TECHNICAL INSTRUCTION TI HAC14-003

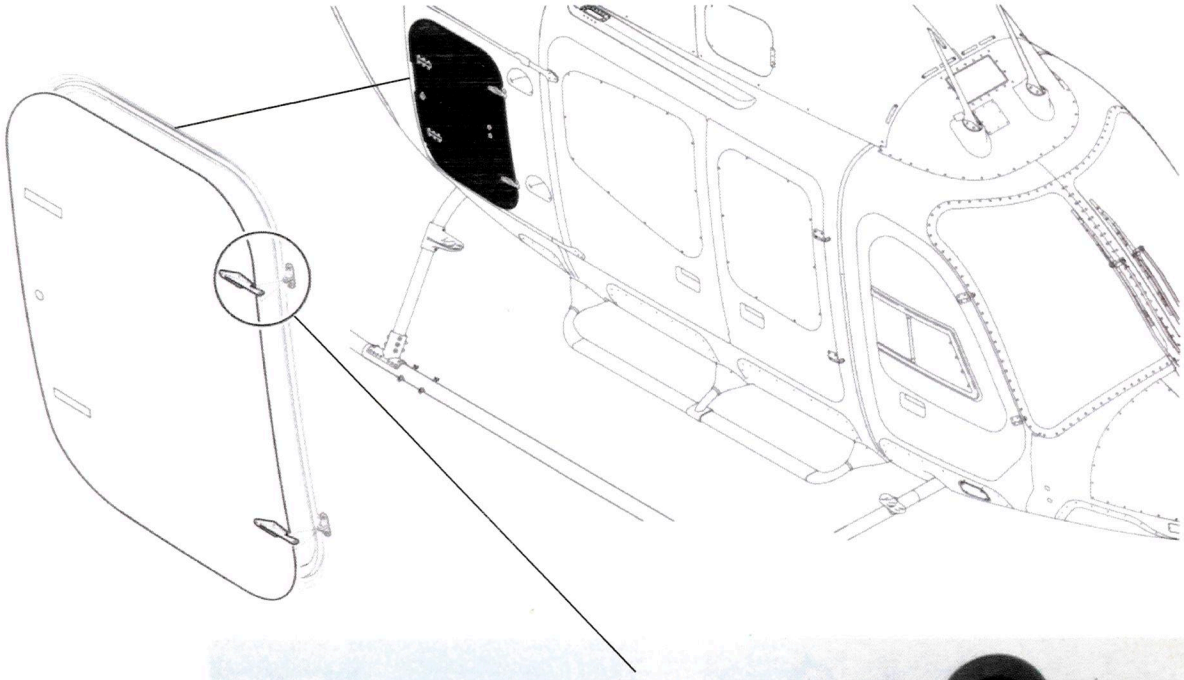
TECHNICAL INSTRUCTION
HAC14-003, REVISION 0
February 24, 2015

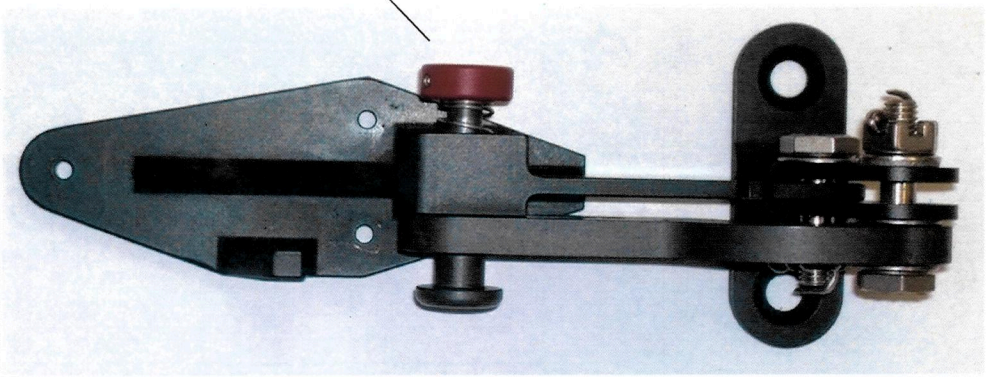
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

PART NUMBER: 429-003-901DEC
ARTICLE NOMENCLATURE: HINGE, LOCKING ASSEMBLY

INSTALLED ON

BELL HELICOPTER TEXTRON CANADA LIMITED MODEL 429





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RECORD OF REVISIONS

REVISION	ECN	DESCRIPTION	DATE	BY
0	None	Initial Release	February 24, 2015	R. Capwell

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The DEC Technologies, Inc. part number 429-003-901DEC Hinge, Locking Assembly is a customer requested option for the Baggage Compartment Door Installation on the Bell Helicopter Textron Canada Limited Model 429.

1.0 INTRODUCTION

This document provides instructions for removal and installation of the Hinge. It includes inspection methods and criteria to ensure the Hinge continues to be airworthy.

2.0 DESCRIPTION

The Hinge, Locking Assembly replaces the existing Hinge Assembly which consists of two primary components, the Hinge, Upper and the Clevis, Upper, Baggage Door, and the hardware that connects the two primary components. There are no changes to the hardware used to install the Hinge.

The Hinge, Locking Assembly allows the Baggage Compartment Door to be in a locked open position while the Baggage Compartment is accessed.

3.0 OPERATION

To lock the Baggage Compartment Door into the open position, open the door until the Hinge, Locking Assembly automatically locks. An audible “snap” will be heard. To unlock the Baggage Compartment Door, depress the red button on the Hinge, Locking Assembly and close the door normally. Closing force should not be applied to the Baggage Compartment Door until the red button is fully depressed. See Figures 3.1 and 3.2.

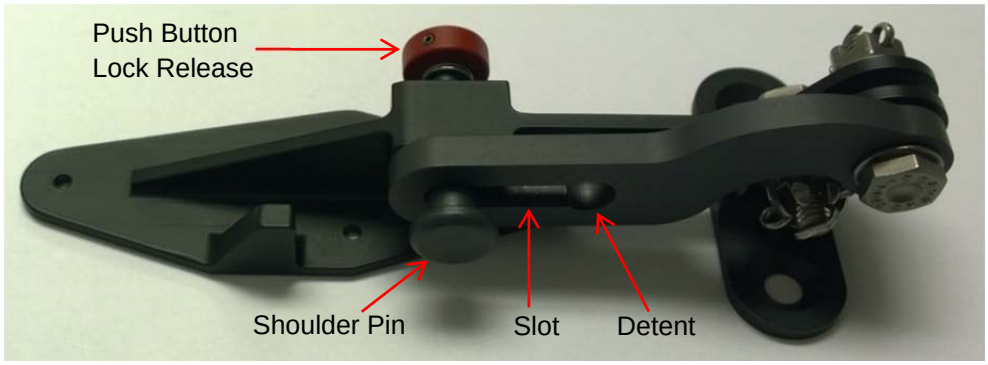


Figure 3.1: Hinge, Locking Assembly
(Baggage Compartment Door in Closed Position)

Figure 3.2: Hinge, Locking Assembly
(Baggage Compartment Door in Open Position)

4.0 TROUBLESHOOTING INFORMATION

TROUBLESHOOTING		
Problem	Probable Cause	Remedy
Warping of the Locking Bar, Clevis, Hinge, or the Pivoting Bolts.	Excessive load on the door while open.	Replace damaged component or complete Hinge and Clevis assembly.
Fracture of the Locking Bar, Clevis, Hinge, or the Pivoting Bolts.	Excessive load on the door while open.	Replace damaged component or complete Hinge and Clevis assembly.
Warping or fracture of the Button Post.	Excessive load on the door while open.	Replace damaged component or complete Hinge and Clevis assembly.

5.0 CONSUMABLE MATERIALS

This section contains a list of consumable materials that are required for installation of the hinge, locking assembly.

5.1 Rivets, p/n MS1141S0403
5.2 Laminated Shims, p/n 120-210-007B017
5.3 Sealant (C-251)
5.4 Dry Cleaning Solvent (C-304)
5.5 Acetone (C-316)
5.6 Adhesive (C-322)
5.7 Adhesive Tape (C-460)
5.8 Clean Cloth (C-516)

6.0 REMOVAL OF THE HINGE (UPPER) AND CLEVIS (UPPER)

NOTE

See Bell BHT-ALL-SPM for Material Codes.

NOTE

Refer to Figure 6.1 for part identification

6.1 Remove the Clevis (Item 5) as described in section 52-128 of the Bell Helicopter Maintenance Manual.

6.2 Remove the Hinge (Item 2) as follows:

6.2.1 Remove the three rivets (Item 15) that attach the upper Hinge (Item 2) to the Baggage Compartment Door.

6.2.2 With a blunt-edged spatula, lift and remove the upper Hinge (Item 2) from the Baggage Compartment Door.

6.2.3 Clean the upper Hinge (Item 2) with dry cleaning solvent (C-304) and a soft bristle brush.

6.2.4 After removing the upper Hinge (Item 2) and Clevis (Item 5), close the Baggage Compartment Door to prevent damage until an upper hinge (item 2) is reinstalled.

7.0 INSTALLATION OF THE HINGE (UPPER) AND CLEVIS (UPPER)

Clean the faying surfaces of the Baggage Compartment Door and upper Hinge (Item 2) with a clean cloth (C-516) moistened with acetone (C-316).

7.1 Lightly sand the mating surfaces and wipe with a clean cloth (C-516) moistened with acetone (C-316).

7.2 Apply adhesive tape (C-460) to the door in the area where the upper Hinge (Item 2) will be installed.

7.3 Make sure the adhesive tape (C-460) is free of wrinkles or air bubbles.

7.4 Mix a sufficient quantity of adhesive (C-322).

7.5 Apply a thick layer of adhesive (C-322) on the mating surfaces of the hinge and door.

7.6 Place the upper Hinge (Item 2) in position on the Baggage Compartment Door.

7.7 Install Clecos in rivet (Item 15) locations.

7.8 Remove excess adhesive from around the upper Hinge.

7.9 Let adhesive (C-322) cure at room temperature for 16 hours.

7.10 Remove Clecos.

7.11 Visually examine the adhesive (C-322) and make sure of the following conditions.

7.11.1 Adhesive should cover the entire mating surface of the hinge.

7.11.2 The thickness of the adhesive (C-322) is not more than .020 inch (.51mm).

7.11.3 Small pinholes, porosity, and void areas in the adhesive are acceptable if they are in the limits that follows:

7.12 Each is maximum 0.15 inch (3.18mm) in diameter.

7.12.1 Total area is .018 $inch^2$ (11.6 mm^2) maximum.

7.12.2 They are a minimum of 1.0 inch (25.4 mm) apart.

7.12.3 If pinholes, porosity, or void areas exceed the limits, remove the adhesive and repeat the procedure.

7.13 Remove any excess cured adhesive from the upper Hinge (Item 2).

7.14 Remove adhesive tape from the Baggage Compartment Door.

If an additional shim is required to fill the gap between the upper hinge (Item 2) and the Baggage Compartment Door, perform the following steps:

7.14.1 Peel a laminated shim (not provided) as required, to fill the gap between the hinge and door.

7.14.2 Trim the laminated shim to match the footprint of the upper Hinge (Item 2).

7.14.3 Apply sealant (C-251) to the faying surfaces of the shim.

7.14.4 Put the shim in position on the upper Hinge (Item 2).

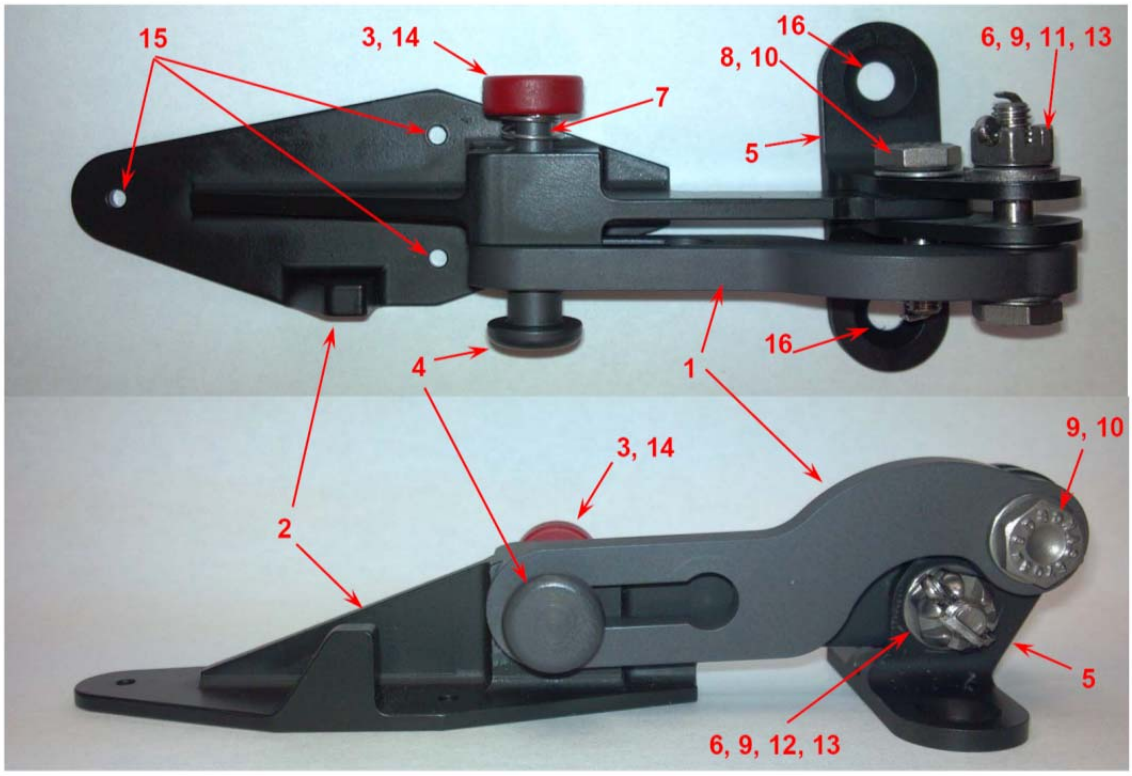
7.15 Install rivets (Item 15) wet with sealant (C-251) in the upper Hinge (Item 2)

7.16 Apply a bead of sealant (C-251) around the periphery of upper Hinge (Item 2).

7.17 Install Clevis (Item 5) per 52-132 of the Bell Helicopter Maintenance Manual using screws (Item 16).

7.18 After installation, test the operation of the Hinge, Locking Assembly as indicated in Section 3.0.

8.0 PART IDENTIFICATION – P/N 429-003-901DEC HINGE, LOCKING ASSY.



1. 429-003-901-001DEC Locking Bar
2. 429-003-901-002DEC Hinge
3. 429-003-901-003DEC Push Button
4. 429-003-901-004DEC Button Post
5. 429-003-901-005DEC Clevis
6. 429-003-901-006DEC Bushing
7. LC 022D 02 S316 Compression Spring
8. NAS6703DU6 Bolt*
9. NAS6703DU9 Bolt
10. NAS1149C0332R Washer*
11. AN320C3 Nut
12. AN310C3 Nut
13. MS24665-151 Pin, Cotter*
14. NAS561S2-8 Spring Pin
15. MS21141S0403 Rivet**
16. NAS7503U4 Screw**

* Identical to part number used on the Bell stock Baggage Compartment Door installation.

** Not illustrated. Used for securing to Baggage Compartment Door or existing airframe provisions at location shown. Item is identical to part number used on the Bell Helicopter stock Baggage Compartment Door installation.

Figure 6.1
P/N 429-003-901DEC
Parts List

9.0 INSPECTION CRITERIA FOR CONTINUED AIRWORTHINESS

Table 7.1

Inspection Criteria for Continued Airworthiness

Item Number (Fig. 6.1)	Characteristic	Inspection Method	Limit
All	Mechanical Damage	Visual	None permitted Replace Component or Assembly
All	Corrosion Damage	Visual	None permitted Replace Component or Assembly

10.0 AIRWORTHINESS LIMITATIONS

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

There are no life limitations for this Hinge Locking Assembly provided the components are free from mechanical or corrosion damage as indicated above.

11.0 WEIGHT AND BALANCE

Description of Installation	Weight	Station	Lateral Arm
Hinge, Locking Assembly P/N 429-003-901DEC	Negligible net weight change	260.0 in (6604 mm)	32.0 in (Right) (812.8 mm)

12.0 INFORMATION ACCESS AND DISTRIBUTION

This document will be maintained and the latest approved revision posted on the HEICO web site at http://ipc.heico.com

This document will also be distributed in the packaging with each delivered article.