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SURFACE VEHICLE RECOMMENDED PRACTICE

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(R) STATIONARY SAFETY GLAZING REPLACEMENT

1. ***Scope—***This SAE Recommended Practice provides guidelines for automotive vehicle glass replacement shops and their personnel in the correct replacement practices, materials, and procedures for stationary safety glazing components. The design of today's automotive vehicles and the development of new technology can directly influence occupant safety and vehicle structural integrity. The correct installation of stationary safety glazing components can contribute directly to occupant safety and structural integrity of the vehicle.

2. ***References***

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein.

2.1.1 FMVSS PUBLICATIONS—Available from the Superintendent of Documents, U. S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320.

FMVSS 205—Glazing Materials
FMVSS 208—Occupant Crash Protection in Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses
FMVSS 212—Windshield Mounting
FMVSS 219—Windshield Zone Intrusion

3. ***Definitions***

3.1 Stationary Glazing Components

3.1.1 WINDSHIELD—A transparent glass and plastic composite, forward of the occupants in a vehicle, intended to protect them from the exterior environment, to provide for driver visibility, and to minimize risk of injury in the event of an accident. It may be partially or fully encapsulated around the entire periphery. It is normally bonded around the entire periphery into the vehicle, contributing to occupant safety and structural integrity.

3.1.2 REAR WINDOW—A glass or glass and plastic composite, which may be transparent, as required by FMVSS 205, rearward of the occupants in a vehicle, intended to protect them from the exterior environment, to provide for driver visibility to the rear, as required, and to minimize risk of injury in the event of an accident. It may be partially or fully encapsulated around the entire periphery. It is normally bonded around the entire periphery into the vehicle, contributing to occupant safety and structural integrity.

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3.1.3 STATIONARY SIDE WINDOWS—Non-movable glass or glass and plastic composite, which may be transparent, as required by FMVSS 205, on either or both sides of a vehicle adjacent to the occupant seating positions, or rearward of occupant seating positions on either or both sides of the vehicle, intended to protect them from the exterior environment, to provide for driver visibility as required, and to minimize risk of injury in the event of an accident. They may be partially or fully encapsulated around the entire periphery. They are normally bonded around the entire periphery into the vehicle, providing occupant safety and structural integrity.

3.2 Butyl Tape Adhesive—A non-structural extruded rope form of compounded butyl rubber and associated primers.

3.3 Urethane Adhesive—A structural, flow gun applied, compounded, and non-cured as applied urethane rubber and associated glass and metal primers. It may be a one part, or two part material as used. Most vehicle manufacturers use the one part material which is cured in place, at a specified humidity, temperature, and time.

3.4 Rubber Gasket—An extruded solid rubber channel designed to hold a glazing component around its entire periphery, and to provide a mechanical attachment to a flange in a body opening.

3.5 Installation Aids—Materials designated or recommended by the vehicle manufacturers or urethane suppliers which are used to ease or simplify installation of glazing components. These materials are compatible with all other materials used in the installation of the stationary glazing. Their use does not result in a loss of adhesion of the installed components or of structural integrity.

4. Discussion—Stationary safety glazing components may be installed using a variety of materials, including but not limited to, rubber gaskets, butyl tape adhesives, and urethane adhesives. Urethane adhesives are the most common installation material used for OE fixed glazing applications. Manufacturers have found that urethane adhesives possess greater adhesive strength when compared to most other types of installation materials. Urethane is readily distinguished from other adhesives and tapes by its greater hardness and structural rigidity. For windshield installation, approved urethane adhesives can contribute to compliance with the requirements of FMVSS 212.

The construction of most automotive vehicles involves the use of rubber gaskets and/or adhesives. Selected materials, installation aids, and procedures have been tested and approved by the automotive vehicle manufacturers and are recommended by them for use in these applications. When these materials are used in OE assemblies, the automotive vehicle manufacturers require that the same approved materials, installation aids, and processes be used by any automotive or glass replacement shop. The approved rubber gaskets, adhesives, and installation aids are clearly identified by Chrysler Corporation, Ford Motor Company, General Motors Corporation, and most other automotive manufacturers in their respective shop or service manuals. These shop or service manuals generally are available to all automotive and glass replacement shops. Urethane adhesive information also is available from approved urethane adhesive suppliers.

When replacing automotive vehicle safety glazing components that were installed by the original automotive vehicle manufacturer where urethane adhesives and installation aids were used for assembly, it is extremely important to use the same approved urethane adhesive and installation aids in order to ensure proper installation, occupant safety, and vehicle structural integrity.

Proper installation of the windshield component is necessary to satisfy the requirements of the windshield mounting safety standard (FMVSS 212), the windshield zone intrusion safety standard (FMVSS 219), and the occupant crash protection standard (FMVSS 208). Further, the design of airbag systems, including explosive devices and deployment doors, considers the windshield as a component part of the airbag system, providing additional cause for adherence to the original OE approved windshield installation procedures and materials. Care must be taken during the windshield replacement to ensure that the airbag sensor or other devices of the airbag deployment system remain functional upon completion of the installation.

5. Notes

5.1 Marginal Indicia—The change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

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