 <p>Portland Community College Health & Safety Manual</p>	Department: Environmental Health & Safety (EHS)	
	Function: College Health & Safety	
	Topic: Chapter 14: Powered Industrial Trucks, Material Handling Vehicles and Powered Mobile Equipment	
	Board Policy: B507 Effective Date: May 2004	Ch. 14 Revision Date: March 2022

Authority	<p><u>PCC Board Policy - B507</u> Portland Community College is committed to providing a safe and healthy work and educational environment for its employees, students and visitors.</p>
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Summary	<p>This plan identifies the College's procedures for the inspection and safe operation of powered industrial trucks, material handling vehicles and powered mobile equipment. All authorized users of vehicles and equipment are responsible to follow these procedures</p>
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I. PURPOSE

This safety procedure outlines PCC requirements for safe use of powered industrial trucks, material handling vehicles and powered mobile equipment including: forklifts (PIT), scissor lifts, manually-propelled elevating work platforms, aerial boom lifts, electric pallet jacks, and industrial utility vehicles. This chapter will also cover operation of farm implements, all-terrain vehicles (ATV) and landscaping/grounds maintenance equipment.

These procedures exist to ensure that all affected employees are protected from unsafe conditions and hazardous operations that potentially can occur in the use of the aforementioned vehicles and equipment. These procedures are to ensure compliance with Oregon (OR) OSHA regulations dealing with the use of industrial vehicles.

Only trained and authorized employees are permitted to drive or operate the vehicles covered by this plan. All operators are required to follow the procedures in this chapter and all manufacturer recommendations on vehicle usage and safety. All industrial vehicles are to be maintained in safe operating conditions.

II. AUTHORITY

- OAR 437-002-0223 *Oregon Rules for Commercial and Industrial Vehicles*
- OAR 437-002-2224 *Vehicle Drivers and Riders*
- OAR 437-002-2225 *Vehicles for Highway and Road Operation Characteristics and Maintenance*
- OAR 437-002-2226 *Vehicles for Use on Property Other Than Public Roads and Highways Operation, Characteristics and Maintenance*
- OAR 437-003-3225 *Vehicles for Highway and Road Operation Characteristics and Maintenance*
- OAR 437-003-3226 *Vehicles for Use on Property Other Than Public Roads and Highways Operation, Characteristics and Maintenance*
- OAR 437-002-0227 *Additional Oregon Rules for Powered Industrial Trucks*
- OAR 437-004-1700 *Forklifts and Other Powered Industrial Trucks*
- OAR 437-1910.178 *Powered Industrial Trucks*
- OAR 437-003-0071 *Manually Propelled Elevating Aerial Platforms*
- OAR 437-003-0073 *Boom Supported Elevating Work Platforms*
- OAR 437-1910.67(c) *Aerial Lifts*
- 1926.453 *Aerial lifts*
- 1926.454 Division 2, Subdivision N, *Material Handling and Storage*
- 1926.454 Division 2, Subdivision F, *Powered Platforms, Manlifts and Vehicle-Mounted Platforms*
- 1926.454 Division 4, Subdivision U, *Vehicles*
- 1926.454 Division 3, Subdivision L, *Scaffolding*
- OAR 437-1926.451, *General Requirements (Mobile Scaffolds / Scissor Lifts)*
- OAR 437-1926.452 *Additional Requirements to Specific Types of Scaffolds (Mobile Scaffolds / Scissor Lifts)*
- OAR 437-003-0074 *Scissor Lifts – Self-Propelled Elevating Work Platforms*
- DEQ 340-150-0200 *Training Requirements for UST System Operators and Emergency Response Information*
- 1910.110(e) *Storage and Handling of LPG (LPG as Motor Fuel)*
- ANSI A92.2, *Vehicle-Mounted Elevating and Rotating Lifts*

- ANSI A92.3, *Manually Propelled Elevating Work Platforms*
- ANSI A92.5, *Boom-Supported Elevating Work Platforms*
- ANSI A92.6, *Self-Propelled Elevating Work Platforms and Scissor Lifts*
- 2017 ORS 390.550 *All-Terrain Vehicle Classifications*
- 2017 ORS 801.190, *Class I All-Terrain Vehicle*
- 2017 ORS 801.193, *Class II All-Terrain Vehicle*
- 2017 ORS 801.194, *Class III All-Terrain Vehicle*
- 2017 ORS 801.194, *Class IV All-Terrain Vehicle*
- 2017 ORS 801.295, *Golf Cart*

[this section will expand with addition of additional equipment identified]

III. RESPONSIBILITY

A. Department Management: Managers and supervisors are responsible for:

- Ensuring that only trained and authorized employees operate industrial vehicles,
- Providing department specific training and/or practicals on vehicles operated by personnel
- Maintaining training records and/or copies of licenses which demonstrate the employees training,
- Ensuring manufacturers' recommended and required maintenance services are provided and followed to ensure safe vehicle operating conditions.

B. Authorized Operators:

- Must follow all safety procedures as outlined in this chapter, by OR-OSHA rules and manufacturer's recommendations,
- Complete operating safety checks on the date used, and ensure all unsafe equipment is taken out of service and repaired prior to use,
- Immediately report any accidents, incidents or near misses to their supervisor.

C. Environmental Health and Safety:

- Environmental Health and Safety assists in providing employee safety training and auditing for compliance with this chapter and OR-OSHA regulations,
- Representing the College and interfacing with representatives of regulatory agencies,
- Schedule training classes and maintaining training records, provides PIT operator card, audits vehicle inspection forms,
- Assist department management, as needed, with employee refresher training,
- Oversee the mandatory record keeping programs required by Federal and State authorities.

D. Risk Services:

- Risk Services assists in providing Driver Safety Training under Chapter 6, *Driver Requirements*. This training is to provide minimum qualification requirements for an employee to operate a vehicle for College business.

IV. PROCEDURES

A. General Safety Procedures:

1. Safe Vehicle Operation

- Employees must be authorized and trained in safe operation of assigned vehicles, and or equipment.
- Employees may not drive, ride or operate any vehicle, or equipment, known to be unsafe.
- Employees must report any safety problems effecting vehicles and equipment to their supervisor.
- Safe operation includes:
 1. Driver must wear a seat belt (where installed) when operating the vehicle.
 2. Driver must look in the direction of travel and have a clear view unless being guided by a trained employee with a clear view of the route.
 3. Slow or stop at intersections. Do not drive a vehicle up to a person standing in front of a stationary object.
 4. Pedestrians have the right of way at ALL times.
 5. Driving speed of vehicle must remain at pedestrian pace, or slower, while on pedestrian pathways.
 6. On College surface streets, the speed limit is 20 mph.
 7. Manually control all towed or pushed vehicles unless they use a tow bar.
- ALL injuries, incidents, accidents, or property damage must be reported to your Supervisor immediately and complete the H&SM Chapter 2, *Injury or Property Incident Report* (<https://www.pcc.edu/hr/incident-report/>).

2. Loading or Unloading.

- When loading or unloading vehicles in a manner that is likely to cause the vehicle to move, turn off vehicle, set the brakes and chock the wheels.
- When blocking roadway access, or partial lanes, traffic control measures must be established for the employee protection.
- Vehicle Loads. You must protect employees from hazardous vehicle loads by requiring:
 1. No load beyond vehicle's rated capacity,
 2. Stabilize, lash down or otherwise secure the load,
 3. Never allow persons to be located under an elevated load.

B. POWERED INDUSTRIAL TRUCK (PIT) – FORKLIFT VEHICLES

1. Classification OF PITs

There are seven classifications of powered industrial trucks (PIT), which include, 'forklifts'. The College may have multiple PIT classifications at a facility (i.e., electric 3-wheel, pallet jack, propane engine solid tires, etc.), with multiple fuel types (i.e., electric, propane, and gas at Automotive). It is the operator's responsibility to familiarize themselves with each class for use and limitations.

ALL classifications utilize the same fundamental characteristics of; stability (stability triangle), center of gravity, and load capacity.

Class 1 - Electric, 3-wheel counterbalance

Class 2 - Electric, pneumatic tires

Class 3 – Powered pallet jack

Class 4 - Internal combustion propane engine, solid or pneumatic tires

Class 5 - Internal combustion engine – gas, diesel or propane, pneumatic tires

Class 6 - Industrial tractor

Class 7 - Rough terrain

2. Hazards

- Unsecured loads. No load shall be moved unless it is secured as to not fall off the forks.
 1. Load balance. The load should be centered between the forks and the forks spaced to be near the outside edges to maximize the support of the load.
 2. Load center. The weight of the load should be centered toward the backrest, or the load may fall off when in a turn, in a corner, or hit a bump.
 3. Traveling. The load shall be tilted back until it rests securely against the backrest to prevent spilling of the load. Drive slow with the forks low.
- Obstructed view. The operator's view should not be obstructed by the load. In the event of a high, and or wide load, the PIT will be driven backwards.
- Roll over. In the event of a roll-over, **DO NOT JUMP OUT**. Plant feet on the floor, push back into the seat, hold onto the steering wheel, lean forward and away from the tip, and brace for impact. **SEAT BELTS ARE MANDATORY!**
- Overhead obstacles. Operators need to watch the mast height and reach for clearance of overhead lights and electrical wires, pipes, ducting, and structures.
- Slopes and ramps. Exercise care when on a slope or ramp the PIT may turn over.
- Loading docks. Bridge plates, to bridge the gap between the trailer and loading dock, shall be set properly in-place and secured.
- Trailer brakes. When unloading trucks or trailers, the brakes on the vehicle and trailer will be set (locked) and the wheels chocked to prevent movement.
- Flooring strength. The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness. Verify the floor load limit. Powered industrial trucks shall not be driven onto flooring that is found to be of inadequate strength.
- Hazardous materials and compressed gas cylinders. Do not move unless they are secured on special pallets designed for this purpose.

3. Operator Safety

- Operators shall not counterweight a PIT to increase lifting capacity. The load shall be broken down to not exceed the weight limits, or a PIT with a higher rating shall be used.
- No person shall ride as a passenger on a PIT, or on the forks, or on the load carried.
- A PIT will not be used to elevate personnel on a non-approved platform, or pallet. Manufacture-approved work platforms especially designed for this purpose must have standard guardrails, and must be securely fastened to the forks.

- Operators shall not put their fingers, arms, or legs between the uprights of the mast, or beyond the contour of the PIT.
- Operators must avoid making jerky starts, quick turns, or sudden stops. Travel slowly when turning. Lift trucks can tip over even at very slow speeds. The combination of speed and tightness of a turn can cause a tip over.
- A PIT is less stable when the forks are elevated, with or without a load.
- All PITs shall be operated at a safe speed with due regard for traffic and conditions.
- Operators shall slow down on wet and slippery surfaces.
- Operators shall slow down at cross walks and locations where vision is obstructed.
- Operators entering a building or nearing a blind corner shall make their approach at reduced speed, sound horn, and proceed carefully (exception: blind corners equipped with mirrors providing a full view in all directions).
- Operators shall not overtake and pass another PIT traveling in the same direction at intersections, blind spots, or hazardous locations.
- A PIT not carrying a load shall travel with the forks as low as possible. The load shall be carried as low as possible (consistent with safe operations, 2 to 6 inches above the surface.)
- Forks shall be placed under the load as far as possible, do not lift a load with one fork.
- For the safety of the operator and personnel, no load shall be moved unless it is safe and secure. Unstable loads shall be restacked, wrapped, or banded.
- Use extra care when handling long lengths of pipe, or other materials. Use a spotter if needed.
- The operator's view should not be obstructed by the load. In the event of a high and or wide load the PIT will be driven backwards.
- Operators need to watch overhead clearance, especially when entering buildings.
- All vehicles operated in areas where overhead hazards exist shall be equipped with an approved overhead guard.
- PIT drivers will come to a complete stop before reversing direction of travel.
- When carrying a load, PIT counterbalance shall be facing downside on an incline. On a downgrade, the load shall be last. On an upgrade, the load shall be first.
- Operators shall not exceed the safe load capacity of a vehicle at any time. Double-tiered loads shall not be handled unless the PIT is designed for the load.
- Avoid sharp or fast end-swing. PITs are designed to work in relatively small space. Because of this they can turn sharper than some other vehicles. When the PIT is steered by the rear wheels the rear of the PIT moves to the side during a turn. This movement is called "tail swing". An operator must be aware of the tail swing and always check to make sure the tail swing area is clear before turning. Failure to observe the tail swing area when making a turn can injury or kill someone.

- Operators shall never attempt to turn sideways on a steep incline. Do not turn on a steep incline to reduce the possibility of a tip over. A lift truck must not be driven across a steep incline.
- A PIT shall not be left on an incline unless it is safely parked, facing up the incline with forks down, and the wheels blocked.
- All vehicles operated in the dark or in poorly lighted areas shall be equipped with head and taillights.
- Vehicle flywheels, gears, sprockets, chains, shear points and other exposed parts constituting a hazard to the operator or other employees shall be guarded.
- Vehicles powered by internal combustion engines shall not operate in buildings unless the buildings are adequately ventilated to not create a hazardous atmosphere condition.
- Vehicles must be safely parked when not in use. The controls shall be neutralized, power shut off, brakes set, and the forks left in a slightly downward position, or flat on the surface and not obstructing walkways or aisles.
- It is preferable to place the forks under a pallet while parked to eliminate a potential tripping hazard. These procedures must be used whenever the operator leaves the PIT unattended (i.e., when the driver is 25 feet or more away or the vehicle is out of the operator's view).
- PITs shall not be parked or left unattended in aisles or by exits or doors, or emergency equipment.
- For battery-powered PIT, battery charging shall be done only in a well-ventilated area. Smoking or open flame is prohibited in battery charging area.
- All fueling (propane, gas or diesel) will be done by propane or UST trained personnel only. A two-person lift should be used to change propane cylinders.

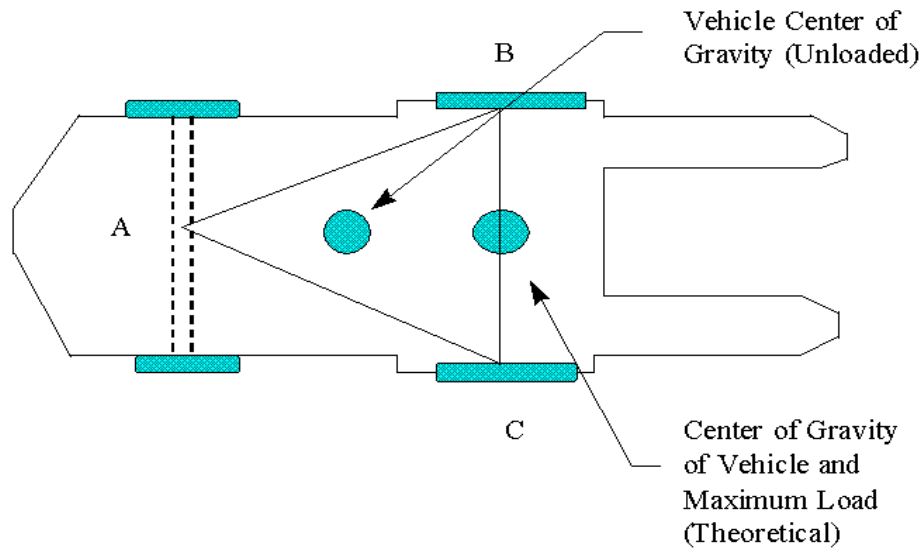
4. Stability

Determining the stability of a powered industrial truck is simple once a few basic principles are understood. There are many factors that contribute to a vehicle's stability: the vehicle's wheelbase (distance between wheels on the different axles), track (distance between wheels on the same axle), height; the load's weight distribution; and the vehicle's counterweight location (if the vehicle is so equipped).

Stability Triangle

The 'stability triangle' is the 3-point suspension support that forms a triangle consisting of; the pivot pin in the center of the steering rear axle, and the two front wheel hubs. When the points are connected with imaginary lines, this three-point support forms a triangle called the stability triangle (shown in Figure 1).

Figure 1.

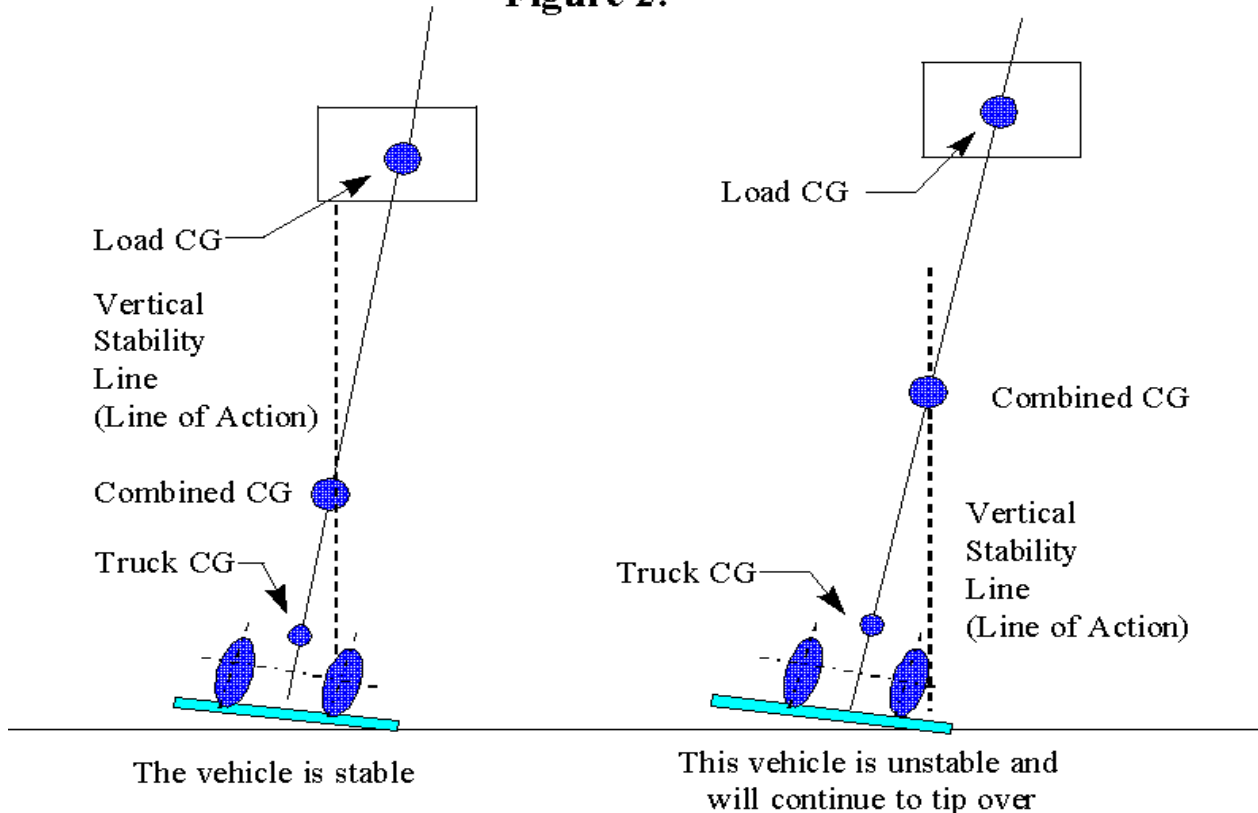


Stability and Center of Gravity:

The center of gravity of PIT moves because the PIT has moving parts. The center of gravity moves forward and back as the upright is tilted forward and back.

The center of gravity moves up and down as the upright moves up and down.

Figure 2.



When the vehicle's line of action, or load center, falls within the stability triangle, the vehicle is stable and will not tip over. However, when the vehicle's line of action or the vehicle/load combination falls outside the stability triangle, the vehicle is unstable and may tip over.

Factors in determining the PIT center of gravity:

1. size of load
2. weight of the load
3. shape of the load
4. position of the load
5. lift height
6. amount of tilt
7. tire pressure
8. dynamic forces created when the truck is moving (acceleration, braking, turning, and operating on uneven surfaces or incline)

Determining Load Capacity:

Capacity (Weight & Load Center)

The maximum capacity is shown on the Nameplate. The load center is determined by the center of gravity which is listed as the horizontal distance from the front of the face of the forks, or the load face of the front-end attachment, to the center of gravity of the load.

WARNING

Trained Operators and Mechanics Only

Read Operating Manual located on seat or in operators compartment

Failure to follow operating, inspection, and maintenance instructions can cause serious injury or death!

CAPACITY WITH MAST VERTICAL AND EQUIPPED AS SHOWN

Yale Lift Truck Model ERP030THN36TE082
Serial No. F807N05771F


Attachment: 978 mm (38.5 in) Carriage + Sideshift Hang-on + 1219 mm (48 in) Forks

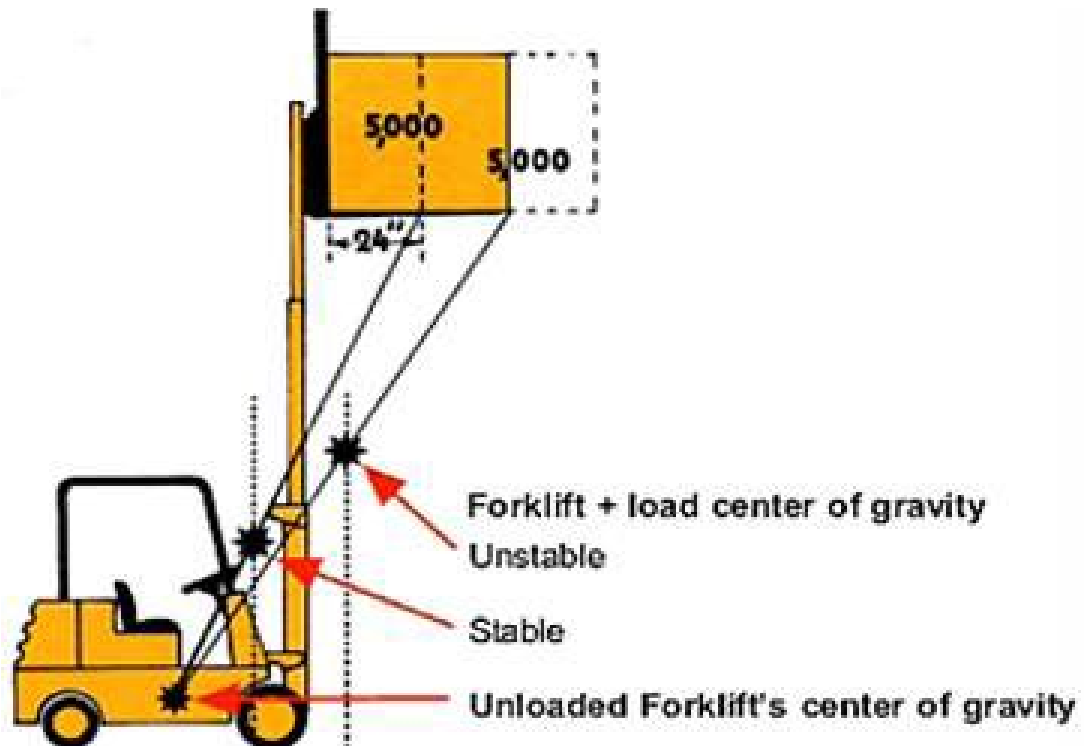
Truck Wt. Less Battery 2580 kg (5670 lb) Type EO 36 Volts
Truck Wt. Max Battery 3570 kg (7870 lb) Max A.H. (6 Hr Rt) 880
Allowable Battery Wt. 770 kg (1700 lb) to 1000 kg (2200 lb)

Tread Width 860 mm (34 in) Back Tilt 4.0 Degrees

Tire Front Rear
Size 18X7X12-1/8 Cushion 15X4X11-1/4 Dual Cushion
Pressure ---

MAXIMUM CAPACITY	Load Height		
	Dim. A	Dim. B	Dim. C
1320 kg (2900 lb)	4750mm (187 in)	610 mm (24 in)	610 mm (24 in)
0 kg (0 lb)	0 mm (0 in)	0 mm (0 in)	0 mm (0 in)





5. Inspections:

Authorized Personnel who operate a PIT and shall ensure that the vehicle in-service is safe and follow proper operational procedures including:

- Before start of shift, or PIT use, a visual and functional pre-use inspection will be documented on the *PIT Operator Inspection Checklist* [Form 1]. Complete the checklist initialing on date inspected. 'Form 1' can be copied / printed from the 'Forms' section and placed in PIT inspection notebook.
- Operators shall not operate a PIT that has not passed the inspection at any time.
- Operators shall not make any repairs, or adjustments on a PIT. ONLY trained and 'authorized' personnel are permitted to do so. Report issues to supervisor.
- Any defects shall be reported immediately to your supervisor and or maintenance for correction. The PIT will be tagged 'out-of-service' until proper repairs can be made. Submit any defects or repairs through the *ReADY* or *AiM* services.

IMMEDIATELY REMOVE FROM SERVICE ANY PIT THAT DOES NOT OPERATE PROPERLY, OR ARE IN NEED OF REPAIR.

A qualified mechanic must make all repairs using equivalent replacement parts. Substitution of parts is not wise; they have been known to cause accidents. De-energize and lockout/tag out PIT before any maintenance or repairs. Each PIT must be inspected as the manufacturer requires.

C. AERIAL, SCISSOR LIFTS and WORK PLATFORMS

Workers who use aerial lifts must have training that meets the requirements in 1926.454 (Division 3, Subdivision L, *Scaffolding*).

1. Aerial Lift

Aerial lifts, or aerial work platforms (AWP), include; boom, reach, articulated, and bucket lifts. 'Cherry picker' is a common term for all these lifts.

- **Must use safety fall harness and short lanyard.** Half of the falls from boom lifts involved being ejected from the bucket after being struck by vehicles, cranes, or crane loads, or by falling objects, or when a lift suddenly jerked. Lanyards must tie-off to a secure point or where designated by the lift manufacturer.
- Document the pre-use harness and lanyard inspections on; *PCC Harness Inspection*, Form 3, and *PCC Lanyard Inspection*, Form 4 (these forms are also found in Chapter 20, *Fall Protection*).
- Platforms other than buckets or baskets, must include guardrail 42 inches (plus or minus three inches) high, a midrail, and toeboards at least four inches high [ANSI A92.2 and ANSI A92.5].
- Prevention of electrocutions requires maintain minimum of 10 feet from an overhead power line contacting the lift boom or bucket.
- Inching when driving is permitted with the platform or bucket up.
- Perform the safety inspection of the vehicle. Loss of hydraulic pressure, caused by damage, or becoming tangled in overhead obstacles, can cause the boom to fail suddenly and eject the operator.

2. Scissor Lift

The scissor lift is a mobile elevating work platform (MEWP) and is classified as a mobile scaffold platform that can move vertically.

- For the scissor lift, fall protection harness and lanyard are not required under OR-OSHA or ANSI A92.6.
- Do not remove chains or guardrails. Do not standing on or leaning over railings.
- Many lift accidents are caused by misapplication of the machine, obstacles, slope, and lack of or use, or incorrect use of outriggers.

3. Work Platform

The work platform is an elevating work platform (EWP) that vertical lifts personnel (aka 'manlift'). It is a wheeled platform that carries one person, and may be manual or powered to elevate the lift.

- For the manually propelled elevating aerial platforms, fall protection harness and lanyard are not required under OR-OSHA or ANSI A92.3.
- Platforms are designed, so that if sections of guardrails are removed, then a fall protection harness and lanyard **MUST** be worn.
- While using the lift, workers must ensure that the guardrails are installed according to the manufacturer's instructions and that access gates are closed.
- Each worker must stand firmly on the platform at all times and must not use ladders or any other means for additional height.
- The manufacturer's operating manual must be with the equipment. Workers must follow all manufacturers' operating and maintenance instructions and recommendations.

4. Hazards

- Fall from height. For aerial lift, an inspected fall protection harness and lanyard are **REQUIRED**.

The most common reasons for falls from aerial lifts are hydraulic cylinder failures that cause the boom to drop. Outriggers that are not used or are improperly placed causing lift vehicle overturns. Workers that are not tied off while they are in the bucket/platform, and worker that fall or are pulled off a platform when the vehicle is struck by another vehicle or moves unexpectedly.

- Surface hazard. Holes, drop-offs, bumps, and debris may cause loss of stability and could cause a tip over.
- Tip over hazard. A lift will lose stability and could tip over on steep slopes that exceed slope limits set by the manufacturer.
- Overhead hazards. Assume all power lines are live even if they are down or insulated. Maintain a minimum 10 feet of clearance (either insulated or de-energize).
- Movement at height. Do not position lift between overhead hazards (joists, beams) and the rails of the platform or basket.
- Caught between. Watch for entanglement points when moving the lift.

- Do not step out of aerial lifts to perform maintenance,
- Extension hazards. About two-fifths of the tip-overs occurred when the scissor lift was extended over 15 feet, mostly while driving the lift.
- Work platform. Workers cannot be on a work platform when the lift is moved horizontally.
- Severe weather. Electrical storms, high winds, or icy conditions. Do not operate lift if electrical storms is within 5-miles, or in strong sustained or gusty winds greater than 20 mph OR-OSHA [§1926.1404(k)(8)(i)]

5. Operator Safety

For the prevention of serious injury when operating aerial and scissor lift equipment, if it is determined fall protection is required, inspect and wear the equipment.

Determination if personal fall protection is required by ANSI Standards:

Fall Protection Requirements for Aerial and Work Platforms

ANSI Standard and AWP Type	Fall Protection Requirements
ANSI A92.2 Class I: Vehicle-Mounted Elevating and Rotating Aerial Devices	Personal fall protection equipment is <u>required</u>
ANSI A92.3 Class II: Manually Propelled Elevating Aerial Platforms	The guardrail provides fall protection— additional personal fall protection equipment is <u>not</u> required unless any component of the guardrail is not in place
ANSI A92.5 Class III: Boom-Supported Elevating Work Platforms	Personal fall protection equipment is <u>required</u>
ANSI A92.6 Class IV: Self-Propelled Elevating Work Platforms (Scissor Lift)	The guardrail provides fall protection— additional personal fall protection equipment is <u>not</u> required unless any component of the guardrail is not in place

On aerial lifts, ensure proper personal fall-protection is provided and used. Attach only to the anchor point provided in lift. Do not attach to any external object, the boom, or the guard-rails (fall protection is not required on scissor lifts).

The restraining device point of attachment must be the anchor point installed by the equipment manufacturer.

On bucket trucks, OR-OSHA requires a full-body harness and shock-absorbing lanyard, or a restraining device, to prevent falls.

To help keep workers inside guardrails, OR-OSHA restraining devices must be as short as possible (typically 3 feet) for the work but in no case longer than 6 feet.

- Check the job site where the lift will be used for any hazards.
- Set outriggers for aerial and manual lifts, brakes, and wheel chocks – even if you’re working on a level slope.
- Mark equipment work area with barricades, cones, tape, or signs.
- When in tight spots, or between buildings, or with pedestrian traffic, use a spotter on the ground to assist in identifying immediate hazards, directing pedestrians, and erecting barricades, placing cones, and signs.
- When working alone in a remote location, it is recommended to contact the manager, or coworker, when you start and end a task on the lift.
- Insulated buckets protect from electrocution due to electric current passing through you and the boom to ground. The buckets do not protect if there's another path to ground – for example, if you touch another wire.
- Always close lift platform chains or doors.
- Stand on the floor of the bucket or lift platform. Do not climb on or lean over guardrails, or ride on bumpers.
- Do not LOWER the lift when moving.
- Do not exceed manufacturer's load-capacity limits (including the weight of such things as bucket liners and tools).
- Do not modify an aerial lift without written permission of the manufacturer.
- Never override key controls, hydraulic, mechanical or electrical safety devices.
- Do not drive distances with the scissor lift platform elevated, inching is permitted with caution.
- Workers cannot be on the manual lift platform when the lift is moved horizontally. Lower, step off the lift, then relocate and reset outriggers.
- Do not exceed vertical or horizontal reach limits or the specified load-capacity of the lift.
- On an elevated scissor lift, minimize movement (pushing, pulling, and bumping).
- If you become entangled, or trapped, in an elevated position – Don't panic! Don't attempt to force the unit down or climb out of the basket.
- Communicate if you are working with another person on a scissor lift. The sudden jolt of raising or lowering can catch a person off-guard.

6. Inspections

The aerial, scissor lift, and work platform pre-use inspection is to be documented on the *Aerial Device, Mobile & Work Platform Operator Inspection Checklist* [Form 2]. Complete the checklist initialing on date inspected. 'Form 2' can be copied / printed from the 'Forms' section and placed in PIT inspection notebook. This inspection will be completed on the day-of-use.

- Verify the operational and emergency controls,

- Inspect safety devices (such as, outriggers and guardrails),
- Verify personal fall-protection (harness / lanyard only on aerial lift),
- Inspect the wheels and tires, and other machine components specified by the manufacturer,
- Inspect for possible leaks (air, hydraulic fluid, and fuel-system) and loose or missing parts,
- Verify the load limit of the lift you are operating, DO NOT EXCEED LIMIT.
- NEVER over-ride hydraulic, electric or mechanical safety devices or controls.

Any defects shall be reported immediately to your supervisor and or maintenance for correction. The lift will be tagged 'out-of-service' until proper repairs can be made. Submit any defects or repairs through the *ReADY* or *AiM* services.

IMMEDIATELY REMOVE FROM SERVICE ANY AERIAL OR SCISSOR LIFT THAT DOES NOT OPERATE PROPERLY, OR ARE IN NEED OF REPAIR.

A qualified mechanic must make all repairs using equivalent replacement parts. Substitution of parts is not wise; they have been known to cause accidents. De-energize and lockout/tag out aerial or scissor lifts before any maintenance or repairs. Each aerial or scissor lift must be inspected as the manufacturer requires.

D. UTILITY VEHICLES

Utility vehicles are used to transport people, equipment, supplies, and products.

Utility vehicles are employer-owned vehicles, not licensed or normally operated on public highways or roads, which include; all-terrain vehicles (ATVs), utility or 'golf' carts, and other similar devices not intended for highway or road use.

Workers who use utility vehicles must have training that meets the requirements in 437-003-3226 (Division 3, Subdivision O, *Motor Vehicles, Mechanized Equipment, and Marine Operations*).

Utility vehicle operators must comply with the Risk Services, '*Authorized Driver Requirements*.'

1. All-Terrain Vehicle (ATV) Classifications

According to 2017 ORS 390.550, there are four (4) classifications of ATVs.

- (1) "Class I all-terrain vehicle" as defined in 2017 ORS 801.190
- (2) "Class II all-terrain vehicle" as defined in 2017 ORS 801.193
- (3) "Class III all-terrain vehicle" as defined in 2017 ORS 801.194
- (4) "Class IV all-terrain vehicle" as defined in 2017 ORS 801.194

"Class I all-terrain vehicle" as defined in ORS 801.190 means a motorized, off-highway recreational vehicle. Class I would include the farm quad/four-wheeler.

- Is 50 inches or less in width;
- Has a dry weight of 1,200 pounds or less;
- Travels on three or more pneumatic tires that are six inches or more in width and that are designed for use on wheels with a rim diameter of 14 inches or less;
- Uses handlebars for steering;
- Has a seat designed to be straddled for the operator; and

- Is designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain.

“Class II all-terrain vehicle” as defined in ORS 801.193 means any motor vehicle that:

- Weighs more than or is wider than a Class I all-terrain vehicle;
- Is designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain;
- Is actually being operated off a highway or is being operated on a highway for agricultural purposes under ORS 821.191 (Operation of Class I, Class II or Class IV all-terrain vehicle on highway); and
- Is not a Class IV all-terrain vehicle.

“Class III all-terrain vehicle” as defined in (ORS 801.194) includes motorcycles that:

- Travels on two tires and that is actually being operated off highway.

“Class IV all-terrain vehicle (ATV)” as defined in (ORS 801.194) is an unlicensed side-by-side vehicle that can be used off-road. Class IV would include the Kubota.

“Class IV all-terrain vehicle” means any motorized vehicle that:

- Travels on four or more pneumatic tires that are six inches or more in width and that are designed for use on wheels with a rim diameter of 14 inches or less,
- Is designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain,
- Has non-straddle (side-by-side) seating,
- Has a steering wheel for steering,
- Has a dry weight of 1,800 pounds or less, and
- Is 65 inches wide or less at its widest point.

2. Utility Carts

The utility cart, or ‘golf’ cart, is an unlicensed side-by-side vehicle that can be used as defined in ORS 801.295. Utility cart vehicles could include the; Taylor Dunn, Club Car, and other manufactured utility cart vehicles.

Utility cart vehicles may be powered by battery, gas, or propane.

‘Golf cart’ means a motor vehicle that:

- Has not less than three wheels in contact with the ground,
- Has an unloaded weight less than 1,300 pounds,
- Is designed to be and is operated at not more than 15 miles per hour, and
- Is designed to carry equipment and not more than two persons, including the driver.

Floor sweepers are considered as a utility cart and training for such is provided by supervisors.

3. Hazards

- **Helmet requirement.** Class I quad/four-wheeler and Class III off-road motorcycle by Oregon motor vehicle law may require a helmet. Class II and IV with steering wheels and seat belts are exempt.
- **Load limits.** Do not exceed manufacturer’s load limits and ensure that the load is secure. Verify the weight of passengers, and cargo weight is within load limit,

- Slopes. When traveling on slopes, go up and / or down the slope and not sideways / across the slope, utility carts are prohibited to leave paved surfaces,
- Surfaces. Watch for holes, uneven surfaces, and drop offs.
- Curbs. Curb 'jumps' can cause damage to the utility vehicle and compromise vehicle control. Utility carts are prohibited from curb 'jumps' and must only use the curb cuts.
- Pedestrians. Stop and yield to pedestrians at all campus building corners, main entrance/exit doors on buildings, crossing pathways, or enter your direction of travel. Be aware of pedestrians, bicyclists and other vehicles while traveling on roads,

4. Operator Safety

Utility vehicles travel is permitted on ALL walkways and sidewalks on ALL campuses.

Kubota vehicles are considered an 'all-terrain' vehicles and can also be used off-road.

- Obtain pedestrian eye-contact when within 3 to 4 feet of pedestrians walking,
- Travel in such a manner that you do not impede or interfere with normal pedestrian traffic when on sidewalks,
- When no pedestrians are present, maximum speed is 4 mph on sidewalks,
- IF possible, always try to find a path outside of inner campus to get to your destination,
- Use hand signals if turn signal lights cannot be seen (or not present),
- Keep head, legs, and arms within the cab (other than signaling),
- Audible devices need to be heard above the surrounding noise (horn, backup),
- If back-up alarms not installed, use manual horn especially if view is obstructed,
- Sound horn when overtaking, backing, or at a blind corner,
- Remain in seats. No passengers permitted in the bed of vehicle,
- Tie a red flag on the end of materials that project 4-feet from back,
- When parked, set the emergency brake and chock the wheels on slope.
- Immediately report to Public Safety and your supervisor ANY incident involving a utility vehicle that results in bodily injury, property damage, or vehicular damage.

5. Inspections

ALL utility vehicle inspections are to be documented on the *Utility Vehicle Operator Inspection Checklist* [Form 5]. Complete the checklist initialing on date inspected. 'Form 5' can be copied, or printed, from the 'Forms' section and placed in the vehicle inspection notebook.

This inspection will be completed weekly.

- Tires: Proper inflation and in good condition,
- Lights: Head/tail lamps, brake lights, turn signals working,
- Fluids: Check coolant, battery, motor oil, hydraulic, and fuel for proper levels,

- Leaks: Investigate and have fixed, Do-Not-Use, submit a work order,
- Mirrors: Rear, side-view, adjusted correctly and clean,
- Wipers: Good condition, washer fluid, windshield must be cleaned,
- Broken windshield glass that impairs the vision must be replaced,
- Safety: Seat belts (if present), flashers/strobe, backup alarm, horn,
- Brakes: Work smoothly without noise or pulling,
- Steering: No pulling, no looseness,
- Attachments: Secured, correct use, check load capacity,

Any defects shall be reported immediately to your supervisor and or maintenance for correction. The vehicle will be tagged 'out-of-service' until proper repairs can be made. Submit any defects or repairs through the ReADY or AiM services.

IMMEDIATELY REMOVE FROM SERVICE ANY UTILITY VEHICLE THAT DOES NOT OPERATE PROPERLY, OR ARE IN NEED OF REPAIR.

A qualified mechanic must make all repairs using equivalent replacement parts. Substitution of parts is not wise; they have been known to cause accidents. De-energize and lockout/tag out utility vehicle before any maintenance or repairs. Each utility vehicle must be inspected as the manufacturer requires.

E. GROUNDS AND LANDSCAPE VEHICLES - TBD

F. FARM VEHICLES - TBD

G. HEAVY EQUIPMENT - TBD

H. CHARGING AND FUELING VEHICLES

1. Charging Vehicles:

Battery-powered PITs, aerial/scissor lifts, and utility vehicles will need to be recharged.

- When a battery-powered vehicle requires recharging, the operator may plug the vehicle into the battery charger using the specific vehicle battery charger connection, or a building electrical outlet using an appropriate extension cord.
- For battery-powered vehicles the battery charging shall be done only in a well-ventilated area (to remove hydrogen gas). Smoking or open flame is prohibited (within 35 feet) in the battery charging area.
- No smoking signs and a fire extinguisher are required in the charging area.
- Personal protective equipment (PPE). For battery service personnel; gauntlet gloves, rubber apron, face shield and eye protection are required for servicing batteries, and or adding water to low battery cells.
- Water needs to be available for flushing and or neutralizing spilled battery acid.
- An eyewash that provides at least 15 minutes of flowing water needs to be available.

Only an authorized service technician is permitted to fill, top-off, neutralize spilled battery acid, tighten connections, remove corrosion, repair or replace cables and batteries for all utility vehicles.

Any defects shall be reported immediately to your supervisor and or maintenance for correction. The lift will be tagged 'out-of-service' until proper repairs can be made. Submit any defects or repairs through the *ReADY* or AiM services.

2. Fueling Vehicles:

Liquefied Petroleum Gas (LPG) / Propane Fueling Requirements: (1910.110)

- Training for LPG / propane filling is required to recharge LPG / propane cylinders.
- Trained personnel are REQUIRED to wear; gauntlet gloves, face shield and eye protection for charging or filling cylinders. Liquid LPG /propane is extremely cold when released to the atmosphere. Frostbite is possible to exposed skin and eyes.
- The dispensing of LPG into the fuel container either off, or on a vehicle, shall be performed by a competent attendant **who shall remain at the LPG bulk tank during the entire transfer operation.**
- Industrial trucks (including lift trucks) equipped with permanently mounted fuel containers shall be charged outdoors.
- Engines on vehicles shall be shut down while fueling. Engine must be cool before filling to prevent a potential fire.
- There shall be no smoking, or open flame, within 35 feet on the driveway of the fueling area, in the dispensing areas, or transport truck unloading areas.
- Fuel containers for use in industrial trucks (including lift trucks) shall be either DOT containers authorized for LPG service having a minimum service pressure of 240 p.s.i.g. or minimum Container Type 250.

Contact Public Safety at 971-722-4444 and report any fire or large LPG release.

Basic rules: Industrial Vehicle Use of LPG

- No more than two LPG containers shall be used on an industrial truck for motor fuel purposes.
- Industrial vehicles shall not be parked and left unattended in areas of possible excessive heat, or sources of ignition.
- Signs must be posted in the storage area forbidding smoking.
- Outside tank area shall have all readily ignitable material such as weeds and long dry gases removed within 10 feet of any container.

Container valves and container accessories

- Valves, fittings, and accessories connected directly to the container including primary shutoff valves, shall have rated working pressure of at least 250 p.s.i.g. and shall be of material and design suitable for LPG service. Cast iron shall not be used.
- LPG emergency shutoff valve handle is located at the base of the bulk tank.

Gasoline and Diesel Fuels – Fuel Dispensing Requirements: (340-150-0200)

Employees must complete site-specific Oregon DEQ Class C UST Operator Training. This is required for all users prior to fuel dispensing for each UST location.

Basic rules: Industrial Vehicle Use of Gasoline and Diesel Fuels

- Stop vehicle engine before fueling.
- Filling of fuel containers for trucks or motor vehicles from bulk storage containers shall be performed not less than 10 feet from the nearest masonry-walled building, or not less than 25 feet from the nearest building or other construction.
- Do not fuel vehicles within 35 feet of any open fires, flame, or other sources of ignition.
- Refill vehicle tank. Do not overfill or top-off tank.
- Only approved portable fuel containers ('gas cans') may be used.
- For small spills use the spill kit to absorb (< cup) of gasoline. Report all fuel spillage to EH&S.
- For large spills, cover the closest storm drain with plastic sheet and sand socks. Put on the PPE in the spill kit prior to containing and absorbing the fuel spill.
- Emergency Response Information is located in the spill kit.

Contact Public Safety at 971-722-4444 and report the spill.

V. TRAINING

The College holds safety in all operations and activities to be of high importance. Accordingly, employees will be trained in the safe performance of their jobs. The *Health & Safety Manual* stresses the importance of safety and identifies expected standards of safe conduct. Regulations from government agencies, e.g., OR-OSHA [§437-003-0503], dictate many safety standards required for employee performance.

Training in the proper operation and inspection of the equipment must be received prior to operating or working from an aerial lift, or self-powered work platform (i.e., scissors lift), regardless of the type.

Industrial vehicle safety training will be directed at developing each employee's knowledge, skill and understanding to enable them to work safely with various industrial vehicles and equipment. Training will be provided through various means with primary instruction given by Environmental Health & Safety (or an EH&S approved agency) or the immediate supervisor/manager.

Operator Training

All initial industrial vehicle training will consist of the following:

- Vehicle inspection and safe operating procedures as outlined in this procedure and delivered by EH&S.
- Vehicle specific training and practical driving evaluations administered by department managers.

- A hands-on vehicle-specific demonstration by an authorized driver, supervisor or competent outside trainer.

PIT training shall consist of:

- Training will occur upon initial assignment. Refresher training, including an evaluation of effectiveness of that training, will be conducted to ensure that the operator has the knowledge and skills needed.
- Order pickers and motorized hand trucks will conform to the same requirements as a PIT. Operator training needs will be evaluated by the supervisor for the type of order picker or motorized hand truck to be used.
- Refresher training involves trainee viewing the presentation, completing the written test with a score of 100%, then completing the practical driving test only.
- Classroom training testing, and a driving practical of each PIT operator's performance will be conducted at least **every three (3) years**, or retraining when:
 1. The operator has been observed to operate the PIT in an unsafe manner; or,
 2. The operator has been involved in an accident or a near-miss incident; or,
 3. The operator has received an evaluation that reveals the operator is not operating the PIT safely; or,
 4. The operator is assigned to a different type of PIT; or,
 5. A condition in the workplace has changed in a manner that could affect safe operation of the PIT.

After an employee has successfully completed PIT training, EH&S will complete Form 6 - *Powered Industrial Truck Checklist Record* and Form 7 – *Powered Industrial Truck Training Certification*, obtaining the employee's signature as needed and denoting the type(s) of PITs that the employee is certified to operate. EH&S will also complete and sign a PIT Operator Certification Card and mail it to the employee's supervisor for their signature and distribution to the employee. PIT Operator

Aerial, scissor lift, and work platform training shall consist of:

- There will be specific training for aerial, scissor lift, and work platform,
- Emphasis on electrical, fall-protection, overhead, and falling-object hazards,
- How to correctly operate the lift (including maximum load and load capacity).
- The user must demonstrate that they know how to use the lift,
- If the hazards change, the type of aerial or scissor lift changes, or a worker is not operating a lift properly, or an accident occurs, workers must be retrained. The evaluation will be documented and retained in the training records.
- Classroom training, testing, and a driving practical of the aerial, scissor lift of work platform operator's performance will be conducted at least **every three (3) years**.

Utility vehicle training shall consist of:

- Must possess a valid Oregon or Washington driver's license for specific
- Must complete the PCC '*Driver Authorization Requirements*,'
- Must have an Acceptable Driving Record,
- Must complete the College Driver Safety Training within 90 days of hire or accepting a new position that requires driving College vehicles,
- Driver Safety Training is required **every three (3) years** for an employee who drives a College vehicle, or retraining when an accident occurs,
- Classroom training is covered by EH&S and covers vehicle inspections and safe

operation of vehicles.

- Vehicle specific training and a driving practical of the utility vehicle operator's performance will be conducted by the department supervisor.

Form 8 is provided as an example for supervisors to document department level utility vehicle training.

VII. RECORDKEEPING

Training records: Information regarding employee training for powered industrial trucks, material handling vehicles and powered mobile equipment such as agendas, handouts, presentation materials, rosters, etc., is maintained by the EH&S department when the EH&S department hosts/conducts the training. Departments that conduct their own employee training for custodial, grounds, farm and heavy equipment should maintain the original documents but forward copies of the documents to the EH&S department.

Incident and injury reports: EH&S will maintain copies of all *Injury Incident Report Forms* and *Supervisor's Incident Investigation Reports* for employee incidents and work-related injuries, illnesses and accidents. Risk Services will maintain all documentation for employee incidents when Workers Compensation documentation has been filed.

Retention: All records are to be retained by the applicable departments for the duration established by the Oregon State Archives in conjunction with government regulations.

APPENDICIES

A. Definitions

B. TBD

FORMS

1. PIT Operator Inspection Checklist
2. Aerial Device, Mobile & Work Platform Operator Inspection Checklist
3. Harness Inspection
4. Lanyard Inspection
5. Utility Vehicle Operator Inspection Checklist