WEST VIRGINIA
SECRETARY OF STATE
KEN HECHLER
ADMINISTRATIVE LAW DIVISION
Form #3

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OFFICE OF WEST VIRGINIA SECRETARY OF STATE

NOTICE OF AGENCY APPROVAL OF A PROPOSED RULE AND FILING WITH THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

AGENCY: Division of Motor Vehicles TITLE NUMBER: 91CSR12

CITE AUTHORITY 17A-2-9, 17A-16-4

AMENDMENT TO AN EXISTING RULE: YES X NO

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 12

TITLE OF RULE BEING AMENDED:

Motor Vehicle Inspection Manual

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED:

TITLE OF RULE BEING PROPOSED:

THE ABOVE PROPOSED LEGISLATIVE RULE HAVING GONE TO A PUBLIC HEARING OR A PUBLIC COMMENT PERIOD IS HEREBY APPROVED BY THE PROMULGATING AGENCY FOR FILING WITH THE SECRETARY OF STATE AND THE LEGISLATIVE RULE MAKING REVIEW COMMITTEE FOR THEIR REVIEW.

Jane L. Cline, Commissioner

7.20

WEST VIRGINIA
DEPARTMENT OF TRANSPORTATION
1900 Kanawha Boulevard East • Building Five • Room 109
Charleston, West Virginia 25305-0440 • 304/558-0444

Gaston Caperton
Governor

Fred VanKirk, P.E.
Secretary
Commissioner of Highways

June 4, 1996

The Honorable Ken Hechler
Secretary of State
State Capitol Complex, Building 1
Charleston, West Virginia 25305

Dear Mr. Secretary:

The Commissioner of Motor Vehicles is hereby authorized to promulgate proposed amendments to 91 SCR 12, Motor Vehicle Inspection Manual.

Very truly yours,

Fred VanKirk, P.E.
Secretary, Department of Transportation
Commissioner of Highways

FV:h

Enclosure

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Motor Vehicles
1800 Kanawha Boulevard East • Building Three
Charleston, West Virginia 25317-0010

Gaston Caperton
Governor

Fred VanKirk, P.E.
Secretary
Commissioner of Highways

Jane L. Cline
Commissioner

91 CSR 12
Motor Vehicle Inspection Manual
Proposed Legislative Rule

Summary of Content

The purpose of this rule is to incorporate by reference the Motor Vehicle Inspection Manual as revised and promulgated by the Superintendent of the West Virginia State Police.

These revisions update the Motor Vehicle Inspection Manual which motor vehicle inspection stations use to guide the annual inspection process. The State Police are responsible for the actual inspection program and the licensing and regulation of the inspection stations.

The revisions to the manual which was last revised in 1986, incorporates new information on new types of vehicle systems such as anti-lock brakes and restraints, update tolerances on parts to newer standards suggested by the manufacturers, and revised diagrams and charts. A new section describing the administrative hearing process for licensees appealing a decision by the Superintendent is also included.

Jane L. Cline
Commissioner

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Motor Vehicles
1800 Kanawha Boulevard East • Building Three
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91 CSR 12
Motor Vehicle Inspection Manual
Proposed Legislative Rule

Statement of Circumstances Requiring Filing

The Motor Vehicle Inspection Program prescribed in West Virginia Code Chapter 17C, Article is administered by the West Virginia State Police. The State Police are responsible for the licensing and regulation of inspections stations. However, the provisions of West Virginia Code §17C-16-4 places the authority for the actual promulgation of the rules which govern the program with the Commissioner of Motor Vehicles.

The State Police have revised and updated the Motor Vehicle Inspection Manual. Consequently the newly revised manual as promulgated by the State Police is by this rule, incorporated by reference.

Jane L. Cline
Commissioner

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: Motor Vehicle Inspection Manual 91CSR12

Type of Rule: X Legislative ____Interpretive ____Procedural

Agency Division of Motor Vehicles

Address Building 3, Capitol Complex

Charleston, Wv 25517

1. Effect of Proposed Rule

	ANNUAL		FISCAL YEAR		
	INCREASE	DECREASE	CURRENT	NEXT	THEREAFTER
ESTIMATED TOTAL COST	$ 0	$ 0	$ 0	$ 0	$ 0
PERSONAL SERVICES					
CURRENT EXPENSE					
REPAIRS & ALTERNATIONS					
EQUIPMENT					
OTHER					

2. Explanation of above estimates:

Implementation of this rule will have no fiscal impact on the state. The Motor Vehicle Inspection Program is already in place.

3. Objectives of these rules:

This rule updates the existing critera for the annual inspection of motor vehicles by inspection stations licnesed by the West Virginia State Police.

Rule Title: Motor Vehicle Inspection Manual

4. Explanation of Overall Economic Impact of Proposed Rule.

A. Economic Impact on State Government.

None

B. Economic Impact on Political Subdivisions; Specific Industries; Specific groups of Citizens.

None

C. Economic Impact on Citizens/Public at Large.

None

Date: June 5, 1996

Signature of Agency Head or Authorized Reprensentative

Jane L. Cline, Commissioner

(PROPOSED)
WEST VIRGINIA LEGISLATIVE RULES
DIVISION OF MOTOR VEHICLES
91 CSR 12

Title: Motor Vehicle Inspection Manual

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§91-12-1 General

1.1. Scope - This legislative rule relates to the Motor Vehicle Inspection Manual.

1.2. Authority- West Virginia Code §17A-2-9, §17C-16-4.

1.3. Filing Date -

1.4. Effective Date-

1.5. Repeal of Former Rule- This legislative rule repeals West Virginia Legislative Rules, Division of Motor Vehicles, 91 CSR 6, Vehicle Inspection Manual, as filed May 19, 1965 and April 6, 1986.

1.6. Application and Enforcement - This legislative rule applies to the administration and enforcement of the motor vehicle inspection laws of this state. Enforcement to this rule is vested with the Commissioner of Motor Vehicles and the Superintendent of the State Police.

§91-12-2 Motor Vehicle Inspection Manual

2.1. Incorporation by reference- The Commissioner of Motor Vehicles hereby incorporates by reference the Official Motor Vehicle Inspection Manual as promulgated by the Superintendent of the West Virginia State Police, revised April, 1996.

DATE: August 7, 1996

TO: LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

FROM: Jane L. Cline, Commissioner

LEGISLATIVE RULE TITLE: Motor Vehicle Inspection Manual

1. Authorizing statute(s) citation WV Code 17A-2-9, 17C-16-4

2. a. Date filed in State Register with Notice of Hearing: June 6, 1996

   b. What other notice, including advertising, did you give of the hearing?

   Please see attached list.

   c. Date of hearing(s): Public Comment Period, June 6, 1996 through July 15, 1996

   d. Attach list of persons who appeared at hearing, comments received, amendments, reasons for amendments.

   Attached XX No comments received ____

   e. Date you filed in State Register the agency approved proposed Legislative Rule following public hearing: (Be exact.)

   August 15, 1996

   f. Name and phone number(s) of agency person(s) to contact for additional information:

   First Lt. R.D. Totten, WV State Police, 746-2124

   Steven O. Dale, WVDMV, 558-2723

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Motor Vehicles
1800 Kanawha Boulevard East • Building Three
Charleston, West Virginia 25317-0010

Gaston Caperton
Governor

Fred VanKirk, P.E.
Secretary
Commissioner of Highways

Jane L. Cline
Commissioner

91 CSR 12 (6/96)
Persons/Organizations Notified of Public Comment Period

West Virginia Automobile and Truck Dealers
1618 Kanawha Boulevard, East
Charleston, WV 25311

Capitol Press Service
Main Building, Room 46
Capitol Complex

Executive Vice-President
American Automobile Association
WV State Association
4001 MacCorkle Avenue, S.E.
Charleston, WV 25304

Superintendent of the State Police
725 Jefferson Road
South Charleston, WV 25309

First Lieutenant W.D. Totten
West Virginia State Police
725 Jefferson Road
South Charleston, WV 25309

Doris Lea
Post Office Box 6241
Charleston, WV 25362

John Canfield
State Farm Insurance
2403 Fairlawn Avenue
Dunbar, WV 25064

WV Gasoline Dealers and
Automotive Repair Association
1104 Norway Avenue
Huntington, WV 25701

WV Safety Council
1614A Washington St., East
Charleston, WV 25311

WV Motor Truck Association
Post Office Box 5187
Charleston, WV 25361

WV Rebuilders Association
John Mazzie
Post Office Box 35
Bridgeport, WV 26330

WV Independent Auto Dealers
Association
Bart Waddell
Post Office Box 52
Buckhannon, WV 26210

National Windshield Repair Assoc.
1251 Eisenhower Boulevard
Harrisburg, PA 17111

Jane L. Cline, Commissioner

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Motor Vehicles
1800 Kanawha Boulevard East • Building Three
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91 CSR 12
Motor Vehicle Inspection Manual
Proposed Legislative Rule (1996)
Summary of Public Comment

Two comments were received as attached:

1. David Taylor, President
   National Windshield Repair Association
   Harrisburg, Pennsylvania

2. Richard A. Campfield, President
   Ultra Bond, Inc.
   Grand Junction, Colorado

Summary of Issue:

Both comments address the issue of windshield repair verses windshield replacement. The commenters feel that the windshield repair standards found on page 46 of the manual are too strict. Their position is that repairs should be allowed and that such repairs are safe and environmentally sound.

Agency Response:

The position of the West Virginia State Police is that any repairs to the acute area and certain types of repairs to the critical area may affect outward visibility under adverse light and weather conditions. Insufficient evidence has been presented to assure that these repairs will not affect the safe operation of the vehicle.

Opportunities for windshield repair were expanded in the proposed manual because of discussions with the windshield repair industry. These changes sufficiently balance the economic and environmental advantages of windshield repair with the safety concerns of repairs to the acute area of the windshield. Windshield repair is certainly less expensive to the consumer, however, these savings should not be at the expense of highway safety.

There were no changes to the manual.

Jane L. Cline
Commissioner

COMMENT 1

National Windshield Repair Association
1251 Eisenhower Boulevard
Harrisburg, PA 17111
Phone: 717-985-1501 Fax-717-985-1502

3/27/96

West Virginia
Stephen Dale
Division of Motor Vehicles
Bldg. 3 Capitol Complex
Charlestown, WV 25317

Dear Mr. Dale,

The National Windshield Repair Association is the trade group representing the windshield repair industry. It has recently come to my attention that West Virginia is considering regulating windshield repair by imposing restrictions on windshield repair through its motor vehicle inspection standards.

Windshield repair typically costs around $50 while windshield replacement typically costs around $300. Repairing rather than replacing windshields **reduces consumer costs dramatically**. Most insurers recognize this issue by waiving comprehensive deductibles when a windshield is repaired rather than replaced. Limiting the number and type of windshield repairs is a controversial issue that should be thoroughly considered before establishing any regulation. In view of the fact that there is not a single recorded lawsuit or claim of loss by a plaintiff claiming windshield repair has caused them a loss, setting standards that will require the replacement of windshields containing repairable damage must be **viewed as an anti-consumer move, possibly influenced by the auto glass replacement industry.**

The issue of setting windshield repair standards is an issue that is currently being considered on a number of fronts across the United States. First, our association has windshield repair guidelines, a copy of which are attached. Second, an impartial third party, the SAE (Society of Automotive Engineers) is in the process of reviewing windshield repair in order to determine if and what guidelines, standards or recommended practices are applicable. Any decision to establish windshield repair standards for automobile inspection, should be postponed until this group has finished its work.

The Insurance Institute for Highway Safety's memorandum dated April 6, 1994 declared, "There is certainly no indication that a repaired windshield has less integrity than a replacement nor that it results in injury to automobile occupants whose windshields are

impacted by an errant object". I have included a copy of this memorandum with the attachments. This group as well as others has decided that there is no safety issue with windshield repair.

Our organization has engineers who are thoroughly familiar with the scientific data relevant to windshield repair and are available to provide information or testimony. I am not aware of your considering information from the NWRA in your decision making process. The NWRA would be pleased to work with you to help you understand the issues, the science and the practices of the windshield repair industry.

Windshield repair offers consumers the opportunity to **reduce their expenditures for auto glass by 80%** or more. Much of the public's information about windshield repair has come from the auto glass replacement industry, which has a vested interest in replacing glass, and that information is rarely accurate. I urge you to consider an orderly study of this issue and to accept input and testimony from all interested parties prior to the adoption of any motor vehicle inspection standard for windshield repair.

Sincerely,

David Taylor
President, NWRA

cc: Ms. Klein

Comment 1 enclosure A

INSURANCE INSTITUTE FOR HIGHWAY SAFETY
INTEROFFICE MEMO

DATE: April 6, 1994

TO: IIHS and HLDI Boards

FROM: Kathy Saluita KS

SUBJECT: Windshield Spalling

The National Glass Association (NGA) is considering standards that would specify when damaged windshields must be replaced as opposed to being repaired. The initial draft standard could significantly restrict the windshields that could be repaired and instead promote complete replacement. The claimed basis for the NGA standard is the allegation that the repair of windshields can lead to injuries by making the windshield susceptible to glass "spalling" when a repaired windshield is impacted by some form of projectile. Spalling refers to a glass shower event that occurs when a windshield is partially or fully penetrated in a non-collision event, such as from an external stone impact.

Some time last year, the NGA approached the Institute with a request to review and endorse their efforts. The Institute, however, declined endorsement, noting that we were unaware of any injuries resulting from glass spalling. We have since conducted an extensive review of both the medical and automotive literature to determine the extent, if any, of such an injury problem. The Institute also contacted emergency room physicians and injury researchers to establish whether this is an issue among injury experts. Contrary to NGA concerns, we have not been able to identify a single case in which glass spalling has resulted in injury. In fact, we have found that even in collision events the magnitude of windshield-related eye and facial injuries has decreased rather than increased in recent years. Injuries from windshields have diminished for two reasons: (1) high penetration resistance (HPR) glass and windshield adhesive bonding have improved the penetration resistance and retention of windshields, and (2) the recent increases in safety belt use and availability of air bags have dramatically reduced the severity and incidence of such injuries.

HPR windshields became standard equipment in cars in the 1960s. This safety glazing is a glass-plastic-glass sandwich that allows the glass to crumple, rather than tear the plastic layer during impact. HPR windshield glass doubled the velocity impact necessary for an occupant's head to penetrate the windshield. In laboratory tests, HPR windshields have been tested to determine their resistance to external impacts, such as from stones (Patrick, 1970). They are also subjected to a drop test (SAE Standard J938, 1965). The drop test specifies that a five pound

steel ball dropped from a 12 foot height must not penetrate a sample of windshield glazing on more than 2 out of ten tests.

The literature on windshield injuries to motor vehicle occupants focuses on injury to unbelted occupants in collision events. Researchers have consistently found that the greatest potential for injury occurs to unbelted occupants (Karlson, 1982) and the best mechanism for further injury reduction is through the use of safety belts and air bags (Shultz, 1977; Vernon, 1984; Lund, 1986; Patel, 1988; Kuhn, 1992; Chou, 1993). In summary, the primary mechanism for windshield glass injuries has been collision events, and HPR windshields and restraint use have reduced this problem substantially.

There is a complete absence of published literature documenting the existence of windshield-related facial/eye injuries that occur in real-world non-collision events. Likewise, consultation with injury experts indicates that, if eye and facial injury result from windshield spalling, they are of extremely low frequency and none of the six experts consulted could recall such an event, outside of complete windshield penetration. There is certainly no indication that a repaired windshield has less integrity than a replacement nor that it results in injury to automobile occupants whose windshields are impacted by an errant object. The NGA is targeting an injury thought to be possible in non-collision events, but, we have found no evidence to support the contention that this is an injury problem of any magnitude whatsoever.

References

Chapman-Smith, J.S. 1978. Eye injuries produced by vehicle safety glass. *New Zealand Medical Journal* 88:239.

Chou, C.K., Lin, S.D., Yang, C.C., Lai, C.S., Tsai, C.W., and Chang, C.W. 1993. Management of windshield facial injuries. *Kaohsiung Journal of Medical Science* 9:163-161.

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Kahane, C.J. 1985. An evaluation of windshield glazing and installation methods for passenger cars (DOT HS-806-693). Washington, D.C.: National Highway Traffic Safety Administration, U.S. Department of Transportation.

Karlson, T.A. 1982. The incidence of hospital-related facial injuries from vehicles. *The Journal of Trauma* 22:303-310.

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Macay, G.M., Gloyns, P.F., Hayes, H.R.M., Rattenbury, S.J., et al. 1980. Some aspects of facial injuries in present day cars. Proceedings, Eighth International Technical Conference on Experimental Safety Vehicles, 438-451.

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Patel, B.C.J., and Morgan, L.H. 1988. Penetrating eye injuries in road traffic accidents. *Archives of Emergency Medicine* 5:21-25.

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Schultz, R.C. 1977. *Facial Injuries*, 2nd Ed., Chicago-London: Year Book Medical Publishers, Inc., 12-21.

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Young, G.S. 1988. Ocular injuries and motor vehicles. *International Opthamology Clinics* 28: 219-221.

Personal Communication; Dischinger, Patricia, Ph.D.; University of Maryland at Baltimore, February 28, 1994.

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Personal Communication; Tielsch, James, Ph.D.; John Hopkins University Medical Center, March 1, 1994.

Personal Communication; Kuhlman, Thomas, M.D.; University of Virginia Medical Center, March 22, 1994.

Personal Communication; Parsons, Glenn; National Highway Traffic Safety Administration, March 23, 1994.

Personal Communication, Larkin, Gregory, M.D.; Pittsburg, Pennsylvania, March 23, 1994.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
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1800 Kanawha Boulevard East • Building Three
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Commissioner of Highways

Jane L. Cline
Commissioner

June 7, 1996

Mr. David Taylor, President
National Windshield Repair Association
1251 Eisenhower Boulevard
Harrisburg, PA 17111

Dear Mr. Taylor:

Please find enclosed several documents related to the filing of the rule promulgating the Motor Vehicle Inspection Manual. The West Virginia State Police are responsible for the inspection program.

I have received four documents from you which will be incorporated into the public comment record for this rule. They are as follows:

1. Letter addressed to me summarizing the issues dated March 27, 1996

2. United States Windshield Repair Guidelines dated January 1995 authored by the Windshield Repair Industry

3. Memo from Kathy Salnite, Insurance Institute for Highway Safety (faxed copy is very poor)

4. Copy of Pennsylvania DOT Inspection Regulations, pages one and 20

Item three is not readable, please forward a clear copy of this document for inclusion in the record. Please feel free to submit any additional information or substitute information to the address noted on the Notice of Public Comment. I will add it to our filing with the Secretary of State. Any technical questions you may have concerning the Inspection Manual criteria should continue to be directed to 1/Lt R.D.Totten, West Virginia State Police, 725 Jefferson Road, South Charleston, WV 25309.

Sincerely,

Steven O. Dale
Assistant to the Commissioner

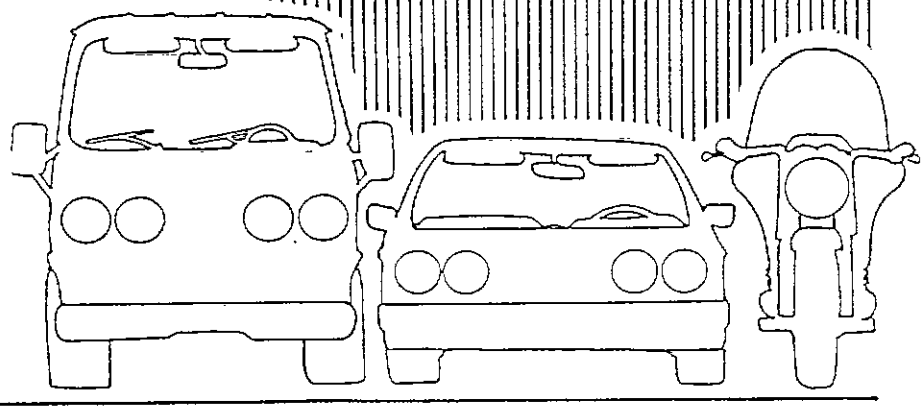
cc: 1/Lt R. D. Totten
Doris Lea

Comment 1, Enclosure B

PENNSYLVANIA DEPARTMENT
OF TRANSPORTATION

OCTOBER 1994

VEHICLE EQUIPMENT AND INSPECTION REGULATIONS



Pub. 45

Subchapter A - GENERAL PROVISIONS

175.1. Purpose.

This chapter implements elements of Part IV of the Vehicle Code, 75 Pa. C.S. SS 4101 - 4573 and 4901 - 4983, pertaining to vehicle characteristics such as lighting, brakes, safety equipment, and equipment of authorized and emergency vehicles; and 75 Pa. C.S. SS 4701—4732 (relating to inspection of vehicles).

175.2. Definitions.

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

Acute area of the windshield - The center of the critical area on the driver's side of the vehicle directly in the driver's normal line of vision - 8 ½ inches wide and 5 ½ inches high.

Allowable working pressure - The pounds per square inch for which the container was constructed, or if conditions have changed, the maximum pressure at specified temperatures permitted at the most recent inspection by a certified inspector.

Alteration - Any change in the construction, design, or installation of a container that affects the strength or safety of the system.

Antique motor vehicle - A motor vehicle, but not a reproduction thereof, manufactured more than 25 years prior to the current year which has been maintained in or restored to a condition which is substantially in conformance with manufacturer's specifications.

ASME Code - The American Society of Mechanical Engineers Boiler and Pressure Vessel Code; Section VIII, Division I, and Section IX of the 1971 and later editions.

ASTM - The American Society for Testing and Materials.

Auxiliary driving lamp - A lighting device mounted to provide illumination in front of the vehicle and to supplement the upper beam of a standard headlamp system; it is not intended for use alone or with the lower beam of a standard headlamp system.

Back-up lamp - A lamp used to provide illumination behind the vehicle and to provide a warning signal when the vehicle is in reverse gear.

Bead - That part of the tire made of steel wires wrapped or reinforced by ply cords, that is shaped to fit the rim.

Belt - A layer or layers made of fabric or other material located under the tread area.

Bureau - The Bureau of Motor Vehicles of the Department.

Bus - (1) A motor vehicle designed to transport 16 or more passengers, including the driver; or (2) A motor vehicle, other than a taxicab or limousine, designed to transport not more than 15 passengers, including the driver, and used for the transportation of persons for compensation. The term does not include a vehicle used in a ridesharing arrangement, as defined in the act of December 14, 1982 (P.L. 1221, No. 279), entitled "An act providing for ride sharing arrangements and providing that certain laws shall be inapplicable to ridesharing arrangements", or a school bus.

Certified inspector - Any person who holds a certificate issued by the Boiler Division in the Bureau of Occupation and Industrial Safety within the Pennsylvania Department of Labor and Industry certifying that he or she is qualified to inspect unfired pressure vessels.

Certified inspection mechanic - Any person who holds a valid certification card issued by the Bureau certifying that the person is qualified, has passed all requirements to inspect specific vehicles and holds a valid driver's license for the crrect class of vehicle.

CGA - The Compressed Gas Association, Inc.; 500 Fifth Avenue; New York, New York 10036.

Classic motor vehicle - A self propelled vehicle, but not a reproduction thereof, manufactured more than 10 years prior to the current year and because of discontinued production and limited availability, determined by the Department to be a model or make of significant value to collectors or exhibitors and which has been maintained in or restored to a condition which is substantially in conformity with manufacturer's specifications and appearance.

NOTE: The General Assembly amended the Vehicle Code's definition of "Classic motor vehicle" and this new definition supersedes the above definition. The new definition is as follows:

"Classic motor vehicle." A motor vehicle, but not a reproduction thereof, manufactured at least ten years prior to the effective date of the amendment to this definition and, because of limited availability, determined by the department to be a model or make of significant value to collectors or exhibitors and which has been maintained in or restored to a condition which is substantially in conformity with manufacturer specifications and appearance, provided that, five years from the effective date of the amendment to this definition and thereafter, only a vehicle which was manufactured at least 15 years prior thereto and, because of limited availability, determined by the department to be a model or make of significant value to collectors or exhibitors and which has been maintained in or restored to condition which is substantially in conformity with manufacturer specifications and appearance shall be considered a classic motor vehicle under this title. Any classic motor vehicle registered under section 1340 (relating to antique and classic plates) on the effective date of the amendment to this definition which fails to qualify as a classic motor vehicle pursuant to these provisions may retain such classic registration unless another type of registration is applied for and issued for the vehicle.

Clearance lamps - Lamps which show to the front or rear of a vehicle to indicate overall width and height of a vehicle - On trucks and buses 80 inches or more in width.

Combination - Two or more vehicles physically interconnected in tandem.

Commonwealth inspection station - An inspection station appointed to inspect all types of vehicles, space permitted, owned by and engaged exclusively in the performance of the official duties of the Federal Government, the Commonwealth, or a political subdivision of the Commonwealth.

Cord - The strands forming the plies in the tire.

Critical area of the windshield - The part of the vehicle windshield cleaned by the sweep of the windshield wiper system.

Department - The Department of Transportation of the Commonwealth.

Designated area - The geographic area which the department, in conjunction with the Department of Environmental Resources, and the United States Environmental Protection Agency, has identified as an Emission I/M Program designated area. A copy of the designation is available upon request from the department.

DOT - The United States Department of Transportation.

Driveaway-towaway operation - Any operation in which any motor vehicle, trailer or semi-trailer, singly or in combination, constitutes the commodity being transported, when one set or more of wheels of the vehicle are on the highway during the course of transportation, whether or not the vehicle furnished the motive power.

Emergency vehicle - A fire department vehicle, police vehicle, ambulance, blood-delivery vehicle, armed forces emergency vehicle, one vehicle operated by a coronor or chief county medical examiner and one vehicle operated by a chief deputy coroner or deputy chief county medical examiner used for answering emergency calls, one private vehicle of a fire or police chief or assistant chief or, when a fire company has three or more fire vehicles, a second assistant chief, or fire police captain and fire police lieutenant or ambulance corps commander or assistant commander or of a river rescue commander or emergency management coordinator or fire marshal used for answering emergency calls or other vehicle designated by the State Police under section 6106 (relating to designation of emergency vehicles by Pennsylvania State Police).

NOTE: The General Assembly amended the Vehicle Code's definition of "Emergency vehicle" and this new definition supersedes the above definition. The new definition is as follows:

"Emergency vehicle." A fire department vehicle, police vehicle, sheriff vehicle, ambulance, blood-delivery vehicle, armed forces emergency vehicle, one vehicle operated by a coroner or chief county medical examiner and one vehicle operated by a chief deputy coroner or deputy chief county medical

175.80. Inspection procedure.

(a) External inspection. An external inspection shall be performed as follows:

(1) Verify ownership, legality, and proof of financial responsibility. For the purpose of this subchapter, ownership and legality shall be proven by a vehicle registration card, certificate of title or manufacturer's statement of origin. REJECT IF one or more of the following apply:

(i) When vehicle ownership and legality are demonstrated by presentation of certificate of title or manufacturer's statement of origin:

(A) VIN is not in agreement with the vehicle registration card, title or manufacturer's statement of origin. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropriate department form has been completed to correct error or transposition.

(B) The VIN plate is not securely fastened, or is defaced, misplaced or missing.

(ii) When vehicle ownership and legality are demonstrated by presentation of vehicle registration card:

(A) License plate is not in agreement with numbers on vehicle registration card. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropriate department form has been completed to correct the error or transportation.

(B) License plate is hanging loosely from its mounting bracket.

(C) License plate is obscured so that numbers cannot be identified.

(D) License plate lamp, is so equipped, does not illuminate license plate.

(iii) Acceptable proof of financial responsibility is not provided. For the purpose of this chapter, financial responsibility shall be proven by one of the following documents:

(A) A valid financial responsibility identification card issued in accordance with 31 PA. Code (relating to insurance).

(B) The declaration page of a valid insurance policy.

(C) A valid self-insurance identification card.

(D) A valid binder of insurance issued by an insurance company licensed to sell motor vehicle liability insurance in this Commonwealth.

(E) A valid insurance policy issued by an insurance company licensed to sell motor vehicle liablity insurance in this Commonwealth.

(2) Check glazing.

(i) Check glazing and **REJECT IF** any of the following apply:

(A) Approved safety glazing is not used in every windshield, window or wing.

(B) Any sign, poster or other non-transparent material obstructs, obscures or impairs driver's clear view of highway or any intersecting highway. See Appendix C.

(C) Non-transparent material extends more than 3 ½ inches from lowest exposed portion of rear window, rear side windows or rear wings. See Appendix C.

(D) Motor vehicle has any sign, poster or other non-transparent material on windshield or front side windows, other than officially approved and properly located parking stickers.

(E) Glass is shattered or broken or has any exposed sharp edges.

(F) Windshield is removed.

(G) There are any defects in acute area of windshield,—center of critical area on driver's side of vehicle directly in driver's normal line of vision, 8 ½ inches wide and 5 ½ inches high—or discolorations or hazardous cracks to front, right, left, or rear of driver which would interfere with driver's vision. See Appendix C.

(H) Glass etchings, except those used for identification, are on windshield or front side windows.

(I) Glass etchings extend more than 3 ½ inches from lowest exposed portion of rear window, rear side windows or rear wings.

(ii) Nothing in this paragraph shall prohibit use of any products or materials along top edge of windshield or any window as long as such products or materials are transparent and do not encroach upon AS-1 portion of windshield as provided in Chapter 161 (relating to glazing materials).

(3) Check windshield wiper system and **REJECT IF** any of the following apply:

(i) Wipers do not operate as specified by manufacturer or 45 cycles per minute if not specified.

(ii) Wiper blades are torn, or smear or streak windshield (after 5 cycles).

(iii) There is only one wiper, where two are required.

(iv) Wipers do not return to "rest" position.

(4) Check door operation, including tailgate, and **REJECT IF** any of the following apply:

(i) Doors are not on vehicle if originally fitted by manufacturer.

(ii) Doors, including tailgate, cannot be closed securely.

(5) Check mirrors and **REJECT IF** any of the following apply:

(i) Mirror is cracked, broken, or discolored.

(ii) Mirror will not hold adjustment.

(6) Check fenders, hood and trunk lid and **REJECT IF** any of the following apply:

(i) Any fender front and rear has been removed.

(ii) Fenders are not of type and size used as original equipment.

(iii) Hood does not cover entire motor compartment or cannot be fully closed.

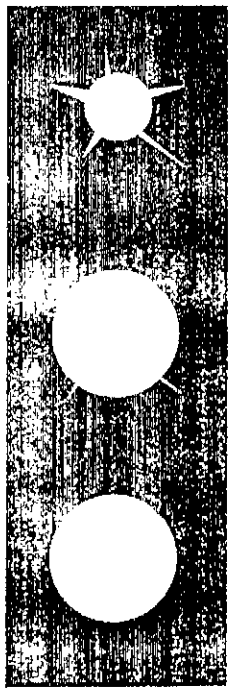
(iv) Trunk lid does not close.

QUICK REFERENCE

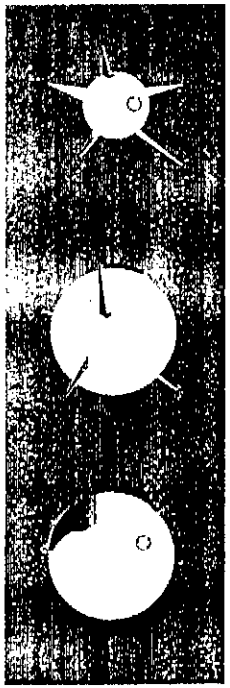
Stone Damage

Unrepaired

Repaired

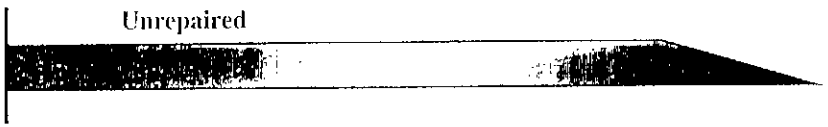


Poorly Repaired

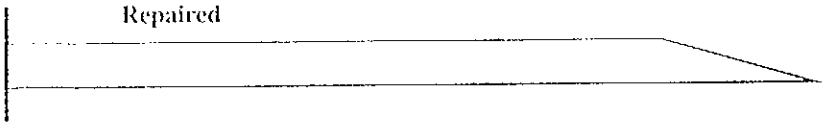


Crack

Unrepaired



Repaired



Poorly Repaired

UNITED STATES WINDSHIELD REPAIR GUIDELINES

Comment 1 Enclosure C

Written and Endorsed
by Representatives of the
Windshield Repair Industry and
the National Windshield Repair Association

January 1995

INTRODUCTION

The windshield repair industry has existed for more than 20 years, since the original development of the vacuum pressure techniques developed in 1972.

Repairing windshields is an economically, environmentally, and physically sound process that has the capability to virtually restore a windshield to its original condition. When properly performed, windshield repair can:

- Significantly reduce the visibility of the original damage.
- Improve the optical clarity within the damaged area.
- Reduce light scatter and haze within the damaged area.
- Restore the structural integrity and strength of the glass, thereby preventing further spread of the damage.
- Restore a smooth surface to the damaged area to avoid interference with proper operation of windshield wipers.
- Save the consumer money.
- Save the insurance company money.
- Save our environment by decreasing waste, preserving valuable landfill space, and reducing pollution from new glass fabrication.

Recognition of the viability of windshield repair has resulted in an increasing number of methods and processes for repair, an increase in the number of technicians performing repairs and, a widening range of capabilities of both the repair systems and the available chemicals used in repair.

To this date, with the millions of repairs performed around the country, there has not been a single accident injury which was attributable to the repaired windshield damage. Therefore, it is necessary to provide guidelines for windshield repair and the inspection of those repairs, so as to maintain that impeccable safety record by ensuring that repairs restore the structural integrity of the windshield and reduce the visibility of the damage.

REFERENCED DOCUMENTS

- ANSI/SAE Z26.1-1990 "American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways Safety Code.
- ASTM C158-84 "Standard Methods of Flexural Testing of Glass (Determination of Modulus of Rupture).
- United States Testing Co., Inc. - Lab Reports of Ultra B-O-N-D, Inc., ANSI Z26, and ASTM C158-84.
- Training Manual - Ultra B-O-N-D, Inc., 1990, 1992, 1993.
- Training Videos - Ultra B-O-N-D, Inc. CrackMaster I and II.
- NVS Corporation, Lynn, MA ANSI Z26 test results.
- Field Tests - Ultra B-O-N-D, Inc., Chemical properties, durability and the effect of year round climate. Viscosity, wetting and ambient temperature. Prevention of deterioration in surfaced cracks. Controlled vs uncontrolled environments. Minimum properties per year round climate.
- Operations Manual, Glas Weld Systems, Inc. 1991.
- Training Manual, Novus - Use of equipment.
- Windshield Repair Magazine - Sept./Oct. 1994, and Nov./Dec. 1994.
- Field Test - Windshield Repair Specialist - Chemical viscosity and surfaced cracks.
- Training Manual - The Glass Mechanix, 1992.
- Windshield Repair Journal, Feb. 1994, May 1994.
- Glas-Weld Systems Inc. British Standard Tests - BS AV 251 1994

- Edited by Joel Morse, practicing technician and trainer.
- Written by Richard Campfield, a worldwide distributor and manufacturer of windshield repair equipment & chemicals, holder of five windshield repair patents, publisher, author and producer of numerous training manuals, videos, and newsletters, publisher of Windshield Repair Magazine, conductor of numerous field tests and practicing technician & trainer since 1986.

RECOMMENDATIONS FOR SELLERS AND/OR MANUFACTURERS OF RELATING REPAIR EQUIPMENT AND CHEMICALS

Sellers and/or manufacturers of repair chemicals should be required to pass the same tests as those used for new, unaltered laminated glass. Repair adhesives should meet the following criteria:

ANSI/SAE Z26.1, "American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways-Safety Code".

a. Impact, test 9 (dart drop, 30 feet).
b. Impact, test 12 (ball drop, 30 feet).
c. Penetration resistance, test 26.
d. Boil, test 4.
e. Humidity, test 3.
f. Light stability, test 1 (at least 70% of the original transmittance).
g. Luminous Transmittance, test 2 (at least 70% of the original transmittance).

ASTM C158-84, "Standard Methods of Flexural Testing of Glass (determination of Modules of Rupture)".

Refractive index of chemical should be near that of 1.52.

Distributors and/or manufacturers of repair equipment, should ensure that their equipment can remove the air from stone breaks and achieve a complete fill of the damages they promote their system will repair.

TECHNICIAN RECOMMENDATIONS

Technicians should provide their customers with a written guaranty of work performed.

Repair guarantees which provide for credit towards the purchase of a new windshield can create an unethical situation due to a political conflict of interest and are therefore not in the best interests of the windshield repair industry or the customer.

PURPOSE

It is the expressed intent of these guidelines to:

1. Provide a method by which inspectors, insurance representatives, windshield repair technicians and the general public can evaluate the repairability of a specific windshield damage, determine the ideal repair results possible for that damage and compare the finished repair with the ideal results,

2. Ensure that the inspectors and insurance representatives are educated in the properties of a properly performed repair so that they will be able to differentiate between deficient, unacceptable repair work and appropriate repair work.

3. Ensure that inspections in states where they are required, are unbiased and consistent to the greatest extent possible.

4. Ensure that new technicians understand the characteristics of a properly completed, high quality repair.

5. Ensure that the repair industry's unmarked safety record is maintained.

6. Encourage technicians to strive for the highest quality repair possible.

7. Provide consumers with an understanding of what the repair service has a capability of providing.

These guidelines are not intended to restrict the advancement or technological growth of the repair industry, that is, additional technological advancements may provide the technician with the ability to properly and completely repair damage more severe than those discussed herein.

GUIDELINES

These guidelines have been developed and are endorsed by representatives of the windshield repair industry, including distributors, franchisors, manufacturers, inventors, patent holders and practicing repair technicians.

SCOPE

These guidelines are designed to provide inspectors with the basic knowledge necessary to differentiate between a high quality, properly completed and structurally sound repair, i.e., the best possible repair results, and low quality, incomplete and structurally unsound repairs.

These guidelines include commonly used windshield repair terminology and concepts, recommended procedures for the inspection of repaired stone damage, including cracks, and similar impact damage on laminated glass windshields of road vehicles.

The guidelines are intended to apply to the repair of laminated glass windshields with the performance attributes embodied in "ANSI" impact and "ASTM" structural tests.

Recommendations are made regarding the following issues:

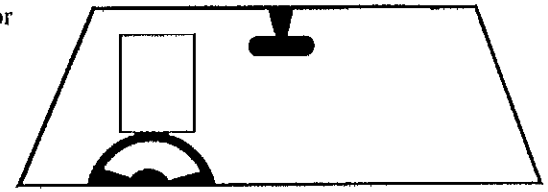
- Repair of damages within the "acute area" of the windshield.
- Types of breaks which should not be repaired in the "acute area".
- Methods to visually assess the quality of a completed repair.
- Chemical properties which are made available to the industry from chemical manufacturers or sellers.
- Equipment capabilities to be met by manufacturers or distributors of repair systems.

Repair information addressed in these guidelines is based on the following:

- Experience with commercial windshield repair techniques and inspection.
- Independent laboratory testing of structural strength and impact resistance.
- Field testing with a variety of commercial windshield repair techniques, systems, and chemicals.
- History of windshield repair pertaining to occupant safety.

WHEN TO FAIL RECOMMENDATION:

Acute Area

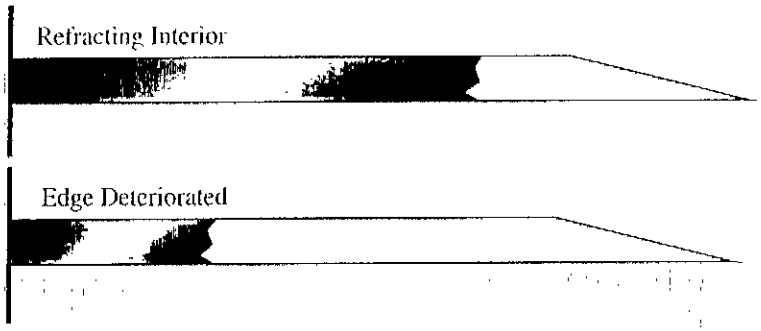


1. Fail all vertical cracks (long or short) in the acute area.
2. Fail all repairs with cosmetic blemishes as defined in the acute area.
3. Fail any repair which hinders driver's vision.

Remaining Areas of Windshield

1. Fail if tips of cracks (including radiating cracks from stone breaks) are refracting from its profile.
2. Fail any long or short crack with signs of deterioration at the edge.
3. Fail if interior of any crack is refracting from its profile.
4. Fail any repair that contains cosmetic blemishes of more than 15%.

examples: Tip not filled:



TRAINING FOR REPAIR TECHNICIANS

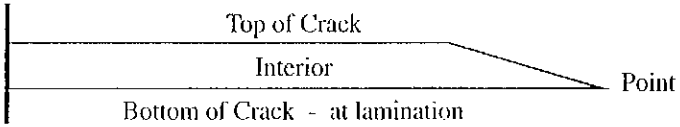
It is strongly recommended that professional repairers be trained by the manufacturer/distributor of the repair system or their approved representative. However, most companies do supply their technicians with an adequate instruction manual, video and technical support.

GOOD REPAIRS

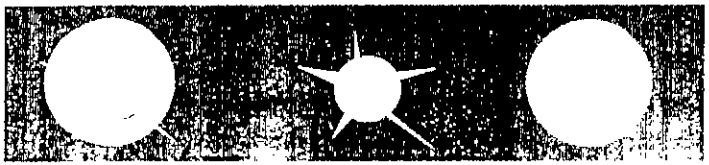
Crack:

Interior of crack is clear

Example:



Stone damage:



(4)

(3)

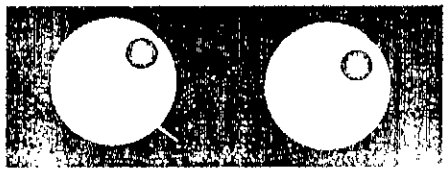
(1&2)

1. Bullseye of stone break is clear.
2. Profile of each leg is clear.
3. Tips are clear (filled).
4. A thin skeleton remains in all repairs, especially in a combination break.

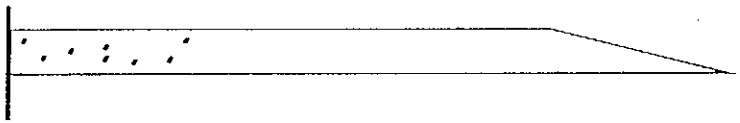
COSMETIC BLEMISHES

Cosmetic blemishes do not affect the structural integrity of the repair as long as they are in the middle area of the break and not at an end, tip or edge. If not in the acute area, blemishes are acceptable.

- Blemishes should constitute less than 15% of the repaired crack or break.
  Examples -



Short or Long crack

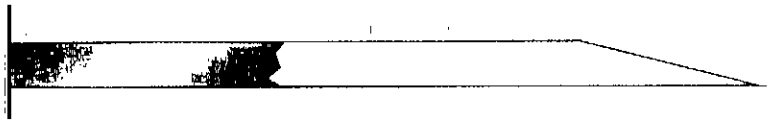


Deterioration:

Will occur at the edge if: A) not properly repaired; B) improper repair chemical used; C) presence of dirt or moisture in crack when repaired.

- Evidence of deterioration is a reason to fail.

(example)



WINDSHIELD REPAIR TERMINOLOGY

Acute area: An approximately 8-1/2" wide by 11" high area starting at the top of the steering wheel encompassing the area which is directly in front of the driver. (see diagram)

Bottom of crack: The very fine visible hairline running along the lamination.

Bullseye of stone break: The dark circle encompassed by and surrounding the impact point. Typically any small radiating cracks will converge into the bullseye. This is an open air space. The darkness is caused by light refraction in this open area.

Cosmetic blemish: Small voids or air bubbles in the interior of any repair which appears as light refraction or dark spots. This specifically excludes the impact point.

Crack: A single line of separation in the outer layer of glass, with a microscopic gap, widest at the edge and narrowest at the point.

Delamination: Lamination deterioration usually exhibiting a foggy, whitish or yellowish appearance.

Deterioration: A tensile or adhesion failure of the resin which appears as an area not repaired or exhibiting refraction.

Edge of crack: Where the crack meets one of the four sides of the windshield. This is the widest, most stressful part of the crack. If not properly repaired, deterioration may begin at this area.

Extending crack: A leg of a stonebreak extending past the outer circumference of the bullseye, less than 3" in length.

Head-on angle: The view of the crack which is perpendicular to the profile of the crack. The head-on angle is a "seam" and is always visible at the conclusion of a repair. This angle is not used by the technicians when repairing damage and is not a valid angle from which to determine the quality of a repair for inspection purposes.

Horizontal crack: A short or long crack which commonly runs to the edge of the left or right side of the windshield. Also included would be unsurfaced cracks. A repair of this type may be acceptable across the acute area, provided that it does not contain any cosmetic blemishes as defined in these guidelines nor hinder the driver's vision.

Impact point: The actual location on the outside layer of glass which was struck, usually by a stone. Typically, a small piece of glass is missing. The impact point is the location for the chemical's passage into the break. It is the size of this area of missing, or pulverized glass that generally determines the visibility of the resulting repair.

Interior of crack: The largest area of the crack in between the top and bottom which is filled with the repair chemical. In a proper repair, this area should be clear, when viewed from the profile.

L-shaped crack: A short or long crack which typically comes off an edge and changes direction after a few inches.

Leg: Reference to a single crack usually less than 3" in length which emanates from the initial bullseye of the stone break. Star breaks are so called because of the multiple legs emanating from the center.

Long crack: A crack over 6" in length and usually surfaced.

Point of crack: The opposite of the edge, the tightest part of the crack terminating within the body of the windshield.

Profile of crack: The angle which allows view of the entire thickness of the crack, from the outer surface of the glass to the lamination. The profile of the crack appears as light refraction and is the angle a technician observes when performing a repair. This is also the angle from which the repair MUST be inspected to accurately evaluate the quality of the repair.

Refraction: The bending of light rays in passing from one medium to another; the mirroring (shiny) image seen along the profile of a crack. Refraction should have been significantly reduced when the completed repair is viewed from its profile.

Short crack: A crack under 6" in length.

Tip of crack: The ends of the cracks radiating from a stone break.

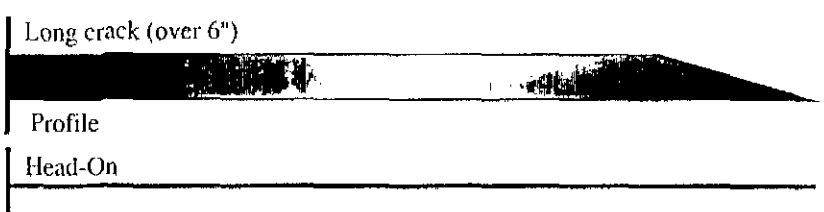
Stone break: A sub-surfaced break on the outer layer of windshield glass, typically coin size and containing small radiating or extending cracks. Stone breaks are commonly referred to as star breaks, bullseyes, or combination breaks.

Top of crack: The very fine visible hairline at or near the outside surface of the glass.

Vertical crack: A short or long crack which runs up and down, typically off the top or bottom of the windshield. Repair of vertical cracks which traverse the acute area are not recommended.

STONE BREAKS

Head-on angle as shown here is invalid for repair examination except when the crack is in the acute area.



INSPECTION OF A REPAIRED BREAK

1. Inspector must know repair terminology.
2. Inspector must know how to differentiate between the profile of a crack and its head-on angle.
3. Inspect repair from the inside of the vehicle.

Finding the Profile and Head-On Angle of a Crack

Horizontal Crack:

Sit directly in front of the repair, inside the vehicle, in a normal sitting position. From this angle you will see the profile of the repaired crack. It should be almost undetectable. If you lie down on the seat you will see the head-on angle.

Vertical Crack:

By sitting directly in front of the repaired crack you will see its head-on angle. Move to the left or right to observe it's profile, it should almost dis appear at its profile.

Note:

People do not focus on the windshield when driving they focus out the windshield.

A repair is less detectable than dirt, bugs or windshield wiper scratches that are almost always present on most vehicle windshields.

REPAIR LIMITATIONS

Limitation on repairs defined by size or length of break could unreasonably restrict the industry's technological growth. Laboratory and field tests confirm windshield repair is a structurally sound process. Limitation should be based solely on the visible results and structural integrity of completed repairs.

1. Size and Length:
   None specified.

   The size and/or length of the break is not the determining factor in whether or not a repair can or should be performed. Different tools, chemicals and methods make repair capabilities of one system different from another. Therefore, limitations on the size or length serve no legitimate purpose. The most critical component is that the repair has been properly performed and should be judged by visual inspection.

2. Acute area:
   Breaks within the acute area may be repaired provided that:

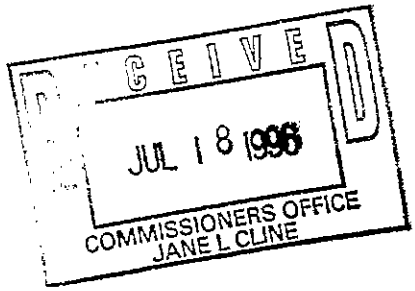
   A. The repaired damage does not hinder the driver's vision.
   B. The repair contains no cosmetic blemishes as defined in these guidelines.

   Vertical cracks (short or long as defined in these guidelines) are not recommended for repair in the acute area.

Comment 2 Steve Dale

Ultra B-O-N-D® INC.

PATENT HOLDER OF LONG CRACK REPAIR



July 11, 1996

Division of Motor Vehicles
Building 3, Room 113
State Capitol Complex
Charleston, WV 25317

RE: Legislative Rule 91CSR12

To whom it may concern:

As President of Ultra BOND, Inc., a world wide windshield crack repair system distributor, I know first hand that your attempt to virtually eliminate windshield repair is without cause and appears to be an attempt to require the residents of West Virginia to spend a great deal of money on a new windshield unnecessarily. Most can be repaired.

Over the past two years we have been in contact with Lt. Totten, Sgt. Sears, and First Sgt. L.K. Williams regarding the State's definition of what type of windshield damage should and should not pass inspection. At the time of our initial contact, the State required inspectors to fail windshields that had existing breaks, chips or cracks, but had no regulations on breaks, cracks or chips that had been repaired. We submitted laboratory testing (the same lab used by the AAMVA) proving that a repairing a break restored the integrity of the glass, we provided a glass sample, a letter from the Institute of Highway Safety and videos for their review. Not once, but a few times over, and still the State has chosen to disregard the value of this information and process.

By ignoring the benefits of windshield repair, you are contributing to environmental waste. Windshield repairs are not recycled due to their plastic laminate and lead content. Further, your limitations will put many existing repair technicians out of business!

2458 I-70 Business Loop, Unit B-1 • Grand Junction, Colorado 81501 • 1 (800) 398-2663

Ultra B-O-N-D®, INC.
PATENT HOLDER OF LONG CRACK REPAIR

After reviewing the information submitted by our company, combined with that of the National Windshield Repair Association which you have received, the only conclusion that should have been reached is that windshield repair is a great, environmentally conscious, SAFE, inexpensive alternative to replacement that can be offered to the citizens of West Virginia. POLITICS AS USUAL?!

Sincerely,
ULTRA BOND, INC.

Richard A. Campfield

Richard A. Campfield
President

RAC:jc