

Aviation Window Restoration System by Clearfix™ Aerospace

The 3M™ Aviation Window Restoration System by Clearfix™ Aerospace is an easy-to-use, three-step process specifically designed for acrylic or polycarbonate windows. The 3M Clearfix system removes scratches, hazing and other imperfections, then provides durable, effective UV protection.

Important Note: DO NOT USE the 3M Clearfix System on:

- **Windows that come into contact with de-icing fluids**
The de-icing fluid will take off the UV coating (Step 3).
- **H53 forward windscreen**
This is a polycarbonate laminate sandwich with heating element in between.
- **H60 two forward outer windscreens**
These are glass; the 3M Clearfix system is not designed for use on glass.
- **Transparencies that have pre-existing crazing.**
The UV coating used in step 3 will emphasize crazing.

Materials Listed

Materials that come with 3M™ Aviation Window Restoration System by Clearfix™ Aerospace:

| Description: | Size: | UPC | 3M ID: |
|--|-----------|----------------|----------------|
| Polish 1 – Clarity Restoration | 110 ml | 00048011637013 | 70-2022-8030-4 |
| Polish 2 – Optics Restoration | 75 ml | 00048011637020 | 70-2022-8031-2 |
| Polish 3 – UV Coating and Applicator | 75 ml | 00048011637099 | 70-2022-8038-7 |
| Spray Cleaner | 8 oz. | 00048011637044 | 70-2022-8033-8 |
| Small Buffing Pad, Yellow | 3" | 00048011637051 | 70-2022-8034-6 |
| Small Polishing Pad, Gray | 3" | 00048011637068 | 70-2022-8035-3 |
| Large Buffing Pad, Yellow | 6" | 00048011637075 | 70-2022-8036-1 |
| Large Polishing Pad, Gray | 6" | 00048011637082 | 70-2022-8037-9 |
| Polishing Pad 3" Backing Plate 5/8" Internal Drive Buffer | 5/8" | 00048011637105 | 70-2022-8039-5 |
| Polishing Pad 3" Backing Plate 3/8" Male Drill | 3/8" | 00048011637129 | 70-2022-8041-1 |
| Microfiber Towel | 12" x 12" | 00048011637471 | 70-2022-8078-3 |

Other Recommended Products:

- Infrared thermometer, for suggestion: 3M™ Infrared Thermometer IR-500 (part #3M IR 500).
- Electric buffer for best results, for suggestion: 3M™ Electric Variable Speed Polisher, (part #51141-28391). Alternately, an electric drill may be used.
- If drill is used - then use 3/8" backing plate with buffing and polishing pads.
- Nitrile rubber gloves.



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Directions for Use

STEP 1: 3M™ Aviation Window Restoration Clarity Restoration Polish

Caution: Cleaning the windows with isopropyl alcohol during the buffing process will result in the removal of restorative coatings. Use 3M™ Aviation Window Restoration Spray Cleaner for cleaning the substrate and removing compound during the buffing process.

Caution: Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Nitrile Rubber.

Caution: Do not continue buffing when the substrate starts becoming dry.

Note: Massage packaging before opening

- Mask around surface to be restored using plastic masking film and vinyl tape.
- Clean surface to be refinished thoroughly. Spray the surface to be cleaned liberally with 3M™ Aviation Window Restoration Spray Cleaner and wipe the window with a micro fiber cloth to clean and remove all contaminants. Use a dry micro fiber cloth after the initial cleaning step to ensure the window is completely dry.
- Use an electric buffer for best results. Alternately, an electric drill may be used, for suggestion 3M™ Electric Variable Speed Polisher, (part #51141-28391) may be used.
- Prepare the buffer by installing the buffing pad backing plate. This backing plate has hooks on it to receive and attach the foam pads for buffing. Attach the yellow 3" (part #48011-63705) or 6" (part #48011-63707) yellow foam buffing pad, use the size that allows you to buff all areas being restored. The 6" yellow pad has a dark circle on the back of the pad that indicates the attachment location for the backing plate driver.
- The chemical in the package is activated by oxygen; **do not tear open and remove the entire top of the foil pack.**** Tear open 3M™ Aviation Window Restoration Clarity Restoration Polish package at the corner where indicated to form a pouring spout. Apply the product in quarter sized amounts and buff in a North/South, East/West pattern at 2200 RPM while applying approximately 2-3 pounds of downward force with a rotary buffer. The appearance created during this process is one of equally spaced tree rings of buffing material being formed as you buff across the substrate.

** **If done incorrectly** and the chemical is overexposed, oxygen may activate the chemical and a new foil pack may be needed before the product is consumed in the buffing process.
- Do not continue buffing when the substrate starts becoming dry. Reapply clarity restoration polish and buff to ensure entire surface is covered twice.
- Clean the surface thoroughly with 3M™ Aviation Window Restoration Spray Cleaner and a micro fiber cloth to ensure all buffing material has been removed. Use a dry micro fiber cloth after the initial cleaning step to ensure the window is completely dry and no residue remains.

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Directions for Use

STEP 2: 3M™ Aviation Window Restoration Optics Restoration Polish

Caution: Cleaning the windows with isopropyl alcohol during the buffing process will result in the removal of restorative coatings. Use 3M™ Aviation Window Restoration Spray Cleaner for cleaning the substrate and removing compound between steps.

Caution: Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Nitrile Rubber.

Caution: Do not continue buffing when the substrate starts becoming dry.

Note: Massage packaging before opening

- Mask around surface to be restored using plastic masking film and masking tape.
- Clean surface to be refinished thoroughly. Spray the surface to be cleaned liberally with 3M™ Aviation Window Restoration Spray Cleaner and wipe the window with a micro fiber cloth to clean and remove all contaminants. Use a dry micro fiber cloth after the initial cleaning step to ensure the window is completely dried.
- Use an electric buffer for best results and alternately an electric drill may be used, for suggestion 3M™ Electric Variable Speed Polisher, (part #51141-28391) may be used.
- Prepare the buffer by installing the buffing pad backing plate. This backing plate has hooks on it to receive and attach the foam pads for buffing. Attach the grey 3" (part# 48011-63706) or 6" (part# 48011-63708) grey foam buffing pad, use the size that allows you to buff all areas being restored. The 6" grey pad has a dark circle on the back of the pad that indicates the attachment location for the backing plate driver.
- The chemical in the package is activated by oxygen; **do not tear open and remove the entire top of the foil pack.**** Tear open the 3M™ Aviation Window Restoration Optics Restoration Polish package at the corner where indicated on the package to form a pouring spout. Apply the product in quarter sized amounts and buff in a North/South, East/West pattern at 2200 RPM while applying approximately 2-3 pounds of downward force with a rotary buffer. The appearance created during this process is one of equally spaced tree rings of buffing material being formed as you buff across the substrate.

**** If done incorrectly,** the chemical may be overexposed, oxygen may activate the chemical and a new foil pack may be needed before the product is consumed in the buffing process.

- Do not continue buffing when the substrate starts becoming dry. Reapply optics restoration polish, buff to ensure entire surface is covered twice.
- Clean the surface thoroughly with 3M™ Aviation Window Restoration Spray Cleaner and a micro fiber cloth to ensure all buffing material has been removed. Use a dry micro fiber cloth after the initial cleaning step to ensure the window is completely dry and no residue remains.

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Directions for Use

STEP 3: 3M™ Aviation Window Restoration UV Coating

Caution: Do not overheat the substrate beyond the manufacturer's specification

Caution: Cleaning the windows with isopropyl alcohol during buffing or after the application of 3M™ Aviation Window Restoration UV Coating will result in the removal of restorative coatings

Caution: Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Nitrile Rubber

Note: Have all materials ready and move expeditiously as you complete this step. Keep the UV coating applicator saturated so you leave a layer of coating on the substrate without applying pressure.

- Ensure the substrate has been thoroughly cleaned with 3M™ Aircraft Window Restoration Spray Cleaner and a micro fiber cloth. Use a dry micro fiber cloth after the initial cleaning step to ensure the window is completely dry and no residue remains.
- Heat window using low setting on the heat gun to approximately 130°F (54°C). Keep heat gun approximately 6" from surface and moving from side to side to evenly warm the substrate. 3M recommends that an infrared thermometer be used during this process to monitor the temperature of the substrate. 3M suggests a 3M™ Infrared Thermometer IR-500 (part #3M IR 500).
- Tear open the package of 3M™ Aviation Window Restoration UV Coating package at the corner where indicated on the package to form a pouring spout.**

**** If done incorrectly** and the chemical is overexposed, oxygen may activate the chemical and a new foil pack may be needed before the product is consumed in the buffing process.

- Pour one half of the material slowly along the lower rounded edge surface of the UV coating applicator (included in package with UV coating), parallel to the length of the applicator.
- When the surface to be restored reaches approximately 130°F (54°C) apply the UV coating liberally in the direction of flight and to the entire surface. You will see lines on top of the substrate created by applying the UV coating. Watch closely, when the lines disappear, apply a second coat of the UV coating to the substrate. When the lines disappear after the second application of the UV coating, gently dry the surface with the heat gun on low for 10-15 seconds to cover approximately a 1-2 square foot of area.
- **Let the substrate dry and do not touch the surface with anything for at least one half hour after completing the UV coating application process.**

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Directions for Use

3M™ Aviation Window Restoration Spray Cleaner

Caution: Cleaning the windows with isopropyl alcohol during the buffing process will result in the removal of restorative material. Use 3M™ Aviation Window Restoration Spray Cleaner for cleaning the substrate and removing compound between steps. The product is also recommended for cleaning on a regularly established interval.

Caution: Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Nitrile Rubber

Clean the surface to be refinished thoroughly. Spray the surface to be cleaned liberally with 3M Aviation Window Restoration Spray Cleaner and wipe the window with a micro fiber cloth to clean and remove all contaminants. Use a dry micro fiber cloth after the initial cleaning step to ensure the window is completely dry and any streaks are removed.

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Directions for Use

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, please visit www.3M.com/msds or call 1-800-364-3577 or (651) 737-6501.

For Additional Information

In the U.S., call toll free 1-800-235-2376, or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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