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NOTICE OF CHANGE

MIL-STD-1180B
Notice 1
7 August 1991

MILITARY STANDARD

SAFETY STANDARDS FOR MILITARY GROUND VEHICLES

TO ALL HOLDERS OF MIL-STD-1180B:

1. THE FOLLOWING PAGES OF MIL-STD-1180B, HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
iii	20 Sept 1986	iii	Reprinted without change
iv	7 August 1991	iv	20 Sept 1986
3	20 Sept 1986	3	Reprinted without change
4	7 August 1991	4	20 Sept 1986
5	20 Sept 1986	5	Reprinted without change
6	7 August 1991	6	20 Sept 1986
7	7 August 1991	7	20 Sept 1986
8	7 August 1991	8	20 Sept 1986

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-1180B will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or canceled.

4. Changes from previous issue. The margins of this standard are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

AMSC N/A FSC 23GP

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(Project 23GP-0017)

FOREWORD

Although vehicles and equipment manufactured for, and sold directly to, the Armed Forces of the United States in conformity with contractual specifications are specifically exempted from the provisions of the Federal Motor Vehicle Safety Standards (FMVSS), it is the established policy of the Army to comply with the intent of those standards as long as compliance does not degrade essential military characteristics. With the same limitation, compliance with applicable provisions of (Federal) Motor Carrier Safety Regulations (MCSR) is an Army requirement.

This military standard provides guidance to assure proper safety characteristics associated with FMVSS are designed into military vehicles in a consistent manner. In establishing this standard, full consideration has been given to the following constraints listed in order of precedence:

(a) Military mission requirements.

(b) Federal Motor Vehicle Safety Standards and Motor Carrier Safety Regulations.

(c) Requirements of friendly nations within whose borders US vehicles are operated by DoD personnel.

Individual requirements are identified to correspond with comparable FMVSS numbers and the applicable provisions of MCSR are as specified in the detailed requirements.

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3. DEFINITIONS

3.1 Wheeled vehicles.

3.1.1 Tactical standard wheeled vehicles. Tactical standard wheeled vehicles are built to Government specifications. They are generally characterized by multiple drive axles, 4 x 4, 6 x 6, 8 x 8, etc., and are capable of off-road operation over fairly rough terrain. Most of these vehicles have deep-water fording capabilities. They are designed to overcome ditches and obstacles in operation, and are also capable of operating on public highways at normal highway speeds, in most cases without escort.

3.1.2 High mobility tactical wheeled vehicles. High mobility tactical wheeled vehicles are expressly designed and built to Government specifications for the purpose of handling cargo while negotiating very rough terrain. All axles are driven and, generally, the vehicles are amphibious. They are capable of operating in deep mud or snow, are often articulated, and are seldom capable of maintaining normal highway speeds. They are usually operated in convoy on public highways. The relatively few high mobility vehicles capable of highway speeds and operated without escort comply with the same Basic Issue Items (BII) regulations as do limited mobility vehicles. An example is the M656, 8 x 8, high mobility, 5-ton truck.

3.1.3 Tactical support wheeled vehicles. Tactical support wheeled vehicles are commercial vehicles designed and built by a manufacturer that usually incorporate modifications to the standard commercial version to satisfy specific military requirements. These vehicles are intended to be used to the brigade rear and operate on public highways without escort.

3.1.4 Combat wheeled vehicles. Combat wheeled vehicles are lightly armed, armored, and operate on public highways under extreme emergencies. They are primarily used for riot control.

3.1.5 Trailers. Trailers are unpowered wheeled vehicles incapable of independent operation but are capable of hauling large loads when attached to a prime mover. They generally operate on highways but may operate off road under good conditions.

3.2 Tracked vehicles.

3.2.1 Tactical tracked vehicles. Tactical tracked vehicles are cargo type vehicles designed for very rough terrain operation, they are usually unarmed, unarmored, and too slow for unescorted highway use.

3.2.2 Combat tracked vehicles. Combat tracked vehicles are characterized by armor plating, armament, and considerable weight. They are not designed as cargo carriers and seldom operate alone on public highways in peacetime.

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3.3 Construction equipment and material handling equipment vehicles (CE/MHE). The CE/MHE class of vehicles is characterized by an automotive chassis being utilized to transport special-purpose equipment. These vehicles are designed for highway travel. This class includes mobile cranes, dumpsters, distributors, and other special-purpose vehicles. Equipment designed for off-highway usage such as bulldozers, earthmoving equipment, graders, and fork lifts will comply with the applicable Federal regulations that cover such equipment.

3.4 Military motorcycle. Military motorcycles are vehicles designed for either off- or on-road operation. These vehicles are characterized as having a seat or saddle for the rider and designed to travel on two or three wheels.

4. GENERAL REQUIREMENTS

4.1 Application. All military ground vehicles, delineated in vehicle specifications, shall be equipped with safety devices as specified herein. The provisions of this standard shall not be construed to prohibit any agency of the Federal Government from prescribing safety standards with requirements greater than those prescribed in this standard. Specific elements of these standards may be waived when the acquisitioning activity, in coordination with the combat development and user communities, determines that application would degrade essential military characteristics.

4.2 Recycled, virgin, and reclaimed materials. The use of recycled materials which meet the requirements of the applicable item or part without jeopardizing its intended use shall be encouraged.

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5. DETAILED REQUIREMENTS

5.1 Safety devices. Particular safety devices shall comply with the requirements as specified in the detailed requirements covering such devices. The applicable individual requirements are as listed in the issue of this standard in effect on date of invitation for bids or request for proposals.

5.2 Military ground vehicle safety requirements.

5.2.1 Type I. All military wheeled ground vehicles shall comply with the safety requirements specified in table II.

5.2.2 Type II. All military tracked ground vehicles shall comply with the safety requirements specified in table III.

5.2.3 Type III. All military motorcycles shall comply with the safety requirements specified in table IV.

5.3 Individual safety requirements. Individual safety requirements follow section 6.

TABLE II. Safety requirements for military wheeled ground vehicles (type I).

Rqmt. no.	Title	Vehicle Rqmt. application			Referenced documents					
		1/	2/	3/	FMVSS No.	MCSR Part	FED-SPEC No.	MIL-SPEC No.	MIL-STD No.	SAE No.
101.1	Controls and displays	X	X		101				1472	
102.1	Transmission shift lever sequence, starter interlock and transmission braking effect	X	X		102					
103.1	Windshield defrosting and defogging systems	X			103					J381 J382
104.1	Windshield wiping and washing systems	X	X		104	393				J198
105.1	Hydraulic brake systems	X	X	X	105	393				
106.1	Brake hoses	X	X	X	106			H-3992 H-13719		
107.1	Reflective surfaces for components in the driver's field of view	X	X	X				C-46168 C-52798	193	
108.1	Lamps, reflective devices and associated equipment	X	X	X					1179	
111.1	Rearview mirrors	X	X		111					
113.1	Hood latch systems	X	X		113					
116.1	Hydraulic brake fluids	X	X	X			VV-B-680	B-46176		
119.1	New pneumatic tires	X	X	X	119			T-12459		
120.1	Tire and rim selection for motor vehicles	X	X	X	120					
121.1	Air brake systems	X	X	X	121					
124.1	Accelerator control systems	X	X		124					
125.1	Warning devices	X					RR-W-1817			

TABLE II. Safety requirements for military wheeled ground vehicles (type I) - Continued.

Rqmt. no.	Title	Vehicle Rqmt. application 1/	2/	3/	Referenced documents FMVSS No.	MCSR Part	FED-SPEC No.	MIL-SPEC No.	MIL-STD No.	SAE No.
201.1	Occupant protection in interior impact	X			201					
203.1	Impact protection for the driver from the steering control system	X			203					
204.1	Steering control rearward displacement	X			204					
205.1	Glazing materials	X	X		205					
206.1	Door locks and door retention components	X			206					
207.1	Seating systems	X			207					
208.1	Occupant crash protection	X	X		208					
209.1	Seatbelt assemblies	X	X	4/	209				1472	
210.1	Seatbelt assembly anchorages	X	X	4/	210					
212.1	Windshield mounting	X	X		212					
219.1	Windshield zone intrusion	X			219					
301.1	Fuel system integrity	X	X		301	393				
302.1	Flammability of interior materials	X	X		302		CCC-C-419			

NOTE: 1/ Tactical standard, high mobility tactical, and tactical support wheeled vehicles.
2/ Combat wheeled vehicles.
3/ Trailers.
4/ When specified by the acquisitioning activity.

NOTE: The cover page of this standard has been changed for administrative reasons There are no other changes to this document.

MIL-STD-1180B
20 September 1986
SUPERSEDING
MIL-STD-1180A
26 January 1983

DEPARTMENT OF DEFENSE
INTERFACE STANDARD

SAFETY STANDARDS FOR MILITARY GROUND VEHICLES



FSC 23GP

AMSC N/A
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DEPARTMENT OF DEFENSE
WASHINGTON, DC 20301

SAFETY STANDARDS FOR MILITARY GROUND VEHICLES

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Tank-Automotive Command, ATTN: AMSTA-GDS, Warren, MI 48397-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or by letter.

FOREWORD

Although vehicles and equipment manufactured for, and sold directly to, the Armed Forces of the United States in conformity with contractual specifications are specifically exempted from the provisions of the Federal Motor Vehicle Safety Standards (FMVSS), it is the established policy of the Army to comply with the intent of those standards as long as compliance does not degrade essential military characteristics. With the same limitation, compliance with applicable provisions of (Federal) Motor Carrier Safety Regulations (MCSR) is an Army requirement.

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1. SCOPE

1.1 Scope. This standard applies to military ground vehicles listed in table I. Administrative vehicles and construction equipment/material handling equipment acquired by the Department of Defense are not included in this military standard since they are usually built to the manufacturer commercial specifications and are required to meet all applicable standards.

1.2 Purpose. The purpose of this standard is to establish uniform requirements for incorporating Federal Motor Vehicle Safety Standards into military ground vehicles consistent with their military characteristics. This standard establishes uniform requirements which satisfy the intent of, and are identifiable with comparable Federal Motor Vehicle Safety Standards. The provisions of this standard shall not be construed to be the only safety requirements applicable to military ground vehicles.

TABLE I. Classification of military ground vehicles.

Type	Nomenclature
I	Wheeled vehicles Tactical standard High mobility tactical Tactical support Combat Trailers
II	Tracked vehicles Tactical Combat
III	Military motorcycles

2. REFERENCED DOCUMENTS

2.1 Applicable documents. The applicable documents are contained in each individual requirement for reference therein.

2.2 Order of precedence. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.

3. DEFINITIONS

3.1 Wheeled vehicles.

3.1.1 Tactical standard wheeled vehicles. Tactical standard wheeled vehicles are built to Government specifications. They are generally characterized by multiple drive axles, 4 x 4, 6 x 6, 8 x 8, etc., and are capable of off-road operation over fairly rough terrain. Most of these vehicles have deep-water fording capabilities. They are designed to overcome ditches and obstacles in operation, and are also capable of operating on public highways at normal highway speeds, in most cases without escort.

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3.1.5 Trailers. Trailers are unpowered wheeled vehicles incapable of independent operation but are capable of hauling large loads when attached to a prime mover. They generally operate on highways but may operate off road under good conditions.

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3.2.1 Tactical tracked vehicles. Tactical tracked vehicles are cargo type vehicles designed for very rough terrain operation, they are usually unarmed, unarmored, and too slow for unescorted highway use.

3.2.2 Combat tracked vehicles. Combat tracked vehicles are characterized by armor plating, armament, and considerable weight. They are not designed as cargo carriers and seldom operate alone on public highways in peacetime.

3.3 Construction equipment and material handling equipment vehicles (CE/MHE). The CE/MHE class of vehicles is characterized by an automotive chassis being utilized to transport special-purpose equipment. These vehicles are designed for highway travel. This class includes mobile cranes, dumpsters, distributors, and other special-purpose vehicles. Equipment designed for off-highway usage such as bulldozers, earthmoving equipment, graders, and fork lifts will comply with the applicable Federal regulations that cover such equipment.

3.4 Military motorcycle. Military motorcycles are vehicles designed for either off- or on-road operation. These vehicles are characterized as having a seat or saddle for the rider and designed to travel on two or three wheels.

3.5 Administrative vehicles. Administrative vehicles are primarily of commercial design and built to a manufacturer's commercial specification, such as sedans, station wagons, vans, trucks, and buses. They are often characterized by a single drive axle and are used in support of general transportation services, facility and equipment maintenance functions not directly connected with combat or tactical operations. They are primarily designed for highway operation and normally acquired for post, camp, and station use. With the exception of color and identification markings, administrative vehicles supplied to the Department of Defense are identical to those sold to private individuals.

4. GENERAL REQUIREMENTS

4.1 Application. All military ground vehicles, delineated in vehicle specifications, shall be equipped with safety devices as specified herein. The provisions of this standard shall not be construed to prohibit any agency of the Federal Government from prescribing safety standards with requirements greater than those prescribed in this standard. Specific elements of these standards may be waived when the acquisitioning activity, in coordination with the combat development and user communities, determines that application would degrade essential military characteristics.

4.2 Recycled, virgin, and reclaimed materials. The use of recycled materials which meet the requirements of the applicable item or part without jeopardizing its intended use shall be encouraged.

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5.1 Safety devices. Particular safety devices shall comply with the requirements as specified in the detailed requirements covering such devices. The applicable individual requirements are as listed in the issue of this standard in effect on date of invitation for bids or request for proposals.

5.2 Military ground vehicle safety requirements.

5.2.1 Type I. All military wheeled ground vehicles shall comply with the safety requirements specified in table II.

5.2.2 Type II. All military tracked ground vehicles shall comply with the safety requirements specified in table III.

5.2.3 Type III. All military motorcycles shall comply with the safety requirements specified in table IV.

5.3 Individual safety requirements. Individual safety requirements follow section 6.

5.4 Application of FMVSS. The application of specific requirements within the FMVSS's, military wheeled vehicles designed to (a) carry 10 passengers or less and (b) have a gross vehicle weight rating (GVWR) of less than 10 000 pounds, shall comply with those requirements which apply to "passenger cars". Military wheeled vehicles designed to carry more than 10 passengers, shall comply with those requirements which apply to "buses". Military wheeled vehicles which have a GVWR equal to or greater than 10 000 pounds, shall comply with those requirements which apply to "trucks".

TABLE II. Safety requirements for military wheeled ground vehicles (type I).

Rqmt. no.	Title	Vehicle Rqmt. application			Referenced documents					
		1/	2/	3/	FMVSS No.	MCSR Part	FED-SPEC No.	MIL-SPEC No.	MIL-STD No.	SAE No.
101.1	Controls and displays	X	X		101				1472	
102.1	Transmission shift lever sequence, starter interlock and transmission braking effect	X	X		102					
103.1	Windshield defrosting and defogging systems	X			103					J381 J382 J198
104.1	Windshield wiping and washing systems	X			104	393				
105.1	Hydraulic brake systems	X		X	105	393				
106.1	Brake hoses	X		X	106			H-3992 H-13719		
107.1	Reflective surfaces for components in the driver's field of view	X	X	X				C-46168 C-52798	193	
108.1	Lamps, reflective devices and associated equipment	X	X	X					1179	
111.1	Rearview mirrors	X	X		111					
113.1	Hood latch systems	X	X		113					
116.1	Hydraulic brake fluids	X	X	X			VV-B-680	B-46176		
119.1	New pneumatic tires	X	X	X	119			T-12459		
120.1	Tire and rim selection for motor vehicles	X	X	X	120					
121.1	Air brake systems	X	X	X	121					
124.1	Accelerator control systems	X	X		124					
125.1	Warning devices	X					RR-W-1817			

TABLE II. Safety requirements for military wheeled ground vehicles (type I) - Continued.

Rqmt. no.	Title	Vehicle Rqmt. application			Referenced documents					
		1/	2/	3/	FMVSS No.	MCSR Part	FED-SPEC No.	MIL-SPEC No.	MIL-STD No.	SAE No.
201.1	Occupant protection in interior impact	X			201					
203.1	Impact protection for the driver from the steering control system	X			203					
204.1	Steering control rearward displacement	X			204					
205.1	Glazing materials	X			205					
206.1	Door locks and door retention components	X			206					
207.1	Seating systems	X	X		207					
208.1	Occupant crash protection	X	X		208					
209.1	Seatbelt assemblies	X	X	4/	209				1472	
210.1	Seatbelt assembly anchorages	X	X	4/	210					
219.1	Windshield zone intrusion	X			219					
301.1	Fuel system integrity	X	X		301	393				
302.1	Flammability of interior materials	X	X		302		CCC-C-419			

NOTE: 1/ Tactical standard, high mobility tactical, and tactical support wheeled vehicles.
2/ Combat wheeled vehicles.
3/ Trailers.
4/ When specified by the acquisitioning activity.

TABLE III. Safety requirements for military tracked ground vehicles (type II).

Rqmt. no.	Title	Vehicle Rqmt. application		Referenced documents					
		1/	2/	FMVSS No.	MCSR Part	FED-SPEC No.	MIL-SPEC No.	MIL-STD No.	SAE No.
101.1	Controls and displays	X	X	101				1472	
102.1	Transmission shift lever sequence, starter interlock and and transmission braking effect	X		102					
103.1	Windshield defrosting and defogging systems	X		103					J381 J382
104.1	Windshield wiping and washing systems	X		104	393				
107.1	Reflective surfaces for components in the driver's field of view	X	X				C-46168 C-52798	193	
108.1	Lamps, reflective devices and associated equipment	X	X					1179	
111.1	Rearview mirrors	X	X	111					
124.1	Accelerator control systems	X	X	124					
205.1	Glazing materials	X		205					
208.1	Occupant crash protection	3/		208					
209.1	Seatbelt assemblies	3/		209				1472	
210.1	Seatbelt assembly anchorages	3/		210					
301.1	Fuel system integrity	X		301	393				
302.1	Flammability of interior materials	X		302		CCC-C-419			

NOTE: 1/ Tactical tracked vehicles.
2/ Combat tracked vehicles.
3/ When specified by the acquisitioning activity.

TABLE IV. Safety requirements for military motorcycles (type III).

Rqmt. no.	Title	Referenced documents					
		FMVSS No.	MCSR Part	FED-SPEC No.	MIL-SPEC No.	MIL-STD No.	SAE No.
106.1	Brake hoses	106			H-3992 H-13719		
107.1	Reflective surfaces for components in the driver's field of view				C-46168 C-52798	193	
108.1	Lamps, reflective devices and associated equipment	108					
111.1	Rearview mirrors	111					
116.1	Hydraulic brake fluids			VV-B-680	B-46176		
119.1	New pneumatic tires	119			T-12459		
120.1	Tire and rim selection for motor vehicles	120					
122.1	Motorcycle brake systems	122					
123.1	Motorcycle controls and displays	123					
124.1	Accelerator control systems	124					
205.1	Glazing materials	205					
302.1	Flammability of interior materials	302		CCC-C-419			

6. NOTES

6.1 Cross-reference. Table V provides a cross-reference for classification between this standard and the previous revision (see 1.2).

TABLE V. Classification cross-reference.

Previous type designation	Nomenclature	Present type designation
I	Tactical standard wheeled vehicles	I
II	High mobility tactical wheeled vehicles	I
III	Trailers	I
IV	Combat vehicles	II
V	Tactical tracked vehicles	II
VI	Construction and material handling vehicle	deleted
VII	Tactical support wheeled vehicles	I
VIII	Military motorcycles	III

6.2 Subject term (key word) listing.

Military ground vehicles safety standards.
Standard safety requirements for military ground vehicles.

6.3 Changes from previous issue. Asterisks or vertical lines are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

REQUIREMENT 101.1

Controls and Displays

1. SCOPE

1.1 Scope. This requirement establishes requisites for the location, identification, and illumination of motor vehicle controls and displays. The purpose of this requirement is to assure the accessability and visibility of these controls and displays and to facilitate their selection under daytime and nighttime conditions, in order to reduce the safety hazards caused by the diversion of the driver's attention from the driving tasks and to reduce the incidence of mistakes in selecting controls.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

STANDARDS
MILITARY

MIL-STD-1472	- Human Engineering Design Criteria for Military Systems, Equipment, and Facilities.

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 101	- Controls and Displays.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

Requirement 101.1
20 September 1986

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type II military ground vehicles which require an operator or driver.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 101 and MIL-STD-1472. When military standard light switches are used, the following exceptions apply:

a. Identification of the light switch shall be displayed on the light switch itself and limited to that location.

b. The peculiar configuration of levers which include black-out lighting controls is sufficient identification.

c. Dome lights shall be controlled by a separate manually operated switch.

REQUIREMENT 102.1

Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect

1. SCOPE

1.1 Scope. This requirement specifies the requisites for the transmission shift lever sequence to reduce the likelihood of shifting errors; for a starter interlock to reduce the likelihood of starter engagement with shift lever in drive or reverse position; and for a braking effect of automatic transmissions to provide supplemental braking at speeds below 25 miles per hour (40 kilometers per hour).

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 102 - Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type II tactical tracked military ground vehicles equipped with manual or automatic transmissions.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 102.

REQUIREMENT 103.1

Windshield Defrosting and Defogging Systems

1. SCOPE

1.1 Scope. This requirement specifies performance requisites for windshield defrosting and defogging systems. The purpose of this requirement is to assure adequate vision through the windshield during unfavorable weather conditions.

1.2 Classification. Except as specified (see 5.4), windshield defrosting and defogging systems shall be classified in the following manner:

Class I	- Hot-coolant Defrosting and Defogging System.
Class II	- Fuel-fired Defrosting and Defogging System.
Class III	- Fuel-fired Booster for Coolant Type Defrosting and Defogging System.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 103	- Windshield Defrosting and Defogging Systems - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this standard to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted shall be those listed in the issue of the DoDISS specified in the solicitation. The issues of documents which have not been adopted shall be those in effect on the date of the cited DoDISS.

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE J381	- Windshield Defrosting Systems Test Procedure - Trucks, Buses, and Multipurpose Vehicles.
SAE J382	- Windshield Defrosting Systems Performance Guidelines - Trucks, Buses, and Multipurpose Vehicles.

(Applications for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

(Nongovernment standards are generally available for reference from libraries. They are also distributed among nongovernment standards bodies and using Federal agencies.)

3. DEFINITIONS

3.1 Hot-coolant defrosting and defogging system. This is a system which utilizes heated engine coolant to provide heat to ventilating air for the purpose of defrosting the windshield and providing human comfort at intermediate cold temperatures.

3.2 Fuel-fired defrosting and defogging system. This is a system that utilizes a hydrocarbon (i.e., diesel fuel, gasoline, etc.) fuel-burning heater to furnish heated ventilating air for the purpose of defrosting the windshield and providing human comfort. This type of system is primarily utilized in arctic kits for application at temperatures down to -55 degrees Fahrenheit (°F) [-48.3 degrees Celsius (°C)].

3.3 Fuel-fired booster for coolant type defrosting and defogging system. This is a system which utilizes a fuel-fired heater in conjunction with the vehicle engine to heat the coolant for the defrosting and defogging system.

4. GENERAL REQUIREMENTS

4.1 Application. This requirement applies to all the type I (except combat wheeled vehicles and trailers) and type II tactical tracked military ground vehicles equipped with windshields for driver protection from the elements. This requirement does not apply to those vehicles equipped only with vision blocks.

4.2 Vehicle and system compatibility. Vehicles shall be of the inclosed cab type or shall be equipped with standard temperate zone inclosure i.e., canvas top, side curtains if applicable, and doors. The defogging and defrosting system shall not subject the windshield glazing material, glass or plastic to surface temperatures which will cause damage or distortions.

5. DETAILED REQUIREMENTS

5.1 Unless otherwise specified herein, vehicles shall conform to FMVSS No. 103.

5.1.1 Class I windshield defrosting and defogging system.

5.1.1.1 Performance. Performance requirements for the class I (see 1.2) system shall be in accordance with SAE J382, as specified for trucks, buses, and multipurpose vehicles.

5.1.1.2 Test procedure. Test procedure shall comply with SAE J381 except as follows:

a. Test conditions:

(1) Source of coolant supply. The vehicle engine operation shall provide the only source of heated coolant. (Alternate independent sources of coolant supply are not permitted.)

(2) Air velocity. The air velocity directed at the windshield shall be not less than 440 feet per minute (2.24 meters per second).

(3) Soak time. The soak time shall be not less than 4 hours but as long as necessary to reduce engine block coolant temperature to -25°F (-32°C).

b. Test procedure:

(1) Vehicle soak period. The vehicle soak period shall be not less than 4 hours but as long as necessary to reduce engine block coolant temperature to -25°F (-32°C).

(2) Test period. The test period begins when the engine has been operated at recommended idle speed for 10 minutes and when the heater is energized.

5.1.2 Class II windshield defrosting and defogging system. Requirements and test procedures shall be as specified for the class I system with the following exceptions:

a. Performance requirements and test procedures apply to a temperature of -55°F (-48.3°C) instead of -25°F (-32°C) as specified for class I.

b. A fuel-burning heater shall be utilized to supply heated ventilating air to the defrosting system under test. Heated coolant shall not be utilized.

5.1.3 Class III windshield defrosting and defogging system. Requirements and test procedures shall be as specified for the class I system with the following exceptions:

a. Performance requirements and test procedures apply to a temperature of -55°F (-48.3°C) instead of -25°F (-32°C) as specified for class I.

b. Heated engine coolant is utilized to provide heat to ventilating air for defrosting purposes similar to the class I system; however, a fuel-burning heater is used in conjunction with the vehicle engine to provide the heat energy to the engine coolant.

5.1.4 Other classes of windshield defrosting and defogging systems. Other classes of windshield defrosting and defogging systems are acceptable provided performance requirements specified by the acquisitioning activity are met, without adverse effect on either personnel or equipment.

REQUIREMENT 104.1

Windshield Wiping and Washing Systems

1. SCOPE

1.1 Scope. This requirement specifies requisites for windshield wiping and washing systems. The purpose of this requirement is to assure a clear view through the windshield during inclement weather and to afford a means of removing soil from the windshield.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 104	- Windshield Wiping Systems-Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

Motor Carrier Safety Regulations

MCSR	- Part 393.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this standard to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted shall be those listed in the issue of the DoDISS specified in the solicitation. The issues of documents which have not been adopted shall be those in effect on the date of the cited DoDISS.

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE J198 - Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles.

(Applications for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

(Nongovernment standards are generally available for reference from libraries. They are also distributed among nongovernment standards bodies and using Federal agencies.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type II tactical tracked military ground vehicles equipped with a windshield for forward vision.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 104, SAE J198, and Part 393 of MCSR pertaining to windshield wipers.

Requirement 104.1

REQUIREMENT 105.1

Hydraulic Brake Systems

1. SCOPE

1.1 Scope. This requirement specifies requisites for hydraulic service brake and associated parking brake systems. The purpose of this requirement is to assure safe braking performance under normal and emergency conditions.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 105 - Hydraulic Brake Systems.

Motor Carrier Safety Regulations

MCSR - Part 393.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles equipped with hydraulic brake systems. It also applies to other military ground vehicles having hydraulic brake systems as specified by the acquisitioning activity.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 105 and Part 393 of MCSR pertaining to hydraulic brake systems.

REQUIREMENT 106.1

Brake Hoses

1. SCOPE

1.2 Scope. This requirement specifies labeling and performance requisites for brake hose, brake hose assemblies, and brake hose end fittings. The purpose of this requirement is to reduce brake system failure from pressure or vacuum loss due to hose or hose assembly rupture.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

SPECIFICATIONS
MILITARY

MIL-H-3992	- Hose and Hose Assembly, Rubber; Air and Vacuum Brake Automotive.
MIL-H-13719	- Hose Assembly, Rubber; Hydraulic Brake.

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 106	- Brake Hoses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type III military ground vehicles that utilize brake hose.

4. DETAILED REQUIREMENTS

4.1 Detailed requirements for type I tactical support wheeled vehicles shall comply with FMVSS No. 106. Detailed requirements for all of the other military ground vehicles are as specified in 4.1.1.

4.1.1 The detailed requirements for rubber air and vacuum brake hose are specified in MIL-H-3992. Rubber hydraulic brake hose shall comply with the requirements specified in MIL-H-13719. Hoses and hose assemblies not required by MIL-H-3992 or MIL-H-13719 shall conform to the requirements of FMVSS No. 106.

REQUIREMENT 107.1

Reflective Surfaces for Components in the
Driver's Field of View

1. SCOPE

1.1 Scope. This requirement specifies the reflective surface requisites for certain vehicle components in the driver's field of view. The purpose of this requirement is to reduce or eliminate glare from reflective surfaces.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

SPECIFICATIONS
MILITARY

MIL-C-46168	- Coating, Aliphatic Polyurethane, Chemical Agent Resistant.
MIL-E-52798	- Enamel, Alkyd, Camouflage.

STANDARDS
MILITARY

MIL-STD-193	- Painting Procedures and Marking for Vehicles, Construction Equipment and Material Handling Equipment.

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I, type II, and type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements for vehicle painting shall comply with MIL-STD-193, MIL-E-52798, or MIL-C-46168 to the extent specified by the acquisitioning activity.

REQUIREMENT 108.1

Lamps, Reflective Devices and Associated Equipment

1. SCOPE

1.1 Scope. This requirement specifies requisites for lamps, reflective devices, and associated equipment necessary for signaling and for the safe operation of motor vehicles during darkness and other conditions of reduced visibility.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

STANDARDS
MILITARY

MIL-STD-1179	- Lamps, Reflectors and Associated Signaling Equipment for Military Vehicles.

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 108	- Lamps, Reflective Devices, and Associated Equipment - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, Buses, Trailers, and Motorcycles.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

Requirement 108.1
20 September 1986

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I, type II, and type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements are specified in MIL-STD-1179 for all the types of vehicles except type III. Type III vehicles shall conform to FMVSS No. 108.

REQUIREMENT 111.1

Rearview Mirrors

1. SCOPE

1.1 Scope. This requirement specifies requisites for rearview mirrors to provide the driver with a clear and reasonably unobstructed view to the rear.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 111 - Rearview Mirrors.

(Application for copies should be addressed to the Department of Transportaton, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to type I (except trailers), type II, and type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 Unless otherwise specified, vehicles requiring rearview mirrors shall be provided with two exterior mirrors; one shall be installed on the driver's side and the other shall be installed on the side opposite the driver.

4.2 The detailed requirements shall conform to FMVSS No. 111.

4.3 In addition to the requirements of FMVSS No. 111, all type I and type II ground vehicles with a gross vehicle weight (GVW) of more than 10 000 pounds (4545 kilograms) shall conform to the following:

a. The unit magnification mirror shall be not less than 5 inches (127 millimeters) wide.

b. Each outside mirror assembly shall be equipped with a convex mirror with not less than 25 square inches (161.25 square centimeters) of reflective surface and a uniform radius of curvature of not less than 35 inches (0.89 meters) and not more than 65 inches (1.65 meters).

c. The unit magnification mirror and the convex mirror shall be adjustable in both the vertical and horizontal planes.

d. The rearview mirror assemblies for type I combat wheeled vehicles (see 3.1.4) and type II combat tracked vehicles (see 3.2.2), in order to ensure interchangeability, shall have a base with dimensions as shown in figure 1.

e. The rearview mirror assemblies shall have incorporated mechanisms that are capable of providing the assembly with a wide latitude of swivel and position selection. This mechanism shall be such that upon the application of a force from an obstruction the mirror assembly shall fold so as to minimize damage (mirror shall have a protective shroud) and then be capable of being repositioned.

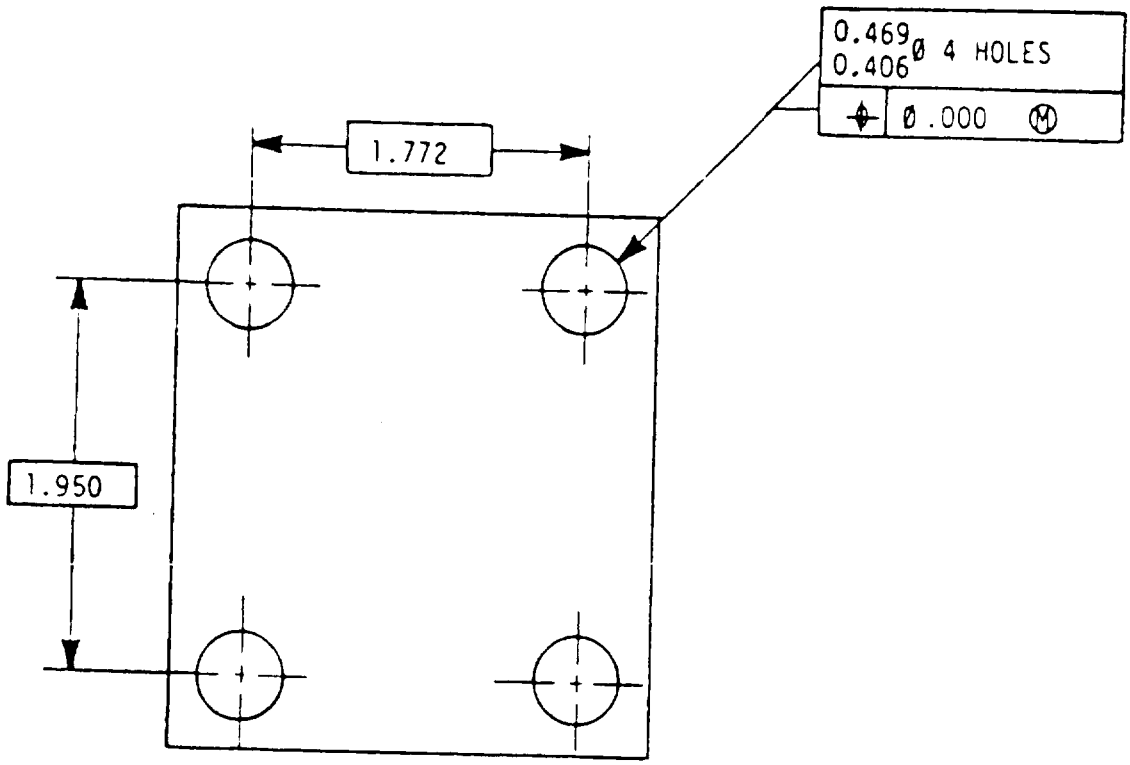


FIGURE 1. Rearview mirror base dimensions.

Requirement 111.1

REQUIREMENT 113.1

Hood Latch Systems

1. SCOPE

1.1 Scope. This requirement specifies the requisites for a hood latch system or systems. The purpose of this requirement is to provide a positive means of securing the engine hood in place.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 113 - Hood Latch Systems - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except trailers.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 113.

REQUIREMENT 116.1

Hydraulic Brake Fluids

1. SCOPE

1.1 Scope. This requirement specifies requisites for hydraulic brake fluids, brake fluid containers, and container labeling. The purpose of this requirement is to eliminate failures in hydraulic brake systems due to improper, incompatible, or contaminated brake fluid.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

SPECIFICATIONS
FEDERAL

VV-B-680	- Brake Fluid, Automotive.

MILITARY

MIL-B-46176	- Brake Fluid, Silicone, Automotive, All-Weather, Operation and Preservative.

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type III military ground vehicles with hydraulic brake systems.

4. DETAILED REQUIREMENTS

4.1 Hydraulic brake fluid. Hydraulic brake fluid shall comply with MIL-B-46176 or VV-B-680 as specified in the invitation for bids contract or order.

4.2 Container sealing. A brake fluid container with a capacity of 6 fluid ounces (0.18 liters) or more shall be provided with a resealable closure that has an inner seal impervious to the packaged brake fluid. The container closure shall include a tamper-proof feature that will either be destroyed or substantially altered when the container closure is initially opened.

4.3 Marking and labeling. The following information shall be clearly and indelibly marked on each brake fluid container.

a. Contract number and name of the packager of the brake fluid. (The name of the packager may be in code form.)

b. Serial number identifying the packaged lot and date of packaging.

c. Identification of the hydraulic brake fluid as VV-B-680 or MIL-B-46176, as applicable.

d. The following safety warning in capital or lower case letters as indicated (parenthetical information excluded):

(1) KEEP BRAKE FLUID CLEAN AND DRY. Contamination with dirt, water, petroleum products, or other materials may result in brake failure or costly repairs.

(2) STORE BRAKE FLUID ONLY IN ITS ORIGINAL CONTAINER. KEEP CONTAINER CLEAN AND TIGHTLY CLOSED TO PREVENT ABSORPTION OF MOISTURE.

(3) |Containers with a capacity of 5 gallons (18.94 liters) or less.| CAUTION: DO NOT REFILL CONTAINER, AND DO NOT USE FOR OTHER LIQUIDS.

|Containers with a capacity greater than 5 gallons (18.94 liters)|. CAUTION: DO NOT USE FOR OTHER LIQUIDS.

(4) CAUTION: Adequate flushing of the brake system must be accomplished to remove all traces of the previous types of brake fluid. If these fluids are not completely removed, the corrosion-protective and preservative properties of the silicone fluid will be negated. (Applicable to silicone brake fluid, MIL-B-46176, only.)

REQUIREMENT 119.1

New Pneumatic Tires

1. SCOPE

1.1 Scope. This requirement specifies performance and marking requisites for tires. The purpose of this requirement is to assure the proper identification of pneumatic tires for the intended range of usage.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

SPECIFICATIONS
MILITARY

MIL-T-12459 - Tires, Pneumatic: For Military Ground Vehicles.

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 119 - New Pneumatic Tires for Vehicles Other than Passenger Cars.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 Radial tires shall conform to FMVSS No. 119. All other tires for military type ground vehicles shall conform to MIL-T-12459.

Requirement 119.1

REQUIREMENT 120.1

Tire and Rim Selection for Motor Vehicles

1. SCOPE

1.1 Scope. This requirement specifies tire and rim selection requisites and rim marking requirements. The purpose of this requirement is to provide safe operational performance by assuring that vehicles are equipped with tires of adequate size and load rating and with rims of appropriate size and type designation.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 120 - Tire Selection and Rims for Motor Vehicles Other than Passenger Cars.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type III military ground vehicles equipped with tires and rims.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 120.

REQUIREMENT 121.1

Air Brake Systems

1. SCOPE

1.1 Scope. This requirement specifies performance and equipment requisites for braking systems on vehicles equipped with air brake systems. The purpose of this requirement is to assure safe braking performance under normal and emergency conditions.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 121 - Air Brake Systems-Trucks, Buses and Trailers.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles, unless waived by the acquisitioning activity in coordination with the combat development and user communities.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements for trailers (type I) shall be as specified in FMVSS No. 121. All other type I military ground vehicles shall conform to the requirements specified for trucks and buses in FMVSS No. 121.

4.2 Each air brake system shall be protected against water vapor with an air dryer system.

4.3 As part of the emergency braking capability, each air brake system incorporating spring brakes will provide spring brake modulation through the treadle valve. The modulation will be in proportion to the service brake application.

Requirement 121.1

REQUIREMENT 122.1

Motorcycle Brake Systems

1. SCOPE

1.1 Scope. This requirement specifies performance requisites for motorcycle brake systems. The purpose of this requirement is to assure safe motorcycle braking performance under normal and emergency conditions.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 122 - Motorcycle Brake Systems.

(Application for copies should be addressed to the Department of Transportation Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 122.

REQUIREMENT 123.1

Motorcycle Controls and Displays

1. SCOPE

1.1 Scope. This requirement specifies the location, operation, identification, and illumination of motorcycle controls and displays, and requisites for motorcycle stands and footrests. The purpose of this requirement is to minimize accidents caused by operator error in responding to the motoring environment by standardizing certain motorcycle displays and controls.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 123 - Motorcycle Controls and Displays.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 123.

REQUIREMENT 124.1

Accelerator Control Systems

1. SCOPE

1.1 Scope. This requirement specifies requisites for the return of a vehicle throttle to the idle position when the driver removes the actuating force from the accelerator control, or in the event of a breakage or disconnection in the accelerator control system. The purpose of this requirement is to eliminate accidents resulting from engine overspeed caused by malfunctions in the accelerator control system.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 124 - Accelerator Control Systems.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I (except trailers), type II, and type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 124.

REQUIREMENT 125.1

Warning Devices

1. SCOPE

1.1 Scope. This requirement specifies requisites for devices designed to be carried in motor vehicles and used to warn approaching traffic of the presence of a stopped vehicle. Devices with self-contained energy sources or designed to be permanently affixed to the vehicle are not included in this requirement. The purpose of this requirement is to reduce accidents due to collision with stopped vehicles.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

SPECIFICATIONS
FEDERAL

RR-W-1817	- Warning Device, Highway, Triangular, Reflective.

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS

4.1 Detailed requirements shall be in accordance with RR-W-1817 except that type I tactical standard and high mobility tactical military ground vehicles require a set of three warning devices for each vehicle.

REQUIREMENT 201.1

Occupant Protection in Interior Impact

1. SCOPE

1.1 Scope. This requirement specifies requisites to afford impact protection for occupants.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 201 - Occupant Protection in Interior Impact - Passenger Cars.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS

4.1 Detailed requirements shall conform to FMVSS No. 201.

REQUIREMENT 203.1

Impact Protection for the Driver from the Steering Control System

1. SCOPE

1.1 Scope. This requirement specifies requisites for steering control systems that will minimize chest, neck, and facial injuries to the driver as a result of impact.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 203 - Impact Protection for the Driver from Steering Control System - Passenger Cars.

(Application for copies should be addressed to the Department of Transportaton, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS.

4.1 The detailed requirements shall conform to FMVSS No. 203.

REQUIREMENT 204.1

Steering Control Rearward Displacement

1. SCOPE

1.1 Scope. This requirement specifies requisites limiting the rearward displacement of the steering control into the passenger compartment to reduce the likelihood of chest, neck, or head injury.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standard

FMVSS No. 204 - Steering Control Rearward Displacement - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 204.

REQUIREMENT 205.1

Glazing Materials

1. SCOPE

1.1 Scope. This requirement specifies requisites for glazing materials for use in motor vehicles. The purpose is to reduce injuries resulting from impact to glazing surfaces and to minimize the possibility of occupants being thrown through the vehicle windows in collisions.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATON (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 205 - Glazing Materials.

(Application for copies should be addressed to the Department of Transportaton, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I, type II, and type III military ground vehicles with windshields or windows.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 205.

REQUIREMENT 206.1

Door Locks and Door Retention Components

1. SCOPE

1.1 Scope. This requirement specifies requisites for side door locks and side door retention components including latches, hinges, and other supporting hardware, to minimize the probability of occupants being thrown from the vehicle as a result of impact.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 206 - Door Locks and Door Retention Components - Passenger Cars, Multipurpose Passenger Vehicles, and Trucks.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 206.

REQUIREMENT 207.1

Seating Systems

1. SCOPE

1.1 Scope. This requirement specifies requisites for seats, seat attachment assemblies, and their installation to minimize the probability of their failure as a result of impact.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 207 - Seating Systems-Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 207.

REQUIREMENT 208.1

Occupant Crash Protection

1. SCOPE

1.1 Scope. This requirement specifies requisites for occupant protection in case of a vehicle crash. The purpose of this requirement is to reduce the number of deaths and the number and severity of injuries by specifying vehicle crash-worthiness and the use of active and passive restraint systems.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 208 - Occupant Crash Protection - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressd to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except trailers. It also applies to type II tactical tracked military ground vehicles when and to the extent specified by the acquisitioning activity.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 208 with the following exceptions:

a. Seatbelts shall not be installed on side-facing troop seats in truck bodies. Crew compartments with side facing seat shall have restraints.

b. Ignition interlock systems shall not be installed with seatbelts.

c. Seatbelts shall be automatically fully retractable and include provisions for off-floor storage.

d. Unless otherwise specified in the contract or order, passive restraints shall not be installed.

e. Type 2 seat belts assemblies will be provided.

REQUIREMENT 209.1

Seatbelt Assemblies

1. SCOPE

1.1 Scope. This requirement specifies requisites for seatbelt assemblies designed to secure a person in a motor vehicle. The purpose of this requirement is to reduce injuries resulting from accidents.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

STANDARDS
MILITARY

MIL-STD-1472	- Human Engineering Design Criteria for Military Systems, Equipment, and Facilities.

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 209	- Seatbelt Assemblies.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I and type II tactical tracked (when specified), military ground vehicles equipped with seatbelts.

4. DETAILED REQUIREMENTS

4.1 Unless otherwise specified, only type 2 seat belt assemblies shall be installed. Requirements pertaining to anthropometry shall comply with MIL-STD-1472. All other requirements shall be in accordance with FMVSS No. 209, except that special purpose restraining devices shall be in accordance with acquisition documents.

Requirement 209.1

REQUIREMENT 210.1

Seatbelt Assembly Anchorages

1. SCOPE

1.1 Scope. This requirement specifies the requisites for seatbelt assembly anchorages to assure their proper location for effective occupant restraint and to reduce the probability of failure.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 210 - Seatbelt Assembly Anchorages - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all type I military ground vehicles. It also applies to type II tactical tracked military ground vehicles when and to the extent specified by the acquisitioning activity.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 210.

REQUIREMENT 212

Windshield Mounting

1. SCOPE

1.1 Scope. This requirement establishes windshield retention requisites for motor vehicles during crashes. The purpose of this standard is to reduce crash injuries and fatilities by providing for retention of the vehicle windshield during a crash.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 212 - Windshield Mounting-Passenger Cars.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 212

Requirement 212.1
20 September 1986

REQUIREMENT 216

Roof Crush Resistance

1. SCOPE

1.1 Scope. This standard establishes strength requirements for the passenger compartment roofs. The purpose of this standard is to reduce deaths and injuries due to the crushing of the roof into the passenger compartment in rollover accidents.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 216 - Roof Crush Resistance.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications, required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all type I military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 216.

Requirement 216.1
20 September 1986

REQUIREMENT 219.1

Windshield Zone Intrusion

1. SCOPE

1.1 Scope. This requirement specifies limits for the displacement into the windshield area of motor vehicle components during a crash. The purpose of this requirement is to reduce crash injuries and fatalities that result from occupants contacting vehicle components displaced near or through the windshield.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 219 - Windshield Zone Intrusion.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I military ground vehicles except combat wheeled vehicles and trailers.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 219.

REQUIREMENT 301.1

Fuel System Integrity

1. SCOPE

1.1 Scope. This requirement specifies requisites for the integrity of fuel systems for military ground vehicles.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 301 - Fuel System Integrity.

Motor Carrier Safety Regulations

MCSR - Part 393.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administration, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I (except trailers) and type II tactical tracked military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 The detailed requirements shall conform to FMVSS No. 301. Vehicles with a GVW greater than 10 000 pounds (4545 kilograms) shall comply with Part 393 of MCSR pertaining to fuel systems.

Requirement 301.1
20 September 1986

REQUIREMENT 302.1

Flammability of Interior Materials

1. SCOPE

1.1 Scope. This requirement specifies burn resistance requisites for materials used in the occupant compartments of vehicles. The purpose of this requirement is to reduce the deaths and injuries to motor vehicle occupants caused by vehicle fires, expecially those originating in the interior of the vehicle from sources such as matches or cigarettes.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

SPECIFICATION
FEDERAL

CCC-C-419	- Cloth, Duck, Cotton, Unbleached, Plied-Yarns, Army and Numbered.

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this standard to the extent specified herein.

DEPARTMENT OF TRANSPORTATION (DOT)
Federal Motor Vehicle Safety Standards

FMVSS No. 302	- Flammability of Interior Materials - Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses.

(Application for copies should be addressed to the Department of Transportation, Federal Highway Administraton, Washington, DC 20591.)

(Copies of specifications, standards, handbooks, drawings, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENTS

3.1 Application. This requirement applies to all the type I (except trailers), type II tactical tracked and, type III military ground vehicles.

4. DETAILED REQUIREMENTS

4.1 Detailed requirements shall conform to FMVSS No. 302, except that unbleached cotton duck cloth used in a vehicle shall comply with CCC-C-419.

Requirement 302.1

Custodians:
Army - AT
Navy - YD

Review activities:
Army - ME, AR, TE

Preparing activity:
Army - AT

(Project No. 23GP-0009)

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5. PROBLEM AREAS

a. Paragraph Number and Wording

b. Recommended Wording

c. Reason/Rationale for Recommendation

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7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
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