



Service Instruction SI-0021

Epic Aircraft, LLC ♦ 22590 Nelson Road ♦ Bend OR 97701
Phone: 541-318-8849 ♦ Fax: 541-382-5125 ♦ Web: www.epicaircraft.com

Subject: K005 Windshield Repair

ATA-Code: 56-10

Labor: 8.0

Effectivity: K005

Affected Model(s): E1000

Due: Before the next flight.

Compliance: Recommended ☐ Mandatory ☒

Recurrence: No

1 **BACKGROUND AND PURPOSE:**

During the annual inspection of E1000 SN K005, minor scratches were found in the pilot's side windshield inner pane. The deepest scratch has a maximum depth of .006" and a surface area of .132" x .123". The other scratches (5 total) are very minor and located in the bottom half of the windshield. The smaller scratches cannot be measured in depth, the longest of these scratches is approximately 1.25".

This Service Instruction provides instructions to repair the damage.

2 **REFERENCES:**

Epic E1000 Aircraft Maintenance Manual P/N SK05000000

3 **WARRANTY:**

For aircraft under warranty, parts and labor will be covered by Epic Aircraft, LLC if the work is performed within the compliance period and by a properly certificated Airframe and Power Plant mechanic or FAA approved repair station.

4 **APPROVAL:**

The repair data provided in this service bulletin is approved by the FAA.

5 **TOOLS:**

<u>No.</u>	<u>Description</u>	<u>Qty</u>	<u>Epic Aircraft Supplied</u>	<u>Customer Supplied</u>
1.	Common Hand Tools	A/R	☐	☒
2.	PosiTector Ultrasonic Thickness Gauge	1	☐	☒
3.	6" DA Sander, Oil Free	1	☐	☒
4.	Depth Gauge	1	☐	☒
5.	E1000 Windshield Calibration Standard	1	☒	☐

Issued	Revised	Revision	Page
07-11-2022	-	Original	Page 1 of 6



Service Instruction SI-0021

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6 PARTS/MATERIALS:

No.	Part Number	Description	Qty	Epic Aircraft Supplied	Customer Supplied
1.	-	Wet/Dry Sandpaper, from 220 to 1200 grit	A/R	☐	☒
2.	-	Distilled or deionized water.	A/R	☐	☒
3.	06085	3M Perfect-It Rubbing Compound	A/R	☐	☒
4.	81235	3M Finesse-It Polishing Compound	A/R	☐	☒
5.	06064	3M Perfect-It Machine Polish	A/R	☐	☒
6.	-	100% cotton flannel cloth.	A/R	☐	☒
7.	-	Ultrasonic Couplant	A/R	☐	☒
8.	3S0060PV(PSA)	Micromesh 6" Sanding Kit, 1,500-12,000 Grit	1	☐	☒
9.	HP-100	Micro-Mesh Scratch Removal and Restoration Kit	1	☐	☒
10.	McFarlane Aviation DAM Window Cleaner, DAM17-16	Window Cleaner	A/R	☐	☒
11.	PRIST Acrylic and Plastic Windscreen Cleaner	Window Cleaner	A/R	☐	☒

7 INSTRUCTIONS:

1. Set the BATT 1 and BATT 2 switches to OFF.
2. Remove all external electrical power from the airplane (refer to Epic E1000 Aircraft Maintenance Manual, PN SK05000000, Chapter 24-40).
3. Remove the glareshield (refer to Epic E1000 Aircraft Maintenance Manual, PN SK05000000, Chapter 25-10).
4. Place a protective covering over all electrical components and interior trim below the work area.
5. Measure the depth of the scratches as follows:

Note: Any scratch that results in an inner pane thickness of less than 0.230" may not be repaired.

- a. Use a depth gauge where possible to check the depth of the scratch(es).

Issued	Revised	Revision	Page
07-11-2022	-	Original	Page 2 of 6

- b. When a depth gauge cannot be used, use an alternate method to determine the depth of the scratch.
6. Measure the thickness of the windshield in the repair area as follows:

NOTE: Refer to the PosiTector instructions if needed.

- a. Power on the probe and select the correct material setting as follows:
- To power on the probe, push the  button and wait for the screen to turn on.
 - Once the screen has powered on, there should be a material selected in the upper left corner, shown in Figure 3. If the screen does not show "Plexi," then follow steps c) through f)

Note: The probe automatically saves the last settings when powered off.

- Push the  button to bring up the main options screen.
- Use  to scroll down to "Cal Settings." Push the  button to select "Cal Settings".
- Scroll down to "Material." Push the  button to select "Material".
- Scroll down to "Plexiglass." Push the  button to select "Plexiglass".

Note: Selecting "Plexiglass" will exit the options menu screen and return you to the main power on screen. The PosiTector Instruction Manual is helpful for any additional operations of the scope.

- b. Zero the probe as follows:
- Put a pea sized dollop of UT couplant on the probe and ensure it does not contact any surface.
 - Select the  button and scroll down to "Cal Settings." Select "Zero".
 - Place the probe onto the calibration block on the bottom of the gage body. The green arrow should be pointing up with a timer icon.
 - Continue holding the probe on the calibration block until the green arrow faces down and the timer icon disappears.
 - The probe is zeroed and you will automatically return to the home screen.
- c. Check zero as follows:

Issued	Revised	Revision	Page
07-11-2022	-	Original	Page 3 of 6



Service Instruction SI-0021

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- i. Apply a pea size dollop on the E1000 Windshield Calibration Standard and place the probe on the couplant.

Note: The couplant should squeeze out the side of the probe and pane interface.

- ii. Make sure the measurement of both panes is within tolerance for dimensional thickness, respectively.
- iii. If the inner and outer pane are in intolerance, proceed to pre-repair inspection. If the zero calibration did not work, repeat step (b) and recheck zero.
- d. Inspect the area to be repaired as follows:
 - i. UT and visual inspection must occur before any repair is performed.
 - ii. Measurements only need to be taken on the pane that will be repaired.
 - iii. Thickness measurements shall be taken surrounding the entire area in which a repair will be performed.
 - iv. Locations of the measurements shall be recorded so that the area can be inspected after repair.
 - v. Record all thickness measurements of the inspected region.
7. Repair scratches up to 0.010" deep on the inner pane as follows:
 - a. Fully clean the windshield with deionized or distilled water.

CAUTION: Do not use alcohol or other solvents.

CAUTION: Minimize distortion as much as possible, especially in the pilot's center viewing area. Any distortion in the pilot's center viewing area must not create an unsafe condition or cause unusual eye strain or fatigue.

- b. Repair the scratch following the instructions included in the Micro-Mesh HP-100 repair kit.

NOTE: Remove the minimum amount of material needed to remove the damage.

- c. Measure the thickness of the windshield in the entire repair area, the inner pane must be at least 0.230" thick.
8. Remove the protective coverings and install the glareshield (refer to Epic E1000 Aircraft Maintenance Manual, PN SK05000000, Chapter 25-10).

Issued	Revised	Revision	Page
07-11-2022	-	Original	Page 4 of 6



Service Instruction SI-0021

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8 WEIGHT AND BALANCE:

N/A

9 PUBLICATIONS AFFECTED:

N/A

10 RECORD COMPLIANCE:

Make appropriate entry in airplane maintenance records.

Issued	Revised	Revision	Page
07-11-2022	-	Original	Page 5 of 6



Service Instruction SI-0021

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Appendix A: Compliance Letter

Please complete and mail this form to Customersupport@epicaircraft.com

This is to certify that I have completed the work in accordance with the Epic Aircraft, LLC Service Instruction.

Aircraft Owner Information:

Date: _____ Aircraft Serial Number: _____ Aircraft Reg. Number: _____

Owner's Name: _____

Maintenance Entity Information

Name of Shop Performing the work: _____

Name of Person(s) Performing inspection and/or work: _____

Phone Number: _____ Email: _____

Issued	Revised	Revision	Page
07-11-2022	-	Original	Page 6 of 6