

ClearMask Aerogard™ Paint Protection Film was codeveloped for automotive use by ClearMask and the aerospace division of 3M. It combines the state-of-the-art mechanical characteristics of aerospace wing and rotor protective film with the optical clarity required to allow automobile painted surfaces to look their best.

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**Aerogard™ Film Structure**

The urethane film is delivered sandwiched between two protective layers - both of which must be removed prior to installation. The top side of the film is covered by a rigid carrier layer, or cap sheet, while the adhesive side is protected by a white conformable liner. These coverings protect the film surfaces during storage and shipping, and the cap sheet provides the rigid structure required for accurate computerized cutting.

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**Tools**

The recommended tools for installation include the following items, all of which are included in our Deluxe application Tool Kit:

Two spray bottles with industrial-grade sprayer heads - one for soap solution and one for an alcohol-water mix. *A typical household spray bottle, such as a Windex bottle, will NOT deliver acceptable spray volume for kit installation purposes. Use of such bottles for your kit installation will virtually guarantee a frustrating installation experience.*

A Professional rubber squeegee. *It is very important that this be a SOFT squeegee - a hard plastic squeegee will very likely damage the film surface and spoil the installation.*

A plastic hard card, with rubber squeegee edge. *This hard card, wrapped in a paper towel, will be used for the critical job of sealing and drying the film edges.*

A plastic Utility knife with sharp steel blades.

And a sample of Aerogard™ material, for practice purposes.

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**Solutions Preparation**

Label one of the spray bottles 'Soap Solution' and put two or three pumps (1 tablespoon) of a brand-name hand dishwashing liquid (Joy, Palmolive, Dawn, etc.) inside. Fill the bottle with filtered or bottled water and fit the spray head. *When sprayed on your hands, this solution should feel slippery, but not 'slimy'. If the solution is not yet slippery enough, add another teaspoon of soap and try it again. If it is slimy, pour out a cup of solution from the bottle, and refill the bottle to the top with a cup of filtered or bottled water and try it again.*

Label the other spray bottle 'Alcohol Solution' and fill it half full of 70% Isopropyl Alcohol (this is the strength of the alcohol typically sold in pharmacies). Fill the bottle the rest of the way with filtered or bottled water and fit the spray head.

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## **Film Installation Steps**

There are a number of steps that are common to the installation of almost any component of an Aerogard Paint Protection Film Kit. This procedure assumes a clean and dry painted finish to start with.

1. The first step is to separate the film and attached liner from the clear cap sheet.
2. Spray the painted surfaces where the film will go with soap solution.
3. Remove the white liner from the film, and spray the exposed adhesive with soap solution.
4. The film is then positioned on the car and the top side is sprayed with soap solution.
5. The next step is to spray water-alcohol solution under the film at the starting position,
6. then squeegee the film down at that start position to tack it in place.
7. Spray the outside of the film again with the soap solution.
8. Then squeegee the film from the start position upwards and outwards towards the edges,
9. stretching the film with the palm of the hand, as necessary to fit the part to the car.
10. The final step is to seal and dry the film edges with a hard card wrapped in a paper towel.

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## **Installation Tips**

The following guidelines will help avoid some common installation problems.

- Work in a dust-free environment with little or no wind, and out of direct sunlight.
- Make sure the painted surfaces to be covered are both clean and dry.
- Use all the appropriate application tools as described in the 'Tools' section above.
- Pre-mix the soap solution and the water-alcohol solution ahead of time.
- Remember - Aerogard™ film is elastic and forgiving - you can lift and reposition it as needed, there is no reason to rush the installation.

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## **Hood Section Kit Installation**

Starting with a hood that has already been cleaned and dried, spray the hood with soap solution. *We'll be using the hood as a work surface for the following steps.*

Lay the film on the hood, white liner side down, and pull off the cap sheet. *This process takes more effort than you might expect, but the film is very strong, and will not be harmed by it. A brisk tug on the cap sheet usually works better than a smoother pull to get the process started.*

Once the hood section is completely free of the cap sheet, flip it over and lay it down liner side up on the hood surface.

Starting in one corner of the part, pull away the protective adhesive liner and spray the exposed adhesive with soap solution. *It is vitally important that your fingers be clean and wet during this process. When dry, the adhesive will mark easily with fingerprints if touched by dry or dirty fingers. Because the hood surface has been liberally sprayed with soap solution, the associated surface tension will actually help hold the film in place while the adhesive liner is removed.*

When the piece is completely free of the liner, lift it off the hood and spray the painted surface with soap solution.

Then flip the piece over so the adhesive side is down against the paint. Float it into position, centering it carefully left and right and as close as possible to the edge.

Spray alcohol solution under the center area to help tack the film in place, and use soap solution to lubricate the top side.

Squeegee the film down to lock it in place, working from the center towards the outside. *When the alcohol is squeegeed out, the pressure-activated adhesive will bind this area to the paint - in effect the hood film piece will be 'nailed down' in the center. It is important to 'nail down' the starting position so that the film can be stretched if necessary to accommodate curvature in the hood. Many paint protection film kits are designed slightly undersized, so the film can be stretched during installation.*

Lift up the piece on one side of the hood, and spray the paint underneath with soap solution.

Locate the first 'target point' - the next point on the hood away from the start position where the pattern has a critical fitting point. *On a simple hood the only target point will be the outer edge of the hood.*

Lift the film, and spray this target area with alcohol.

Lay the film back down, then gently stretch the film to reach this first target point and squeegee the film down with overlapping strokes. *Do not press the film down hard with your fingers while stretching it, as this could cause the pressure-activated adhesive to prematurely bind to the paint and leave visible marks.*

Repeat the above 3 steps (locate target point, spray it with alcohol solution, stretch film gently into place and squeegee down) for any successive target points between the one just finished and the edge of the hood. Work one section (target point) at a time until the last target point (the edge of the hood) has been covered with film and squeegeed into place.

Employ the same procedure on the opposite side of the hood. Repeat the same three steps (locate, spray with alcohol, stretch and squeegee down) for each target point between the 'nailed down' center section and the outer edge of the hood. Work one section (target point) at a time until the last target point (the edge of the hood) has been covered with film and squeegeed into place.

Dry the film surface with a lint-free towel.

The final step in the film installation is to wrap a hard card in a layer of paper towel and use it to press down the film edges. *It is extremely important that all edges be properly sealed. Any lifted edges will soon attract dirt and other contaminants, and may eventually lose adhesion and peel away from the paint.*

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## **Fender Section Kit Installation**

Starting with a fender that has already been cleaned and dried, spray the fender with soap solution.

Lay the film on the fender, white liner side down, and pull off the cap sheet. *This process takes more effort than you might expect, but the film is very strong, and will not be harmed by it. A brisk tug on the cap sheet usually works better than a smoother pull to get the process started.*

Once the fender section is completely free of the cap sheet, flip it over and lay it down liner side up on the fender surface.

Starting on one corner of the part, pull away the protective adhesive liner and spray the exposed adhesive with soap solution. *It is vitally important that your fingers be clean and wet during this process. When dry, the adhesive will mark easily with fingerprints if touched by dry or dirty fingers. Because the fender surface has been liberally sprayed with soap solution, the associated surface tension will actually help hold the film in place while the adhesive liner is removed.*

When the piece is completely free of the liner, spray the fender surface with soap solution.

Then flip the piece over so the adhesive side is down against the paint. Float it into position, and center the piece carefully as close as possible to the edges.

Spray alcohol solution under the inner edge to help tack the film in place, and use soap solution to lubricate the film surface above it.

Squeegee the film down to lock it in place, beginning on the inner edge and working towards the outside. *When the alcohol is squeegeed out, the pressure-activated adhesive will bind this area to the paint. It is important to 'nail down' the starting position so that the film can be stretched to accommodate curvature in the fender.*

Lift up the piece on the outside of the fender, and spray the paint underneath with soap solution.

Locate the first 'target point' - the next point on the fender away from the starting point where the pattern has a critical fitting point. *On a simple fender the only target point may be the outer edge of the fender.*

Lift the film, and spray this target area with alcohol.

Lay the film back down, then gently stretch the film to reach this first target point and squeegee the film down with overlapping strokes. *Do not press the film down hard with your fingers while stretching it, as this could cause the pressure-activated adhesive to prematurely bind to the paint and leave visible marks.*

Repeat the above 3 steps (locate target point, spray it with alcohol solution, stretch film gently into place and squeegee down) for any successive target points between the one just finished and the edge of the fender. Work one section (target point) at a time until the last target point (the edge of the fender) has been covered with film and squeegeed into place.

Once the film has been fitted to the fender and squeegeed into place, carefully lift up the edges one section at a time, spray the paint underneath with alcohol solution, and squeegee back down. *The alcohol will rinse away any residual soap solution and allow the pressure-activated adhesive to bind almost instantly when the film is squeegeed back down.*

The final step in the film installation is to wrap a hard card in a layer of paper towel and use it to press down the film edges. *It is extremely important that all edges be properly sealed. Any lifted edges will soon attract dirt and other contaminants, and may eventually lose adhesion and peel away from the paint.*

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### **Mirror Kit Installation**

Spray the mirror with soap solution and wipe it clean, then wipe it dry. *The mirror surface must be completely clean and dry to ensure proper adhesion of the film. The extreme curvature will require substantial stretching of the film so it is vitally important that it adhere well.*

Hold the film piece up to the mirror, white liner side down, to confirm it matches the mirror to be installed, then pull off the cap sheet.

Starting on one corner of the part, pull away the protective adhesive liner and spray the exposed adhesive with soap solution. *It is vitally important that your fingers be clean and wet during this process. When dry, the adhesive will mark easily with fingerprints if touched by dry or dirty fingers.*

When the piece is free of the liner, spray the mirror surface with soap solution.

Then flip the piece over so the adhesive side is down against the paint.

Spray alcohol solution under the inner edge to help tack the film in place, and use soap solution to lubricate the film surface above it.

Squeegee the film down to lock it in place, beginning on the inner edge and working towards the outside. *When the alcohol is squeegeed out, the pressure-activated adhesive will bind this area to the paint. It is important to 'nail down' the starting position so that the film can be stretched to accommodate curvature in the mirror.*

Lift up the piece on the outside of the mirror, and spray the paint underneath with soap solution.

Gently stretch the film to reach the outer edge of the mirror and squeegee it down with overlapping strokes. *Do not press the film down hard with your fingers while stretching it, as this could cause the pressure-activated adhesive to bind to the paint and leave visible marks.*

Once the film has been fitted to the mirror and squeegeed into place, carefully lift up the edges one section at a time, spray the paint underneath with the alcohol solution, and squeegee back down. *The alcohol will rinse away any residual soap solution and allow the adhesive to bind almost instantly when the film is squeegeed back down. The extreme elasticity of the Aerogard™ urethane film and the quick tacking of its pressure-activated adhesive when the alcohol solution is squeegeed out will smooth out the wrinkles, or 'fingers' that initially appear around the edges of the mirror.*

The final step in the film installation is to wrap a hard card in a layer of paper towel and use it to press down the film edges. *It is extremely important that all edges be properly sealed. Any lifted edges will soon attract dirt and other contaminants, and may eventually lose adhesion and peel away from the paint.*

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### **Bumper Section Kit Installation**

*As the bumper kit film pieces are often quite large, it is advisable to have a glass-top or other smooth surface work table as a work surface for the following steps. It may also be helpful to have a second person help when the film is first laid into position on the bumper.*

Starting with a bumper that has already been cleaned and dried, spray the bumper with soap solution. Then spray the work table surface liberally with soap solution.

Lay the film on the work table, white liner side down, and pull off the cap sheet. *This process takes more effort than you might expect, but the film is very strong, and will not be harmed by it. A brisk tug on the cap sheet usually works better than a smoother pull to get the process started.*

Once the bumper section is completely free of the cap sheet, flip it over and lay it down liner side up on the table surface.

Starting in one corner of the part, pull away the protective adhesive liner and spray the exposed adhesive with soap solution. *It is vitally important that your fingers be clean and wet during this process. When dry, the adhesive will mark easily with fingerprints if touched by dry or dirty fingers. Because the table surface has been liberally sprayed with soap solution, the associated surface tension will actually help hold the film in place while the adhesive liner is removed.*

When the piece is completely free of the liner, lift it off the table and lay it on the bumper so the adhesive side is down against the paint. Float it into position, centering it carefully left and right and as close as possible to the edge.

Spray alcohol solution under the center area on the top side of the bumper to help tack the film in place, and use soap solution to lubricate the film surface for the squeegee.

Squeegee the film down to lock it in place, working from the center towards the outside. *When the alcohol is squeegeed out, the pressure-activated adhesive will bind this area to the paint - in effect the bumper film piece will be 'nailed down' in the center. It is important to 'nail down' the*

*starting position so that the film can be stretched if necessary to accommodate curvature in the bumper. Many paint protection film kits are designed slightly undersized, so the film can be stretched during installation.*

Lift up the piece on one side of the bumper, and spray the paint underneath with soap solution.

Locate the first 'target point' - the next point on the bumper away from the start position where the pattern has a critical fitting point.

Lift the film, and spray this target area with alcohol.

Lay the film back down, then gently stretch the film to reach this first target point and squeegee the film down with overlapping strokes. *Do not press the film down hard with your fingers while stretching it, as this could cause the pressure-activated adhesive to prematurely bind to the paint and leave visible marks.*

Repeat the above 3 steps (locate target point, spray it with alcohol solution, stretch film gently into place and squeegee down) for any successive target points between the one just finished and the edge of the bumper. Work one section (target point) at a time until the last target point (the edge of the bumper) has been covered with film and squeegeed into place.

Employ the same procedure on the opposite side of the bumper. Repeat the same three steps (locate, spray with alcohol, stretch and squeegee down) for each target point between the 'nailed down' center section and the outer edge of the bumper. Work one section (target point) at a time until the last target point (the edge of the bumper) has been covered with film and squeegeed into place.

Dry the film surface with a lint-free towel.

The final step in the film installation is to wrap a hard card in a layer of paper towel and use it to press down the film edges. *It is extremely important that all edges be properly sealed. Any lifted edges will soon attract dirt and other contaminants, and may eventually lose adhesion and peel away from the paint.*

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