FORKLIFT OPERATOR TRAINING

SAFE OPERATION OF THE LIFT TRUCK

WARNING:

OPERATING A FORKLIFT IS INHERENTLY DANGEROUS AND REQUIRES A GREAT DEAL OF PERSONAL RESONSIBILITY. THIS COURSE IS COMPREHENSIVE, BUT NOT EXHAUSTIVE. THERE ARE MANY SCENARIOS AND HAZARDS REGARDING FORKLIFT OPERATION THAT AREN'T DISCUSSED IN IN THIS PRESENTATION OR ADDRESSED IN THE OPERATOR'S PRACTICAL EVALUATION. IF YOU CHOOSE TO PROCEED WITH TRAINING, YOU RELEASE FROM ANY LIABILITY THE PRESENTER AS WELL AS THE PRODUCER OF THIS MATERIAL.

WHAT IS A FORKLIFT?

A FORKLIFT IS...

OSHA CLASSIFIES A FORKLIFT AS POWERED INDUSTRIAL EQUIPMENT OR POWERED INDUSTRIAL TRUCKS SOMETIMES REFERED TO AS PIE OR PIT THERE ARE 7 DIFFERENT CLASSES

Class 1: Electric Motor Rider Trucks

Class 2: Electric Motor Narrow Aisle Trucks

Class 3: Electric Motor Hand or Hand-Rider Trucks

Class 4: Internal Combustion Engine Trucks–Cushion Tires

Class 5: Internal Combustion Engine Trucks–Pneumatic Tires

Class 6: Electric and Internal Combustion Engine Tractors

Class 7: Rough Terrain Forklift Trucks

THERE ARE ACTUALLY **105 DIFFERENT TYPES** OF FORKLIFT:

- Powered pallet jack
- Order picker
- Stand-up forklift
- Warehouse Forklift
- Side Loader

- Counterbalance Forklift Walkie Stacker
- Telehandler Reach trucks
- Industrial Forklift
- Narrow aisle
- Rough Terrain Forklift ETC.



















Are there circumstances in which you would not wear your seat belt?



A FORKLIFT'S SEAT BELT IS TO KEEP YOU IN THE SEAT, INSIDE THE CAGE, WHERE YOU'RE LEAST LIKELY TO BE INJURED IF THERE IS AN ACCIDENT

- If there is a seat belt in the forklift it must be used
- Never start or move a forklift prior to fastening your
- safety belt
- Where there is a fall restraint system, such as on standup
- order pickers, the restraint should be attached to
- your harness prior to operation

Who is responsible for the maintenance of the forklift(s) and or powered equipment in your organization?



To whom do you report equipment defects?

Supervisor, maintenance, third party...

Who is responsible for making sure the equipment is safe to operate?

- The operator
- What is your organizations policy for inspection?
- Who will fix the equipment so it can operate safely?

When should an operator inspect their lift?



- Every shift
- The operator is responsible for the safe operation of the equipment, even if another individual is responsible for the inspection.
- Prior to every use, verify that the lift can be operated safely.

What should an operator do when the lift fails inspection?



- Never operate a lift that has failed inspection
- Remove the lift from service
- Report the defect to the proper person
- Verify that the defect has been corrected prior to operating the lift

What if a defect appears while operating my lift?



- Never operate a lift with a defect that would cause it to fail an inspection
- Remove the lift from service; Report the defect to the proper person
- Verify that the defect has been corrected prior to operating the lift
- Remember, as the operator, you are responsible for the lift's safe operation

What items should be inspected on my lift?

SIT DOWN LIFT TRUCKS



CHECK:

Floor for leaks

Wheels/tires

Steering mechanism

Brake(s)

Hydraulic system

Horn/Lights/Safety devices

Seat belt

Controls/Gauges

Fuel/charge level

Chains/Mast/Carriage

Cage/overhead protection

Attachments

DATA/ID plate

Additional items (when applicable)

Operating lights; flashing or rotating lights

Clutch or creep control

Overhead guard; load backrest extension

Battery connectors

Fuel line (for leaks or damage)

Exhaust system (for sparks, flame or leaks)

Water muffler water level

Directional signals

Back-up alarm

Seat-actuated dead man brake

Safety restraint system

STAND UP LIFTTRUCKS



CHECK:

Floor for leaks

Wheels/tires

Steering mechanism

Brake(s)

Hydraulic system

Horn/Lights/Safety devices

Seat belt

Controls/Gauges

Fuel/charge level

Chains/Mast/Carriage

Cage/overhead protection

Attachments

DATA/ID plate

Additional items (when applicable)

Operating lights; flashing or rotating lights

Dead man switch

Fall protection attachment point

Battery connectors

Fuel line (for leaks or damage)

Exhaust system (for sparks, flame or leaks)

Water muffler water level

Directional signals

Back-up alarm

Safety restraint system

POWERED PALLET JACK

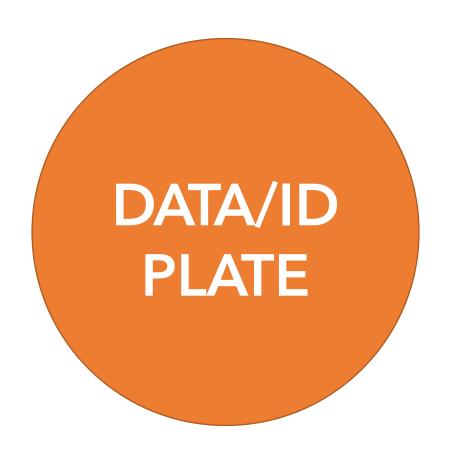


CHECK:

Floor for leaks
Wheels/tires
Steering mechanism
Brake(s)
Lift system
Horn/Lights/Safety devices

Controls/Gauges Fuel/charge level Carriage DATA/ID plate

What is a DATA or ID plate on a forklift?



- Shows the lift's capacity
- Shows the model and serial number
- Shows any other restrictions relative to the equipment

DATA/ID
PLATE &
LOAD
CAPACITY



DATA/ID PLATE & LOAD CAPACITY



Know your lift's capacity



Never exceed the capacity of your lift

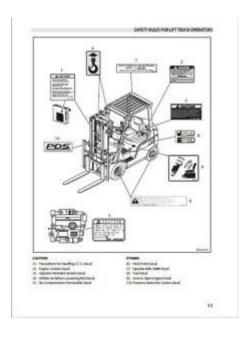
Does my lift have an operator's manual?

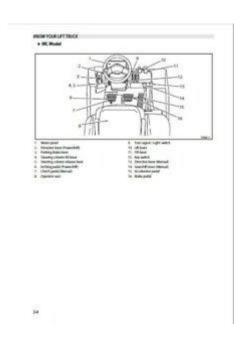


- All lifts have an operator's manual
- Always consult the operator's manual when you have questions.
- You are responsible for knowing any precautions listed in the operator's manual

Sample Forklift Operation Mand Maintenance Manual





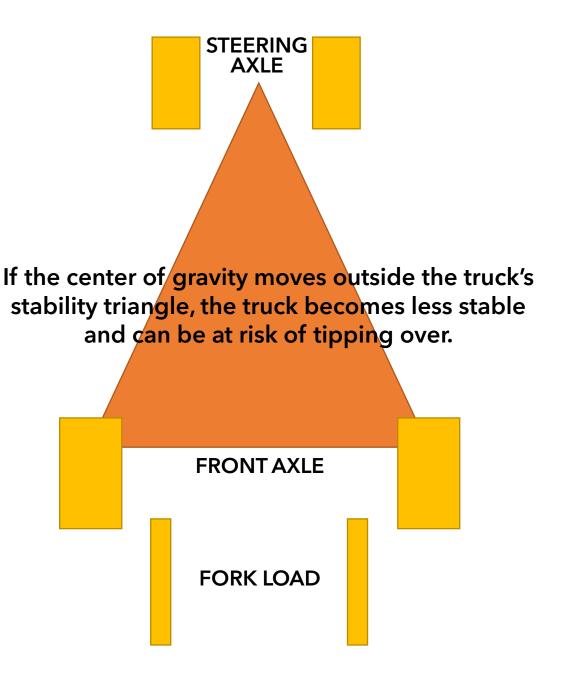


What does 3 points of contact mean?



- Firm grip on the handholds, footholds or wheel
- Two hands and one foot
- Two feet and one hand
- 3 points of positive contact to enter or exit the lift
- Never jump from a lift









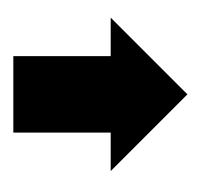
Know what you're going to move and where you're going to place it prior to picking it up



Never move items that are hazardous without checking the safety data sheet (SDS) and checking that the load is secure

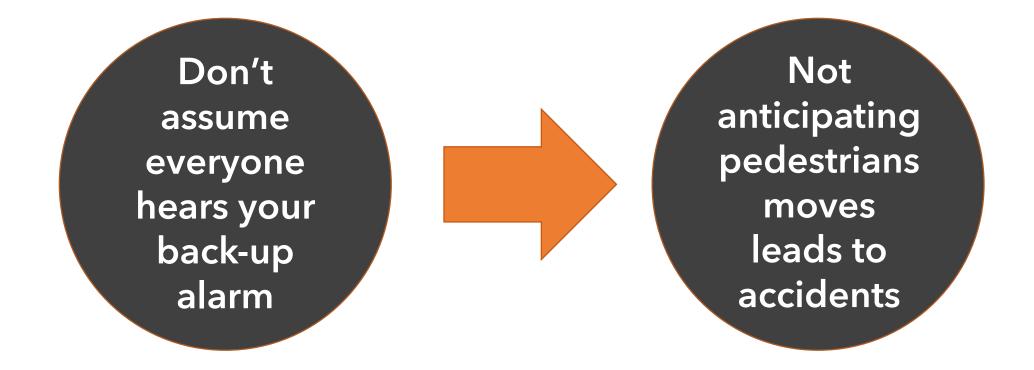
COMMUNICATION

Don't assume everyone hears your horn



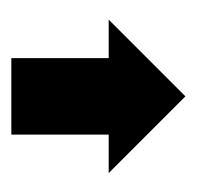
Not anticipating pedestrians moves leads to accidents

COMMUNICATION



COMMUNICATION

Don't assume everyone understands your hand signals



Not anticipating pedestrians moves leads to accidents

CARS

Lifts are very different from cars

- Lift loads
- Some steer from the rear making an arc
- Some steer their load
- Drive next to workers
- Heavier than most cars
- No suspension
- Hard tires
- Stand up lifts
- No steering wheel
- Reversed when loaded



STEERING AXLE

Keep a safety zone around your lift where objects, other lifts, and people do not enter

FRONT AXLE

FORK LOAD

REMINDERS

- Never put pedestrians between your lift and objects
- Never put your body/head outside the cage or between any moving parts
- Lifts cannot be modified or altered without written approval from the manufacturer
- Loads heavier than the lifts capacity cannot be moved
- Exits, stairways, emergency equipment, electrical panels, etc. need to be kept clear
- Follow all traffic rules for the facility

Picking, moving, and placing the load



- Check that the load is stable before picking the load with your lift
- You may need to strap, wrap, band or secure the load
- If the load is on a broken pallet, restack the load or double pallet the load.
- Adjust the forks to fit the pallet or load
- If the load is an odd size or shape it may need to be physically secured to the forks or carriage
- If exiting the lift to stabilize the load, make sure to P.A.R.K the lift. Place forks on the ground, Activate parking brake, Return controls to neutral, and Keep clear of high traffic areas, electrical panels, emergency equipment, etc. FORKLIFT Let's move it



- Position the lift square to the load
- Position the forks so they are centered on the load
- Reposition the lift or use the "side shift" when necessary
- Pull forward so the forks are fully under the load
- When moving pallets with long forks, keep the fork points just under the pallet and not sticking out the other side



- Raise the load smoothly and slowly
- Tilt the load back slightly, so the carriage can help support the load as you move
- Keep the load low, 2" to 4" from the ground
- Lower loads = lower center of gravity = more stability
- Where the ground is uneven, raise the load enough to not catch or drag
- When driving up ramps, inclines or through ditches, lift the load enough to not catch or drag



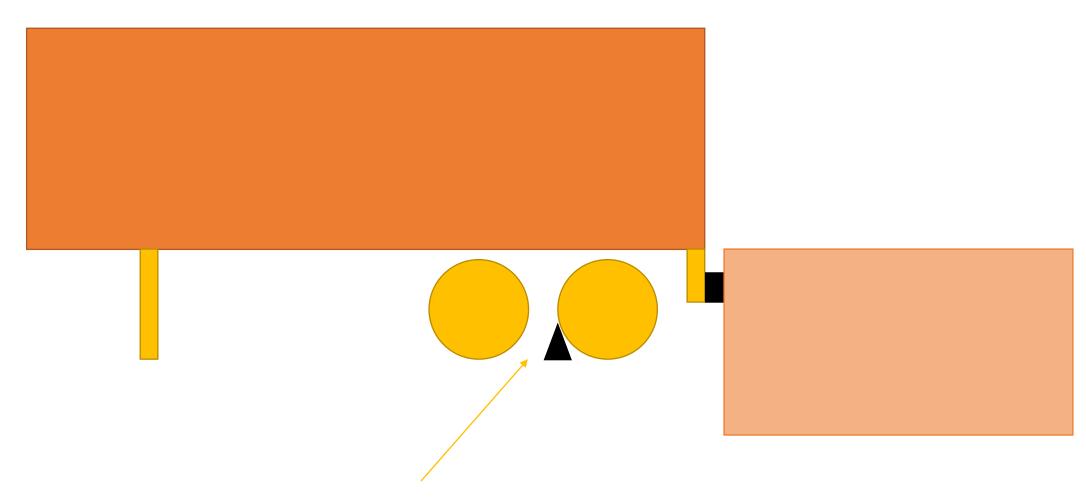
- Position the lift and load square to the desired location
- Raise the lift only after the lift is positioned and stopped
- Raise the load smoothly and slowly
- Level your forks (tilt forward or back)
- Check clearance above and below the load
- Maneuver the load into place
- Drop the forks enough to be free of the load but not dragging
- Reverse out of the load until the forks are unobstructed
- Return the forks to the ground prior to maneuvering the lift



- When placing loads on racking where you can't see the surface on which the load will be placed, use a spotter to stop traffic and clear pedestrians on the opposite side of the racking in case anything is displaced by your load
- Check your loads clearance in the racking so that the load doesn't topple back onto your lift
- Check the clearance under overhead hazards including lights, electrical, HVAC equipment, gas/water/sprinkler lines and heads, etc.
- Know that fire code may require your load to be 36" (3 feet) below a sprinkler head
- Load heavier items lower on racks and in trailers



- Check the trailer for damage prior to entering (especially the floor)
- Chock the trailer tires or confirm positive trailer locking device
- Verify the ramp is adequate for the lift and the load
- Use a trailer jack and/or stabilizer when necessary
- Drive slowly and smoothly into and out of the trailer
- Be aware of your load/mast and the top of the trailer
- Remember the load will swing as you maneuver in reverse
- Raise the load enough to not hang up on the ramp
- Always look in the direction your lift is traveling



Insert wheel chock in front of axle closest to the dock



- Check the railcar for damage prior to entering (especially the floor)
- Confirm positive protection to prevent railcars from being moved while bridge plates or ramps are in place
- Verify the bridge plate or ramp is adequate for the lift and the load
- Drive slowly and smoothly into and out of the railcar
- Be aware of your load/mast and the top of the railcar
- Remember the load will swing as you maneuver in reverse
- Raise the load enough to not hang up on the ramp or bridgeplate
- Always look in the direction your lift is traveling

Driving the lift



- Maintain safe following distances
- Minimum 3 seconds or three lift lengths
- Give more space on ramps, slopes or on wet/slick surfaces
- Give more space where it is busy or crowded
- Give more space when it is dark
- Follow speed limits & don't pass other lifts
- Respect pedestrian lanes and crosswalks



- When your view is obstructed, drive in reverse
- Don't drive towards a person where they could be pinned between the lift and an object
- No stunt driving or horseplay
- Maintain control of the lift and the load at all times
- Keep to your side of the aisles as you approach intersections

Safety & Spotters

- A spotter is helpful in challenging environments where the lift operator can't see or manage everything at once.
- When using a spotter, discuss where the lift will travel, the load, and communication



Blind spots exist at the ends of aisles, corners, at intersections and where objects block your view of the travel path.

Slow down and sound your horn.

Check for blind spot mirrors on racks or hung from ceilings.

Proceed cautiously and scan for lifts and pedestrians.

Know that the truck itself can create blind spots.

Travel in reverse when the load obstructs the view.

Safety & Parking

P.A.R.King the lift.

- Place forks on the ground
- Activate parking brake
- Return controls to neutral and turn off the key
- Keep clear of high traffic areas, electrical panels, emergency equipment, etc.



- The lift should be unloaded, forks or attachment lowered to floor, parking brake set and key off before refueling or recharging.
- The engine must always be off when refueling.
- The operator should be off the lift.



- Mechanical lifting aid plus battery lifting sling is required for battery handling.
- Charging area must have working emergency eyewash station and operators should know how to use it.
- Battery charging limited to designated area.
- Ventilation must be adequate to disperse hydrogen produced by batteries during charging.
- Open flames may not be used to check levels of electrolyte in batteries.
- Always add battery acid to water (not the reverse), except when adding water to replace water lost during charging.
- Bulk electrolyte must be handled by use of a carboy tilter or siphon; the siphon must never be started by sucking.
- No smoking in the charging area (note: charging area must be posted with "No Smoking" signs).
- Eliminate sparks, electric arcs, and open flames in battery charging areas.

Safety & Refueling & Recharging

- Keep metal tools and items away from top of uncovered batteries to prevent arcing.
- Brake must be applied when charging or changing batteries.
- Vent caps must be inspected to ensure that they are not plugged and must be placed in position before battery is charged to avoid electrolyte spray.
- Battery cover or compartment cover must be left open during charging to dissipate heat.
- Only pull battery connector to disconnect in an emergency, or when recharging.
- Wear the proper PPE (impervious gauntlet gloves, eye or face protection and consider an apron) when filling battery cells.
- Properly position and secure batteries reinstalled in trucks.
- Use a spacer to prevent shifting of an undersized battery.
- An undersized battery reduces the load capacity of the truck if the battery is part of the counter weighting.



- Don't refuel or store LPG tanks near sources of heat, or near underground entrances, elevator shafts, or other depressions where leaking gas could accumulate.
- Check tank to see that there are not sharp dents or gouges that could weaken the structures.
- Don't throw, drag, drop, or roll LPG containers.
- Check fuel lines for rubbing, chafing, or exposure to manifold heat.
- Check for damage to liquid level gauge.
- Inspect quick-disconnect coupling for damage, deterioration, and for damaged or missing flexible seals.
- Make sure threads are in good condition.
- Check the valves and fittings for damage.

Safety & Refueling

- Check to see that the relief valve points in the direction specified by the manufacturer.
- Make sure hand wheels, relief valves, and valve caps are in place.
- Make sure locating pin is intact and that it properly engages the tank.
- Don't jam the valve in the open position (when opening valve, open fully, then turn toward closed position 1/4 to 1/2 turn-this prevents jamming and enables quick shutoff in an emergency).
- Wear gloves when changing LPG tanks, as escaping gas is painfully cold to the skin.
- After installing a new cylinder, check fittings for leaks with a soap solution (never with a match or other flame, or with the bare hand).
- If the LPG tank is kept on a truck overnight or longer, close the service valve.
- Do not smoke in the refueling or tank storage area.

Safety & Refueling Gas & Diesel

- Use safe methods for checking level of gasoline in fuel tank.
- Follow requirements for storage and handling of fuels.
- Use only approved fuel containers.
- When fuel is spilled, Gasoline or diesel lifts may not be restarted until spilled fuel has evaporated, or has been wiped up or washed off, and fuel tank cap has been put in place.
- Never smoke while refueling.



Maintain control of your lift

Wear your seatbelt

Cross railroad tracks diagonally

Park over 8.5 feet from center of railroad tracks

Slow down when it's wet

Slow on slopes or grades



Keep the load uphill on grades over 10%

Unload lifts on ramps and grades are to have the forks pointed downhill

Use your brakes and horn anywhere your vision is impaired

Inspect trailer floors, dock plates, and use jacks when needed



Use your brakes and horn at corners, aisles, intersections and anywhere your vision is blocked

Don't leave your lift "running" and "unattended"

Always "P.A.R.K." your lift

Know your capacity

Keep the load close to the ground when driving



Move the forks up and down only when the lift is stopped

Remember, the mast makes a blind spot that hides pedestrians, posts, and columns

Report defects immediately and remove from service

Keep a safety zone around the lift

Keep the load close to the ground when driving

- Operators must be trained, certified, and authorized by the company
- No riders other than the operator
- Keep arms, legs, hands, head, etc. inside the cage and never between the uprights of the mast and the machine
- Unattended machines must have forks on the floor, controls in neutral, brakes set, and powered
 off
- Unattended means operator is more than 25' from the lift or the lift is not in the operator's view
- An operator who is dismounted and within 25' of the lift with the lift in view must
- leave the forks on the ground, controls neutralized, and brakes set.
- Don't drive the forklift towards anyone standing in front of an object or bench
- No one will pass under the forks (loaded or unloaded)
- Maintain a safe distance from the edge of ramps or platforms while on any elevated dock, platform or freight car
- Don't use your lift to open or close freight car doors
- Prevent trailers and railcars from moving by setting brakes and using positive blocking devices while loading or unloading

- Use fixed jacks under trailers when necessary
- Always check trailer floors for breaks, cracks, weaknesses, etc. prior to entering
- Keep sufficient clearance under overhead hazards such as lights, pipes, sprinklers, conduit, etc.
- An overhead guard is designed for protection against falling items and not necessarily the impact of a full capacity load.
- A load backrest extension is to be used as necessary to minimize the possibility of the load or part of it falling rearward towards the operator
- Only approved industrial trucks will be used in hazardous locations
- Always park at least 8.5 feet form the center of railroad tracks look in the direction you're driving and keep a clear view of the path of travel
- Grades will be ascended or descended slowly
- Loaded lifts will operate with the forks uphill on grades over 10%
- Lift loads only as far as necessary to clear the floor/road/surface
- Maintain complete and full control or your lift in all conditions
- Always operate at speeds that permit you to stop the lift in a safe manner
- Never stunt drive or engage in horseplay while operating a lift
- Slow down on wet and slippery conditions

- Keep fire aisles, access to stairways and fire equipment free of obstructions
- Follow traffic rules and speed limits
- When operating with other lifts, maintain three truck lengths from the truck ahead
- Yield right of way to ambulances, fire trucks or other vehicles in emergency situations
- Don't pass lifts traveling in the same direction at intersections, blind spots or other dangerous locations, slow down and proceed with caution.
- Slow down, sound the horn and proceed with caution aisle crossings and other locations where vision is obstructed.
- When the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- Railroad tracks will be crossed diagonally wherever possible.
- Drive over dock/bridge plates carefully and slowly
- Never exceed the rated capacity of dock/bridge plates
- Enter elevators slowly and squarely once the elevator car is level
- In an elevator, put the controls in neutral, set the brakes and shut the power off
- Powered hand trucks must enter elevators and confined areas with load forward
- Don't run over loose objects

- When turning, reduce speed and operate the wheel smoothly
- Every effort will be made to stabilize or safely arrange loads
- When unable to center loads, use extreme caution
- Never handle loads in excess of the lift's capacity
- Adjust long or high loads which may exceed capacity due to their length or height
- · When equipped with attachments, lifts will be operated as partially loaded
- Fully engage the load and tilt it toward the carriage for added stability
- Extreme caution will be used when tilting the load forward or backward
- Never tilt the forks up or drive with the forks up, except to pick up a load.
- Elevated loads will only be tilted forward when the load is over its final position
- Only use enough backward tilt to stabilize the load (especially tall or tiered loads)
- Immediately remove a defective lift from service

Whenever a truck is equipped with vertical only or vertical and horizontal controls elevatable with the lifting carriage or forks for lifting personnel, the following additional precautions will be taken for the protection of personnel being elevated:

- Use of a safety platform firmly secured to the lifting carriage and/or forks.
- Means will be provided whereby personnel on the platform can shut off power to the truck.
- Such protection from falling objects as indicated necessary by the operating conditions will be provided.

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