



**"Death By Forklift is Really the PITs"
Powered Industrial Truck Webinar FAQ's**

Questions

Answers

OSHA COMPLIANCE INSPECTIONS	
<p>Will this training include points on what an OSHA compliance officer will look for during an inspection?</p>	<p>This link goes to an OSHA Directive #CPL 02-01-028, which includes "General Inspection Guidelines for CSHO's who do the compliance inspections: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=2277&p_table=DIRECTIVES.</p> <p>This should give you an idea of what they might look for. You should also be aware of any Federal and state OSHA focused inspections. For instance, there is currently a local emphasis program in Region 10 (Boise, ID) on PIT safe operations. You might be able to find out about local emphasis programs through your regional or state OSHA website.</p>
TRAINING	
<p>Does a forklift instructor need to have a certification to do this training?</p> <p>Can we train our own employees in the safe operation of forklifts? We have an employee that is qualified and had operated a forklift for 10+ years prior to coming to work for our company.</p> <p>When OSHA refers to knowledge, training, experience for trainers, how much are they talking about?</p> <p>Please summarize the certification training portion if you can.</p>	<p>Per 29 CFR 1910.178(l)(2)(iii), <i>"All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence."</i> There is nothing specific in the regulations for these answers, but an example of a qualified trainer might be a person who holds a recognized degree, certificate, or professional standing, OR who has extensive knowledge, training, and experience and has demonstrated the ability to train and evaluate powered industrial truck operators. Again, the amount of knowledge and experience is not specified anywhere in the regulations. However, this OSHA letter of interpretation provides some detail: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25021</p> <p>The certification that OSHA requires is a record that includes the operator name, date of training and/or evaluation, and the name of the person performing the training and/or evaluation.</p> <p>Additional items to note:</p> <ul style="list-style-type: none"> - If you have different types of trucks at the site, training is required for each type that an operator will be using - OSHA does not require operator licenses. - All records must be kept at least 3 years. (I usually advise my clients to retain any records related to OSHA or EPA compliance <u>forever!</u>)

<p>If forklift drivers at my company are temporary workers, who is responsible for the training, me or the temp agency?</p>	<p>OSHA has issued several letters of interpretations on the subject of training of temporary employees. Basically, there is a shared responsibility for assuring employees are adequately trained. The responsibility for providing training should be spelled out in the contractual agreement between the two parties. The temporary agency or the contracting employer may conduct the training and evaluation of operators from a temporary agency as required by the standard; however, the host employer (or other employer who enters into a contract with the temporary agency) must provide site-specific information and training on the use of the particular types of trucks and workplace-related topics that are present in the workplace.</p>
<p>What does OSHA consider different types of forklifts that require distinct training (i.e. 3-wheel vs. 4-wheel, electric vs. LP, etc.)</p> <p>Do you operate a company's forklift when doing training, or do you bring your own? Do you arrive early to make sure you know how to use theirs?</p>	<p>The OSHA regulations define the applicable types of forklifts (see Forklift Types, below). Each type, and in fact different manufacturers of the same type, will sometimes be different in some ways, such as location of controls, horn, emergency brake, etc. The training you provide must fit the operation and safety features of your equipment. Note that you only have to train operators on the equipment they will be using.</p> <p>I always use the site's forklifts when doing training. The requirement is for site-specific training. I can't train someone to use a forklift that isn't exactly like the one they'll be using. Before I take on a new training job, I always research the types in use, including a review of the operator manual is available. I also add site-specific information to the training materials, and to the practical training to be sure they are exposed to the same issues and challenges they'll face on the job. If I'm putting together a complete written PIT program, all the site- and equipment-specific information is included, as well as the inspection checklists.</p>
<p>I understand that forklift drivers must receive training every 3 years. Is there any other training required?</p>	<p>Actually, there is no requirement for retraining every 3 years. The requirement is for an <u>evaluation</u> of each operator at least every 3 years. Retraining as a result of the evaluation is covered below.</p> <p>The regulation requires the following:</p> <ul style="list-style-type: none"> - Initial training prior to operating the PIT. This training "shall consist of a combination of formal instruction (e.g., 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." 29CFR1910.178(l)(3) defines the required content for this training. - Refresher training, including an evaluation of the effectiveness of the training is required, covering "relevant topics." This training is required under the following conditions: <ul style="list-style-type: none"> - The operator has been observed to operate the vehicle in an unsafe manner; - The operator has been involved in an accident or near-miss incident; - The operator has received an evaluation that reveals that the operator is not operating the truck safely; - The operator is assigned to drive a different type of truck; or - A condition in the workplace changes in a manner that could affect safe operation of the truck.

FORKLIFT TYPES	
<p>What is considered a "forklift" under OSHA standards - does that include powered pallet jack type class 3 equipment or walk behind stackers?</p>	<p>29CFR1910.178(a) has a basic definition: "<i>fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines. This section does not apply to compressed air or nonflammable compressed gas-operated industrial trucks, nor to farm vehicles, nor to vehicles intended primarily for earth moving or over-the-road hauling.</i>"</p> <p>You can reference 1910.178(a), (b), and (c) for details about types, designations and designated locations. There is also information in the OSHA E-Tool at: https://www.osha.gov/SLTC/etools/pit/forklift/types/index.html</p>
<p>If backhoes, loaders and skid steers are used as forklifts, they are designed differently, so is there a requirement for forklift specific training?</p>	<p>OSHA specifically identifies the types of Powered Industrial Trucks that fall under the PIT regulations, and indicates that "<i>vehicles intended primarily for earth moving or over-the-road hauling</i>" are <u>not included</u>. See the references above for details.</p> <p>Since these are generally designed for earth moving and other similar work, even if used "like a forklift," I would guess that the requirements specific to them under the Construction regulations, 29CFR1926, would apply. Check Subpart O—Motor Vehicles, Mechanized Equipment, and Marine Operations for info.</p>
LOAD CALCULATIONS	
<p>Can we go back to the formula slide?</p>	<p>To recap, the Load Center is the horizontal distance from the load's edge (or the fork's or other attachment's vertical face) to a vertical line ("line of action") through the load's center of gravity. A typical load center for many forklifts is 24" out from the vertical face of the forks, although you need to know what it is for your specific PIT.</p> <p>Calculating whether a load is safe to lift, depends on the load's center of gravity. Here's the basic calculation for this:</p> <p>PIT capacity (lbs) x PIT load center (inches) = Maximum allowable inch-pounds / Load center of gravity (inches) = Maximum pounds that the load can weigh.</p> <p>If there is an attachment on the PIT, always be sure that you factor the attachments into the PIT capacity. As a general rule, the further the load center is from the back of the forks, the less the load can weigh.</p>
<p>Is there a technology that can monitor the CG, and warn of potential hazard?</p>	<p>This is a great question! I believe there are load cells that can warn an operator of unsafe or hazardous loads, but these can be very expensive. I ran across one company that manufactures load sensors connected to the hydraulic system to monitor the loads and provide unsafe warnings. Here's a link to the company: http://www.sensata.com/download/jpt_app-note_forklif.pdf. Note, this is not an endorsement of the product; I've not used their devices, but it's worth looking into.</p>

ATTACHMENTS/MODIFICATIONS	
Can we make modifications to our forklift truck attachment to fit the needs of our business?	First, you need to be sure that the attachment is approved by the forklift manufacturer for use on your forklift. Then, any changes to the attachment would also need to be approved. The reason for this requirement is that the use of an attachment and subsequent modifications, may be unsafe.
Are fork extensions legal?	Extensions are legal as long as you factor in the impact of the increased load center and meet other requirements for "attachments".
Where can I find more information regarding forklift carriages and other attachments?	The following sections of 29CFR1910.178 refer to additions or attachments: (a)(4) refers to "additions"; (a)(5) discusses non-factory installed front end attachments; (q)(6) refers to "extra parts", including alterations and additions to the original design.
Is a load backrest mandatory for forklifts?	<p>There are two references to load backrests in the OSHA regulations:</p> <ul style="list-style-type: none"> • 1910.178(e)(2) If the type of load presents a hazard, the user shall equip fork trucks with a vertical load backrest extension manufactured in accordance with paragraph (a) (2) of this section. (Note: (a)(2) refers to ANSI forklift design standards.) • 1910.178(m)(10) A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward. <p>My interpretations is:</p> <ol style="list-style-type: none"> 1. If the manufacturer designed the truck with a backrest it should be there. 2. If you want to remove it, the manufacturer would need to approve this, <u>and</u> there would have to be <u>no possibility</u> of a load falling rearward <p>Note that the same rules apply to overhead guards.</p>
What about a different piece of equipment called a Manlift	<p>A platform attached to the forks on a forklift is considered an attachment and falls under those rules. A manlift, with its own hydraulic lift system, is generally considered an "aerial lift". These are not covered under the PIT standard. These are covered under 29CFR1910 Subpart F Powered Platforms, Manlifts and Vehicle-mounted Work Platforms.</p> <p>Other related regulations include: 29CFR1910.29 - Manually propelled mobile ladder stands and scaffolds (towers) 29CFR1910.179 - Overhead and gantry cranes 29CFR1910.180 - Crawler locomotive and truck cranes 29CFR1910.181 - Derricks 29CFR1926 Subpart O - Motor Vehicles, Mechanized Equipment, And Marine Operations, including earth-moving equipment</p>

<p>In your experience, will truck manufacturers ever "approve" or provide a letter allowing use of a homemade attachment?</p> <p>I got an OSHA citation because we did not have an additional name plate on the man cage used for the fork trucks. We do have a fall protection program that requires reading and being in compliance with the fork truck name plate every time we use an additional man cage or platform. Do we need to get the additional name plates? The truck manufacturer states as far we observe the truck name plate limitations we should be fine, but OSHA is not accepting this response.</p>	<p>I have not personally received approval for these attachments. This doesn't mean that you can't get approval; it may only be that they want to sell you their attachments. One option that you can use if the PIT manufacturer is no longer in business, is to get approval from Qualified Registered Professional Engineer. I would think that the same option is available if the PIT manufacturer won't give approval.</p> <p>Also keep in mind the marking requirement. Section 1910.178(a)(5) assumes that the truck with the attachments will already be, "marked to identify the attachments and show the approximate weight of the truck and attachment combination at maximum elevation with load laterally centered." Before a non-factory-installed attachment may be used, the employer must comply with (a)(4), by obtaining the truck manufacturer's written approval, and with (a)(5), by having the truck appropriately marked.</p> <p>Also note that any modifications to an attachment may impact the safety of the system and would also require approval.</p> <p>The basic requirement is for nameplates that indicate the effects of any attachment to the vehicle's capacity and safe operation. My take on this is that you must have a nameplate for each attachment. It should be made clear which attachment the nameplate is for.</p> <p>As far as the OSHA inspector's response, they usually interpret the regulations pretty well, but they can be in error. If complying with what they want is big problem, then you have the option of appealing it, but be sure you have the documentation to prove you are right.</p> <p>The truck manufacturer should have a responsibility to ensure that their trucks are in compliance. They should be able to provide the nameplates.</p>
VENTILATION/LIGHTING	
<p>What are (or where are) the lighting requirements you referred to? If your FL is equipped with lights does it have to be operational.</p>	<p>29CFR1910.178(h)(2) defines the lighting requirements for both ambient (work area) lighting and directional lights: "<i>Where general lighting is less than 2 lumens per square foot, auxiliary directional lighting shall be provided on the truck.</i>" If your situation does not require lighting under this requirement, then I'd say that a light is not needed and doesn't have to be operational.</p>
<p>Are there requirements for ventilation of spaces with large numbers of forklifts in operation</p>	<p>Carbon monoxide can be generated by all fuel burning forklifts, including propane, LPG, gasoline and diesel. This can definitely pose a hazard in confined areas without adequate ventilation. If your operations are mostly indoors, such as factory or warehouse operations, it would be best to use only electric (battery-powered) forklifts, or compressed natural gas, which generates less pollution than LPG or propane.</p> <p>If you don't have this option, ACGIH recommends providing ventilation to the spaces with a dilution rate of 16,000 cfm for gas-powered, or 10,000 cfm for propane. Other things you can do include avoiding idling, adding catalytic convertors to neutralize the emissions, keep the engines well-tuned and test the exhaust with a CO analyzer. If you must use fuel burning forklifts, make sure that your employees are trained to recognize, and respond to the effects of CO exposure. Also, you can position CO monitors throughout the work spaces to alarm if dangerous levels build up.</p>

DRIVER QUALIFICATIONS	
<p>What/where is the OSHA reference that states a forklift operator must be 18 years old? Is it located under 29 CFR 1910.178, or is it a 1926 OSHA standard?</p>	<p>The minimum age is 18, set not by OSHA, but by the Fair Labor Standards Act. This information is referenced in the OSHA PIT E-Tool, and is clarified at this link: https://www.osha.gov/dts/shib/shib093003.html, specifically:</p> <p><i>"Regulations promulgated pursuant to the Fair Labor Standards Act prohibit individuals younger than 18 years of age from engaging in specified hazardous occupational activities. 29 CFR 570.58 – Occupations involved in the operation of power-driven hoisting apparatus (Order 7), paragraph (a) (5), specifically prohibits employees under 18 years of age from operating forklifts in non-agricultural employment."</i></p>
<p>OSHA does not require forklift operators complete a medical qualification exam. What has Mr. Paulausky experienced with medical exams for forklift operators.</p>	<p>I will refer you to an OSHA letter of interpretation which addresses this question, including ANSI B56.1 and ADA requirements: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22522.</p> <p>As with many PIT issues that are not specified in the regulation, OSHA can use the General Duty Clause to enforce PIT safety aspects.</p>
TOWING	
<p>A forklift can tow another forklift. What is the tow capacity of a forklift?</p>	<p>There are a number of PIT designs that are made specifically for towing, including tow tractors. Most forklifts have a tow pin located on the back end, presumably for towing things. I would check with the manufacturer of your forklift to determine the rated tow capacity.</p>
SEAT BELTS/LIGHTS/FALL PROTECTION	
<p>We have a very smooth warehouse our forklift drivers on and off there forklifts at least 200 times in an 8 hour shift moving only a few feet at a time is seat belts required every time they have to get on and off.</p> <p>What will a compliance officer require for lifts without seatbelts?</p>	<p>OSHA's current policy does not distinguish the seat belt requirement based on the number and frequency of stops. OSHA requires that if seat belts are on the equipment, they <u>must be used at all times</u> while operating.</p> <p>Here's a direct quote from an OSHA Letter of Interpretation:</p> <p><i>"OSHA's enforcement policy relative to the use of seat belts on powered industrial trucks is that employers are obligated to require operators of powered industrial trucks which are equipped with operator restraint devices or seat belts to use the devices. OSHA (Compliance Officers) should enforce the use of such devices under Section 5(a)(1) of the OSH Act." (General Duty Clause).</i></p> <p><i>"After consultation with the Regional Solicitor, OSHA may also cite Section 5(a)(1) of the OSH Act, if an employer has not taken advantage of a manufacturer operator restraint system or seat belt retrofit program."</i></p> <p>While OSHA does not specifically require seat belts on forklifts, however if they were standard equipment and were removed, this could lead to a violation.</p>

<p>Question on use of an order picker with no guardrails. Can a safety belt be worn or is a harness required? If a harness is required, then where can I find this requirement?</p>	<p>An OSHA letter of interpretation specifically covers this question, stating that 29CFR 1910.178 "does not have provisions that require either the use of a body harness or safety belt to protect personnel against falls from elevated platforms." However, it does go on to say that the General Duty Clause can be enforced for this.</p> <p>The letter goes on to say "Industry consensus standards, such as ASME B56.1-2000 Safety Standard for Low Lift and High Lift Trucks would be taken into consideration by OSHA when determining whether a hazard is "recognized" and that there is a feasible means of abating such a hazard. Section 4.17.2(c) of ASME 56.1-2000 requires that whenever an operator-up high lift truck is used to elevate personnel, restraining means such as railings, chains, cable, body belt(s) with lanyard(s), or deceleration devices, etc. are in place and properly used. Although the ASME standard calls for the use of body belts, OSHA strongly encourages employers to use body harnesses in place of body belts."</p>
<p>PREVENTIVE MAINTENANCE/INSPECTIONS</p>	
<p>If a forklift is only used occasionally, do I still need to inspect it daily?</p>	<p>OSHA requires that forklift vehicles have to be "examined before being placed in service" at least daily, or after each shift when used around the clock. You will find this requirement in the Powered Industrial Truck standard at 1910.178(q)(7).</p> <p>The inspections are not required to be documented, but I recommend a checklist as a guide for what to look for, and it does provide documentation that you have "examined" the PIT. It's been my experience with OSHA that if it's not documented, it didn't happen. Also note that some states, such as CalOSHA, require daily inspection logs or checklists.</p> <p>More to the point of your question, check this OSHA letter of interpretation regarding inspections for PITs used only periodically: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25059</p>
<p>Preventive Maintenance has been an issue and FL trucks get abused. Can you give a brief talk on preventive maintenance?</p>	<p>29CFR1910.178(q) cover OSHA's specific requirements for PIT maintenance to ensure safe operations, including fuel & ignition systems, electrical systems, repair parts quality, alteration or elimination of parts, inspections, water mufflers, overheating, cleanliness and cleaning product restrictions, and allowable conversions. Other sections discuss maintenance instruction plates, Special instructions related to hazardous atmospheres, and training for PIT maintenance workers.</p>
<p>Should the propane tank be removed from the truck before re-filling it?</p>	<p>Generally, propane cylinders are refilled in a vertical position, which means that they should be removed for filling. This also gives you the opportunity to inspect the cylinder, which should be done on the regular basis for condition, including the tank, pressure relief and filler valves, gauges and hose. Also, there should be a date code stamped on the cylinder body or collar which will tell you when it was last tested and qualified for use. Each cylinder must be tested and requalified for use after a specific number of years, depending on the code.</p> <p>The Propane Council has a great training booklet called Dispensing Propane Safely which cover all types of propane cylinders, including forklift tanks. http://www.propanesafety.com/uploadedFiles/Safety/Workforce_Training_programs/Additional_Workforce_Training/Dispensing%20Propane%20Safely%20(Low%20Rez).pdf</p>

<p>With solid core tires that are typical for PITs, how much damage is allowable before the tires must be replaced? Is it okay for the tires to be mottled and have small pieces of tread missing?</p>	<p>The pre-operation section in OSHA's PIT E-Tool includes inspecting "Tire condition and pressure including cuts and gouges", and the sample checklists include the following questions: Tires</p> <ul style="list-style-type: none"> - What do the tires look like? - Are there large cuts that go around the circumference of the tire? - Are there large pieces of rubber missing or separated from the rim? - Are there missing lugs? - Is there bond separation that may cause slippage? <p>Other items that I would add include:</p> <ul style="list-style-type: none"> - Normal tire wear that decreases the diameter of the tire. Tires are marked with the size, width and rim size, and often have a "wear line" indicating that maximum allowable wear. Check with the tire or forklift manufacturer to find out how much wear is too much. - Other types of wear, such as flat spots, chunking, surface tears. These can affect the ride, resulting in bumping, rattling or otherwise rough ride and potential instability while moving with a load. <p>In answer to your question, none of my sources provide any other specifics on how much damage is too much. I would get guidance from the truck and tire manufacturers.</p> <p>Note: This link goes to a blog with some info on forklift tires, including types of damage, but no specifics on amount of damage: http://blog.forklifttire.com/ Don't forget that the requirements also indicate that trucks found to be "unsafe" should be removed from service, but don't say anything specific about how much damage is too much. OSHA can always use the General Duty Clause if they feel there is too much damage.</p> <p>FYI, there is another regulation, 29CFR1910.177, which covers <u>servicing</u> of various types of industrial tires, which might include forklifts, but appears to focus on inflated tires.</p>
<p>Can eyewash bottles be used instead of eyewash/safety showers?</p>	<p>Under 29CFR1910.151, OSHA requires that eyewashes be immediately available <i>"Where the eyes or body of any person may be exposed to injurious <u>corrosive chemicals</u>, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use."</i></p> <p>OSHA refers to ANSI Z358.1 for specifics, which generally means unobstructed access, no more than 50 feet or 10 seconds away from the exposure. In addition, the EW/SS must supply a maintained minimum flushing rate of 0.4 gallons per minute for 15 minutes. Eyewash bottles can't meet this requirement. There are two styles that will work, hard-plumbed, or the reservoir-type.</p>

CHEMICAL REPORTING

You might remind folks that U.S. EPA requires the reporting of larger quantities of sulfuric acid in fork truck batteries if there is more than 1,000 lbs of "pure" acid present. Check with your local LEPC for more info.

This reporting requirement is part of the SARA Tier II reporting requirements for "Extremely Hazardous Substances" under EPCRA. The list can be found at 40CFR355, Appendix A & B. The chemicals are also identified on the "List of Lists" under the heading "Section 302 - TPQ".

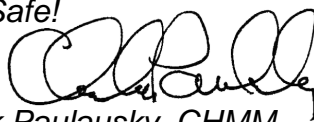
These chemicals are required to be reported if the total amount of an EHS onsite exceeds the Threshold Planning Quantities (TPQ), which for Sulfuric Acid is 1000 pounds. Also, the TPQ for Lead is only 100 pounds.

How you report depends on applicable state and federal rules. Note that there are two exemptions that could apply to forklift batteries. The first exemption is for articles (40 CFR 372.38(b)) and the second exemption is for toxic chemicals used in the maintenance of motor vehicles operated by the facility (40 CFR 372.38(c)(4)). You'll need to review these exemptions carefully to be sure they apply to your application.

Please note that I am not an OSHA compliance inspector. These answers are my interpretation of the regulations and are based on my experience and research. An OSHA compliance inspector can interpret these differently, and is always able to apply the General Duty Clause.

Please contact CP Safety & Environmental if you have additional questions on this topic, or if you need assistance with any other OSHA and EPA compliance programs.

Stay Safe!



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