



Prevention of Musculoskeletal Disorders in the Transportation Sector:

Things to Consider when Purchasing a Courier Truck

Musculoskeletal disorders are a concern in the courier transportation sector. The courier delivery drivers are exposed to high forces as well as extreme and awkward postures. Courier drivers are susceptible to MDS due to demands involved with driving, lifting and carrying packages, entering and exiting courier trucks, and opening and closing the doors. Courier truck design is a critical factor that impacts the injury risk associated with courier delivery.

Cab Design

Occupational drivers have also been shown to increase risk for developing musculoskeletal disorders, particularly, for low back pain (LBP). Research has shown that prolonged driving leads to higher cumulative spine loading and higher LBP occurrence. The design of the vehicle is important to reduce risk of injury due. Vehicles with driving packages (seats, pedals, tilt and telescoping steering wheels) have been reported to result in fewer musculoskeletal problems.

Consider the following cab interior items when purchasing or designing trucks:

- Steering wheel tilt and telescoping adjustments so it's at a comfortable height and reach.
- Ensure seats have adjustment for seat cushion vertical adjustment range, lumbar support, seat cushion front & back will tilt, back recline, armrest height and angle. Suspension in seats to minimize effects of vibration.
- Seatbelt shoulder strap height adjustable to enhance comfort for small and larger drivers.
- Pedal adjustability.
- Ensure the pedals and the steering wheel are aligned with centerline of the seat.
- Accessibility of cup holders, gear shifter, air horn, and main controls so drivers do not have extended reach.
- Angle dashboards so controls closer to driver.
- Visibility of main displays on dashboard.
- Easy adjustment of mirrors to ensure visibility.

Courier Truck Egress and Ingress

At each pick-up or delivery courier drivers are required to enter and exit the courier truck from the side or rear door. Opening/closing and locking/unlocking the doors requires drivers to awkwardly hold the packages as well as extra handling of the packages due to staging of the packages prior to ingress/egress. The demands of this material handling is increased due to the high steps at both the side and rear doors. In addition, courier truck drivers are at increased risk of slip-and-fall injuries when entering and exiting the courier truck from the side or rear doors. These risks are exacerbated when environmental conditions are poor as rain, snow, and uneven ground. Good design of ingress/egress system, including the design of the steps and handholds, can help prevent these injuries.



Consider the following when purchasing or designing trucks:

- Step height and distance between steps.
- Number and location of grab handles.
- Add anti-slip matting to bottom step.
- Lower back of courier truck or provide step.
- Automatic locks and doors that open and close so drivers do not have to put down packages to get in and out of the truck.

Rear Door Design

Many courier trucks have rear doors that roll up. Opening and closing these doors often requires high forces as well as awkward postures of bending and reaching overhead. There are many variables that affect the force to open and close rollup doors, including maintenance, door material, hinges, rollers, springs, and lubrication.

Consider the following when purchasing or designing trucks:

- Adequate maintenance
- Light-weight doors
- Automatic doors
- Bifold doors.

Courier Truck Package Storage

Heavy lifting with awkward postures occurs when loading and unloading packages in parcel area of truck. Storing the packages on the floor results in increased risk of back injury due to back flexion and loading. In addition, storing packages shelves may result in increased risk of shoulder injury due to reaching above the shoulder for the packages. Some shelves also have raised edges to prevent packages from falling off, however, this results in greater shoulder burden when handling packages from the shelves. Another concern in the parcel area of the truck is that some trucks do not have adequate height clearance to allow drivers to stand in back.

Consider the following when purchasing or designing trucks:

- Height adjustable shelves.
- Angle shelves slightly so lip on edge of shelf can be eliminated while still preventing packages from falling off.
- Ensure back parcel area ceiling height provides clearance for the tall workers (190cm).

