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# SUPPLEMENTAL AIRWORTHINESS INSTRUCTIONS FOR BONDED METAL EROSION SHIELDS

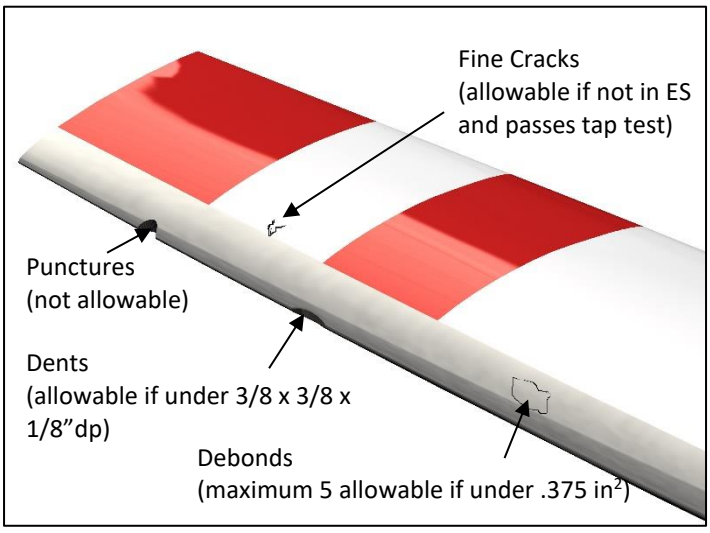
## Revision A, Dated 8-14-2018

The following practices will assist you in determining airworthiness of the bonded metal erosion shield(ES) on your Sensenich Propeller. The information is provided as a supplement to the propeller installation instructions for propellers with bonded metal erosion shields, as denoted by an "M" suffix after the propeller pitch designation. Example: W69EK7-63***M***

**EROSION SHIELD DAMAGE LIMITATIONS FOR SAFE OPERATION**

If your erosion shield begins to show any of the following damage, it should be removed from service and inspected by a rated repair station before next operation:

1) Any dent or erosion that punctures the erosion shield or exposes composite or core material underneath.
2) Any dent or erosion greater than 1/8" deep.
3) Circular or pointed dents greater than 3/8 x 3/8".
4) Any cracks in the metal erosion shield.
5) Any debond greater than .375 $in^2$.
6) Any debond greater than 1" length along the blade.
7) Debonds with less than 5" separation.
8) More than 5 debonds of any size in a single erosion shield.

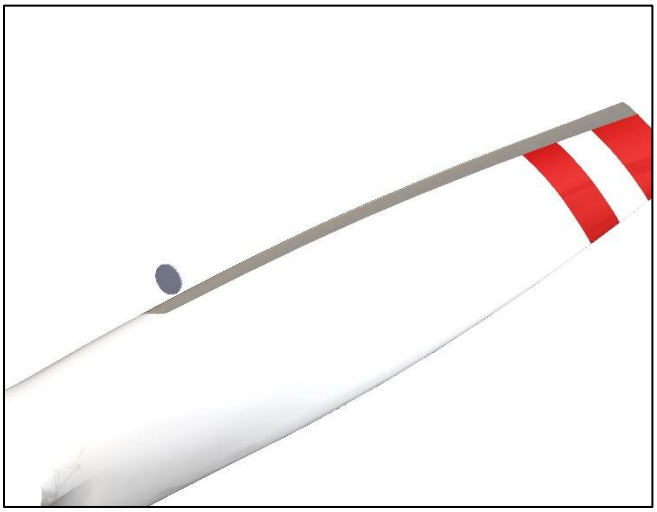


**VISUAL INSPECTION**

Visually inspect the propeller blade. Check for impact damage along the leading edge. Verify that any damage or erosion falls under the limits set for erosion shield damage. Check for cracks in the erosion shield or in the blade area around the erosion shield. Cracks occurring in the metal require immediate erosion shield replacement. Fine cracks in the finish of the propeller blade at the inboard area of the erosion shield or running along the edge of the erosion shield are not dangerous and allowable if they pass a coin tap test.

**COIN TAP TEST**

Debonds and delaminations within the laminate or under the erosion must be inspected by industry standard tap test. Using a coin or washer similar in size to a quarter, tap the entire surface of the erosion shield and blade. Solid laminate will produce a high pitch note. Debonded or delaminated areas will have a hollow, dead response. Mark debond and delam areas as the erosion shield and surrounding area are tap tested.



**FIELD REPAIR GUIDELINES**

Any damage to the propeller that punctures the outer erosion shield or laminate requires that the propeller be serviced by a rated propeller repair station. Damage that does not puncture the outer surface and falls within the safe operating limits may be repaired in the field if desired. Use the following steps for minor repairs:

1) Sand and clean damaged area for proper adhesion. Take care not to sand through or damage erosion shield or composite shell.
2) Fill in area with epoxy resin to original blade shape.
3) Once cured, sand resin to blend to original blade contour.
4) Refinish area as needed. Ensure no moisture can penetrate finish.
5) Inspect this area for further cracks or wear during pre-flight inspections.