



McFarlane Aviation Products

Instructions for Continued Airworthiness

McFarlane Aviation, Inc. FAA-PMA Part Numbers:

MC0413416-2, -6, -11; MC9860058-2;

MC9864050-2, -3, -10, -12, -16, -200; MC9864054-1, -2;

MCS1244-9 and MCS2083-2

FLAP POSITION INDICATOR CABLES.

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

Approved By:


Quality Assurance Manager


Engineering Manager


Production Manager

Revisions

Revision	Date	Summary
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List of Effective Pages

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INTRODUCTION

This document is intended to provide for the continued airworthiness of McFarlane Aviation, Inc. PMA flap position indicator cables eligible for installation on various Cessna aircraft. The eligible part numbers are MC0413416-2, -6, -11; MC9860058-2; MC9864050-2, -3, -10, -12, -16, -200; MC9864054-1, -2; MCS1244-9 and MCS2083-2. These parts resemble other cable-operated aircraft controls, consisting of a cable, either with or without end terminals/push rods, running within a tube or a flexible conduit. For all items not related to the installation of the McFarlane Aviation, Inc. flap position indicator cables, refer to the basic airplane model service and parts manuals.

SYSTEM DESCRIPTION

The function of the flap position indicator cable is to provide a feedback indication to the pilot of the flaps' current position. In some cases, the feedback system is paired with limit switches that provide a warning (visual or audible) when the flaps are extended too far. The flap indicator cables do not actually control the flap surface – that is done through either a direct flap control cable or in some applications an electric switch, power screw, and motor system. Below shows figures from Cessna Illustrated Parts Catalog (IPC) showing the example routing that the cable takes.

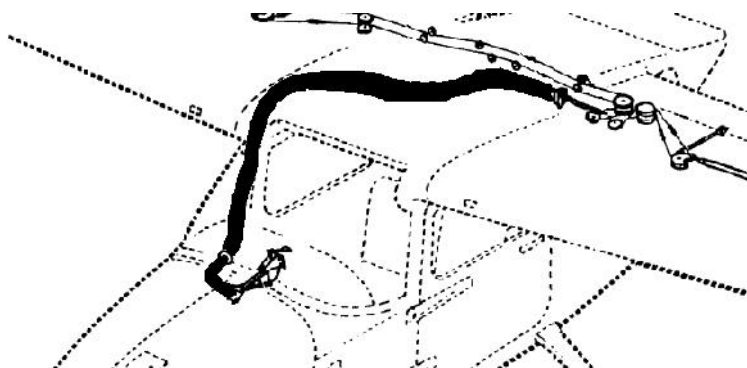


Figure 1: MCS1244-9, Cable Location

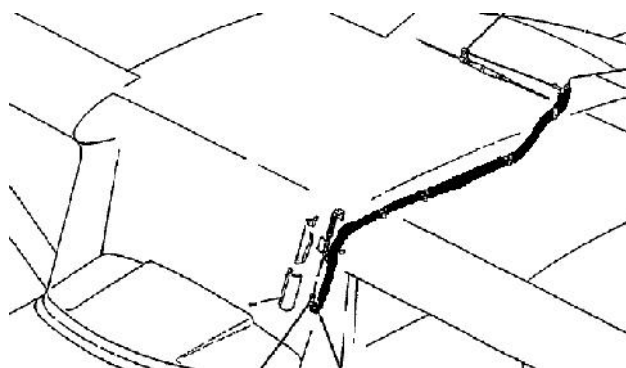


Figure 2: MC0413416-11, Cable Location

SPECIAL OPERATING INFORMATION

The control and operation of the flap control system does not change with the installation of the flap position indicator cables. See the applicable Cessna Service Manual for the operational control of this system for the particular model of aircraft receiving the McFarlane flap position indicator cable.

PART REMOVAL, REPLACEMENT, AND SERVICE INFORMATION

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

P/N MC0413416-6, Cable

Remove the existing flap position indicator cable and install the McFarlane cable per the applicable Cessna Service Manual. The McFarlane cable may be trimmed shorter as needed to suit the requirements of the installation. McFarlane strongly recommends replacing the tube with the appropriate McFarlane replacement (P/N MC0413416-11 or MC0413416-2) at the same time, as the existing tube may be deemed unusable due to wear and degradation. This part may be supplied with shrink tubing or other means applied to the ends to prevent fraying. This may be removed at the time of installation.

P/N MC0413416-11 and MC0413416-2, Tube

McFarlane P/Ns MC0413416-11 and MC0413416-2 are tubes that house the MC0413416-6 cable, the tubes will be required to be bent accordingly to support proper installation.

-) The MC0413416-11 tube is supplied straight with one tight bend, and must be bent to fit at the time of installation.
-) The MC0413416-2 tube is supplied straight and must be bent to fit at the time of installation.

Use the existing installed tube as a guide for how the McFarlane part should be bent. Use careful planning to avoid having to unbend and re-bend the McFarlane tube, the minimum bend radius for the tubes installation are one inch (1"). The following steps should be performed to install the McFarlane tube:

1. First, remove the existing tube. It may need to be partially or fully unbent to facilitate removal.
2. Using the removed tube as a guide, bend the McFarlane tube to match.
3. Route the McFarlane tube.
4. Performing final bends in the McFarlane tube as needed for final fitment.
5. Note the condition of existing tube clamps and hardware, replacing as required.

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

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P/Ns MC9864050-16, Control Clamps

McFarlane P/N MC9864050-16 control cables are mounted to the aircraft using MS21919DG6 (0.375" diameter) and AN742D5 (0.313" diameter) clamps.

-) The MS21919DG6 and AN742D5 (0.375" diameter) clamps replaced with the AS21919DG04 (0.250" diameter) clamp and the AS587D04 (0.250" diameter) clamp to allow for proper fit of the MC9864050-16 Control Cable.

TROUBLESHOOTING

Refer to the applicable Cessna Service Manual for troubleshooting instructions and the applicable Cessna Illustrated Parts Catalog for component part numbers, see listing in Data Section below. Installation of the McFarlane Aviation, Inc. Cessna Flap Control Cable does not alter the existing troubleshooting information.

PLACARDS

None applicable.

DATA

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

-) Relevant Cessna/ Textron Model Service Manuals.
-) Relevant Cessna/ Textron Model Illustrated Parts Catalog.

INSPECTION

No additional inspections exist with the use of these parts.

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.