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Post Office Box 2200 Huntsville, Alabama 35804 USA Telephone: (256) 851-7001 Fax: (256) 859-8822

Component Service Bulletin

ATR-42 / ATR-72 #2 Forward Side Window

PART NUMBERS

NP-158862-1
NP-158862-2

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Component Service Bulletin

REVISION TRANSMITTAL SHEET

SUBJECT: P/N NP-158862 Service Bulletin for the ATR-42 / ATR-72.

This page transmits Revision 1 of the PPG Service Bulletin P/N NP-158862 for the ATR-42 / ATR-72 #2 Forward Side Window.

REASON

The Service Bulletin is revised to reflect the changes listed below.

CHANGES

Revision 1	Addition of Inspection Aid information to clarify inspection process.

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APPROVALS



Prepared By: _____ 10 Jan 2013
Andrew Troller Date
Product Support Engineer



Approved By: _____ 10 Jan 2013
Stirling Macfarlane Date
Manager, Product Support Engineering



Approved By: _____ 10 Jan 2013
David Lair Date
Design Engineer



Approved By: _____ 10 Jan 2013
James Romano Date
Commercial Market Segment Manager

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Component Service Bulletin

SUBJECT: #2 Forward Side Windows (Cockpit Forward Side Windows) –Inspection and Conditional Removal

1. PLANNING INFORMATION

A. Effectivity

This inspection and conditional removal applies to the components shown below.

Part Number	Name	Used On
NP-158862-1	Left Hand #2 Side Window	ATR-42, ATR-72
NP-158862-2	Right Hand #2 Side Window	ATR-42, ATR-72

B. Concurrent Requirements

None.

C. Reason

1) Origin

Events occurred in which the forward side window was separated from the aircraft.

2) Evidence

The investigation performed thus far revealed some anomalies that are considered as physical pre-cursors to the failure and could be associated with an air/water leak at the interface between the z-bar and the external glass and at the interface between the glass and the inner retainer on the internal side.

3) Substantiation

The presence of an air/water leak coming from between the z-bar and the outer glass ply or between the inner retainer and inner glass ply is an indication that structural components within the window have begun to deteriorate.

Note: There are no repair procedures within the Abbreviated Component Maintenance Manual (ACMM) for this type of damage. The attempted repair of this type of air/water leak in the same area, followed by continued service can allow deterioration of the window structure and can ultimately result in failure.

The purpose of this service bulletin is to inspect the sealant condition at the level of

the external z-bar and inner retainer for evidence of these physical pre-cursors.

4) Benefits

Accomplishment of this service bulletin will ensure that all #2 forward side windows with a discrepant condition are removed from service (See Section 1.C.3).

D. Description

This service bulletin instructs operators to inspect the z-bar and inner retainer, and to replace any #2 forward side windows that are identified as having a discrepant condition (See Section 1.C.3).

E. Compliance

This service bulletin is mandatory. Airworthiness Directive No.: 2009-0159-E was issued by EASA on 20 July 2009 and Airworthiness Directive FAA AD 2009-18-18 was issues by FAA on 24 September 2009.

F. Approval

The technical content of this document is approved in accordance with CE 1702/2003 regulation and is rendered mandatory by an EASA Airworthiness Directive No.: 2009-0159-E.

G. Manpower

This service bulletin will require one (1) person a total of .5 man-hours to accomplish the inspection for two (2) windows on a single aircraft (left and right hand #2 forward side windows).

H. Weight and Balance

Not changed.

I. Electrical Load Data

Not changed.

J. Software Accomplishment Summary

Not applicable.

K. References

1) PPG Drawing NP-158862, Revision K, dated November 18, 2010

2) PPG Abbreviated Component Maintenance Manual, ATA No. 56-12-00, Revision 2, dated May 20, 2011.

L. Other Publications Affected

1) PPG Abbreviated Component Maintenance Manual, ATA No. 56-12-00, Revision 2, dated May 20, 2011.

M. Interchangeability or Intermixability of Parts

Not changed.

2. MATERIAL INFORMATION

A. Material – Price and Availability

Spare forward side windows may be obtained by contacting PPG Customer Service at the following address:

PPG Aerospace
PO Box 040004
Huntsville, AL 35804
USA

Phone: (256) 851-7001
Facsimile: (256) 851-8822

B. Industry Support Information

All windows identified with the discrepant condition (see Section 1.C.3), within PPG warranty, will be replaced free of charge. All windows outside of PPG warranty will be replaced at charge. Commercial terms have been established and may be discussed with the responsible PPG Account Manager.

C. Material Necessary for Each Component

None.

D. Material Necessary for Each Spare

None.

E. Re-identified Parts / Existing Parts Accountability

None.

F. Special Tooling – Price and Availability

None.

G. Special Tooling Necessary to do this Service Bulletin

None.

3. ACCOMPLISHMENT INSTRUCTIONS

A. Provide access to the #2 forward side window exterior surface through use of a sturdy ladder or other elevated platform. See **Figure 1** for window location.

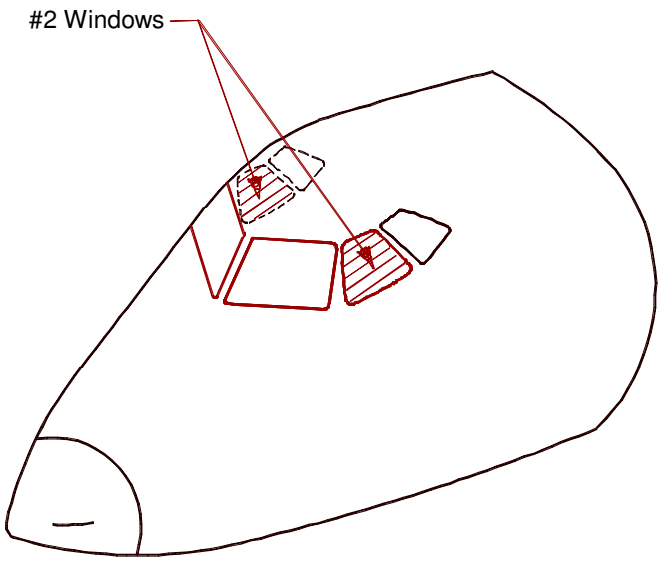


Figure 1: Location of the #2 Forward Side Window

B. Perform all maintenance tasks necessary to perform interior maintenance on the flight deck windows.

C. Remove watches, rings, bracelets, and other metallic objects that could come in contact with the glass surface of the window

CAUTION: metallic objects can scratch/damage the glass surface of the window and possibly result in fracture or optical problems for the flight crew.

D. Equipment needed:

A flat, thin, non-metallic shim or taper gauge (0.5 mm or 0.020 in. thick). Use only light pressure to identify existing gaps (do not create gaps with excess force).



Figure 2: Equipment - Plastic Shim Stock

E. Inspect the periphery of the #2 forward side window to identify the following conditions:

1) Standard Condition - See **Figures 3 & 4**.

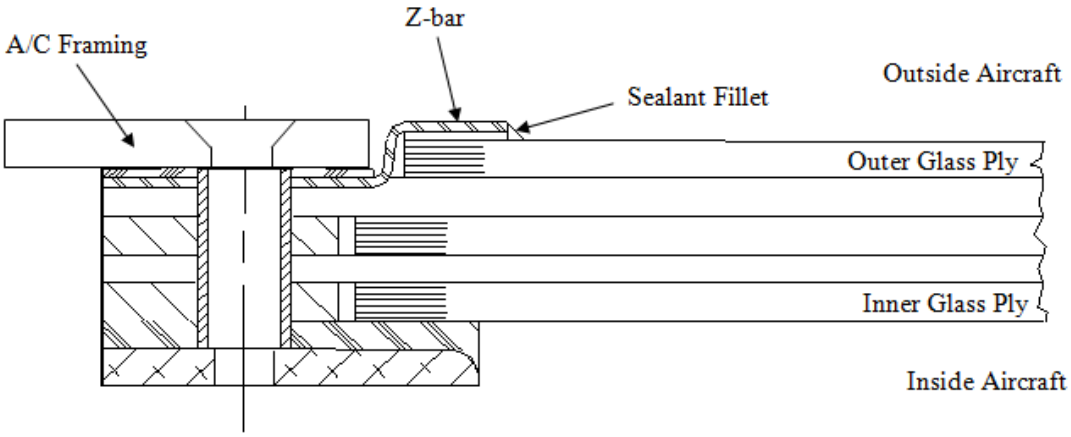


Figure 3: Cross-sectional View of the #2 Forward Side Window – Standard Condition



Figure 4: Z-bar & Fillet Seal – Standard Condition

2) Discrepant Condition 1 – Inspect the z-bar for existing sealant repair.

Inspect the z-bar for existing repair of the z-bar sealant fillet (See **Figures 5 and 6**). If any evidence of a repair attempt is visible, replace the forward side window.

NOTE 1: a 2.3 mm (.090 in.) sealant fillet at the edge of the z-bar (See **Figures 3 and 4**) is standard on the window at time of manufacture and may or may not be present on the window depending upon window age and typical wear in flight conditions.

NOTE 2: Removal of any visible repair to the sealant is not allowed and is cause for removal of the window.

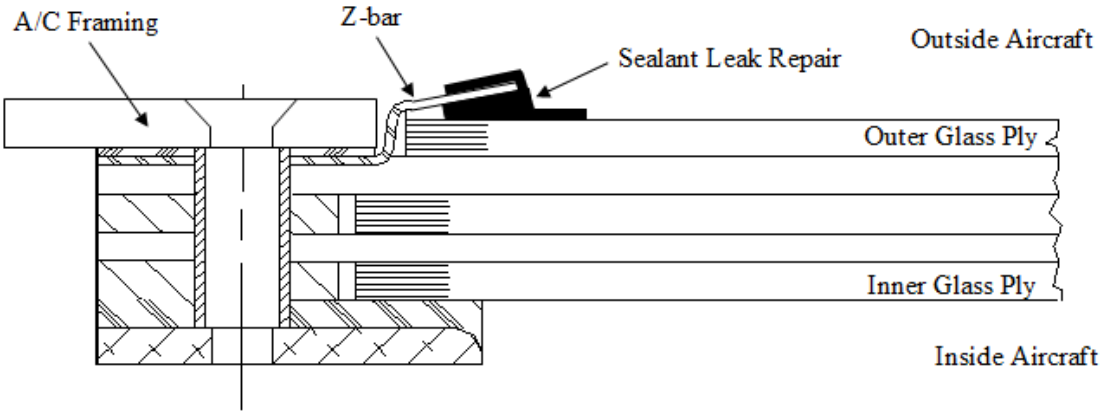


Figure 5: Cross-sectional View of the #2 Forward Side Window – Discrepant Condition Showing an Attempted Repair of an Air Leak

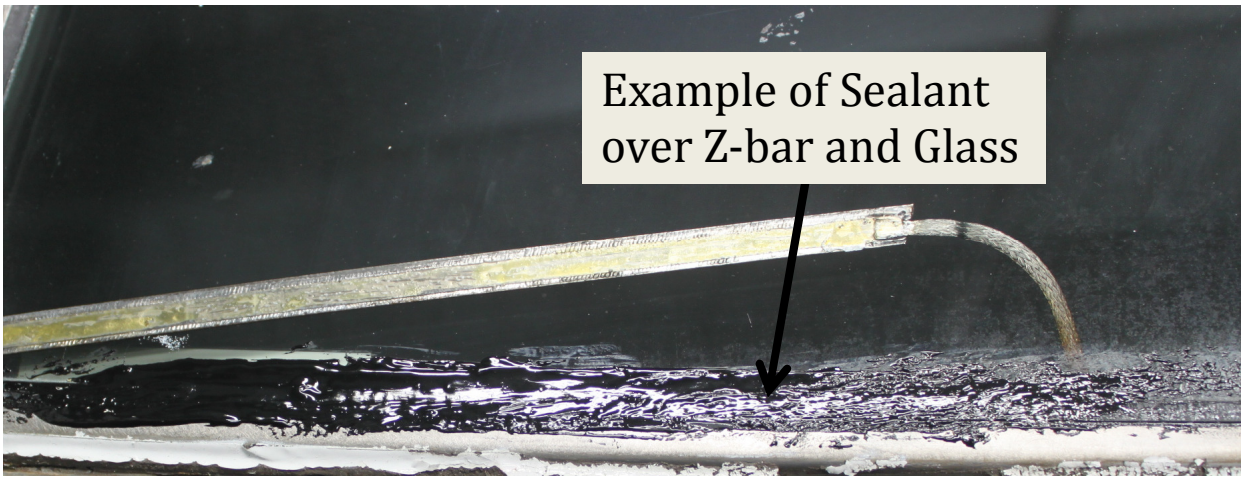


Figure 6: Inspection – Discrepant Condition 1

3) Discrepant Condition 2 – Inspect for z-bar deformation.

This inspection is intended to identify displacement or bowing of the z-bar at any point around the periphery of the window (See **Figure 7**).

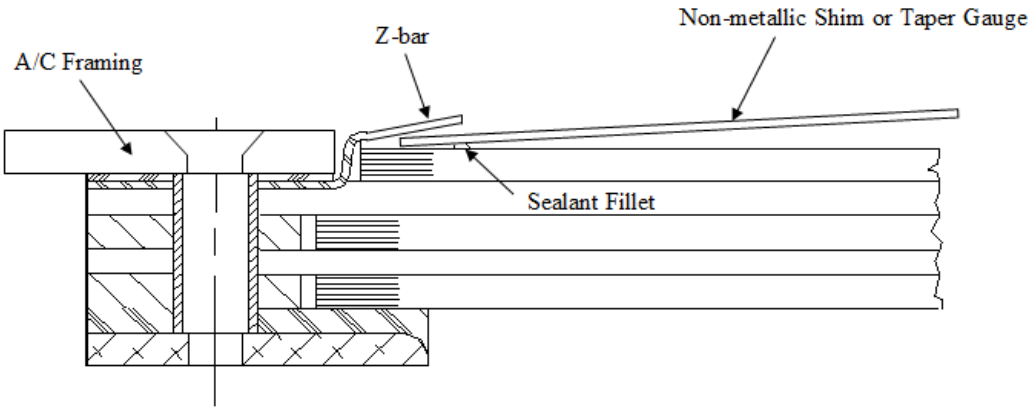


Figure 7: Cross Cross-sectional View of the #2 Forward Side Window – Discrepant Condition Showing Z-bar Bowing or Displacement

Use a flat, thin, non-metallic shim or taper gauge to probe at the edge of the z-bar around the periphery of the window. A discrepant condition exists if the tip of the shim or gauge penetrates between the z-bar and the outer glass ply in excess of 4 mm (0.160 in). See **Figures 8 & 9** showing the #2 forward side window with displacement or bowing of the z-bar and the tip of a non-metallic shim inserted under the z-bar. In case of a discrepant condition, replace the window.

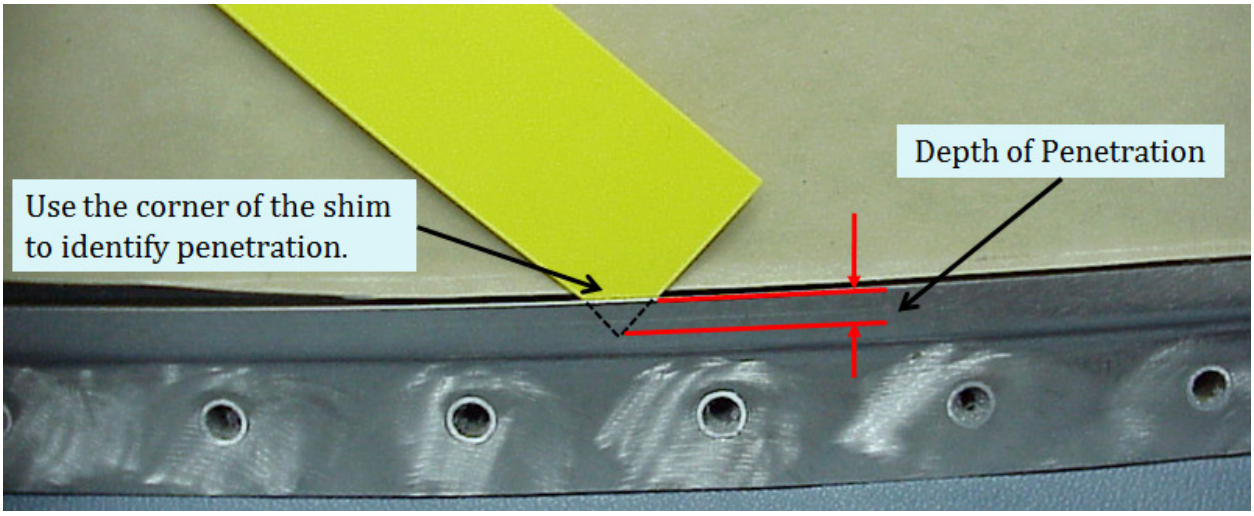


Figure 8: Inspection Technique – Discrepant Condition 2

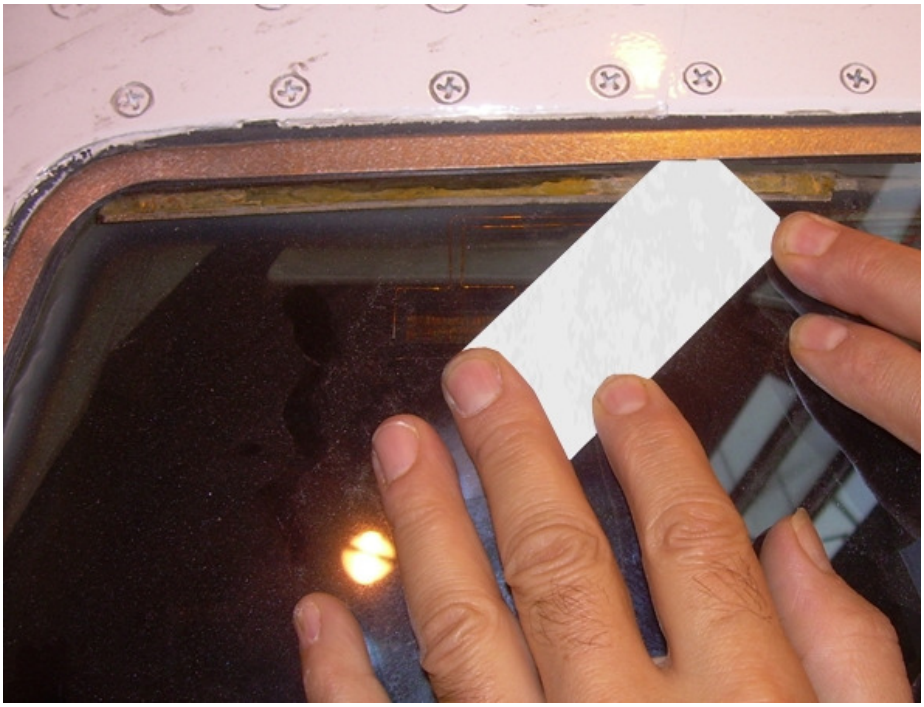


Figure 9: Inspection Technique – Discrepant Condition 2
"On-Wing" Photograph

4) Discrepant Condition 3 – Inspect the gap between the retainer and inner glass ply.

This inspection is intended to identify a separation or gap in the sealant bond between the inboard retainer and the inner glass ply (See **Figure 10**).

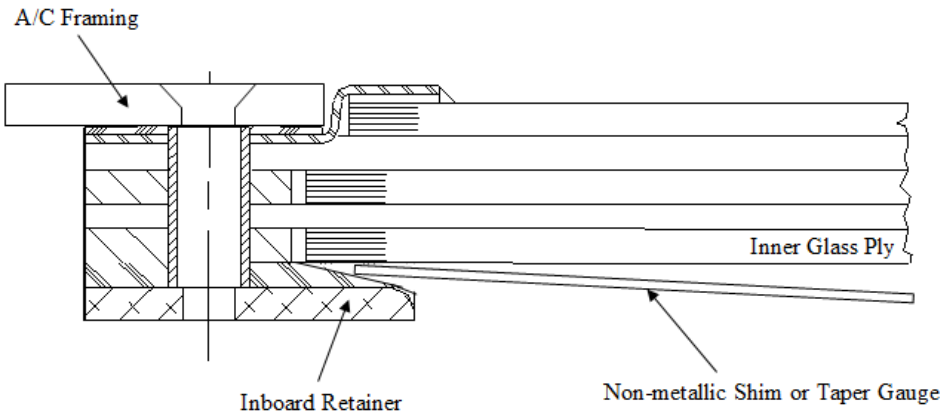


Figure 10: Cross Cross-sectional View of the #2 Forward Side Window – Discrepant Condition Showing a Gap Between the Retainer and Inner Glass Ply

Use a flat, thin, non-metallic shim or taper gauge to probe at the edge of the inboard retainer around the periphery of the window. A discrepant condition exists if the tip of the shim or gauge penetrates between the retainer and the inner glass ply in excess of 7.5 mm (0.300 in) or for smaller separations with cumulated length exceeding 300 mm (12 in). See **Figures 11 & 12** showing the #2 forward side window with a gap between the retainer and the inner glass ply and the tip of a non-metallic shim penetrating the gap. In case of a discrepant condition, replace the window.

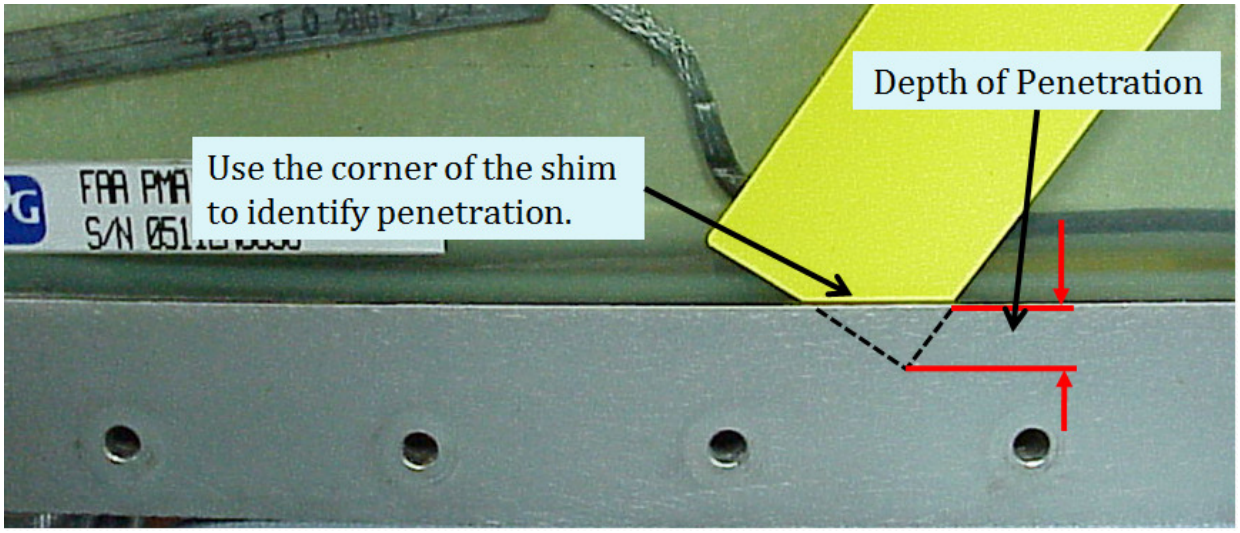


Figure 11: Inspection Technique - Discrepant Condition 3



Figure 12: Inspection Technique - Discrepant Condition 3
"On-Wing" Photograph

5) Discrepant Condition 4 – Z-bar deformation and retainer gap at the same location.

This condition exists when discrepant condition 2 (z-bar deformation) and discrepant condition 3 (inner retainer gap) co-exist at the same hole locations (See **Figure 13**).

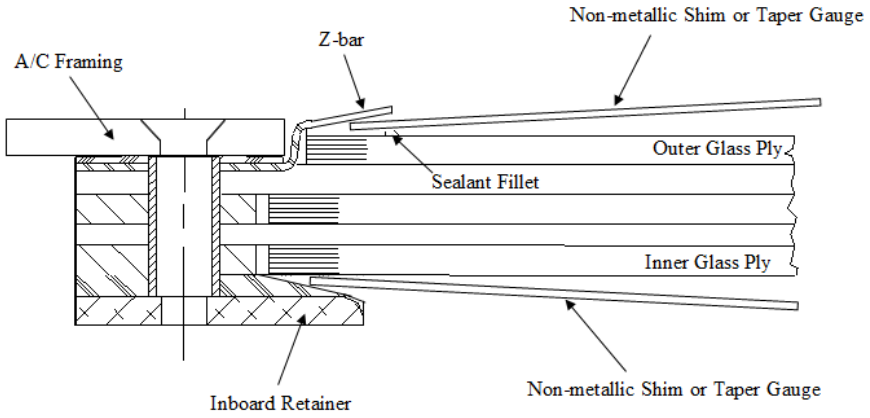


Figure 13: Cross Cross-sectional View of the #2 Forward Side Window – Discrepant Condition Showing Both a Z-bar deformation and a Gap Between the Retainer and Inner Glass Ply

Any window showing both sealant separation between the z-bar and outer glass ply, and separation between the inboard retainer and inner glass ply, common to the same hole location and with at least one of these discrepancies exceeding a length (span) of 225 mm (8.86 in / approximately 6 holes) identifies a discrepant condition and shall be replaced. See **Figure 14**.

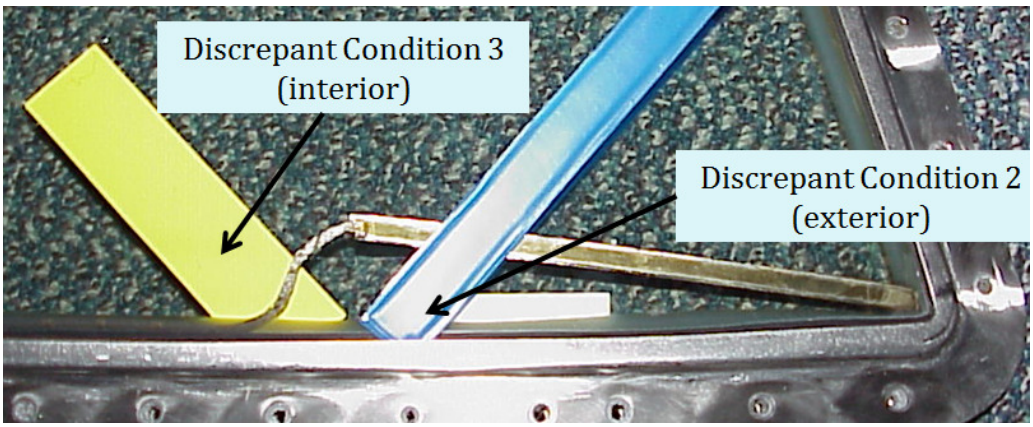


Figure 14: Inspection Technique – Discrepant Condition 4

6) Discrepant Condition 5 – Z-bar deformation and retainer gap in window corner.

   This condition exists when discrepant condition 2 (z-bar deformation) and discrepant condition 3 (inner retainer gap) co-exist in same window corner.

   Any window showing both sealant separation between the z-bar and outer glass ply, and separation between the inboard retainer and inner glass ply, common to the same window corner and with at least one of these discrepancies including the entire arc of a window corner identifies a discrepant condition and shall be replaced.

F. Accomplishment Report:

Fill in the enclosed Accomplishment Report (Page 12) and send it to both:

ATR techdesk
1 ALLEE PIERRE NADOT
31712 BLAGNAC CEDEX
FRANCE
Phone: +33 (0)5 62 21 62 21
Fax: +33 (0)5 62 21 67 18
Email: techdesk@atr.fr

PPG Aerospace
ATTN: Andrew Troller
P.O. Box 2200
Huntsville, AL 35811 USA
Phone: +1 256 859 2500 ext. 2544
Fax: +1 256 859 8155
Email: atroller@ppg.com

G. Should the window need replacement, it should be returned to PPG Aerospace for further analysis at the following address:

PPG Aerospace
1719 Highway 72 East
Huntsville, AL 35811
USA

ATTN: Andrew Troller

Phone: +1 256 859 2500 ext. 2544
Fax: +1 256 859 8155

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Inspection Results - ATR-42/72 #2 Forward Side Window

Date: _____ MSN or Reg: _____ LH or RH _____ SN: _____ FH: _____ FC: _____

Instructions:

1. Fill in the date of inspection and A/C MSN or Reg.
2. Circle "LH" or "RH"
3. Enter Serial Number (see the trademark in inside, lower forward corner of window.
4. Enter window flight hours ("FH") and flight cycles ("FC").
5. Circle which view is inside or outside.
6. Note discrepant locations on the diagram as "repair" (condition 1), "z-bar" (condition 2), "gap" (condition 3), "both z-bar and gap" (condition 4) or "corner" (condition 5). Indicate length and maximum depth of each discrepant condition.
7. Forward to ATR and PPG per Accomplishment Instructions.

COMMENTS: