

Superior Panel Technology's Glare Shield Kit Installation Instructions

Contents of Kit:

1. 5 1/2" x 5' Pink foam used to make template
2. 2 pieces of cardboard template material
3. 1 qty 8" x 54" black flame retardant ABS/PVC plastic
4. 6" x 39" aluminum stiffener
5. 1.5 linear yard of SPT Black Leather-Like Vinyl
6. 1.5 linear yards of 1/8" open cell foam
7. 6' of bullnose
8. FAA burn test results

Material that you will need to obtain to do the job

1. 3M Super 77 spray adhesive (available at most hardware stores)
2. Good quality scissors
3. Tin snips for trimming aluminum
4. Razor knife
5. Putty knife
6. Drill
7. Marking pens
8. Masking tape

Preface:

The SPT Glare Shield Kit includes the needed material to make a very professional custom Glare Shield. . The padded Glare Shield has the look and feel of leather and it also provides an overhanging surface, which allows the mounting of the SPT Glow Strips. The Glow Strips provide a bluish-green light that is easy on the eyes and provides excellent additional cockpit lighting. The composite lay-up of the material has passed the FAA 23.853 flame test and the burn test results are enclosed in the kit.

The SPT Glare Shield kit is designed to work on aircraft that have a smooth deck. Some aircraft have a significant hump in the middle of the deck and our kit will not work on these aircraft unless you are willing to make a mold the shape of the hump and heat form the plastic to fit the contour.

Step 1: Making Template for Deck Pad

Review the attached drawing that shows the assembled parts of the Glare Shield. The Deck Pad consists of one layer of 1/8" open cell foam that is covered with the SPT Vinyl. The Deck Pad should fit snugly where the windshield meets the deck and should cover the entire deck and be trimmed flush with the panel (see drawing).

To make a Deck Pad template, first rough cut the cardboard so that it fits within a few inches of the windshield (you will need to tape two pieces of the cardboard to get the needed width). Secondly, take the template foam and cut slices that are approximately 1" in width most of the way through the foam, but not completely through. As you can see by the picture, the foam is pressed up against the meeting point of the windshield and the deck. You only need to cut the slices where the foam will curve. The middle section will not need the slices (or at least they can be widely spaced). You can position the foam into place so that it produces the needed contour of the deck. Tape the foam onto the cardboard. Remove this template and mark the shape onto a second piece of cardboard. Cut out this template, which now should fit nicely up against the windshield. If the template does not fit exactly as desired, you can trim the template to make smaller or add pieces of tape to the edges to enlarge.



If your deck has openings in it, you can roughly mark the locations of the openings. You can cut these areas out of the template and then tape pieces of the clear plastic over the cutout openings. With the template repositioned into place you will be able to see these openings on the deck and mark their locations on the clear plastic.

Once you are satisfied with the fit of the contour and the markings of the opening(s) in the deck, then mark the underside of the cardboard where the top of the panel meets the deck.

Remove the template and cut to size with scissors. Cut the openings in the clear plastic for the placement of the openings in the deck (see picture).



Step 2: Cutting the Deck Pad

With the template now properly cut to size, position it over the SPT Vinyl. **Please note:** some wider panels may require material that is wider than the width of the 54" material. This is especially true in those cases where the Glare Shield extends down further along the side panels. When this is the case, it will be necessary to seam two pieces of material together and place the seam in the center of the deck. The material stretches more in one direction than the other. Lay the template so that the material will stretch

along the long dimension. Mark on the white side of the material the shape of the template (allow an extra inch on all sides). Trim the material along this mark. Lay the material on the foam and cut a corresponding piece of 1/8" foam. Spray glue the foam to the fabric. Use a fairly light spray on the foam so that the glue does not seep into the open cells of the foam.

Once this glue is dry, then position the template back onto the foam and carefully mark the size of the template. Use scissors to accurately cut the deck pad.

Position the Deck Pad into place. Normally the deck pad will just lie in position (especially after the Glare Shield is attached). However you can use carpet tape to hold down any areas that have a tendency to lift up.

Step 3: Making Template for the Glare Shield

The overhanging Glare Shield typically goes back over the deck approximately 3"-4" and then overhangs the panel approximately 3 1/2"-4".

First, measure back on the deck the distance you wish to go back with the Glare Shield (again, this can vary between 3-4"). Place pieces of tape along the edges of this mark. Mark the centerline of the deck. Use the cardboard template material and position it along the centerline and the set back line on the deck. Just make a template for one side and then you can make a mirror image of it out of the cardboard for the other side and then tape them together. Mark the distance out on the cardboard for the amount of overhang you wish (again, this is normally 3 1/2"-4"). Measure out from the panel and make the mark on the underside of the cardboard template. The overhang normally tapers to meet the panel near the windshield on the ends. Also, the front edge of the Glare Shield is also normally tapered. Decide the shape that you want and mark it on the cardboard. Once one side is marked, remove it, cut to size and make a mirror image of it from a second piece of cardboard. Tape the two together and reposition to verify fit. Measure back on the topside of the template the amount of overhang of the template from the panel. This is for the placement of the second layer of foam on the overhang (see drawing).

Remove the Glare Shield Template once you are satisfied with the fit.

Step 4: Making the Glare Shield

The grainy textured side of the black plastic is the bottom side. Position the Glare Shield template over the black ABS plastic. **Note:** if a single piece of plastic is not long enough, position two pieces end to end. This seam between the two will go on the centerline. The aluminum stiffener and bullnose will hold the pieces together. Mark the template size onto the plastic. Cut with heavy-duty scissors or tin snips.

The purpose of the aluminum is to provide additional stiffness to the Glare Shield and to eliminate any sagging, which might occur if not used. The aluminum should only be used over the center section that is relatively flat and not on the ends that require sharper bends. Measure the deck to determine the length of aluminum stiffener that is needed. Cut to length.

Position the aluminum on the top, smooth side and position it so that it is centered and comes up to the front edge of the Glare Shield. Trim the aluminum as needed. Mark the outline position of the aluminum on the plastic using masking tape. Remove the aluminum and adhere it to the plastic with the spray glue (again follow the instructions on the can).

When dry, do a test fit of the plastic and the aluminum on the deck. Normally the thinner tapered ends of the plastic bend easily. If you notice that the ends of the Glare Shield fit very tight against the windshield, you can trim the plastic further back (however, you would use the template to make the material and foam full size.). At this point you can also determine the placement of the screws that you need to hold down the Glare Shield. Mark the position of the screws and drill ” holes in the plastic and aluminum.

Adhere the bullnose trim to the front edge of the plastic/aluminum. Measure and cut the first layer of foam so that it is up against the edge of the bullnose and overhangs on the plastic slightly. Mask the bullnose with tape and then spray glue the first layer of foam to the plastic. Trim the overhanging foam around the plastic.

Cut the Glare Shield template lengthwise along the mark that was made even with the panel (this piece of template is now the size of the Glare Shield that fits over the Deck Pad). Place this template on the first layer of foam and mark the line that will be adjacent to the panel (see upper drawing). Cut a piece of foam that will go along this line and be long enough to wrap around the bullnose (see Section “A” detail). Spray glue this foam in place.

Position the Glare Shield over the SPT Vinyl and mark it so that you have a 1” overhang all around the Glare Shield. Make sure that you have adequate length on the ends, especially if you cut the plastic shorter than the template.

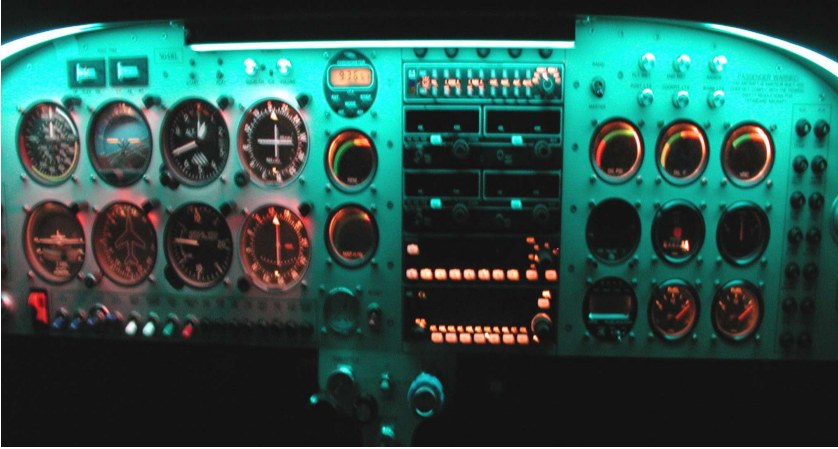


The material will be simply folded under the backside of the Glare Shield and for the most professional, custom look; it should be sewn on the front edge to a second piece of material.

See drawing Section “A”. After the Vinyl is cut to size, position into place and mark the front edge of the Glare Shield for the seam position. Cut a second strip of vinyl that is approximately 2” in width and sew it along this mark. Any upholstery shop and many dry cleaners/tailors can do this for you if you do not have access to a sewing machine. First, sew a seam in the center and then fold back the material edges and sew seams to hold the edges flat. After the material is sewn, spray glue it into position. Wrap the backside of the material under the glare shield and trim the front edge of the material so that a small amount is left that can be tucked in under the bullnose. Punch holes through the material where the screws go. Position and screw the Glare Shield into place.

Step 5: Glare Shield Lighting

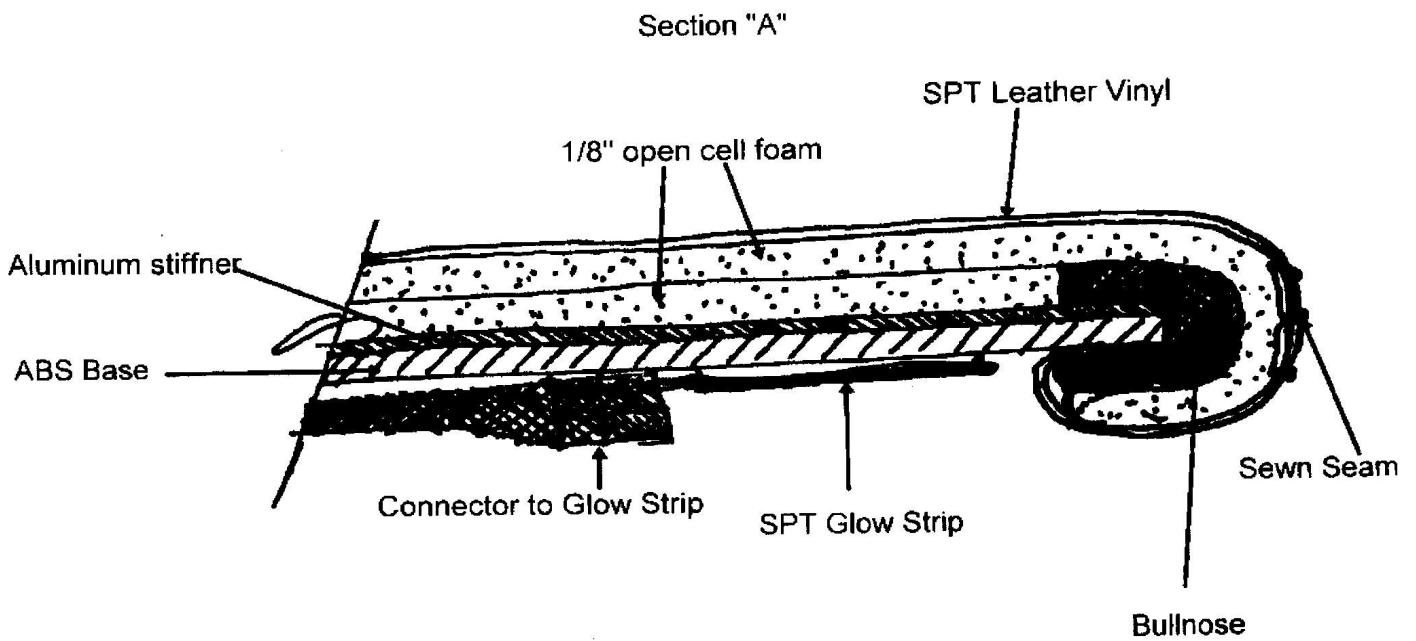
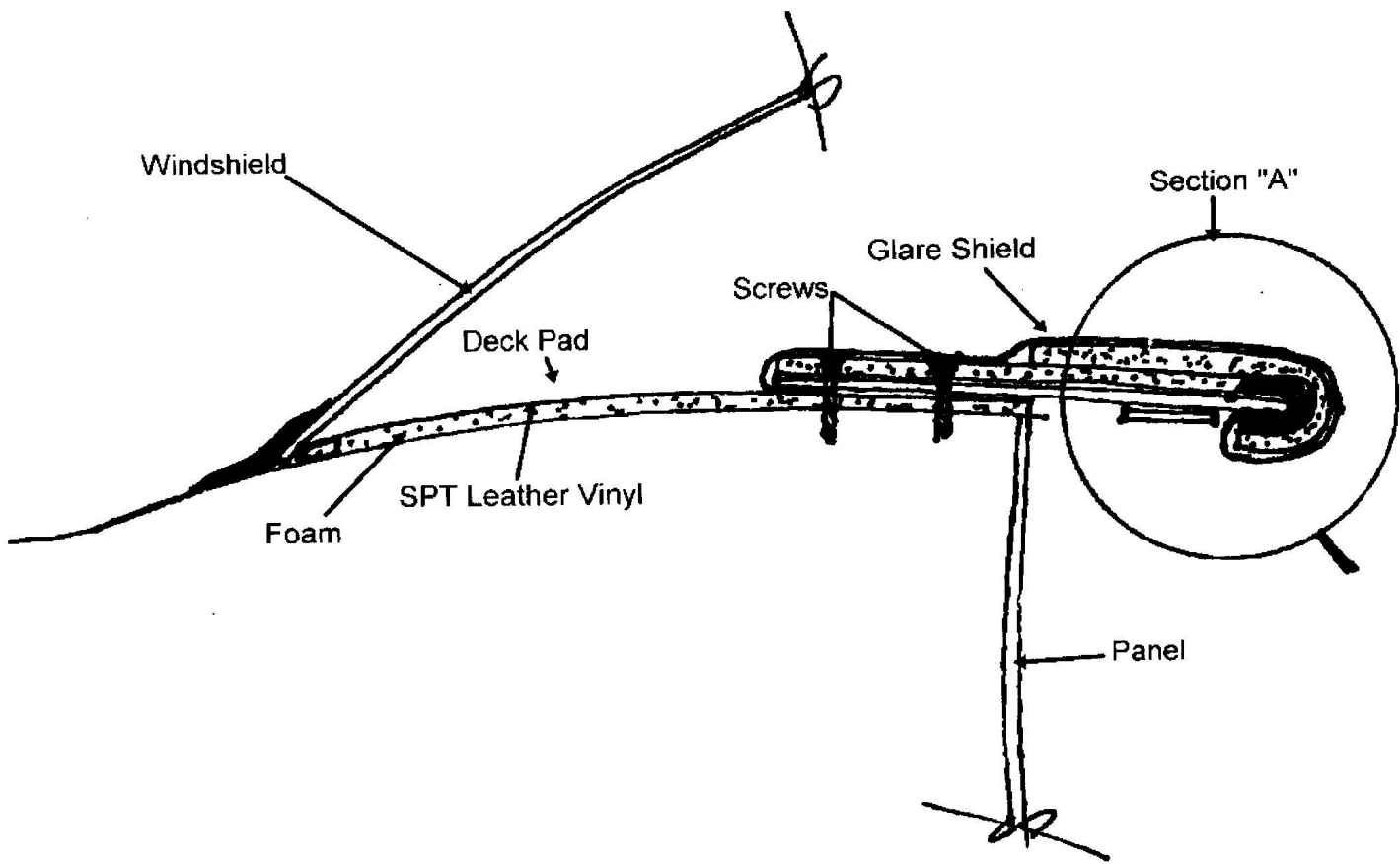
Now that you gone through this amount of work, why not add really dress it up by adding the SPT Glow Strip Glare Shield. These electroluminescent lamps are paper thin, very flexible and easy to install. See our web site at www.sptpanel.com for more information. Save \$10 on the purchase of the lamps with the enclosed coupon.

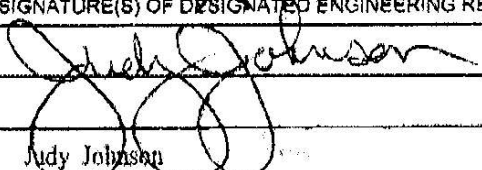


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U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS			DATE 12/05/02
AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION			
MAKE CESSNA	MODEL NO. 172	TYPE (Airplane, Radio, Helicopter, etc.) Airplane	NAME OF APPLICANT Skandia, Inc. SUPERIOR PANEL TECHNOLOGY
LIST OF DATA			
IDENTIFICATION	TITLE		
Work Order # 81791-02 Test ID 43519 Purchase Order # VERBAL/KEN	FLAMMABILITY TEST RESULTS REF: Skandia, Inc. Test Plan #9079 Rev IR Dated: 7-16-02 For Part #9079-1 Consisting of Spartech .063" Royalite, R59/R59V/07145 Level Haircell Black bonded on one side to Skandia, Inc. Dax Graphite/Poly foam, 90 KC, 1/8". There is a layer of Proquinal S.A.: Superior Panel Technology, SPT Vinyl Leather, Part #SPTVL, treated at Skandia, Inc. Ref Treatment #SKFP70213 bonded to the Dax Graphite/Poly foam. Components are bonded using Fastbond 30 Neutral Adhesive. REF TEST ID # H-3093 THE ABOVE DATA HAS BEEN REVIEWED BY DER CANDIDATE NAME <u>Carin Roman</u> DATE <u>12-5-02</u>		
PURPOSE OF DATA DEMONSTRATION OF COMPLIANCE WITH MATERIAL FLAMMABILITY REQUIREMENTS			
APPLICABLE REQUIREMENTS (List specific sections) FAR 23.853 (a)			
CERTIFICATION Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under Part 183 of the Federal Aviation Regulations, data listed above and on attached sheets numbered _____ have been examined in accordance with established procedures and found to comply with applicable requirements of the Federal Aviation Regulations. I (We) Therefore <input type="checkbox"/> Recommend approval of these data <input checked="" type="checkbox"/> Approve these data			
SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE 	DESIGNATION NUMBER(S) DERY-405020-CE	CLASSIFICATION(S) Structural Special	
Judy Johnson			