

SUB-PATCHING FUNDAMENTALS

Lesson Objectives

- ✚ *Why sub-patch*
- ✚ *When is the use of sub-patch essential*
- ✚ *What are suitable sub-patch materials*
- ✚ *How is a sub-patch applied*

WHEN TO SUB-PATCH

A **sub-patch** augments the repair compounds with an underlying supporting structure that adds strength to the damaged leather. Top-grain leather is remarkably strong. It is very difficult to tear, however its not “bullet proof.” If leather has suffered a wound (cut, burn or tear) that is through the leather, and the affected area is load bearing, then **sub-patching** adds the necessary strength giving the repair its best chance to last the life of the piece.



This photo represents burn damage close to the front edge of a seat cushion.

WHY SUB-PATCH

The repair compounds themselves offer some strength to damaged leather. **However, in high use or high stress areas, without sub-patching, the repair will fail.** The repair compounds are applied to fill the wound, not restore the tensile strength of damaged leather. For example, a seat cushion with a tear would always require a sub-patch. Typically, three areas on furniture require a sub-patch; the seat cushion, the back-rest, and the armrest. Other damaged areas may or may not require the added strength that a sub-patch offers.

Furthermore, the damaged leather is not always top-grain leather. If the leather is a split hide, (inherently weak leather) or a corrected top-grain, (leather that is weakened in its processing) then the added strength of a sub-patch is essential.

WHAT IS SUB-PATCH MATERIAL

There are a variety of materials that can be used as a sub-patch. These include leather, fabric and fine mesh (like organza). Typically, a fine mesh material like organza is best as it has several properties appropriate for sub-patching. It is flexible, light weight, with less “presence” under the leather after the repair is completed. The key to a strong, yet undetectable repair is the sub-patch material’s flexibility. Remember, the thicker and stiffer the material you use the more "presence" it will have and the more obvious the sub-patch will be from the top side. Therefore always choose a material that is thin, strong, yet as flexible as possible.



This photo shows the sub-patch material as it is applied to the damage.

There are occasions where the sub-patch material should be very strong. For example, if the tear on a seat cushion is long, (greater than 4 inches), and in a high stress area, and the leather is inherently weak, then sub-patching with a piece of leather or “Bondex” is reasonable. If this is the strategy, then cut a thin, pliable section of leather, to the shape of the seat cushion’s top panel and apply it to the entire under surface of the cushion. This will offer strength to the cushion, and because it spans the entire underside of the cushion, its presence is not as noticeable.

HOW IS SUB-PATCH MATERIAL APPLIED

If there is access to the back side of the repair area the sub-patch can be positioned easily. Sometimes however there may not be easy access to the underside of the damaged leather. In this case, the sub-patch will have to be positioned on the underside using either of the following two methods.

Seam Splitting - Split a seam close to the repair site. Then slide the sub-patch material into position. Once the repair is completed, re-sew the open seam.

Through Wound - Insert the sub-patch material through the damaged area

itself, and manipulate it into position. The tools that are most effective in this manipulation process are a palette knife and a T-pin. With these tools the sub-patch can be anchored appropriately.

It's preferable to get a sub-patch through the damaged area as opening and re-sewing a seam is more time-consuming.

ADHESIVES

Flexibility is again the key. The most desirable adhesives are flexible yet strong. Use low VOC or non-flammable contact cement. No matter which product you choose, care has to be taken to apply sufficient adhesive to give a strong bond between the sub-patch and the damaged leather. It is very important not to over apply the adhesive as this has a tendency to "lock-up" (stiffen) the fibers of the leather, resulting in a more obvious repair site.

SUB-PATCH TECHNIQUE

Once the appropriate material has been chosen for the sub-patch it should be cut to size; a 1/2 - 1 inch overage is desirable surrounding the repair site. Any stiff or deteriorated leather should be cut away. This ensures that the sub-patch is adhering to sound leather. The sub-patch should be put into position. As mentioned, this may require cutting a nearby seam, or the use a palette knife to slide the sub-patch through the opening caused by the damage. Then, smooth it out under the leather all the way around the wound site.

The adhesive should be applied to the sub-patch material and/or the underside of the leather covering approximately 1/4 inch width surrounding the damage. Then the sub-patch should be pressed firmly against the leather allowing the adhesive to set-up and establish a bond. It is always best to work against a firm,

flat, smooth surface. For example a thin piece of plywood or sheet metal placed under the wound allows for direct pressure to be applied against that a firm surface. The end result is better adhesion and a lower profile of the sub-patch material. Once the adhesive has set-up the fill process can begin.

Summary

- ✚ *We learned why sub-patching is often essential.*

- ✚ *We learned about the different types of sub-patch material and their properties.*

- ✚ *We learned how to position the sub-patch under the wound.*

- ✚ *We learned about adhesives and how to apply them to the sub-patch.*