

Minimum Standards and Specifications For Firefighting Vehicles

All firefighting vehicles funded under this program must meet the following minimum standards. These standards were developed to establish broad equipment categories for funding and review. They are not intended as “bid ready” equipment specifications. Departments are strongly encouraged to add capabilities and features as required to meet local needs.

WEIGHT AND BALANCE

The fully loaded and equipped operating weight of the vehicle must not exceed the Gross Vehicle Weight Rating (GVWR) of the vehicle as determined by the manufacturer, nor the Gross Axle Weight Rating (GAWR) of the vehicle as determined by the manufacturer.

The vehicle weight must be balanced so that the vehicle is easy to control.

The vehicle center-of-gravity must be low enough to safely operate in curves and on side slopes.

The vehicle must have effective brakes that can stop the vehicle without brake fade.

TANKS

All vehicles must have a water tank with a minimum capacity of 200 gallons.

All water tanks must be baffled.

All water tanks constructed of mild steel must be protected from corrosion.

SMALL BRUSH TRUCK

A vehicle designated as a Small Brush Truck must meet the following design minimums:

200 Gallon Water Tank
100 GPM Pump @ 100 PSI
Ability to draft water a minimum of 12 vertical feet
Two and one-half inch pump discharge

LARGE BRUSH TRUCK

A vehicle designated as a Large Brush Truck must meet the following design minimums:

500 Gallon Water Tank
250 GPM Pump @ 40 PSI
Ability to draft water a minimum of 12 vertical feet
Two and one-half inch pump discharge
Minimum 22,000 pound GVWR chassis

TANKER

A vehicle designated as a Tanker must meet the following design minimums:

1,000 Gallon Water Tank
250 GPM Pump @ 40 PSI
Minimum Dump Valve of 4 ½ inch (round or square)
Ability to draft water a minimum of 12 vertical feet
Minimum 22,000 pound GVWR chassis

OTHER MINIMUM SPECIFICATIONS

All slippery surfaces where personnel will step must have skid plates or abrasive surfaces to prevent personnel from slipping under wet conditions.

Vehicle must have back-up alarm.

Vehicle must have illuminated pump controls.

Vehicle must have vehicle lighting and markings as required by law.

MINIMUM SPECIFICATIONS FOR CAFS EQUIPPED VEHICLES

In addition to the minimum standards and specifications for Small Brush Trucks, Large Brush Trucks, and Tankers described above, the following minimum standards are required for CAFS equipped vehicles and Slip-On Modules:

WATER PUMP

Minimum Water Pump Capacity:
90 GPM @ 100 PSI

Minimum CAFS Solution (Water) Flow:
20 GPM for a 1-inch CAFS discharge

AIR COMPRESSOR

Minimum Air Pressure:
100 PSI

Minimum Air Flow:
20 SCFM for a 1-inch CAFS discharge

FOAM PROPORTIONER

Unit shall be equipped with a discharge-side foam proportioning system capable of inserting Class A Foam in percentages from 0.01% to 1.0%.

Foam concentrate insertion point shall be downstream of the tank-fill discharge and the pump re-circulation line, with at least one check valve (recommended non-metallic) to prevent foam concentrate from entering the water supply.

PLUMBING

Plumbing exposed to foam solution shall be stainless steel or, where necessary for flexing, high-pressure wire-reinforced hose.

Plumbing shall be assembled using unions, flanges, swivels, etc., to facilitate the servicing of all components.

Check valves shall be used to prevent water from entering the air compressor and foam concentrate; to prevent air from entering the water pump and foam concentrate; to prevent foam concentrate from entering the water pump and air compressor; and to prevent foam concentrate and air from entering the water tank.

MINIMUM ACCESSORIES

Unit shall have vibration-dampening gauges for water and air pressure.

Unit shall have plumbed into the air system, a quick-connect female fitting for standard air hose male fittings.

MINIMUM OPERATIONAL PERFORMANCE REQUIREMENTS

CAFS flows shall be capable of an operator-selectable "wet" to "dry" aerated foam discharge (similar trajectory to that of a water-only stream on the "wet" side and have the ability to cling to a vertical surface on the "dry" side).

CAFS unit shall be able to produce independent flows of air, water, foam solution, or CAFS, and simultaneous flows of compressed air foam, or foam solution and plain water, with combined flows up to the maximum rated GPM capacity of the pump at 100 PSI.

The water pump discharge pressure shall be operator-selectable.