

## **3.2 Minimum Standards and Specifications for Firefighting Vehicles**

All vehicles funded under this program must be fire suppression vehicles and must meet the following minimum standards. These standards are 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 required to meet local needs.

### **3.2.1 Weight and Balance**

1. The fully loaded and equipped operating weight of the vehicle must not exceed the Gross Vehicle Weight Rating (GVWR) or the Gross Axle Weight Rating (GAWR) of the vehicle, as determined by the manufacturer.
2. The vehicle weight must be balanced so that the vehicle is easy to control.
3. The vehicle center-of-gravity must be low enough to safely operate in curves and on side slopes.
4. The vehicle must have effective brakes that can stop the vehicle without brake fade.

### **3.2.2 Tanks**

1. All vehicles must have a water tank with a minimum capacity of 200 gallons.
2. All water tanks must be baffled.
3. Tanks constructed of mild steel are prohibited.

### **3.2.3 Truck Chassis**

All truck chassis must be constructed to the minimum specifications of the type of suppression vehicle intended.

For example: Small Truck Chassis must adhere to the Small Brush Truck specifications, Large Truck Chassis must adhere to the Large Brush Truck or Tanker specifications.

### **3.2.4 Small Brush Truck**

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 ½ inch pump discharge  
Minimum ¾ Ton Chassis

### **3.2.5 Large Brush Truck**

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 ½ inch pump discharge  
*Minimum 22,000 pound GVWR chassis*

### **3.2.6 Tender**

A Tender 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*

### **3.2.7 Other Minimum Specifications**

1. Slippery surfaces where personnel will step must have skid plates or abrasive surfaces to prevent personnel from slipping under wet conditions.
2. Vehicle must have back-up alarm.
3. Vehicle must have illuminated pump controls.
4. Vehicle must have vehicle lighting and markings as required by law.
5. Vehicle must contain water for fire suppression.

### **3.2.8 Minimum Specifications for CAFS Equipped Vehicles**

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

#### **WATER PUMP**

Min. Water Pump Capacity: 90 GPM @ 100 PSI

Min. 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 must 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 must 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 must be stainless steel or, where necessary for flexing, high-pressure wire-reinforced hose.

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

Check valves must 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 must have vibration-dampening gauges for water and air pressure.

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

## **MINIMUM OPERATIONAL PERFORMANCE REQUIREMENTS**

CAFS flows must 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 must 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 must be operator-selectable.