

Repair Materials & Minimum Tooling

Repairs to the L8500 skis require technicians to have proper tools & materials to perform high quality repairs. Repairs done with improper materials and sub-standard tools can lead to reduced life of the skis.

Below are the materials that a technician will need to perform proper repairs:

Acetone- Used for all pre-cleaning of ski surface and clean-up. Note: Use of alcohol or other cleaning compounds will not work. Either Acetone or MEK needs to be used. Acetone can be purchased at any hardware store.

Resin, Reichhold, 33350-15 Hydrex 100 vinyl ester resin, or approved substitution
(Used on all scarf repairs)

Catalyst, Clear -Norox MEKP-9H (Used to cure resin & gel coat)

Gel Coat, Raider(Black) CCP FV 944-BC-002 Add 15% flex (Used to coat top surfaces following repairs)

Note: Krylon Fusion Spray Can Paint is a potential substitute for top side repairs.

Gel Coat, High Abrasion Resistant, (Black) – P/N: LHB 3401, North American Composites. (Used on repaired bottoms, followed by paraffin wax, melted to provide slick surface.)

Wax- Paraffin, found at most stores

Mat, .75 oz x 50", Chopped Strand

Roving, 24oz x 50" Woven Roving, Certain Teed

6MM Clear Polyethylene Plastic Sheeting – (Used to control resin overflow) Note: Purchased at hardware store

Masking tape- Used to apply plastic to repair area

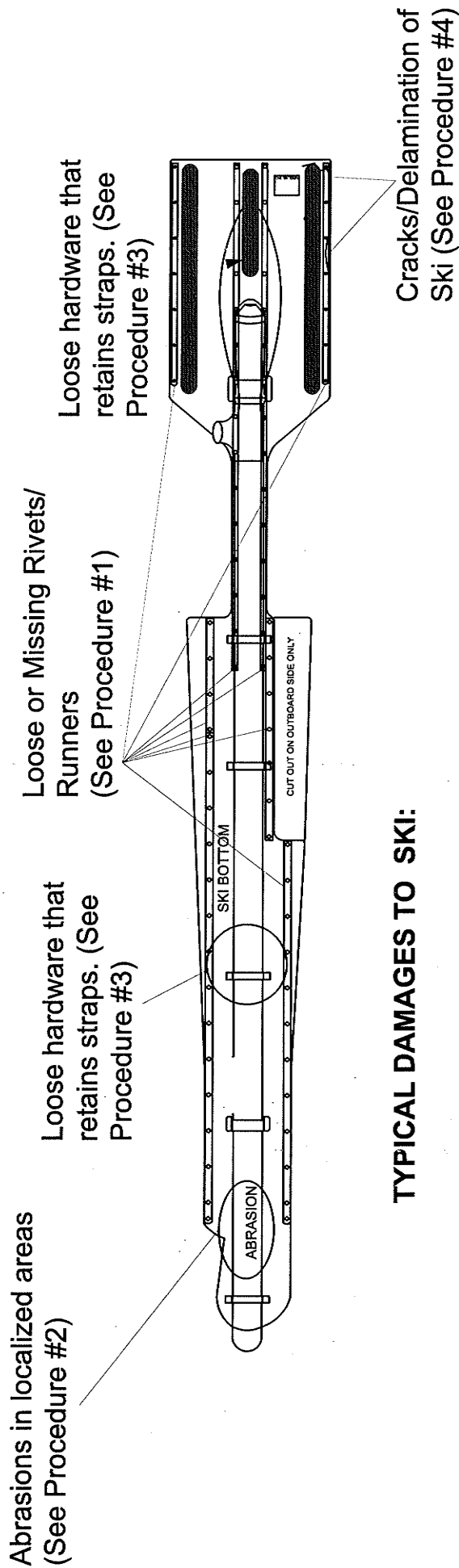
SSB-6-8 Rivets (Used to install runners in repair areas)

Below are the tools that a technician will need to perform proper repairs:

Brush 3" Chip Bristle (Used to spread resins)

Fiberglass Roller, 3/4 x 3 Aluminum (Used to breakdown glass during repairs)

L8500 SKI REPAIR INSTRUCTIONS



TYPICAL DAMAGES TO SKI:

1. WORN RUNNERS (SEE PROCEDURE #1)
2. ABRASIONS IN LOCALIZED AREAS (SEE PROCEDURE #2)
3. LOOSE OR MISSING RIVETS, THAT RETAIN RUNNERS (SEE PROCEDURE #1)
4. LOOSE HARDWARE THE STRAPS MOUNT ONTO. (SEE PROCEDURE #3)
5. CHIPPED BOTTOM COATING (SEE PROCEDURE # 2)
6. CRACKS & DELAMINATIONS IN LAMINATE, DUE TO BLUNT FORCE DURING LANDING. (SEE PROCEDURE #4)

PROCEDURE #1

Rivet / Runner Replacement

1. Place the ski on a solid surface; drill the heads only off of the rivets with #9 drill bit. Do not drill into the ski.
2. Drive the rivet shanks through the ski with a 3/16 straight punch.
3. Remove the damaged rivet/runner from the ski.
4. Inspect ski for damage around runner. Make repairs to the ski, as necessary.
5. Position the new rivet/runner in the same location of old rivet/runner.
6. Align the rivet/runner holes with an awl, drift punch or #9 drill bit.
7. Clamp the runner to the ski with enough clamps to maintain correct positioning.
8. Install SSB6-8 stainless rivets (Available from Airglas, Inc.) using an appropriate rivet puller (Pneudraulic type).
9. Grind rivet stems flush with the surface of the runner.
10. Touch up area with flat black paint as necessary.
11. Heat ski base & runners to 200°F with a heat gun and apply a coating of paraffin wax.
12. Inspect replacement rivet/runner installation and return ski to service.

Note:

Replace any runner with wear, in which there is less than 75% of original thickness remaining. This equates to having .095" of runner thickness remaining. An indicator of this wear is within the counter-bore hole of the runner. It must be deep enough to allow rivet to still hold the runner into position. Use of a digital caliper with depth indicator is very good for this inspection.

PROCEDURE #2

Bottom Abrasion Repair

If the bottom surface sustains excessive wear; it may be sanded down with a 36 grit belt or disc sander and then recoated with epoxy or abrasion resistant gel coat. Once the epoxy or abrasion resistant gel coat is cured, the surface should be re-sanded with 80 grit paper using an orbiting sander.

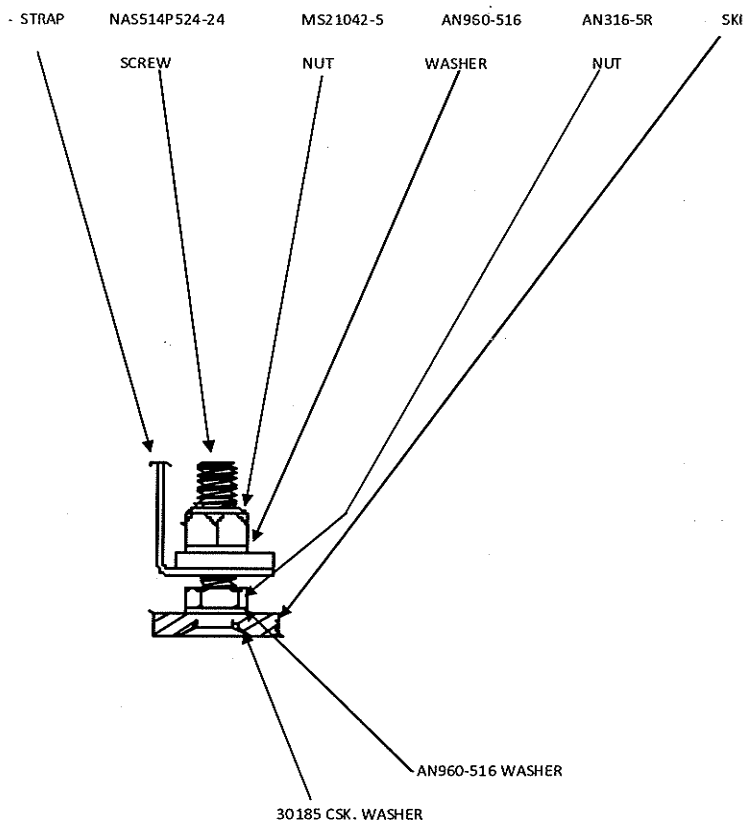
1. Remove the runners in the area of abrasion from the ski. If only a chip in bottom coating, without a runner in area, complete steps 2-6.
2. Inspect ski for damage to fiberglass material on bottom. The bottom typically has a layer of heavy mat that is applied over the structural roving's. Abrasions only affecting the heavy mat are negligible. Make repairs to the ski as necessary when abrasive affects the roving. See Procedure #4 for damage to bottom repair, when damage affects the roving's.
3. Sand abraded area with a 36 grit sander. Use care to prevent grinding into roving's.
4. Clean surface of affected area with Acetone
5. Apply bottom coating using brush, roller, and spray. Allow area to completely dry.
Note: Epoxy and abrasion resistant gel coat formulas change over time. Older models used an epoxy based coat, which had black colorant mixed in. Newer skis bottoms use a special blend of black high abrasion gel-coat. Contact: *Airglas, Inc.* for current information on how to get needed material.
6. Once bottom coat is dry, lightly scuff sand it with 80 grit sandpaper.
7. Position the new rivet/runner in the same location of old rivet/runner.
8. Align the rivet/runner holes with an awl, drift punch or #9 drill bit.
9. Clamp the runner to the ski with enough clamps to maintain correct positioning.
10. Install SSB6-8 stainless rivets (Available from Airglas, Inc.) using an appropriate rivet puller (Air Pneudraulic Type)
11. Grind rivet stems flush with the surface of the runner.
12. Touch up with flat black paint as necessary.
13. Heat ski base & runners to 200°F with a heat gun and apply a coating of paraffin wax.
14. Inspect replacement rivet/runner installation and return ski to service.

PROCEDURE #3

Replacement of Straps and Strap Mounting Screws

- 1) Remove Nut (AN365-524 or MS21042-5) and washer from screw.
- 2) Remove attaching strap assembly.
- 3) Remove Nut (AN316-5R) and washer from screw.
- 4) Remove old screw (NAS514P524-24P) from ski.
 - i) This may require chipping or grinding the coating material from around the screw head on the ski bottom.
 - ii) Lightly tap the damaged screw through the ski with a mallet.
- 5) Replace the screw in the reverse order of removal. The AN316-5R nut should be torqued to 60-80 inch pounds. Replace any bottom coating removed during replacement operation.

Note: *Skis manufactured prior to 2007 will have an epoxy layer that covers the screw head. A small punch or chisel may be required to expose the screw. Use of good structural quality epoxy, is recommended.*



PROCEDURE #4

Delamination & Crack Repairs

Negligible Damage

Small and shallow nicks, scratches and abraded areas on the top or bottom. Small hairline cracks in gel coat are considered cosmetic only.

Field Repairable Damage

- Cracks or fractures less than 3".
- Edge Laminate separation (delamination) less than 0.5' depth and 5" in length.
- Small holes that are no more than 1-2 inches in diameter.
- Abrasions to the ski from terrain contact.

Delamination Types

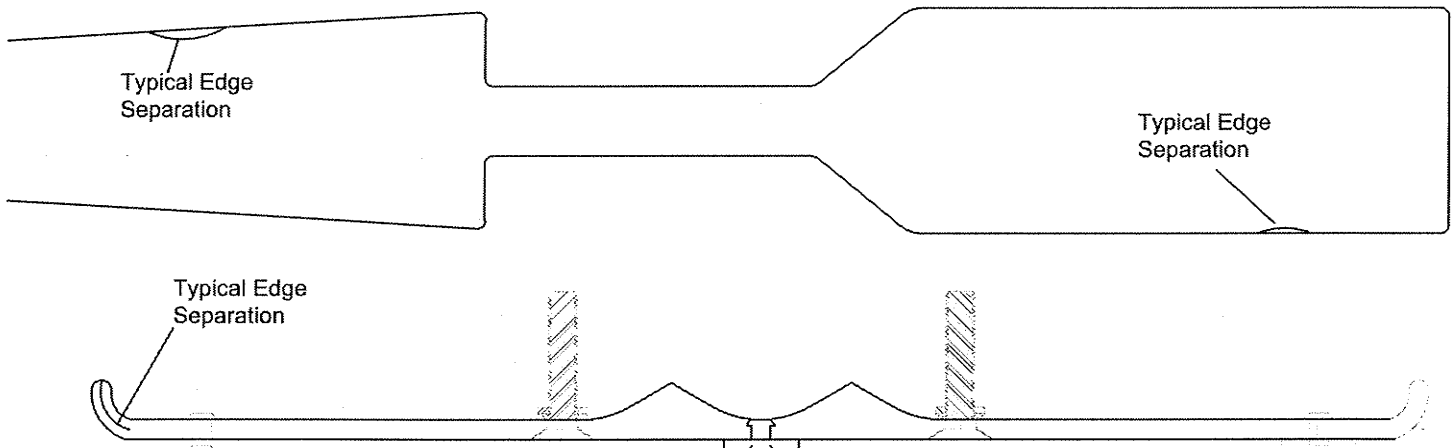
1. Edge (separations that occur at edge of ski, this is most common type)
2. Internal (Separations that occur between the top and bottom of ski, not typical)

Note: Only edge laminate separations are field repairable.

Edge Laminate Repair

1. Completely clean separated area with MEK, or Acetone. If possible, use thin blade to open separation to allow for a thorough cleaning of area.
2. Apply resin to separated area, attempt to force resin into separation. Apply a separator material (PVA, Teflon cloth, Nylon, etc.) to over affected area.
3. Use light clamping pressure to close separation area. Consider using open cell foam and large area pressure plate to disperse the pressure. Avoid using excessive clamping force, because it will squeeze out all resin. Do an immediate clean up of resin in the area.
4. Allow the resin to cure completely. Remove any resin that has spilled onto unaffected surfaces. Touch-up area needed with top coat. Airglas recommends that you use flat black "Krylon Fusion", because it adheres very well to the fiberglass resins. It's available at most hardware suppliers.

NOTE: For internal types of separations, contact Airglas, Inc. for possible solutions.

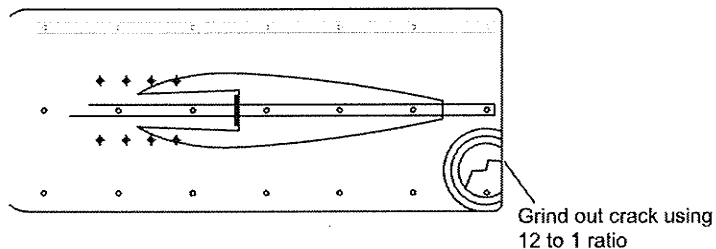


PROCEDURE #4 (Cont.)

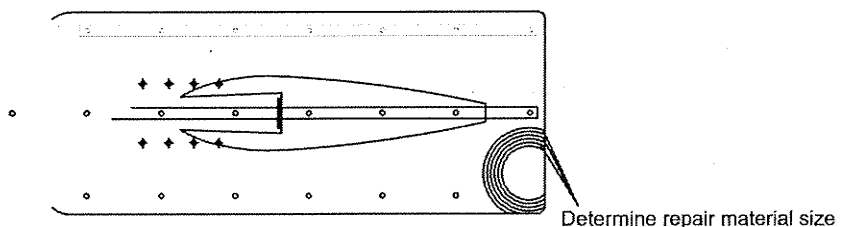
Crack & Hole Repairs

Note: Most cracks will occur along ski edges, which are caused by landing on a hard objects. The preferred method for repair is the scarf method.

1. Inspect area and determine that length does not exceed 3".
2. Remove any runner or hardware in area of crack.
3. Clean area of crack with Acetone, prior to sanding. This reduces the chances of embedding oils and grease into fibers in the unaffected areas.
4. Sand area of crack using a rotary sander with a 50-80 grit sander. Use a 12 to 1 ratio for removing crack (Example: If damage is .100" deep x .100 length, then the minimum radius would be 1.2"). The sanding area is typically circular. The radius is also affected by the size of damage. If length of the damage is 1" long, then the minimum radius would be $(1" \text{ divided by } 2) + 1.2" = 1.7"$ radius. For the L2700-OH58D Ski, remove damage in repair area up to two layers of roving's. If crack is all the way through the ski, a double sided repair is the preferred method.



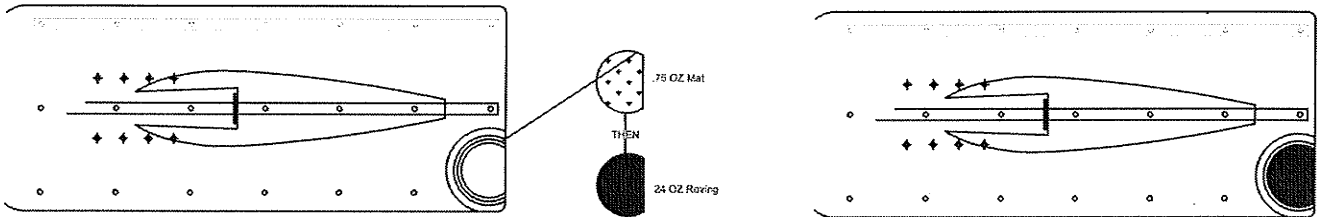
5. After all damage has been removed, determine the size of repair pieces needed. The first layer should be .5" larger than the smallest radius of the removed area. Airglas uses a mat/roving combination for all layers. Cut both mat/roving layers the same size.



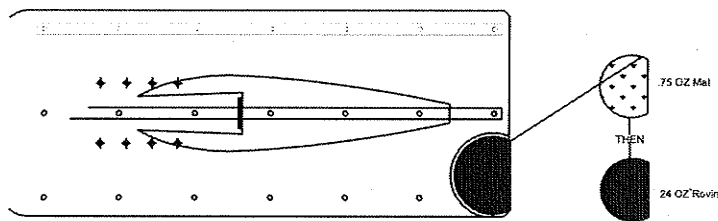
PROCEDURE #4 (Cont.)

Crack & Hole Repairs

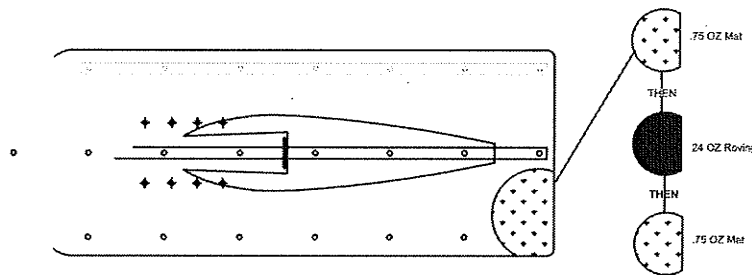
6. Do a final clean of repair area.
7. Apply first layer of mat & roving. Wet out with resin, then roll using fiberglass roller. The fiberglass roller assists in breaking down fiber to accept resin. It also forces excess resin to the surface.



8. Apply second layer of mat & roving. Roll out material completely, before applying more resin. This prevents applying too much resin to repair.



9. Apply final layer of mat & roving to repair area. Roll out material completely, before applying more resin. Wet out as needed.



10. Add final mat to top of repair to provide material to allow for a smoother surface finish when cured.
11. Allow repair to completely cure. When cured sand area to smooth the repair.