

Driving Trucks More Comfortably (and Safely)

An ergonomics guide for truck drivers

Issues with Driving Trucks

About 3.5 million people drive trucks in the US, and various events have caused a shortage of truck drivers. The injury rate for truck drivers is about three times that of all private industry occupations, so the more we are able to help truck drivers, the better for everyone involved.

However, the more time that people spend driving trucks, the more they are at risk for physical issues, due to spending extended periods in the constrained space of the cab, then once at a destination, going from sedentary to highly active in a short time.

For long-haul truck drivers, most soft tissue (ergonomics-related) injuries and illnesses affect the arms, back, or neck, and cases involving days away from work are double those rates in construction, farming, fishing, and forestry.

Many of the risks that truck drivers are exposed to include slips, trips and falls during ingress and egress of the cab and trailer, shoulder, back, arm and jaw injuries from incorrectly raising and lowering landing gear, back and shoulder strain from opening and closing hoods, opening trailer doors, awkward postures while driving, manual material handling from loading and unloading materials to/from trailers, force exertion from gripping the steering wheel too tightly, and whole-body vibration from the movement of trucks over rough roads. In addition, many drivers may have significant job (or personal) stress, which affects health and well-being. Whether a seat is fitted with specific suspension—and whether a driver knows how to use it—will affect back safety and the overall well-being of truck drivers.



Good Driving Habits

Drivers should wear appropriate footwear when operating vehicles. Shoes should be securely on the feet and should be closed-toe, with low or no heels. Flip flop style sandals or “crocs” should never be worn while driving, as they may get caught in the pedals. Shoes that are too heavy may result in inadvertent acceleration, and high boots may prevent ankle flexion.

Safety belts should always be buckled by all persons in a truck, and the driver should not proceed until all passengers' seat belts are buckled.

Once in the truck, the steering column should be adjusted so the airbag is pointed towards the driver's chest, the seating suspension adjusted so it is not too “soft,” or “hard.”

Entering a Truck

When entering a truck, the driver should always achieve three points of contact, so if carrying something, the item should first be placed onto the driver's seat. If the steering wheel is adjustable, then raise it to provide more clearance for cab entry and exit.

Turn the body, instead of twisting the spine. This can help to prevent back injuries.



Drivers should always use three-points of contact.

Seat Adjustment for Safe Driving

Drivers should remove wallets and any other items from their back pockets prior to settling into a truck. (It is never a good practice to regularly carry a wallet in a back pocket, as it increases the risk for theft, can affect the ability to sit properly, and can lead to lower back and leg issues.)

The seat should be raised to maximize vision through the windows of the truck, and the eyes should be several inches above the steering wheel. If this is not possible, the driver should sit on a cushion or a pad. All occupants of a vehicle should wear a safety belt, and if a belt is uncomfortable, a simple cushion can be placed over the shoulder strap.

Also be certain to adjust the seat so the pedals can be pushed through their full range of movement.

Adjust the seat and backrest so the knees are slightly bent and it is possible to move the feet to access the pedals. The thighs should be about parallel to the floor and the back should be reclined about 100- to 110-degrees. Adjust the distance of the seat from the steering wheel so the elbows are near the sides of the body and are slightly angled. Allow a gap of one to two inches between the back of the knees and the front of the seat. If the seat is too deep, then use a pillow to provide additional support for the back.



Make sure the seat reclines & supports the full back.

Mirror Adjustment

To correctly adjust the side mirrors, for cars with the steering wheel on the left, lean so you are next to the driver's side window and set the left-side mirror, so you can just see the side of the truck. Then sitting back upright in the driver's seat, pull the top of the mirror downward until you can see a strip of the road.

Lean to the center of the vehicle to set the right-side mirror, so that traffic in the adjacent right lane can be clearly seen. Then pull from the top of the mirror until you can see the ground next to the truck. Do the opposite for vehicles that have the steering wheel on the right.

Gripping the Steering Wheel

The goal when driving is to keep the hands on the steering wheel, with the wrists straight. The arms should be relaxed, and the hands should have a light grip on the wheel. A grip that is too strong can affect muscles, tendons and nerves, and may result in possible physical issues. Adjust the steering column so the steering wheel is about 12-inches from your chest.

Adjusting the Seat Suspension

Use the controls on the side of the driver's seat to adjust the seat suspension. Achieving a properly balanced suspension means there will be less exposure to whole body vibration, which can damage the spine and internal organs. If horizontal suspension is available, engage that feature.



Use the seat controls for proper suspension and lumbar support.

Raising and Lowering the Landing Gear

The task of raising and lowering the landing gear can cause shoulder injuries, as well as knocked-out teeth and head injuries from recoiling handles.

Face towards the front of the trailer, and grasp the crank handle with both hands. Then turn the handle until the gear has been lowered to the proper height.



Use two hands—and face the handle—when raising or lowering the landing gear.

When raising the landing gear, be sure to face to the rear of the trailer, and again grasp the crank handle with both hands, and crank the gear until it has been raised. Facing to the rear of the trailer allows a truck driver (or yard personnel) to exert the greatest forces while pushing, rather than pulling—an ergonomics best practice. If possible, use a ratchet to raise and lower the landing gear.

This technique of adjusting the landing gear also gives more control over the crank and can help to reduce the risk for injuries.

Opening the Hood

When opening the hood, make sure the truck is in neutral and the brakes are on. Then unlatch the hood hooks, and walk to the front of the truck. keep one foot on the ground and place the other foot on the step on the front bumper. Use both hands and your body weight as a counter-balance to tip the hood open.



Maintain three-points of contact to open the hood, with one foot on the ground.

Opening the Trailer

Opening the trailer is one of the more dangerous parts of a trip. Goods may shift during transport, then fall on a driver when the door is opened, causing serious injury—or even death.

To more safely open the trailer, first unlatch the right door. Walk with the door to the rear and right side of the trailer, keeping staying back and to the side of any goods that may fall out of the trailer.



Be certain to walk with the door and stay to the side of the open trailer.

Driving tips

- Rest up before driving, and when possible, take regular breaks to get out of the vehicle and walk around
- Perform simple stretches upon arrival at a destination to improve circulation and joint range of motion
- Share the driving with another person if you are on a two-driver crew
- Do not use alcohol, drugs, or mobile telephones while operating a truck
- If driving a different truck make or model, become familiar with its operation and controls prior to proceeding

- Research local traffic laws before traveling to new areas
- Do not exceed the speed limit
- Bring healthy snacks
- Keep a fire extinguisher and first aid kit in a personal “go bag”
- Follow all local, state, provincial and federal rules and regulations as they apply to truck drivers and transportation companies
- Prepare for cold weather driving with a cold weather kit including extra food and water, blankets and a small shovel
- Keep an accident reporting kit available at all times

References:

US Bureau of Labor Statistics
 Safety+Health Magazine, December 19, 2018

Canadian Centre for Occupational Health and Safety, *Driving and Ergonomics*, 2017.

Research Institute for Consumer Affairs, *Techniques for Getting Into and Out of a Car*, November 2013.

Reed, Matthew P. and University of Michigan, *Research: Driver and Passenger Ergonomics*, 2017.

Consumer Reports, The Human Factors Blog, *Consumer Reports Story on Automobile Ergonomics*, 2009.

Aquire, S., Safer Motoring, *Appropriate Footwear When Driving*, 2010.

American Automobile Association, Senior Driving, *How to Use & Adjust Your Mirrors*.

Smarter Travel, *Top 20 Safe Driving Tips*, 2017.

Back and Neck Care Centre, CMCC, *Back Safety*, 2014.

USDA, Ergonomics Training, Driving Ergonomics, 2016.

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