THRUSH AIRCRAFT

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CUSTOM KIT

CK-AG-55

Revision B: 02/15/2022

Ultraviolet and Infrared Cockpit Glazing Option

AIRPLANES AFFECTED:

MODEL	SERIAL NUMBERS
S2R-T660	109 & UP
S2R-T65HG	011 & UP
S2R-T34	273 & UP
S2R-H80	109 & UP
S2R-G10	169 & UP

Levan Tabidze
Vice President of Engineering

LOG OF REVISIONS

NOTE: Reformatting and correction of typographical errors is not considered revision. True revisions are indicated by a dark vertical line at the right margin of the lines revised.

Rev.	Page	Description of Revision	By:
IR	All	New Document Initial Release.	M. Lim 04/26/2021
A	4	Incorporated new logo Updated part numbers: • 10627-3 is now 19362-5 • 10627-4 is now 19362-6 Added part numbers: • 10838-8: Glass Window for Single Cockpit Door UV (SC15) Solar Grey • 19636-11: Rear Cockpit Door Window (L/H) UV (SC15) Solar Grey • 19636-12: Rear Cockpit Window (R/H) UV (SC15) Solar Grey • 21028-5: Rear Cockpit Bubble Window 5 inch (L/H) UV (SC15) Solar Grey • 21028-6: Rear Cockpit Bubble Window 5 inch (R/H) UV (SC15) Solar Grey • 21028-7: Rear Cockpit Bubble Window 10 inch (L/H) UV (SC15) Solar Grey • 21028-8: Rear Cockpit Bubble Window 10 inch (R/H) UV (SC15) Solar Grey	M. Lim 05/31/2021
B		• New logo has been added. • Segments 1 - 6 have been consolidated on page 3. • Additional spaces have been inserted between titles, sentences, and photos. • The initial release dates on the title page and each page header are now the same. • Part 10627-3 has been replaced with 19362-5. • Part 10627-4 has been replaced with 19362-6. • Divided Section 8 into 4x subsections. • Section 8.1, step 10.e has been moved to Section 8.1, Step 10.b.	B. Tobin 02/15/2022

CONTENTS

1. PURPOSE/REASON FOR PUBLICATION:

This Custom Kit provides instructions and parts for the installation of ultraviolet and infrared windows or windshields for single and dual cockpit aircraft.

2. SCOPE/COMPLIANCE:

This Custom Kit is recommended for the following Thrush models:

- S2R-T660
- S2R-T65HG
- S2R-T34
- S2R-H80
- S2R-G10

3. BY WHOM WORK WILL BE ACCOMPLISHED:

The work is to be accomplished by an FAA Certified A&P mechanic or foreign equivalent.

4. APPROVAL:

This Custom Kit is approved by the Vice President of Engineering at Thrush Aircraft, LLC.

5. MAN HOURS:

6 hours will be required.

6. SPECIAL TOOLS:

No special tools required.

7. PARTS LIST:

** Acquired locally*

QTY	PART NUMBER	DESCRIPTION
UV WINDSHIELD INSTALLATION		
1	19362-5	Curved Windshield (LH) 0.125 THCK 83SC UV Material
1	19362-6	Curved Windshield (RH) 0.125 THCK 83SC UV Material
A/R	Sealant per AMS-S-8802	Sealant from any manufacturer meeting AMS-S-8802*
A/R	130 C	Scotch Linerless Rubber Splicing Tape 130C
SINGLE COCKPIT: UV DOOR WINDOW		
1	10838-7	Glass Window for Single Cockpit Door (83SC UV Material)
A/R	130 C	Scotch Linerless Rubber Splicing Tape 130C
DUAL COCKPIT: UV DOOR WINDOW AND REAR WINDOW		
1	19636-9	Rear Cockpit Door Window (L/H) 83SC UV Material
1	19636-10	Rear Cockpit Window (R/H) 83SC UV Material
1	21028-9	Rear Cockpit Bubble Window 5 inch (L/H) 83SC UV Material
1	21028-10	Rear Cockpit Bubble Window 5 inch (R/H) 83SC UV Material
1	21028-11	Rear Cockpit Bubble Window 10 inch (L/H) 83SC UV Material
1	21028-12	Rear Cockpit Bubble Window 10 inch (R/H) 83SC UV Material
A/R	130 C	Scotch Linerless Rubber Splicing Tape 130C

8. ACCOMPLISHMENT INSTRUCTIONS:

CAUTION

Do not allow new windshield to be exposed to sunlight with the protective cover applied. Even short exposures will make the protective cover very difficult, if not impossible to remove.

NOTE: Follow sealant manufacturer's instructions for mixing and curing times.

NOTE: Ensure that enough sealant is applied to the windshield or windshield frame to fill any air gaps. Do not over apply sealant because this can cause the sealant to squeeze out of the frame and moldings.

8.1. WINDSHIELD (L/H & R/H) INSTALLATION:

1. Remove old windshield-L/H (10627-1) according to the following procedure. Refer to Figure 1.

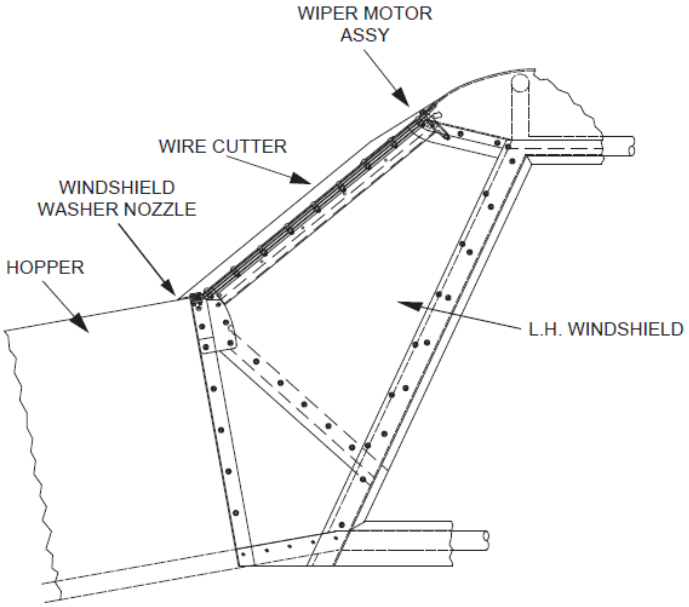

Figure 1: Left Hand Windshield

2. Remove shield inside cockpit to gain access to nuts.
3. Remove screws around perimeter of windshield moldings.
4. Remove all old sealant residue from frame and moldings with non-metallic tools (putty knife). Be careful to not bend or warp moldings.
5. Be careful not to damage painted surfaces. Clean windshield moldings and frames with solvent such as Methyl Ethyl Ketone (MEK).
6. Dry all surfaces with a clean rag before solvent evaporates.
7. Touch up any paint that was damaged during removal.
8. Remove 10627-1 Windshield (L/H).
9. Trim new 19362-5 Windshield (L/H) to fit in frame with 1/8-inch clearance all around for expansion:
    a) Mark new 19362-5 Windshield (L/H) for trim with a grease pencil or felt tip marker. These marks can be removed with aircraft window polish or 100% mineral spirits.
    b) Support the new 19362-5 Windshield (L/H) during trimming and sanding procedures with a padded table or work bench.
    c) Do not use any type of reciprocating saw to trim new windshield. The only safe saw is a band saw with a fine-toothed blade (1/4 inch or 3/8-inch wide raker blade with 14 or more teeth per inch).
    d) Use a sander to trim the new 19362-5 Windshield (L/H). A 4½ inch angle grinder with an 80-grit sanding disk or belt sander can also be used.
    e) Use a sanding block and 150-grit fine sandpaper to radius and finish all edges after final trim is established.

10. Match drill holes from removed windscreen:
    a) Do not use a standard wood or metal cutting drill bit. Standard drill bits can cause cracking and chipping. Use LP Aero Plastics Acrylic Drill Bits or use a modified drill bit where the cutting edges have a 0-degree rake angle.
    b) Practice drilling on old windshield material or a scrap piece of acrylic material.
    c) Use light pressure when drilling with acrylic bits. If bit is pulling spirals from material, too much pressure is being applied. Use higher drill speeds on small hole sizes and slower speeds as the hole size is increased.
    d) Drill oversized holes to allow for movement when the acrylic expands and contracts. Oversized holes are at least $1\frac{1}{3}$ the diameter of the fastener.
    e) Use a countersink to chamfer shoulders of all holes.

11. Apply insulating rubber tape (Scotch Linerless Rubber Splicing Tape 130C) on sides of windshield. Tape front and back as well.

12. Install screws as required. Do not over tighten the screws because windshield material can crack.
    a) Carefully control tightening of fastener. Watch the reflection of a strong light in the surface of the acrylic around the screw head. Tighten the screw and nut just until you see a distortion in the surface around the screw head and then back off just until the surface is distortion free.
    b) Watch out for raised weld beads, sharp corners, etc. If necessary, bridge the window over the obstruction using washers as spacers or remove the obstruction.

13. Mask off edges and moldings for ¼ inch bead and apply B-2 sealant and smooth out.
14. Follow sealant manufacturer instructions to ensure proper curing.
15. Allow windshield sealant to cure for the manufacturer's recommended amount of time prior to returning the aircraft to service.
16. Repeat steps 1-15 for old windshield-R/H (10627-2).

8.2. SINGLE COCKPIT - DOOR WINDOW INSTALLATION:

1. Locate left hand door as shown in Figure 2.

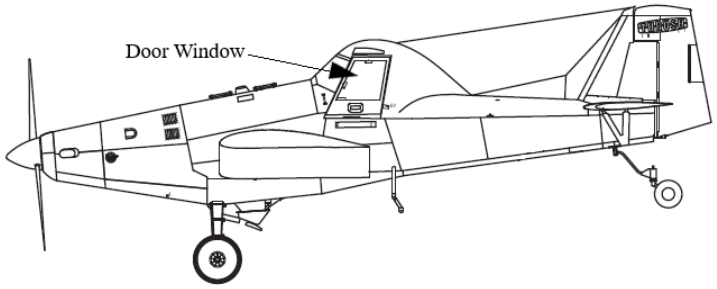

Figure 2: Single Cockpit Door Window

2. Remove two door latches at the top and front of the door (Figure 3).

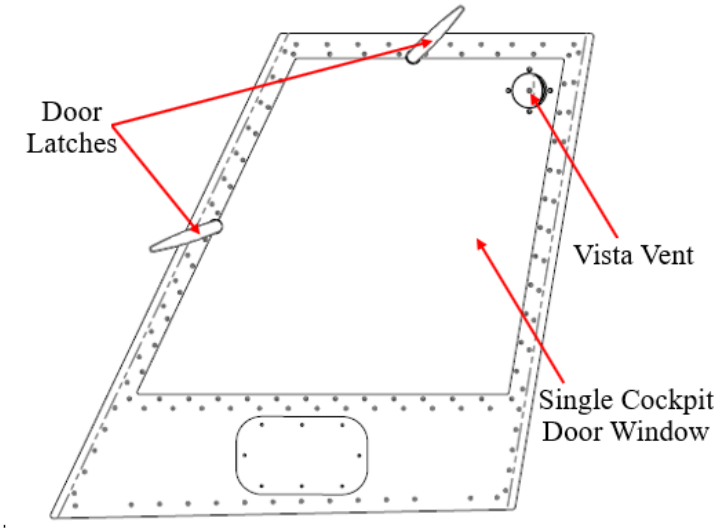

Figure 3: Door Handles on Left Hand Door (Outside View)

3. Pull hinge pin and remove door.
4. Remove screws, washers, and cap nuts.
5. Remove four screws to uninstall Vista Vent. Keep Vista Vent hardware as shown in Figure 4.

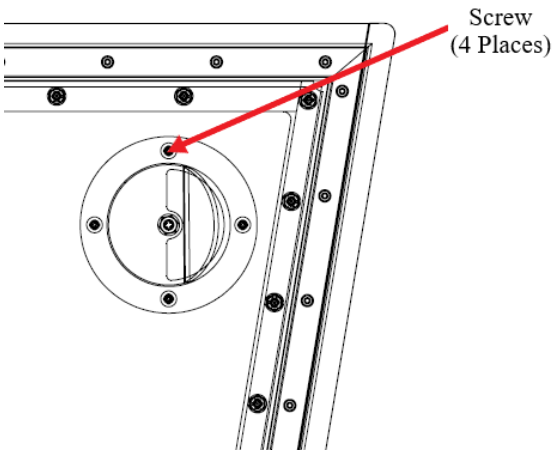

Figure 4: Vista Vent

6. Remove door handle 10720-1 (Figure 5).
7. Remove Doublers to gain access to single cockpit door window (Figure 5).
8. Remove and discard old single cockpit door window (Figure 3).

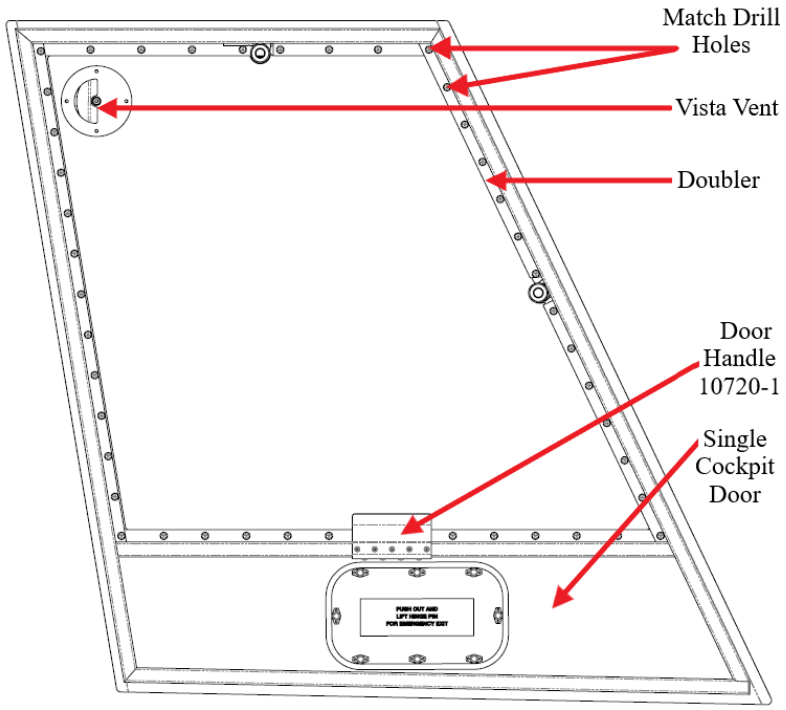

Figure 5: Door Handle, Vista Vent, and Doubler on Single Cockpit Door (Inside View)

9. Install new Door Window 10838-7 (L/H). New window is made of UV 83SC material.
10. Trim new Door Window 10838-7 (L/H) to fit in door (Figure 5) with 1/8-inch clearance all around for expansion. Make a 2.5-inch diameter hole for Vista Vent. Refer to step 9 in Section 8.1. for further trimming instructions.

11. Match drill holes from removed door (Figure 5). Refer to step 10 in Section 8.1. for further drilling instructions.
12. Use Linerless Rubber Splicing Tape 130C to tape sides of window. Tape the back and front of door window as shown in Figure 6. Remove excess tape.

Figure 6: Taping edges of Door Window (Back and Front)

13. Place new Door Window 10838-7 (L/H) on doorframe and reinstall Doublers. Make holes through the tape. Cleco pliers and Cleco fasteners can be used to hold Doublers in place as shown in Figure 7.

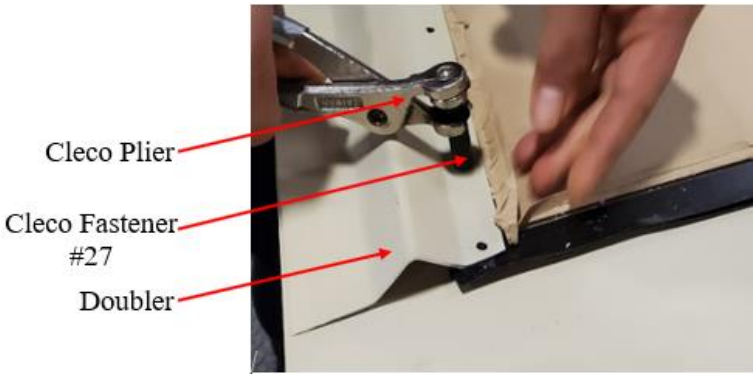

Figure 7: Reinstalling Doublers

14. Replace screws, washers, and cap nuts. Remove protective covering/sticker on door window (Figure 8). Refer to step 12 in Section 8.1. for further fastening instructions.

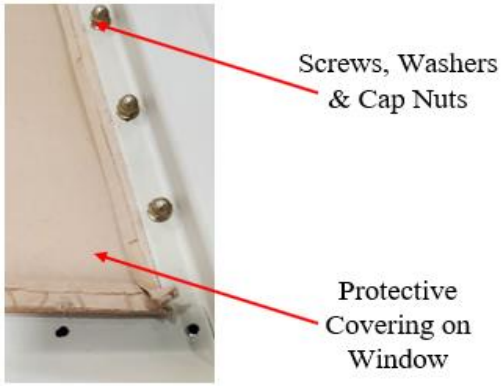

Figure 8: Screws, Washers, Capnuts, and Protective Covering

15. Install Vista Vent hardware on new window.
16. Reinstall two door latches at the top and front of door.
17. Place door in door frame and place hinge pins in the fore and aft fuselage and door hinge points. Adjust hinge pin turnbuckle until the pin is the proper length for door security.
18. Open and close door to check security and freedom of movement.
19. Repeat steps 1-18 for right hand door (if applicable).

8.3. DUAL COCKPIT - REAR COCKPIT DOOR WINDOW INSTALLATION (L/H):

1. Locate 19630 Rear Cockpit Door (L/H) as shown in Figure 9.

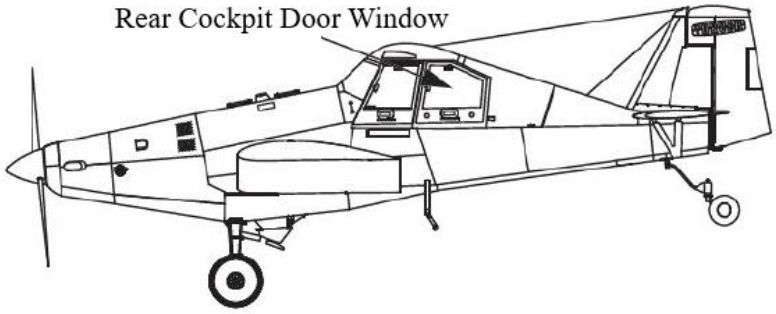

Figure 9: Dual Cockpit Door Window

2. Remove two door latches at the top and front of the door (Figure 10).

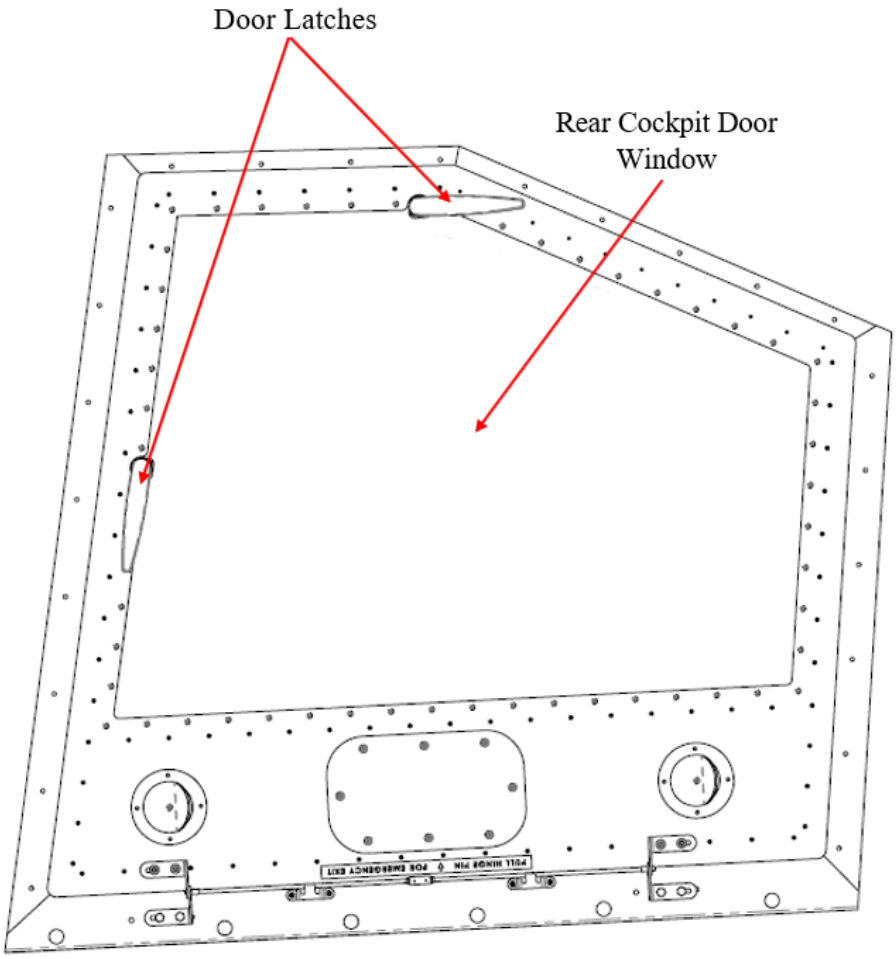

Figure 10: Dual Cockpit Door Latches (Outside View)

3. Pull hinge pin and remove door.
4. Remove screws, washers, and cap nuts.
5. Remove pull handle and Doublers to gain access to rear cockpit door window (Figure 11).
6. Remove and discard old rear cockpit door window (Figure 10).

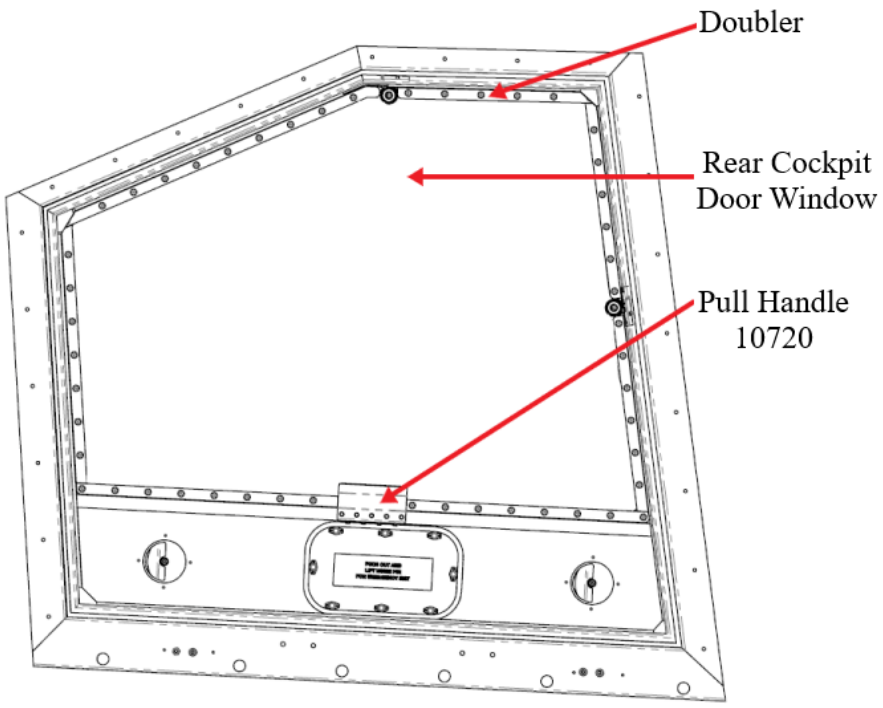

Figure 11: Pull Handle and Doublers on Rear Cockpit Door (Inside View)

7. Install new Rear Cockpit Door Window 19636-9 (L/H). Window is made of UV 83SC material.
8. If aircraft requires a bubble window; install the necessary bubble window from the following list:

    - 21028-9: Rear Cockpit Bubble Window (5inch) L/H – UV 83SC material
    - 21028-10: Rear Cockpit Bubble Window (5inch) R/H – UV 83SC material
    - 21028-11: Rear Cockpit Bubble Window (10inch) L/H – UV 83SC material
    - 21028-12: Rear Cockpit Bubble Window (10inch) R/H – UV 83SC material

9. Trim new Rear Cockpit Door Window 19636-9 (L/H) to fit in door with 1/8-inch clearance all around for expansion. Refer to step 9 in Section 8.1. for further trimming instructions.
10. Match drill holes from removed rear cockpit door. Refer to step 10 in Section 8.1. for further drilling instructions.
11. Use Linerless Rubber Splicing Tape 130C to tape sides of the window. Tape the back and front of window as shown in Figure 6.
12. Place new Rear Cockpit Door Window 19636-9 (L/H) on doorframe and reinstall Doublers. Make holes through the tape. Cleco pliers and Cleco fasteners can be used to hold Doublers in place as shown in Figure 7.
13. Replace screws, washers, and cap nuts. Remove protective covering/sticker on door window (Figure 8). Refer to step 12 in Section 8.1. for further fastening instructions.
14. Reinstall the two door latches at the top and front of door.
15. Place door in door frame and place hinge pins in the fore and aft fuselage and door hinge points. Adjust hinge pin turnbuckle until the pin is the proper length for door security.
16. Open and close door to check security and freedom of movement.

8.4. DUAL COCKPIT - REAR COCKPIT WINDOW INSTALLATION (R/H):

1. Locate rear cockpit window (R/H) as shown in Figure 12.

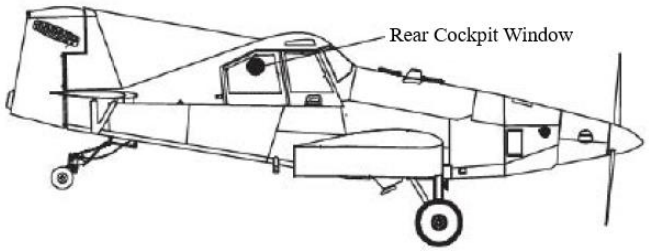

Figure 12: Location of Dual Cockpit Aft Door Window

2. Remove rear cockpit window from airplane.
3. Remove screws, washers, and cap nuts on rear cockpit window.
4. Remove Doublers to gain access to rear cockpit window.
5. Remove and discard old rear cockpit window.
6. Install new Rear Cockpit Window 19636-10 (R/H). Window is made of UV 83SC material.
7. If aircraft requires a bubble window; install the necessary bubble window from the following list:

    - 21028-9: Rear Cockpit Bubble Window (5inch) L/H – UV 83SC material
    - 21028-10: Rear Cockpit Bubble Window (5inch) R/H – UV 83SC material
    - 21028-11: Rear Cockpit Bubble Window (10inch) L/H – UV 83SC material
    - 21028-12: Rear Cockpit Bubble Window (10inch) R/H – UV 83SC material

8. Trim new Rear Cockpit Door Window 19636-10 (R/H) to fit in door with 1/8-inch clearance all around for expansion. Refer to step 9 in Section 8.1.for further trimming instructions.
9. Match drill holes from removed rear cockpit window frame. Refer to step 10 in Section 8.1. for further drilling instructions.
10. Use Linerless Rubber Splicing Tape 130C to tape sides of the window. Tape the back and front of window as shown in Figure 6.
11. Place new Rear Cockpit Door Window 19636-10 (R/H) on window frame and reinstall Doublers. Make holes through the tape. Cleco pliers and Cleco fasteners can be used to hold Doublers in place as shown in Figure 7.
12. Replace screws, washers, and cap nuts. Remove protective covering/sticker on door window (Figure 8). Refer to step 12 in Section 8.1. further fastening instructions.
13. Reinstall rear cockpit window onto airplane.

9. RECORD OF COMPLIANCE:

Make appropriate entry in airplane maintenance records as follows:
"Thrush Custom Kit CK-AG-55 Rev. B complied with at _____ total hours on aircraft."
Modification accomplished by:

_____

Name & Certificate # Date

10. RESPONSE CARD:

The final step in compliance with this Custom Kit is to complete and return the compliance card on the next page. It may be mailed, Faxed, or scanned and e-mailed.

Fax to:	Ed Rusk	229-317-8225
Email to:	Ed Rusk	ed.rusk@thrushaircraft.com

Custom Kit CK-AG-55 Rev. IR Compliance Report

Aircraft S/N:	Aircraft Owner:
Aircraft Registration #:	Address of Owner:
Airframe total time:	City & State:
Engine total time:	Physical location:
Complied with by:	Date of Compliance:
Signature:	Certificate #:

PLEASE RETURN THIS REPORT ONLY AFTER MODIFICATION IS MADE
This response card may be mailed, faxed to (229) 317-8225, or emailed to ed.rusk@thrushaircraft.com.

Fold, Tape & Mail (Do Not Staple)

_____
_____
_____
Return Address

Thrush Aircraft LLC.
Attn: Ed Rusk
300 Old Pretoria Road
Albany, GA 31721