



**THIS BULLETIN IS FAA APPROVED FOR ENGINEERING DESIGN**

SUBJECT: Mooney Windscreen and Window Fastener Installation Procedure

MODELS/ SN  
AFFECTED: M20U Ovation Ultra - 32-0002  
M20V Acclaim Ultra - 33-0002 and 33-0003

TIME OF  
COMPLIANCE: **WITHIN NEXT 25 FLIGHT HOURS**

INTRODUCTION: Mooney International Corporation is including fasteners in the windscreen and window installations to further fortify the bond between the shell flange and the windscreen or windows. This service bulletin provides the procedure for adding fasteners to Mooney Acclaim Ultra aircraft with existing windscreen and window installations.

INSTRUCTIONS: **Read entire procedures before beginning work.**

TOOLS: BAT #40 HSS Drill Bit                      Drill Bit Guide  
640-1660-6 Drill Bit                          Phillips Head Screwdriver  
3/8x100x#21 Countersink Drill Bit      CS3204-B Sealant  
640-1720-6 Drill Bit

**WINDSHIELD FASTENER INSTALLATION:**

- 1.1. Remove upper and front post interior panels and glare shield from aircraft. Refer to the applicable Mooney Service and Maintenance Manual.
- 1.2. Starting from center butt line at the outboard top of the windscreen, measure 1.5 inches to the right and mark the first hole using masking tape or a similar method.

**NOTE:**

**Each hole must meet the following requirements:**

- Be a minimum distance of 0.75" from the rivet spacer in the shell flange.
- Be a minimum distance of 0.30" from the edge of the windscreen and flange.

**CAUTION:**

**Carefully drill all holes to prevent cracking, crazing, chipping, and misalignment. It is very important to make clean straight holes. If the windscreen incurs damage, it must be replaced. Do not use isopropyl alcohol to clean plexiglass surfaces or attaching hardware. Clean per FAA AC 43.13-1B, paragraph 3-25.**

Continue measuring around the outboard perimeter of the windscreen, marking off 5 additional holes every 10 inches. Refer to Figure M20-329-1.

- 1.3. Repeat step 1.2 to the left of the center butt line starting at the outboard top of the windscreen. A total of 12 holes should be marked off.
- 1.4. Using a BAT #40 HSS drill bit and a drill guide, carefully drill the 12 holes around the outboard perimeter of the windscreen and shell flange. Refer to Figure M20-329-3.

**CAUTION:**

**Using the incorrect drill bit in steps 1.4 - 1.7 may result in crazing of the windscreen.**

- 1.5. Using a 640-1660-6 drill bit and a drill guide, carefully enlarge the holes. Refer to Figure M20-329-3. Hole diameter tolerance is .169" - .189" through windscreen.



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- 1.6. Using a 3/8x100x#21 countersink drill bit, carefully countersink the holes. Refer to Figure M20-329-4. Hole countersunk tolerance is .319" - .332" through windscreen.
- 1.7. Using a 640-1720-6 drill bit, carefully enlarge the holes. Refer to Figure M20-329-4.
- 1.8. Inspect the holes for signs of crazing, cracking, or chipping. If these signs are present, stop procedure and contact Mooney Technical Support.
- 1.9. Place a small bead of CS3204-B sealant around the underside of the head of the MS24694-S9 screws. Refer to Figure M20-329-5.
- 1.10. Using a Phillips head screwdriver, install the MS24694-S9 screws, the NAS1149FN832P washers, and MS21042L08 nuts, and lightly tighten by hand. Refer to Figure M20-329-5.
- 1.11. Lightly tighten the screws until snug to <3 in-lbs.

**NOTE:**

**It is permissible to trim excess screw thread for interior clearance. Minimum thread length is required to fully engage nut plus one additional thread. Epoxy prime trimmed screw surface per Spec 20 Section 42.**

- 1.12. Wipe off excess sealant from screw heads, plexiglass, and nuts.

**CAUTION:**

**Carefully drill all holes to prevent cracking, crazing, chipping, and misalignment. It is very important to make clean straight holes. If the windscreen incurs damage, it must be replaced. Do not use isopropyl alcohol to clean plexiglass surfaces or attaching hardware. Clean per FAA AC 43.13-1B, paragraph 3-25.**

- 1.13. Let sealant cure per manufacturer's specifications.
- 1.14. Touch up paint as needed.
- 1.15. Re-install upper and front post interior panels and glare shield. Refer to the applicable Mooney Service and Maintenance Manual.
- 1.16. Return aircraft to service.
- 1.17. Procedure complete.

**REAR AND DOOR WINDOW FASTENER INSTALLATION:**

**NOTE:**

**Refer to the applicable Mooney Service and Maintenance Manual for removal and installation procedures in the following steps.**

- 2.1. FOR AIRCRAFT WITH INFLATABLE AMSAFE RESTRAINT: Disconnect AmSafe electrical hookup and AmSafe hose from seats.
- 2.2. Remove seats from aircraft for both rear and door window fastener installation.
- 2.3. For rear window fastener installation, disconnect rear seat belt from top attach point on interior panel and remove top interior panels.
- 2.4. For door window fastener installation, remove door grasp handles, door open handles, and top door panels from aircraft.



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- 2.5. Using masking tape or a similar method, measure and mark the hole locations on the window. A total of 6 holes should be marked off per window. Refer to Figure M20-329-2 for hole locations and measurements.

**NOTE:**

**Each hole must meet the following requirements:**

- **Be a minimum distance of 0.750" from the rivet spacers in the shell flange.**
  - **Be a minimum distance of 0.300" from the edge of the window and flange.**
- However if distance is shorter:**
- **If edge distance is between 0.200" - 0.300" from the edge of the composite shell flange, a doubler will be required.**
  - **Anything less than 0.300" on window or 0.200" on composite flange is unacceptable and will need further action from Mooney International.**

- 2.5.1 If doubler is required, make from 0.032" thick 2024 T3 Aluminum and cut to 1.00" x 0.700" size, refer to Figure M20-329-2. Apply a non-metallic surface film (Chemical Conversion Coating) to doubler for protection against corrosion.

- 2.5.2 Bond doubler to inner window flange with EA9394 Hysol per manufacturers instructions and located such that the fastener hole is at least 0.300" from the edge of the doubler.

**CAUTION:**

**Carefully drill all holes to prevent cracking, crazing, chipping, and misalignment. It is very important to make clean straight holes. If the window incurs damage, it must be replaced. Do not use isopropyl alcohol to clean plexiglass surfaces or attaching hardware. Clean per FAA AC 43.13-1B, paragraph 3-25.**

- 2.6. Using a BAT #40 HSS drill bit and a drill guide, carefully drill the 6 holes around the outboard perimeter of the window and shell flange. Refer to Figure M20-329-3.

**CAUTION:**

**Using the incorrect drill bit in steps 1.3 - 1.6 may result in crazing of the window.**

- 2.7. Using a 640-1660-6 drill bit and a drill guide, carefully enlarge the holes. Refer to Figure M20-329-3. Hole diameter tolerance is .169" - .189" through windscreen.
- 2.8. Using a 3/8x100x#21 countersink drill bit, carefully countersink the holes. Refer to Figure M20-329-4. Hole countersunk tolerance is .319" - .332" through windscreen.
- 2.9. Using a 640-1720-6 drill bit, carefully enlarge the holes. Refer to Figure M20-329-4.
- 2.10. Inspect the holes for signs of crazing, cracking, or chipping. If these signs are present, stop procedure and contact Mooney Technical Support.
- 2.11. Place a small bead of CS3204-B sealant around the underside of the head of the MS24694-S9 screws. Refer to Figure M20-329-5.
- 2.12. Using a Phillips head screwdriver, install the MS24694-S9 screws, the NAS1149FN832P washers, and MS21042L08 nuts, and lightly tighten by hand. Refer to Figure M20-329-5.
- 2.13. Lightly tighten the screws until snug to <3 in-lbs.

**NOTE:**

**It is permissible to trim excess screw thread for interior clearance. Minimum thread length is required to fully engage nut plus one additional thread. Epoxy prime trimmed screw surface per Spec 20 Section 42.**



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- 2.14. Wipe off excess sealant from screw heads, plexiglass, and nuts.

**CAUTION:**

**Carefully drill all holes to prevent cracking, crazing, chipping, and misalignment. It is very important to make clean straight holes. If the window incurs damage, it must be replaced. Do not use isopropyl alcohol to clean plexiglass surfaces or attaching hardware. Clean per FAA AC 43.13-1B, paragraph 3-25.**

- 2.15. Let sealant cure per manufacturer's specifications.
- 2.16. Touch up paint as needed.
- 2.17. Re-attach seat belt at attach point. Re-install door and interior panels, door handles, and door grasp handles.
- 2.18. Re-install seats.
- 2.19. FOR AIRCRAFT WITH INFLATABLE AMSAFE RESTRAINT: Re-connect AmSafe electrical hookup and AmSafe hose. Test AmSafe after re-installation.
- 2.20. Return aircraft to service.
- 2.21. Procedure complete.

**NOTE:**

**The attached compliance card needs to be filled out and returned to Mooney International Corporation upon completion of this Service Bulletin M20-329.**

**WARRANTY:** Mooney International Corporation will warrant labor 35 hours in accordance with procedures of this service bulletin For repair, Mooney International Corporation will perform the necessary repair at the Mooney Factory Service Center when schedules are established between aircraft owners and Mooney International Corporation. If further action is needed, please email support@mooney.com and a representative will be on contact with you.

**REFERENCE DATA:** 1. M20U or M20V Mooney Service and Maintenance Manual  
2. FAA AC43.13-1B, paragraph 3-25

**Parts Kit P/N: Service Bulletin Kit M20-329-001**

<u>Item</u>	<u>P/N</u>	<u>Description</u>	<u>Qty</u>
1.	MS24694-S9	SCREW	36
2.	NAS1149FN832P	WASHER	36
3.	MS21042L08	NUT	36
4.	1.00" x 0.70"	DOUBLER (.032" THK 2024 T3 ALUM)	AR



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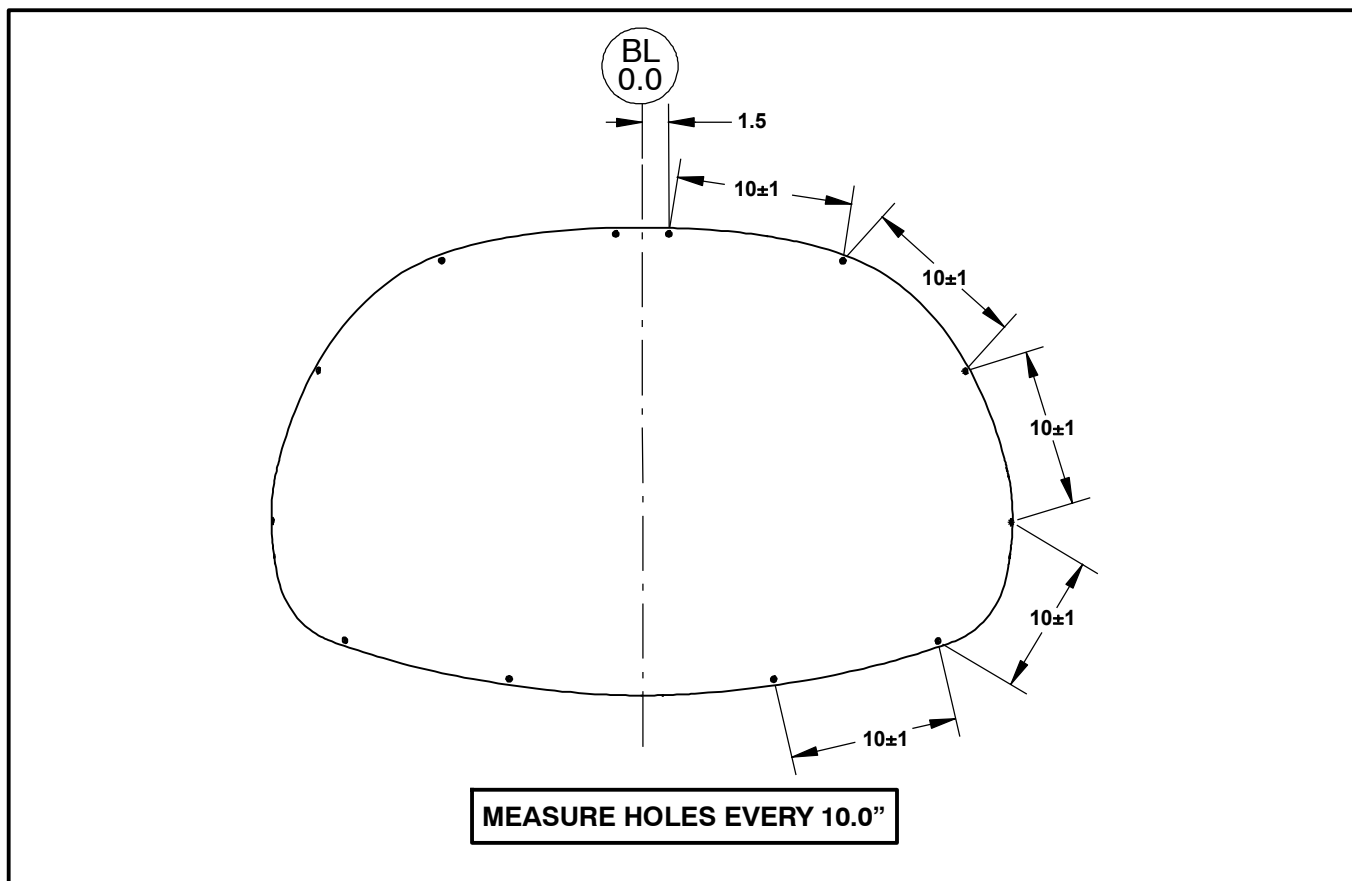


Figure SB M20-329-1 - Hole Placement Around Outboard Perimeter of Windscreen



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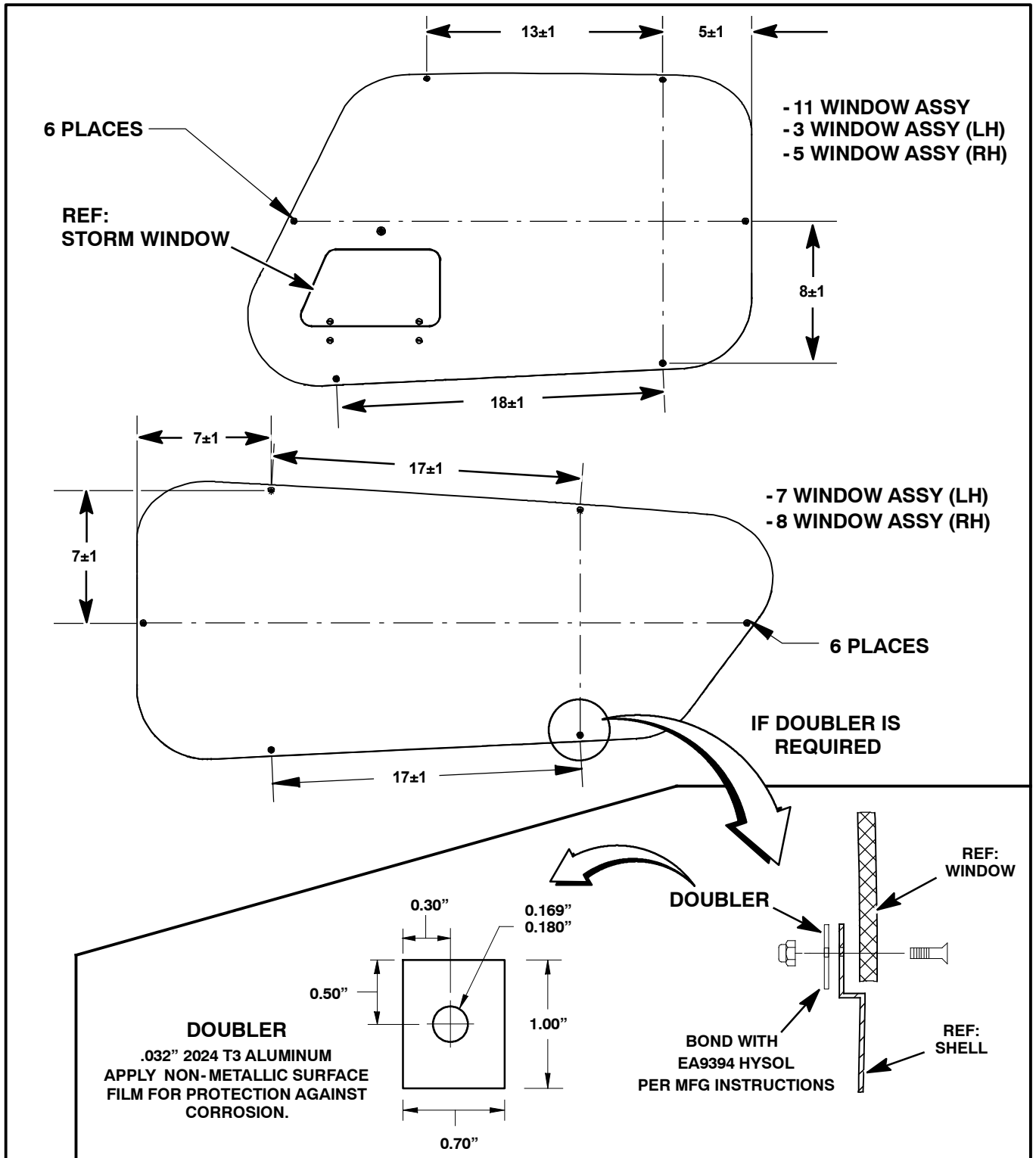


Figure SB M20-329-2 - Hole Placement Around Outboard Perimeter of Windows (LH Shown)



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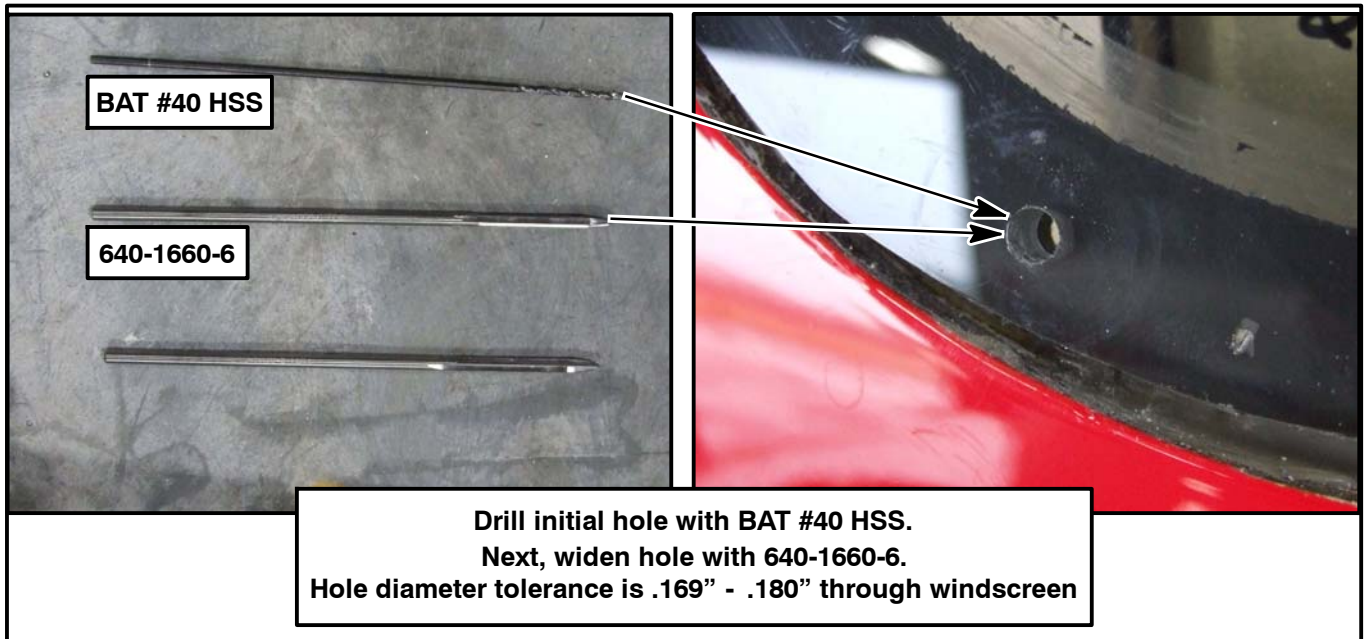


Figure SB M20-329-3 - Drill Bit Sequence

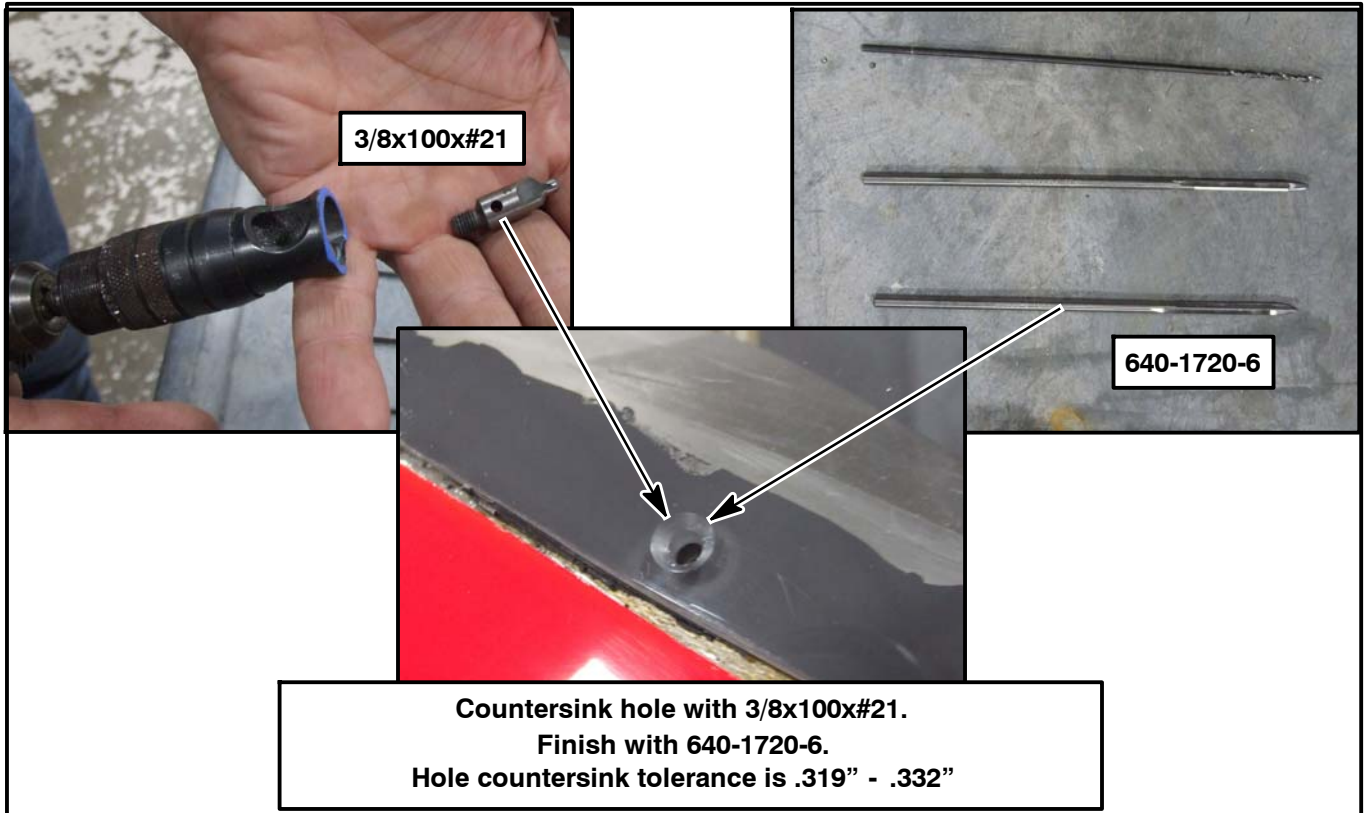


Figure SB M20-329-4 - Drill Bit Sequence



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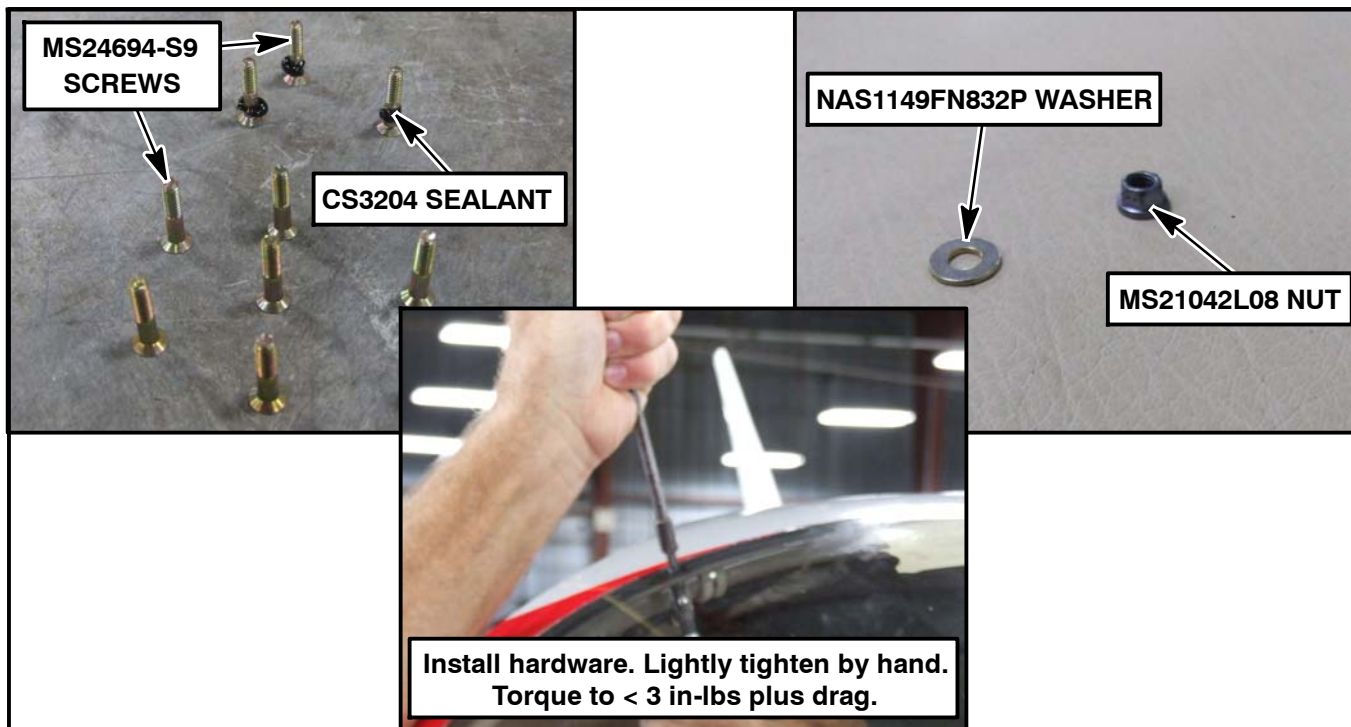


Figure SB M20-329-5 - Hardware Installation





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**MOONEY INTERNATIONAL CORPORATION**  
KERRVILLE, TEXAS 78028 - FAX 830-257-4635

SERVICE (BULLETIN) (INSTRUCTION) NO. \_\_\_\_\_ HAS BEEN COMPLIED  
WITH ON AIRCRAFT MODEL \_\_\_\_\_ SERIAL NUMBER \_\_\_\_\_

Tach. Time: \_\_\_\_\_ N-Number \_\_\_\_\_ (Reg. No.)  
Owner: \_\_\_\_\_ Date of Compliance: \_\_\_\_\_  
\_\_\_\_\_ Complied By: \_\_\_\_\_  
\_\_\_\_\_

Inspection Report: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Form 07-0001

PLACE  
STAMP  
HERE

**MOONEY INTERNATIONAL CORPORATION**  
ATT'N: TECHNICAL SUPPORT  
165 Al Mooney Road, North  
Kerrville, Texas 78028

**SEND TO: Mooney International Corporation**  
165 Al Mooney Road North  
Kerrville, TX 78028  
FAX: (830) 257-4635 or EMAIL [support@mooney.com](mailto:support@mooney.com)

**Figure SB M20-329-6 - Compliance Card**