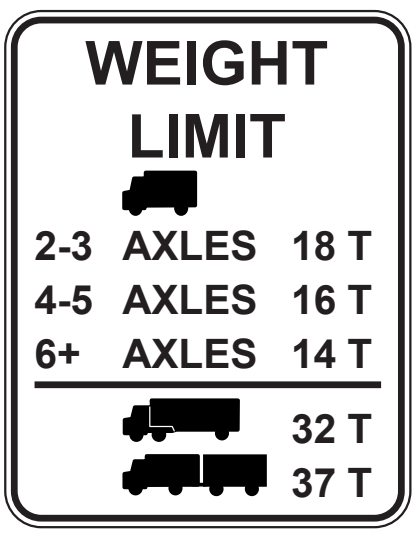
Load Posting Signs for Commercial Vehicles
How They Are Used



Bridges require periodic maintenance to remain safe and serviceable, and regular inspections help to identify those elements needing repair or replacement. When a condition is found that may affect the ability of the structure to carry the anticipated loads, a load rating analysis is completed and as a result, traffic crossing the structure may be limited until the condition can be corrected or the bridge is replaced.

Weight limit or load posting signs are used to prevent loads from crossing a bridge that cause stresses above a safe limit. The Wyoming Department of Transportation uses the following signs to limit the weight of vehicles.

Regardless of how much of the total weight of the vehicle is actually on the bridge, the GVW must be equal or less than the limit next to the applicable vehicle. A blank indicates that vehicle is allowed to cross up to the legal GVW for that configuration.

Interpretation of the sign is essential for proper enforcement.

When calculations show the load limit for all truck configurations are the same, the sign to the right may be used. Regardless of how much of the total weight of a vehicle is actually on the bridge, the GVW must be equal to or less than the limit on the sign.

*** Because every possible vehicle configuration cannot be represented on a sign, the included symbols are used to show easily recognizable vehicles. The number of axles shown on each silhouette should not be interpreted as the only possible configuration for that particular vehicle.*

Single Unit Vehicles

Single unit vehicles are governed by the above silhouette. The maximum Gross Vehicle Weight (GVW) allowed is specified for different axle numbers (i.e. 2-3 Axles, 4-5 Axles, or 6+ Axles).


Single Unit Vehicle - 6 axles

Single Unit Vehicle - 2 axles


Single Unit Vehicle - 4 axles

Semi-Trailer Combinations

Semi-Trailer Combinations, regardless of the number of axles, are governed by this silhouette.


Semi-Trailer Combination - 5 axles


Semi-Trailer Combination - 6 axles


Semi-Trailer Combination - 7 axles

Truck & Full Trailer Combinations

Truck & Full Trailer Combinations, regardless of the number of axles, are governed by this silhouette.


Truck & Full Trailer Combination - 5 axles

Semi-Trailer & Full Trailer Combination - 6 axles

*** Because every possible vehicle configuration cannot be represented on a sign, the included symbols are used to show easily recognizable vehicles. The number of axles shown on each silhouette should not be interpreted as the only possible configuration for that particular vehicle.*

Load Posting Signs for Emergency Vehicles
How They Are Used

In December 2015, the Fixing America's Surface Transportation Act (FAST Act) was signed into law that revised the weight limits for Emergency Vehicles for bridges on the Interstate System and within reasonable access. The code also ensures that vehicles that are allowed on Interstate System must also be allowed access to the highway system.

An emergency vehicle as defined in the FAST Act is designed to be used under emergency conditions to transport personnel and equipment to support the suppression of fires and mitigation of other hazardous situations. The gross vehicle weight limit for emergency vehicles is 86,000 pounds. The statute imposes additional axle limits, depending upon vehicle configuration.

Emergency vehicles in general, especially those used in fire suppression, are often heavier and larger than typical commercial vehicles. Fire suppression requires large volumes of water leading to large loads. Use of small capacity tankers is less efficient and increases response time. Emergency vehicles with aerial devices are heavy due to the total mass required to counterbalance the horizontal and vertical reach requirements of ladders and platforms.

Bridges not designed for modern trucks and bridges with structural elements needing repair or replacement are susceptible to stresses above the safe limit due to emergency vehicle crossings. Regular inspections identify those elements that require repair or replacement to remain safe and serviceable.

The Federal Highway Administration (FHWA) has determined that, for the purpose of load rating, two emergency vehicle configurations produce load effects in typical bridges that envelop the effects resulting from the family of typical emergency vehicles that is covered by the FAST Act:

1. Type EV2 – for single rear axle emergency vehicles (2 axles); GVW = 28.75 T
2. Type EV3 – for tandem rear axle emergency vehicles (3 axles); GVW = 43 T

The Wyoming Department of Transportation uses signs specific to emergency vehicles to ensure they can safely cross the structure. Interpretation of the sign is essential for the safety of the response crews and ensures the bridge remains safe for other users once the emergency has passed.

The sign to the right (or similar) is used when the bridge is load posted for emergency vehicles. Regardless of how much of the total weight of a vehicle is actually on the bridge, the GVW must be equal or less than the limit next to the applicable vehicle. A blank indicates that vehicle is allowed to cross up to the legal GVW for that configuration.

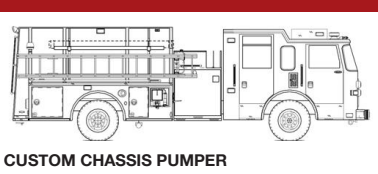
OPERATING TIPS FOR LOCAL DEPARTMENTS

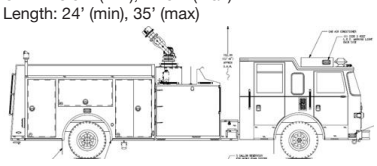
Fire apparatus operators must be familiar with the roads and bridges over which they travel. Detailed lists of bridges in your coverage zone are available from the WYDOT Bridge Program upon request.
Additional guidance can be found in the following resources:

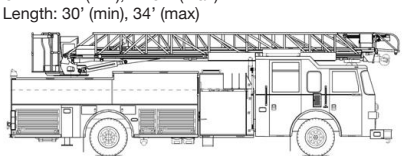
- *Fire Apparatus Safety Guide*, Fire Apparatus Manufacturers' Association (FAMA), 2013
- *Standard for a Fire and Emergency Service Vehicle Operations Training Program (NFPA 1451)*, National Fire Protection Association (NFPA), 2018

Emergency Vehicles with Two Axles


COMMERCIAL CHASSIS PUMPER
GVW: 16.5 T (min), 24.5 T (max)
Length: 24' (min), 35' (max)

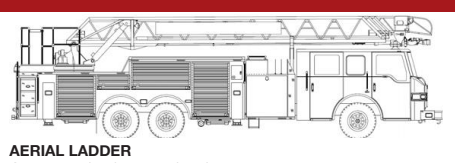

CUSTOM CHASSIS PUMPER
GVW: 21 T (min), 27.5 T (max)
Length: 30' (min), 34' (max)

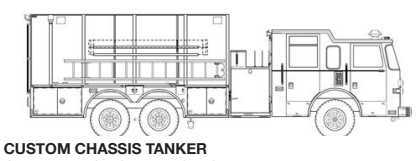

INDUSTRIAL FOAM PUMPER
GVW: 22 T (min), 27.5 T (max)
Length: 30' (min), 36' (max)


AERIAL LADDER
GVW: 22 T (min), 28.9 T (max)
Length: 36' (min), 43' (max)

Emergency Vehicles with Three Axles


COMMERCIAL CHASSIS TANKER
GVW: 23 T (min), 37 T (max)
Length: 30' (min), 40' (max)


AERIAL LADDER
GVW: 27 T (min), 38.4 T (max)
Length: 39' (min), 43' (max)


CUSTOM CHASSIS TANKER
GVW: 29.3 T (min), 39.4 T (max)
Length: 24' (min), 35' (max)


AERIAL PLATFORM REAR MOUNT
GVW: 33.7 T (min), 43 T (max)
Length: 46' (min), 48' (max)

Figures from Fire Apparatus Manufacturers' Association (FAMA), Emergency Vehicle Size and Weight Guide.