



WIPLINE FLOATS • SKIS • MODIFICATIONS • AIRCRAFT SALES
AVIONICS • INTERIOR • MAINTENANCE • PAINT REFINISHING

SERVICE MANUAL

and

**INSTRUCTIONS FOR CONTINUED
AIRWORTHINESS**

for

START LOCK INSTALLATION

IN

MC CAULEY 3GFR34C703

or

MC CAULEY 4HFR34C778

PROPELLER

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CHAPTER 1

INTRODUCTION AND

GENERAL INFORMATION

1.0 INTRODUCTION

The purpose of this service manual is to provide details on servicing either a McCauley 3GFR34C703 propeller when modified with the installation of start locks according to 1005830 or 4HFR34C778 propeller when modified with the installation of start locks according to 1008767.

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When a part of this installation is significantly changed or an additional inspection is recommended or required, often a service letter and/or kit is issued. If a warranty is issued, most commonly it is for an 18 month time period, so it is crucial to check for service letters at each periodic inspection to be eligible.

Service Manuals and the installation documents included are also revised periodically and also to be kept updated. Service letters, Service Kits and Service Manuals are available on our web site at no charge, www.wipaire.com.

NOTE:

IT IS CRITICAL TO CHECK FOR MANUAL UPDATES EACH TIME AN INSPECTION IS EXECUTED.

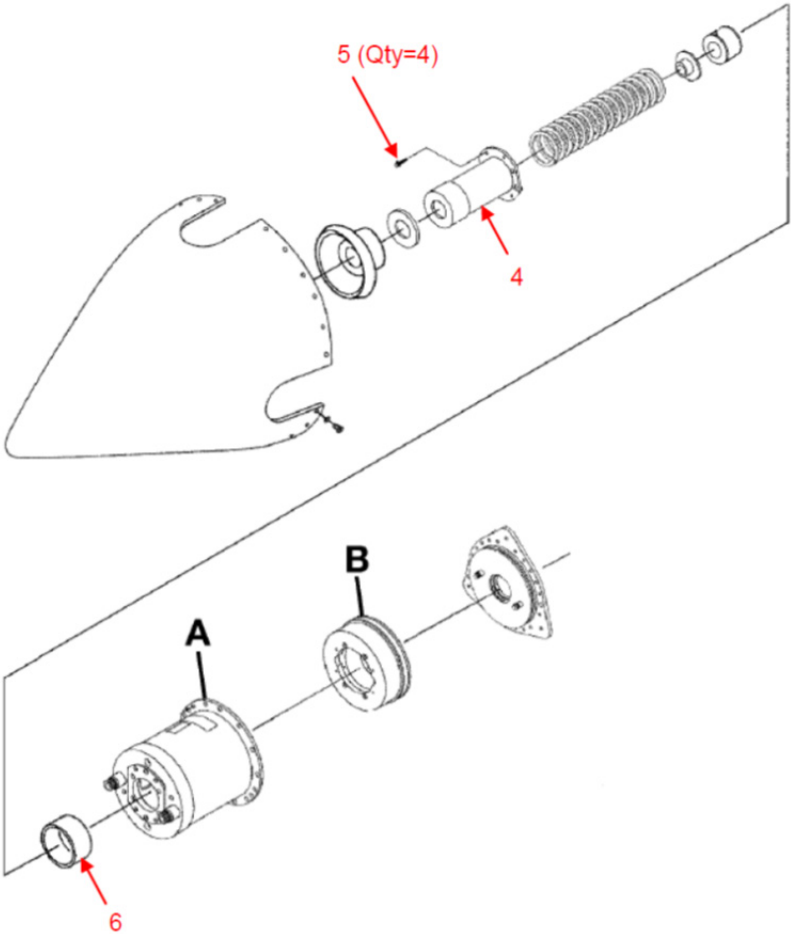
**1.1.1 GENERAL INFORMATION ON MODIFIED McCAULEY
 3GFR34C703 PROPELLER**

The McCauley 3GFR34C703 propeller hub is modified under STC SP03376CH to be equipped with start locks. The start lock mechanism is adapted for use in a McCauley C703 hub using parts from the McCauley C600 and C650 series hubs.

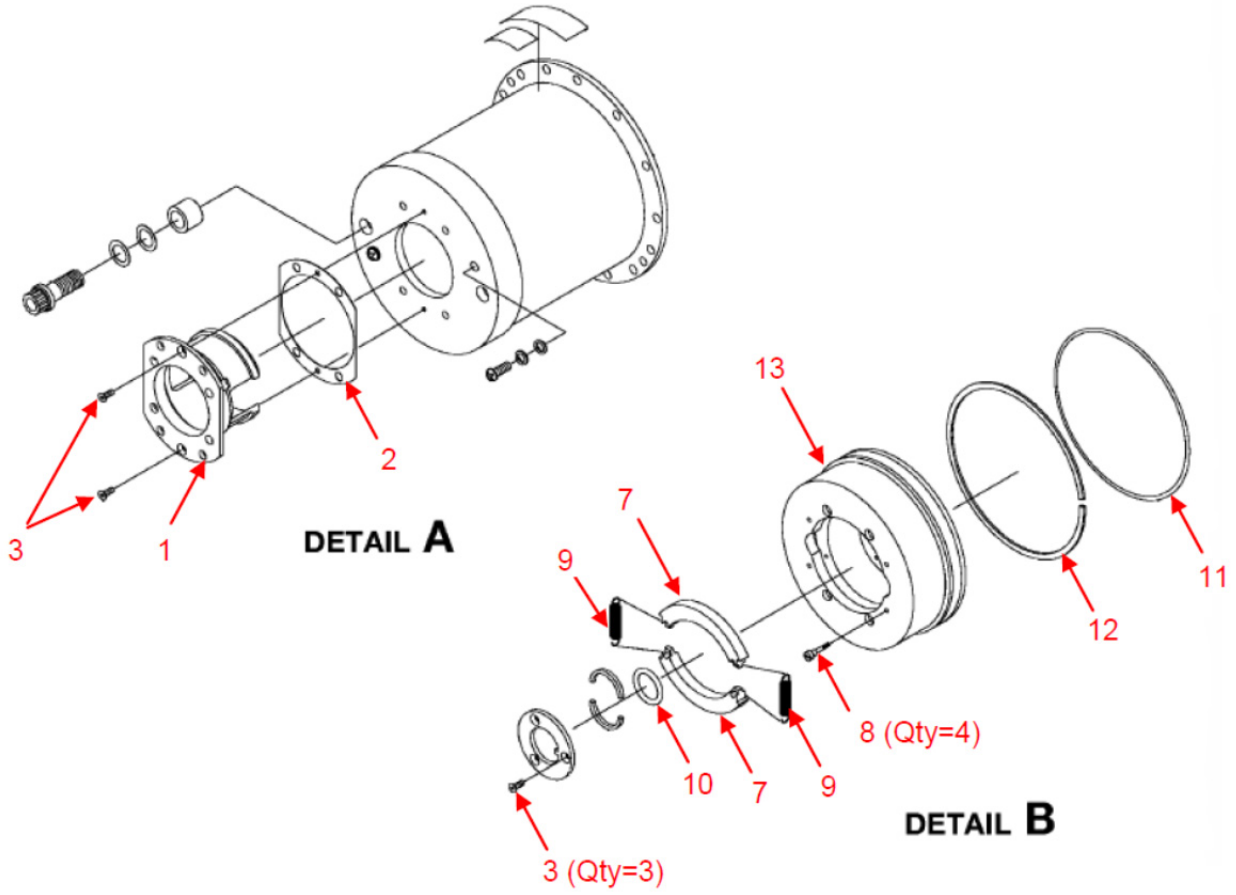
Maintenance practices from the McCauley C700 series service and overhaul manual should be used for servicing and maintaining the modified hub, with the exception of the modified parts specifically noted below. The McCauley C600 series service and overhaul manual should be used for the modified parts noted. The B-5020-1 Spring Assembly is from a C650 series hub, but the C600 series service manual can be used for servicing the spring assembly. Any Service Letters, Service Bulletins, and Airworthiness Directives applicable to the original propeller or the start lock components listed below must be complied with. Overhaul times for the modified propeller are the same as those for the original 3GFR34C703 propeller.

Item Number	Part Number	Description	Qty	From Original Hub Model
1	D-5017	LATCH, START LOCK	1	C600
2	C-5018-4	SHIM, START LOCK 0.004-INCH	1	
2	C-5018-8	SHIM, START LOCK 0.008-INCH	1	
2	C-5018-16	SHIM, START LOCK 0.016-INCH	1	
2	C-5018-32	SHIM, START LOCK 0.032-INCH	1	
3	A-1635-117	SCREW	5	
4	C7125	HOUSING, SPRING	1	
5	A-1635-119	SCREW, HOUSING ATTACHING	4	
6	B-5014	(GREASE) SHIELD	1	
7	C5016	WEIGHT – START LOCK	2	
8	B-4773	SCREW, WEIGHT RETAINING	4	C650
9	B-5020-1	SPRING ASSEMBLY	2	
10	A-1633-55	O-RING, PISTON TO PISTON ROD	1	C600
11	A-1633-119	O-RING, PISTON TO CYLINDER	1	
12	B-4978	BACK-UP RING	1	
13	1005797	PISTON, PITCH LOCK, C703 HUB	1	

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**1.1.2 GENERAL INFORMATION ON MODIFIED McCAULEY
4HFR34C778 PROPELLER**

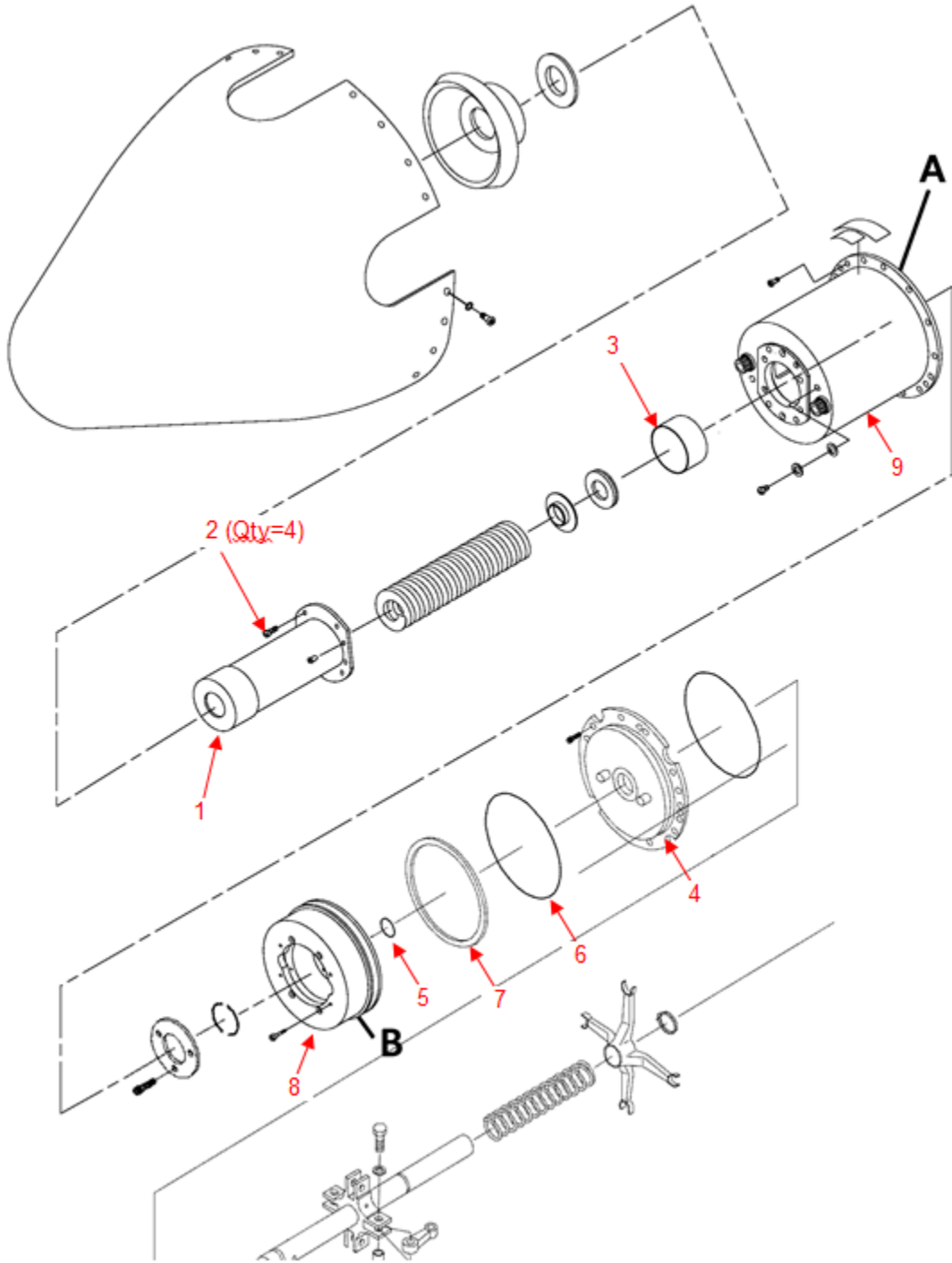
The McCauley 4HFR34C778 propeller hub is modified under STC SP_____ CH to be equipped with start locks. The start lock mechanism is adapted for use in a McCauley C778 hub (part of the C750 series hubs) using McCauley parts.

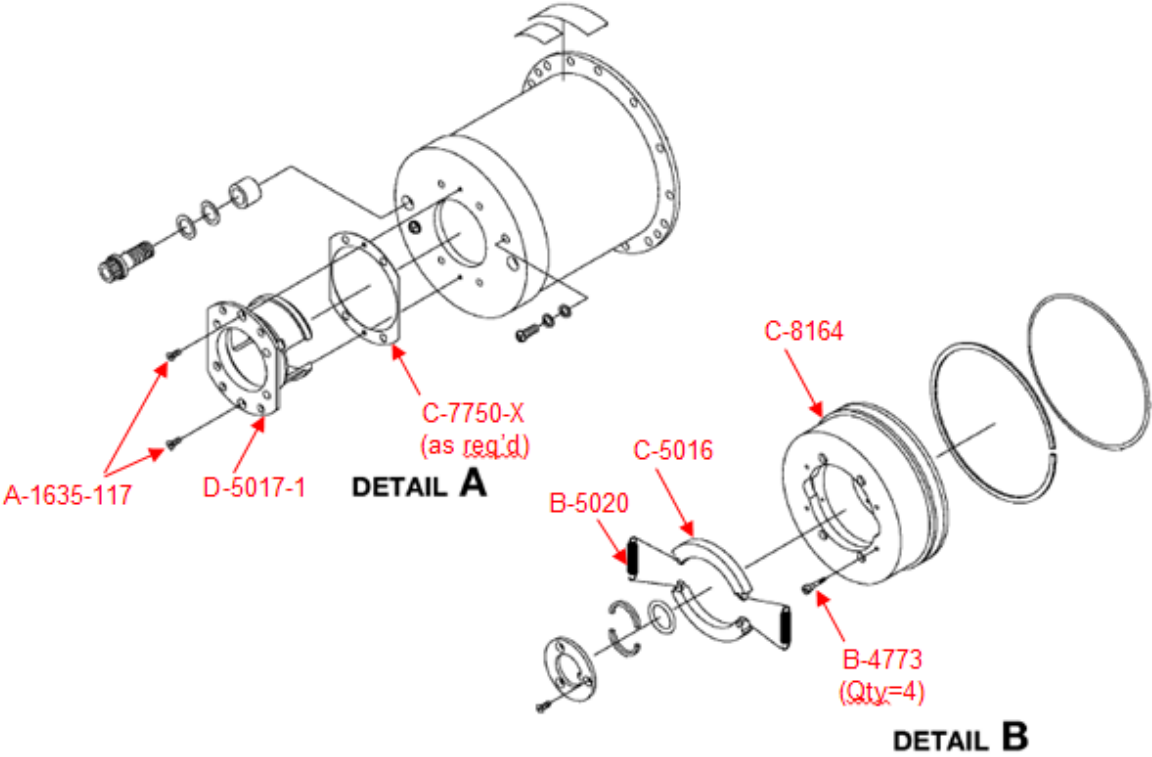
Maintenance practices from the McCauley C750 series service and overhaul manual should be used for servicing and maintaining the modified hub, with the exception of the modified parts specifically noted below. A detailed parts breakdown can be found in installation document 1008767. The McCauley C650 series service and overhaul manual should be used for service of the start lock parts.

Any Service Letters, Service Bulletins, and Airworthiness Directives applicable to the original propeller or the start lock components listed below must be complied with. Overhaul times for the modified propeller are the same as those for the original 4HFR34C778 propeller.

Item Number	Part Number	Description	Qty
1	C-7125	HOUSING, SPRING	1
2	A-1635-119	SCREW, HOUSING ATTACHING	4
3	B-5014	(GREASE) SHIELD	1
4	A-1633-84	O-RING, PLATE TO CYLINDER	1
5	A-1633-55	O-RING, PISTON TO PISTON ROD	1
6	A-1633-118	O-RING, PISTON TO CYLINDER	1
7	B-4978-1	BACK-UP RING	1
8	C-8165	PISTON ASSEMBLY	1
-	C-8164	PISTON	1
-	B-4773	SCREW – WT RETAINING	4
-	B-5020	SPRING ASSY	2
-	C-5016	WEIGHT – START LOCK	2
9	C-8167	CYLINDER ASSEMBLY	1
-	D-8166	CYLINDER	1
-	A-2501	DECAL - CYLINDER	1
-	D-5017-1	LATCH – START LOCK	1
-	A-1635-117	SCREW	2
-	C-7750-X	SHIM	AR

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1.2 REFERENCES

A list of important references is given below. In addition to this document, these will aid in the maintenance and continued airworthiness of the modified propeller.

MPC600 – McCauley Propeller Systems Model C600 Series Overhaul Manual

MPC650 – McCauley Propeller Systems Model C650 Series Overhaul Manual

MPC700 – McCauley Propeller Systems Model C700 Series Overhaul Manual

MPC750 – McCauley Propeller Systems Model C750 Series Overhaul Manual

SPM100 – McCauley Propeller Systems Standard Practices Manual

Wipaire document 1005830, Propeller Modification Instructions, Installation of Pitch Locks in a McCauley 3GFR34C703 Propeller Hub

Wipaire document 1008767, Propeller Modification Instructions, Installation of Pitch Locks in a McCauley 4HFR34C778 Propeller Hub

1.3.1 SPECIFICATIONS, 3GFR34C703 PROPELLER

Propeller blade angles for the three-blade 3GFR34C703 propeller are shown below, as measured at the 30 inch station. Note: feathered, low pitch, and reverse blade angles are unchanged from stock propeller.

Feathered: $88.0^{\circ} \pm 0.2^{\circ}$

Low Pitch: $15.6^{\circ} \pm 0.2^{\circ}$

Reverse: $-14.0^{\circ} \pm 0.2^{\circ}$

Start Lock: $2.0^{\circ} \pm 1.0^{\circ}$

Exchange weight of modification: +1.0 lbs

1.3.2 SPECIFICATIONS, 4HFR34C778 PROPELLER

Propeller blade angles for the four-blade 4HFR34C778 propeller are shown below, as measured at the 30 inch station. Note: feathered, low pitch, and reverse blade angles are unchanged from stock propeller.

Feathered: $88.0^{\circ} \pm 0.2^{\circ}$

Low Pitch: $17.2^{\circ} \pm 0.2^{\circ}$

Reverse: $-14.0^{\circ} \pm 0.2^{\circ}$

Start Lock: $2.0^{\circ} \pm 1.0^{\circ}$

Exchange weight of modification: +1.0 lbs

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CHAPTER 2

AIRWORTHINESS LIMITATIONS

AIRWORTHINESS LIMITATIONS

This Airworthiness Limitations section is FAA approved and specifies maintenance required under paragraphs 43.16 and 91.403(c) of the Federal Aviation Regulations unless an alternative program has been FAA approved.

The propeller Airworthiness Limitations are unchanged as a result of installation of start locks in accordance with this STC.

FAA APPROVED



DATE

9/10/14

END