Aerotech Ind. Ltd.

DHC-3 OTTER

FLOAT HATCH

STC SA 15-27

- SA15-27 Certificate
- Release Certificate
- Instructions for Continued Airworthiness
  - Appendix "A"
    - Installation Instructions
    - Installation Drawings.

Transport Canada Transports Canada

Department of Transport

Supplemental Type Certificate

This approval is issued to:

Aerotech Industries Inc.
2870 Spit Road
P.O. Box 727
Campbell River, British Columbia
Canada V9W 6J3

Number: SA15-27
Issue No.: 1
Approval Date: March 25, 2015
Issue Date: March 30, 2015

Responsible Office: Pacific
Aircraft/Engine Type or Model: Dehavilland DHC-3
Canadian Type Certificate or Equivalent: A-27
Description of Type Design Change: Float Baggage Locker

Installation/Operating Data, Required Equipment and Limitations:
Installation of the Float Hatches is to be done in accordance with Aerotech Industries Inc. document VIA-FH-001, Revision C, Transport Canada approved March 25, 2015*.

Float Hatches are to be maintained in accordance with Transport Canada accepted document VIA-FH-ICA, Issue 1, Transport Canada accepted March 25, 2015 or later Transport Canada accepted revision.

Required Equipment and Limitations:
Seaplane Float Installations: EDO 7170; EDO 7490; Stolarus 8367 upgross (approved under SA95-32); or Intaero 8100 (approved under SA06-42).

(* or later Transport Canada approved revision.)

— End —

Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.

Henry Wong
For Minister of Transport

Canada

6. Item	7. Description	8. Part No	9. Qty.	10. Serial/ Batch No	11. Status / Work
5	Float Locker Kit	VIA-FH-001	4	AT 15-02	New

12. Remarks

The item defined above has been manufactured in accordance with approved data STC # SA 15-27, approved drawing # VIA-FH-001 rev. C, Dated Mar 25, 2015.

13a. Certifies that the items identified above were manufactured in conformity to:		14a.	
[X] Approved design data and are in condition for safe operation. [ ] Non approved design data specified in block 12.		[ ] CAR 571.10 Maintenance Release. [ ] Other regulation specified in block 12. Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the *Canadian Aviation Regulations* (CARs).	
13b. Signature	13c. Approved Organization Number Manufacturing AMO 203-91	14b. Signature	14c. Approved Organization Number
13d. Name J. Billinghurst	13e. Date (dd-mm-yyyy) 06 April 2015	14d. Name	14e. Date (dd-mm-yyyy)

April 7, 2009 (Previously form 24-0078)

INSTALLER RESPONSIBILITIES:

This certificate does not constitute authority to install.

Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.

Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.

VIA-FH-ICA
Issue 1

Feb 27, 2015

Aerotech Industries Ltd.
P.O. Box 727
Campbell River
BC V9W 6J3

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

DHC-3 Otter – Float Hatch

STC SA 15-27
Issue 1

1. Introduction

The information and data contained in this document supplements that contained in the DHC-3 Otter Maintenance Manual. For maintenance data not contained in this document, refer to the Approved Maintenance Manual:-

- PSM1-3-2. Rev.3. Sept. 15. 1969 (DHC-3T Otter)

or later approved revision.

In the following pages, Instructions for Continued Airworthiness are provided for baggage compartment hinged access hatches and floors between Blkhds No.3 and No. 5 of EDO and IAP 8100 floats, installed on float equipped DHC-3 & DHC-3T Otter aircraft.

Continued ...

Number	Date	Date Entered	Entered By
15-1	May 18, 2015	INCLUDED	A.W.

Page No.	Amendment No.	Effective Date
1.	15-1	May 18, 2015
2.	15-1	May 18, 2015
3.	15-1	May 18, 2015
4.	15-1	May 18, 2015
5.	15-1	May 18, 2015

Appendices

App.	Title	Rev.	Date
"A"**	Float Hatch Installation Instructions EDO floats - VIA-FH-031	C	May 11, 2015
"B"††	Float Hatch 8100 Installation Instructions IAP 8100 floats - VIA-FH-032	A	May 11, 2015

2. Description

STC SA 15-27 provides for the installation of a hinged hatch and floors between Blkhds No.3 and No. 5 of EDO Floats, creating a 300 lb.baggage compartment inside the float.

Floors, a doubled lid stringer, and a new Placard only, are installed into existing IAP 8100 float baggage compartments for an increased weight limit to 300 lb.

3. Control

There are no specific operation and control instructions relating to this modification.

4. Servicing Information

There are no service operations required for this modification.

5. Maintenance Instructions

Every 100 hours:-

1. Inspect for corrosion and condition.
2. Inspect for denting or other deformation.
3. Inspect adjacent area on float for cracks and water tightness.
4. Inspect lid seal for water tightness.
5. Check that hinge operates freely.
6. Check operation and adjustment of latches.
7. Lubricate hinge and latches as required.
8. Remove floors and check 1-3 as above and for chafing.
9. Inspect composite floor panels for damage. All areas including those that appear damaged may be tap tested. Using a tap-test hammer or a coin, tap the surface each 1 inch. A sharp acoustic return indicates good condition; a dull acoustic return indicates damage. **Ref:** AC 43.13-1B Chapter 5, Sec 8.

6. Trouble Shooting Information

There are no special trouble shooting procedures for this modification.

7. Removal And Replacement Information

Ref: Appendix "A" - Installation Instructions. (For EDO 7170 and EDO 7490 floats.)
Ref: Appendix "B" - Installation Instructions. (For IAP 8100 floats.)

8. Access For Inspection

All components of this modification are readily accessible

9. Special Inspection Methods

Floors

1. Composite Floor Panels – check for damage as per Section 5. above.
2. Facing penetration or delamination up to 4 inches diameter must be repaired or the panel replaced. Larger damage requires replacement.
3. Damaged panels may be repaired in accordance with AC 43.13-1B Chapter 3, Sec 1, or replaced as required.

Continued …

10. Protective Treatments

There are no requirements for the application of protective treatments to components of this modification, after inspections.

11. Fastener Data

Only approved fasteners shall be used as replacement items. Use standard fastener torque.
Ref: AC 43.13-1B, Ch.7 Sec.3 Par.7-40 and Table 7-1

12. Special Tools

There are no special tools required for the removal and replacement of any part of this modifications.

13. Additional Information (Commuter Aircraft)

A. Electrical loads ..... not applicable
B. Balancing flight controls .... not applicable.
C. Identification of structures .. not applicable.
D. Special repair methods ..... not applicable.

14. Recommended Overhaul Periods

All components relating to this modification must be inspected per Section 5 herein.
Based upon their condition, worn or damaged components shall be overhauled or replaced.

15. Airworthiness Limitations

There are no specific airworthiness limitations. All items relating to this modification remain airworthy based upon their condition (see Section 5 herein).

16. Revision

These Instructions for Continued Airworthiness may be revised from time to time. Recipients of these instructions, on record at Aerotech Industries Inc. as having this STC installed, will be provided with copies of revised Instructions as and when they occur.

END

APPENDIX "A"

Aerotech Industries Ltd.

Doc. No. VIA-FH-031
Float Hatch Installation Instructions – EDO floats

AEROTECH INDUSTRIES LTD.

DHC-3 OTTER

FLOAT HATCH

Part No. VIA-FH-001

INSTALLATION INSTRUCTIONS

Ref. Drawings: VIA-FH-011
VIA-FH-131

1. This modification installs a hinged hatch between Blkhds No.3 and 5 of EDO 7170 or 7490 Floats, creating access to a baggage compartment with floors inside the float.
2. Ref: **Dwg. VIA-FH-011** for general Notes and Specifications.
3. Remove Fwd 2 float access covers.
4. Ref: **Dwg. VIA-FH-131**: Cut and remove entire top deck skin between the **Aft** edge of bulkhead #3, and the **Fwd** edge of the deck bulb angle approximately 37.5 " aft of bulkhead #3.
5. Remove rivets in coamings to approximately 4" fwd of blkhd #3 and top skin rivets in blkhd #3.
   Remove rivets in coamings to approximately 5" aft of new cut-out.
   Remove skin rivets along aft edge of cut-out so that bulb angle will drop free.
   Save bulb angle for re-use.
6. For easier installation, remove hinge pin and separate lid assembly from new deck assembly.
7. Place new deck assembly centred laterally over cut-out and adjust position fore and aft so that new deck cross angles (ribs) line up with side skin bulb angles so that Gussets "A" may be installed. See Detail on drawing.

Rev	Date	Changes	Author
C	05-11-15	Sec. 5. edited. Sec. 13./14. edited. Sec.28. W&B amended.	
B	02-25-15	Sec. 22 to Sec. 25 re-written.	
A	02-20-15	Re-written for clarity and to include new parts. W&B amended.	

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AEROTECH INDUSTRIES LTD.
DHC-3 OTTER
FLOAT HATCH
INSTALLATION INSTRUCTIONS

Created: 01-08-15 G.Wells. Rev. C
Sheet 1 of 3
Dwg No. VIA-FH-031

AEROTECH INDUSTRIES LTD.

DHC-3 OTTER

INSTALLATION INSTRUCTIONS

8. Mark Straps ends for trimming as shown on drawing.
   *** NOTE that strap ends are not trimmed the same length as the new skin.**

9. Mark new deck skin for trimming as shown on dwg. Allow min. 2" overlap of original deck skin both Fwd and Aft ends. Skin and strap outer edges must also be trimmed to pick up all coaming rivets with adequate edge distance.

10. Remove assembly and trim straps and skin to size.

11. Temporarily put deck assembly in place.
    New deck skin is installed from inside the float. Fwd edge of new skin is pushed fwd under coaming and over old skin at blkhd #3. Fwd ends of straps should butt against blkhd #3 under flange.

12. Clamp aft end of new deck assembly up to existing top skin and coamings, adjusting laterally and fore & aft as required.

13. Back drill all holes in #3 blkhd.
    Add a second row .75 - 1" fwd of this row with a maximum pitch of 1".

14. Back drill all holes in coamings, and aft skin through new skin and strap. Clamp -224 Deck Shim under skin, and between straps. Line up rivet line on shim to existing aft skin holes with arrow pointing fwd.

15. Back drill holes through deck shim and Cleco in place along with the aft edge bulb angle that was removed from here in Step 5 above.

16. If required, add more holes to maintain a max 1" rivet pitch.
    Add a second row .75 - 1" aft of this row with a maximum pitch of 1".

17. Extend inboard line of rivet holes in Straps fwd and aft to ends of straps as shown on dwg.

18. Fit and drill Gussets "A" 2 places each side as per drawing

19. Fit and drill Gussets "B" 2 places each side as per drawing.

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DHC-3 OTTER

INSTALLATION INSTRUCTIONS

20. Remove all parts, clean and deburr all holes.

21. Re-assemble and rivet in place using an approved sealant (Sikaflex-291 or equivalent) between all joints.

22. Re-assemble hinge pin to attach lid to deck.
    Stake both ends of hinge pin to secure from working out.

23. Installing floors:- Run a 1/8" to 3/16" bead of Sikaflex along the top outer edge of the sister keelsons. (4 plcs)

24. Ref: **Dwg. VIA-FH-131**: Install -441 Padding strips over Sikaflex and edge of sister keelsons as shown on dwg Detail.

25. Install each Floor Panel inside compartment across Sister Keelsons as follows:-

	Fwd	Aft
EDO 7170 (8367)	-411	-421
EDO 7490	-411	-451

Outboard edges of panels should not bear on the bottom skins.

26. If required, aft panel may be trimmed to clear pump-out hose.
    All trimmed edges must be sealed with Sikaflex 291 or equivelant.

27. Repeat Sec. 3. - 26. for other float if required.

28. WEIGHT AND BALANCE :

Including Floors -

7170 Floats:-
Each Float Hatch Kit **adds 14.5 lbs. @ 74.04 in. aft of A/C Datum.**

7490 Floats:-
Each Float Hatch Kit **adds 14.65 lbs. @ 71.11 in. aft of A/C Datum.**

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AEROTECH INDUSTRIES LTD.

DHC-3 OTTER

FLOAT HATCH

Part No. VIA-FH-001

NOTES AND SPECIFICATIONS

1. This modification applies to the following EDO floats :-
   a. EDO 7170.
   b. EDO 7490.
   c. SA95-32 Stolarus 8367 upgross.
   d. SA06-42 Intaero 8100.
2. This modification is to install hatches in the forward part of one or both floats to allow up to 300 lbs. of baggage to be carried in each float.
   - OR: to install new floors in Intero 8100 float lockers and increase the wieght limit to 300 lbs. each.
3. Unless otherwise specified on the drawings, the following notes apply to all drawings.
4. Materials used in parts manufactured in accordance with these drawings shall conform to the following specifications :-

   Aluminum -

- 2024-T3	Alclad sheet	AMS-QQ-A-250/5
- 2024-T3	Extruded angle	AMS-QQ-A-200/3

   Honeycomb Panels -

- Gillfloor	4417 Ty. IV (.665 th.)	BMS 4-17 Rev.U TY.IV

   Metal Preparation:

: Metal prep	Alumiprep 133
: Alodine	Mil-C-5541B
: Zinc Chromate Epoxy	BMS 10-11

5. Finish :- All Aluminum parts shall be prepped with metal conditioner, Alodined, and primed with one coat zinc chromate epoxy primer prior to assembly.
   - Additional finish optional.
6. Remove all burrs and sharp edges.
7. All parts and assemblies on completion will be marked with at least :-
   a.) Part No. and b.) Batch No. using indelible ink .
8. Good aviation metal practice must be used during manufacture and installation – Ref. AC 43.13-1B & 2A.

Rev	Date	Changes	Author
C	05-11--15	Sec.3. Intero 8100 floats included. Sec. 7. added	
B	02-25-15	Sec. 1 - EDO 7850 removed. Sec 4. - Metal Prep added.	
A	02-20-15	4. Honeycomb panels added.	

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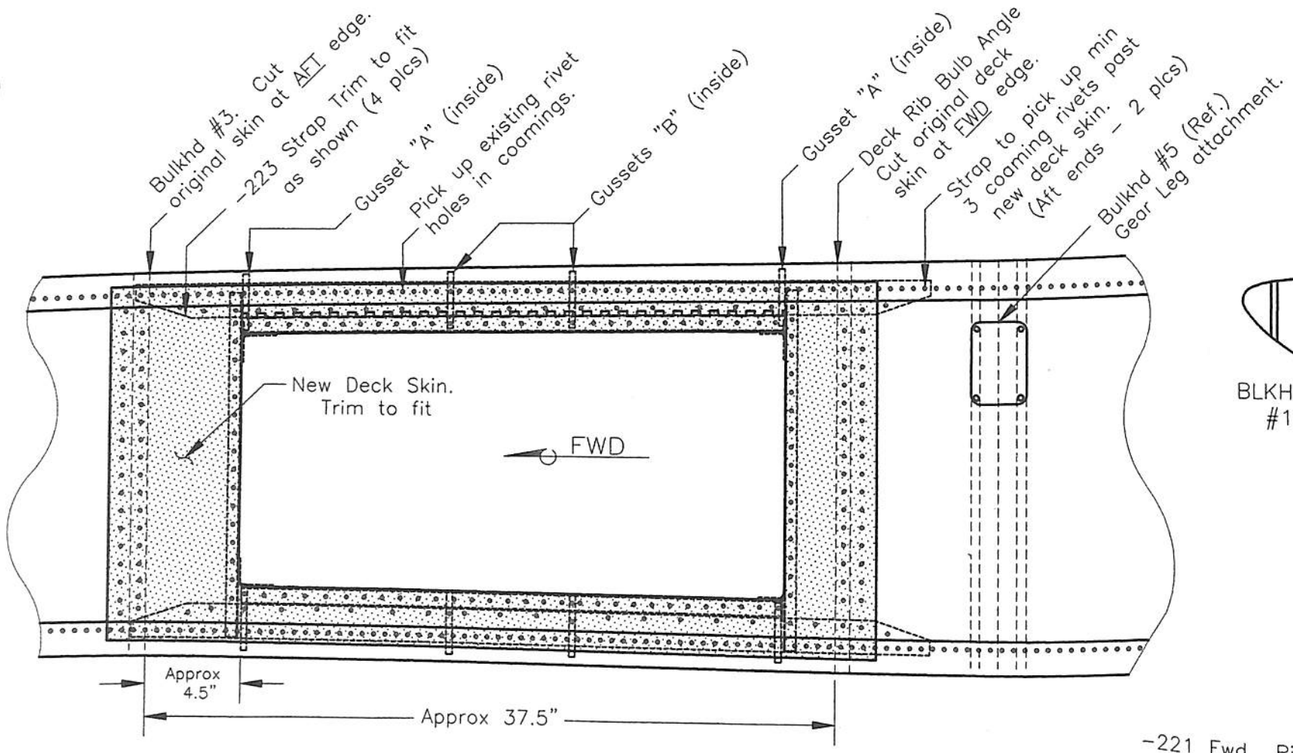
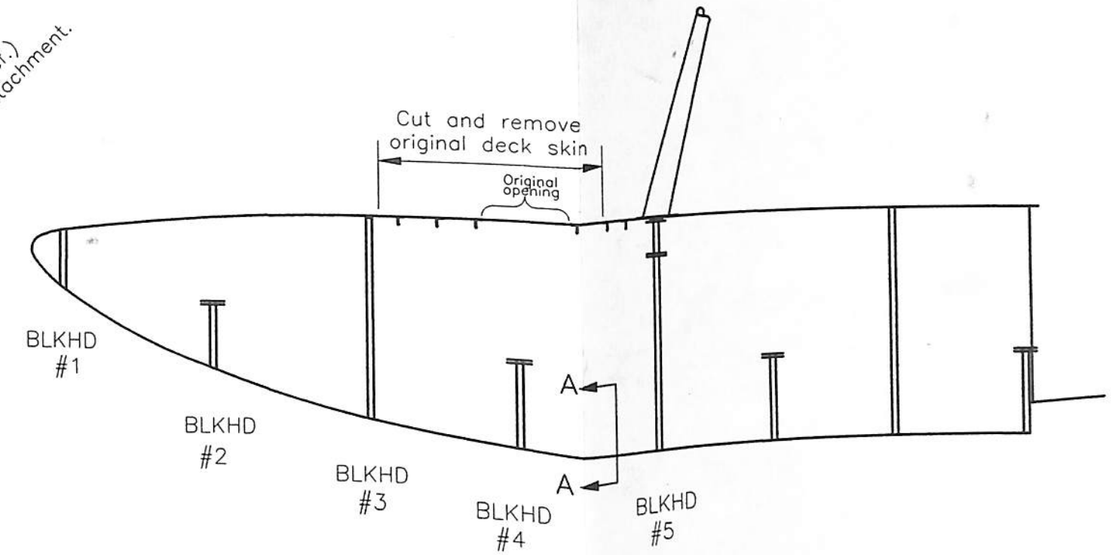
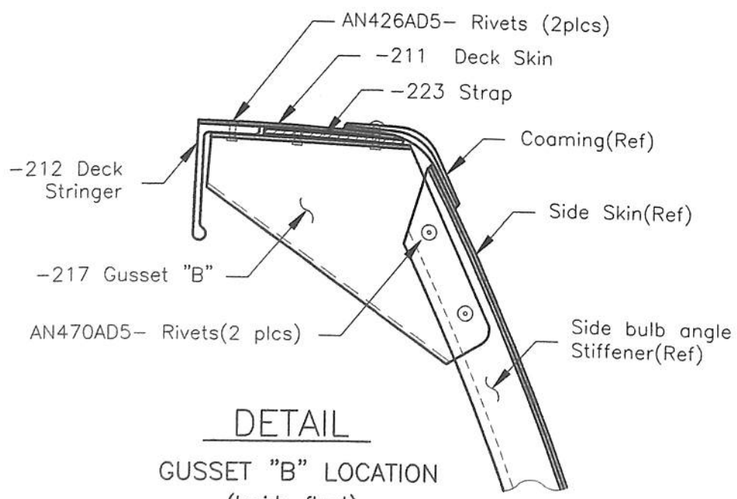
AEROTECH INDUSTRIES LTD.
DHC-3 OTTER
FLOAT HATCH
NOTES AND SPECIFICATIONS

Created: 01-08-15 G.Wells
Sheet 1 of 1
Dwg No. VIA-FH-011
Rev. C



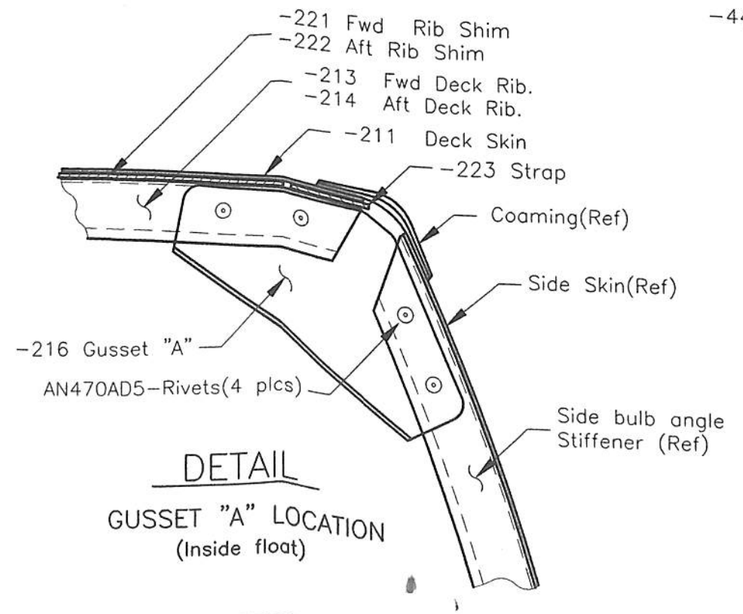




DETAIL

GUSSET "B" LOCATION

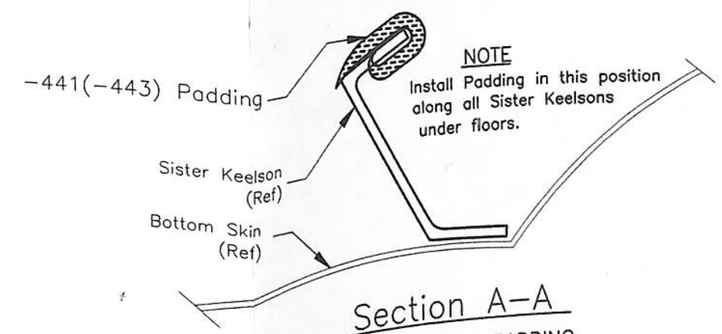
(Inside float)



DETAIL

GUSSET "A" LOCATION

(Inside float)



Section A-A

SISTER KEELSON PADDING LOCATION (Inside float)

Scale: Full Size.

NOTES

1.- L.H. Float shown.
- R.H. opposite.

2.- Lid assembly not shown for clarity.

REV.	Date:	By:	Revisions:
C	05-06-15		Blkhd #3 fwd flange removed. Cut-out position corrected. -443 ref added(Sec A-A).
B	02-25-15		Sister Keelson Padding Detail added. Dwg rearranged due to space constraints.
A	02-20-15		-223 Strap and -221, 222 Shims added.

Drawn: A.R. Wells. Date: 01-08-15
Chec'd: Date:
Chec'd: Date:
Appr'd: Date:
Mat'l:
Part No: Req'd:
Part No: Req'd:
Dim.Tol:
Scale: NOT TO SCALE (8)

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Box 727 Campbell River, B.C. Canada V9W 6J3

DHC-3 OTTER FLOAT HATCH INSTALLATION

Sheet 1 of 1 | Sheet Size B | REV. C

Dwg.No. VIA-FH-131

VIA-FH-131