

**\*MANDATORY SERVICE BULLETIN\*****NUMBER: SB14-08****REVISION: 00****DATE: 09/08/2014****SUBJECT: WINGTIP NAVIGATION LIGHT REPLACEMENT****EFFECTIVITY:**

KODIAK® 100 Series Aircraft Serial Numbers: 100-0098 through 100-0114

**SUMMARY:**

This Field Service Instruction provides procedures for replacing the wingtip navigation light assemblies on the affected aircraft serial numbers. During testing at the factory it was found that the navigation light assemblies installed on these aircraft have the potential to create an interference issue on the COM receivers when the strobe lights are operated. The new assemblies have internal wiring changes which prevent interference issues and provide for adequate lightning protection without an external ground through a lightning arrestor. Certain aircraft may require the replacement of the wingtips in order to comply with this Service Bulletin. Compliance with this Service Bulletin removes the five year Lightning Protection Assembly replacement requirement called for in the Airworthiness Limitations chapter of the Airplane Maintenance Manual.

**COMPLIANCE:**

This Mandatory Service Bulletin must be complied with on or before the next 100 hour inspection or annual inspection, whichever comes first. Owners/operators who have experienced, or are experiencing, COM interference from strobe light operation are urged to comply with this Service Bulletin at their earliest convenience.

**ATTACHED DOCUMENTS:**

Document #:	Document Title:
FSI-099	WINGTIP NAVIGATION LIGHT REPLACEMENT

**FAA APPROVAL STATUS:**

The instructions attached to this Service Bulletin have demonstrated compliance with all applicable Federal Aviation Regulations and are approved by the Federal Aviation Administration.

**CREDIT AND WARRANTY INFORMATION:**

Quest will supply one Service Kit FSI-099 per aircraft at no cost to owner, and supply an RMA number for the return of navigation light assemblies. Quest will reimburse up to 2 hours of labor for navigation light replacement, or up to 10 hours of labor for both navigation light and wingtip replacement, as required to comply with FSI-099, contingent upon receipt of the navigation light assemblies.

Contact Quest Customer Service to order Kit and acquire RMA number. Refer to Quest's website for information on submitting invoices for labor reimbursement.

**Quest Customer Service****Service Bulletin SB14-08****Phone: (208)263-1111 Toll Free: 1(866)263-1112****Email: [Customerservice@questaircraft.com](mailto:Customerservice@questaircraft.com)****SPECIAL INSTRUCTIONS:**



## FIELD SERVICE INSTRUCTION

TITLE:

Wingtip Navigation Light Replacement

SERIAL RANGE: 100-0098 thru 100-0114

JASC CODE: 3340/5730

PAGE:

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### SUBJECT

This Field Service Instruction provides instruction for replacing the navigation light and the wingtip, as required.

### AFFECTED MANUALS AND PUBLICATIONS

None

### INDUSTRY REFERENCES

None

### WEIGHT AND BALANCE

Negligible.

### MANPOWER

The estimated man-hours and minimum number of persons required to perform this Field Service Instruction are listed below. The "Minimum Persons" refers only to maintenance personnel or installers, and unless otherwise specified within this instruction does not include additional personnel that may be needed solely to comply with safety requirements (for example, safety observers that are not performing tasks within this instruction). It is the responsibility of maintenance personnel to comply with safety requirements, including having a safety observer available as needed.

#### Estimated Man-hours:

Navigation Light Only: 2 hours

Navigation Light and Wingtip: 10 hours

#### Minimum Persons: 1 person

If more than the minimum personnel perform this instruction, the actual man-hours required may be reduced due to increased efficiencies. As appropriate, Quest encourages the use of additional personnel; man-hour estimates are based on the minimum personnel required.

### RECORD OF COMPLETION

- Update the appropriate maintenance records
- Ensure the KODIAK<sup>®</sup> 100 Pilot's Operating Handbook / Aircraft Flight Manual is up-to-date with Revision 14 or later
- Ensure the KODIAK<sup>®</sup> 100 Airplane Maintenance Manual is up-to-date with Revision 15 or later

Quest Aircraft Company, LLC  
1200 Turbine Drive  
Sandpoint, ID 83864

### ⚠ DISCLAIMER ⚠

*The instructions / procedures presented herein are based upon the systems and components of the aircraft when it was delivered from the factory, or as modified by Quest Service Bulletins. Third-party modifications that have affected any component, system, or operating characteristic discussed by this document may invalidate the instructions / procedures provided. Before performing the instructions / procedures herein, examine all Supplemental Type Certificate (STC), Supplemental Type Authority (STA), or equivalently authorized modifications to verify that the instructions/procedures presented in this document can be properly completed. If an aircraft has an STC, STA, or equivalently authorized modification that affects any component, system, or operating characteristic also affected by this document, the operator is responsible for obtaining appropriate regulatory approval before performing the instructions / procedures herein. Quest Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this document.*

*If you have any questions as to the applicability of this document to your specific aircraft, contact Quest Customer Service by telephone at (208) 263-1111, toll-free at (866) 263-1112, or via email at [CustomerService@QuestAircraft.com](mailto:CustomerService@QuestAircraft.com)*

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**REVISION RECORD**

REV	PAGE	CHANGE DESCRIPTION
00	All	Initial Release



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## 1. Special Safety Instructions

### 1.1 Warnings

Failure to comply with “Warnings” contained in this instruction may result in financial loss, significant delay in the completion time, and/or serious injury to personnel.

### 1.2 Cautions

Failure to comply with “Cautions” contained in this instruction may result in the destruction of components, unnecessary complications, the need to reverse completed work, and/or delays in the completion time.

### 1.3 Notes

“Notes” are provided when additional information may lead to an increase in efficiency.

## 2. Parts, Tools, and Equipment

The following tables describe the parts, tools, and equipment necessary to successfully complete this instruction. Where applicable, reference to drawings provided with this instruction is provided.

**Table 2-1: Parts and Tools Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-1-1	100-820-8325	1	Assy, Nav & Strobe Light, Green	N/A	N/A
2-1-2	100-820-8326	1	Assy, Nav & Strobe Light, Red	N/A	N/A

**Table 2-2: Consumables Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-2-1	N/A	–	N/A	N/A	N/A

**Table 2-3: Serial-Number-Specific Parts Included in the Service Kit\***

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-3-1	100-250-0220-D01-KIT	1	100-250-0220-P01 (Wingtip, Upper Half, LH) 100-250-0220-P01B (Wingtip, Lower Half, LH) 100-250-0220-P01C (Wingtip, Rib, LH) 100-250-0220-P01D (Wingtip, Stiffener, LH)	N/A	N/A
2-3-2	100-250-0220-D02-KIT	1	100-250-0220-P02 (Wingtip, Upper Half, RH) 100-250-0220-P02B (Wingtip, Lower Half, RH) 100-250-0220-P02C (Wingtip, Rib, RH) 100-250-0220-P02D (Wingtip, Stiffener, RH)	N/A	N/A
2-3-2	100-250-0198	6	Bonding Washers	N/A	N/A

\*Airplane Serial Number 100-0114



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**Table 2-4: Parts and Tools NOT Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-4-1	N/A	AR	Plexus MA832 Structural Adhesive	N/A	N/A
2-4-2	Loctite – 222MS	AR	Loctite Threadlocker	N/A	N/A
2-4-3	ProSeal 890 B2	AR	Sealant	N/A	N/A
2-4-4	Semkit PR-2200-B1	AR	Conductive Sealant	N/A	N/A
2-4-5	N/A	AR	Alodine	N/A	N/A
2-4-6	N/A	AR	Hole Finder	N/A	N/A
2-4-7	N/A	AR	#21 Drill Bit	N/A	N/A
2-4-8	N/A	AR	#18 Drill Bit	N/A	N/A
2-4-9	N/A	AR	Milliohm Meter	N/A	N/A
2-5-10	N/A	AR	Step Drill*	N/A	N/A
2-5-11	N/A	AR	Hole Saw*	N/A	N/A

*\*If installing new wingtip*

	<div style="background-color: black; color: white; text-align: center; padding: 5px;"><b>FIELD SERVICE INSTRUCTION</b></div> <div> <div>TITLE: Wingtip Navigation Light Replacement</div> <div>SERIAL RANGE: 100-0098 thru 100-0114</div> </div> <div style="text-align: right;"> <div>JASC CODE: 3340/5730</div> </div>	<div>PAGE: 7 of 31</div> <div>REPORT NO.: FSI-099</div> <div>REVISION: 00</div>
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### 3. General

This Field Service Instruction (FSI) provides instruction for replacing the navigation light on both sides of the airplane, and for replacing the wingtip if required (depending upon serial range of the airplane):

- SN 100-0098 thru 100-0113: Remove the existing wingtip, and install the replacement navigation light to the existing wingtip.
- SN 100-0114: Prepare and install a new wingtip, and install the replacement navigation light on the new wingtip.

Performance of this FSI cancels the following requirement stated in AM902.0, *KODIAK® 100 Airplane Maintenance Manual*, Revision 15, Chapter 57:

*“If any evidence of a lightning strike is found or suspected, replace the navigation light lightning protection assembly (if equipped) located in each wingtip in accordance with Chapter 57 of this manual.”*



**Figure 3-1: Overview**

### 4. Preparation

Remove the wingtip in accordance with the *KODIAK® 100 Airplane Maintenance Manual*, Chapter 57.

### 5. Instructions

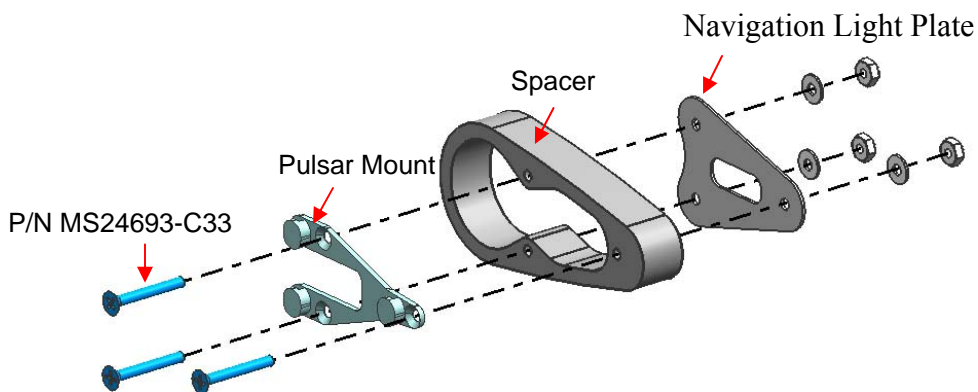
#### 5.1 Remove Old Navigation Light Assembly

1. Remove the set screw from the navigation light (**Figure 5-1**).
2. Carefully break the conductive fay seal between the navigation light and the navigation light spacer.
3. Remove the navigation light.



**Figure 5-1: Navigation Light Assembly**

4. Remove the three (3) sets of locking nuts, washers, and screws, and the navigation light plate securing the navigation light spacer and pulsar mount to the wingtip (**Figure 5-2**).



**Figure 5-2: Spacer and Pulsar Mount**

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5. Using a sharp-edged flat tool, carefully break the fillet seal (**Figure 5-3**) around the navigation light spacer.



**Figure 5-3: Fillet Seal**

6. Remove and save the navigation light assembly from the wingtip.
7. Proceed according to airplane serial numbers (SN):

**SN 100-0098 thru 100-0113**

1. Carefully clean the old sealing material from the wingtip using a putty knife or similar tool.
2. Proceed to **Section 5.3** (Expose Mesh for Spacer).

**SN 100-0114**

Proceed to **Section 5.2** (Prepare and Install New Wingtip).

**5.2 SN 100-0114 – Prepare and Install New Wingtip**

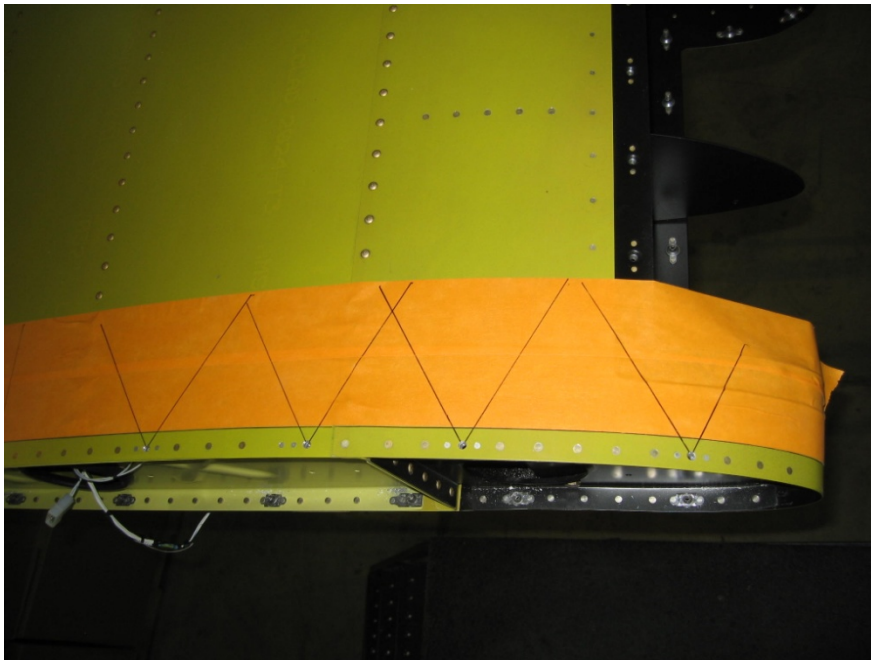
1. Remove the fasteners that secure the landing light lens, and remove the lens.
2. Place the flight controls in the neutral position.
3. Pin the aileron in the 4<sup>th</sup> outboard access panel (the round access panel).

### 5.2.1 Prepare Wing

1. For alignment reference, draw a line 0.750 inch inboard from the outboard end of the wing around the entire periphery.
2. Tape the area inboard to provide a drawing surface.
3. Mark the location of 14 attachment holes at the nutplate locations, on the upper and lower side of the wing, extending two (2) inches inboard from the center of each hole.
4. On the top of the wing, at the forward four (4) holes, add two intersecting lines (**Figure 5-4**).

**▲ NOTE ▲**

The top forward four (4) holes won't have room for a hole finder and must be located by the drawn lines.



*Right wing shown*

**Figure 5-4: Intersecting Lines**

### 5.2.2 Locate Wingtip

Left Wingtip Assembly: P/N 100-250-0220-D01-KIT

Right Wingtip Assembly: P/N 100-250-0220-D02-KIT

1. Place the wingtip on the airplane, ensuring it is inboard of the 0.750 inch line drawn in **Section 5.3.1**, and temporarily secure with tape.
2. Clamp the forward edge of the wingtip tight against the leading edge of the wing (**Figure 5-5**).
3. Temporarily tape the trailing edge of the wingtip to itself.



**Figure 5-5: Clamp the Wingtip**

4. Align the trailing edge of the wingtip with the trailing edge of the aileron, ensuring that there is not offset deflection either up or down outboard of the aileron.



**Figure 5-6: Check Aileron/Wingtip Alignment**

5. Check wingtip position: with the wingtip in position, ensure that the 0.750 inch reference line around the end of wing, drawn in **Section 5.2.1**, is covered by the wingtip and is not visible, except that part of the line may be visible near the leading edge.
6. Continue to cross-check **Steps 3 thru 5** until best fit-up is achieved. The leading edge must overlap the wing structure by a minimum of 0.25 inch. At the location of any fastener hole, the 0.750 reference line must not be visible.
7. Re-secure the tape as necessary.
8. On the top side, using a sharp #21 bit, locate and drill the top four holes (marked at **Section 5.2.1**), as follows:
  - Start at the forward end, removing tape as you progress, and cleaning up with alcohol.
  - After each hole, stop and verify that wingtip has not shifted from position.
  - Secure wingtip with appropriate screw after each hole is drilled.

9. Verify clearance of 0.250 inch between the wingtip and the aileron outboard fence (**Figure 5-7**).



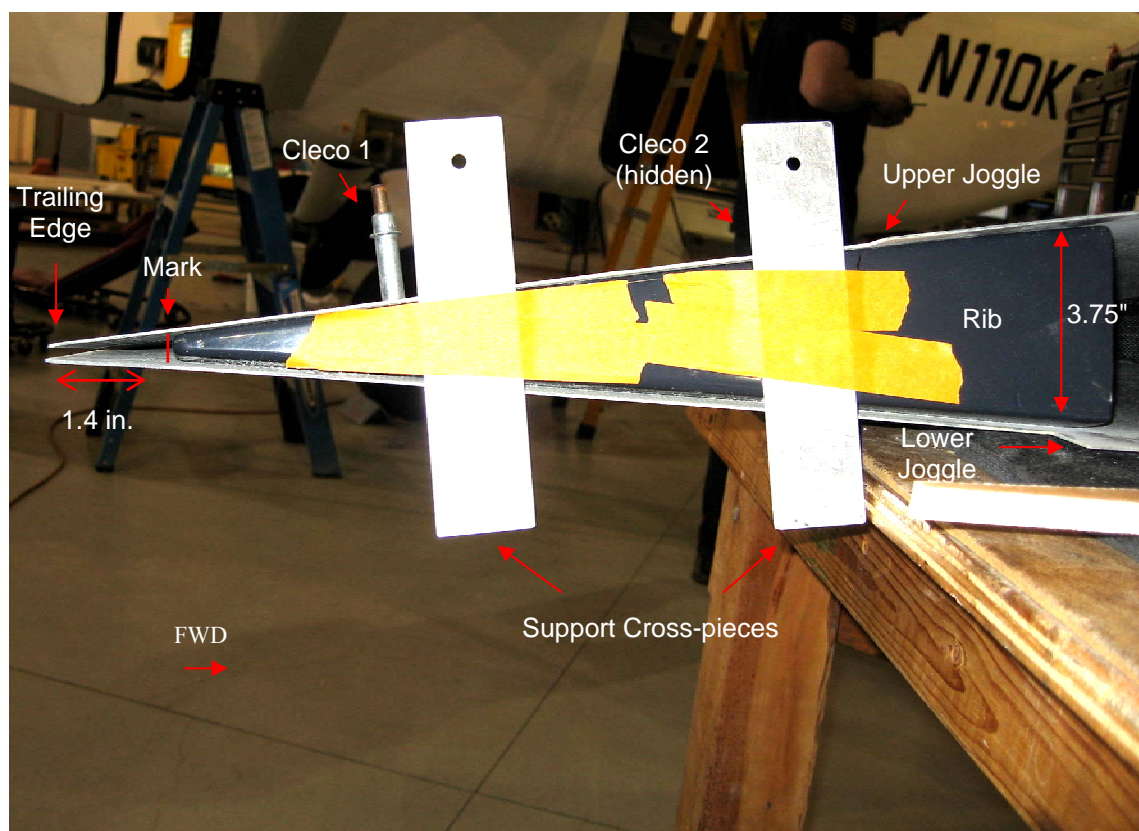
**Figure 5-7: Verify Clearance**

10. Continue using a hole finder and drilling holes, progressing aft along the top surface. Leave the last two holes undrilled.
11. Check wingtip position and adjust as necessary.
12. On the bottom of the wing, drill all the lower holes, beginning at the forward locations and working aft.
13. Return to the top of the wing, and drill the last two remaining locations.
14. Verify that clearance between the aileron and wingtip is at 0.250 inch. Trim the inboard face of the fairing as needed.

## 5.2.3 Prepare Rib for Wingtip

1. Remove the wingtip from the airplane.
2. Upsize the fastener holes in the composite wingtip to 0.166 to 0.172 inches using a #18 or equivalent drill bit.

3. Measure and mark a reference point 1.4 inch from the trailing edge of the wingtip (**Figure 5-8**).
4. Tape a cross-piece 0.25 inch thick (scrap aluminum or other item with a straight edge) across the rib (P/N 100-250-0220-P01C or -P02C) to hold the top of the rib flush with the inside edge of the wingtip as shown in **Figure 5-8**.
5. Align the aft edge of the rib to the 1.4 inch mark (**Figure 5-8**) from **Step 3**.
6. While holding the rib flush with the inside of the wingtip, drill two 0.098 holes in the top of the wingtip, with a #40 drill bit, to hold the rib in place. The approximate cleco locations from the trailing end of the wingtip are 4.5 inches and 10.0 inches.



**Figure 5-8: Position and Insert the Rib**



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7. Place the wingtip back on the wing and secure with screws.
8. Align the trailing edge of the wingtip with the trailing edge of the aileron. While holding the trailing edge of the wingtip, hold the support cross-piece tight against the wingtip to ensure the wingtip rib is flush. While holding the rib flush with the inside of the wingtip, drill two 0.098 holes (#40 drill bit) in the bottom of the wingtip, at approximately 6.0 and 12.0 inches from the trailing end of the wingtip. Cleco to hold the rib in place.

### 5.2.4 Install Stiffener and Rib in Wingtip

Refer to **Figure 5-9**.

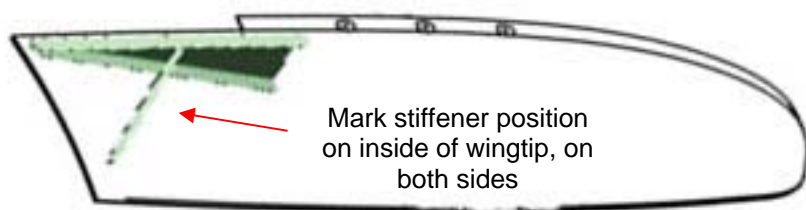
1. Remove the wingtip and return it to the bench.
2. Remove the rib and scuff the sides of the top and bottom mounting flanges to help with adhesion.
3. On the inside trailing edge of the wingtip and the approximate location where the stiffener will be installed, scuff and clean with acetone, MEK, or alcohol.
4. Return the rib to the wingtip and position with clecos.
5. Position the stiffener (P/N 100-250-0220-P01D or -P02D) in the wingtip as shown in **Figure 5-9**, pinching the trailing edge end of the wingtip to keep the stiffener and wingtip flush.
6. Remove the rib, and on the inside of the wingtip, mark the top and upper sides of the stiffener location.
7. Remove the stiffener and apply a 0.25 inch tall bead of Plexus MA832 structural adhesive to the long sides of the stiffener, to at least 0.5 inch from each end.
8. Install the stiffener in the wingtip and position along the marked lines.
9. Insert the rib, position, and support with clecos.
10. Place a bead of adhesive along the trailing end of the wingtip, and tape or clamp closed.
11. Allow the stiffener and trailing edge to dry in place for 24 hours.
12. Remove the clecos and the rib.
13. Clean the mounting flanges with acetone, MEK, or alcohol.
14. Apply a 0.25 inch tall bead of methacrylate Plexus MA832 structural adhesive to the flanges of the rib, to at least 0.5 inch from each end.
15. Insert the rib into the wingtip.
16. Check the dimension of the wingtip toward the forward end of the rib, at the lower joggle, from inside to inside (**Figure 5-8**). The measurement should be approximately 3.75 inches (reference only).
17. Adjust the position of the rib as necessary to achieve the 3.75 inch dimension at **Step 16** by adding more adhesive or thinning the adhesive.

18. Secure the rib in place using tape.
19. Ensure the cleco holes are filled with adhesive.

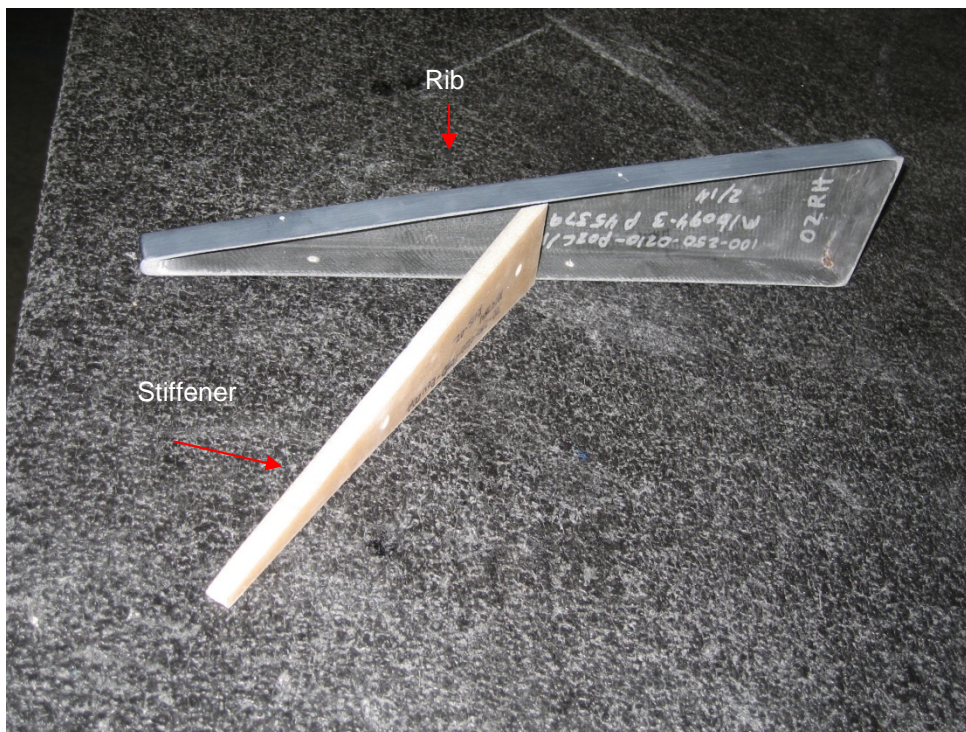
### ⚠ CAUTION ⚠

Do not insert clecos back into the assembly as they will be permanently glued into place.

20. Allow to dry for 24 hours.
21. Sand away any excess adhesive to ensure the fit to the airplane will be smooth.



FWD

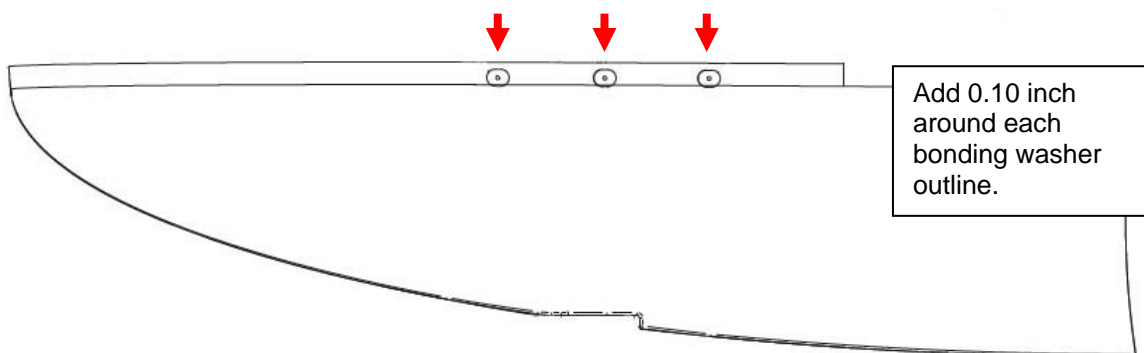


**Figure 5-9: Rib and Stiffener Position**

## 5.2.5 Install Bonding Washers

The procedures in **Section 5.3.5** must be accomplished in temperatures greater than 45 degrees F. Allow for adhesive cure times when planning.

1. Cleco the three (3) bonding washers in place (**Figure 5-10**), as follows:
  - Align to the aft-most three holes on the upper edge
  - Topside only
  - Orient each bonding washer edge parallel to the edge of the wingtip.
2. Mark the area to be sanded by drawing an outline around each bonding washer, plus 0.10 inch.



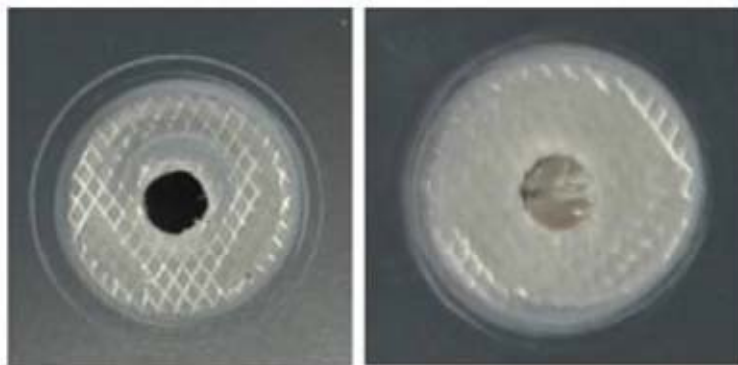
**Figure 5-10: Bonding Washer Locations**

3. Remove the clecos and the bonding washers.
4. Within the marked area of each bonding washer, carefully sand off the top layer of epoxy to expose the mesh. As mesh is exposed, switch to a finer grit of sandpaper to avoid damage to the aluminum mesh.

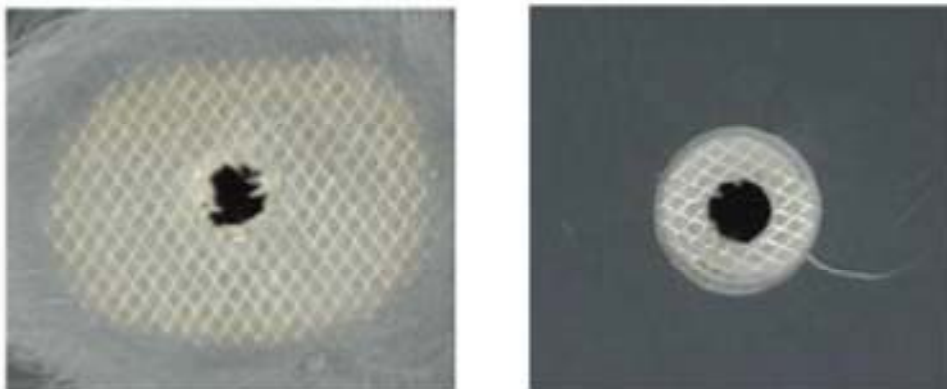
### ⚠ CAUTION ⚠

Do not sand into the mesh. Refer to **Figure 5-11**.

*Damaged Mesh*

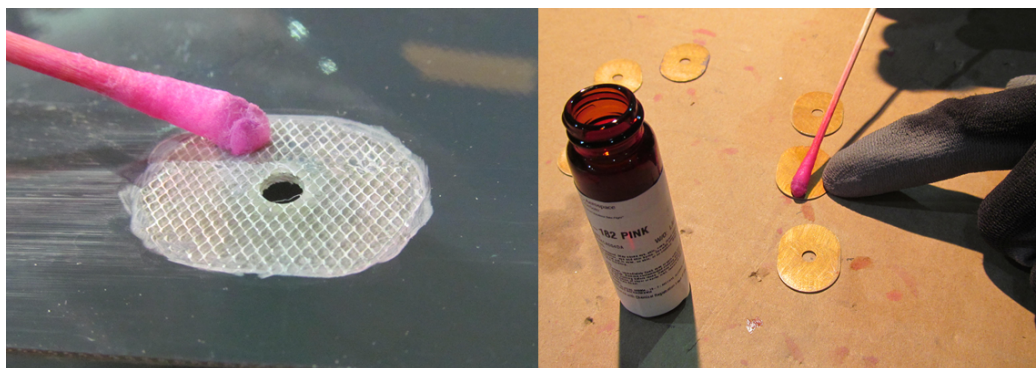


*Correctly Exposed Mesh*



**Figure 5-11: Exposed Mesh**

5. Clean the bonding area and the washers with a lint-free cloth and acetone or methyl ethyl ketone (MEK). Let the area dry.
6. With a clean brush or gauze pad, apply a uniform thin coat of PR-182 Pink adhesion promoter (supplied with the PR-B1) to the exposed mesh and bottom of each bonding washer (**Figure 5-12**).



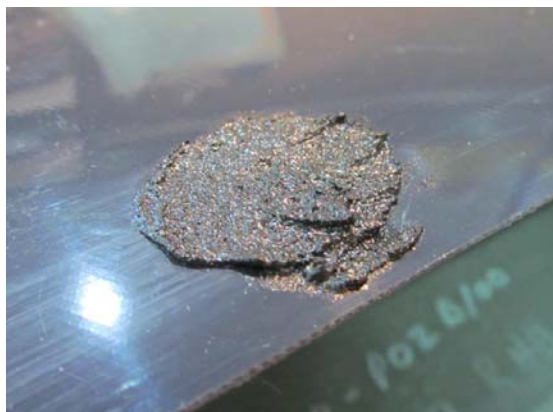
**Figure 5-12: Apply Adhesion Promoter**

7. Allow the adhesion promoter to dry for 30 minutes to 8 hours at room temperature. Do not exceed 8 hours.

**▲ NOTE ▲**

If the adhesion promoter dries for more than eight (8) hours, reapply and allow to dry.

8. Apply a uniform coating of PRC Desoto PR-2200 class B sealant to completely cover the installation site (**Figure 5-13**), but not more than 0.1 inch thick.



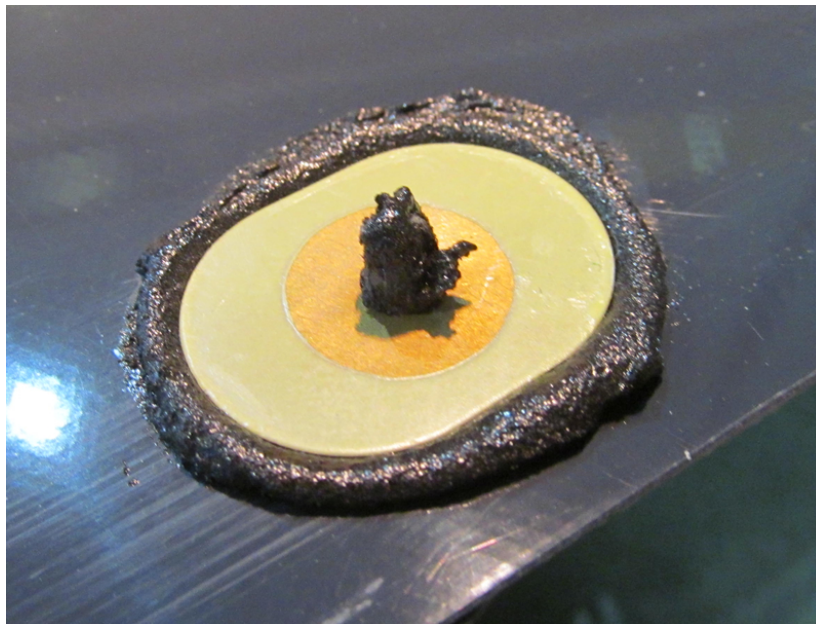
**Figure 5-13: Apply Sealant**

9. Immediately install each bonding washer, using a cleco through the hole in the wingtip to correctly align the bonding washer (**Figure 5-14**).



**Figure 5-14: Installed Bonding Washer**

10. Press the bonding washer into place and squeeze out the excess sealant (**Figure 5-15**).

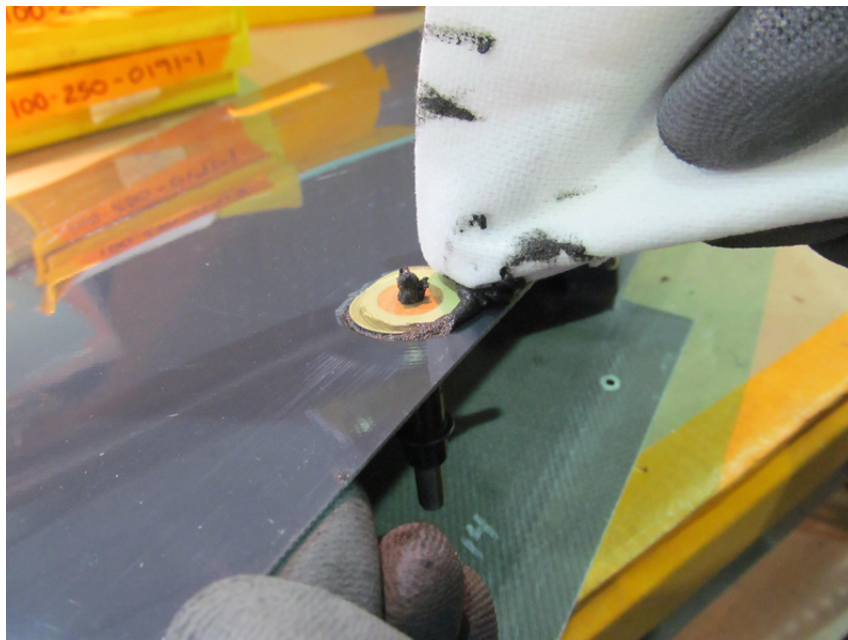


**Figure 5-15: Good Application of PRC-Desoto PR-2200 Class B Sealant**

**▲ NOTE ▲**

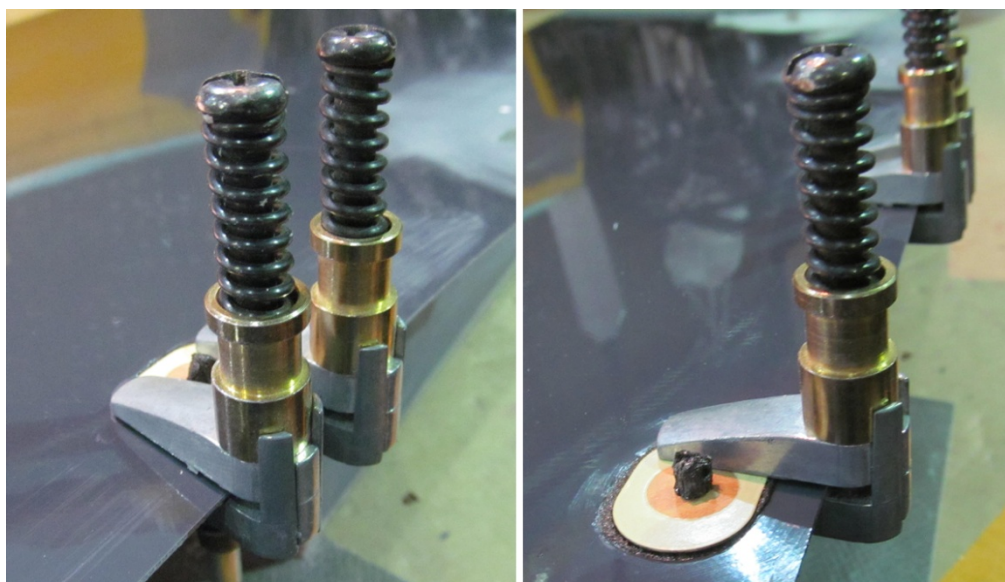
Sealant should squeeze out around the entire washer, indicating a complete coating. If sealant is not squeezed out around the periphery of the washer, reapply the sealant.

11. Remove the excess sealant and clean the area around the bonding washer (Figure 5-16).



**Figure 5-16: Remove Excess Uncured Sealant**

12. Clamp the bonding washers tightly to the wingtip to ensure a complete bond with the mesh (Figure 5-17).



**Figure 5-17: Bonding Washer Tightly Clamped to Wingtip**

13. Allow the PRC-Desoto PR-2200 class B sealant to cure according to the manufacturer's instructions.
14. After the PRC-Desoto PR-2200 class B sealant is cured completely, remove the clamps and remove any excess sealant from around the bonding washer (**Figure 5-18**).



**Figure 5-18: Remove Excess Cured Sealant**

15. Test the installation of each bonding washer for electrical conductivity by measuring the resistance between the metallic faces of the bonding washer, between one another. Resistance must be less than or equal to 10 milliohms.
  - a. If resistance of 10 milliohms or less cannot be confirmed, contact Quest Customer Service for further instructions
  - b. If resistance is greater than 10 milliohms, carefully sand the wingtip ground point and measure resistance again.
16. Apply Pro Seal B2 to fillet seal the edge of the washer to form a smooth contour between the wingtip and the bonding washer.
  - a. To ensure a clean application make a simple mask using masking tape with a cutout approximately 0.2 inches larger than the area of exposed mesh (**Figure 5-19, Figure 5-20, Figure 5-21**).
  - b. Immediately remove the mask after applying the Pro-Seal.



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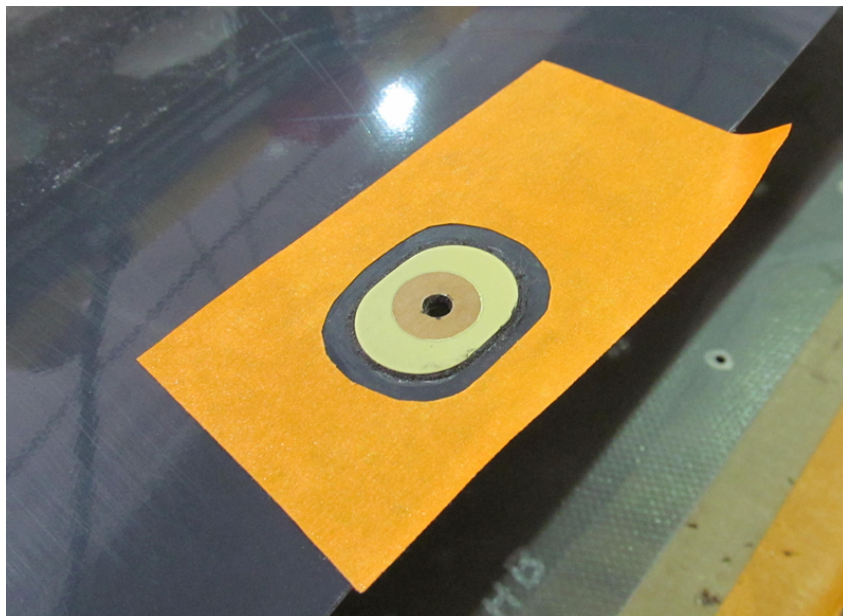
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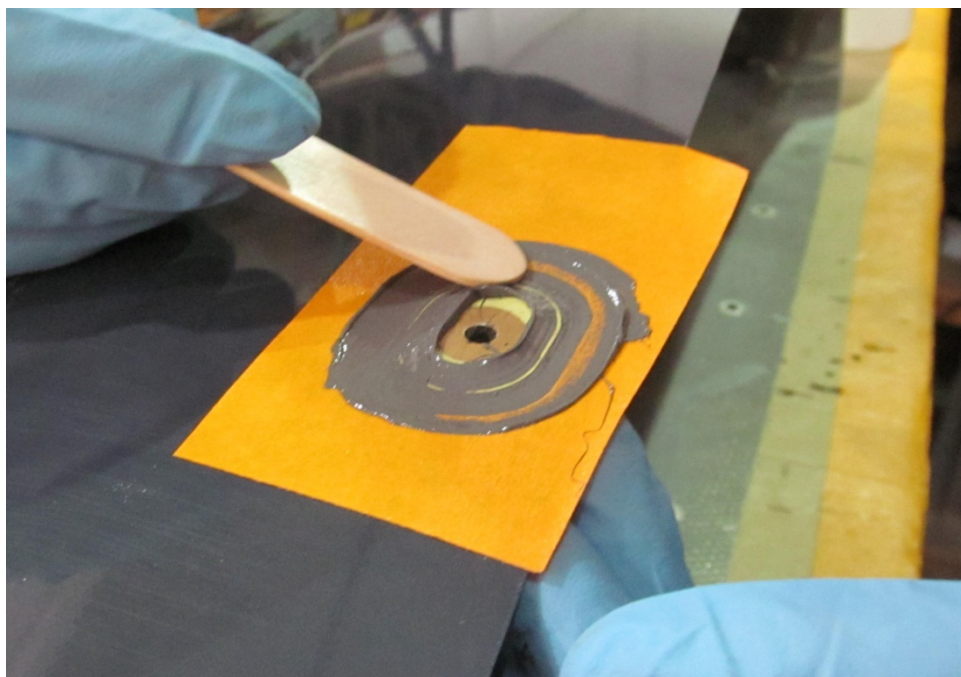
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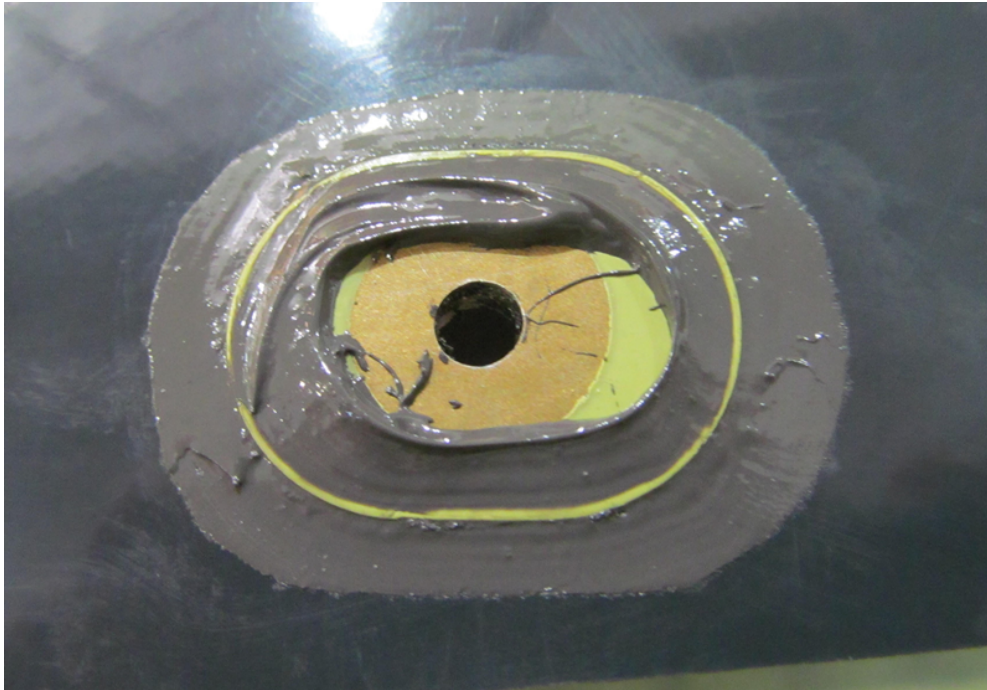
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**Figure 5-19: Preparation to Apply Pro-Seal**

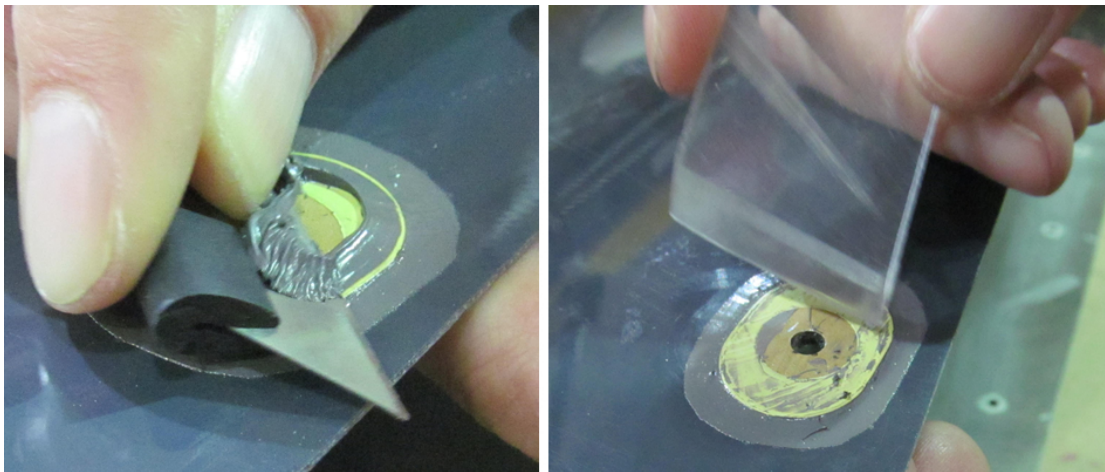


**Figure 5-20: Pro-Seal Application**



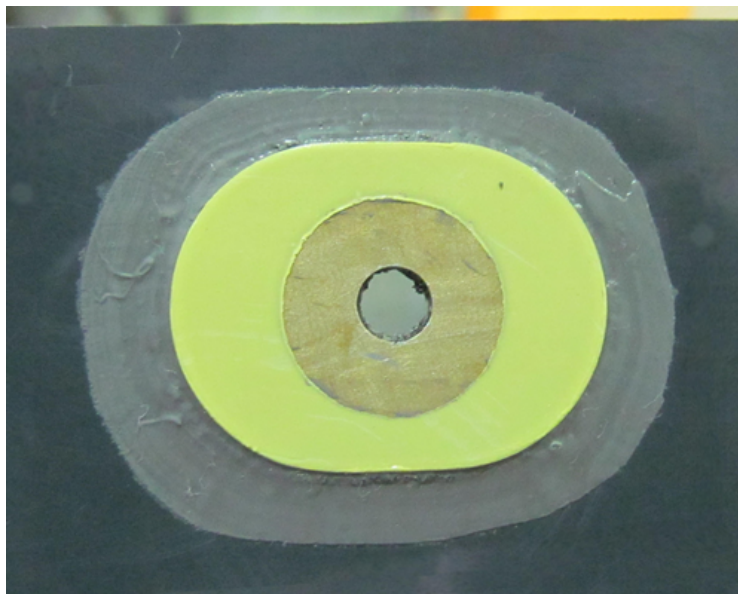
**Figure 5-21: Pro-Seal Application Complete**

17. Allow the Pro Seal B2 to cure in accordance with the manufacturer's instructions.
18. Remove any remaining Pro-Seal B2 agent from the metallic surface of the bonding washer.



**Figure 5-22: Remove Excess Cured Pro-Seal**

19. To remove any contaminants and ensure maximum conductivity, clean the metallic surface of the bonding washer with a lint-free cloth and acetone or MEK.



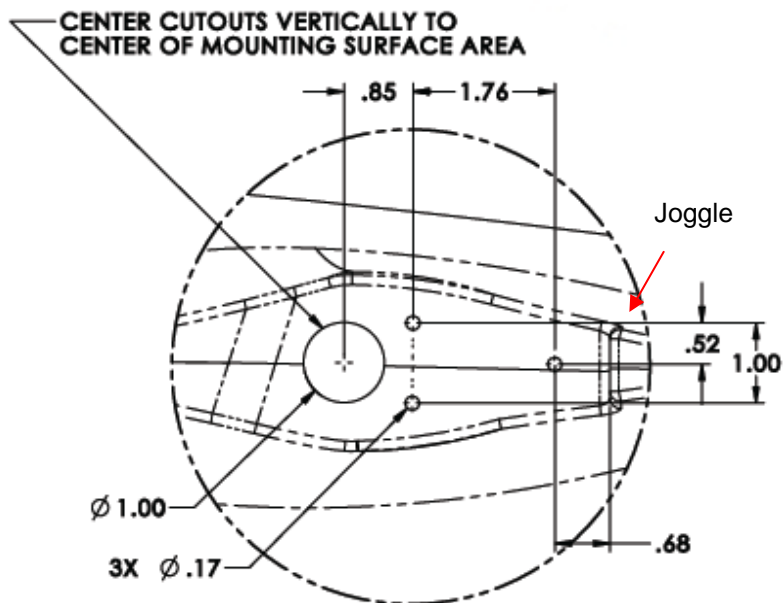
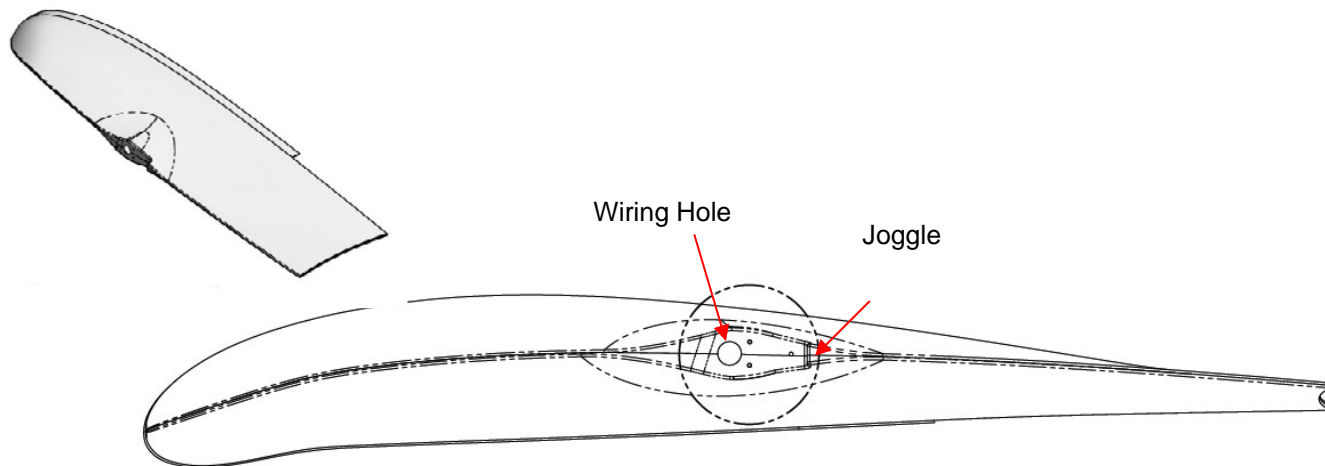
**Figure 5-23: Properly Installed Bonding Washer**

20. Replace the three original screws and washers used where the bonding washers were installed with longer screws (P/N AN525-832R8). Do not use a washer.

### **5.2.6 Cut Holes for Wiring**

**Refer to Figure 5-24.**

1. Drill four (4) pilot holes, one for the Navigation Light, and three (3) for screws.
2. Upsize the three (3) screw holes to  $0.17 \pm 0.030$  inch.
3. With the step bit, drill the wiring hole to 0.5 inch. Center the hole vertically to the center of the mounting surface area.
4. With the 1.0 inch fiberglass cutter, enlarge the hole.
5. Deburr.



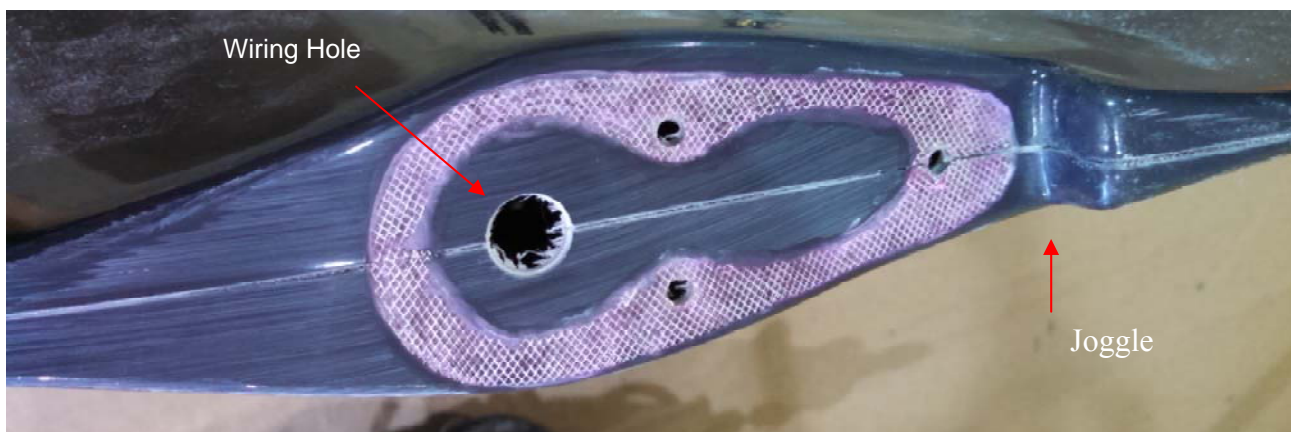
**Figure 5-24: Wiring Holes**

### 5.3 Expose Mesh for Spacer

1. Install the saved spacer temporarily with screws.
2. Trace the inner and outer outline of the spacer.
3. Remove the spacer.
4. On the inner area of the area marked at **Step 2**, carefully sand away the gel coat (top layer of epoxy primer) to expose the aluminum mesh. As the mesh is exposed, switch to a finer grit of sandpaper.

#### **⚠ CAUTION ⚠**

Do not remove any mesh. Refer to **Figure 5-26** for examples of exposed mesh.



**Figure 5-25: Expose Mesh for Spacer**



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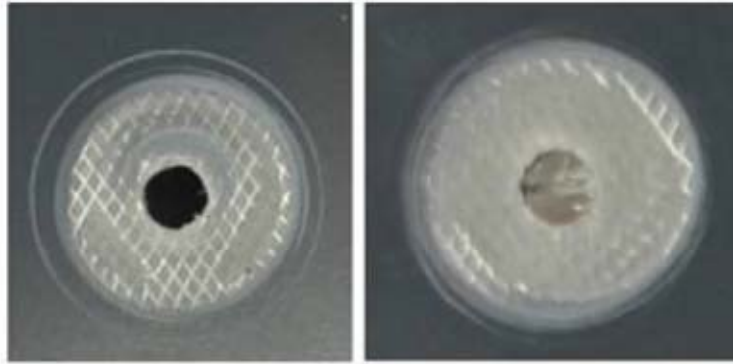
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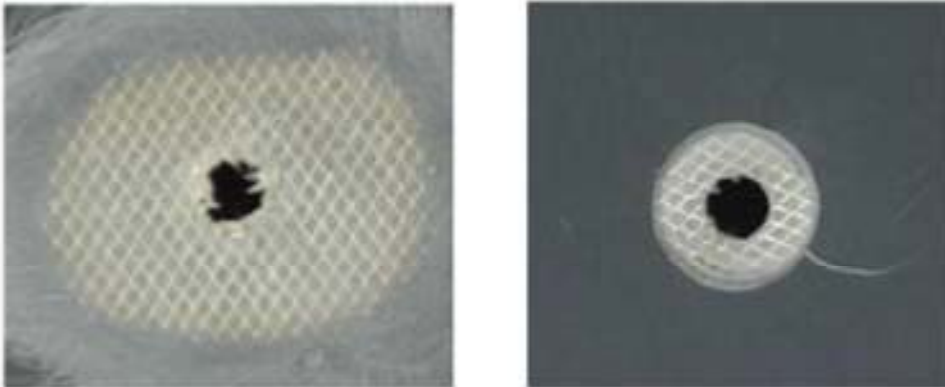
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### *Damaged Mesh*



### *Correctly Exposed Mesh*



**Figure 5-26: Exposed Mesh**



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### 5.4 Install Navigation Light

#### ▲ NOTE ▲

Application of sealant and adhesive must be accomplished in temperatures greater than 45 degrees F.  
Allow for cure times when planning.

1. Remove the anodized coat on the spacer by burnishing the entire top and bottom face of the sides that will contact the wingtip and navigation light body. Clean with acetone to remove any surface contamination. Apply Alodine to the burnished areas.
2. If the spacer is marked with a part number, remove the part number and/or stickers.
3. With a clean brush or gauze pad, apply a uniform thin coat of PR-182 adhesion promoter (supplied with P/N Semkit PR-2200-B1) to the exposed wingtip mesh and the corresponding spacer surface.
4. Allow the adhesion promoter to dry for 30 minutes to 8 hours at room temperature. Do not exceed 8 hours.

#### ▲ NOTE ▲

If the Adhesion Promoter dries for more than eight (8) hours, reapply and allow to dry.

5. Apply a uniform coating of conductive sealant (P/N Semkit PR-2200-B1) to completely cover the exposed mesh of the wingtip, but not more than 0.1 inch thick.
6. Position the navigation light plate on the inside of the wingtip in its installed position.
7. Position the pulsar mount (P/N 01-1082) on the navigation light spacer.
8. Insert the three (3) screws removed previously through the pulsar mount, spacer, wingtip structure, and navigation light plate.
9. Secure the mount, spacer, and plate together with the three (3) screws just installed and the three (3) washers and (3) three locking nuts removed previously.
10. Position the spacer on the wingtip, and ensure squeeze out of sealant about the entire perimeter.
11. Remove the excess conductive sealant around the spacer.
12. Allow the conductive sealant to cure in accordance with the manufacturer's instructions.
13. Position the new navigation light (P/N 100-820-8325 for left wing or P/N 100-820-8326 for right wing) on the pulsar mount, feeding the navigation light wiring through the wingtip.

#### ▲ NOTE ▲

The new navigation light assembly does not have an external ground wire or require the lightning arrestor.  
All required grounding is through the wingtip.

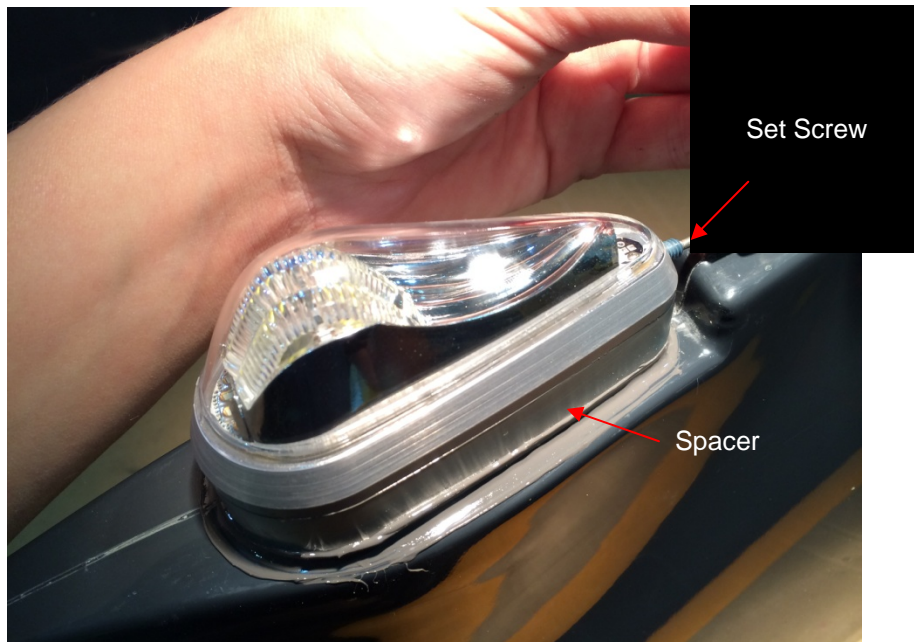
14. Clean the mating surfaces of the navigation light and spacer with acetone.
15. With a clean brush or gauze pad, apply a uniform thin coat of PR-182 adhesion promoter (supplied with P/N Semkit PR-2200-B1) to mating surfaces of the navigation light and the spacer.

16. Allow the adhesion promoter to dry for 30 minutes to 8 hours at room temperature. Do not exceed 8 hours.

**▲ NOTE ▲**

If the Adhesion Promoter dries for more than eight (8) hours, reapply and allow to dry.

17. Fay seal the navigation light to the navigation light spacer with conductive sealant (P/N Semkit PR-2200-B1).
18. Apply Loctite™ 222MS to the set screw, and secure the navigation light to the pulsar mount with the provided set screw.
19. Wipe off the excess conductive sealant.



**Figure 5-27: Set Screw**

20. Mask off the navigation light spacer and the wingtip structure to provide a clean edge for the application of sealant around the base of the navigation light spacer.
21. Fillet seal with ProSeal 890 B2 sealant around the navigation light spacer.
22. Allow the sealant to cure according to the manufacturer's instructions.



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### 6. Completion

1. Install the wingtip on the airplane in accordance with AM902.0, KODIAK<sup>®</sup> 100 Airplane Maintenance Manual, Chapter 57, ensuring aileron-to-wingtip alignment and clearance of 0.250 inch between the wingtip and the aileron outboard fence.
2. Touch up the wingtip paint, as necessary, in accordance with AM902.0, KODIAK<sup>®</sup> 100 Airplane Maintenance Manual, Chapter 6, and matching the surrounding surface.

#### **⚠ CAUTION ⚠**

Do not apply paint in a way that would interfere with the conductive path between the aluminum mesh and the wing structure. Do not apply paint between the bonding washer and the screw.

3. Reconnect the wiring.
4. Test the installation of the navigation light for electrical conductivity to the airframe structure by measuring the resistance between the navigation light set screw and a bare aluminum part of the airframe. Resistance must be less than or equal to 30 milliohms.
  - If resistance of 30 milliohms or less cannot be confirmed, contact Quest Aircraft Customer Service for further instructions.
5. Remove aileron rigging pin and move aileron through its range of motion. Ensure no interference with the wingtip.
6. Reinstall the access panel.
7. Place the master switch to the ON position and check the navigation and strobe lights for proper operation.
8. Contact Quest Aircraft Customer Service for instructions on returning the navigation lights (P/N 100-820-8335 and P/N 100-820-8336).
9. Record all work performed in the appropriate maintenance records.

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