A. INTRODUCTION

Powered industrial trucks are mobile, power-driven vehicles used to carry, push, pull, lift, stack, or tier material. The purpose of this Powered Industrial Truck/Forklift Safety program is to provide information on the safe use of powered industrial trucks. The Occupational Safety and Health Administration (OSHA) and the National Fire Protection Association (NFPA) have established rules and guidelines for the protection of workers and facilities in OSHA 1910.178, Powered Industrial Trucks, OSHA 1926.602, Material Handling Equipment, and NFPA 505, Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Maintenance, and Operation, which are incorporated into this Powered Industrial Truck/Forklift Safety Program.

This program also includes safe operating procedures for manual pallet jacks.

B. SCOPE

All Alvernia University employees who operate or anticipate operating a powered or unpowered industrial truck/forklift during their employment must complete forklift safety training and evaluation and must comply with this program.

C. DEFINITIONS

1. Attachment means a device, other than conventional forks or load backrest extensions, mounted permanently or removed on the elevating mechanism of a truck for handling the load. Popular attachments are fork extensions, clamps, rotating devices, side shifters, load stabilizers, rams, and booms.

2. Cantilever Truck means a self-loading, counterbalanced or non-counterbalanced truck equipped with cantilever load engaging means.

3. Capacity, when referring to trucks, means:
   - The capacity of a truck equipped with a load carriage and forks, or with attachments, is the maximum weight in pounds, at a specified load center which the truck, based on the strength of its various components and applicable stability, can lift to the maximum elevation of the load engaging means. Alternate capacities may be established at the same specified load center and at less than maximum elevation of the load engaging means.
   - The capacity of a truck equipped with a platform is the maximum weight in pounds, at a specified load center which the truck, based on the strength of its various components, can lift to the maximum elevation of the load engaging means.

4. Carriage means a support structure for forks or attachments, generally roller mounted, traveling vertically within the mast of a cantilever truck.

5. Center-Control Truck means a truck in which the operator’s control position is located near the longitudinal center of the truck.

6. Counterbalanced Truck means a truck equipped with load engaging means wherein all the load during normal transporting is external to the polygon formed by the wheel contacts.

7. Drift means to move without control
8. **Electric Truck** means a truck in which the principal energy is transmitted to motors in the form of electricity from a power source, such as, but not limited to, a battery or motor generator.

9. **End-Control Truck** means a truck in which the operator’s position is located at the end opposite the load.

10. **Fixed Platform Truck** means a truck equipped with a load platform which is non-elevating.

11. **Forks** means horizontal tine-like projections, normally suspended from the carriage, for engaging and supporting loads.

12. **Fork Height** means the vertical distance from the floor to the load carrying surface adjacent to the heel of the forks with mast vertical, and in the case of a reach truck, with the forks extended.


14. **Free Play** means an uncontrolled movement.

15. **High-Lift Truck** means a self-loading truck equipped with an elevating mechanism designed to permit tiering. Popular types are high-lift fork trucks, high-lift ram trucks, high-lift boom trucks, high-lift clamp trucks, and high-lift platform trucks.

16. **High-Lift Platform Trucks** means a self-loading truck equipped with a load platform, intended primarily for transporting and tiering loaded skid platforms.

17. **Industrial Crane Truck** means a truck intended primarily for pick and carry use in warehousing, yarding, or industrial plant operation over improved or hard surfaced roads and yards, including maintenance within these areas.

18. **Industrial Tractor** means a truck designed primarily to draw one or more non-powered trucks, trailers, or other mobile loads.

19. **Internal Combustion Engine** means a truck in which the power source is a gas, LP gas, gasoline, or diesel-type engine.

20. **Issuing Authority** means an employer or his designated representative who instructed and trained the operator.

21. **Liquid Petroleum Gas (LPG)** means a fuel which is composed predominantly of any of the following hydrocarbons, or mixtures of them: propane, propylene, butanes (normal butane or isobutene), and butylenes.

22. **Load axle** means the truck axle nearest the load.

23. **Load Backrest Extension** means a device extending vertically from the fork carriage frame.

24. **Load Center** means the horizontal longitudinal distance from the intersection of the horizontal load-carrying surfaces and vertical load-engaging faces of the forks, or equivalent load positioning structure, to the center of the gravity of the load.

25. **Load Engaging Means** means a load handling device attached to a powered industrial truck for the purpose of handling a load.

26. **Low-Lift Truck** means a self-loading truck equipped with an elevating mechanism designed to raise the load sufficiently to permit horizontal movement. Popular types are low-lift platform trucks and pallet trucks.

27. **Low-Lift Platform Truck** means a self-loading truck equipped with a load platform intended primarily for transporting loaded skid platforms.
28. Mast means a support member providing the guideways permitting vertical movement of the carriage. It is usually constructed in the form of channels or similar sections providing the supporting pathway for the carriage rollers.

29. Motorized Hand Truck means a truck designed to be controlled by a walking operator and used to lift, tow, carry, stock, or tier materials.

30. Motorized Hand or Rider Truck means a dual purpose truck designed to be controlled by a walking operating or a riding operator.

31. Narrow Aisle Truck means a self-loading truck primarily intended for right angle stacking in aisles narrower than those normally required by counterbalanced trucks of the same capacity.

32. Non-Elevating Truck means a non-counterbalanced truck designed primarily for burden carrying and not capable of self-loading.

33. Operator means an employee who has been trained, tested, and authorized by the present employer to operate a powered industrial truck.

34. Order Picker Truck, High Lift means a high-lift truck controlled by the operator stationed on a platform movable with the load engaging means and intended for manual stock selection. The truck may be capable of self-loading or tiering or both.

35. Overhead Guard means a framework fitted to a truck over the head of a riding operator.

36. Overall Lowered Mast Height means the maximum vertical dimension from the ground or floor to the extreme top point of the mast with the fork carriage in the fully lowered position and unloaded.

37. Pallet Truck means a self-loading low-lift truck equipped with wheeled forks of dimensions to go under a single-faced pallet or between the top and bottom boards of a double-faced pallet and having wheels capable of lowering into spaces between the bottom boards so as to raise the pallet off the floor for transportation.

38. Parking Brake means a device to prevent the movement of a stationary truck.

39. Powered Industrial Truck or Truck or PIT means a mobile, power driven vehicle used to carry, push, pull, lift, stack or tier material.

40. Reach Truck means a self-loading truck, generally high-lift, having load engaging means mounted so the means can be extended forwardly under control to permit a load to be picked up and deposited in the extended position and transported in the retracted position.

41. Rough Terrain Forklift Truck means a wheeled-type truck which is designed primarily as a fork truck that has a vertical mast or pivoted boom, or both, which has variable fixed length reach and which may be equipped with attachments and that is intended for operation on unimproved natural terrain as well as the disturbed terrain of construction sites. A machine that is designed primarily for earth-moving, such as a loader or dozer, even though its buckets and blades are replaced with forks or a machine that is designed primarily as an over-the-road truck that has a lifting device, is not a rough terrain forklift truck.

42. Self-Loading means the capability of a truck to pick up, carry, set down, and, in the case of high-lift types, to stack or tier its load without the aid of external means.

43. Service Brake means a device designed to bring a moving truck to a halt.
44. **Side Loader** means a self-loading truck, generally high-lift, having load engaging means mounted in such a manner that the means can be extended laterally under control to permit a load to be picked up and deposited in the extended position and transported in the retracted position.

45. **Straddle Truck** means a general class of cantilever truck with horizontal structural wheel supported members extending forward from the main body of the truck, generally high-lift, for picking up and hauling loads between its outrigger arms.

46. **Tire** means a tire which may be standard solid, cushion solid, pneumatic, or solid pneumatic style.

47. **Tiering** means a process of placing a load on or above another load.

48. **Unattended Truck** means one which is beyond the vision or more than 25 feet from the operator, whichever is less.

### D. RESPONSIBILITIES

1. The **Environmental Health & Safety Manager** will:
   - Provide Powered Industrial Truck/Forklift / Manual Pull Pallet Jack program oversight
   - Provide powered industrial truck/forklift and manual pull pallet jack training and ensure that each operator has been trained and evaluated as required, and
   - Annually review the Alvernia University Powered Industrial Trucks / Manual Pull Pallet Jack program

2. The **Director of Facilities and Campus Operations** shall:
   - Designate and identify employees responsible for operating powered industrial trucks/forklifths and manual pallet jacks
   - Ensure that no employee under his direction operates a powered industrial truck/forklift without proper training and certification,
   - Ensure that no modifications or additions which may affect the capacity and safe operation are made to the equipment without the manufacturer’s prior written approval. If modifications are made, all capacity, operation and maintenance instruction plates, tags or decals will be changed accordingly to reflect the changed specifications and/or conditions, and
   - Ensure that forklifts are repaired when malfunctioning (either by contacting an authorized service dealer directly or by notifying Offset Impressions if using an Offset Impressions forklift)

3. **Forklift and Pallet Jack operators** shall:
   - Attend and pass the required forklift safety training and evaluation before operating a powered industrial truck/forklift and at least every three years thereafter
   - Operate and maintain vehicles in a safe manner and according to the training provided
   - Complete a Pre-Use Inspection Checklist daily prior to using the forklift
   - Not operate a powered industrial truck/forklift that is known to be malfunctioning
   - Not operate a powered industrial truck/forklift while impaired or under the influence of alcohol or drugs
• Not engage in horseplay while operating the forklift or pallet jack
• Report all mechanical problems to the Director of Facilities and Campus Operations
• Return the forklift and pallet jack to the assigned storage area when finished

E. GENERAL VEHICLE OPERATING REQUIREMENTS

1. All powered industrial trucks acquired and used after February 15, 1972 are required to meet the design and construction requirements for powered industrial trucks established in the American National Standards Institute (ANSI) Standard for Powered Industrial Trucks, Part II, ANSI B5.6.1, except for vehicles intended primarily for earth moving or over-the-road hauling. Approved trucks are required to bear a label or some other identifying mark indicating approval by the testing laboratory.

2. Nameplate and markings must be in place, must not be covered over with paint which may obscure the identification information, and the nameplates must be maintained in a legible condition.

3. Modifications and additions which affect capacity and safe operation without the manufacturer’s prior written approval are prohibited. Capacity, operation, and maintenance instruction plates, tags, or decals should be modified accordingly.

4. Power-operated industrial trucks shall not be used in atmospheres containing hazardous concentrations of dust or where flammable gases or vapors are, or may be, present in quantities sufficient to produce explosive or ignitable mixtures. If the location is believed to be hazardous or contain any hazardous materials, the Environmental Health & Safety Manager should be consulted in advance.

5. High lift rider trucks must be equipped with an overhead guard, unless operating conditions do not permit the use of the guard. The overhead guard is intended to offer protection from the impact of small packages, boxes, bags, etc. but not to withstand the impact of a falling capacity load.

6. Forks and/or other attachments can affect the rated capacity of the truck. When a forklift truck is equipped with an attachment, the rated capacity of the truck/attachment combination will be established by the truck manufacturer. Capacity, operation, and maintenance instruction plates, tags, or decals will be changed accordingly to reflect the lift capacity change based on the use of attachments. The rated capacity of an attachment and/or truck combination must not be exceeded.

On every removable attachment (excluding fork extensions), a corrosion-resistant nameplate with the following information is required:

• Model number
• Serial number on hydraulically actuated attachments
• Maximum hydraulic pressure (on hydraulically actuated attachments)
• Weight
• Capacity
• The following instructions (or equivalent): “Capacity of truck and attachment combination may be less than capacity shown on attachment. Consult truck nameplate”.

7. The operation of propane or diesel powered forklift trucks may affect the concentrations of carbon monoxide (CO) and oxygen (O2) in the work location.
Concentrations of these materials in the work location must meet the requirements of 29 CFR 1910.1000, Table Z1 Limits for Air Contaminants, Occupational Safety and Health Standards for General Industry. The OSHA permissible exposure limit (PEL) for CO is 50 parts per million (ppm) with a normal atmospheric O₂ percentage of 20.9% by volume.

8. It is essential to use only approved powered industrial trucks in hazardous (explosive) areas. Trucks approved for use in hazardous areas will have the manufacturer’s label or some other identifying mark indicating approval for the intended use by a recognized national testing laboratory (e.g., Underwriters Laboratory (UL) or Factory Mutual (FM)).

Durable markers indicating the designation of the type of truck for use in hazardous areas will be applied to each side of the vehicle in a visible but protected area. These markers will be distinctive in shape.

The entrance to hazardous areas must be posted with a Hazardous Area sign to identify the type of forklift truck permitted, or the truck will be clearly marked as to the area(s) it is not to enter.

F. BATTERY CHARGING

- Refer to the current Safety Data Sheets (SDS) for dilute sulfuric acid, liquid propane gas (LPG) and/or diesel fuel depending on the type of truck being used.
- Smoking is prohibited during fueling or battery charging of a vehicle.
- Working around batteries can be dangerous because they contain sulfuric acid and generate potentially explosive gases (hydrogen) during the charging cycle.
- Do not smoke or let anyone else smoke in a battery charging area.
- Battery changing must be accomplished in well-ventilated areas.
- Never use an open flame to check the electrolyte level in batteries or the gasoline level in fuel tanks.
- When charging batteries, pour acid into water, not water into acid. Pouring water into acid can result in a violent reaction and is a potential explosion hazard.
- Properly position the forklift and secure the brake before attempting to change or charge batteries.
- Properly position, and secure reinstalled batteries in the forklift.
- Ensure vent caps are functioning and the battery (or compartment) cover(s) are open to dissipate heat.
- Keep tools and other metallic objects away from the top of uncovered batteries.
- Make sure the keys are not in forklift ignition when disconnecting the battery leads from the charging device. A spark from the ignition switch could generate an electrical spark.
- Fuel tanks shall not be filled while the engine is running.
- Trucks shall not be operated with a recognized leak in the fuel system.
- Spillage of oil or fuel must be carefully cleaned up and the fuel tank cap replaced before restarting the engine.
- When checking fluid levels in batteries, personal protection (face and hand protection) must be worn.
The eyewash station must be readily accessible. Do not store materials underneath or within a 24 inch area around the eyewash. Maintain a clear pathway to the eyewash.

G. OPERATOR TRAINING AND EVALUATION
Each powered industrial truck operator must be determined to be competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation described in this section. Personnel who have not yet been trained and certified to operate forklifts may operate a powered industrial truck/forklift for the purposes of training only under direct supervision of a certified powered industrial truck/forklift trainer.

1. Training shall consist of a combination of formal instruction (lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

2. Operator training and evaluation shall only be conducted by personnel who have the knowledge, training, and experience to train forklift operators and evaluate their competence. The Alvernia University Environmental Health & Safety Manager is currently the only Alvernia University employee who has received Powered Industrial Truck/Forklift trainer training.

3. All Alvernia University powered industrial truck/forklift operators shall receive initial training in the following topics:
   - operating instruction, warning, and precautions for the types of truck the operator will be authorized to operate;
   - truck controls and instrumentation: location, purpose, and operation;
   - differences between a powered industrial truck/forklift and an automobile;
   - engine or motor operation;
   - steering and maneuvering;
   - visibility (including restrictions due to loading);
   - vehicle capacity;
   - vehicle stability;
   - any vehicle inspection and maintenance that the operator will be required to perform;
   - refueling and/or changing of batteries; and
   - operating limitations, and any workplace related topics (e.g., surface conditions, narrow isles, pedestrian traffic, hazardous locations).

4. Refresher training in all the above listed topics, and any other relevant topics, will be provided to all Alvernia University powered industrial truck/forklift operators:
   - when the operator has been observed to operate the vehicle in an unsafe manner;
   - when the operator has been involved in an accident or near-miss incident;
   - when the operator has received an evaluation that reveals that the operator is not operating the truck safely;
   - when the operator is assigned to drive a different type of truck, or a condition in the workplace changes in a manner that would affect the safe operations of a forklift; and/or
• at least every three years.

5. Upon completion of the training program, all operators will be evaluated by the Alvernia University Environmental Health & Safety Manager for performance of proper procedures.

6. The Alvernia University Environmental Health & Safety Manager will document/certify the training and evaluation and will include in the documentation the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

H. INSPECTIONS

1. PRE-USE INSPECTION
   a) A pre-use inspection identifies potential hazards that may be encountered from a damaged forklift and should be performed at least daily by the operator. If at any time a forklift is found to be in need of repair, defective, or in any way unsafe, the forklift shall be removed from service until it has been restored to safe operating condition.
   b) The pre-use inspection process is as follows.
      1) Inspect the mast for broken or cracked weld points and any other obvious damage.
      2) Ensure roller tracks are greased and that chains are free to travel.
      3) Forks should be equally spaced and free from cracks along the blade and at the heels.
      4) Check hydraulic fluid levels.
      5) Check each hydraulic line and fitting for excessive wear or crimping.
      6) Check lift and tilt cylinders for damage or leaking fluid.
      7) Inspect mounting hardware on the cylinders.
      8) Check tires for excessive wear, splitting or missing tire material.
      9) Check pneumatic tires for proper pressure indicated on the tire.
   c) A Pre-Use Inspection Checklist must be completed before use each day. See Section 4300.2. Completed checklists will be filed in the Environmental Health & Safety office.

2. POWER SOURCE INSPECTION
   a) Battery Power
      1) Batteries contain acid, so protective gloves, goggles, and long sleeves must be worn when working with batteries.
      2) Batteries should be inspected for:
         • cracks or holes,
         • securely sealed cells,
         • frayed cables,
         • broken insulation,
         • tight connections, and
         • clogged vent caps.
b) Liquid Propane Gas Power
Before replacement, all LPG containers should be examined by the operator for the following defects or damage:

- dents, scrapes, and gouges of the pressure vessel;
- damage to the various valves and liquid level gauge;
- debris in the relief valve;
- damage to or loss of the relief valve cap;
- indication of leakage at the valves or threaded connections.

I. MAINTENANCE
1. Do not use open flames to check for electrolyte level in batteries or liquid fuel level in tanks.
2. Do not conduct repairs to fuel and ignition systems of forklifts in areas where fire hazards exist.
3. Disconnect batteries prior to repairing electrical systems.
4. Use only replacement parts equivalent with those in the original design.
5. Do not alter the relative positions of various parts from how they were received from the manufacturer. Do not add any parts not supplied by the manufacturer nor delete any parts supplied by the manufacturer. No additional counterweighting of forklifts is permitted unless approved by the manufacturer.
6. Keep forklift mufflers in proper working condition and free of debris.
7. Keep the forklift in clean condition, free of lint, excess oil, and grease.
8. When antifreeze is used in the engine-cooling system, only glycol-based material should be used.

J. FORKLIFT OPERATING GUIDELINES
1. Only trained and authorized personnel eighteen (18) years old and older are permitted to operate a forklift.
2. Do not operate a gasoline-powered or diesel-powered forklift in an inside area.
3. Do not stand or pass under the elevated portion of any forklift.
4. Passengers are prohibited from riding on forklifts.
5. Do not place arms or legs between the uprights of the mast or outside the running lines of the truck.
6. When mounting or dismounting a forklift:
   a) face the vehicle
   b) never jump off,
   c) use a three-point stance (always have both hands and one foot or vice-versa in contact with the unit),
   d) wear proper shoes (oil resistant and non-slippery),
   e) wear proper clothing (do not wear loose clothing or dangling jewelry), and
   f) restrain long hair.
7. After mounting the vehicle, fasten the seat belt, apply the brake, and shift to neutral. Also, check around the forklift for clearance and pedestrians before moving.
8. A forklift is considered unattended when the operator is 25 feet or more away from the vehicle and it remains in his view, or whenever the operator leaves the vehicle and it is
not in his/her view. When a forklift is left unattended:
   a) fully lower load engaging means,
   b) neutralize controls,
   c) shut off power,
   d) set brakes, and
   e) remove the key.

9. Maintain a safe distance from the edge of ramps or platforms while on any elevated
dock or platform.
10. Forklifts are not to be used to open or close freight doors.
11. Forklifts should not be used in areas of poor lighting (less than two lumens per square
foot) unless they are equipped with auxiliary directional lighting and the lighting is
turned on.
12. Fixed jacks may be necessary to support a semitrailer and prevent upending during
the loading or unloading when the trailer is not coupled to a tractor.
13. Set brakes and block wheels with wheel chocks to prevent movement of trucks and
trailers while loading or unloading when they are boarded by forklifts.
14. Check the flooring of trucks and trailers for breaks and weakness before loading or
unloading.
15. Check for sufficient headroom under overhead hazards such as lights, pipes, or
sprinkler systems.
16. Do not lift personnel or allow personnel to be lifted or work from the forklift without a
properly attached lifting carriage.
17. Whenever a truck is equipped with a lifting carriage or forks for lifting personnel, take
the following precautions:
   a) use safety platform firmly secured to the lifting carriage and/or forks,
   b) provide means whereby personnel on the platform can shut off power to the truck,
   c) provide protection from falling objects, and
   d) keep fire aisles, access to stairways, and fire equipment clear.
18. Return the forklift to the assigned storage location when the job is finished.

K. MANUAL PALLET JACK OPERATING GUIDELINES
A hand pallet jack uses a hydraulic jack to raise and move pallets. The wheels are located
under each fork. The fork separates from the front wheels and hence lifts the pallet to
create enough clearance to transport the pallet.

Manual pallet jacks have a simple raise/neutral/lower operating method. To raise the
forks, push the actuating lever down and pump the handle up and down until the pallet
has reached the desired height. A clearance of one inch between the floor and the pallet
is usually sufficient to move the load. To move a load, engage the actuating lever in the
middle (or neutral) position. This position disengages the lifting mechanism, making the
handle free from hydraulic resistance, and the forks remain in the raised position. Lower
the forks by pushing the actuating lever down past the neutral position. Because the lever
is spring-loaded for lowering, when you release the lever, it will automatically return to the
neutral position.
1. Only trained and authorized personnel eighteen (18) years old and older are permitted to operate the manual pallet jack.

2. Always check the pallet jack before use to ensure that it is in good working order.

3. When loading items onto a pallet, use proper lifting techniques (keep items close to the body; lift with the legs, not the back; do not bend at the waist or twist while lifting or carrying).

4. Examine the pallet before attempting to move it. Make sure that the pallet is in good condition and that the load is stable.

5. Make sure that the pallet jack forks are in the pallet straight and in the center of the pallet.

6. Never attempt to lift the load using only one fork.

7. Use both hands when jacking up the pallet jack to prevent muscle strain.

8. Pull the manual pallet jack. Push them only when going down an incline or passing close to walls or obstacles.

9. When pulling the pallet jack, make sure that it is in the neutral position. This will reduce fatigue.

10. Swing wide on corners to avoid hitting door frames, racks, etc.

11. Use extra caution when operating the pallet jack on a grade. Never turn sharply on a grade.

12. If your view is obstructed, ask a spotter for assistance in guiding the load.

13. Always lower the pallet jack to the lowest position if the jack will be unattended.

14. Make sure that the pallet jack is at a complete stop and lowered fully before releasing the handle.

15. Keep all body parts (arms, legs, hands, etc.) from underneath a pallet when it is in a raised position.

16. Horseplay, including riding on the pallet jack, is strictly prohibited.

17. Return the pallet jack to the assigned storage area when the job is finished.

L. HANDLING AND MOVING LOADS

1. TO PICK UP A LOAD
   a) Only pick up stable and safely arranged loads within the rated capacity of the forklift and manual pallet jack

1) Komatsu FB18MK-2 Electric Forklift (owned by Offset Impressions)
   (Serial Number 21020A)
   - maximum load capacity is 3500 lbs at 24 inch load center when forks are in lowest position
   - maximum load capacity is 2850 lbs at 24 inch load center when forks are raised to 185 inches

   Note: Loads that are longer or deeper than 48 inches will affect the load center and will cause the forklift to tip over if the load weight is greater than the load capacity of the forklift. **If the load center is greater than 24 inches, reduce the weight of the load.**
2) Caterpillar T50B Liquid Propane (LP) Forklift (owned by Brentwood Industries)  
(Serial Number 14N3600)  
- maximum load capacity is 5000 lbs at 24 inch load center when forks are in lowest position  
- maximum load capacity is 4150 lbs at 30 inch load center when forks are in lowest position  
- maximum load capacity is 5000 lbs at 24 inch load center when forks are raised to 130 inches  

Note: Loads that are longer or deeper than 48 inches will affect the load center and will cause the forklift to tip over if the load weight is greater than the load capacity of the forklift. **If the load center is greater than 24 inches, reduce the weight of the load.**

3) Clark CF-20 Gasoline Forklift (owned by Brentwood Industries)  
(Serial Number CF-20-30-858)  
- maximum load capacity is 2500 lbs at 24 inch load center when forks are in lowest position  
- maximum load capacity is 2500 lbs at 24 inch load center when forks are raised to 130 inches  

Note: Loads that are longer or deeper than 48 inches will affect the load center and will cause the forklift to tip over if the load weight is greater than the load capacity of the forklift. **If the load center is greater than 24 inches, reduce the weight of the load.**

4) Hyster H40XL Liquid Propane (LP) Forklift (owned by Brentwood Industries)  
(Serial Number A177B29482J)  
- maximum load capacity is 4000 lbs at 24 inch load center when forks are in lowest position  
- maximum load capacity is 4000 lbs at 15 inch load center when forks are raised to 187 inches  
- maximum load capacity is 3450 lbs at 21 inch load center when forks are raised to 187 inches  
- maximum load capacity is 3250 lbs at 24 inch load center when forks are raised to 187 inches  

Note: Loads that are longer or deeper than 48 inches will affect the load center and will cause the forklift to tip over if the load weight is greater than the load capacity of the forklift. **If the load center is greater than 24 inches, reduce the weight of the load.**

5) Hyster Manual Pallet Jack (owned by Alvernia University)  
- maximum load capacity is 5500 lbs

b) Adjust long or high (including multiple tiered) loads which may affect capacity.  
c) Square up on the center of the load and approach it straight with forks in traveling position.
d) Stop when the tips of the forks are about a foot away from the load.
e) Level the forks and slowly drive forward until the load is resting against the backrest.
f) Lift the load high enough to clear whatever is under it.
g) Carefully tilt the mast back to stabilize the load.

2. DRIVING WITH A LOAD
   a) Starts and stops should be gradual.
   b) Observe all traffic regulations and keep forklift under control at all times.
   c) Reduce speed and sound horn at cross aisles and other locations where vision is obstructed.
   d) Pedestrians have the right-of-way. Always be aware of their presence especially in aisles and doorways.
   e) Do not drive forklift up to anyone standing in front of a bench or other fixed object.
   f) Keep a clear view of the path of travel. Always look in the direction of travel.
   g) Always travel with a load tilted slightly back for added stability. Do not lift or lower the load when the forklift is in motion.
   h) Travel with the load at a height of four to six inches at the tips and two inches at the heels to clear most uneven surfaces and avoid debris.
   i) Horseplay is not permitted.
   j) Slow down for wet, slippery or uneven floors.
   k) Avoid running over loose objects on the roadway surface.
   l) Properly secure dockboards and bridgeplates before driving over them. Drive over slowly and never exceed their rated capacity.
   m) Drive in reverse rather than looking around the load if you are unable to see over it.
   n) Travel down inclines in reverse and up inclines going forward. Ascend or descend grades slowly. Drive loaded trucks with the load upgrade when ascending or descending grades in excess of 10%. On all grades, tilt the forks back and raise only as far as necessary to clear the road surface. Use low gear or the slowest speed when descending a grade.

3. SAFE STEERING
   a) Never make a turn at normal traveling speed, always slow down to maintain balance.
   b) Stay wide when turning into an aisle to help clear the sides and square up with the destination.
   c) Allow enough room for forks to clear the sides before turning, when backing out of an aisle.
   d) When negotiating turns, turn the steering wheel in a smooth sweeping motion. At very low speeds, turn the steering wheel at a moderate, even rate.
   e) Never turn a forklift with the load lifted higher than the travel height (four to six inches at the tips and two inches at the heels).
4. TO PUT A LOAD ON AN ELEVATED SURFACE
   a) Square up and stop about a foot away from the rack on which the load is to be placed.
   b) Raise load 5-10 inches above the unloading point (space permitting).
   c) Drive forward stopping 3-4 inches in front of deposit point.
   d) Tilt mast forward to a right angle position so load is level.
   e) Drive forward until load is aligned with the deposit point. Stop.
   f) Lower load to resting-place.
   g) Stack pallets loaded with cases, cartons straight and square. Stagger the top tier to "tie-in place".
   h) Tilt the forks slightly forward to avoid hooking the load.
   i) Look over both shoulders and back straight out until the forks clear the rack. Stop.
   j) Lower the forks to about 2-4 inches above the ground, then continue to backup or turn to proceed to the next location. Do not turn with elevated forks.

5. TO PUT A LOAD DOWN
   a) Square up and stop about a foot away.
   b) Level the forks and then drive the rest of the way in.
   c) Lower the load.
   d) Tilt the forks slightly forward to avoid hooking the load.
   e) Look over both shoulders and back straight out until the forks clear the pallet.

M. REFERENCES
1. 29 CFR 1910.178 Powered Industrial Trucks
2. 29 CFR 1926.602 Material Handling Equipment
3. NFPA 505 Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Maintenance, and Operation
1. PRE-INSPECTION CHECKLIST

Following is the Alvernia University Powered Industrial Truck Pre-Use Inspection Checklist which must be completed by the operator prior to use of the equipment each day that the forklift is used.

If any defects or problems are noted, the Director of Facilities and Campus Operations must be notified immediately.

The completed checklist should be given to Environmental Health & Safety for records retention.
ALVERNIA UNIVERSITY
POWERED INDUSTRIAL TRUCK
PRE-USE INSPECTION CHECKLIST

Truck Serial No.: ____________________    Date: _________________
Operator Name: _________________________________ Time: _________________
Hour Meter Reading: _________________

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**Tires**
- No excessive wear, splitting, or missing material
- Rim condition good; No separation of tire and rim
- Lug nuts are tight
- Proper tire pressure

**Chains**
- Chains are clean and lubricated
- Chains have no visible wear
- Chains have equal tension

**Engine**
- Engine has no loose or frayed wiring
- Air filter okay
- Oil filter okay
- Proper oil level
- Proper transmission level
- Radiator fluid okay
- No visible leaks under forklift

**Cylinders and Hydraulic Lines**
- Hydraulic fluid at proper levels
- No damage to or fluid leaking from lift and tilt cylinders
- Mounting hardware on cylinders is secure
- Hydraulic lines okay
- Hoses okay
- Secure connections at fittings

**Horns and Lights**
- Horns work properly
- Lights work properly

**Safety Belt**
- Locks and unlocks properly
- No cracks, frays, cuts

**Name Plate and Markings**
- Load limits
- Readable?

**Energy (Battery) System**
- Battery mounts secure
- Battery casing in good shape
- All connections secure
- Proper fluid level
- Vent holes are clear

**Fuel System**
- Fuel tanks have no cracks, broken welds, or other damage
- All valves and couplings okay
- Mounting hardware is secure
### ALVERNIA UNIVERSITY
POWERED INDUSTRIAL TRUCK
PRE-USE INSPECTION CHECKLIST

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### Carriage, Mast, and Backrest
- No visible damage
- Secure mountings
- No broken welds
- Moving parts work smoothly and properly

### Forks
- Forks are centered on carriage
- Forks are equally spaced
- Forks have no cracks or other damage
- Forks are correct for the job
- Locking pins work correctly

### Guards
- No broken welds
- Mounted securely
- No visible damage

### Mast and Tilt Cylinders
- Lift carriage to its maximum height
- Lower carriage to just above the floor
- Carriage moves smooth and completely

### Gauges
- All gauges work properly
- All indicators work properly
- Moving parts work smoothly and properly

### Parking Brakes
- Set parking brake and accelerate slightly
- Parking brake prevents forklift from moving

### Accelerator, Transmission and Service Brakes
- Forklift accelerates smoothly
- Brakes slow lift without jerking or locking
- Brakes are not too soft
- Forklift moves forward properly
- Forklift moves backward properly
- Backup signal sounds while moving in reverse

### Steering
- Steering wheel turns while stopped
- Wheel turns while moving
- Forklift turns smoothly and precisely
- No strange noise
- No hesitation

Any other notes or comments: ____________________________________________________

The forklift is safe to operate.

Operator’s Signature ________________________________
# ALVERNIA UNIVERSITY
## POWERED INDUSTRIAL TRUCK
### PRE-USE INSPECTION CHECKLIST

**Truck Model:** Komatsu FB18MK-2 Electric Forklift (owned by Offset Impressions)

**Truck Serial No.:** 21020A  
**Date:** ________________

**Operator Name:** ______________________________________  
**Time:** ________________

**Hour Meter Reading:** ________________

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#### With Key OFF

**Inspect vehicle**

- **Overhead guard**
  - No visible damage

- **Hydraulic cylinders**
  - No damage to or fluid leaking from lift and tilt cylinders
  - Mounting hardware on cylinders is secure
  - Hydraulic lines okay

- **Mast assembly**
  - No visible damage
  - Secure mountings
  - No broken welds
  - Moving parts work smoothly and properly

- **Lift chains and rollers**
  - Chains are clean and lubricated
  - Chains have no visible wear
  - Chains have equal tension

- **Forks**
  - Forks have no cracks or other damage

- **Tires**
  - No excessive wear, splitting, or missing material

**Examine the battery**

**Check the hydraulic fluid level**

- Hydraulic fluid at proper levels

#### With Key ON

**Check the gauges**

- **Hour meter**
- **Battery discharge indicator**

**Test the standard equipment**

- **Steering**
- **Brakes**
- **Front, tail, and brake lights**
- **Horn**
- **Safety seat**

**Check the operation of the forks**
Any deficiencies should be noted on the checklist and reported to the Director of Facilities and Campus Operations. The forklift should not be used if a deficiency is found. Completed checklists should be given to the Environmental Health & Safety Manager for filing.

Any other notes or comments: ______________________________________________________

_______________________________________________________________________________

The forklift is safe to operate.

Operator’s Signature ____________________________________________________________