

The background features the OSHA logo in a large, outlined font. The letters 'O', 'S', and 'H' contain icons: a caduceus, a wrench, and a fire extinguisher, respectively. The 'A' contains a fire extinguisher. Surrounding the logo are various safety icons including a warning triangle, a flame, a biohazard symbol, a lightning bolt, a traffic cone, a magnifying glass, a stethoscope, and gears.

# Powered Industrial Trucks

Standard 29 CFR Part 1910.178

Presented by: TIG Advisors

# Learning Objectives

- After this training program, participants will understand:
  - The different types of powered industrial trucks (PITs)
  - How to maintain stability while operating a PIT
  - Safe work practices associated with PITs
  - Inspection and maintenance procedures associated with PITs



# What Are Powered Industrial Trucks?

- PITs include fork trucks, platform trucks, motorized hand trucks and other vehicles used for moving materials.
- Farm vehicles, earth-moving and over-the-road vehicles are *not* considered PITs. That said, you should not operate this equipment if you are not trained and authorized.

# Training Requirements

- No employee can operate a forklift unless they are trained for their current employer.
  - Previous training at another employer or years of experience do exempt anyone from training.
- Training includes both classroom training as well as a practical operating testing.
- Unique pieces of equipment require specific training.
  - **Example:** A sit-down forklift with a steering wheel drives differently than a standup, rear-facing forklift with joystick control.



# Different Than Cars

- PITs are different than cars, and therefore have additional hazards to keep in mind. For instance, PITs:
  - Are heavy vehicles that require longer stopping distances.
  - Often have limited visibility.
  - May be steered from the rear.
  - Are top-heavy, and drivers have to be mindful of center of gravity concerns.
  - Are operated close to other people and objects.
  - Have stiff suspensions.



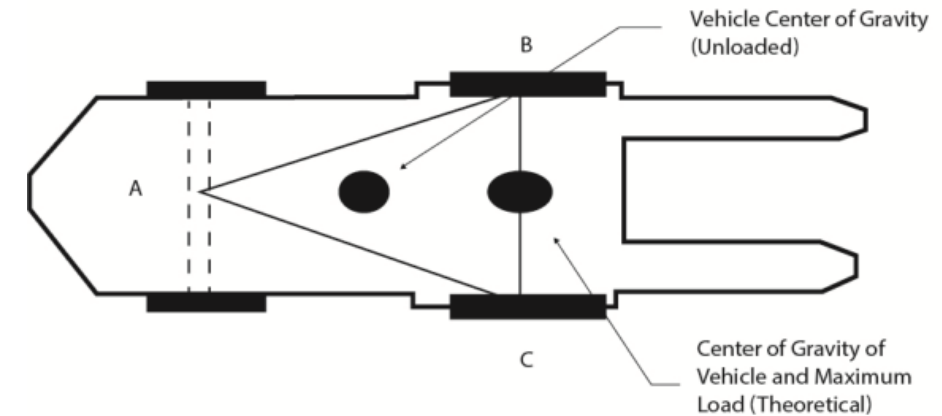
# You Play a Key Role in Safety

- When you operate a PIT, you are responsible for your safety as well as the safety of others in the area.
- To ensure safety, it's critical to anticipate hazards and never assume others in the work area are aware of your presence.

# The Stability Triangle

- The stability triangle is between the front two wheels and the center of the rear axle.
- If the center of gravity moves outside of the front two wheels, the forklift will tip forward.
- If the center of gravity moves to the side when turning, the forklift can tip over to the side.

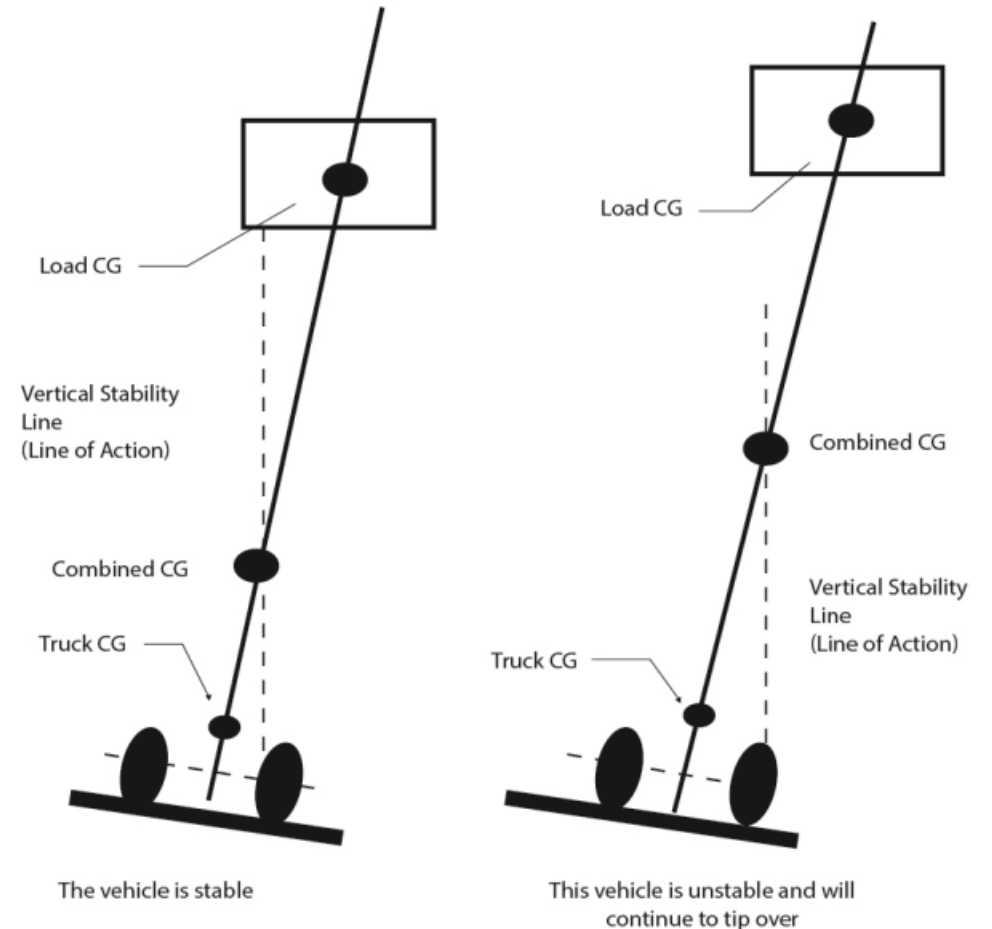
Stability Triangle - Figure 1



# Stability During a Lift

- This drawing shows what happens to a vehicle when lifting a load that falls outside of the stability triangle.

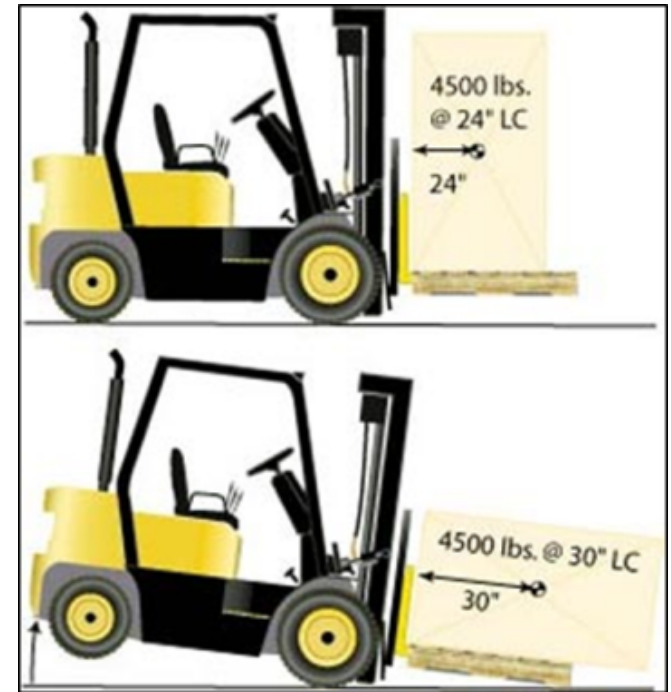
Stability Triangle - Figure 2





# Overloading Forklifts

- To avoid overloading forklifts, it's important to know where the placard that lists the lifting capacity is located on the forklift and how to read it.
- Remember, it's not just the weight of a load that impacts the center of gravity. For instance, picking up a longer pallet forces the center of gravity of equipment forward.





# Safe Operating Procedures

- Follow any and all posted speed limits.
- If no speed limits are posted, operate at a speed that's appropriate, taking workplace conditions, nearby pedestrians and the number of other PITs in the vicinity into account.
- Avoid cornering too fast.
- Don't turn while lifting loads.



## Safe Operating Procedures, Cont.

- Pay attention while operating PITs, and look in the direction you're traveling.
- Be mindful of loads that obscure your vision. In these instances, you may have to operate PITs in reverse, exercising caution as you do so.

# Safe Operating Procedures, Cont.

- Consider risks associated with different kinds of PITs. Some PITs, such as stand-up forklifts, require drivers to stand to the side of the equipment or even backward during operation.
- Do not allow anyone to walk under the forks of a forklift.

# Operating on Grades

- When driving forklift on grades greater than 10%:
  - Use extreme caution.
  - Avoid turns.
  - Tilt and raise loads.
  - Point loads up the incline.





# Loading Docks

- When using dock boards for loading and unloading:
  - Use the appropriate, weight-rated platform to bridge spaces.
  - Secure portable dock boards to ensure they will not move.
  - Ensure that dock boards have handholds or some other means employees can use to lift, manage or move them safely.
  - Secure the truck with wheel chocks or dock locks to prevent the trailer from rolling away.

# Entering and Exiting Forklift

- When entering and exiting a forklift:
  - Ensure your hands are clean and dry to prevent slipping when grabbing a handhold.
  - Get a good grip on the handhold—do not grab the steering wheel.
  - Be careful with footing when mounting or dismounting a forklift to avoid slipping. Wear the appropriate footwear and keep shoes clean and free from grease.
  - Lower your body when getting into or out of the cab—do not jump out of a forklift. Use three points of contact when climbing into a forklift.

# Avoiding Crush/Struck-by Injuries

- The weight and momentum of a PIT is unforgiving, and can cause serious injuries if it crushes or strikes a worker.
- To avoid crush and struck-by injuries:
  - Keep your hands, arms and legs inside the running lines of the PIT.
  - Never attempt to reach outside the forklift for any reason.
  - Don't jump from an overturning, sit-down forklift. Instead, stay with the truck, hold on firmly and lean in the opposite direction of the overturn.



# Lifting Personnel

- If you are using a forklift mounted on a work platform, you must use an approved cage:
  - Cages must have a standard top rail, mid rail and toe board.
  - Cages must be secured to the lift by chains or other means.
- Only experienced employees should operate a PIT to lift personnel. And, when doing so, communication is critical to reduce injury risks.
- Personnel should never be lifted on forks, pallets or unapproved platforms.



# Inspections

- PITs must be inspected before the start of each shift.
- Inspections should include both visual and operational checks.
- Inspections should be documented.
- Any issues found during an inspection should be noted and fixed before the PIT is used.

# Recharging and Refueling

- **Batteries**

- Batteries contain corrosive chemicals.
- Follow manufacturer instructions on how to charge, change and maintain batteries.
- Servicing batteries should only be done by trained personnel who are equipped with the proper personal protective equipment (PPE).

- **Propane**

- Hazards associated with propane include fires, explosions and hazardous chemicals.
- Follow the manufacturer's instructions on changing tanks.



# Attachments

- Only use attachments (e.g., longer forks, clamps and booms) approved for the specific forklift.
- Even approved attachments can change the load capacity of the forklift.

# Accidents

- Report all accidents immediately.
- Remember, damage to racking can lead to a collapse and potential injuries.



# Summary

- PITs operate differently than cars and have their own set of unique hazards.
- Never operate a PIT unless you have been trained.
- Follow safe operating procedures when using PITs.
- PITs must be inspected daily and before each shift.
- Never operate a PIT in unsafe conditions.

# For More Information

For more information regarding safe vehicle use or other safety issues, please contact:

TIG Advisors

[www.tigadvisors.com](http://www.tigadvisors.com)

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