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Scratch Off

Surface Restoration System

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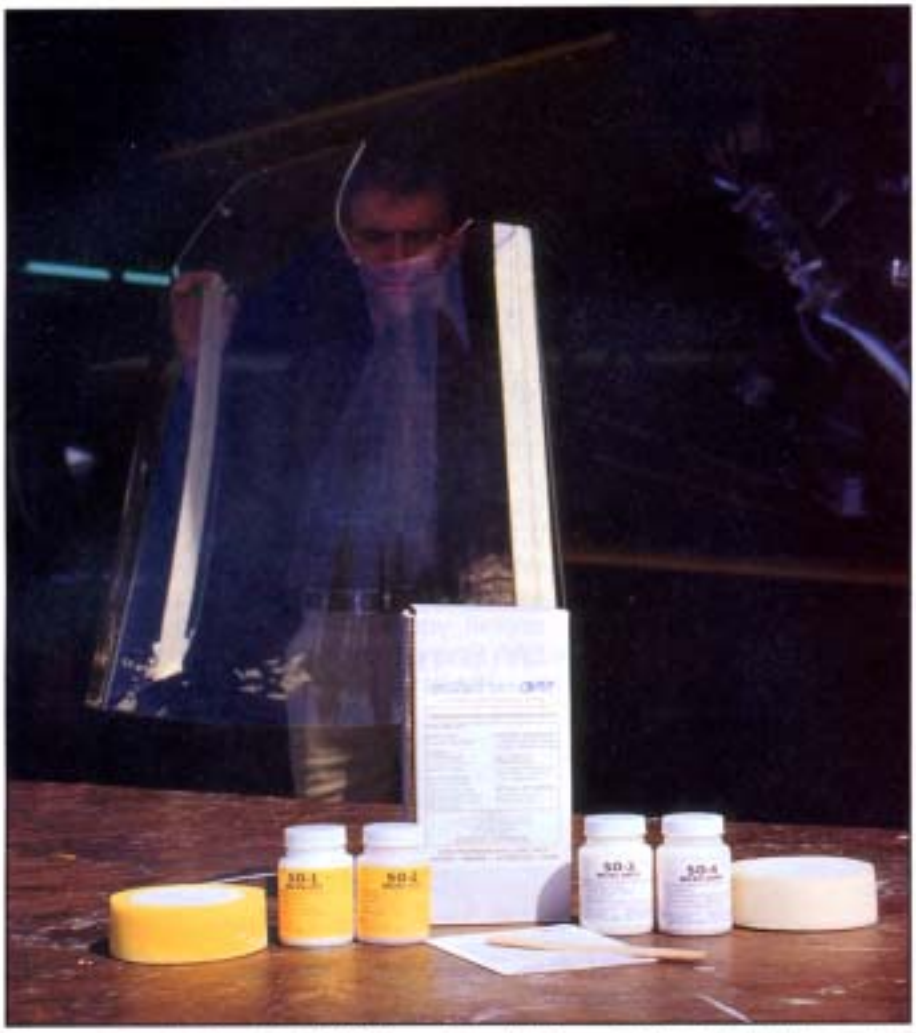


The contents of a Scratch Off™ kit are placed before a Cub windshield in need of help. The yellow pad goes with the two yellow-labeled compounds and the white pad goes with the two white-labeled finishing compounds.

The mark of a real pilot is often noted in the cleanliness of the windshield and side glass in his airplane. How many times have you worked your way into an airplane cockpit and upon glancing outside, discovered not only grime, grit and bugs, but imperfections in the PLEXIGLAS™ itself. Some distortion in the PLEXIGLAS is "untouchable" such as a bend in the windshield to match the fuselage curves and corners. However, most nicks and scratches—even the deep ones—can now successfully be removed and the glass will actually look good as new. Even the "clouded" areas that really make it difficult to see through can be cleaned up and made to look like new.

Ordinary grime, dirt and bugs can be cleaned from windshields with warm water and soap and the softest terry cloth you can find—or possibly a chamois. Many folks use brown paper towels, which are just one notch above tree bark. Such use will lay waste your very best intentions and the windshield will show it for months to come, especially if you use circular motions with the rough surfaced towels. The next time you fly directly into the sun, the rays will come at you like circular lenses in the scratches and you will for all intents and purposes, be blind. This is not a good thought!

Once you have found the really soft terry cloth towels, the job becomes much easier and the results are more impressive. Many pilots choose plain old Lemon Pledge furniture polish as a cleaner as it does a remarkable job and leaves a really clean surface that is "static free"—in short, the dust will not adhere to the surface. It works on side windows as well and will even clean the small spots on the window sills and plastic interiors. Handy stuff.

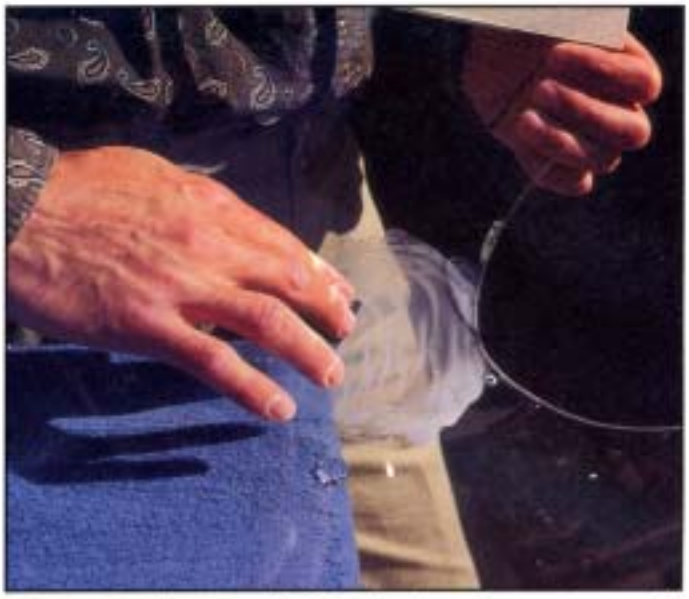
Scratches and deep scratches in the plastic itself are another matter and these call for more masterful solutions. Recently, a new "Precision Surface Restoration System" called **Scratch Off™** has come on the market with the intention of allowing a pilot and/or aircraft owner to bring his aircraft windshield and side windows back to their original clarity and shine—without the scratches, cloudiness, and most importantly removing the least possible amount of material. This system is very complete and includes the following items in the kit:

1. 4" X 1.5" VELCRO™ Foam Cutting Pad (Yellow)
2. 4" X 1.5" VELCRO™ Foam Polishing Pad (White)
3. Drill Shank VELCRO™ Backing Plate
4. Applicator
5. Four Different Grades of Compounds (2.5 oz. each)

To the above contents, one must add a slow-speed electric drill (1200 rpm or less).

Additional items may be necessary, depending on the severity of the surface defect. These would include the following:

The problem: the series of scratches next to the drilled hole in the windshield.



Wet sanding the area with 600 grit wet-or-dry sandpaper until the scratches cannot be felt with the fingernail.

1. A bucket of water
2. Some 1200 grit wet-or-dry sandpaper
3. Some 600 grit wet-or-dry sandpaper
4. Some really soft terry cloth towels

The instructions with the **Scratch Off™** kit are very complete and precise as to how to go about the removal of swirl marks and scratches, etc. However, if you are at all in doubt as to the correct procedure, EAA has produced a video that takes you through the entire process. It is a dandy and it comes with the kit.

Once the scratch is correctly analyzed, the process (worst case scenario) may begin with the 600 grit wet -or-dry sandpaper to actually remove the scratch itself and dress the PLEXIGLAS. The 600 grit paper is placed in the bucket of water to thoroughly soak and soften the paper. This is important as it prevents the edges from scratching the surface and the water lubricates the cutting action of the sandpaper. Once this is accomplished (and the directions explain how to tell), the 1200 grit wet-or-dry sandpaper is brought into play (also soaking wet) to smooth the area for the next step of polishing with different compounds.

The VELCRO™ Foam Cutting Pad is now fastened to the backup plate which has been chucked in the drill and using the SO-1 Micro Cut compound, the area is worked over with the pad doing the work. One cannot force the action - you have to allow the pad to do the proper cutting as the drill turns the pad. Once the surface has been worked over and the "feel" telegraphs time for a change, the next finer grade SO-2 Micro Lite compound is applied with more action by the electric drill. As the plexiglass is slowly compounded smooth, the time comes for final polishing.

A VELCRO™ Polishing Pad (white) is now fastened to the back-up plate in the electric drill and the first of the polishing compounds, SO-3 Micro Brite, is applied. Again, patience is a virtue in that it takes a bit of time for the polish to do its job. A "graduate" polisher is soon able to tell when the next finer polish should be applied as the surface of the plastic is now starting to look and feel like it is almost back to a "like new" condition.

Applying the SO-1 Micro Cut compound.

The coarser yellow pad goes to work with the drill turning medium slow and a small amount of pressure being applied. This is only for a few minutes.

Step 2 shows an alternate way of using the edge of the pad to smooth out the PLEXIGLAS with SO-2 Micro Lite

Steps 3 and 4 are done with the white VELCRO™ pad and SO-3 Micro Brite and SO-4 Micro Shine. Each brings the area closer to the original clear PLEXIGLAS.

Once the final grade of polish (SO-4 Micro Shine) is applied, the electric drill will begin to feel like it is not working hard and the operator knows the final finish is close at hand. With the final working of the area with the pad, the sheen is readily apparent and it is now time to clean up the area with the soap and water and a chamois.

Essentially, the job is now complete and a close inspection reveals the former "swirl mark" or "scratch" is completely gone and only the bright, shiny PLEXIGLAS remains. It is difficult for the first time user to realize that **Scratch Off™** has done its job perfectly and the windshield is now back to its original clear state. There is no sign of the deep scratch and no distortion as you look through the windshield. Hard to believe, but the stuff works!

A normal kit of **Scratch Off™** contains enough material to do several complete windshields or a complete 172 Cessna a couple of times. Considering the cost of a new windshield these days, it is difficult to find a better bargain in all of aviation than this new kit. It is a winner, it does what it is supposed to do and in the short time necessary to get the job done.

The area by the drilled hole no longer has the scratch marks in the plastic and the windshield is once again back to normal. This entire process took only a part of an hour and generated a really fine job. The process works!

Scratch Off™ kits, which include the video, are available from EAA by calling **1-800/843-3612.**

If you would like to see a hands on demonstration, visit Booth B-67 (South Exhibit Building) at the EAA Oshkosh '95 Fly-In Convention or attend the forum on "Making it Perfectly Clear" in Forum Tent 8 from 10:00 a.m. to 11:15 a.m., Friday, July 28, 1995. ◆