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**NORTHLAND**  
COMMUNITY & TECHNICAL COLLEGE

## PURPOSE

Material handling is a significant safety concern. During the movement of products and materials there are numerous opportunities for personal injury and property damage if proper procedures and caution are not used. This plan applies to all powered industrial trucks / forklifts. The OSHA regulation for Powered Industrial Trucks is 29 CFR 1910.178.

## RESPONSIBILITIES

The contact person for the Northland's Powered Industrial Truck (PIT) / Forklift Safety Program is Cory Feller. Cory Feller is responsible for all facets of this program and has full authority to make necessary decisions to ensure the success of the program.

The individuals listed below have the following responsibilities for administering / maintaining Northland College *Powered Industrial Truck / Forklift Safety Program*:

Person	Responsibilities
Cory feller	<ul style="list-style-type: none"><li>• Overall responsibility for the PIT safety program</li><li>• Develop and maintain PIT safety program</li><li>• Manage the PIT training program.</li></ul>
Supervisors / Dept. Heads	<ul style="list-style-type: none"><li>• Permit only trained operators to operate PITs.</li><li>• Maintain a master list of certified operators who are trained, qualified and have authorization to operate PITs.</li><li>• Ensure PIT operations are performed in accordance with program training guidelines.</li><li>• Assist in the development &amp; maintenance of PIT safety program.</li><li>• Manage &amp; assist in PIT employee training.</li></ul>
Employees	<ul style="list-style-type: none"><li>• Do not operate a PIT unless you have completed the necessary training program and are qualified and authorized to do so by your department head / supervisor.</li><li>• Operate a forklift safely and in accordance with program training guidelines.</li><li>• Inspect and maintain PIT / forklifts in good working condition. Report defects / problems noted with PIT / forklifts as well as other noted worksite hazards.</li><li>• Complete &amp; maintain all necessary inspection &amp; maintenance logs.</li></ul>

## **TRAINING**

Training for powered industrial truck (PIT) operators will be conducted by an experienced operator and / or a certified PIT / forklift trainer. All operational training will be conducted under close supervision. All training and evaluation must be completed before an operator is permitted to use a Powered Industrial Truck (PIT) without continual & close supervision.

Key components of the program may include, but are not limited to the following:

1. A training guide / handbook / handouts;
2. A training video;
3. A copy of this written program;
4. Forklift Operator's Daily Checklist (see page appendices);
5. Forklift Maintenance Log (see appendices);
6. Master Log of Qualified Forklift Operator's (see appendices);
7. Forklift Operator's Written Learning Exercise (see appendices); and
8. Forklift Operator's Performance Skills Evaluation (see appendices).

### **Initial Training**

Training consists of a combination of formal instruction, practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace. PIT operators will receive initial training in the following topics:

#### **A. Truck-Related**

1. Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate
2. Differences between the truck and the automobile
3. Truck controls and instrumentation: where they are located, what they do, and how they work
4. Engine or motor operation
5. Steering and maneuvering
6. Visibility (including restrictions due to loading)
7. Fork and attachment adaptation, operation, and use limitations
8. Vehicle capacity
9. Vehicle stability
10. Any vehicle inspection and maintenance that the operator will be required to perform
11. Refueling and/or charging and recharging of batteries
12. Operating limitations
13. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

#### **B. Workplace-related topics:**

1. Surface conditions where the vehicle will be operated
2. Composition of loads to be carried and load stability
3. Load manipulation, stacking, and un-stacking
4. Pedestrian traffic in areas where the vehicle will be operated

5. Narrow aisles and other restricted places where the vehicle will be operated
6. Hazardous (classified) locations where the vehicle will be operated
7. Ramps and other sloped surfaces that could affect the vehicle's stability
8. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
9. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation

### **Refresher Training & Evaluation**

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely. Refresher training in relevant topics shall be provided to the operator when:

1. The operator has been observed to operate the vehicle in an unsafe manner
2. The operator has been involved in an accident or near-miss incident
3. The operator has received an evaluation that reveals that the operator is not operating the truck safely
4. The operator is assigned to drive a different type of truck
5. A condition in the workplace changes in a manner that could affect safe operation of the truck
6. Once every 3 years an evaluation will be conducted of each powered industrial truck operator's performance.

## **STANDARD OPERATING PROCEDURES & RULES**

### **General Operating Procedures**

1. Only authorized and trained personnel will operate PITs.
2. All PITs will be equipped with a fire extinguisher, rotating beacon, back-up alarm and seat belts. Seat belts will be worn at all times by the Operator.
3. The operator will perform daily pre- and post-trip inspections.
4. Any safety defects (such as hydraulic fluid leaks; defective brakes, steering, lights, or horn; and/or missing fire extinguisher, lights, seat belt, or back-up alarm) will be reported for immediate repair or have the PIT taken "Out of Service".

5. Operators will follow the proper recharging or refueling safety procedures.
6. Loads will be tilted back and carried no more than 6 inches from the ground.
7. Loads that restrict the operator's vision will be transported backwards.
8. PITs will travel no faster than 5 mph or faster than a normal walk.
9. Hard hats will be worn by PIT operators in high lift areas (if applicable).
10. Operator will sound horn and use extreme caution when meeting pedestrians, making turns and cornering.
11. Passengers may not ride on any portion of a PIT. Only the operator will ride PITs.
12. If PITs are used as a man lift, an appropriate man lift platform (cage with standard rails and toe-boards) will be used.
13. Aisle will be maintained free from obstructions.
14. Lift capacity will be marked on all PITs. Operator will assure load does not exceed rated weight limits.
15. When un-attended, PITs will be turned off, forks lowered to the ground and parking brake applied.
16. All PITs (with exception of pallet jacks) will be equipped with a multi-purpose dry chemical fire extinguisher.
17. Operators are instructed to report all accidents, regardless of fault and severity, to their department head or program contact person.
18. When loading truck trailers, dock plates will be used. Operators will assure dock plates are in good condition.
19. Truck trailers will be parked squarely to the loading area and have wheels chocked in place. Operators will follow established docking / un-docking procedures.

### **Safe Operating Procedures**

1. Trucks shall not be driven up to anyone standing in front of any fixed object (i.e. walls, shelving, etc).

2. No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
3. Arms or Legs shall not be placed between the uprights of the mast or outside the running lines of the truck.
4. When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.
5. A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors.
6. There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.
7. A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.
8. Trucks shall not be parked so as to block fire aisles, access to stairways, or fire equipment.

### **Safe Traveling Rules**

1. All traffic regulations shall be observed, including authorized speed limits
2. Other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed.
3. The driver shall be required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
4. Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.
5. The driver shall be required to look in the direction of, and keep a clear view of the path of travel.

6. Grades shall be ascended or descended slowly. When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade. On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.
7. Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
8. Stunt driving and horseplay shall not be permitted.
9. The driver shall be required to slow down for wet and slippery floors / surfaces.
10. Dockboard or bridgeplates, shall be properly secured before they are driven over. Dockboard or bridgeplates shall be driven over carefully and slowly and their rated capacity never exceeded.
11. Running over loose objects on the roadway surface shall be avoided.
12. While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.

### **Safe Loading Rules**

1. Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
2. Only loads within the rated capacity of the truck shall be handled.
3. The mast shall be carefully tilted backward to stabilize the load.
4. Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

## **MAINTENANCE**

- A. Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. All repairs shall be made by authorized personnel.
- B. All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.
- C. Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter-weighting of fork trucks shall not be done unless approved by the truck manufacturer.
- D. Maintenance records will be maintained by the College for at least three years.

## **EMISSIONS TESTING** (i.e. for non-battery powered forklifts only)

- A. When industrial trucks are operated indoors, the atmosphere will be tested initially and thereafter at least quarterly for employee exposure to carbon monoxide. The testing will be done on a day of highest usage. The concentration of carbon monoxide must not exceed the permissible exposure limit as defined by OSHA (35 ppm)
- B. PITs will be tested for the percentage of carbon monoxide in the tailpipe exhaust. The percentage of carbon monoxide must not exceed 1 % for propane fueled trucks and 2% for gasoline fueled trucks.
- C. Testing results will be maintained for a period of three (3) years.

## **REFUELING REQUIREMENTS**

### **General Requirements**

Refuel only in assigned, ventilated areas containing no ignition sources. (i.e. typically outside)

Turn off engine when refueling.

Have fire suppression and cleanup equipment available.

Ensure there are no flames, sparks or electric arcs in the fueling / charging areas.

Extinguish smoking materials. No smoking is permitted in fueling / charging areas.

Follow the vehicle manufacturer's instructions for gas or propane fueling.

Never use open flame to check fuel level.

Try to prevent spills, clean any spills promptly, replace fuel cap before starting or moving vehicle.

Take empty propane tanks to an authorized compressed gas container disposal / storage area and follow company / district policy for disposal / storage.



### **Battery Operated PITs**

Refer to the manufacturer's recommendations before performing charging and maintenance procedures.

Charge batteries only in designated battery charging areas.

Use acid-resistant material-handling equipment and wear corrosion-resistant PPE during battery charging / changing / handling.

Ensure flushing & neutralizing materials / equipment is available for electrolyte spills / splashes

Leave battery vent caps in place to avoid electrolytic spray when charging batteries.

If acid needs to be added to the battery during charging, pour the acid into the water, not the water into the acid.

Care should be taken to ensure that the vent caps are functioning. Open the battery (or compartment) cover(s) to dissipate heat & gases that are generated during the charging process.

### **RECORDKEEPING**

The following records will be maintained by Northland College for at least three years.

- Daily / Periodic Maintenance Checklists
- Maintenance Logs
- Employee / Operator Training Records
- Employee / Operator Skills Performance Evaluations
- Exhaust / Emissions Testing Results (i.e. for combustion powered engines only)

Records can be reviewed by contacting Cory feller.

### **PROGRAM REVIEW**

An annual review of this program will be conducted.

## **APPENDICES**

# Electric Powered Industrial Truck / Forklift Daily Inspection Checklist

Forklift Model / Model: \_\_\_\_\_ Week Ending Date: \_\_\_\_\_

Hour Meter Reading:										
	Date		Date		Date		Date		Date	
VISUAL CHECKS	Ok	Needs Repair	Ok	Needs Repair	Ok	Needs Repair	Ok	Needs Repair	Ok	Needs Repair
Obvious damage / leaks (1)										
Tire condition										
Battery plug connection										
Head & tail lights										
Warning lights										
Hour meter										
Other gauges & instruments										
Battery discharged (2) (3)										
Fire extinguisher charged?										
OPERATIONAL CHECKS	Ok	Needs Repair	Ok	Needs Repair	Ok	Needs Repair	Ok	Needs Repair	Ok	Needs Repair
Horn										
Steering (1)										
Service brakes (1)										
Battery load test (2) (3)										
Parking brake (1)										
Seat interlock switch / Seat Belt (4)										
Hydraulic controls										
Checked by:										
Initials										

- Notes: (1) Report a problem with this check to your Supervisor or Department Head immediately.  
 (2) When key is turned on, gauge should indicate battery is charged  
 (3) Watch battery indicator while holding tilt lever on full back tilt. If needle moves to red area, battery doesn't have sufficient charge to operate truck properly.

Forklift ID:  
\_\_\_\_\_

**FORKLIFT PRE-SHIFT INSPECTION CHECKLIST**

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY		SUNDAY	
Date:														
Inspector's Initials:														
ITEM INSPECTED	OK	Repair	OK	Repair	OK	Repair	OK	Repair	OK	Repair	OK	Repair	OK	Repair
Forks, Backrest, Carriage														
Mast, Chain, Hydraulic Lines														
Tires, Axles														
Overhead Guard/ROP														
Fuel Tank & Connections														
Engine Oil Level														
Radiator Water Level (Cold)														
Fuel Level														
Leaks under Fork Lift														
Seat and Seat belts														
Horn and/or Backup alarm														
Lights														
Gauges and Instruments														
All Brakes														
Hydraulic Controls & Lift														
Steering														

1. This checklist must be completed daily and retained for documentation for at least one year.
2. If the forklift is found to be unsafe, the condition must be reported immediately to the supervisor and repaired.
3. No forklift shall be operated with a leak in the fuel system.



## Master Log of Qualified Powered Industrial Truck / Forklift Operators

License #	Name	Department	Qualified to Operate (check all that apply)				Date Issued
			Forklift Truck	Riding Stacker	Walking Stacker	Other	
	Jesse Adkins	<i>EGF Facilities</i>	x				4/1/15
	Bryan Berger	<i>EGF Facilities</i>	x				11/15/18
	Shawn Vandal	<i>EGF Facilities</i>	x				11/15/18
	Clinton Castle	<i>Facilities</i>	x				10/8/20
	Tim Bergerson	<i>Facilities</i>	x				6/5/18
	Shannon Boen	<i>Facilities</i>	x				6/5/18
	Robbi Brateng	<i>Facilities</i>	x				6/5/18
	Brian Larson	<i>Facilities</i>	x				6/5/18
	Zach St. Marie	<i>Facilities</i>	x				3/12/21
	Howard Stowe	<i>Facilities</i>	x				3/12/21
	Dale Umbreit	<i>Facilities</i>	x				9/12/22
	Andrew Dahlen	Manufacturing	x				10/1/16
	Jack Hanson	Plumbing Technology	x				9/21/17
	Mark Johnson	Automotive Technology	x				1/28/19
	Jeffrey Krein	Aviation Technology	x				10/1/20
	Zachary Nicklin	Aviation Technology	x				12/8/20
	Joel Ziegler	Welding-TRF	x				5/6/21
	Brian Suckow	Welding-EGF	x				11/8/22

## Powered Industrial Truck / Forklift Learning Exercise

Answer the following questions "True" or "False" by circling the appropriate letter.

- T F 1. Material handling refers only to moving raw materials in a workplace?
- T F 2. Two common types of forklifts are counterbalance and narrow aisle?
- T F 3. The mast is the component of a forklift that holds the mechanism for raising and lowering the load?
- T F 4. Side stability refers to a forklift's ability to turn sharply?
- T F 5. The amount of weight a forklift can safely lift is called its "Rated Capacity?"
- T F 6. Where a load sits is as important as how much it weighs?
- T F 7. A forklift should be inspected at least once a month?
- T F 8. To test the brakes, step on the pedal. If it doesn't go all the way down, the brakes are okay?
- T F 9. As the operator, you are responsible for the safe operation of the forklift?
- T F 10. You should never use a forklift for any purpose other than the one for which it was designed?
- T F 11. When another load is in front of the one you are picking, up, tilt the forks back as far as possible to clear the other load?
- T F 12. Stacking and unstacking must be done carefully because the higher you lift a load, the more unstable the forklift becomes?
- T F 13. Lifting a load while traveling is okay as long as you are moving forward?
- T F 14. If a load blocks your vision when in the driver's seat, stand up to see over the load?
- T F 15. When following other forklifts, you should always maintain a safe distance of at least three forklift lengths?
- T F 16. A forklift is considered to be unattended whenever it is parked?

Name: \_\_\_\_\_

Department: \_\_\_\_\_

Trainer's Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Powered Industrial Truck / Forklift Operations Skills Evaluation

Operator's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Place a check mark in the appropriate area.

Operation / Activity	Good	Fair	Poor	NA	Comments:
Adequately inspects equipment both before and after each shift – using inspection checklists					
Demonstrates / knows the function of each control is used properly					
Starts & stops smoothly.					
Drives or operates at appropriate speeds					
Executes turns / corners smoothly & at appropriate speed					
Slows down at blind corners and all intersections; drives carefully					
Selects & attempts loads that are appropriate for the truck capacity					
Selects loads of proper size for visibility and safe handling					
Lifts load squarely and smoothly					
Places forks properly - spaced as wide as possible					
Load tilted back against back rest					
Carries load low (just enough to clear floor obstacles)					
Engages / sounds horn at intersections / corners					
Keeps to the right in aisles used for two-way traffic					

## PIT / Forklift Operations Skills Evaluation – pg 2

Operation / Activity	Good	Fair	Poor	NA	Comments:
Travels at least three lengths behind other vehicles					
Handles load in manner to prevent product or property damage					
Appropriate use of mirrors corners / blind spots					
Stacks loads straight & squarely					
Does not stack / tier too high					
Deposits load safely; does not use excessive tilt action					
Removes load and lowers to safe level before making turn to proceed in direction of desired travel					
Negotiates ramps properly with a two tier load					
Checks bridge plates / dock boards before crossing					
Places dock plate in proper position / securement					
Checks for proper wheel chocking of trailers, trucks and rail cars before entering to prevent movement and ensure proper jack installation of trailers when required.					
Enters and exits a trailer proficiently with / without a load					
Turns key to OFF position, forks dropped to minimum distance from the floor with mast tilted forward when parking the forklift					
Turns off LP control valves when parking the forklift					
Performs refueling / recharging procedures safely					
Does not block pedestrian egress areas or fire fighting equipment with forklift when parked					



## PIT / Forklift Operations Skills Evaluation – pg 3

Operation / Activity	Good	Fair	Poor	NA	Comments:
Maintains a safe distance from the edge of the dock or other limiting operational situations					
Does not drive up to anyone standing in front of a fixed object such as a wall or pallet.					
Does not permit riders / passengers.					
Keep arms and legs within the running lines of the forklift and never between the uprights of the mast.					
Ensures sufficient head room under overhead installations, lights, pipes, etc.					
If the load being carried obstructs the forward view, the driver shall travel with the load trailing.					

Based on the operator's performance during this evaluation, the above named operator / person has demonstrated the ability to safely operate a forklift for Northland College.

Evaluator's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Evaluator's Title / Job Description: \_\_\_\_\_