

Backing safety

Make sure your drivers know the basics



Dangers of vehicle backing

Tips for backing safely

FMCSA awards more than \$76 million in grants

Information and resources to help your drivers operate safely

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MESSAGE FROM THE EDITOR

Minimize the risks of vehicle backing

The only vehicle accident I've ever been in happened in a restaurant parking lot. I was backing out of the parking stall and didn't see that the driver directly behind me was also backing up. I know I checked my rearview mirror, as I always do, but in the bright sun, I hadn't noticed the other car's backing lights. The other driver didn't see me, either. Luckily, neither vehicle was moving at more than a few miles per hour, and there were no injuries or significant damage.

Now imagine if I had been driving a tractor trailer instead of a hatchback. The consequences of that minor collision could have been awful.

Vehicle backing is one of the most difficult and most dangerous skills drivers need to learn. Large trucks are equipped with some safety features to help drivers back vehicles more safely, but even these features have limitations that drivers must understand. For example, children may not understand that backing alarms signal potential danger. Older adults or those with hearing loss may not even hear a truck's backing alarm. It falls to the driver to know where the truck is in relation to its surroundings and to protect others.

That backing accident I had in the restaurant parking lot served as an important reminder to me that backing up requires extra attention. Taking an extra moment to double check my surroundings might save me from someday again backing into something — or someone.

Take some time this month to prepare your drivers to be aware and responsible when backing their vehicles. By reviewing the factors that make backing so dangerous and discussing ways to minimize the risks of backing, you can help your drivers prepare for a safer career. ♦



Jen Loomis

Jen Loomis joined J. J. Keller in 2021 on the Content & Consulting Services Transportation Team. As an Associate Editor, Jen edits a variety of products including the *Transportation Safety Training Advisor*, *Driver Report*, and *Driver Training Awareness Program* newsletters. She also provides regulatory support in the area of DOT drug and alcohol testing.



TRAINING BLUEPRINT — VEHICLE BACKING

Large truck backing accidents are estimated to cause 86 deaths and 3,000 injuries each year. A closer look at the limitations that driving in reverse puts on drivers shows why so many accidents happen while backing.

Dangers of vehicle backing

- **Sensory information is limited.** It's difficult for drivers to see what is going on behind their trucks. There is always a blind spot, and that blind spot shifts as the truck backs. Likewise, drivers may not be able to hear what is going on behind the vehicle while they are moving in reverse.
- **Steering a trailer in reverse is counterintuitive.** When driving a car, a driver moves the steering wheel to the right to reverse to the right, but when backing a trailer, the same steering motion will reverse the tractor to the right, but the trailer to the left.

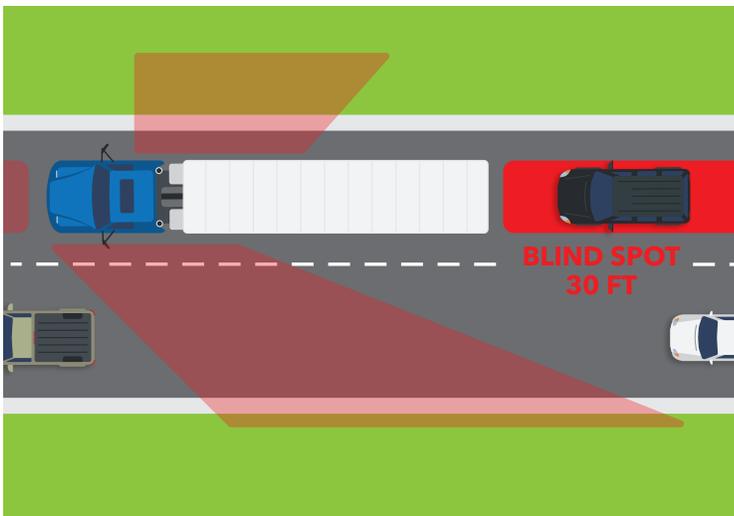
TIP: Before covering the tips below with your drivers, ask them to brainstorm a list of potential backing dangers. Then ask them to think of strategies to minimize the risk of each danger they listed.



Tips for backing safely

- **Get Out And Look (GOAL).** Walk around and check all sides of the vehicle for people, equipment, parked vehicles, or other obstacles, including those overhead, like wires and tree limbs. Be especially alert to children and animals in the area that may dart behind a truck without warning.

TIP: Show drivers an illustration of how large the blind spot behind a trailer is and how far behind the trailer an object needs to be for a driver to see it in the tractor's mirrors.



- **Eliminate distractions.** Turn off anything that makes sound, such as a radio, CB, cab fan, or phone, then roll down the window and listen while backing. Sounds of children playing, people talking, or other vehicles backing indicate potential dangers.
- **Communicate to others.** Use the truck's four-way flashers and backup alarm or horn to notify others that the truck is moving in reverse. Remember, though, that some people won't see or hear these alerts or may not know what they mean.
- **Back Slowly.** Back slowly, watching the mirrors for obstacles. Get out and look again if necessary.
- **Use a Spotter.** Backing can be a lot easier with the help of a qualified and experienced spotter. Make sure to agree on the hand signals you will use before beginning to back the vehicle.

TIP: Use visuals, such as illustrations or videos, to help drivers understand which direction the trailer and the tractor each move when the steering wheel is turned left or right. ♦



Backing Basics

**Only back when absolutely necessary.
You should never back if you don't have to.**

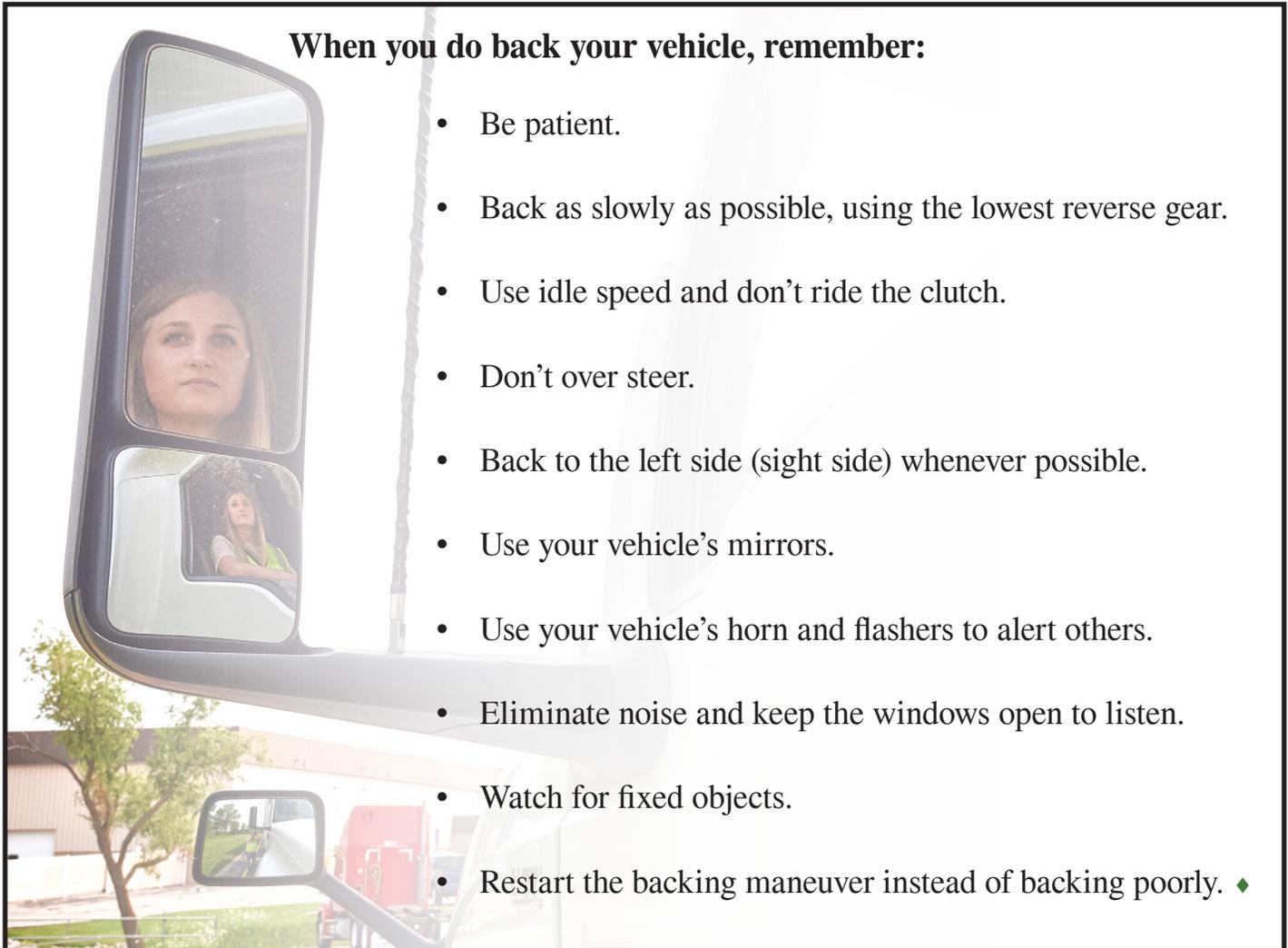
There are two reasons for this:

Sensory information is limited. Backing gives you limited visibility and hearing. There is always a blind spot, and that blind spot shifts as you back. Likewise, you may not be able to hear what is going on behind the truck.

Steering a trailer in reverse is counterintuitive. When driving a car, you move the steering wheel to the right to reverse to the right, but when backing a trailer, the same steering motion will reverse the tractor to the right, but the trailer to the left.

When you do back your vehicle, remember:

- Be patient.
- Back as slowly as possible, using the lowest reverse gear.
- Use idle speed and don't ride the clutch.
- Don't over steer.
- Back to the left side (sight side) whenever possible.
- Use your vehicle's mirrors.
- Use your vehicle's horn and flashers to alert others.
- Eliminate noise and keep the windows open to listen.
- Watch for fixed objects.
- Restart the backing maneuver instead of backing poorly. ♦





TEST YOUR KNOWLEDGE — VEHICLE BACKING

Directions: Read each statement or question carefully and mark the best answer.

1. It is important to get a backing maneuver correct on the first try.
 - A. True
 - B. False

2. Backing is dangerous because
 - A. You can't see and hear everything around your vehicle.
 - B. Some people won't pay attention to your backing alarm and lights.
 - C. There could be obstacles over and under your vehicle.
 - D. All of the above

3. When you turn your steering wheel counter-clockwise,
 - A. The tractor will move right, and the trailer will move left.
 - B. The tractor and trailer will both move right.
 - C. The tractor will move left, and the trailer will move right.
 - D. The tractor and trailer will both move left.

4. Which of the following is **not** a safety precaution you should take when backing your vehicle?
 - A. Get Out And Look
 - B. Use the highest reverse gear
 - C. Use your mirrors
 - D. Turn off distractions

5. Backing to the left side gives you the most visibility.
 - A. True
 - B. False

NAME: _____ DATE: _____



FMCSA awards more than \$76 million in grants to improve commercial motor vehicle safety

The Federal Motor Carrier Safety Administration (FMCSA) announced that it has awarded more than \$76 million in grants to states and educational institutions to enhance commercial motor vehicle safety. All 50 states and the District of Columbia are slated to receive federal funds.

The FMCSA grants will include:

- \$45.2 million in High Priority (HP) grants to enhance states' commercial motor vehicle safety efforts, as well as advance technological capabilities within states.
- \$29 million in Commercial Driver's License Program Implementation (CDLPI) grants to enhance efforts by states to improve the national commercial driver's license (CDL) program.
- \$2 million in Commercial Motor Vehicle Operator Safety Training (CMV-OST) grants to 21 educational institutions to help train veterans for jobs as commercial bus and truck drivers.

To learn more about FMCSA grants, visit <https://www.fmcsa.dot.gov/mission/grants>. ♦



I-24 MOTION implementation underway

The Tennessee Department of Transportation (TDOT) is implementing a first-of-its-kind testbed to understand how all types of vehicles interact with each other and the state's infrastructure in order to advance congestion management. This testbed is known as the I-24 Mobility Technology Interstate Observation Network, or I-24 MOTION.



This project will equip a six-mile section of I-24 between Nashville and Murfreesboro with over 300 ultra-high definition cameras, converting those images into a digital model of how every vehicle behaves with unparalleled detail. This is all done anonymously using Artificial Intelligence (AI) trajectory algorithms developed by Vanderbilt University. Vehicle trajectory data allows new insights into how traffic flow influences individual vehicle behavior. This groundbreaking understanding of traffic is more important than ever due to the increasing automation capability of individual vehicles, which are beginning to influence traffic flow through their interactions with conventional vehicles. By unlocking a new understanding of how these vehicles influence traffic, vehicle and infrastructure design can be optimized to reduce traffic

concerns in the future to improve safety, air quality, and fuel efficiency.

Using the information gathered on this testbed, I-24 MOTION will provide insights to allow the industry to build better products and allow TDOT to better understand how to make the most out of these products for managing infrastructure assets. TDOT envisions additional opportunities to pursue mutually

beneficial uses of the testbed with industries such as those outlined below.

- Automotive Original Equipment Manufacturers and Suppliers
- Traffic Simulation Software Developers
- Freight and Logistics Operators
- Infrastructure Owners
- Intelligent Transportation Systems (ITS) Product Manufacturers

The design and construction of the entire testbed are forecasted for 2021-2022. ♦

Industry experts, researchers put charging systems for electric trucks to the test

Transportation is the largest source of greenhouse gas emissions in the United States. Reducing those emissions requires a significant shift away from gasoline- and diesel-fueled internal combustion engines to electric motors powered by renewable sources.



Electric vehicle industry experts and scientists at the National Renewable Energy Laboratory (NREL) are at work on a new high-power charging standard for medium- and heavy-duty vehicles called the Megawatt Charging System (MCS). MCS will allow charging capacity up to 3.75 megawatts—seven times higher than the current light-duty fast charging technology.

Current electric vehicle charging standards accommodate slower charging for medium- and heavy-duty trucks, typically over a few hours. The peak charging power of 3.75 megawatts these facilities will provide for a single vehicle is equivalent to the average power needed for 3,200 U.S. homes, or enough power to transfer the daily energy consumption of a typical home, in about 28 seconds. Transferring this much energy over a short duration requires unique design in the cabling, connector, and charging inlet.

Learn more about NREL's transportation and mobility research and electric vehicle grid integration work at <https://www.nrel.gov/transportation/index.html>. ♦

Answers to quiz on page 5:

1.) B; 2.) D; 3.) C; 4.) B; 5.) A



Next Month's Topic: Preventive Maintenance

Carriers are required to systematically inspect, repair, and maintain all vehicles in their fleet. Train your drivers to perform routine and thorough pretrip and post-trip inspections so they can identify potential vehicle problems before they result in roadside breakdowns.

Expert Help: Question of the Month

Question: Is there any specific information that must be entered into the remarks area of a driver's log when they are driving under a specific exemption?

Answer: Section 395.28 of the Federal Motor Carrier Safety Regulations require the driver to place an annotation into the ELD (Electronic Logging Device) (a manual entry/remark/comment) explaining the applicable exemption. If during an audit or roadside inspection the driver is found to be over hours based on the ELD records, the officer will check for comments explaining which exemption was being used, e.g., "operating under the exemptions created by the emergency restocking provisions in the COVID-19 Emergency Declaration." The officer will then verify that the exemption was being used correctly. If it was, then there will be no violation written for the over hours. ♦



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***“To provide our
Policyholders with as
near perfect protection,
as near perfect service
as is humanly possible,
and to do so at the
lowest possible cost.”***

***Co-founder H.O. Hirt
Our Founding Purpose***