



2300 Madison Highway Valdosta, GA 31601

# SERVICE BULLETIN

CATEGORY 2

This Service Bulletin contains information pertaining to a threat to the continued safe operation of an aircraft or to the safety of persons or property on the ground unless some specific action is taken by the aircraft owner.

REVISION

**SB-195 A**

ATA 5521

DATE: June 1, 2021

SUBJECT: Bondline Inspection

MODEL / SERIALS AFFECTED: AA5, AA-5A and AA-5B / All  
AA1, AA-1A, AA-1B and AA-1C / All

TIME OF COMPLIANCE:

AA-5A, AA-5B  
AA5, AA1, AA-1A,  
AA-1B and AA-1C

Perform Part (A) within the next 100 hours, time in service, or the next scheduled inspection, whichever occurs first and every Annual Inspection thereafter.

AA5, AA1, AA-1A  
AA-1B and AA-1C

Perform Part (B) once, within the next 25 hours, time in service, or at the next scheduled inspection, whichever occurs first.

REFERENCE DOCUMENTS:

True Flight Aerospace Service Kit-125B "Flight Controls (ATA No. 27) and Structures (ATA No. 51) Bondline Delamination, Repair of"

GENERAL: All AA1 and AA5 Series Aircraft

All AA1 series and AA5 series aircraft were constructed using a metal-to-metal bonding process. While the bond adhesive has been determined to remain structurally sound throughout the aging process, factors such as corrosion and freezing moisture have been found to compromise the structural integrity of some of the bond joints. This can lead to delamination of the skin from the wing and stabilizer frames as well as support structure in the fuselage. Delamination, left undetected, could result in loss of controlled flight.

Field reports have shown that bondline inspections called out in Chapter 5 of the maintenance manual are not being adequately performed during routine inspections. As these aircraft age and have more exposure to the elements, bondline damage due to moisture, ice and corrosion are becoming more frequent. As a result, mechanics must make bondline inspections a primary concern during 100 hour/Annual inspections.



This service bulletin provides for the inspection and repair of bondlines.

**A. Required Action: Bondline Inspection - AA1 series, All - AA5 series, All**

1. Carefully inspect all bondlines of the wings, stabilizers and fuselage (Figure 2 & 3) for bondline separation using the “Tap Test” method. With a coin or similar object, tap the length of each bondline while listening for a change in tone as the area is traversed. A bondline separation will produce a flat or hollow sound when tapped in the delaminated area. Mark delaminated areas with a grease pencil on the outer surface. (Figure 1)
2. To verify delamination exists, attempt to insert a 0.004 to 0.006 feeler gauge or another similar tool into the bondline.
3. If no delamination is found, clean all accessible bondlines with MEK, Isopropyl Alcohol or Acetone and seal with paint as required.
4. If any delamination is found, accomplish step C or D of SK-125B as required for repair.
5. If delamination is found in a horizontal stabilizer of the AA1 series aircraft or the AA5 Traveler, comply with B2.

**NOTE: 1604-0412 rivets may be substituted for CR3242 -4 - 2 rivets.**

6. Inspect the interior of the wings, stabilizers and aft fuselage for corrosion. If only light surface corrosion (white ash appearance) is found, proceed to step (7). If major corrosion (blisters, flaking, cracks or holes in the metal) is found, make repairs as required in accordance with the maintenance manual Chapter 20 or install a replacement, serviceable part then proceed to step (7).
7. If corrosion exists, treat the interior surfaces of the wings, stabilizers and aft fuselage with MIL-C-81309E (ACF50) or MIL-PRF-81309H (Corrosion X) corrosion inhibitor or equivalent.

**NOTE: Remove the wing tips, elevator tips, tail cone and all inspection panels to facilitate corrosion treatment. Use corrosion inhibitor application equipment necessary to reach all internal surface areas. After application, inspect the interior of the aircraft to ensure all surfaces have been completely treated. Repeat corrosion treatment as required.**

8. Record compliance in the aircraft log book and note the time for the next inspection.

**B. Required Action: Horizontal Stabilizer Inspection - AA1 series, All - AA5 Traveler, All**

All AA1 series aircraft and the AA5 Traveler have horizontal stabilizers that are similar in design and use the same attachment method for the elevators. We have received several reports of significant delamination of the horizontal stabilizers on these aircraft. This has led to the detachment of the outboard elevator attach bracket on one aircraft, resulting in loss of elevator control and significant damage to the aircraft.

1. Inspect all bondlines of the horizontal stabilizers as called out in A, 1-4 above (FIGURE 3) with emphasis on the outboard rib at the outboard elevator bearing support assembly (FIGURE 4).
  - a. Remove the outboard bearing support assembly from the outboard rib of each stabilizer. Ref: AA1 or AA5 Series Maintenance Manual Chapter 55.
  - b. Inspect the outboard rib in the shaded area for cracks, buckles, corrosion and delamination (FIGURE 4).

- c. Inspect the two MS210471L3K nut plates for security and condition. Replace if corroded or rusty.
  - d. If no damage is found, remove paint and surface corrosion from the rib, clean with acetone and repaint. Make sure paint covers the bondlines.
  - e. Reinstall the bearing support using new MS24694S53 screws.
2. If any delamination or a previous repair is found on either horizontal stabilizer, accomplish the following.
- a. Remove the elevator and the stabilizer as required to gain access to the affected bond joints. Ref: AA1 or AA5 Series Maintenance Manual Chapter 55.
  - b. Repair delaminated bond joints in accordance with instructions in SK-125B, D-1 and D-2.
  - c. To protect the integrity of the 301030-501 bearing support assembly attach point, install rivets in accordance with SK-125B, D-1 in the top and bottom of the outboard rib and rear spar bondlines (Figure 4).

**NOTE: 1604-0412 rivets may be substituted for CR3242 -4 - 2 rivets.**

#### **CAUTION**

**See Figure 5 for rib and spar flange center line location. When the rivet pattern has been established, visually verify that proper distance from the edges of the flange is maintained as each hole is drilled. Hole pattern may need to be modified.**

A rigid ruler or other suitable measuring device may be used as an aid for locating the flanges of the center rib and forward spar. Reference Figure 5.

- i. To locate the forward spar flange, insert a ruler into a lightening hole in the rear spar of the stabilizer until it contacts the forward spar web. Make sure the end of the ruler is resting solidly against the spar web and not on a spar lightening hole flange and, as close to perpendicular to the spar as possible. Note the distance from the stabilizer trailing edge to the spar web. Remove the ruler and on the outer surface of the stabilizer (at the same location), measure that distance from the stabilizer trailing edge forward and mark the location of the spar web. Repeat this process as necessary along the spar to establish a line indicating the forward spar flange location. Mark rivet lines in accordance with SK-125B Figure 3.
- ii. To locate the stabilizer center rib flange, insert a ruler into a lightening hole in the inboard end of the stabilizer until it contacts the forward rib. Make sure the end of the ruler is resting solidly against the rib web and not on a lightening hole flange and, as close to perpendicular to the rib as possible. Note the distance from the stabilizer inboard edge to the rib web. Remove the ruler and on the outer surface of the stabilizer (at the same location), measure that distance from the stabilizer inboard edge outward and mark the location of the rib web. Repeat this process as necessary along the rib to establish a line indicating the center rib inboard flange location. Mark rivet lines in accordance with SK-125B Figure 3.



- d. Reinstall the stabilizers if removed and reinstall the elevators. Ref: AA1 or AA5 Series Maintenance Manual Chapter 55.
3. Inspect the interior of the horizontal stabilizers for corrosion. If only light surface corrosion (white ash appearance) is found, proceed to step (4). If major corrosion (blisters, flaking, cracks or holes in the metal) is found, make repairs as required in accordance with the maintenance manual Chapter 20 or install a replacement, serviceable part then proceed to step (4).
4. If corrosion exists, treat the interior surfaces of the stabilizers with MIL-C-81309E (ACF50) or MIL-PRF-81309H (Corrosion X) corrosion inhibitor or equivalent.

**NOTE: Use corrosion inhibitor application equipment necessary to reach all stabilizer internal surface areas. After application, inspect the interior of the stabilizers to ensure all surfaces have been completely treated.**

5. Terminating action of Part B of this service bulletin is either of the following:
  - a. A finding of all horizontal stabilizer bondlines to be structurally sound.
  - b. The repair of all delaminated horizontal stabilizer bondlines plus the installation of rivets in the outboard rib and rear spar bondlines in both horizontal stabilizers in accordance with B2.
6. Record compliance in the aircraft log book and notify True Flight Aerospace, LLC of compliance.

#### **PART B COMPLIANCE NOTIFICATION:**

1. Notify True Flight Aerospace, LLC of the following by email at [Info@TrueFlightAerospace.com](mailto:Info@TrueFlightAerospace.com). Please use the subject "SB-195 Report N\*\*\*\*\*" and include the following in your message.
  - a. Owner
  - b. "N" number
  - c. Model and year of manufacture
  - d. Serial number
  - e. Airframe total time
  - f. Is Aircraft Regularly covered/hangared?
  - g. Condition encountered as a result of SB-195 Part B inspection
  - h. Action taken
2. Email is preferred method of notification but if unable please use the Compliance Form (SB-195 CFB1) at the end of this document and mail to the address below.

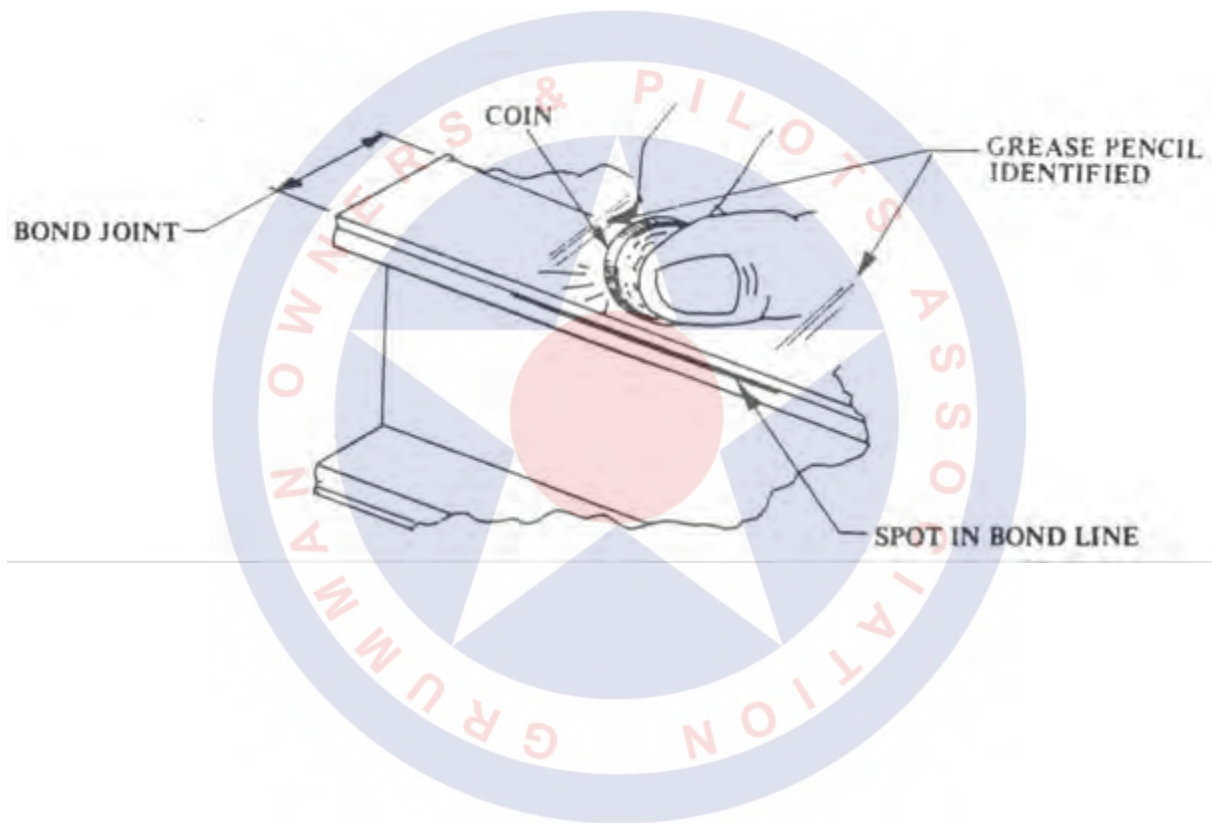
#### ***TRUE FLIGHT AEROSPACE, LLC***

2300 Madison Highway

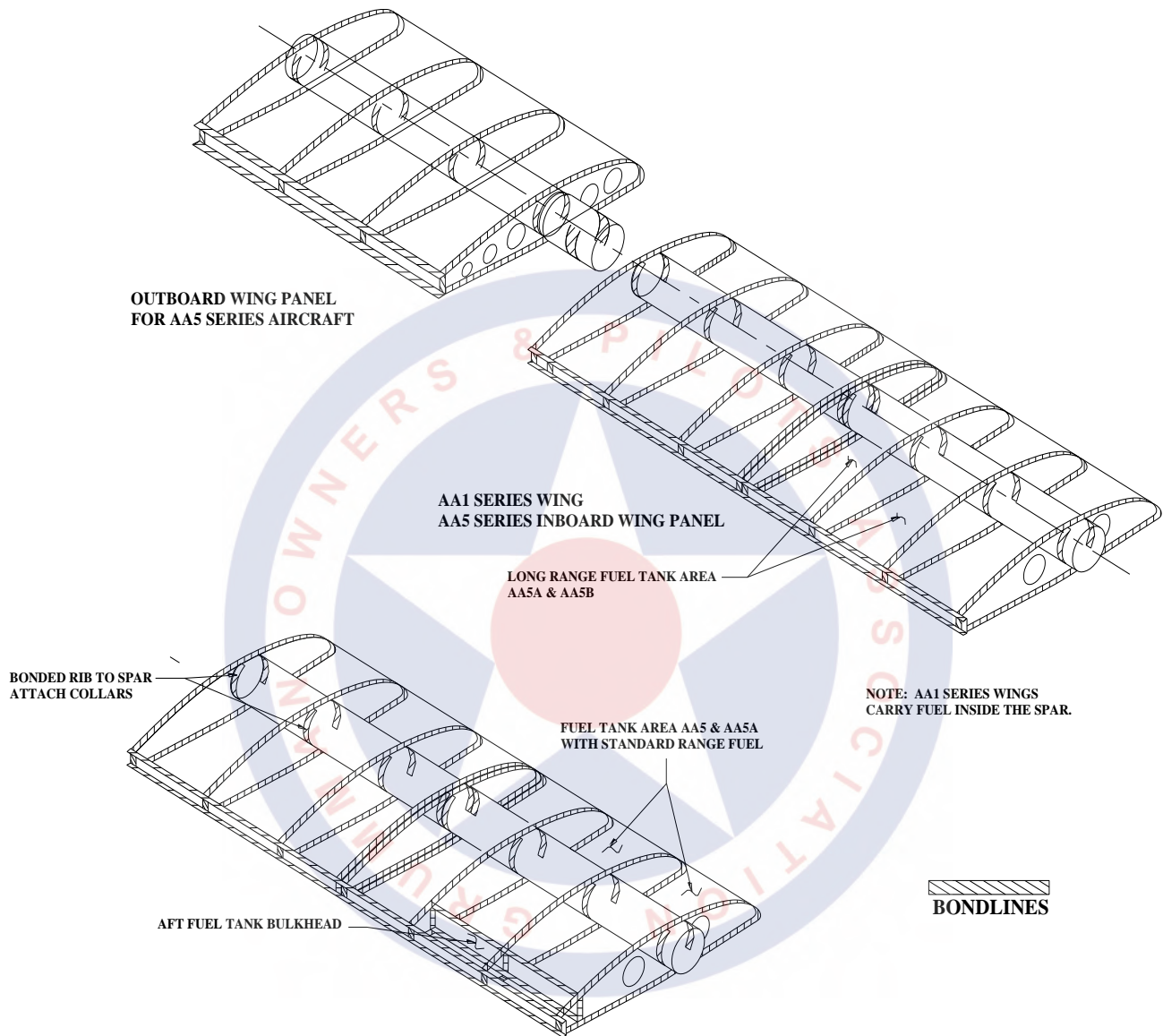
Valdosta, GA 31601

Phone: 229-242-6337

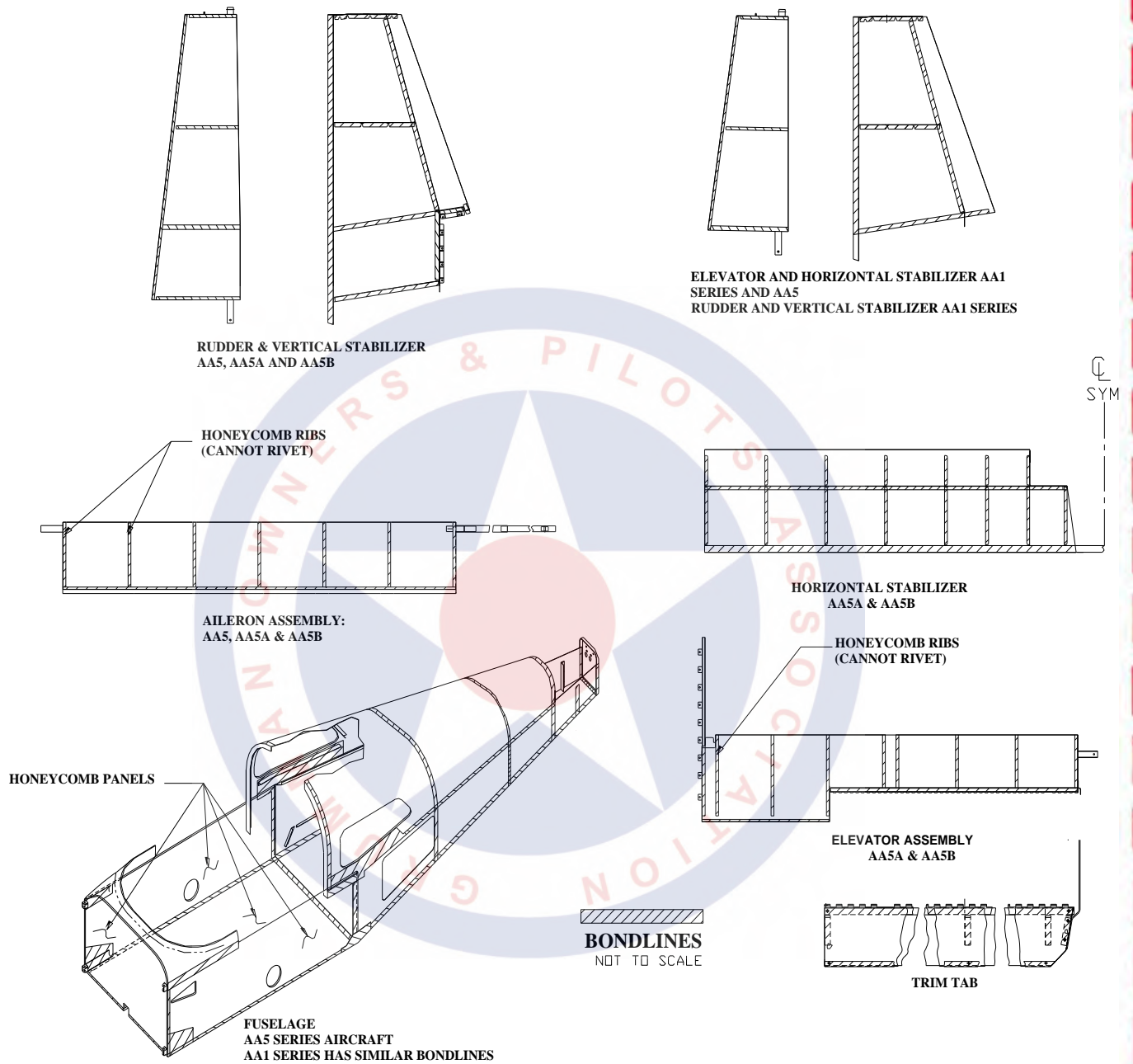
[Info@TrueFlightAerospace.com](mailto:Info@TrueFlightAerospace.com)



**FIGURE 1  
TAP TEST**

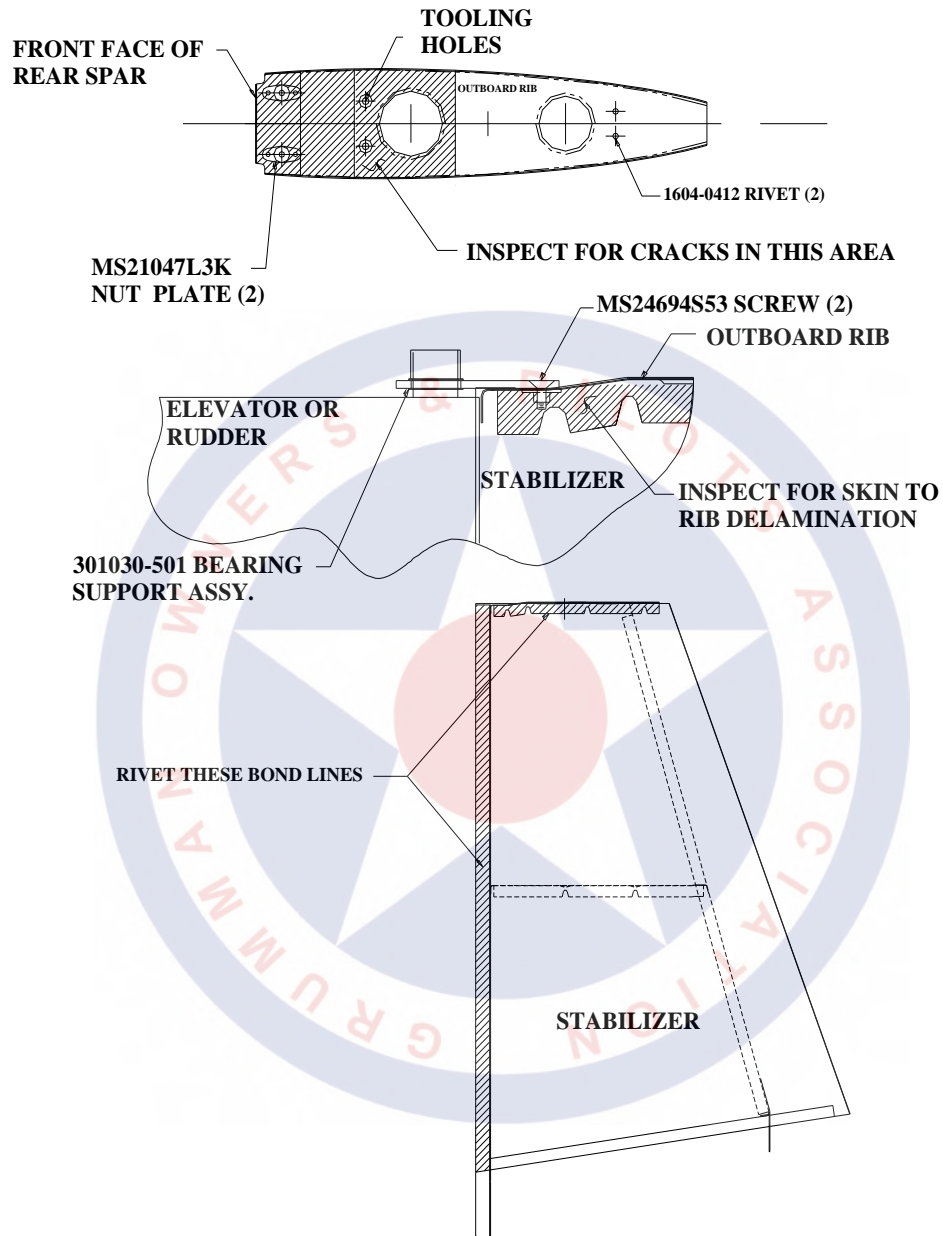


**FIGURE 2  
WING BOND LINES**



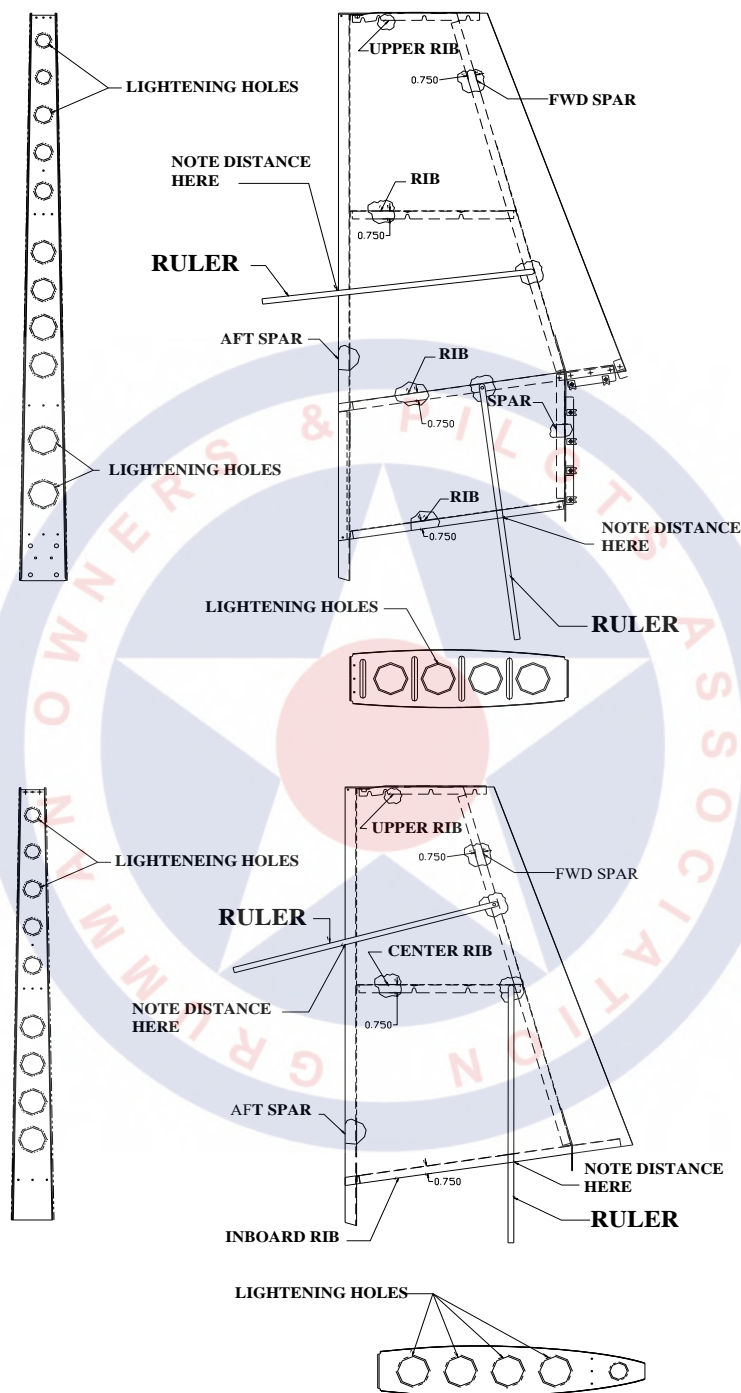
**FIGURE 3**  
**AA1 SERIES AND AA5 SERIES**  
**BOND LINES**





**FIGURE 4**  
**STABILIZER OUTBOARD RIB INSPECTION**  
**AND RIVET AREA AA1 SERIES & AA5**





**FIGURE 5**  
**SAMPLE RULER LOCATIONS, HORIZONTAL AND VERTICAL STABILIZERS**



## **SB-195 Part B Compliance Notification**

Owner \_\_\_\_\_

"N" Number \_\_\_\_\_

Model \_\_\_\_\_ Year of Manufacture \_\_\_\_\_ Serial Number \_\_\_\_\_

Airframe total time \_\_\_\_\_ Is Aircraft Regularly covered/hangared? \_\_\_\_\_

Condition encountered as a result of SB-195 Part B inspection:

A large, light blue watermark of the Grumman Owners & Pilots Association logo is centered on the page. The logo is circular with a five-pointed star in the center. The words "GRUMMAN OWNERS & PILOTS ASSOCIATION" are written around the perimeter of the circle.

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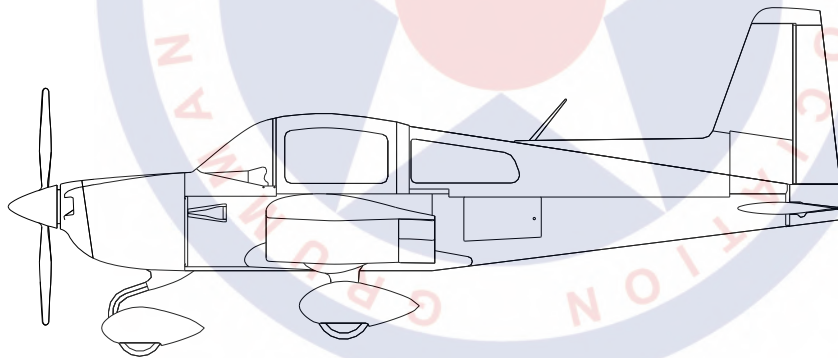
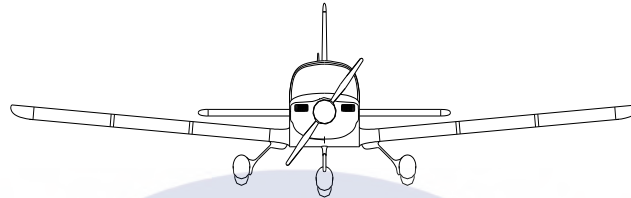
### **Mailing Address:**

***TRUE FLIGHT AEROSPACE, LLC***  
2300 Madison Highway  
Valdosta, GA 31601

# SINGLE ENGINE AIRCRAFT SERVICE KIT 125B

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**SUBJECT:** Flight Controls (ATA No. 27) and Structures (ATA No. 51)  
Bondline Delamination, Repair of



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## **REVISIONS**

Revision of SK-125A to SK-125B

1. Changes the font to Times New Roman
2. Cleans and enhances illustrations and charts
3. Removes Kit Prices
4. Removed distribution list from the title page.
5. Added AG5B to the Aileron Mass Balance Weight Chart
6. Revised the title page to reflect the current TC holder





TRUE FLIGHT AEROSPACE, LLC SERVICE KIT 125B SUPERSEDES GRUMMAN AMERICAN SINGLE ENGINE  
SERVICE KIT 125A

**SUBJECT:** Flight Controls (ATA No. 27) and Structures (ATA No. 51)  
Bondline Delamination, Repair of

**PURPOSE/ DISCUSSION:** The purpose of this Service Kit is to provide Standard Bondline Maintenance, Inspection and Repair Procedures for Grumman American Aviation Corporation Aircraft. These procedures are applicable for the repair of corrosion attacked bondlines (delamination). The procedures provided in this Service Kit are designed to maintain the Aircraft Type Design Structural Integrity. The repair of delaminated bondlines is covered in six (6) basic categories, as follows:

1. The repair of minor bondline delamination is for the repair of bondlines exhibiting delamination of less than 30% of the bondline area.
2. The repair of major bondline delamination is for the repair of bondlines exhibiting delamination of greater than 30% of the bondline area.
3. The installation of U-Channels is for the repair of major bondline delamination (30% or greater) of the control surface trailing edge.
4. The repair of Control Surface Inboard / Outboard Honeycomb Rib to Skin Bondline Delamination.
5. The repair of all AA-5 Series Aileron Leading Edge Bondline De-lamination.
6. The repair of Upper Cowl Delamination is AA-5 – 0641 threw -0834, all AA-5A and all AA-5B aircraft with delamination between the upper cowl assembly Honeycomb and Cowl Skin.

**DESCRIPTION:** This Service Kit provides procedures and materials (except MEK, Isopropyl Alcohol or Acetone) required for the repair of delaminated metal to metal bondlines. The repair requires that the delaminated bondline be drilled for rivet installation, opened, the damaged adhesive and/or aluminum corrosion be removed, the mating surfaces be solvent cleaned, sealed, riveted back together and repainted.  
Service Kit 125A-1 provides materials for the repair of limited bondline delamination.  
Service Kit 125A-2 provides materials for the repair of extensive bondline delamination.  
Service Kit 125A-3 provides materials for the installation of U-Channels.  
Service Kit 125A-4 provides materials for the repair of delaminated Upper Cowl Assemblies of AA-5 – 9641 through - 6834 and all AA-5A and all AA-5B aircraft.

**SPECIAL TOOLS/ EQUIPMENT REQUIRED:** Standard Aircraft Mechanics Tools.

**EFFECTIVITY:** All Aircraft.

**FAA (DER) approval of this Service Kit has been granted.**

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The following instructions, in step-by-step form, are written as a guide to perform this installation or modification. Compliance with safe maintenance practices as recommended in the maintenance manual and FAA Regulations is Mandatory.

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**WEIGHT AND BALANCE:** The installation of U-Channels on the Trailing Edge of the Aircraft's Control Surfaces requires that Mass Balance weights of particular Control Surfaces be increased. This Service Kit provides the additional Mass Balance weights, installation hardware and installation procedures required. The effect of all other repair procedures contained in this Service Kit on the Aircraft's Basic Weight and Balance is negligible.

**NOTE**

*To arrest future trailing edge bondline delamination and to maintain consistent control surface balance it is mandatory to install U-Channels on all control surfaces of aircraft that may require installation of U-Channels on any control surface. For example, if a flap on a particular aircraft is the only control surface trailing edge bondline exhibiting major bondline delamination, to install a U-Channel on this control surface it is mandatory to install U-Channels on all control surfaces of this aircraft.*

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THIS SERVICE KIT IS CONSIDERED BY GRUMMAN AMERICAN AVIATION CORPORATION TO BE A DESIGN IMPROBMENT

**CAUTION**

Drilling in the area of fuel, fuel leaks or fuel vapors constitutes a very serious fire and /or explosion hazard. Contact the Grumman American Aviation Corporation Customer Service Department before proceeding with the repair of bondline delamination in the area of the Integral Fuel Tanks of the wings of all AA5 Series Aircraft.

**CAUTION**

Exercise extreme care drilling in the wing. Drilling is prohibited in an area of 3.0 inches on either side of the centerline of the wing spar. See Figure 2 or dimensions necessary for locating wing spar centerline

**WARNING**

**Damage to the wing spar will seriously affect the structural integrity of the aircraft.**

**SAFETY PRECAUTIONS**

Sealants - Handling and safety instructions.

1. Sealants have been proven to be safe materials when reasonable care is observed but the following precautions must be observed.

**WARNING**

**Some Sealants contain Flammable and Volatile Solvents.**

2. Keep sealants away from heat, sparks and flame. Proper precautions used with flammable material must be taken when applying sealants. Comply with all local safety regulations.
3. Use and handle only in a well-ventilated area. Air supplied respirators should be used during application. Avoid repeated or prolonged exposure. Remove affected personnel to fresh air immediately and obtain medical attention.
4. Avoid all contact with the body, especially contact with open breaks in the skin and ingestion. If skin contact is made; flush area with warm water. Obtain medical attention in case of extreme exposure or ingestion.
5. Polyethylene mitts and chemical type goggles must be used when handling or mixing materials.

**MODIFICATION INSTRUCTIONS**

**A. Prepare the aircraft for safe maintenance as follows:**

- A-1 Ensure Master Switch OFF.
- A-2 Aircraft grounded.
- A-3 Observe all safety precautions.

**B. Bondline Inspection Procedures.**

- B-1 Carefully inspect the edges of all bondlines in a well-lighted hanger or outside in the daylight to determine the existence of hairline cracks between two layers of bonded metal. Identify the location of any cracks with a grease pencil as shown in Figure 1.
- B-2 Gently tap the bondline with a coin or similar metal object to verify the existence of a bondline separation. Slowly move along the bondline, while tapping and listen for a change in tone as the suspect area is traversed. A bondline separation will produce a flat or hollow sound when tapped directly in the delaminated area.
- B-3 To verify that a bondline separation exists attempt to insert a spatula (supplied in kit) or a similar tool into the bondline.
- B-4 If the hairline cracks are found not to be bondline separations then the area should be cleaned with MEK, Isopropyl Alcohol or Acetone and sealed with paint.
- B-5 If the hairline cracks are found to be bondline separations then the extent of the delamination. Should the bondline delamination be less than 30% of the area of the entire bondline, refer to section "C" and proceed with the repair for minor bondline delamination. Should the bondline delamination be greater than 30% of the area of the entire bondline, refer to section "D" and proceed with the repair for major bondline delamination. Should the control surface trailing edge bondline exhibit delamination greater than 30 %, refer to section E and proceed with the installation of U-Channels.

**NOTE**

*The Aileron bondlines on AA-5 Series Aircraft are located on the leading edge of the aileron. Inspection of these bondlines will require removal of the aileron from the aircraft.*

C. Repair Procedures for Minor Bondline Delamination.

- C-1 For repair of minor bondline delamination in all airframe areas, except control surface trailing edge, establish the following hole pattern. Drill .097-.102 diameter holes (drill No. 40) and countersink 100° x .148 diameter for use of NAS1097AD3 rivets. Holes are to be located on 1.0-inch centers, staggered .25" on either side of the centerline of the bondline, maintaining minimum edge distance of .19" (See Figure 3). This hole pattern must extend 1.5 inches beyond the delaminated area. In areas where a blind rivet may be required or desirable the same hole pattern may be established with the following variations: Drill .143-.146 diameter holes (drill No. 27), countersink 100° x .225 diameter and maintain a minimum edge distance .29 for use of CR3242 -4 - 2 rivets.

**NOTE**

*Standard minimum edge distance is twice the diameter (2 x diameter) of the fastener to be installed. Where absolutely necessary minimum edge distance of one and a half times the diameter (1.5 x diameter) of the fastener to be installed may be used.*

- C-2 For repair of minor bondline delamination of control surface trailing edge bond - line, establish the following hole pattern: Drill .097-.102 diameter holes (drill No. 40) and countersink 100° x .148 diameter, upper surface skin only, for use of NAS1097AD3 rivets. Holes are to be located on 1.0-inch centers on the centerline of the trailing edge bondline. This hole pattern must extend 1.5 inches beyond the delaminated area.
- C-3 After hole pattern has been drilled, remove all chips and burrs. Clean exterior surfaces around the repair area using MEK, Isopropyl Alcohol or Acetone to remove all dirt, oil, etc.

**NOTE**

*Exercise care to prevent contamination of bondlines. Clean all tools with MEK, Isopropyl Alcohol or Acetone and wear gloves.*

- C-4 Remove any rivets in the area to be repaired.
- C-5 Carefully open the delaminated bondline using a clean thin knife or similar tool. Open the bondline approximately 1.0 inch beyond the delaminated area to allow the surfaces to be wedged open .125 to .250 for working space.

**NOTE**

*Exercise care to prevent stretching or deforming the skin.*

- C-6 Carefully wedge open the delaminated bond line with a clean screwdriver or similar tool.
- C-7 Using the stainless-steel tube brush (supplied in kit) in a high-speed drill motor, brush the inside surfaces of the opened bondline to remove the old adhesive and/or aluminum corrosion that might be present. If the working space of the opened bondline is restricted, sand the inside surfaces using the 3M Elektrocut Paper (supplied in kit) wrapped around a clean putty knife or similar tool.

**NOTE**

*Do not use any sandpaper or emery cloth containing silicon. Do not use any carbon steel brushes. Use only stainless-steel brushes (supplied in kit) or equivalent.*

- C-8 Using MEK, Isopropyl Alcohol or Acetone, solvent clean the interior surfaces of the opened bondline.



- C-9 Mix the Polysulfide Sealant per the instructions on the can. The sealant has a pot-life of approximately 2 hours, prepare only the amount required to seal the bondlines that were opened and prepared in steps C-4 thru C-8.

**NOTE**

*Use the class B2 Polysulfide Sealant in all airframe areas except the control surface trailing edge. Use the class A2 Polysulfide Sealant to seal delaminated control surface trailing edge bondline and to install the U-Channels on the control surface trailing edge.*

- C-10 Apply a smooth consistent layer of Polysulfide Sealant to all mating- surfaces of the delaminated bondline.
- C-11 Install rivets in the repair area while the sealant is wet. All rivets installed on the exterior of the aircraft must be flush. Dip all rivets to be installed beyond the repair area in sealant and install these rivets wet.
- C-12 Remove all excess sealant and allow to cure for a minimum of 8 hours prior to flying aircraft.
- C-13 Allow sealant to cure per the graph illustrated in Figure 1, Fill over exterior rivets with body filler and smooth to contour. Apply zinc chromate primer to repair area prior to repainting.
- D. Repair procedures for Major Bondline Delamination.
- D-1 For repair of major bondline delamination in all airframe areas except control surface trailing edge, establish the following hole pattern. Drill .097-.102 diameter holes (drill No. 40) and countersink 100° x .148 diameter for use of NAS1097AD3 rivets. Holes are to be located on 1.0-inch centers, staggered .25" on either side of the centerline of the bondline, maintaining minimum edge distance of .19" (See Figure 3). This hole pattern must cover the entire length of the bondline. In areas where a blind rivet may be required or desirable the same hole pattern may be established with the following variations: Drill .143-.146 diameter holes (drill No. 27), countersink 100° x .225 diameter and maintain a minimum edge distance of .29 for use of CR3242-4-2 rivets.
- NOTE**
- Standard minimum edge distance is twice the diameter (2 x diameter) of the fastener to be installed. Where absolutely necessary minimum edge distance of one and a half times the diameter (1.5 x diameter) of the fastener to be installed may be used.*
- D-2 Refer to Steps C-3 thru C-13 for the bondline preparation, opening, sealing and rivet installation procedures.
- E. U-Channel installation: Repair procedures for major bondline delamination of the control surface trailing edge.

**NOTE**

*To arrest future trailing edge bondline delamination and to maintain consistent control surface balance it is mandatory to install U-Channels on all control surfaces of any aircraft that may require installation of U-Channels on any control surface. For example, if a flap on a particular aircraft is the only control surface trailing edge bondline exhibiting major bondline delamination, to install a U-Channel on this control surface it is mandatory to install U-Channels on all control surfaces of this aircraft.*

**NOTE**

*Do Not install the U-Channel on the ailerons of the AA-5 Series Aircraft.*

TRUE FLIGHT AEROSPACE, LLC SERVICE KIT 125B SUPERSEDES GRUMMAN AMERICAN SINGLE ENGINE  
SERVICE KIT 125A

Remove peel rivets installed per Service Bulletin 155 from all Control Surfaces. (See Figure 5)

- E-1 Clean the exterior of all Control Surface Trailing Edges with MEK, Isopropyl Alcohol or Ace tone.
- E-3 Measure the control surface trailing edge and cut the U-Channel the exact length measured. Remove all sharp edges from the ends of the U-Channel.
- E-4 Temporarily install the U-Channels on the trailing edge. Drill .097-.102 diameter holes (drill No. 40) thru U-Channel and control surface trailing edge, countersink 100° x .148 diameter upper and lower surface for use of NAS1097AD3 rivets. See Figure 5 for hole location.
- E-5 Remove the U-Channel from the trailing edge and remove all chips and burrs from the U-Channel and control surface trailing edge. Clean the inside of the U-Channel using cheesecloth, wrapped around a clean putty knife or similar tool, saturated with MEK, Isopropyl Alcohol or Acetone. Store the U-Channel in a safe place to prevent contamination prior to installation.
- E-6 Refer to Steps C-3 thru C-10 for the bondline preparation, opening and sealing procedures.
- E-7 Apply a .50-inch-wide strip of class A2 Polysulfide Sealant on the upper and lower surface of the trailing edge.
- E-8 Install the U-Channel while sealant is wet and secure with NAS1097AD3 -4 rivets (supplied in kit), flush upper and lower surfaces. The NAS1097AD3-4 rivet may be trimmed as required.
- E-9 Remove all excess sealant and allow to cure for minimum of 8 hours prior to flying aircraft.
- E-10 Allow Sealant to cure per the graph illustrated in Figure 1 prior to repainting. Apply zinc chromate primer to repair area prior to repainting.

**NOTE**

*Paint only the U-Channel installation by masking off all surfaces of the control surface to prevent application of excess paint which would adversely affect the balance of the control surface.*

*If the entire control surface is to be repainted. The balance of the control surface must be checked in accordance with procedures set forth in the Maintenance Manual following installation of additional mass balance assemblies, reference Steps E-11 and E-12.*

**NOTE**

*The installation of U-Channels requires that additional mass balance weights be installed on the rudder of all models except AA-5-0406 through -0834 on which additional mass balance weights must be installed on the Left Hand and Right-Hand Elevator.*

- E-11 For all models except AA-5 -0406 through 0834 (Aircraft AA-5-0406 through -0834 proceed with Step E-12), remove and retain the rudder tip and attaching hardware. Locate the existing rudder mass balance. With the rudder in neutral move the rudder off center to gain access to the mass balance mounting hardware. Remove and retain the existing mass balance and discard the existing mounting hardware. Refer to the following table and determine the additional mass balance and new mounting hardware required for each particular aircraft. Place the additional mass balance (supplied in kit) on top of the existing mass balance and secure with the new mounting hardware (supplied in kit). Reinstall the rudder tip.

TRUE FLIGHT AEROSPACE, LLC SERVICE KIT 125B SUPERSEDES GRUMMAN AMERICAN SINGLE ENGINE  
SERVICE KIT 125A

AIRCRAFT	MASS BALANCE WEIGHT	ACTUAL WEIGHT	PART NO.	INST. HWD. NOMENCLATURE	INST. HWD. QTY
AA1C Without Beacon	302055-505	1.25 oz.	MS24694S65 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA1C With Beacon	302055-505	1.25 oz.	MS24694S55 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA1, AA1A, AA1B Without beacon	302055-504	2.8 oz.	MS24694S60 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA1, AA1A, AA1B with Beacon	302055-504	2.8 oz.	MS24694S53 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA5B, AG5B	302055-502	3.30 oz.	MS24694S73 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA5A	302055-501	1.75 oz.	MS24694S71 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA5 S/N 0001 - 0405	302055-501	1.75 oz.	MS24694S71 AN960-10 MS20365-1032	Screw Washer Nut	2 2 2
AA5 Serial No. 0406-0834 proceed to step E-12					

E-12 For AA -5 - 0406 thru -0834 Aircraft: (The following instructions are typical left hand and right hand). With the Elevator in neutral raise the Leading Edge of the Elevator above the Stabilizer Assembly. Locate the existing Elevator Mass Balance. Remove and retain the existing Mass Balance and discard the existing mounting hardware. Install the 302055-503 additional Mass Balance (supplied in kit), the existing Mass Balance and secure with the MS24694S68 Screws (supplied in kit). NOTE: The 302055 - 503 Mass Balance is to be installed between the existing Mass Balance and the Elevator Assembly.

F. Repair of Control Surface Inboard/Outboard Honeycomb Rib to skin bondline delamination.

**NOTE**

*If Control Surface Honeycomb Rib to skin delamination is evident at any Rib other than the Inboard or Outboard Honeycomb Rib of the Control Surface, contact the Grumman American Aviation Corporation Customer Service Department.*

**NOTE**

*Due to the Honeycomb Rib construction of the Control Surfaces it is not possible to rivet the skin to the delaminated rib.*

F-1 If a delamination does exist carefully wedge open the "delaminated" area and lightly sand the control surface skin bondline using the 3M Elektrocut paper (supplied in kit).

**NOTE**

*Do not sand the bonding surface of the honeycomb rib core.*

- F-2 Solvent clean the sanded area using MEK, Isopropyl Alcohol or Acetone.
- F-3 Apply a generous amount of class B2 Polysulfide Sealant to the delaminated area.
- F-4 Clamp the control surface skin in place (See Figure 4) until the sealant is cured per the graph illustrated in Figure 1. Exercise care to prevent damage to the exterior finish of the control surface.

G. Repair procedures for all AA-5 Series, Aileron Leading Edge Bondline Delamination.

- G-1 Determine the extent of the delamination. For minor bondline delamination (30% or less) the following rivet pattern must extend 1.5 inches beyond the delaminated area. For major bondline delamination (greater than 30%) the following rivet pattern must extend the entire length of the bondline.
- G-2 Drill .143-.146 diameter holes (drill No. 27) for use of CR3243--4-1 rivets. Locate holes on 10-inch centers as shown in Figure 6.
- G-3 Refer to Steps C-3 thru C-12 for the bondline preparation, opening, sealing and rivet installation procedures.
- G-4 Allow sealant to cure per the graph illustrated in Figure 1, Apply zinc chromate primer to the repair area prior to repainting.

H. Inspection and repair procedures for Upper Cowl Assembly Honeycomb Delamination.  
Effective for AA-5-064 through -0834 all AA-5A and all AA-5B 5B aircraft.

- H-1 Remove the upper cowl assembly from the aircraft and exercise care to prevent damage of the exterior finish.
- H-2 Visually inspect honeycomb bonding surfaces for a possible separation. To verify a separation, using fingertip pressure gently attempt to pull honeycomb away from upper cowl assembly.

**NOTE**

*Do not remove the honeycomb from the upper cowl assembly unless absolutely necessary. Exercise care not to stretch or deform the skin of the upper cowl assembly.*

- H-3 If a separation does exist carefully wedge open the delaminated area and lightly sand the bonding surface of the cowl assembly skin using the 3M Elektrocut paper (supplied in kit).

**NOTE**

*Do not sand the bonding surface of the honeycomb core.*

- H-4 Solvent clean the sanded area using MEK, Isopropyl Alcohol or Acetone.
- H-5 Apply a generous amount of polysulfide sealant to the delaminated area.



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SERVICE KIT 125A

H-6 Apply contact pressure until Sealant is cured per the graph as illustrated in Figure 1.

H-7 Reinstall the upper cowl assembly.

I. Return aircraft to flight status.

J. Record compliance in the aircraft' log book.

**PARTS REQUIRED PER AIRCRAFT**

PART NUMBER	Nomenclature	Kit 1	Kit 2	Kit 3	Kit 4
	MEK, Isopropyl Alcohol or Acetone (not supplied in kit)	A/R	A/R	A/R	A/R
02408 (120 Grit)	3M lte Elektrocut	4	6	4	4
02402(320 Grit)	3M lte Elektrocut	4	6	4	4
	Acid Brush	2	4	2	2
100-1-2	Stainless Steel Tube Brush	2	3	2	
14-370	Spatula	1	1	1	1
NAS1097AD3- 4	Rivet	100	500	30	
CR3242-4-2	Rivet	20	100		
CR3242-4-1	Rivet	10	50		
GAES302-1-72	U-Channel			6	
302055-501	Mass Balance Weight			1	
302055-502	Mass Balance Weight			1	
302055-503	Mass Balance Weight			2	
302055-504	Mass Balance Weight			1	
302055-505	Mass Balance Weight			1	
MS24694S53	Screw			2	
MS24694S55	Screw			2	
MS24694S60	Screw			2	
MS24694S65	Screw			2	
MS24694S68	Screw			4	
MS24694S71	Screw			2	
MS24694S73	Screw			2	
AN960-10	Washer			2	
MS20365-1032	Nut			2	
				3/4 Pt. Kit	
PR1422-A 1/2	Polysulfide Sealant	3/4 Pt. Kit			
PR1422-B 1/2	Polysulfide Sealant	3/4 Pt. Kit	1 Gal Kit		1 Gal Kit

**NOTE:** The Polysulfide Sealant supplied in this Kit meets MIL-S-8802D and GAPS-1163 Specifications.

**NOTE:** The CR3242-4 and CR3243-4 Blind Rivets supplied in this kit can be installed with Standard Pop Rivet Installation Equipment.

Service Kit prepared by Grumman American Aviation Corporation,  
P.O. Box 2206, Travis Field, Savannah, Georgia 31402.

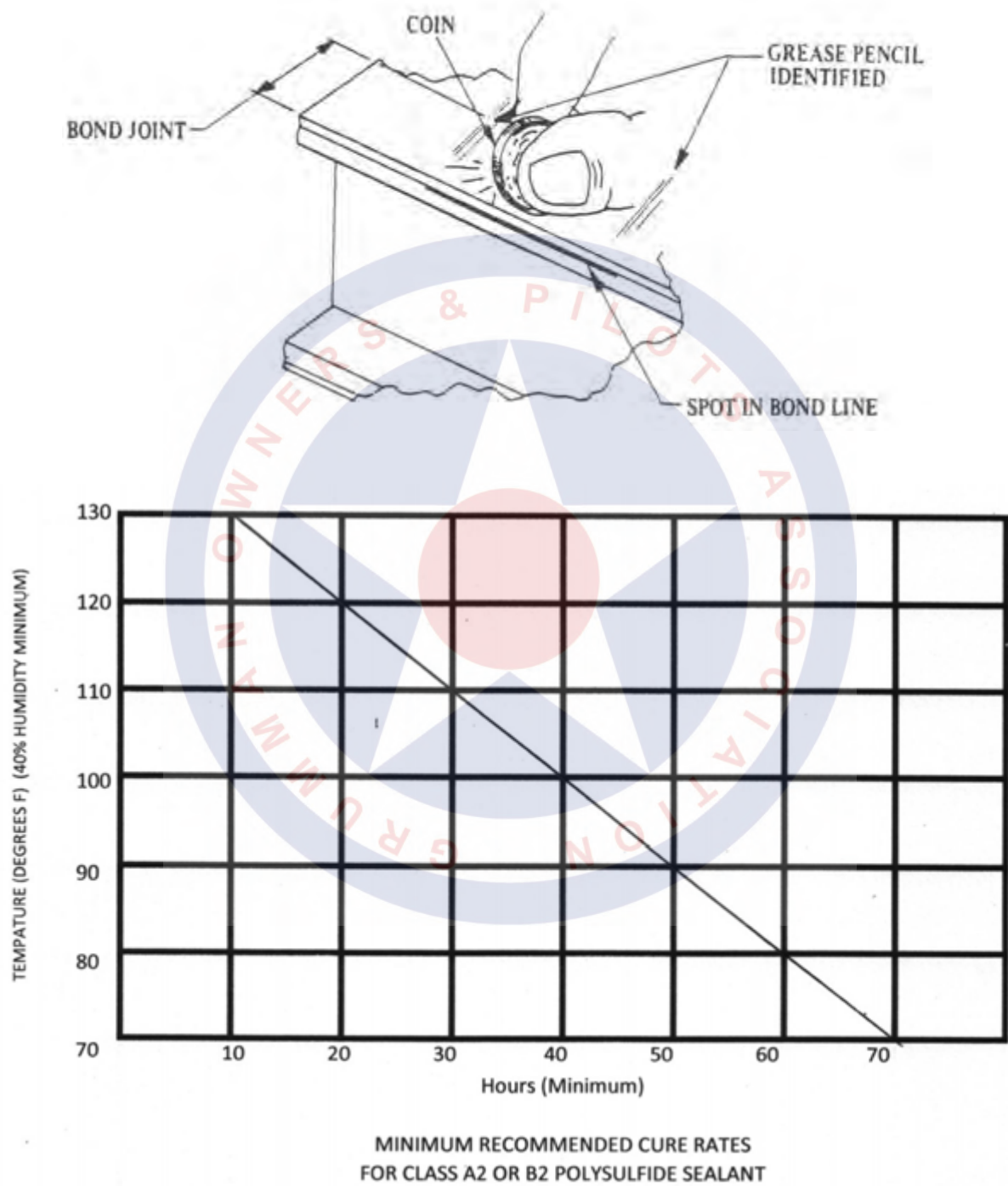


FIGURE 1

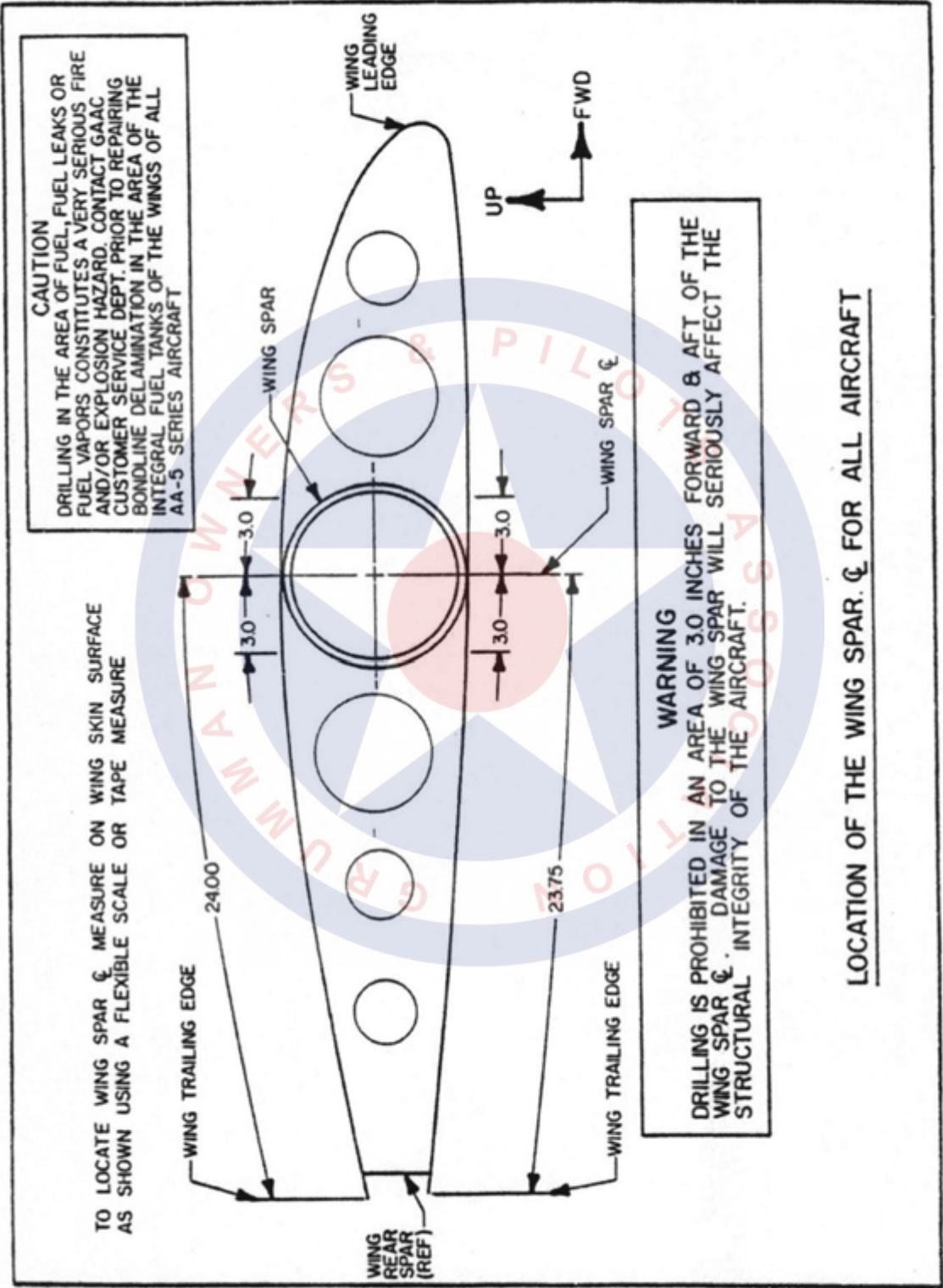


FIGURE 2

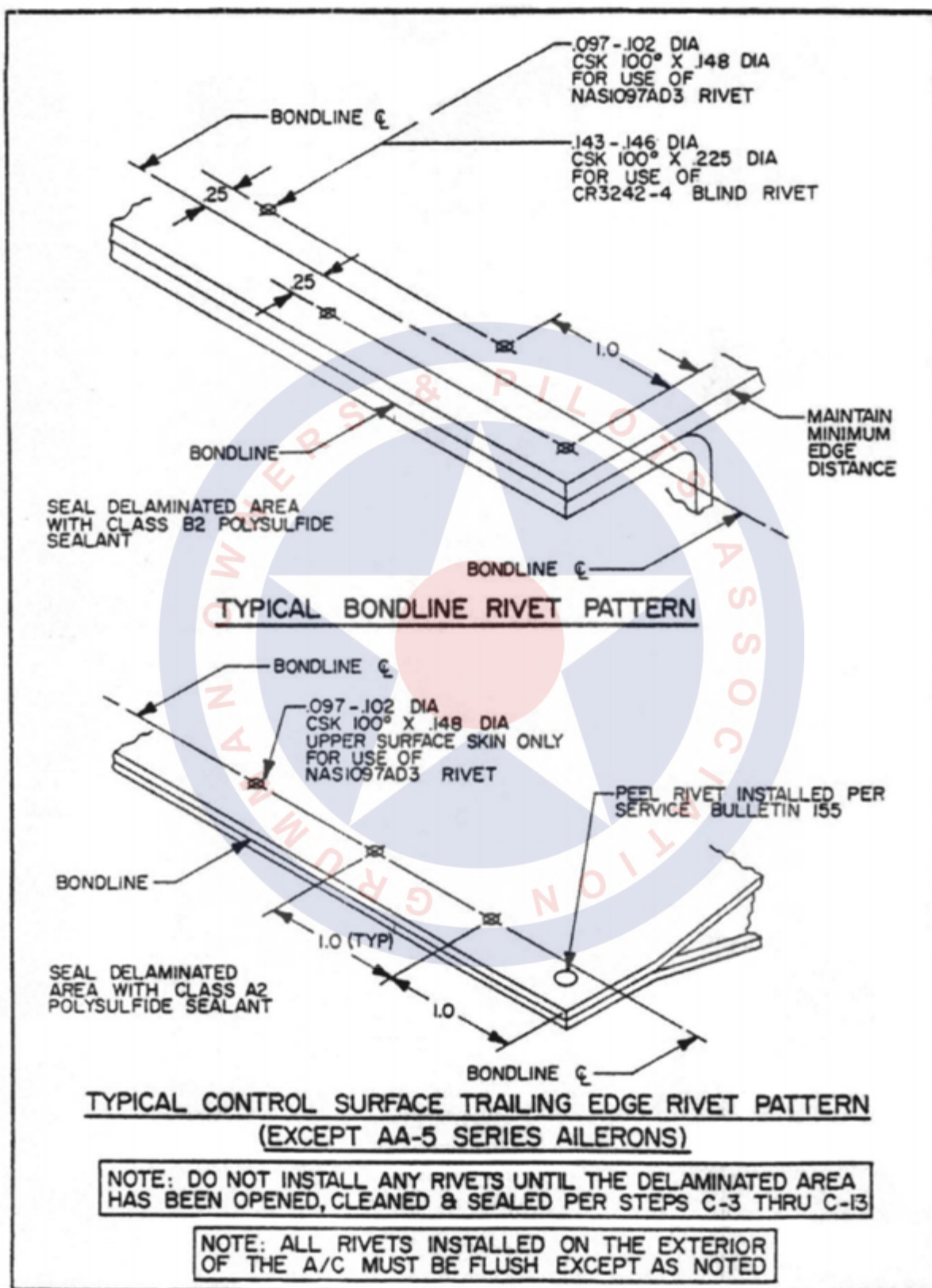


FIGURE 3



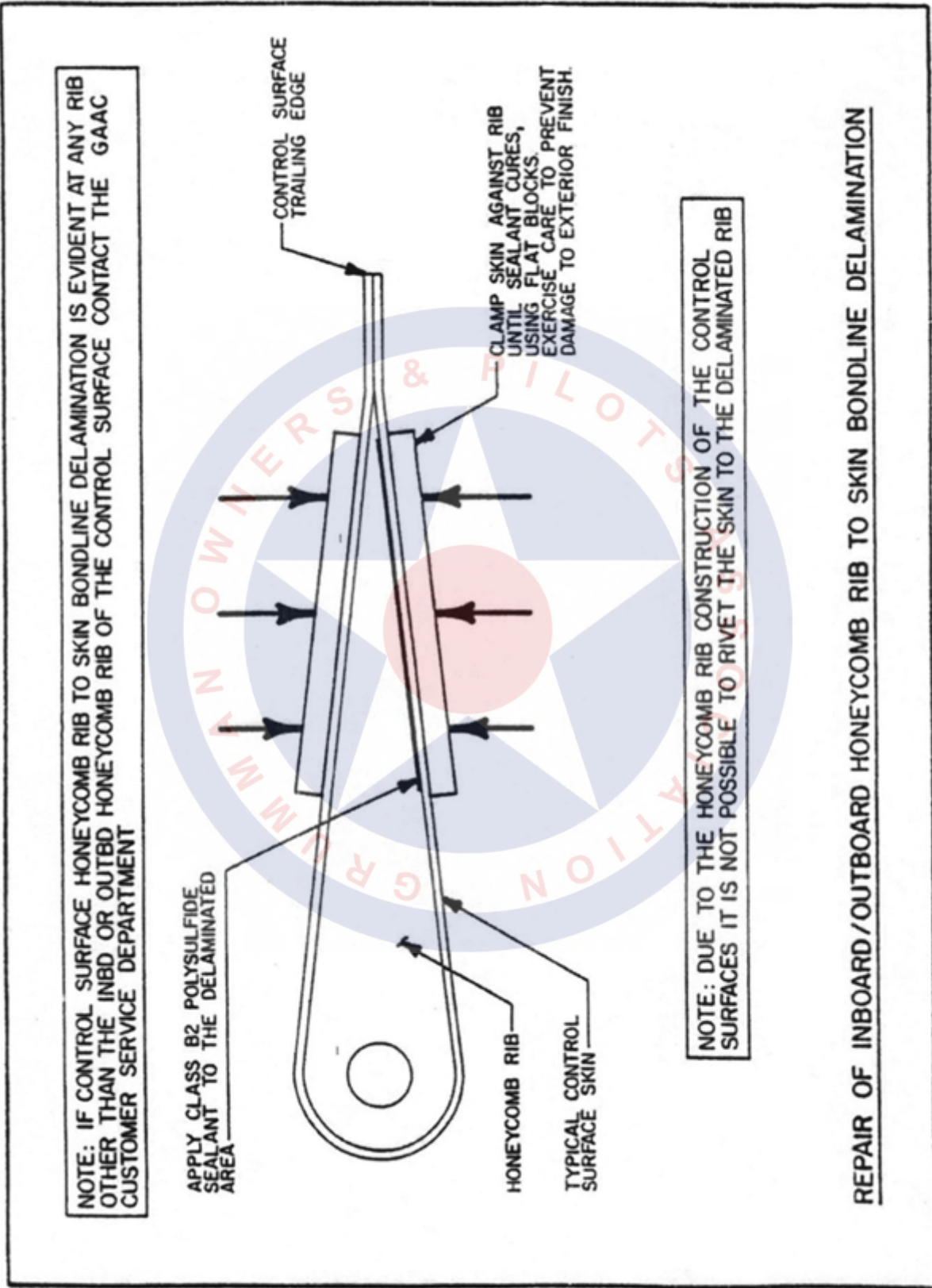


FIGURE 4



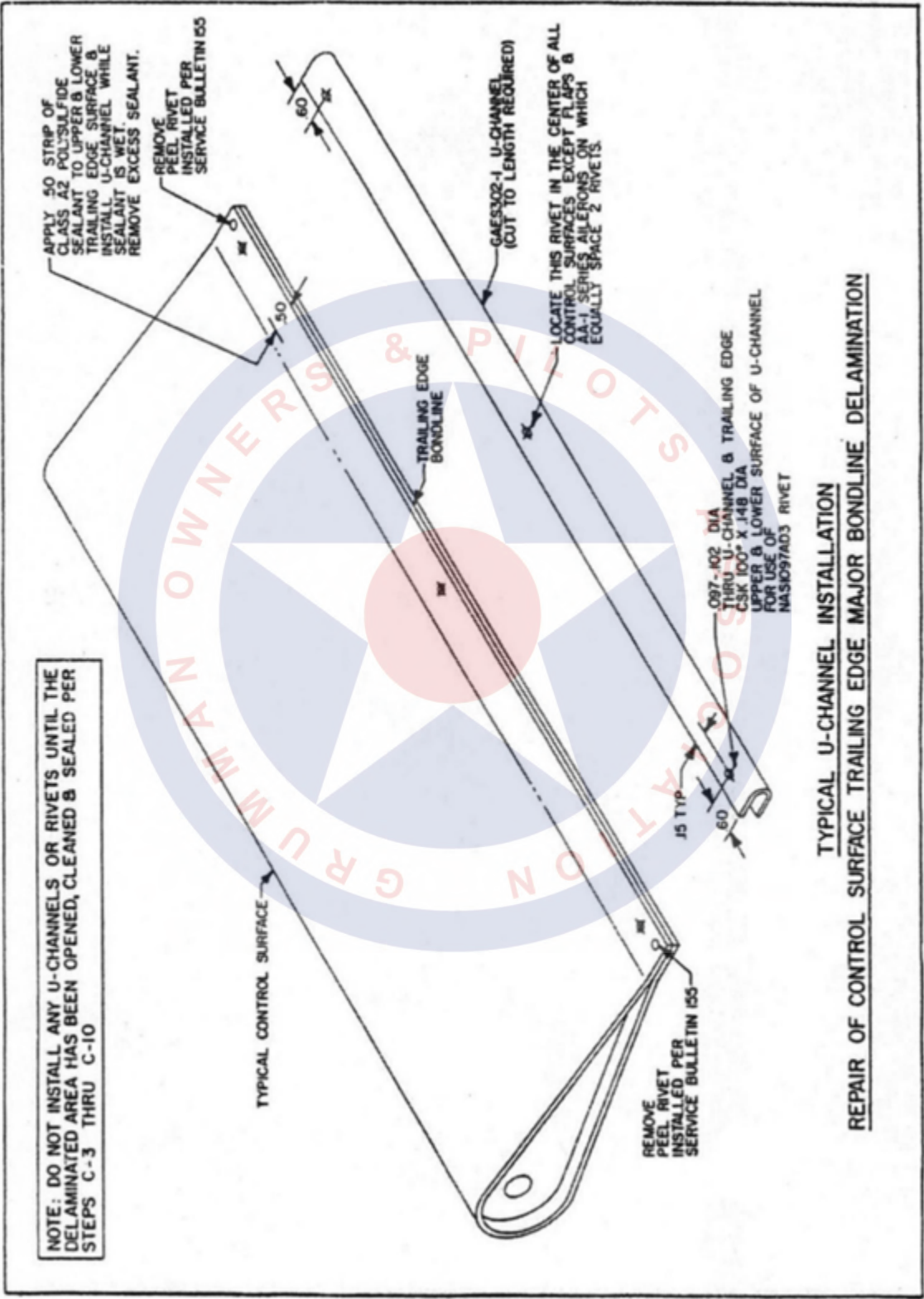
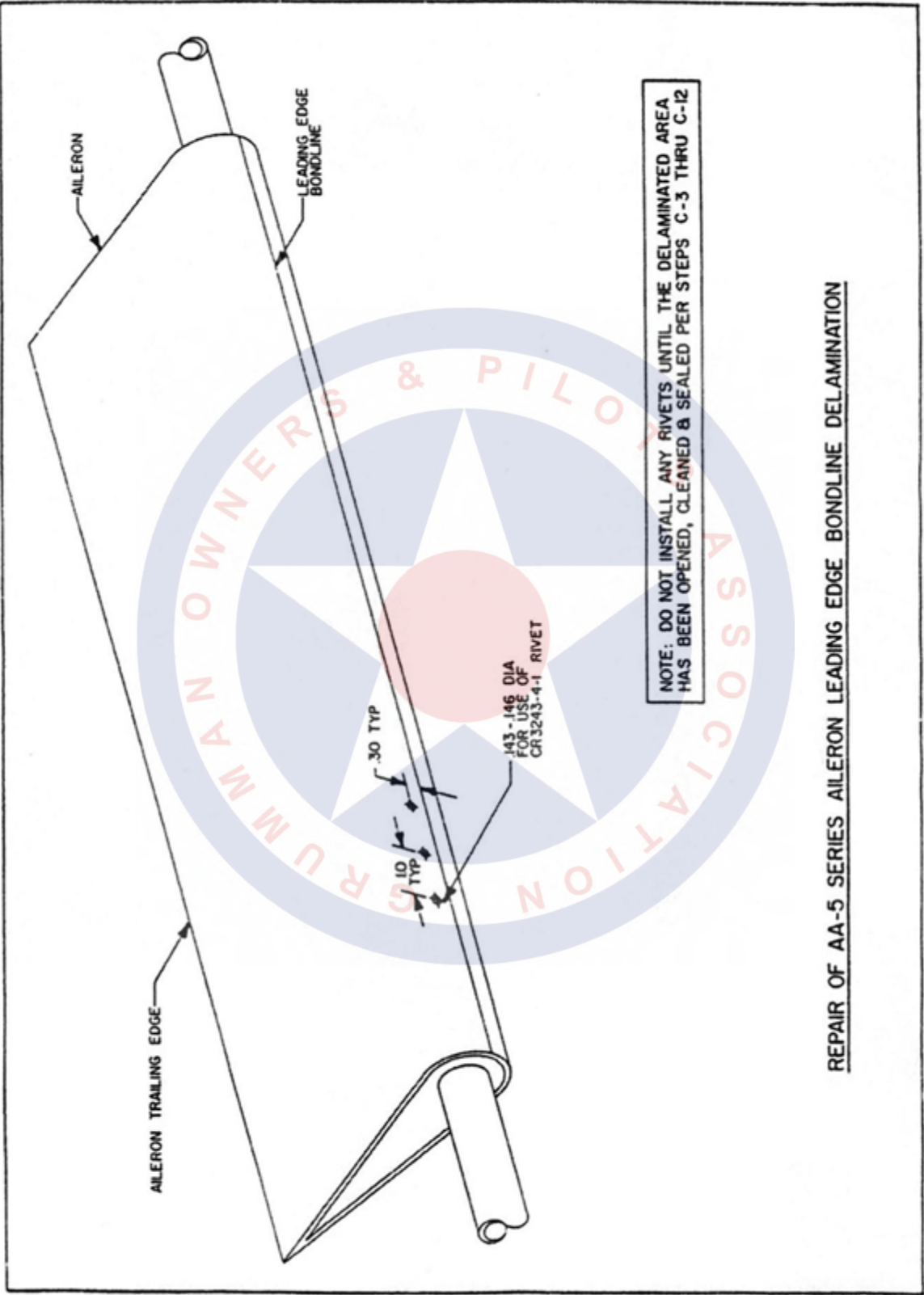


FIGURE 5



REPAIR OF AA-5 SERIES AILERON LEADING EDGE BONDLINE DELAMINATION

FIGURE 6



2300 Madison Highway, Valdosta, GA 31601

# SB-195 Cost Estimate

## SB-195 Compliance Cost, Part A

- |   |                |
|---|----------------|
| 1. Remove and reinstall the wing tips, wing inspection panels, wing gap covers, tail cone, rudder cap aft fuselage close-out inspection panel and baggage floor inspection panel. | 5.0 hrs.       |
| 2. Inspect all bond lines as depicted in SB-195.  | 3.0 hrs.       |
| 3. Treat the wings, stabilizers and aft fuselage with corrosion inhibitor. *  | 3.0 hrs.       |
| 4. Log book entries and required notifications.   | <u>1.0 hr.</u> |
| Total: 12.0 hrs.  |                |

## SB-195 Compliance Cost, Part B

- |  |                 |
|--|-----------------|
| 1. Remove the elevators  | 1.0 hrs.        |
| 2. Inspect all bond lines as depicted in SB-195                  | 1.0 hrs.        |
| 3. Rivet the horizontal outer rib and rear spar.                 | 4.0 hrs.        |
| 4. Cover rivet heads with body filler, sand, prime and paint **  | 4.0 hrs.        |
| 5. Treat the inside of the stabilizers with Corrosion inhibitor. | 1.0 hr.         |
| 6. Reinstall the elevators.                                      | <u>1.0 hrs.</u> |
| Total: 12.0 hrs.   |                 |

Labor cost at an average shop rate of \$95.00 per hour:

Part A: \$1140.00

Part B: \$1140.00

## Materials Cost:

1 ea. Poly Sulfide Sealer, quart kit:	\$89.00
1 Gal. Corrosion Inhibitor	\$104.00
Rivets	<u>\$25.00</u>
	\$218.00

## Total Cost:

AA1 Series, AA5, AA5A and AA5B Part A: \$1,244.00

AA1 Series and AA5 Part A and B: \$2,308.00

\*AA1 Series Aircraft have a shorter wing than the AA5 Series aircraft and may take less time.

\*\* Does not consider cost to repaint.