Sneak Peak at 2009...

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11/3/08

When the fire service responds to fires, emergencies, EMS calls and other incidents, apparatus is utilized on each and every response. Because there have been many changes affecting the design and manufacture of fire apparatus, there will be several classes on various aspects of apparatus purchasing at Firehouse Expo in Baltimore July 2009 and Firehouse Central in Atlanta, October 2009.

New NFPA 1901 Automotive Fire Apparatus Standard applies to contracts signed on or after January 1, 2009.

Subjects covered in trailer chapter:

- Carrying Capacity
- Information Labels and Instruction Plates
- Fluids and Pressures Specific to the Trailer Chassis
- Braking System
- Suspension and Wheels
- Trailer Hitch
- Wheel Chocks
- Low Voltage Electrical Systems and Warning Devices
- Reflective Markings

Trailers

Applies to trailers transporting equipment or vehicles under emergency response conditions

- Type I trailers - remain connected to tow vehicle and are dependent on each other for required electrical power and conspicuity
- Type II trailers - allow separation from tow vehicle after arrival and are not dependent on the tow vehicle for required electrical power and conspicuity
- Type III trailers - open trailers designed to transport other vehicles, equipment, or containers that will be used off the trailer

Air Systems

- Clarifies who is to train fire departments
- Compressor required to have air quality monitoring
- Breathing air refill stations could be for SCUBA

Foam Systems

- Required to be type tested for accuracy and certified by system manufacturer at minimum of 5 combinations of water flow, water pressure, and foam percentage
- Required to be tested and certified by final installer at 3 specific test points

Aerial Devices

For aerial devices that can be operated over the side with the stabilizers not fully deployed

- Interlock required to prevent operating into an unstable position
- An indicator required at the operator's position to allow the operator to determine the maximum extension in relation to the angle of elevation and the extended length of the stabilizers

Aerial Devices

- Changes allow electronic envelope control
- Rated capacity determined with aerial device at maximum horizontal extension with stabilizers fully deployed
- Minimum rated capacity constant throughout entire operating envelope
- For aerial devices that can be operated over the side with the stabilizers not fully deployed, interlock required to prevent operating into an unstable position

Fire Pumps

- Integrated requirements for industrial supply pumps (currently Chapter 18)
- If pump rated over 3000 gpm…
    - 100 % capacity at 100 psi net pump pressure
    - 70 % capacity at 150 psi net pump pressure
    - 50 % capacity at 200 psi net pump pressure
    - 10% overload test (165 psi net pump pressure) does not apply

Receivers or Anchors

- For winch, must provide at least a 2 to 1 straight line pull no-yield safety factor over the load rating of the removable winch
- For rope operations must provide at least 9,000 lb no-yield condition with a straight line pull

Retro-reflective Striping

- More specific requirement for retro-reflective stripping and material
- Pump panels excluded from 50 % of side requirement
- At least 50% of rear to have retro-reflective stripping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees. Each stripe to be 6 in. in width and a single color alternating between red and either yellow, fluorescent yellow, or fluorescent yellow green

Seat Belts

- Defined length of seatbelts with requirements for how measured
    - Type I (lap belt) 60 inches
    - Type 2 (pelvic and upper torso) 110 inches
        - Allows seatbelts to be bright orange in addition to red
        - Requires seatbelt warning device with audible throughout seating area and visual to driver or officer positions

Low Voltage Electrical

- Additional 45 amps required on minimum continuous electrical load if apparatus equipped to tow trailer
- Ground lighting and surface lighting increased from 1 fc to 2 fc
- Driving/crew compartment interior lighting measured at seating surface
- Compartment lighting 2 fc at floor with no shelves, dividers, or equipment
- Exemptions from connection to hazard light if compartment meets certain criteria

Diesel Particulate Filter (if provided)

- The regeneration process must be able to be activated by two methods:
    - Automatically by the engine system, if the transmission is in gear, and the speedometer is indicating a speed above 5 mph
    - Manually when initiated by activation of a switch
- Switch required that will inhibit DPF regeneration
- Icon to indicate that the DPF requires active regeneration
- Diesel Particulate Filter - Cont
- A high exhaust system temperature icon to indicate active regeneration process has been initiated
- Engine exhaust gas temperatures not to exceed 851°F when measured at the exit of the exhaust pipe

Estimated In-Service Weight

- The chassis, body, and tank(s)
- Full fuel, lubricant, and other chassis or component fluid tanks or reservoirs
- Full water and other agent tanks
- 250 lb in each seating position
- Fixed equipment such as pumps, aerial devices, generators, reels, and air systems as installed
- Ground ladders, suction hose, designed hose load in hose beds and on reels
- An allowance for miscellaneous equipment

Additional Equipment on Apparatus

- One traffic vest for each seating position
- 5 fluorescent orange traffic cones
- 5 illuminate warning devices
- 1 automatic external defibrillator (AED)
- Step ladder or multipurpose ladder can be substituted for folding ladder if the ladder meets ANSI A14.2 or ANSI A14.5, with duty ratings of 300 lb or 375 lb

Statement of Exceptions

Manufacturer must deliver either a certification that the apparatus meets the standard or a statement of exception that describes specifically what is not fully compliant and identifies who is responsible for compliance

Speed Limit

- If GVWR over 26,000 lb., maximum top speed lower of 68 MPH or fire service speed rating for tires.
- If water/foam tank capacity over 1250 gal or GVWR over 50,000 lb., maximum top speed lower of 60 MPH or fire service speed rating for tires

Vehicle Stability

Standard requires one of the following

- Remain stable to 26.5 degrees in both directions on tilt table
- Calculated center of gravity no higher than 80% of vehicle height • Have a vehicle stability system

Vehicle Data Recorder

Capture data once per second in 48 hour loop

- Acceleration/deceleration
- Engine speed
- Engine throttle position
- ABS event
- Seat occupied and seat belt status
- Master warning device switch on/off
- Date/time
- Minute by minute summary stored for 100 engine hours
- Software to download information