

# MICHIGAN



## MICHIGAN STATE UNIVERSITY: Prevention of work-related injuries & illnesses through research & investigation

### WORK-RELATED INJURIES AND FATALITIES FROM FORKLIFTS

Forklifts are types of powered industrial trucks (PITs). Other common types of powered industrial trucks include order pickers, reach trucks and platform trucks. Forklifts are used to move and raise objects in many industries. In Michigan, 46 workers have died from forklift related injuries from 2001-2015 and on average 42 workers are hospitalized each year with severe forklift related injuries. People are killed and hurt in many ways, including while driving or being hit by a forklift; from tip-overs due to lifting a heavy load too high or on uneven ground; by inadvertently driving off loading docks; from falls between docks and an unsecured trailer; or when a person falls while standing on an elevated platform or tine.



Driver died when forklift overturned

### EXAMPLES OF WORK-RELATED INJURIES AND FATALITIES FROM FORKLIFTS IN MICHIGAN

- A 400-lb. piece of equipment fell from a forklift onto the back of a man in his 50s.
- A man in his 30s fell 25 feet while painting; he was standing on a wooden box set on top of a forklift.
- A man in his 40s was crushed between a wall and a shelving unit by a forklift driver, who did not see him standing by the wall.
- A man in his 20s had his foot hanging out while backing up a forklift; his foot was crushed between the forklift and a guard rail.
- A man in his 50s was pinned between a semi-truck and a forklift.
- A man in his 20s fell off a forklift while it continued to move; the patient was caught between the forklift and a wall.
- A man in his 30s was killed when he fell from an order picker while retrieving boxes from a 15-20 ft.-high rack.
- A man in his 30s was driving a forklift on a slight incline, raising two bins to an overhead position. The forklift began to overturn and the decedent attempted to jump from the forklift; the forklift crushed him.
- A man in his 20s died when his head was caught between a low hanging overhead water pipe and the fork mast of the forklift he was driving; the forklift did not have overhead guard protection.
- A man in his 20s was electrocuted while operating an extendable-boom rough-terrain forklift that made contact with a 4,800-volt overhead power line.
- A man in his 40s was killed when he backed an 8,760-lb. propane-powered forklift over the edge of a loading dock; the forklift overturned and landed on him.
- A man in his 40s died when the trailer he was boarding to unload pallets pulled away from the loading dock causing both the forklift and the decedent to fall to the ground.
- A man in his 50s died when he was struck and run over by a forklift transporting a 59-in.-tall by 50-in.-wide paper roll.
- A woman in her 50s died when she was struck in a recycling center parking lot by a forklift transporting an overflowing 6-yard, 71-in.-wide by 58-in.-tall by 66-in.-deep dumpster.
- A woman in her 50s died when the forklift she was operating overturned to the side while transporting two bales elevated approximately 7 ft. The two bales exceeded the maximum lifting capacity of the forklift.

## PREVENTING INJURIES AND FATALITIES FROM FORKLIFTS

- Inspect the forklift daily prior to operating.
- Only trained operators 18 years or older with an industrial truck operator's permit may drive a forklift.
- Always use your seat belt or other restraint system (if equipped).
- Always look in the direction you are traveling and keep a clear view of the travel path. Travel in reverse if the load blocks your view.
- Lift or transport only a load that is within the rated capacity of the truck.
- When loading a fork lift truck, place the load-engaging-means under the load as far as possible and tilt the mast backwards to cradle the load. Tilt an elevated load forward only when in a deposit position over a rack or stack. Ensure there is adequate clearance under beams, lights, sprinklers and pipes for the forklift and the load to pass.
- When elevating or transporting personnel, a platform with a guardrail system and components designed and built to meet MIOSHA General Industry or Construction Safety requirements must be used. Do not use a forklift to elevate workers who are standing on the forks.
- Do not raise, lower or have the forks elevated while the forklift is moving.
- Do not speed; always operate at a speed that will allow the forklift to be safely stopped.
- When dismounting from a forklift, set the parking brake, lower the forks or lifting carriage, and neutralize the controls.
- Do not drive up to anyone standing in front of a wall or other fixed object.
- Use extreme caution on grades or ramps. When ascending or descending a grade that exceeds the back-tilt of the mast, the load must face upgrade. Drive unloaded trucks with the load-engaging-means downgrade, tilted back, and raised only as far as necessary to clear the floor or road surface.
- Slow down and sound the horn at cross aisles and other locations where vision is obstructed. Do not put any part of your body between the uprights of the mast or, when traveling, outside of the forklift frame.

### DID YOU KNOW?

- A forklift is just one type of powered industrialized truck (PIT). All PITs can be hazardous and are covered by MIOSHA rules.
- Forklifts are steered from the rear axle rather than from the front axle.
- Each year, more than 1 in 10 forklifts are involved in a crash or other mishap (assuming 1 crash or mishap per forklift per year). 10% of physical injuries in the workplace are caused by forklifts.
- Operator Retraining is required when the operator: has been involved in a crash, near-miss, or evaluation stemming from unsafe operation; operates a new forklift; or when a condition in the workplace changes that could affect safe operation of the truck.
- A powered industrial truck operator must report all events involving injury to an employee or damage to buildings and equipment to the employer.

### Resources

- Daily Check Lists for operators prior to driving a forklift:  
[www.osha.gov/dte/library/pit/pit\\_checklist.html](http://www.osha.gov/dte/library/pit/pit_checklist.html)  
[www.osha.gov/dte/library/pit/daily\\_pit\\_checklist.html](http://www.osha.gov/dte/library/pit/daily_pit_checklist.html)
- OSHA eTool for forklifts:  
[www.osha.gov/SLTC/etools/pit/index.html](http://www.osha.gov/SLTC/etools/pit/index.html)
- MIOSHA Standards re: Powered Industrial Trucks:
  - General Industry Standard, Part 21, Powered Industrial Trucks:  
[www.michigan.gov/documents/CIS\\_WSH\\_part\\_21\\_35460\\_7.pdf](http://www.michigan.gov/documents/CIS_WSH_part_21_35460_7.pdf)
  - Construction Safety Standard, Part 13, Mobile Equipment:  
[www.michigan.gov/documents/lara/lara\\_miosha\\_CS\\_13\\_418775\\_7.pdf](http://www.michigan.gov/documents/lara/lara_miosha_CS_13_418775_7.pdf)
- MIOSHA Safety Manual for Powered Industrial Truck Operators  
[http://www.michigan.gov/documents/dleg/wsh\\_cet0116\\_222722\\_7.pdf](http://www.michigan.gov/documents/dleg/wsh_cet0116_222722_7.pdf)
- OSHA Standards on forklifts:  
[www.osha.gov/SLTC/powerindustrialtrucks/standards.html](http://www.osha.gov/SLTC/powerindustrialtrucks/standards.html)
- NIOSH Alert on forklifts:  
[www.cdc.gov/niosh/docs/2001-109/default.html](http://www.cdc.gov/niosh/docs/2001-109/default.html)