

Trailer Safety and Response

By Dr. Rebecca (Gimenez) Husted



PREVENTION OF TRAILER ACCIDENTS STARTS AT MAINTENANCE

Find a trailer maintenance person in your area and make an appointment TODAY. Improper hitching is an unfortunately common cause of trailer accidents, and separation of the trailer is often a death sentence for the precious cargo in the trailer. Despite rumors, the data prove that both gooseneck and bumperpull hitches are safe – as long as they are hitched properly. Be sure the hitch on the towing vehicle is the correct type, size and rating to match the coupler. Also be sure the hitch is properly installed onto the towing vehicle. Fasten the safety chains and breakaway switch actuating chain securely. Check the floor to ensure serviceability. Service the battery to the breakaway and ensure it is connected so that the brakes will lock in case of separation. A loose trailer can roll for thousands of feet and can kill other drivers as well as the occupants.

SAFETY WALKAROUND – EVERY TIME YOU GET IN THE VEHICLE.

Make a SAFETY WALKAROUND part of your routine before towing. Use a checklist for making sure you don't forget a step in the hitching process. Even if you get out to fuel up or take a break – do it. Look at the tires for objects, uneven wear or tears, listen for hissing air, feel them for any unusual heat. Check the hitch system – is everything still attached? Are the lights working? Look in on the horses – do they look relaxed and comfortable? As you pull forward, test the brake systems, especially with controllers.

CHOICE OF VEHICLE AND TRAILER

Choose a towing vehicle with an appropriate rating and braking system – no mis-matches between the size of the vehicle and the trailer. Being able to PULL the trailer is not as important as being able to STOP. There is expertise from your vehicle manufacturer and trailer maintenance technicians on the proper size vehicle to tow a particular trailer. Generally, heavy duty towing packages are recommended. Three-horse tag along trailers are not recommended – VERY few trucks are large enough to haul them safely.

GVWR (Gross Vehicle Weight Rating)

This is the maximum allowable gross vehicle weight. The gross vehicle weight is the total weight of the vehicle. When towing a trailer, it is the sum of the vehicle weight (including the occupants, cargo and any optional equipment installed on the vehicle) and the tongue weight of the trailer.

GCWR (Gross Combination Weight Rating)

This is the maximum allowable gross combination weight. The gross combination weight is the sum of the total vehicle weight (including the occupants, cargo and any optional equipment installed on the vehicle) and the weight of the trailer being towed (including the cargo in the trailer).

STEPS FOR DETERMINING CORRECT LOAD LIMIT – TRAILERS

Determining the load limits of a trailer is complicated. On all trailers there is a Federal Certification/VIN label located on the forward half of the left (road) side - which indicates the trailer's Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weigh. If your trailer has a GVWR of 10,000 pounds or less, there is a vehicle placard with tire and loading information, and maximum cargo capacity. Cargo up to maximum weight specified should not exceed (combined weight) provided as a single number. The total weight of a fully loaded trailer cannot exceed the stated GVWR.

STEPS FOR DETERMINING CORRECT LOAD LIMIT – TOWING VEHICLE

***THIS IS NOT EASY AND IT IS NOT OBVIOUS FOR EVERY TRUCK AND TRAILER!**

Locate the statement, "The combined weight of occupants and cargo should never exceed XXX lbs.," on your vehicle's placard (usually on the inside of the driver's door or in the owner's manual). Determine the combined weight of the driver and the passengers riding in your vehicle. Subtract the combined weight of the driver and passengers from the combined weight on placard. Result equals the available amount of cargo and luggage capacity.

For example, if "XXX" amount equals 1400 lbs. and there will be five, 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. **1400-(5 x 150 passengers= 750) = 650 lbs.**

Determine the combined weight of all luggage and cargo being loaded on the vehicle. That weight may not safely exceed that weight calculated above. If the vehicle is towing a trailer, the load from the trailer is transferred to the vehicle via the TONGUE WEIGHT – which can be calculated and there is a APP for that, but is not specified. See <https://www.etrailer.com/faq-how-to-determine-trailer-tongue-weight.aspx> Consult the tow vehicle's manual to determine how this tongue weight transfer reduces the available cargo and luggage capacity of your vehicle.

GET A WIDER AND TALLER TRAILER FOR BIG HORSES

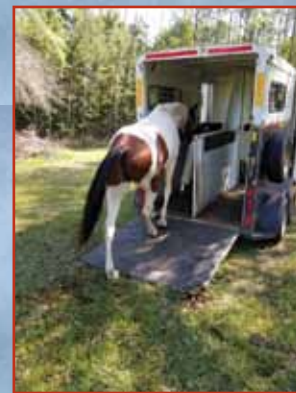
Use an appropriately sized trailer for the horse so that it has room to allow it to balance by moving its head and neck, as well as its feet. A trailer roof that is too short or width

Random Trailers Illustrate Important Safety Points

Photos and Captions courtesy of John Dumford



This trailer is up on a drive-up chock (which may be too short for some trailers - put a 2 x 6 chock under it!) with tools ready as the tire is changed.



Time and time again, the BEST things you can do for your horse to make a good citizen for life is to teach him / her to be easily caught, led, and loaded in and out of a horse trailer of any kind. That is true mitigation for trailer incidents, because MOST injuries to horses occur in a trailer that hasn't even MOVED YET!



Reading the manufacturers plate, this is a GVWR (Gross Vehicle Weight Rating) of 9995 pounds. In the middle is information on the axles (2) and tires. The VIN number is on the bottom of the photograph along with the model.

THE FRIESIAN[®]

of a space too small for the horse will cause it to panic and scramble because it can't "base wide". Pushing a tall high-headed horse or a draft horse into a trailer made for standard size horses is very dangerous as an unbalanced or overweight load may cause a trailer to overturn in an accident. MANY TRAILERS are too small for the horses that they regularly carry.

DRIVING SKILLS

The animals in the trailer cannot see what is coming or what you are doing as you drive; warn them with a small touch of the brake that you are getting ready to stop, or by starting the curve slowly so that they can brace themselves. Studies have shown that even animals that are used to hauling and not stressed by the prospect of many kilometers in a trailer still use a lot of energy bracing and balancing themselves.

Just for fun – drive your trailer across the pasture slowly with some passengers standing in the back. Tell them they can't use their hands and arms to balance or brace. This exercise makes believers out of horse people! They will be able to tell good from bad driving practices. It is a GREAT learning exercise for teen drivers as well as "old hands" that have gotten casual about their driving with horses.

Single-vehicle with trailer accidents are repeatedly attributed by the investigators to a lack of sleep (going to or coming home from horse related events) or lack of experience in the driver. Teenagers should be well supervised when driving trailers – it is a huge responsibility to be allowed to haul horses and it takes driving experience (WITHOUT HORSES IN THE TRAILER) to get good at it. TEACH them to drive the trailer.

Who taught YOU? Your Dad? Mom? Friend? Did you do a cones course? Train with a Fire Truck or Commercial Driver? Did you just hitch it and figure it out? That is what MOST PEOPLE do – and it is dangerous for the animals and for others around you on the road. Get smart – get educated!

BEST PRACTICES FOR TRANSPORT (FOR OWNERS)

- DRIVER'S HITCHING, MAINTENANCE AND SAFETY COURSE
- LEARN THE ANATOMY OF YOUR TRUCK AND TRAILER COMBINATION
- TRAIN HORSES TO LOAD NICELY AND BE CALM IN TRAILERS
- HAVE A LOAD PLAN AND AN EMERGENCY EVACUATION PLAN

- HAVE A RELATIONSHIP WITH YOUR VETERINARIAN (VPCR)
- CHECK, CHECK and CHECK AGAIN (Tires, Electrical, Hitch, Floor, Doors)
- PREPARE TO BREAK DOWN WITH YOUR TRAILER
- MOUNT 10 lb FIRE EXTINGUISHER IN THE TRUCK, AND THE TRAILER.
- BE PREPARED TO PERFORM FIELD EUTHANASIA ON THE SIDE OF THE ROAD

Accidents caused by "the other guy" are as common for horse trailers as they are for cars out on the road – especially when other drivers attempt to beat your trailer by whipping out into the lane so they won't have to wait for you to pass. Drive defensively, watch for other drivers running stop signs or red lights in attempts to avoid waiting for you, and look out for drivers misjudging your speed or your ability to stop the rig. Driving a trailer, you must make greater allowances for adverse driving conditions plus you should double the following distance recommended for passenger cars.

Operator error factors, such as driving too fast for conditions or over facing their vehicle's abilities (particularly to be able to stop the vehicle combination loaded with horses), cause a majority of trailer wrecks. Thus, it is imperative for drivers to be very careful and remain attentive. Drive at, or close to, the speed of traffic - driving TOO slow will actually increase the chance of an accident as other drivers attempt to pass you, especially on two lane roads. It makes them upset and causes them to try to pass. If other drivers are upset, pull over in a safe place and let them pass. Don't be in a hurry – leave early and try not to rush even if you are late.

HORSE SAFETY IN THE TRAILER

Those who use a video camera in their trailers know that the horses shift around in their stanchions trying to stay comfortable. This is an excellent way to monitor the actions and health of your horses in the trailer, and allows you to know if animals are stressed, biting and kicking each other, or even fallen down. Other recommendations include use of a constant towing vehicle and trailer tire pressure monitoring system which will warn you of a drop in tire pressure before a blowout occurs, and a wireless temperature gauge to inform you of the actual temperature in the trailer (which may be MUCH hotter than you thought).

One of the oldest arguments in hauling is to tie or not to tie while in the trailer? There are legitimate arguments for both, but if you choose to tie the horses while hauling, ensure there is a breakaway weak point in the system (leather strap, hay string, etc.) on the trailer side so that if the trailer flips, the animal will not be left hanging by the tie. Check the trailer for sharp objects that might injure the horses in transit,

especially in a wreck. Did I mention leg wraps and boots? Use them – those precious lower legs take the brunt of injuries in trailer mishaps, along with heads and faces.

The majority of injuries to horses and trailers occur before you take the vehicle out of “Park” and start to drive! The most common cause of “trailer accidents” to horses is in the parking lot while loading or unloading them. Teach your horses to go willingly into and out of trailers, in any conditions (rain, cold, hot, dark, windy, etc.) and do that often enough that they will go in quietly and stand there. Horses get their legs cut, suffer rope burns, bang their heads on the roof, cut their faces on metal obstacles, and cause serious hoof injuries struggling to avoid going into trailers, or fighting to get out of them. Training them to do it consistently and calmly is a crucial training milestone... far more useful long term than sliding stops, piaffes and counter canters.

Equine veterinary technicians have estimated to this author that they spend 15 to 30 percent of their time in the parking lot helping clients load and unload their horses – usually because owners don’t realize that teaching a horse to load is a very difficult skill that takes time and patience (on the part of the human!). When it comes to a disaster evacuation, that skill can save your animal’s life! The most COMMON evacuation is to a veterinary clinic with a sick horse! There are so many clinicians, trainers and natural horsemanship teachers that are available to teach you how to do this properly – take advantage of the opportunity to learn this skill. Don’t drag or push or pull – UGH!!

A few simple things to have in your trailer to make it efficient, safe, and prepared in case you have to respond to a trailer incident:

- Tire pressure gauge and source of air
- Lubricants, degreasers, etc.
- Drive ON Jacks and tire tools that FIT YOUR TRAILER and TRUCK
- Reflective vest, gloves, flares, cones, chocks
- (Two total) spare tires for trailer, one spare for truck
- Current first aid kit for humans and one for horses
- Fire Extinguisher 10 lb preferred ABC
- Contact information for your home veterinarian in your cell phone
- Reflective tape on the BACK, SIDES and INSIDE doors of your trailer
- Optional: video camera to watch horses in trailer, thermal sensor in trailer, air bottle or compressor, reciprocating saw (battery powered)

Random Trailers Illustrate Important Safety Points

Photos and Captions courtesy of John Dumford



⬇ This hitch appears to need lubrication and the chains don’t appear to be rated for this large gooseneck trailer.

⬇ The NATM sticker with the red flag on the right of this photo doesn’t mean this trailer has been inspected. It means that the manufacturer agrees to adhere to minimum standards for the parts of the trailer for which there are standards published.



This trailer plate tells us that the Dalton Enterprises trailer is made in July 2011 and has a GVWR of 7000 pounds (3500 each of 2 axes). The VIN and Model are at the bottom.

LEARNING FROM OTHERS' SAD OR SCARY STORIES

Sometimes it takes a picture or a story to make people believe that things CAN happen.

Allowing humans (kids, employees, etc.) to ride in the trailer while it is in motion is dangerous (and against the law). A friend of mine called to say her horse was colicking and would I meet her at the vet's clinic? I arrived in time to see her jumping out of the escape door from a horse thrashing in the rear of the trailer and throwing itself to the floor. She was back there - with no contact with her husband who was driving the trailer for 60 miles (with no working lights or brakes). The horse was not trying to hurt her – it was in severe pain and euthanized immediately. She escaped with a tragic story and a few lucky bruises.

At a horse handling clinic years ago, I was asked to help with a horse that was difficult to load. We worked with him for about 30 minutes and taught him to load quietly into the trailer. After, walking around to the front of the hitch, I realized that the safety pin was not placed and the coupler had not been closed fully onto the ball! Somehow this person made it to the clinic without having a wreck!

RESPONSE TO TRAILER ACCIDENTS FOR HORSE PEOPLE

Horse owners should involve emergency services personnel from the beginning (trailer overturn, horse trapped under chest bar, etc.) because it speeds up the overall efficiency of the response instead of waiting or unsuccessfully trying to get the horses out themselves. Fire Rescue responders have techniques and expertise to stabilize the trailer, provide safety and security to people as well as the horse victim, and they do extrications of people from car incidents as a matter of course. Law enforcement is necessary for on-road safety, directing traffic around the incident, and dealing with bystanders. Ambulance paramedics may be necessary for injured people, and some of them may be able to assist the veterinarian with treatment for injured animals. Very few horse owners will have the equipment, training and expertise to attempt extrications safely.

TRAILER INCIDENT ON THE ROAD

- DO call 911 immediately, STAY CALM and give your location and explain the scenario – ask for police, fire and ambulance (for possibly injured people)
- DO put on a reflective jacket or vest and put out flares, turn on your flashers, etc. for road safety

- DO call a veterinarian and ask them to come to the scene
- DO call another friend with another Trailer to come transport the animals if compromised
- DO an assessment from the OUTSIDE of the trailer through the windows and openings
- DO throw hay to animals to encourage them to relax and wait patiently
- DON'T open any doors or windows – animals will try to come OUT through those openings
- DON'T go into a compromised horse Trailer with live animals inside
- DON'T get injured by passing cars (especially in the dark)
- DON'T remove animals from Trailer until secondary containment arrives so they don't get loose
- DON'T try to tell firefighters and police officers how to do their jobs

In real accident scenes, there are very few situations where an overturned trailer should be turned back onto its wheels while live animals are inside. However – there are many where the trailer must be stabilized or moved to a safe area before the animals are extricated (trailer is down an embankment, hanging off a bridge, trapped in trees or sinking into water, etc.). Fire brigades have the equipment to safely stabilize the weight of such a large object, then to make access (cutting may or may not be required) large enough for the animals to be removed safely.

Why do we not recommend going INTO trailers? After all, most horse people go into trailers all the time with their horses, right? After an accident, the animals may be stressed, injured, scared by the incident as well as the response. As prey animals, they don't think – they react! To firefighters, the inside of a compromised horse trailer is a confined space with a bunch of dangerous obstacles around the victim. They may have to cut the trailer tie, cut rear tack rooms, doors, and other obstacles. The veterinarian will make an assessment on whether sedation or anesthesia should be used before going close to the animals in the trailer. However, if animals are standing and have a clear way out – it may be possible for a person to go in, cut the trailer tie and attach a lead, then bring the animal out safely.

CONCLUSION

Trailer wrecks and incidents are dangerous but highly preventable situations that depend on the preparation of owners to mitigate the risks. YOU can make the difference for your OWN horse.

DOWNLOAD FREE:

<https://ppp.purdue.edu/wp-content/uploads/2017/02/PPP-114.pdf> UNDERSTANDING THE HORSE TRAILER RIG – Purdue University

<https://www.extension.purdue.edu/extmedia/ppp/ppp-92.pdf> KEEPING THE TRAILER CONNECTED TO THE TRUCK – Purdue University

“Non-Commercial Horse Transport: New Standards for Trailers in Canada” paper (Creiger & Gimenez, Nov. 2015). Challenges manufacturers, veterinarians, animal welfare advocates, engineers, animal owners, and standards associations to develop and implement improvements. FREE DOWNLOAD https://www.academia.edu/18507742/Non-Commercial_Horse_Transport_The_need_for_standards



Random Trailers Illustrate Important Safety Points

Photos and Captions courtesy of John Dumford



▶ The black and the blue floor photos are demonstrating various types of floor coating to limit corrosion of aluminum floors - as long as the floor isn't badly corroded, even an older trailer can have this done. RAPTOR LINER (black) in the photo, and WERM and POLYLAST are available - I personally prefer that the coating be in addition to the rubber mats - and make inspection of the floor DOUBLY IMPORTANT.



▲ This is the end of the axle sticking out without a dust cover. Eventually, dust will cause friction and heating in the lubricant on the bearing and destroy it. Get a new hub cover (and pack the bearings with new grease first!)

▼ Make sure you have a CHECKLIST for your personal horse trailer - every one is different! In this photo - is the pin in the hitch receiver? Are there positive closure chain hooks? Is the chain rated for the weight of the trailer? Is the hitch that fits into the receiver less than 10 years old and rated for the tongue weight, is it the correct height for the hitch to match the trailer level, does it have a ball that is the correct size for the coupler and a LOCKING nut that is tight? Does the coupler slide easily to close the hitch and have a LOCKING pin to keep it in place? Is the electrical in working condition and correctly attached? Is the emergency brake cable attached correctly and NOT to anything but the frame of the towing vehicle?

