Application Techniques for Automobiles, Vans and Buses

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General Information

- This Bulletin is specifically for the application of films used for complex contours of automobiles, vans and buses.
- Be sure you obtain and use the most current supporting Product and Instruction Bulletins referenced in this Bulletin.
- Make sure each applicator reads this Bulletin before beginning.
- Follow each step in the order given. Do not take short cuts.

Pre-installation Inspection Record Requirement

3M requires that a properly executed and signed Pre-installation Inspection Record be completed before any 3M graphics are applied. This record, which identifies any potential problem areas, is mandatory if a warranty claim is made in the future. Make a copy of the appropriate record, located at the end of this Bulletin, for each vehicle.

3M recommends graphics manufacturers clearly define mutual obligations between the vehicle graphics operating companies and themselves and strongly suggests that graphics manufacturers seek written limitations of claims or liabilities on individual vehicles for unsound paint.

Films and Inks

About Film Memory

Most traditional graphic film has a memory for its original shape. Stretching the film results in some shrinkage as it attempts to return to its original dimensions. As it shrinks, some minor tenting and lifting occurs. Heating traditional film helps void its memory, which reduces tenting and lifting.

3M™ Controltac™ Wrap Film with Comply™ Adhesive IJ380Cv3 features a new 3M technology that eliminates its memory once the film is applied providing superior conformability and lifting resistance in deep channels or concave areas.

Choosing the Best Film for Application to Contoured Surfaces

Covering complex curves and contours requires special techniques, including heating and stretching the film. The specific characteristics of a film and the inks with which it is printed, as well as whether the shape is concave or convex, determine how well the film stays bonded to the curved substrate. For the best application and removal results, we recommend 3M's 2-mil, removable or changeable graphic films. Two-mil films have less tendency to lift from contoured surfaces. Although all films may tent to some extent when stretched, films with changeable adhesive and all non-cast films tend to tent the most.

Recommended 3M films are listed below. Refer to the Product Bulletin for the films you are using for complete product construction recommendations, warranties and other important information.

Graphics made with the following constructions are not designed to be stretched and are not warranted for use on complex curves, contoured surfaces or deep draws:

- Polyolefin films and overlaminates, including 3M™ Controltac™ Graphic Film 3545C and 3M™ Scotchcal™ Overlaminates 8908 or 8909
- 3M™ Scotchlite™ Reflective Graphic Films (stretching damages the reflectivity)
- Polyester films or overlaminates such as 3M™ Scotchcal™ Overlaminates 8912, 8991 or 8991R.

Adhesive Considerations

The 3M recommended films are removable or changeable and have pressure-activated adhesive that is slideable, positionable and repositionable until film application pressure is applied. Many of these films also include 3M's original Comply™ Adhesive as well as Comply™ v2 Adhesive or Comply™ v3 Adhesive, all of which improve speed and ease of application with virtually no trapped air bubbles.

Films with changeable adhesive are typically recommended for applications of less than one year, These films have lower adhesion, usually in the range of 2 to 5 pounds per inch (0.4 to 0.9 kg/cm) peel-back adhesion, which allows the film to be removed easily without the aid of heat or chemicals and without adhesive residue. However, its lower adhesion may result in some lifting of film in areas where the film is highly stretched. In addition, such films may not adhere well to low surface energy (LSE) paints such as on 2007 Ford Econoline vans, Dodge Sprinter vans, etc. These potential application problems are not covered by any 3M warranty.

Effect of Ink on Film's Ability to Stretch

Unprinted films have the most ability to stretch. Graphics printed with UV piezo inkjet inks cannot be stretched as much as graphics printed with solvent inkjet inks without the UV inks showing signs of cracking, which is normal and not covered by the warranty. Keep this in mind when selecting a printing platform. Also read about the effective of using application heat with UV piezo inkjet inks on page 6. Refer to the specific ink and film Product Bulletins for comments on special application techniques or limitations of use.

Films Recommended for Short to Long Term Applications

Screen Printing

- 3M™ Controltac™ Graphic Film Series 180
- 3M™ Controltac™ Graphic Film with Comply™ Adhesive Series 180C
- 3M™ Controltac™ Graphic Film with Comply™ v2 Adhesive Series 180Cv2

Piezo Inkjet Printing

- 3M™ Controltac™ Graphic Film IJ180-10, RG180-10
- 3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ180C-10, all versions
- 3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ180Cv2-10, all versions
- 3M™ Controltac™ Graphic Film with Comply™ Adhesive IJ180Cv3-10, all versions
- 3M™ Controltac™ Wrap Film with Comply™ Adhesive IJ380Cv3-10
- 3M™ Controltac™ Graphic Film IJ380

Electrostatic Printing

- 3M™ Controltac™ Conformable Graphic Film 8620 ES
- 3M™ Controltac™ Conformable Graphic Film with Comply™ Adhesive 8620C ES
- 3M™ Controltac™ Conformable Graphic Film with Comply™ Adhesive 8620Cv2 ES
- 3M™ Controltac™ Conformable Graphic Film with Comply™ Adhesive 8620Cv3 ES

Films Recommended for Applications of LESS Than One Year

Screen Printing

- 3M™ Controltac™ Changeable Graphic Film Series 3552C

Piezo Inkjet Printing

- 3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive IJ3552C, FN3552C, RG3552C

Electrostatic Printing

- 3M™ Controltac™ Changeable Graphic Film Series 8652C ES

Health and Safety

⚠ CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

⚠ CAUTION

Any activity performed for a long period of time in an awkward position or with a high amount of force is potentially a risk for causing musculoskeletal strain, pain or injury. When applying graphics, follow these practices to improve comfort and avoid injury:

- Alternate your tasks during the application.
- Schedule regular breaks.
- Perform stretches or do exercises to improve circulation.
- Avoid awkward reaching.

Surface Preparation

Clean the Surface

All substrates must be considered contaminated. Clean the substrate immediately before applying the film. Dust and other contaminants can collect quickly on the substrate and prevent the film from adhering properly. Even a freshly painted substrate can collect dust before graphics can be applied.

1. Use a solution of 1 ounce of liquid dishwashing detergent, such as Joy® or Dawn®, per gallon of lukewarm water to thoroughly clean the vehicle. Rinse with water.
   - Avoid soaps or preparations that contain waxes, oils or lotions; some window cleaners contain waxes!
   - Be aware that the chemicals used in some automated vehicle washing equipment may prevent good film adhesion.
   - Pay particular attention to cleaning the front and rear of the vehicle, which tend to have more dirt, oil and dead insects.
2. Dry the surface thoroughly with clean, lint-free paper towels. A heat gun may be used to apply moderate heat and accelerate the drying.
   - Moisture prevents the adhesive from adhering correctly, can cause bubbles, and can freeze in cold environments. Any moisture trapped beneath the graphic will cause the graphic to fail prematurely.
   - Moisture on the substrate results from:
     - Inadequate drying after cleaning as well as from application solutions.
     - Condensation at low temperatures.
     - High humidity environments.
3. Wipe the surface again with a solvent-based cleaner. Refer to the list of cleaners, page 3. Be sure that the cleaner does not damage the vehicle's paint.

   Note: Car wax can greatly reduce graphic adhesion. Solvent-based cleaners must be used to thoroughly remove any wax residue. Alcohol-based cleaners do *not* remove wax as effectively.

   a. Saturate a clean paper towel with a solvent.

   b. Wipe with a lint-free paper towel before the solvent evaporates from the substrate. As the paper towel becomes dirty, discard it. A dirty towel will simply move the dirt around, rather than remove it.

   c. Make sure the substrate is completely dry. If necessary, use a heat gun to dry any retained solvents.
4. Apply the graphic immediately. Dust and contaminants prevent the adhesive from performing as expected.

Air Quality Regulations

State Volatile Organic Compound (VOC) regulations may prohibit the use of certain cleaning solutions. For example, the California South Coast Air Quality Management District prohibits use of certain solvent based solutions without a permit and other California AQMD's prohibit use of certain solutions without a permit or a regulatory exemption. You should check with your State environmental authorities to determine whether use of this solution is restricted or prohibited.

Cleaning Products and Tools

This list of cleaners is provided for your convenience; other acceptable cleaners may be available. 3M does not endorse any particular chemical manufacturer or supplier.

Lower Solvent Content Cleaners

- 3M™ Prep Solvent-70, 8983 [1]
- Other suitable products may be available from your local building products store.

Petroleum Distillate-based Cleaners

- 3M™ Adhesive Cleaner and Wax Remover 8984 [1]
- DuPont Prep-Sol™ Solvent Cleaner 3919S [2]
- Sherwin Williams R7K156 Sher-Will-Clean™ [2]
- Sherwin-Williams R7K158 Sher-Will-Clean™ [2]

Application Tools

- 3M™ Plastic Applicator (squeegee) PA-1[1]
- 3M™ Low Friction Sleeve SA-1[1] *Use a low friction sleeve on the plastic applicator to minimize the possibility of surface scratching.)*
- 3M™ Scotchmate™ Reclosable Hook and Loop Fastener - Loop portion SJ-3523[1] *apply to applicator PA-1 as an alternate to sleeve SA-1*
- 3M™ Rivet Brush RBA-1 [1] or RBA-3 [1]
- 3M™ Air Release Tool 391X [1]
- 3M™ Tape Primer 94 [1]
- 3M™ Vehicle Channel Applicator Tool VCAT-2 [1] *See page NO TAG for information.*
- 3M™ Roller L and Roller S [1] *See page 5 for information.*
- 3M™ Citrus Base Industrial Cleaner [1]
- Snap-off cutting knives or razor blades in safety holders.
- Industrial heat gun, or the equivalent, that is capable of attaining at least 500°F (260°C)
- Cotton gloves

[1] Available from 3M Commercial Graphics Division.

[2] Available from automobile supply houses handling DuPont or Sherwin Williams products.

[3] Available from chemical companies listed under “Solvents" in the Yellow Pages or mail order chemical firms, such as E. H. Sargent and Co. and Fisher Scientific.

Application Temperature and Environment

Best Application Temperature

For the best success with the films recommended for vehicle graphics, always apply the graphics when the air and vehicle surface are both above 60°F (16°C).

Cool Application Conditions

If the temperature is too cool, move the vehicle indoors to bring its surface temperature up to at least the minimum application temperature.

Below the recommended minimum application temperature:

- Films are not able to maintain the elevated temperatures required for stretching; films will cool too quickly.
- The initial bond of the adhesive may be insufficient to ensure the film stays adhered.
- Moisture may condense on the vehicle surface if the temperature of the vehicle surface is below the dew point.
- In very humid conditions, it may be difficult to keep the substrate dry.

Very Warm Application Conditions

If the temperature is too warm, move the vehicle indoors or into the shade and be sure the vehicle surface cools to below 90°F (32°C) before beginning the installation.

Above the recommended maximum application temperature:

- Graphics may pre-adhere thereby trapping air.
- The adhesive will be more aggressive.
- Controltac films may lose their positionability feature.
- The film may stretch.

Post-Application Conditions

After application of the graphic, keep the vehicle temperature above 60°F (16°C) for as long as possible—at least 12 hours is ideal—before exposing the vehicle to either a cold or wet climate; this strengthens the graphic's bond to the contoured areas.

How to Reduce or Avoid Film Lifting

Identify all areas on the vehicle where the graphics may tend to lift such as in concave channels, inside wheel wells and other underside areas of the vehicle.

Use Tape Primer

1. Use 3M's tape primer 94 to promote better film adhesion where the film will be stretched.
   - In **concave channels**, apply a thin layer of primer over most of the concave area. Allow the primer to dry for five minutes.
   - When going around **convex areas**, apply a thin layer of primer at the outer edges of the curve to prevent film edge lifting. Allow the primer to dry for five minutes.

Flat Areas First

2. Apply the film to flat areas of the vehicle first.

   Avoid areas at the underside of the vehicle. These areas are usually too difficult to clean sufficiently for proper film adhesion.

Soften Film with Heat

Important Note!

If you are using graphics printed with UV ink, read *Graphics Printed with UV Piezo Inkjet Inks are Heat Sensitive!*, page 6, before continuing.

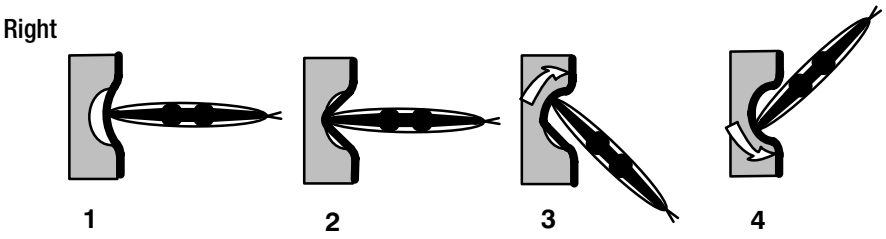
3. Use heat to soften the film when stretching it around and into complex curves.
   a. Use as much heat as possible to soften the film without burning it. Typically, heat the film to about 180°F (82°C) for convex and concave areas including bumpers and channels.

   Note: Films IJ380 and IJ380Cv3 are much softer films and need to be heated to only 120-130°F (50-55°C).

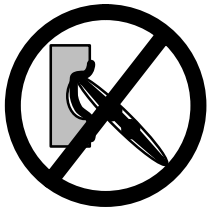
   b. Film cools within seconds so gently stretch the film immediately after the heat source is removed. The film should be too hot to touch with unprotected hands; be sure to wear cotton gloves.

   c. To apply film into concave channels, use cotton gloves or use a squeegee with a low friction sleeve or Scotchmate loop material. Press the heated and softened film into the middle of the channel first so that the film is stretched evenly across the channel. See FIGURE 1.

FIGURE 1
Technique For Stretching Heated Film into Channels



Wrong



d. (indent 0.2")Another option for deep channels is to use the 3M licensed vehicle channel applicator tool VCAT-2 or the Roller L tool to effectively work the heated film into deep channels. See FIGURE 2. Proper technique includes bridging the film over the channels, heating the film to about 180°F (82°C), and then working it into the channels. Note that films IJ380 and IJ380Cv3 needs to be heated to only 130°F (55°C). It is essential that you refer to Product and Instruction Bulletin VCAT-2 for complete details.

FIGURE 2
Technique For Stretching Heated Film into Channels



Tool V-Cat2



Tool Roller L

Graphics Printed with UV Piezo Inkjet Inks are Heat Sensitive!

UV piezo inkjet inks will crack if too much heat and stretching are used during graphic application to complex curves and deep contours as well as around rivets: this is considered normal and not covered by warranty. When using a heat gun or other heat source during application, make sure the film surface temperature does not exceed 212°F (100°C).

Using additional heat in the post-application process may also cause UV piezo ink to crack.

For the best results *always do a test application* of a UV-piezo printed graphic to determine how much heat can be used without damaging the image.

Use Heat in Post-Application

4. After the film has been applied, apply heat to the graphic to reduce the internal stress in the vinyl film.
   a. Adjust the heat source so that the film temperature is too hot to touch—about 200°F (94°C).
   b. Move the heat source slowly across the stretched film surface.
   c. For best performance, press the stretched areas of film with 3M roller S while the vinyl is still hot. This helps fully wet-out the adhesive onto the substrate and reduces the risk of lifting. See FIGURE 3.

FIGURE 3
Use Roller S for Post-Application Finishing to Help Prevent Lifting



Stretching in Deep Channels

5. Cutting the film in deep channels relieves the inherent stress of the applied film. This technique is used with films for longer term applications, such as film 180 or 180C. Cutting is *not* recommended for shorter-term films with changeable adhesive, such as film 3552C.

   In general, cutting is not necessary if the previous application techniques have been followed unless the film is expected to lift in the high stress areas or non-recommended films were used.

Cutting Technique

a. Identify areas where the film is stretched to greater than 130% (or 150% for films IJ380 and IJ380Cv3 with solvent-based piezo inks) of the original film dimension *and* the radius of the channel is 1/4 inch or less. See FIGURE 4. To determine the percent of stretch, measure the travel distance through the channel and divide by the length across the channel (example: 1.8" / 1.0" = 180%). See FIGURE 5.

FIGURE 4
Checking Radius of Channel

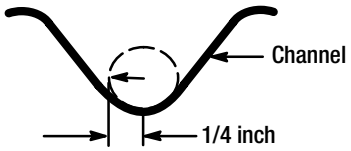
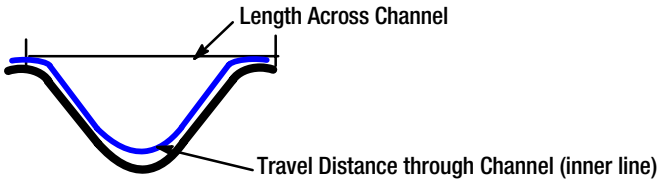
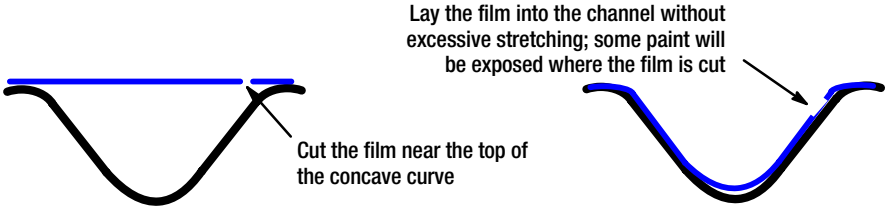


FIGURE 5
Determine Percent of Stretch



b. Cut the film near the top of the concave curve and lay into the channel without excessive stretching; this avoid lifting of the film. Some paint will be exposed in the finished application, but should not be visible in a well planned cut. See FIGURE 6.

FIGURE 6
Cut the Film in the Channel



Application Techniques

Application Procedure

1. Use firm, even application pressure.
2. Use overlapping squeegee strokes to be sure you don't miss any areas. Firm, consistent pressure with an applicator tool must be applied over all parts of the graphic to bond the adhesive to the substrate. A missed area leaves wrinkles and bubbles in the applied film. These are areas where premature film failures may occur.
3. Carefully cut the film at all seams in vehicle body panels, being sure not to scratch the paint. Seams on vehicles flex as the vehicle moves. If they are not cut, the graphics will pull away from the seam, resulting in premature failure.
4. Strive for a bubble-free application. Although puncturing air bubbles improves the appearance of the graphic, it can contribute to premature graphic failure if the film is torn or cut rather than neatly punctured.
5. Re-squeegee all edges and overlaps to ensure good adhesion before releasing the vehicle for use.

Avoid These Applications

- **Do not apply film in any way that restricts the safe operation of emergency window exits**. See the most current Instruction Bulletin 5.4 for details.
- Avoid applying graphics to unpainted plastic substrates. 3M does not warrant the application of film to textured plastic substrates under any circumstances. However, if you wish to try, using heat and a rivet brush to conform the film to the texture may be satisfactory for an unwarranted application.
- Do not apply the films to rubber, silicone or flexible plastics. The adhesive on the recommended films does not adhere to these materials.

⚠ WARNING

Special Bus Application Safety Information

The Office of Vehicle Safety Compliance of the U.S. National Highway Traffic Safety Administration (NHTSA) has asked for 3M's assistance in communicating an important safety concern. NHTSA has observed that graphic films used for bus wraps could be, and in some cases have been, applied in such a way as to block or restrict emergency window exits.

Penalties For Non-compliance

Failure to trim film away from rubber gaskets surrounding emergency exit windows can render an emergency exit inoperable. This is a violation of Title 49 United States Code section 30122. Substantial civil penalties as set forth in Title 49 United States Code section 30165 may be incurred for such a violation.

Important Information in Instruction Bulletin 5.5

Refer to Instruction Bulletin 5.5 for:

- Graphic placement
- Making film overlaps
- Registering the graphic
- Removing the adhesive's liner
- Application sequences (that apply to your type of graphic)

Removal

Refer to the film's Product Bulletin for information on its removability, and Instruction Bulletin 6.5 for additional details on film removal.

Removal of short-term graphics with changeable adhesives will leave little or no adhesive residue. These films will not damage a soundly painted surface or a previously applied 3M vinyl graphic unless the surface was corroded, rusted, blistered, scratched or previously damaged, or if it was damaged since the graphic application.

To remove a changeable film, grasp a corner of the graphic and peel it back at approximately a 120 degree angle. In areas where tape primer 94 is used, some adhesive will remain on the vehicle. Any remaining adhesive and tape primer 94 can be removed with an adhesive cleaner such as 3M's citrus base industrial cleaner.

Warranty and Limited Remedy

The information contained and techniques described herein are believed to be reliable, but 3M makes no warranties, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. 3M shall not be liable for any loss or damages, whether direct, indirect, special, incidental or consequential, in any way related to the techniques or information described herein.

3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at 3Mgraphics.com. The following applicable Bulletins provide information and processes you need to properly make the graphics described in this Bulletin. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M™ Controltac™ Graphic Film with (or without) Comply™ Adhesive Series 180, 180C, 180Cv2	PB	180/180C
3M™ Controltac™ Changeable Graphic Film Series 3552C	PB	3552C
3M™ Controltac™ Conformable Graphic Film with (or without) Comply™ Adhesive 8620, 8620C, 8620Cv2, 8620Cv2	PB	8620/8620C
3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive 8652C ES	PB	8652C
Vehicle Channel Applicator Tool VCAT-2, Roller L, Roller S	PB-IB	V-Tools
3M™ Controltac™ Wrap Film with Comply™ Adhesive IJ380Cv3	PB	PIJ380Cv3
3M™ Controltac™ Graphic Film IJ380	PB	PIJ380
3M™ Controltac™ Graphic Film with (or without) Comply™ Adhesive IJ180, IJ180C, IJ180Cv2, IJ180Cv3 all versions	PB	PIJ180/180C
3M™ Controltac™ Changeable Graphic Film with Comply™ Adhesive IJ3552C all v ersions	PB	PIJ3552C
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, special applications and vehicles	IB	5.4
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Storage, handling, maintenance, removal	IB	6.5
3M Graphics Center Warranty Brochure		

Warranties

3M, the 3M logo and MCS are trademarks of 3M.
Dawn and Joy are registered trademarks of Proctor and Gamble.; Sher-Will-Clean is a trademark of Sherwin-Williams Company. All other trademarks are the property of their rightful owners.

Bulletin Change Summary

New films IJ380Cv3 and IJ180Cv3 (all versions) and 8620Cv2 ES and 8620Cv3 ES have been added as recommended products. Additional detail about the effect of heat and stretching on UV piezo inkjet printed graphics has been added. Modified and new content is marked with a black bar in the margin.

PLEASE NOTE THESE REQUIRED FORMS on the following pages:

3M Auto and Van Graphics Pre-installation Inspection Record pages 10, 11

3M Bus and Mini-Bus Graphics Pre-installation Inspection Record pages 12, 13

Commercial Graphics Division
3M Center, Building 220-12E-04
PO Box 33220
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Technical Info. 1-800-328-3908
Fax 1-651-736-4233

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Canada N6A 4T1
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Fax 519-452-6245

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México, D.F. 01210
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Fax 52-55-52-70-22-77

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Fax 787-750-3035

www.3Mgraphics.com

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3M Auto and Van Graphics Pre-installation Inspection Record *Page 1 of 2*

Note: Complete both pages of this Pre-installation Inspection Record, using a separate record for each vehicle, before each new graphic installation and between subsequent graphic installations on the same vehicle.

Installer Requirements

1. Carefully and thoroughly examine each vehicle and record all potential problem areas prior to installing the graphics. We recommend washing the vehicle so that potential problem areas are easily seen.
2. Ensure that the paint is sound so that graphics will have good adhesion to the paint. For the purpose of this program, ◻sound paint" is defined as paint that is free of defects (see the “Defects" bullet below).

   Circle all areas on the following diagram where your inspection shows that the paint may be unsound, the graphic may adhere poorly, or graphic removal may damage the vehicle paint. This includes:

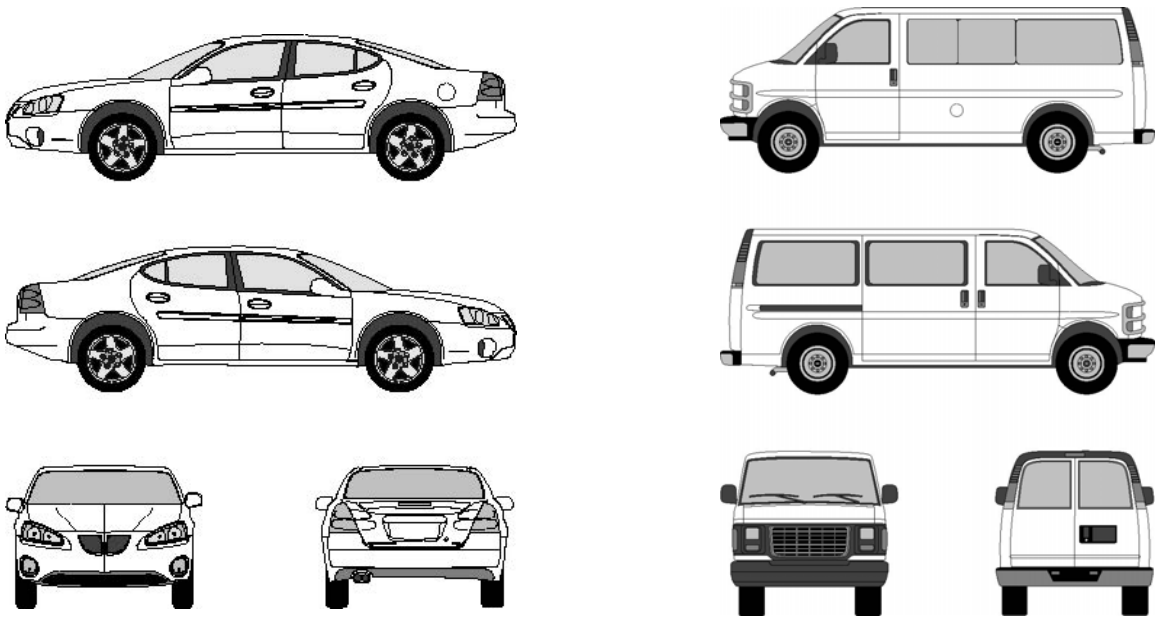
   - Defects: loose paint, dents, rough surface, fillers used for damage, rust or blistered paint.
   - Areas where water can collect, which are more likely to rust, resulting in paint adhesion problems.

Note: Primer, which does not outgas, may be applied to bad paint spots on the vehicle to prepare it for another graphic wrap. However, this must still be considered a problem area and must be documented on the Pre-installation Inspection Record.

3. Photograph all areas that you circled on the diagram as exhibiting unsound paint.
4. Explain proper graphic maintenance to the Vehicle Owner/Operator. See Instruction Bulletin 6.5.
5. Complete the Pre-installation Inspection Record (see the next page of this document).
6. Make and distribute copies to all signing parties.
7. Maintain a file with the signed form and photographs.

Warranty Claims and Exceptions

1. Failure to obtain a properly executed and signed Pre-installation Inspection Record (see the next page of this document) prior to graphic installation voids all expressed or implied 3M product warranties.
2. If the pre-inspection shows the paint is not free of defects, the owner of the vehicle waves all expressed or implied 3M product warranties.
3. 3M makes no warranty (expressed or implied) for paint or existing graphic damage that occurs during the removal of a graphic. See the 3M™ MCS™ Warranty for complete details at www.3Mgraphics.com
4. To make a claim, contact 3M Commercial Graphics Division Quality Direct at 1-800-511-3705 or go to www.scotchprint.com/qualitydirect. Be prepared to send in:
   - A piece of the 3M film exhibiting the defect.
   - A properly executed and signed 3M Pre-installation Inspection Record, including any available photographs.



Circle all areas where the paint may be unsound. Mark only one vehicle type.

(Diagrams courtesy of Digital Auto Library, 1–888–843–1325 or www.digitalauto.on.ca)

3M Auto and Van Graphics Pre-installation Inspection Record

COMPLETE THIS FORM, PROVIDE A COPY FOR EACH SIGNER AND RETAIN WITH PHOTOGRAPHS IN CASE OF A CLAIM.

Please print except in signature boxes.

AUTOMOBILE OWNER/OPERATOR
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER
GRAPHICS PRINTER
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER
GRAPHICS INSTALLER
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER

AUTOMOBILE INFORMATION	
LICENSE NUMBER	STATE
AUTOMOBILE YEAR, MAKE AND MODEL	
VIN NUMBER	
AUTOMOBILE OWNER/OPERATOR	
PRE–INSPECTION: (see the previous page of this bulletin for inspection requirements) ❑ PASSED (DATE: _____ BY: _____) ❑ FAILED (Owner waives all product warranties if graphics are applied)	
PHOTOGRAPHS OF POTENTIAL PROBLEM AREAS: ❑ YES (DATE: _____ BY: _____) ❑ NO	
GRAPHIC CONSTRUCTION AND INSTALLATION INFORMATION	
INSTALLATION DATE	
GRAPHIC COVERAGE ❑ FULL ❑ REAR ONLY ❑ TRUNK ONLY ❑ DRIVER SIDE ONLY ❑ PASSENGER SIDE ONLY	
SUBSTRATE CLEANED AND PREPARED ACCORDING TO 3M RECOMMENDATIONS: ❑ YES (DATE: _____ BY: _____)	
FILM & GRAPHIC PROTECTION USED	
SIGNATURES OF ALL PARTIES	
INSTALLER	/ DATE
AGENCY REPRESENTATIVE	/ DATE
AUTOMOBILE OWNER/OPERATOR	/ DATE

3M Bus & Mini–Bus
Graphics Pre-installation Inspection Record

Installer Requirements

Note: Complete both pages of this Pre-installation Inspection Record, using a separate record for each vehicle, before each new graphic installation and between subsequent graphic installations on the same vehicle.

1. Carefully and thoroughly examine each vehicle and record all potential problem areas prior to installing the graphics. We recommend washing the vehicle so that potential problem areas are easily seen.
2. Ensure that the paint is sound so that graphics will have good adhesion to the paint. For the purpose of this program, “sound paint" is defined as paint that is free of defects (see the “Defects" bullet below).

   Circle all areas on the following diagram where your inspection shows that the paint may be unsound, the graphic may adhere poorly, or graphic removal may damage the vehicle paint. This includes:

   - Defects: loose paint, dents, rough surface, fillers used for damage, rust or blistered paint.
   - Areas where water can collect, which are more likely to rust, resulting in paint adhesion problems.

Note: Primer, which does not outgas, may be applied to bad paint spots on the vehicle to prepare it for another graphic wrap. However, this must still be considered a problem area and must be documented on the Pre-installation Inspection Record.

3. Photograph all areas that you circled on the diagram as exhibiting unsound paint.
4. Explain proper graphic maintenance to the Vehicle Owner/Operator. See Instruction Bulletin 6.5.
5. Complete the Pre-installation Inspection Record (see the next page of this document).
6. Make and distribute copies to all signing parties.
7. Maintain a file with the signed form and photographs.

Warranty Claims and Exceptions

1. Failure to obtain a properly executed and signed Pre-installation Inspection Record (see the next page of this document) prior to graphic installation voids all expressed or implied 3M product warranties.
2. If the pre-inspection shows the paint is not free of defects, the owner of the vehicle waves all expressed or implied 3M product warranties.
3. 3M makes no warranty (expressed or implied) for paint or existing graphic damage that occurs during the removal of a graphic. See the 3M™ MCS™ Warranty for complete details at www.3Mgraphics.com.
4. To make a claim, contact 3M Commercial Graphics Division Quality Direct at 1-800-511-3705 or go to www.scotchprint.com/qualitydirect. Be prepared to send in:
   - A piece of the 3M film exhibiting the defect.
   - A properly executed and signed 3M Pre-installation Inspection Record, including any available photographs.



Circle all areas where the paint may be unsound. Mark only one vehicle type.

(Diagrams courtesy of Digital Auto Library, 1–888–843–1325 or www.digitalauto.on.ca)

3M Bus & Mini–Bus
Graphics Pre-installation Inspection Record

COMPLETE THIS FORM, PROVIDE A COPY FOR EACH SIGNER AND RETAIN WITH PHOTOGRAPHS IN CASE OF A CLAIM.

Please print except in signature boxes.

BUS OWNER/OPERATOR
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER
GRAPHICS PRINTER
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER
GRAPHICS INSTALLER
COMPANY NAME
CONTACT NAME
STREET ADDRESS
CITY / STATE / ZIP
AREA CODE / PHONE NUMBER

BUS INFORMATION
LICENSE NUMBER
BUS YEAR, MAKE AND MODEL
VIN NUMBER
BUS OWNER/OPERATOR
PRE–INSPECTION: (see the previous page of this bulletin for inspection requirements) ❑ PASSED (DATE: _____ BY: _____) ❑ FAILED (Owner waives all product warranties if graphics are applied)
PHOTOGRAPHS OF POTENTIAL PROBLEM AREAS: ❑ YES (DATE: _____ BY: _____) ❑ NO
GRAPHIC CONSTRUCTION AND INSTALLATION INFORMATION
INSTALLATION DATE
GRAPHIC COVERAGE ❑ FULL ❑ BODY ONLY ❑ WINDOWS ONLY ❑ QUEEN PANELS ONLY ❑ KING PANELS ONLY
SUBSTRATE CLEANED AND PREPARED ACCORDING TO 3M RECOMMENDATIONS: ❑ YES (DATE: _____ BY: _____)
FILMS/OVERLAMINATES USED
SIGNATURES OF ALL PARTIES
INSTALLER / DATE
AGENCY REPRESENTATIVE / DATE
BUS OWNER/OPERATOR / DATE