



# Installation and Maintenance Procedures

## CM Racing Products • Racing Optics™

### WindshieldStack™ Tearoff Laminates

#### **Background and Description**

Tearoffs are universally used in motorsports as multi-layered disposable lenses. As the race proceeds, the top layer accumulates mud, rubber, fuel, oil and water, which eventually obscure the driver's vision. The top layer of tearoff is then removed by the pit-crew which reveals the next clean layer and so on until all layers have been pulled.

The patented **CM Racing Products/Racing Optics™ WindshieldStack™** is a complex optical device, having all the characteristics found in a camera lens or telescope. **Racing Optics™ WindshieldStack™** starts by using individual sheets that are made from the highest quality "optical grade" polyester film, that are then "factory laminated" preventing distortion and insuring the clearest possible view for the driver. Each of the layers on the tearoff laminates are 4 mils thick and are hard-coated to provide scratch resistance.

The **Racing Optics™ WindshieldStack™** laminate is also used to protect the windshield from rock strikes and other abrasive materials that could damage the windshield.

The WindshieldStack™ has been molded to fit the contour of the ABC Race Car Windshield.

#### **Required Tools**

Spray Bottle  
Squeegee  
Knife (to trim if necessary - recommend Olfa stainless steel)  
Dawn Dishwashing Liquid  
Water

#### **Installation - See [www.cm racingproducts.com](http://www.cm racingproducts.com) for an Installation Video**

The ideal installation environment for the WindshieldStack™ laminate is indoors or in a sheltered environment. Airborne dust in a shop should not be a problem if the laminate is applied on the windshield immediately after the windshield has been thoroughly cleaned. The windshield should not be pitted or nicked. This will cause install issues.

If an outdoor installation is absolutely necessary, it should be done with the windshield facing away from direct sunlight, preferably in a shaded area when there is little or no breeze that could contaminate the installation with blowing sand or other potential contaminants.

The race car should sit in the shaded area or inside for 1 hour after installation to insure that there has been sufficient time for the WindshieldStack™ to adhere properly to the windshield.

1. Prior to installing the WindshieldStack™, thoroughly clean the windshield with a good cleaner (windex or better) using a good cleaning towel that will not leave lint or residue on the surface of the windshield. Make sure that you clean the entire windshield and wipe it down thoroughly.
2. To make the application add a squirt of Dawn dishwashing liquid into your spray bottle, and then fill it with clean water. The amount of dishwashing liquid used is a matter of personal preference. It is better to add too much rather than too little when mixing your application solution. (We recommend 3cc's of soap to 32 ounces of water)
3. Prior to installation, using the mixture above wet and squeegee the windshield to remove any lint and/or dust.
4. Lay the laminate on the windshield to verify fit. The **Racing Optics™ ABC Racing WindshieldStack™** should not require any trimming to fit.

## **Tearoff Laminate Installation Continued**

5. Peel the release liner off the back of the WindshieldStack™ you are preparing to install. Thoroughly wet the base layer of the laminate as you remove the release liner with the application solution described above. (The release liner is marked with the words Release Liner, and also indicates the number of layers on the laminate. Do not wet the windshield again as this will attract dirt.

6. Place the WindshieldStack™ on the windshield.

7. Squeegee the installation solution out from under the laminate working in an up and down motion from the center out using firm pressure left and right. **Repeat this step as many times as necessary to insure that the solution is totally dissipated from under the WindshieldStack™.**

8. Allow the WindshieldStack™ to cure for one hour in a shaded environment to complete the installation. The vehicle may now be driven.

9. The edge of multiple layer laminates can now be trimmed back to expose each layer in a stair step pattern so that tape can be applied that will facilitate removal of each layer as may be required during a race. To remove a layer simple peel up the edge of the layer that you wish to remove and pull the piece from the vehicle.

## **Cleaning Procedures**

1. The WindshieldStack™ can be cleaned with any nonabrasive cleaning solution such as water or window cleaner with no adverse effects.

2. Hard to remove spots caused by tar or bugs can be carefully removed with a light gauge steel wool.

3. Once a layer becomes obscured due to non-removable contaminants or excessive scratches, it can be removed by following the procedures listed below.

## **Operational Procedures**

1. Do not pull a layer off the WindshieldStack™ for 24 hours following installation.

2. Once a layer can no longer be cleaned using the procedures outlined above, the top layer should be pulled off the laminate.

3. To remove a layer lift up the top tab, and pull the top layer towards the center of the windshield. The pull should be made in a steady and deliberate fashion. Do not stop the pull until the layer is completely removed.

4. When the bottom layer is reached, the car should be scheduled for installation of a new WindshieldStack™ laminate as may be required.

If you have any problems making an installation or have questions please call CM Racing Products customer service at **866-325-8534**.

A video showing installation procedures can be seen at **[www.cmracingproducts.com](http://www.cmracingproducts.com)**.

**Racing Optics Product is covered by the following Patent Numbers**  
**U.S. Patent No. 6,388,813, 6,536,045, 6,847,492, 6,870,686, 7,184,217**  
**Europe 1502146, Canada 2,386,043**

**CM Racing Products • PO Box 1810 Bluefield, WV 24701 • 866-325-8534**