

## WHITE PAPER

**TC010** 

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# Standard Product Safety Sign Catalog for Automotive Fire Apparatus

### **RATIONALE**

This document gives the fire apparatus manufacturers an option to provide standardized product safety sign text and artwork for common hazards.

### **FOREWORD**

This document presents safety signs for potential use on fire and rescue apparatus.

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### 1 SCOPE

This document presents a standardized catalog of safety sign text and artwork that may be used by any apparatus manufacturer to warn of common hazards. It remains the product manufacturers' obligation to furnish adequate warnings and instructions, after consideration of the products specific characteristics and environment of use. A manufacturer may elect to use any of the standardized signs, text and/or artwork contained in this catalog, but no manufacture is required to do so.

### 2 REFERENCES

### 2.1 Applicable Publications

The following publications form a part of this specification to the extent specified herein.

### 2.1.1 ISO Publications

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, www.ansi.org.

ISO 9244 Earth-moving machinery – Machine safety labels – General Principles

ISO 7010 Graphical symbols – Safety colours and safety signs – Registered safety signs

### 2.1.2 Other Publications

ANSI Z535.4 American National Standard for Product Safety Signs and labels

ANSI Z535.6 American National Standard for Product Safety Information in Product Manuals, instructions, and Other

**Collateral Materials** 

NFPA 1901 Standard for Automotive Fire Apparatus

NFPA 1906 Standard for Wildland Fire Apparatus

### 3 DEFINITIONS

### 3.1 Product Safety Sign

Sign, label, or decal affixed to a product that provides essential information concerning a potential hazard, the degree or level of hazard seriousness, the probable consequence of involvement with the hazard, and how the hazard can be avoided.

### 4 GENERAL

- 4.1 New proposals for product safety sign ideas should be forwarded to FAMA. The FAMA Product Safety Sign group will consider new ideas at each FAMA technical committee meeting and may add new text and artwork to this catalog as appropriate.
- 4.2 The product safety signs shown in this document are intended as examples for sufficiency of text and graphic size with respect to each hazard, however it is the product manufacturer's responsibility to determine the adequacy of warnings and/or instructions that are provided with the product.
- 4.3 Limitations inherent in some reproduction and display technologies may require increased line thickness or other minor modifications of symbols. Such modifications are acceptable provided the symbol is unchanged in its basic graphical elements and remains easily discernible by the operator.
- 4.4 To improve the appearance and perceptibility of a safety sign, or to coordinate with the design of the equipment to which the sign is applied, it may be necessary to change the line thickness or round the corners of a symbol. The graphic designer is free to make such changes, provided that the essential perceptual characteristics of the symbol are maintained.
- 4.5 Some of the product safety signs included in this document are provided with "textless" two-panel versions developed using the guidelines found in ISO 7010. Where appropriate, these versions could be used in place of the ANSI Z535.4 signs at the option of the manufacturer.
- 4.6 Symbols on controls and displays should have good contrast to their background. Pictorials may use either a light symbol on a dark background or a dark symbol on a light background at the manufacturer's discretion. When a pictorial image is reversed (for example, from black-on-white to white-on-black and vice versa), it should be done for the entire pictorial.
- 4.7 Where used, product safety signs should be located as close as practical to the location of the hazard addressed. Some recommendations regarding sign placement are included in this catalog.
- 4.8 Reference numbers are provided as a convenience to the organization of this document and need not appear on the final product.
- 4.9 Product safety sign graphic thumbnails are provided in this document. Full scale artwork can be downloaded from the FAMA website at www.FAMA.org.
- 4.10 All standard ISO version signs are 6.65 in. tall by 3.35 in. wide.
- 4.11 Font sizes are based on using Microsoft Sans Serif.

#### 5 NFPA APPARATUS STANDARD COMPLIANCE

- 5.1 NFPA 1901 and NFPA 1906 include certain detailed specifications for safety sign text that address specific hazards. These standards also state that "Safety-related (caution, warning, danger) signs shall meet the requirements of ANSI Z535.4, Product Safety Signs and Labels". The detailed text contained in the NFPA standards, however, does not necessarily conform to the ANSI Z535.4 format. This presents the apparatus manufacturer with a conflict of either providing the text verbatim from the NFPA standard, or modifying the text to comply with the ANSI Z535.4 guidelines. The safety signs provided in this document address this conflict by presenting safety signs that are compliant the ANSI Z535.4 guidelines while remaining as true as possible to the intent of detailed text found in the NFPA apparatus standards. It is the intent of the authors of this paper to suggest changes to the NFPA documents that will resolve these conflicts for future revisions.
- 5.2 The following is a list of the safety signs in this document that address hazards specifically considered in NFPA 1901 Standard for Automotive Fire Apparatus 2009 edition and NFPA 1906 Standard for Wildland Fire Apparatus 2012 edition:

NFPA 1901	NFPA 1906	Topic	Safety Sign
14.1.2	14.1.2	Cab Seating Capacity	FAMA14
14.1.3.8	14.1.3.8	Seat Belts	FAMA07
14.1.3.9 23.7.3	14.1.3.9	Seat Not to be Occupied	FAMA06
14.1.8.4.3		Helmets NFPA 1901	FAMA15
	14.1.8.5	Helmets NFPA 1906	FAMA43
15.7.5	15.7.5	Riding on the Tailboard	FAMA24
15.12.3 25.4.4.2	15.12.3 25.4.4.2	Winch Receivers and Rope Anchors	FAMA28
19.23.1.2(1)		Aerial Electrocution from Power	FAMA35
19.23.1.2(2)		Lines	FAMA36
19.23.1.2(3)		Hazards from Stabilizer Motion	FAMA30 FAMA31 FAMA32 FAMA33
19.23.1.2(4)		Failure to Follow Operator Instructions	FAMA25 FAMA37 FAMA38 FAMA39

## **6 SAFETY SIGN TEXT AND ARTWORK**

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA01	Battery Explosion	Visible to personnel near batteries.	3.0 x 4.0	12	Battery Chemical and Explosion Hazard. Batteries give off explosive hydrogen gas. Ventilate area when servicing. Wear personal protective equipment. Exploding batteries may injure or kill.	FAMA01G
FAMA02	Rotating Shafts	One sign each side of vehicle on the frame rail, and any other place where rotating shaft hazard is apparent.	3.0 x 4.0	14	Rotating Shaft Hazard. Keep body, hands, hair, clothes, away. Do not work around shafts with engine on. Rotating parts will injure or kill.	FAMA02G
FAMA03	Hot Surface	Near hot surfaces	2.0 x 5.0	18	Burn Hazard. Do not touch. Hot surface can burn skin.	FAMA03G
FAMA04	Hot Exhaust - Horizontal Muffler	Visible to personnel approaching the hot exhaust parts.	3.5 x 3.5	14	Exhaust gets extremely HOT without warning.  KEEP AWAY from exhaust gas. Do NOT Touch pipes or parts. Do not park near flammable objects. Hot metal and gas may burn skin or start fires.	

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA05	Spinning Fan	Visible to personnel at each approach to spinning fans.	3.0 x 4.0	14	Fan Blades Spin without Warning. Keep hands, hair, and clothes away. Keep clear when motor is running. Spinning blades will injure or kill.	FAMA05G
FAMA06	Seats Without Belts Not Occupied	Visible to each occupant where seating positions without seat belts are present.	2.0 x 3.0	14	Crash Hazard This seat is not to be occupied while vehicle is in motion. Seats without belts are for use with vehicle parked only. Unbelted occupants are at greater risk of injury or death in a crash.  FAMA06 Do not paint over this label. Replace If damaged or lost.	FAMA06G
FAMA07	Seated and Belted	Visible to any occupant.	2.0 x 3.0	9	Crash Hazard Occupants must be seated and belted when vehicle is in motion. Use only OEM approved belts. Unbelted occupants are at greater risk of injury or death in a crash.  FAMA07 Do not paint over this label. Replace if damaged or lost.	FAMA07G
FAMA08	Swivel Seat Unsecured	Visible to occupant of swivel seat.	1.9 x 3.1	10	Seat Swivel Hazard Lock seat in position before vehicle is placed in motion. Unsecured seat will not protect occupant in a crash.  FAMAD8 Do not paint over this label. Replace if damaged or lost.	FAMA08G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA09	Air Conditioning Refrigerant	On or near air conditioning unit where mechanic would be apt to find it.	2.0 x 5.0	10	Air Conditioning System Contains R134A Avoid breathing refrigerant and lubricant vapor or mist. To remove R-134A from AC system use service equipment certified to meet SAE J2210. If R-134A discharge occurs, ventilate work area before resuming service. And the contained from refrigerant exposure manufacturers. Exposure may irritate eyes, nose and throat.  AMAGO Do not paint own this labet. Replace if damaged or but.	FAMA09G
FAMA10	Cab Equipment Mounting	Visible to operator inside the cab.	2.0 x 3.0	8	Flying Object Crash Hazard All equipment required to be used during an emergency response must be securely fastened. Loose items may injure or kill during a crash.  FAMA10 Do not paint over this label. Replace if damaged or lost.	FAMA10G
FAMA11	SCBA Seat Insert	Visible to operator inside the cab.	2.0 x 3.0	8	SCBA Seat Crash Hazard Only occupy SCBA seat with pack or seat insert in place. Sitting in an SCBA seat without an SCBA pack or a seat insert may cause injury in the event of a crash.	FAMA11G
FAMA12	Fire Service Tire Rating	Visible to operator inside the cab.	2.0 x 3.0	8	Crash Hazard Tires subject to fire-service ratings. Tire may fail if driven continuously at highway speeds. Keep tires properly inflated. See Operator's Manual for instructions. Crash by failed tire may injure or kill.	FAMA12G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA13	Electronic Stability Control	Visible to operator inside the cab.	2.0 x 3.0	10	Crash Hazard. This vehicle equipped with Electronic Stability Control (ESC). ESC does not eliminate the need to drive safely. Failure to comply will injure or kill.  FAMA13 Do not paint over this block. Replace of domaged or lost	FAMA13G
FAMA14	Cab Seating	Visible to operator inside the cab.  Fill in blank with number of belted seating positions.	2.0 x 3.0	14	This vehicle has a seating capacity of Personnel. Carrying additional personnel may result in death or serious injury.  FAMA14 Do not paint over this label. Replace If damaged or lost.	X_ FAMA14G
FAMA15	Helmet Worn in Cab	Visible from each seating location	2.0 x 3.0	10	Crash Hazard Do not wear helmet while seated . Serious head or neck injury may result from helmet use in cab. Fallure to comply may injure or kill.  FAMA15 Do not paint over this label. Replace if damaged or lost	FAMA15G
FAMA16	Deployable Steps	Visible at step locations.	2.0 x 3.0	14	Deployable Steps  Make sure steps are in the down position.  Failure to deploy steps may injure or kill.  FAMA18 De not paint over this label. Replace if damaged or tost	FAMA16G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA17	Vehicle Backing	Visible to the driver while sitting in the driver seat.	2.0 x 3.0	9	Backing Hazard. Ensure that personnel are clear before driving in reverse. Always use a spotter when backing. Failure to comply may injure or kill.  FAMA17 Do not paint over this label. Replace if damaged or lost.	FAMA17G
FAMA18	Intake and Discharge Cap Pressure	One sign on each side and back of vehicle where caps are present.	3.5 x 3.5	12	Pressure Hazard ALWAYS OPEN Drain or Bleeder Valve to release pressure BEFORE removing Intake or Discharge Cap. Caps can trap pressure. Cap under pressure can fly off with great force. Flying Cap will injure or kill.	FAMA18G
FAMA19	Foam Type Mixing	Near Foam Controls	1.9 x 3.1	8	Foam Failure Hazard Do NOT mix brands and types of foam concentrate. Mixed concentrate may fail to form proper foam. Poor foam may fail to suppress fire leading to injury or death.  FAMA19 Do not paint over this label. Replace if damaged or lost.	FAMA19G
FAMA20	Ultra High Pressure Water	Visible to a person in front of the turret. Visible to turret operator. Visible to fire fighter preparing to use any hand line.	2.1 x 5.2	10	Ultra High Pressure Water Hazard. High pressure water will injure people and pierce skin. Never place body parts in stream Never point stream at people. Keep all hoses, nozzles, and couplings tight. If water pierces skin seek treatment immediately. Placing people or body parts in stream will injure or kill.	FAMA20G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA21	Rotating or Swinging Parts	One sign near each crush point.	3.0 x 5.0	18	Crush Hazard. Keep clear of rotating or swinging parts. Crush from equipment will injure or kill.	FAMA21G
FAMA22	Hose Restraint Required	Near each hose storage area	1.9 x 3.1	10	Entanglement Hazard Secure hose and other equipment before placing vehicle in motion. Loose hose may drag behind vehicle and injure or kill.  FAMA22 Do not paint over this label. Replace if damaged or lost.	FAMA22G
FAMA23	Access Step Method - Small	Visible to personnel preparing to climb onto or enter vehicle.	3.5 x 3.5	10	Fall hazard When climbing on or off vehicle, ALWAYS:  - Face vehicle.  - Use steps and handholds.  - Maintain three points of contact with vehicle (two feet and one hand or two hands and one foot).  - Keep steps, handholds, and walkways clean.  - Use extra caution when wet, icy or muddy.  - Replace surfaces when worn.  Slips and falls can injure or kill.	FAMA23G
FAMA24	Riding on exterior	On the vehicle at the rear step areas and at any cross walkways"	3.5 x 3.5	16	Fall Hazard. Never ride on vehicle when it is in motion. Fall from moving vehicle may injure or kill.	FAMA24G
FAMA25	Trained Personnel	Visible at pump operator's station and Aerial operator's platform. For apparatus without a pump or aerial device, locate this sign in a prominent location visible to operating personnel.	2.7 x 6.6	10	Chily trained personnel should operate this equipment. Personnel connecting supply or discharge hoses must be trained to recognize and respond to water hydraulics hazards and component limitations. Do not operate or service until you have read, understood, and been trained and qualified on the procedure's found in the lastest editions of NFPA standards including 1911, 1451, 1500, IFSTA Handbooks, and the operation and service manuals supplied with this equipment. Replacement manuals are available from the manufacturer of this apparatus. Operating or servicing without knowledge or training may lead to injury or death for you or others.	FAMA25G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA26	No-Step	On any horizontal surface that would be tempting to step on but that is not provided with slip resistant surface and grab handles.	3.5 x 3.5	12	Fall Hazard - Railings NOT provided Surface may be slippery - NOT intended for stepping, standing or walking. Fall will injure or kill.  FAMONIX TO STANDARD TO ST	FAMA26G
FAMA27	Breaker Box Warning	Visible to personnel accessing electrical panel.	1.9 x 3.1	8	Electrical Shock Hazard Disconnect power before removing this cover. Follow National Electrical Code safe practices. Electrical shock can injure or kill.  FAMA27 Do not paint over this label. Replace if damaged or lost.	FAMA27G
FAMA28	Rope Tie-Down 9000	Near each rope anchor	1.9 x 3.1	8	Anchor Failure Hazard  • Straight pull only  • Do NOT exceed 9,000 lb  • Do not lift on anchor Flying parts and whipping ropes may injure or kill.  FAMA28 Do not paint over this label. Replace if damaged or lost.	FAMA28G
FAMA29	Hydraulic High Pressure Leaks	One label per vehicle in a conspicuous area near the majority of the hydraulic lines or components.	3.0 x 5.0	10	High Pressure Fluid Hazard. High Pressure fluid leak will pierce skin. Release pressure before working on system. Detect leaks with wood or cardboard. Wear sturdy gloves and goggles. NEVER use fingers. Fluid injected in skin must be surgically removed by trained doctor immediately or gangrene will result. Fluid injected into skin will injure or kill.	FAMA29G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA30	Stabilizer Crush	Visible to person standing near each stabilizer Visible to stabilizer deployment operator.	3.5 x 3.5	12	Crush Hazard. Before extending or lowering Stabilizers Look around vehicle Clear area of all people. Failure to comply may injure or kill.	FAMA30G
FAMA31	Stabilizer Pins & Pads	Visible to stabilizer deployment operator.	3.0 x 5.0	14	Aerial Stability Hazard Before operating aerial device:  Set up on firm surface only Place pads beneath stabilizer jacks Extend stabilizer beams and lower jacks onto pads Secure jacks with pins Failure to comply may injure or kill.	FAMA31G
FAMA32	Stabilizer Pads	Visible to stabilizer deployment operator.	3.0 x 5.0	14	Aerial Stability Hazard Before operating aerial device  • Set up on firm surface only  • Place pads beneath stabilizer jacks  • Extend stabilizer beams and lower jacks onto pads Failure to comply may injure or kill.	FAMA32G
FAMA33	Stabilizers Not extended	Visible to stabilizer deployment operator.	0.9 x 2.1	10	Stability Hazard. Stabilizers not fully extended.	FAMA33G
FAMA34	Fall Restraint Required.	One sign near base of ladder.  One sign visible in platform.	3.0 x 5.0	18	Fall Restraint Required All personnel on aerial ladder or platform must wear safety harness with restraint belt properly attached to the device Fall will injure or kill.	FAMA34G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA35	Aerial Electrocution Small Size	Visible to aerial and pump operator.	3.0 x 5.0	10	Electrocution Hazard - Equipment is not insulated  NEVER approach or contact power lines with any part of this equipment.  Keep 50 feet from power line if voltage is not known.  Keep 20 feet from power line 350 kilovolts or less.  Account for swaying motion of power lines and apparatus.  Use light to search for power lines in the dark.  Do not step off a charged vehicle.  Approaching or contacting a power line will injure or kill.	FAMA35G
FAMA36	Aerial Electrocution Large Size	Visible to personnel on aerial apparatus approaching vehicle from either side and back.	6.0 x 8.0	18	Electrocution Hazard - Equipment is not insulated NEVER approach or contact power lines with any part of this equipment. Keep 50 feet from power line if voltage is not known.  Keep 20 feet from power line 350 kilovolts or less.  Account for swaying motion of power lines and apparatus.  Use light to search for power lines in the dark.  Do not step off a charged vehicle.  Approaching or contacting a power line will injure or kill.	FAMA35G
FAMA37	Aerial Device Load Capacity	Visible to aerial operator at turntable, in the platform, and at tip controls.	3.0 x 5.0	12	Tip-Over or Structural Failure Hazard Do not exceed rated capacity or rated number of people. Do not operate in high winds or with excessive ice coating. Apparatus must be on a surface that will support the load before raising device. Failure to comply will injure or kill.	FAMA37G
FAMA38	Aerial Ladder Rung Pinch	One sign visible to personnel operating tip controls.  One sign visible to Aerial Operator.	1.9 x 3.1	10	Pinch Hazard. Keep feet on folding steps. Keep hands off rungs. Moving rungs can pinch and crush.  FAMA38 Do not paint over this label. Replace if damaged or lost.	FAMA38G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA39	Aerial Inspection	Visible to operator at turntable.	2.0 x 3.0	10	Inspection Required Follow the instructions in the operator's manual and NFPA 1911 for daily, frequent, and annual inspection and maintenance.  Operation of a poorly inspected aerial device may injure or kill.  FAMA39 De root paint over this bloks. Replaces of developed or boat	FAMA39G
FAMA40	Fall Protection Anchor	Next to fall protection anchor.	1.0 x 2.0		FAMA40	FAMA40G
FAMA41	Cab Tilt	Inside of driver cab door	2.0 x 3.0	10	Crush Hazard. Stay clear of raised cab. Before working under cab engage prop support. Falling cab may injure or kill.  FAMA41 Do not paint over this label. Replace if damaged or lost	FAMA41G
FAMA42	Siren Noise	Inside of driver cab door	2.0 x 3.0	9	Sirens produce loud sounds that may damage hearing. Roll up windows. Wear hearing protection. Use only for emergency response. Avoid exposure to siren sound outside of vehicle.  FAMA42 Do not paint over this label. Replace if damaged or lost	FAMA42G
FAMA43	Helmet Worn in Cab	Visible from each seating location	2.0 x 3.0	10	Crash Hazard Do not wear helmet while seated unless necessary during suppression operations. Serious head or neck injury may result from helmet use in cab. Failure to comply may injure or kill.  FAMA43 Do not paint over this label. Replace if damaged or lost	FAMA15G

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA44	Pump and Roll Fire Fighting Position - Exterior	One sign visible from the pump-and- roll firefighting position	3.5 x 3.5	14	Exterior Wildland Fire Fighting Position Stay seated and belted while vehicle is in motion. Do not use above 10 mph. Keep body parts within the ROPS structure. Not for on-road use. Failure to comply may injure or kill.	SPEED LIMIT 10
FAMA45	Pump and Roll Fire Fighting Position - Driver	One sign visible from the drivers position or visible to the driver while entering the cab	2.0 x 3.0	10	With exterior seat occupied: Stay clear of fire. Never exceed 10 mph. Never drive unless occupant is seated and belted. Failure to comply may injure or kill.  FAMAS Do not paint over this label. Replace if dereaged or lost	SPEED LIMIT 10
FAMA46	Aerial Device Pinch	One sign on aerial device visible to personnel on the turntable at the foot of the device	1.9 x 3.1	10	Pinch and Crush Hazard. Keep hands and body clear of moving parts. Fallure to comply may injure or kill.  FAMA46 Do not paint over this label. Populate of damaged or last	

Ref Number	Hazard	Location	Size (in.)	Font Size	ANSI Version	ISO Version
FAMA47	Aerial Device Operator Attention Required	Visible to aerial operator at turntable, in the platform, and at tip controls	3.0 x 5.0	12	Operator Attention Required Trained operator must remain at primary controls any time there are personnel on the device.  Do not operate this device using platform or tip controls without a trained operator at the primary controls at all times.  Be alert for changing conditions and be prepared to remove device personnel from danger.  Failure to comply may injure or kill.	

## 7 REVISIONS

Date	Safety Sign	Description of Change
09/19/2013	FAMA30	Changed term from "jacks" to "stabilizers". Added second pictograph panel for staying away from hazard. Changes made at the request of NFPA 1901/1906 Aerial Task Group.
09/19/2013	FAMA39	daily, frequent, and annual inspections <u>and maintenance</u> . Change made at the request of NFPA 1901/1906 Aerial Task Group.
02/11/2014	FAMA13	Changed the graphics for consistency with W09 and J14 from SAE J2402. Increased font size from 8 to 10.
02/11/2014	FAMA16	Added deployable step symbol 2572 from ISO 7000. Increased font size from 12 to 14.
02/11/2014	FAMA40	Revised the image of the hook to be consistent with typical safety harness hooks.
02/11/2014	ISO Symbols	Added ISO text-free safety signs FAMA04G, FAMA06G, FAMA08G, FAMA09G, FAMA10G, FAMA11G, FAMA12G, FAMA13G, FAMA14G, FAMA16G, FAMA17G, FAMA19G, FAMA20G, FAMA21G, FAMA28G, FAMA36G, FAMA39G, FAMA40G, FAMA41G, and FAMA42G.
10/03/2014	FAMA44, 45	New NFPA 1906 Pump and Roll Fire Fighting Position signs.
10/03/2014	FAMA46	New pinch and crush warning sign for aerial device turntable position.
10/03/2014	FAMA47	New aerial primary operator attention required warning