



U.S. Department of Labor

Occupational Safety and Health Administration

Directorate of Technical Support and Emergency Management

Office of Science and Technology Assessment

## Hazards of Using Job-Made Boxes/Baskets/Platforms

Safety and Health Information Bulletin

SHIB 06-03-2021

### **Introduction.**

Job-made boxes, baskets, and platforms (collectively, “job-made boxes”) are makeshift attachments for powered industrial trucks, such as forklifts or other similar industrial material handling equipment. These devices are typically made of wood, metal, or plastic and generally consist of a platform with three side walls. Job-made boxes are sometimes used in the construction and general industries to lift workers, materials, and/or equipment to various heights on the platform or allow workers to step onto the platform from an elevated level to perform job tasks.

In several worksite incidents, workers have fallen from improperly secured and/or poorly constructed job-made boxes. Workers have also been injured when they were struck by or crushed beneath falling platforms. Workers in or on job-made boxes are usually not protected from falling by means of fall protection.

Powered industrial truck manufacturers do not approve job-made boxes. Job-made boxes attached to powered industrial trucks (PITs) have unknown load capacities and are considered modifications, additions, or alterations covered under OSHA Standards for Powered Industrial Trucks at 29 CFR §§ 1910.178(a)(4), 1910.178(a)(5), and 1910.178(q)(6). Since these makeshift aids for assisting with working at heights are not manufacturer-approved or stability and load



A typical job-made box consists of a wooden (e.g. plywood) platform with three walls. In this example, the job-made box was attached to a powered industrial truck (PIT) using a strap looped around the center of the wood beams that make up the longest wall and a galvanized hook. A worker was injured when the hook’s safety latch failed and the platform fell to the ground.

tested, they are not permitted under any of the provisions in 29 CFR 1910.178 that allow for such modifications.

This SHIB alerts employers and workers about the fall, crush, and struck-by hazards associated with job-made boxes. It also describes safer alternatives to job-made boxes and fall protection programs that can help keep personnel safe when working at heights.

## **Background**

An OSHA area office investigated two incidents involving job-made boxes—one in which a worker was killed and another in which a worker was seriously injured. From 2002 to 2020, OSHA found 57 incidents involving these types of platforms. In 57 incidents, 46 employees suffered serious injuries and 33 employees died.

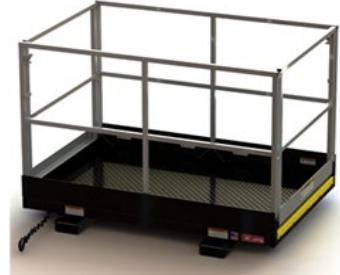
### **Incidents Involving Job-made Boxes**

**CASE #1:** An incident occurred on a site where two employees were loading materials onto a wooden job-made platform that they attached to the forks of a rough-terrain forklift. After the material was loaded onto the platform, it was lifted to the third floor of a building. While unloading the material from the third floor window area, an employee climbed onto the job-made platform to retrieve some material that rolled to the back of the platform. The platform shifted and fell 27 feet with the employee inside. The employee died from multiple injuries sustained in the fall. The material used to make the platform was a nine-foot by four-foot wood pallet.

**CASE #2:** An incident involved workers using a job-made platform to lift hot water heaters to the third floor of a building using a rough-terrain forklift. An employee stepped onto the platform to retrieve the last hot water heater, and the platform fell off the forks. The employee fell more than 22 feet to the ground below and sustained serious injuries. The platform was constructed using three-quarter-inch plywood; one and one half inch by three and one half inch boards, and was attached with a nylon strap, alloy chain, and metal hook equipped with a safety latch secured to the mast. The safety hook latch failed causing the platform to fall.

## Safe Methods and Requirements

1. Employers should prohibit employees from using unapproved job-made boxes for lifting workers, materials, or equipment. In most cases, manufacturers of PITs include a safety warning that prohibits use of unauthorized attachments in their operators' manual, and provide contact information on how to obtain approved attachments.
2. Employers can use commercially available boxes, baskets, and platforms that are approved for that brand or type of PIT. Refer to example image (right) of a commercially produced box.
3. Employers should not mix and match equipment that may not be interchangeable. In most cases, these types of attachments that are on the market include manufacturer documentation to help employers identify and follow attachment and stability requirements and load limits.
4. Platforms specifically meant to be attached to PITs can be purchased from several manufacturers and provide a safer alternative to job-made boxes. When properly used and secured, commercially produced boxes, baskets, and platforms with fork attachment points have known load limits and usage guidelines.



Field modifications to some types of PITs may also need manufacturer or nationally-recognized testing laboratory certification for compliance with American National Standards Institute (ANSI) A92.2—2015 *American National Standard for Vehicle-Mounted Elevating and Rotating Work Platforms*.

OSHA's construction standards for scaffolds (Subpart L of 29 CFR § 1926.451-454 and Appendices A-E) also contain requirements that protect employees working on platforms elevated by forklift type trucks. OSHA previously issued a Letter of Interpretation ([Monson 11/27/01 - Applicable standards to lifting personnel on a platform supported by a rough-terrain forklift](#)) which discusses and explains in detail the applicable requirements of these construction standards.

Employers whose workers perform job tasks at heights, including on platforms or in baskets, are required to comply with OSHA's fall protection standards. Those requirements are contained within OSHA's general industry standards (29 CFR §§ 1910.28(b)(1)(i) and 1910.140) and in the construction industry standards (29 CFR §§ 1926.451(g)(1) and 1926.501-503). OSHA requires employers to provide fall protection at elevations of four feet in general industry workplaces, six feet in the construction industry, five feet in shipyards and eight feet in longshoring operations.

Fall protection may include the use of a complete guardrail system and/or a personal fall arrest system.

## Training

Employers should instruct employees to not use unapproved job-made boxes on worksites.

When workers use commercially available boxes, baskets, and platforms in compliance with OSHA standards, employers are required to train workers on the safe use and any recommended safe practices of the equipment, according to the manufacturer's recommendations, as well as how to protect personnel and objects from falling from these types of boxes, baskets, and platforms.

OSHA's fall protection standards also include training requirements. For example, in construction, the Fall Protection Training Requirements standard (29 CFR § 1926.503) requires employers to provide a training program for all employees who might be exposed to fall hazards on the job. Training requirements for fall protection during general industry work activities are specified in 29 CFR § 1910.30(a)(1).

## Resources

*ANSI B56.1—2004, Safety Standard for Low Lift and High Lift Trucks*

*ANSI A92.2—2015, American National Standard for Vehicle-Mounted Elevating and Rotating Work Platforms*

*29 CFR § 1910.178, Materials Handling and Storage – Powered Industrial Trucks*

*29 CFR § 1926.450-454 and Appendices A-E – OSHA's construction standards for scaffolds*

*29 CFR § 1926.500-503 and Appendices A-E – OSHA's construction standards for fall protection*

[Fall Protection Safety and Health Topics page](#)

[OSHA eTool: Powered Industrial Trucks \(Forklift\)](#)

Letter of Interpretation: [November 27, 2001 Interpretation Letter about 29 CFR 1926.451\(c\)\(2\)\(iv\) and \(v\) and 29 CFR 1926.602\(c\)](#)

Letter of Interpretation: [Written approval requirements for powered industrial truck modifications and additions that affect capacity or safe operation – 03/30/2004](#)

## **Additional Information**

OSHA provides compliance assistance through a variety of programs. OSHA On-Site Consultation Program offers no-cost and confidential occupational safety and health services to small and medium-sized businesses in all 50 states, the District of Columbia, and several U.S. territories, with priority given to high-hazard worksites. Consultants from local and state agencies, vendors or universities work with employers to identify workplace hazards and how to fix them, provide advice for compliance with OSHA standards, train and educate, and assist in establishing and improving safety and health programs. On-Site Consultation services are separate from OSHA enforcement efforts and do not result in penalties or citations. However, employers must agree to correct any serious and imminent danger hazards identified in a timely manner. To locate the OSHA On-Site Consultation Program nearest you, call 1-800-321-OSHA (6742) or visit [www.osha.gov/consultation](http://www.osha.gov/consultation).

## **Workers' Rights**

Federal law entitles you to a safe workplace. Employers must keep the workplace free of known health and safety hazards. Workers have the right to speak up about hazards without fear of retaliation. Workers also have the right to:

- Exercise their rights under the Occupational Safety and Health Act (OSH Act) without retaliation, including reporting an injury or raising health and safety concerns with their employer or OSHA. To preserve a claim for unlawful retaliation under the OSH Act, a worker must file a complaint with OSHA no later than 30 days after the alleged unfavorable action occurs.
- Receive workplace safety and health training in a language they understand
- Work on machines that are safe
- Receive required safety equipment, such as gloves or a harness and lifeline for falls
- Be protected from toxic chemicals
- Request an OSHA inspection, and speak to the inspector
- Report an injury or illness, and get copies of your medical records
- Review records of work-related injuries and illnesses
- See results of tests taken to find workplace hazards

**For additional information, see OSHA's Workers page.**

## **How to Contact OSHA**

To discuss a health and safety issue at work, contact OSHA toll-free at 1-800-321-6742 (OSHA) [or by email](#), or [contact your nearest OSHA office](#). Your information will be kept confidential.

This Safety and Health Information Bulletin is not a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. Pursuant to the Occupational Safety and Health Act (OSH Act), employers must comply with hazard-specific safety and health standards and regulations promulgated by OSHA or by a state with an OSHA-approved State Plan. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement any recommendations in this Safety and Health Information Bulletin is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.

There are 28 OSHA-approved occupational safety and health State Plans. State Plans are required to have standards and enforcement programs that are at least as effective as federal OSHA's and may have different or more stringent standards. More information about State Plans is available at: <http://www.osha.gov/dcsp/osp/index.html>.