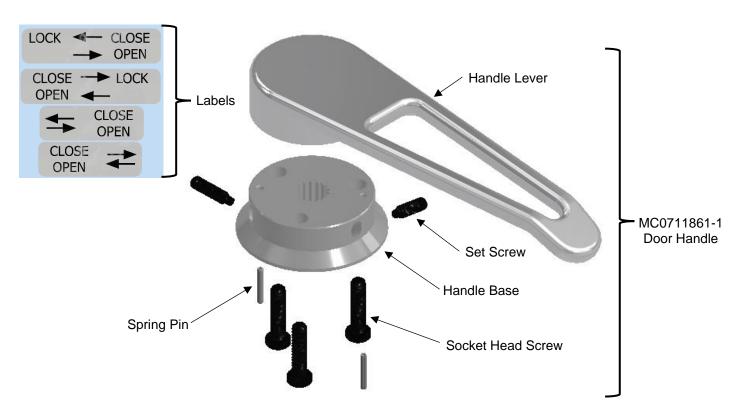


Figure 1: MC0711861-1 Door Handle Assembly

SYSTEM DESCRIPTION

The affected Cessna models employ a splined door handle which installs onto a splined shaft on the door panel. The spline on the door handle mates up with the spline on the shaft to transmit torque from the rotated handle to the door latch assembly for actuating the latch. All eligible aircraft have at least one cabin door, though most have two, and a few models also have a cargo door. Each of these doors is unlatched and latched from inside the cabin with one door handle. For some aircraft, a washer (such as MCS1438-16) is installed over the shaft and underneath the handle base. The original door handle assembly consisted of the door handle (which was one part instead of multiple parts screwed together) which was held on to the shaft using a clip. For the McFarlane door handle assemblies, multiple set screws are employed for a simpler installation and removal process for the handle compared to the clip used on the OEM handle assembly.

SPECIAL OPERATING INFORMATION

The control and operation of the cabin door assembly does not change with the installation of the McFarlane door handle assembly; see applicable Cessna Service Manual for the operational control of this system.

PART REMOVAL, REPLACEMENT, AND SERVICE INFORMATION

The socket head screws used to hold together the McFarlane door handle assembly have been properly torqued with thread-locker prior to shipment of the handle. **Do not remove the screws or disassemble the handle**.

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- 1. Remove the handle from the door that needs the door handle replaced.
- 2. Once the door handle is removed, you may <u>optionally</u> also remove the placard, escutcheon, and/or washer if applicable to the door handle configuration of your aircraft.

Note: The McFarlane door handle assembly supersedes several different OEM door handles, each of which has numerous different configurations of mating parts depending on the particular aircraft the handle is being used on. Mating parts include a splined shaft and clip for all eligible aircraft of the MC0711861-1 handle, and may also include an escutcheon, a spring, a washer, a placard, and/or an insert depending on the particular aircraft. The design of the McFarlane door handle assembly is such that the handle should function as needed with or without these components. However, the inclusion of any of the components that install underneath the handle (the placard, escutcheon, and washer) may depress the door panel of your aircraft more than is preferable once the McFarlane door handle is installed properly. As a result, removal or inclusion of these components has been made optional and left up to the discretion of the installing persons per approved Cessna data.

- 3. Inspect the splined shaft sticking out of the door panel for damage. Any burrs or other bits of metal sticking out from the surface of the external spline on the splined shaft must be filed down to allow for proper fit with the internal spline on the handle. This will prevent damage to the internal spline as the handle is installed onto the shaft.
- 4. Apply reusable thread-locker Vibra-Tite 213/Vibra-Tite VC-3 (provided with purchase of handle) all the way around the first few threads after the dog point of the set screws per the manufacturer instructions for the thread-locker.

Note: This thread-locker material is reusable up to 5 times. Old thread-locker must be removed from the set screws and replaced with new thread-locker if the set screws have been loosened and subsequently retightened this many times or more.

- 5. After application of thread-locker, insert each of the three set screws into the corresponding three holes in the side of the handle base a couple of turns.
- 6. Once each of the set screws have been installed a couple turns into the McFarlane handle, the handle may be inserted onto the splined shaft sticking out of the door as shown in Figure 2. The angle of the handle should be adjusted to the preferred configuration at this time prior to tightening the set screws. This can be done by pulling the handle off of the shaft and rotating it to the preferred angle, and then re-inserting the handle back on to the shaft.



Figure 2: Half Section View of McFarlane Door Handle Assembly Installed on Splined Shaft

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7. Once the handle has been adjusted to the desired angle and inserted onto the splined shaft, the set screws can be tightened down to fit the dog point into the groove on the shaft, which will hold the handle in place on the door. It is sufficient to tighten the set screws just until the dog point of the set screw first contacts the surface of the shaft, as shown in Figure 2. **Do not torque down the set screws past point of first contact**, as this can unevenly load the spline and cause premature wear, damage, and/or early failure.

Note: Some shafts have multiple grooves (one in front of the spline towards the tip of the shaft, and one behind the spline), as shown in Figure 2. However, other shafts only have one groove (behind the spline). The McFarlane door handle has been designed to use the groove behind the spline for the set screws, as this groove is common to all the different OEM shafts used across the eligible fleet of aircraft for the MC0711861-1 door handle. The first groove on splines that have more than one groove cannot be used for this purpose, as the door handle will not be far enough down onto the shaft for the teeth on the two splines to engage with each other and transfer torque.

8. Once the handle is installed and the set screws are tightened, the included labels may <u>optionally</u> be applied to the handle base. These labels have been included for installations where the placard was not used, or where it is removed to install the McFarlane handle assembly onto the door. They contain text indicating the direction of rotation for opening, closing, and locking the door. Select the appropriate label from the sheet of 4 labels for how your door handle operates and apply it to the side of the handle base. Labels are to be applied to the side of the handle base (the indicated section of the door handle base in Figure 3).

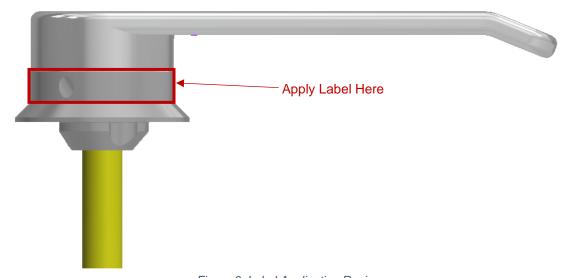


Figure 3: Label Application Region

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

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TROUBLESHOOTING

Refer to the applicable Cessna Model Service Manual for troubleshooting instructions and the applicable Cessna Illustrated Parts Catalog for component part numbers. See listing in Data Section below. The following troubleshooting instructions, specific to the McFarlane parts, apply:

- 1. If the McFarlane door handle is not properly fitting onto the splined shaft sticking out of the door panel, double check that the set screws have not been tightened down far enough that they are visible inside the hole drilled through the center of the handle base. If they are, the set screw(s) should be backed up towards the outside of the handle base until that is not the case before the handle will install onto the shaft. Additionally, double check that the external spline on the shaft is not damaged in any way. If it is, smooth out the damaged areas with a file to reduce interference between the two splines and reduce the possibility of the internal spline in the handle being damaged.
- As previously mentioned above in Note 1 under Step 2 of the "PART REMOVAL, REPLACEMENT, AND SERVICE INFORMATION" section, if the door panel is depressed farther than is preferable after installation of the handle, try removing components that install between the handle and the door panel (washer, placard, and/or escutcheon) to reduce the amount the panel gets pressed in.

PLACARDS

See section "PART REMOVAL, REPLACEMENT, AND SERVICE INFORMATION" step 8.

DATA

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

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

INSPECTION

Cessna service manuals require inspections of the entire cabin door and all of its components (including the handle) for damage and overall function every 48 months.

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. 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.

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