

About Attachments

All attachments, such as carton clamps, drum clamps, paper-roll clamps, rotators, and push-pull attachments, affect your forklift's capacity in several ways:



Attachments act like extensions to the length or width of the forklift and, therefore, require additional operating clearances for turning and passing through aisles.

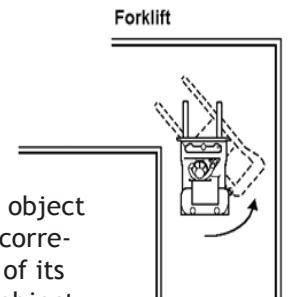
Adding an attachment is like permanently carrying a load. If the attachment weighs 1,000 pounds (lb), your forklift's capacity is automatically reduced by 1,000 lb.

Attachments typically move the load farther away from the forklift, which increases your load center. If the attachment moves the load 8 in. away, it will reduce the capacity by approximately 800 lb (100 lb per in.) because loads that normally have a load center of 24 in. now have a 32-in. load center.

How Forklifts differ from Cars

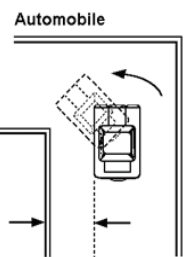
Forklifts behave different from cars, especially when turning or hitting other objects.

The rear of a forklift swings in the opposite direction of the turn. As illustrated here, when turning left, the rear of the forklift swings out to the right. Any person or object next to the forklift on the right will be hit.



The impact of a forklift against an object is much more significant than the corresponding impact of a car. Because of its greater mass, a forklift hitting an object at 5 mph can cause similar damage to a car hitting the same object at 30 mph.

Forklifts are often driven backward, especially when unloading cargo and driving a load that obstructs the view when moving forward.



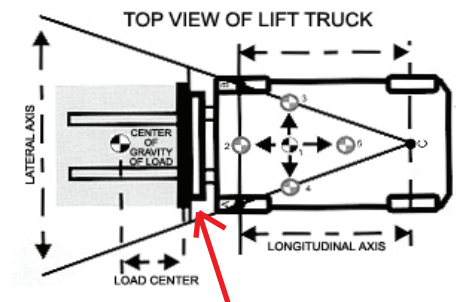
Forklifts are often operated with one hand on the wheel and the other operating the controls.

Determine a Load's Center Of Gravity (COG)

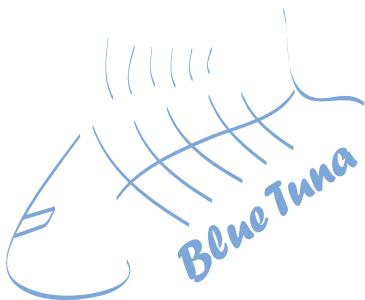
The center of gravity is the exact point on which the entire load will balance. For loads of consistent material, this point will always be near the center of the load.

If a load contains materials with different weights or densities, the load center will be on the side containing the heaviest material. For example, if a pallet contains bricks on one side and pillows on the other, the center of gravity will obviously be closer to the side of the pallet containing the bricks.

The distance from the edge of the load to the center of gravity is very **important**. If possible, the load must always be picked up on the side that is closest to the center of gravity. This will keep the load's weight closer to the forklift.



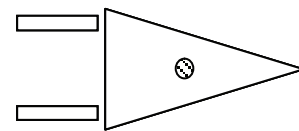
Position loads close to the vertical backrest. The maximum load capacity of the forklift decreases as the load center is positioned outward from the fork face.



Stability Triangle

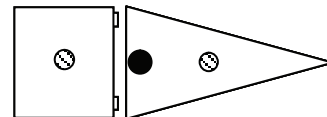
The stability triangle shows you how your actions can cause a forklift to tip over so that you'll know what actions to avoid.

The top image shows the center of gravity for a forklift without a load, right in the middle of the stability triangle. A common sit-down counterbalance forklift truck has a three-point suspension with the weight supported at each front tire and the center of the rear axle. This creates a triangle. The center of gravity of the forklift and any load lifted must remain within the stability triangle; otherwise, the forklift will tip over. The center of gravity of an unloaded forklift will be just below the operator's seat.



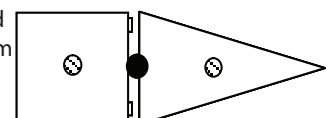
Stable forklift without a load

The middle image shows the center of gravity of a forklift carrying its maximum rated load. With a load, the combined center of gravity (black circle) is close to the front edge of the stability triangle.



Stable forklift with maximum load

The bottom image shows the center of gravity of a fully loaded forklift with the load center more than 24 inches (in.) away from the vertical face of the forks. The forklift with its load will likely tip *forward*.



Unstable forklift with offset maximum load

Rules of the Road

- Authorized operators only
- Quickly report accidents
- Always wear seat belts
- No person under the forks
- Operate controls only from driver's seat
- Never block exits or emergency equipment
- When traveling with a load it is important to keep the load low.

Refueling and Charging

Do not smoke around propane. It is a highly combustible gas that can cause a fire or even explode if not handled correctly.

Report propane leaks immediately. Leaks can be detected by:

- the distinct odor
- a hissing sound
- frost on the fittings

Charge batteries only in protected areas with ventilation

Inspect battery connectors for damage

No smoking

Immediately clean up electrolyte spills

Battery electrolyte is highly corrosive—wear PPE

TRAVELING

Remember to always look behind you before backing up.

The cage is there to protect your body.

Many operators have a bad habit of traveling while raising or lowering a load. This can cause an unstable situation and a possible tip-over. When traveling, keep the load low.

Sound the horn at corners, when crossing aisles, near doorways, and anywhere your view is obstructed.

A safe speed is a speed at which you can quickly and easily stop if a pedestrian steps out in front of you.

Watch for your clearance for overhead installations when lifting your load, and check the clearance when turning because the rear end swings wide.

Loose objects or holes can cause the forklift to tip over.

Passengers are never to be carried because they don't have a seat, there is no seat belt, and their bodies will be outside the protective cage.

Always be aware of pedestrians, who have the right-of-way.

Operating too close to the edge of ramps or docks is a disaster waiting to happen.

Standard Operating Procedure . . .

Conduct a preoperational inspection at the start of each work shift to ensure that it will function properly. According to OSHA studies, one in fifteen forklift-related accidents are caused by improper maintenance. A thorough preoperational inspection will catch almost any maintenance issue before it results in an accident.

TIP OVER SAFETY

PROCEDURES



- Always wear your seat belt
- Hold onto the steering wheel
- Brace your feet
- Lean away from the fall