

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
AND EQUIPMENT MAINTENANCE MANUAL
FOR TAIL BOOM BAGGAGE DOOR ACTUATOR

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REPORT NUMBER
HF-412-ICA-BAGGAGE DOOR ACTUATOR-01
(STC SR09488RC)

THIS MANUAL IS PREPARED TO PROVIDE INFORMATION, INSTRUCTIONS FOR CONTINUED AIRWORTHINESS, MAINTENANCE INSTRUCTIONS AND REPAIR PROCEDURES FOR EQUIPMENT MANUFACTURED BY HELIFAB THAT MAY BE INSTALLED. ENSURE THAT THIS MANUAL IS USED FOR ONLY HELIFAB EQUIPMENT.

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REVISION STATUS AND CONTROL LOG

REV #	DESCRIPTION OF CHANGE	DATE ISSUED	PAGES AFFECTED	BY
IR	ORIGINAL	9/5/2006	ALL	MSE
A	Add missing item number to figures 2 and 3. Correct order of removal and installation instructions. Add required statement to section 2.	01/30/2015	ALL	KDS

LIST OF EFFECTIVE PAGES

PAGE	REVISION	DATE
1 thru 10	IR	9/5/2006
1 thru 12	A	01/30/2015

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS AND EQUIPMENT MAINTENANCE MANUAL FOR TAIL BOOM BAGGAGE DOOR ACTUATOR

CHAPTER 1 - INTRODUCTION

1.1 General Product Information

Helifab's tail boom baggage door actuator installation, installs a pneumatic actuator on Bell Models 212 and 412 series helicopters with a composite tail boom baggage door. This installation controls the rate of opening and prevents the door from opening past normal open position and help prevent damage to the door and airframe. The actuator holds the baggage door open to facilitate loading and unloading. This installation replaced a brass chain installed by the manufacture that acts as door stop.

The modification installs pneumatic actuator between a mount on the composite tail boom baggage door and a mount located on the baggage compartment ceiling. The actuator holds the baggage door open to facilitate loading and unloading.

1.2 Scope of ICA

The purpose of these Instructions for Continued Airworthiness (ICA) and Equipment Maintenance Manual (EMM), is to provide necessary information to maintain, inspect, repair, or replace the equipment. Maintenance personnel should be thoroughly familiar with standard abbreviation contained herein, any specific abbreviation or acronym contained can be found in the document text with the full meaning.

1.3 Precautions

The following precautions are used throughout this manual and are defined as follows:

WARNING IS USED WHEN UNQUALIFIED PERFORMANCE OR NEGLECT OF INSTRUCTIONS MAY LEAD TO INJURIES OR DEADLY ACCIDENTS.

CAUTION IS USED WHEN UNQUALIFIED PERFORMANCE OR NEGLECT OF INSTRUCTIONS MAY LEAD TO EQUIPMENT DAMAGE

NOTE IS USED WHEN A PARTICULAR ITEM NEEDS TO BE EMPHASIZED

1.4 Abbreviations

EMM	Equipment Maintenance Manual
ICA	Instructions for Continued Airworthiness
HF	Helifab, Inc.
MIL	US Military Specification
N/C	No Change
TSN	Time since New
Mo.	Months
Y	Years

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1.5 Scope of the aircraft maintenance manual.

- A The equipment maintenance manual HF-412-ICA-BAGGAGE DOOR ACTUATOR-01 describes the required procedures for maintaining continued airworthiness for the Tail Boom Baggage Door Actuator installation.

This manual only includes information for servicing, maintenance, inspection and repair within the scope of an appropriately rated mechanic or repair station.

- B Changes to the Equipment Maintenance Manual:

- (1) Revisions are supplied to all registered owners of aircraft incorporating equipment covered by this manual. It is the responsibility of the owner/ operator that only the current issue of the Equipment Maintenance Manual is used.
- (2) Changes to the equipment maintenance manuals are to be incorporated.
- (3) Changes are identified as follows:
 - (a) Revised or extended text, inserted pages with new text contents or new figures are identified with black marginal bars or referenced symbols.
 - (b) When text is relocated, resulting possibly in a renumbering of pages or task, or in case of printing error corrections, no markings are provided.
 - (c) Changed pages are provided with the issue date of the change.
- (4) Equipment manufacturer's manuals;

Upon initial installation of the HELIFAB, Inc. Tail Boom Baggage Door Actuator installation, HELIFAB, Inc. will provide any installation or operators manuals that are included with the purchase of the new equipment.

1.6 General

- A. Any special tools required are defined in the text of the document.
- B. Torque Values. Unless specified otherwise, the following torques will be used.

<u>Size</u>	<u>Type</u>	<u>Torque</u>
10/32	Screws	12 to 15" lbs.
5/16	Bolts and Nuts	50 to 70" lbs.

1.7 Consumable Materials

- A. Explanation
Only Consumable materials noted throughout this manual and on referenced drawings are to be used. HELIFAB can be contacted to approve alternate or equivalent materials.

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CHAPTER 2 - AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

CHAPTER 3 –TIME LIMITS/INSPECTIONS

3.1 Overhauls - Time Limits

“There are no overhauls are time limits associated with this type design change.”

3.2 Conditional Inspections - Time Limits

Operational Incidents

- A. After any operational incident involving hard landings, sudden stoppage of the drive train or water immersion, the system must not be operated until an inspection of the installation has been accomplished in accordance with Chapter 3 of this manual.

CHECKS

3.3 Preflight Check - Equipment

- A. The preflight check shall be accomplished in accordance with this guide by a qualified technician or pilot.
- B. System Check: Installed equipment
- 1) Check actuator for proper operation and its mounts for wear and security of attachment.

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3.4 12 Months/100 Hour Inspection

- A. This inspection is to be performed by a qualified technician.
- B. In conjunction with this inspection a complete preflight inspection must be accomplished in accordance with Section 3.3.

DATE:

HELICOPTER S/N:

REGISTRY NO:

TOTAL TIME:

INSPECTION TASK DESCRIPTION	INITIAL MECHANIC
1. Inspect actuator for operation security and condition. (replace if actuator is weak and unable to retain door in the open position)	
2. Inspect mounting brackets for condition security. Inspect safety clip for proper engagement.	
3. Inspect related aircraft structure for integrity.	
4. Return aircraft to service and make appropriate entries in aircraft log book	

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Chapter 4 - General Description

4.1 Description

The Tail Boom Baggage Door Actuator installation consists of mount brackets and a pneumatic actuator on the Bell Models 212 and 412 series helicopters between a mount on the composite tail boom baggage door and a mount located on the baggage compartment ceiling. This installation controls the rate of opening and prevents the door from opening past normal open position and help prevent damage to the door and airframe. The actuator holds the baggage door open to facilitate loading and unloading. This installation replaced a brass chain installed by the manufacture that acts as door stop.

The Baggage Door Actuator installation in Figure 1 shows the location of the installed equipment in the aircraft.

HELIFAB'S Baggage Door Actuator installation includes the following components:

	<i>P/N</i>	<i>Description</i>		<i>P/N</i>	<i>Description</i>
1	5230-01-0001	Gas Spring	7	5230-01-0007	Ceiling Bracket
2	5230-01-0002	Ball Socket	8	AN960-516L	Washer
3	5230-01-0003	Ball Stud	9	MS27039-1-6	Screw
4	5230-01-0004	Cap Nut	10	AN960PD10L	Washer
5	5230-01-0005	Safety Clip	11	80-004-2-8	Insert
6	5230-01-0006	Door Bracket	12	80-004-2-6	Insert

Table 1

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
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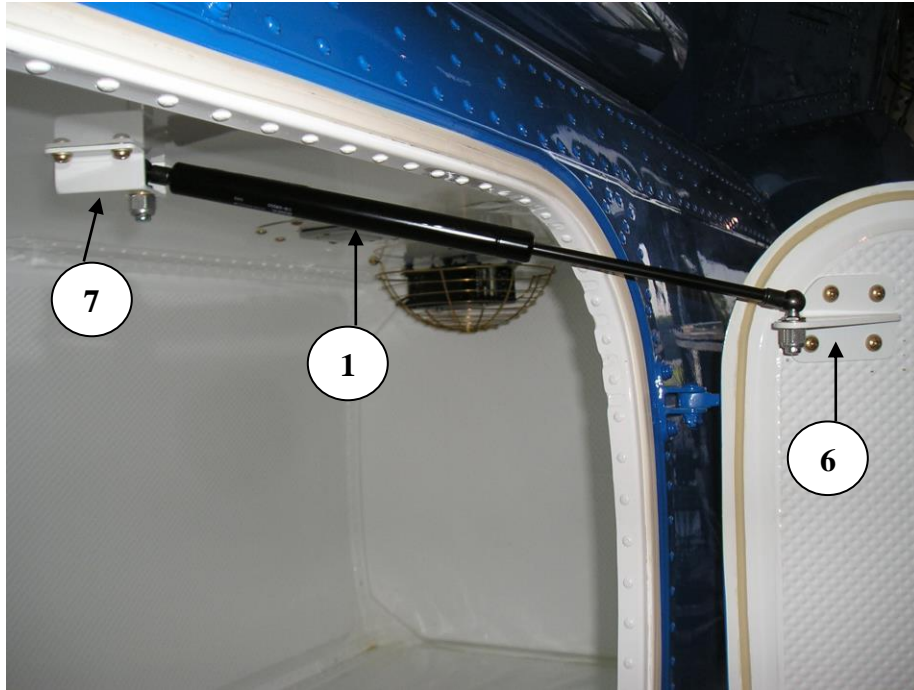


Figure 1

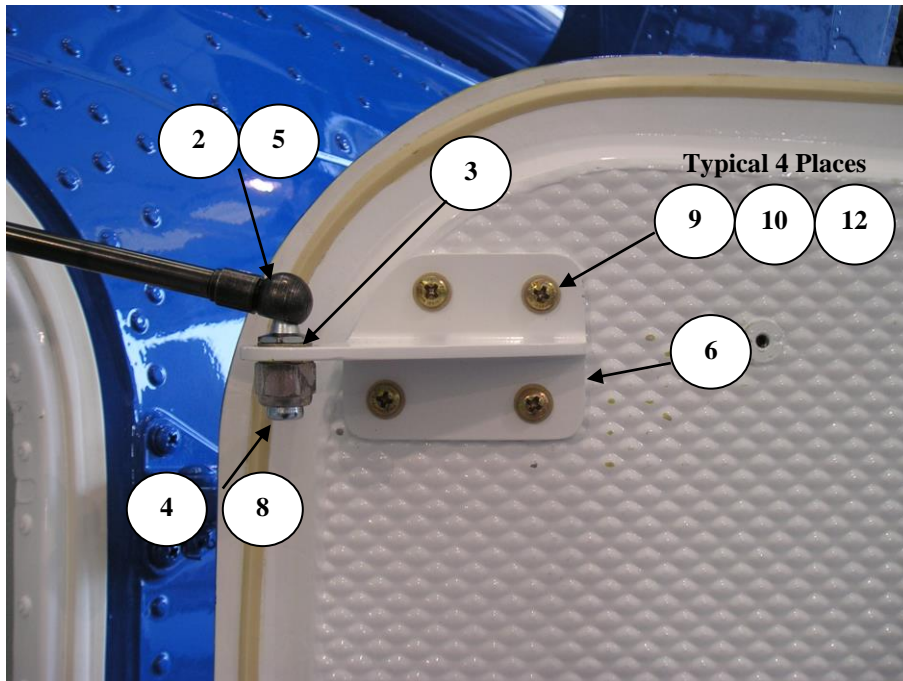


Figure 2

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
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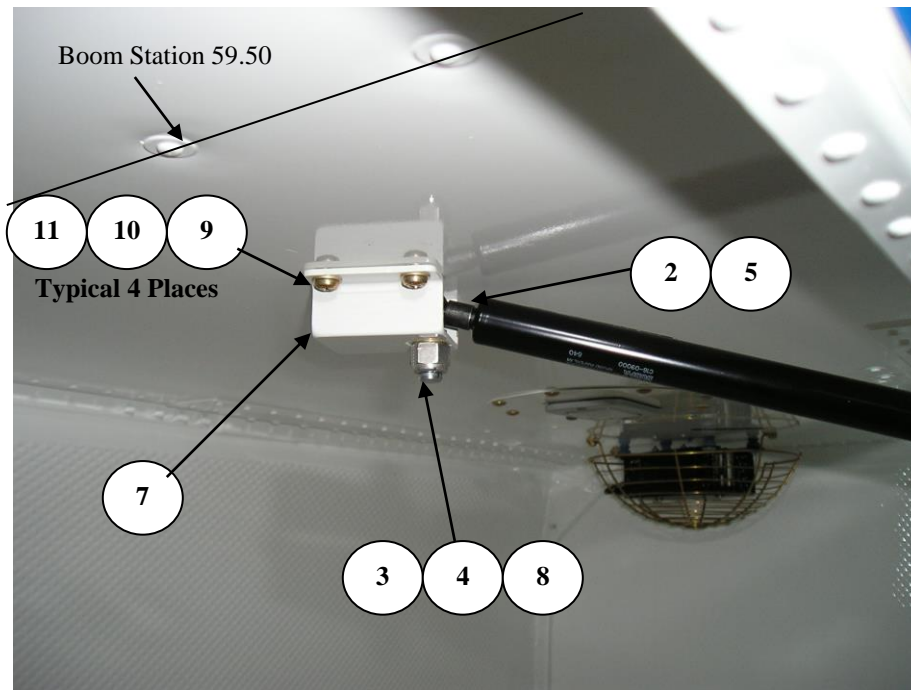


FIGURE 3

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CHAPTER 5 – REMOVAL AND INSTALLATION INSTRUCTIONS

5.1 Removal

References:	Table 1 and Figures 1 through 3
Special Tools	None

Removal gas spring (item 1) from ball stud (item 3) located on the baggage compartment door by removing the safety clip (item 5) from the ball socket (item 2). Remove bracket (item 6) by removing the four screws and washers noted in figure 2. Remove bracket (item 7) by removing the four screws and washers noted in figure 3. Reinstall the screws and washers removed into the inserts to prevent insert damage.

Install rotorcraft manufacturer's baggage door stop per manufacturer's maintenance manual.

5.2 Installation

- Remove rotorcraft manufacturer's installed baggage door stop per manufacturer's maintenance manual.
- Install brackets (item 6 and 7) using hardware shown in figure 2 and 3 respectively.
- Install gas spring (item 1) to ball stud (item 3) located on the baggage compartment door by installing the safety clip (item 5) into the ball socket (item 2).

NOTE

Actuator must be installed with tube end connected to ceiling bracket (item 7) as shown in figure 1. Ensure safety clip (item 5) is fully inserted into the ball socket (item 2)

5.3 Troubleshooting

- Loose or improper engagement of installation hardware can be corrected by replacement of defective or worn parts.

5.4 Cleaning

- Wipe with clean cloth

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5.5 Repair

- No repairs other than those that can be accomplished with normal methods or that are called out in this EMM should be attempted unless the STC holder is contacted and specific written instructions are provided. These instructions must be FAA approved or done in accordance with FAA accepted data specific to the repairs required.
- Normal repairs would include paint touch up and cleaning. Replacement of defective inserts must be done in accordance with the insert installation procedure in Drawing # HF-412-I-5231-01 and accepted maintenance practices.

CHAPTER 6 – WEIGHT AND BALANCE

6.1 Weight and Balance

The new empty weight and corresponding C.G. location must be determined and entered in the aircraft permanent records.

Installation of the Tail Boom Baggage Door Actuator kit has the following effect on weight and balance:

<i>WEIGHT</i>	<i>LONGITUDINAL ARM</i>	<i>MOMENT</i>	<i>LATERAL</i>	<i>MOMENT</i>
+ 1.5	241.2	361.8	0.0	0.0