

Proper Transportation Of Fuels

When carrying propane or oxygen and acetylene in your rig, it's important to be sure you're in compliance with transportation laws

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Liquid petroleum gas (LP gas) or propane, is a very useful, convenient and widely used fuel in the farrier industry. Transportable propane cylinders, as used in the typical farrier forge, are regulated by the United States Department of Transportation (DOT). There are two basic types of portable propane cylinders used by farriers; vertical and horizontal cylinders.

Most farriers use 20- or 30-pound portable vertical cylinders, although some prefer 30-pound or more fixed horizontal cylinders. These cylinders are sometimes described in terms of the volume they hold in gallons. For example, the 20-pound cylinder is often referred to as a 5-gallon cylinder. This isn't a precise measurement, as a 20-pound cylinder holds closer to 4.7 gallons of propane. It's more accurate to refer to cylinder sizes by the number of pounds of propane they hold rather than gallons. Propane tanks are filled to

80% capacity, leaving a safety cushion of 20% for gas expansion.

Propane Regulations

The DOT sets exact limits on the weight of hazardous materials that may be transported before a vehicle is required to have a placard. A placard is a sign that is attached to the vehicle denoting the types of hazardous materials being transporting. When you are transporting propane cylinders, you are transporting hazardous materials. Vehicle placarding is required when the total weight of the cylinders and propane reach a combined weight of more than 1,000 pounds or exceeds 25 20-pound cylinders. Very few farriers are ever likely to have to deal with this transportation regulation.

DOT requires that propane cylinders be secured on a flat surface or in a rack, tote or mounted so they won't move around in the vehicle. A propane cylinder not in use or not connected by a hose to an appliance must be plugged or



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capped. Leaving your forge connected to the propane tank is legal under DOT regulations.

DOT regulations also apply to the transportation of propane cylinders in closed vehicles, such as passenger cars, vans and trailers, when the amount of propane exceeds 90 pounds, or about 21 gallons. Farriers could have to deal with this regulation if they transport more than four 20-pound cylinders or three 30-pound cylinders.

Some exceptions to the above regulations will apply when entering tunnels, crossing bridges or traveling down some parkways. For example, when crossing over the Chesapeake Bay Bridge, you are not allowed to transport more than two 60-pound cylinders.

In Canada, the maximum number of cylinders that can be transported in enclosed vehicles without displaying a placard is five, as long as each cylinder weighs less than 30 kilograms (66 pounds). A full 20-pound cylinder typically weighs about 17 kilograms (34.5 pounds). For open vehicles (back of a pick-up truck), the total combined weight of the propane and cylinders cannot exceed 550 kilograms (1,213 pounds).

Oxygen And Acetylene Rules

Oxygen and acetylene mixture is another widely used fuel in the farrier industry. DOT and the Occupational Safety and Health Agency (OSHA) have strict regulations concerning

On The Web

There are many websites that provide additional information regarding the safe transportation and use of propane and other fuels typically used by farriers. For further information and resources, visit:

- National Propane Gas Association (NPGA) at www.npga.org
- National Fire Protection Association (NFPA) at www.nfpa.org
- Gas and Welding Distributors Association (GAWDA) at www.gawda.org
- Propane Gas Association of Canada at www.propancegas.ca
- Occupational Safety and Health Agency at www.osha.org
- Department of Transportation at www.dot.gov

the transportation, storage and use of oxygen and acetylene. If you have employees (farriers, apprentices) or are employed as a farrier by another farrier (not consulting or sub-contracting), then OSHA regulations are applicable to the type of work you perform. OSHA does not have the authority to require self-employed farriers to abide by OSHA regulations.

If OSHA regulations apply to you, there is an incredible amount of information pertaining to the use and storage of compressed gas cylinders. I would strongly advise that readers spend some time reviewing this information on the appropriate sections of the OSHA website (www.OSHA.gov). Two examples of these are: A special acetylene wrench is required and left in position on the stem of the valve while the cylinder is in use [OSHA 1910.253(b)(5)(iii)(L)] and an acetylene cylinder valve shall not be opened more than one and one-half turns [OSHA 1910.253(b)(5)(iii)(K)].

DOT has its own regulations

concerning the transportation of compressed gas cylinders. DOT regulations require that all compressed gas cylinders be secured from movement during transportation. This includes oxygen and acetylene, as well as propane. DOT regulations require both oxygen and acetylene tanks to be capped and transported in an upright position.

Compressed gas cylinders must be placed with valve end up whenever they are in use, stored or transported. Before transporting, all cylinder valves must be closed. Protective caps must be installed on cylinders being transported, or anytime they are not in use.

If the cylinder is not designed to accept a protective cap over the valve (as in B tank size), special care must be taken to prevent the valve from damage or opening during transportation.

All gas cylinders with a water capacity of over 30 pounds must be equipped with a valve protection cap, or with a collar or recess to protect the valve from accidental damage.

Capping It All Off

In addition, cylinders shall be maintained with the protective cap in place at all times unless in use (DOT 49CFR Parts 171-9).

Many farriers travel down the highway leaving their regulators attached to the oxygen and acetylene tanks. This is illegal. To avoid having to take the regulators off the tanks, there is a DOT approved regulator cover that can be used.

While there may seem to be a bewildering number of regulations regarding the proper use, storage and transportation of these fuels, spending a little time in the proper setting up of the areas for these materials in your shoeing rig will ensure that you are in compliance with many of them. Companies that design shoeing rigs are well aware of the requirements and can help you meet them.

And taking a few minutes at the end of each stop to make sure tanks are properly capped will not only help you avoid potential fines, it will help ensure your safety as well. ♪

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