

Critical Forklift Measurements

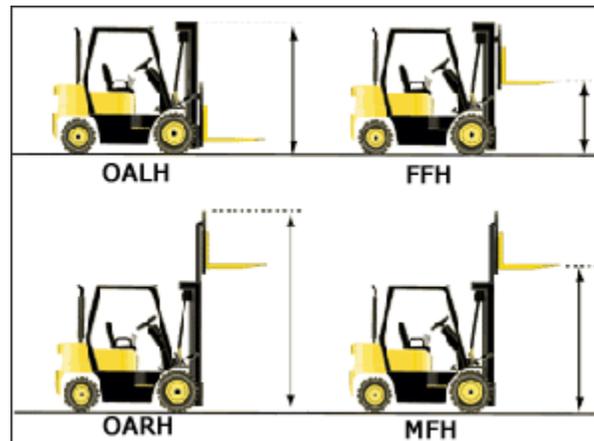


Figure 1. Critical forklift measurements.

This section provides an overview of measurements that forklift operators should know to determine whether the forklift can do a task safely in the available space.

- [Measurements](#)

The critical forklift measurements of a powered industrial truck are:

- [Overall Lowered Height \(OALH\)](#)
- [Overall Raised Height \(OARH\)](#)
- [Free Fork Height \(FFH\)](#)
- [Maximum Fork Height \(MFH\)](#)

Measurements

Potential Hazards:

- Striking ceiling fixtures, low hanging lamps, heaters.
- Striking racks.
- Striking doorways and semi-trailer and truck ceilings.

Requirements and Recommended Practices:

- Know the dynamic ranges of your vehicle and determine whether your forklift can do the task safely in the space available.
 - The clearance needed by the mast ranges from the lowest point at the forklift's [Overall Lowered Height \(OALH\)](#) to the highest point at its [Overall Raised Height \(OARH\)](#).

- The clearance needed by the forks ranges from the lowest point of the forklift's [Free Fork Height \(FFH\)](#) without the mast extended to the highest point at its [Maximum Fork Height \(MFH\)](#) with the mast extended.
- Consider these two factors together to determine if the forklift can do the job in the space available.
 - Evaluate the height limitations for entry and safe travel of the mast into the space where the load is to be lifted and lowered (OAH).
 - Evaluate the height requirements for the forks (FFH) and (MFH) for lifting the load and lowering it, without extending the mast past the height limitations of the space (OARH).
 - Determine if the forklift can do the job and what precautions the operator must take.
- **Consider Overall Lowered Height (OALH)** when determining whether your forklift can enter:
 - doorways
 - aisles with low hanging ceiling fixtures, such as sprinklers
 - trucks and semi-trailers (about 8 foot clearance required)
 - other confined spaces
- **Consider Free Fork Height (FFH)** when determining whether your forklift can lift the load to the needed stack height without extending the mast or exceeding the overall lowered height of the mast.
- **Consider Overall Lowered Height (OALH)** with the **Free Fork Height (FFH)** to determine if the truck can safely load within the confines of the space.
 - For example, if the clearance to enter a truck trailer is 8 1/2 feet and the unextended mast of the truck is 8 feet, the question is whether the free fork height is sufficient to reach the double stacked pallets in the truck.
 - Lifting the forks higher by extending the mast to reach the higher pallets may cause the extended mast to puncture a hole in the roof of the truck. This is a common accident that would be avoided if the proper forklift is used for the job and the operator is aware of the limitations of the confined space.
- **Consider Overall Raised Height (OARH)** when determining whether your forklift can lift the load to the needed rack or stack height with adequate mast clearance.
- **Consider Maximum Fork Height (MFH)** when determining whether your forklift can lift the load to the highest stack with adequate fork clearance.



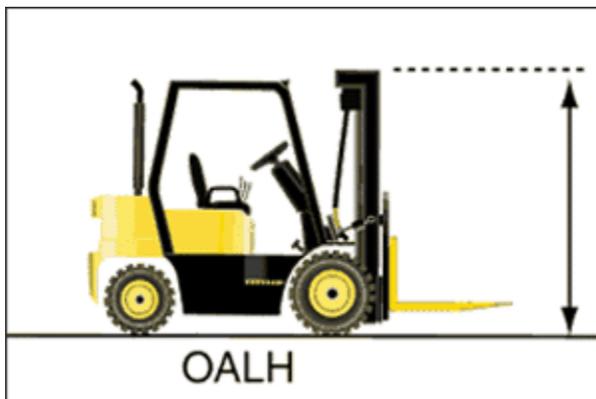
Overall Lowered Height (OALH)

Potential Hazards:

- Striking doorways, ceiling fixtures

Requirements and Recommended Practices:

- Know your mast height with the forks at their lowest point (OAH) and the clearance your truck requires.
- Do not enter doorways, confined spaces or semi-trailer containers or trucks without adequate clearance.
- Evaluate whether your forklift can adequately do the job in the space available. The ability to enter the space must be considered with the requirements for lifting within the space to determine whether the forks can lift the load to the required height.



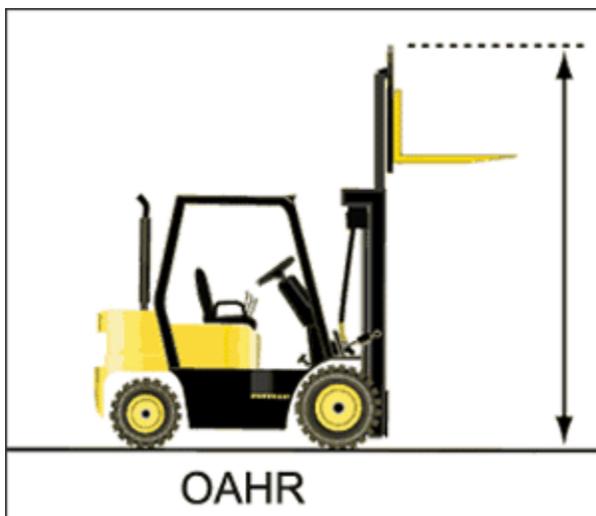
Overall Raised Height (OARH)

Potential Hazards:

- Striking overhead fixtures, sprinkler systems, heating elements.
- Striking through roof of semi-trailer or truck.
- Striking through ceiling of confined space.

Requirements and Recommended Practices:

- Know your fully extended mast height with the forks at their highest point (OARH) and the clearance your truck requires.
- Evaluate the overhead obstructions prior to extending the mast.
- Never travel with the load elevated.
- Be cautious when high tiering. Carefully tilt mast forward to deposit load. Do not exceed stated capacity at highest stack heights.



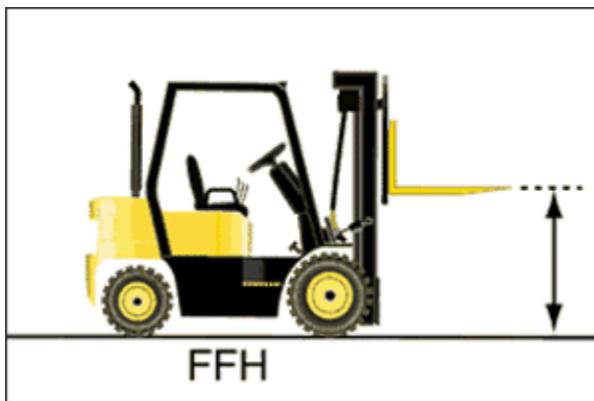
Free Fork Height (FFH)

Potential Hazards:

- Damage to racking, pallets

Requirements and Recommended Practices:

- Know the height that your forks can reach without extending the mast (FFH).
- Evaluate the fork height required to load and clear the top pallet from a double stack within the confines of a truck or semi-trailer.



Maximum Fork Height (MFH)

Potential Hazards:

- Damage to racking, pallets.
- Struck by falling objects.
- Collision

Requirements and Recommended Practices:

- Know the maximum height your forks can reach with the mast extended. Know whether your forklift can adequately do the job assigned.
- Evaluate whether your forklift can lift the load to the highest stack with adequate fork clearance.

