



This safety resource was written for the recycled materials industry by the recycled materials industry and was developed to assist you in making your recycling operation a safe place for employees, customers, and visitors. This resource covers OSHA requirements that may or may not be applicable to your operation.

MATERIAL HANDLERS

DEFINITION: A material handler consists of an upper carriage with hydraulically operated attachment revolving 360° and is mounted to either a wheeled or crawler undercarriage. Material handlers may also be mounted on a truck, a rail car, or on a fixed pedestal. The front end of the attachment consists either of a multi-tine grapple, a clamshell attachment, or a magnet.

Material handlers pose a wide range of risks during normal operation, not only to the operators but also to maintenance personnel and others nearby.

Primary Hazards:

- Falling and projected objects
- Slipping and falling
- Cutting
- Pinching and crushing
- Burning and explosions

Safety Solutions:

- Wearing personal protective equipment
- Pre-startup inspections
- Scheduled inspections and maintenance
- Safe operating and working procedures
- Employee safety training
- Operator and maintenance training

Pre-Start Up Procedures and Inspections:

- Ensure that the operator is properly trained and certified to operate the machine
 - Identify clear and safe approaches to the machine such as pedestals, catwalks, platforms, ladders and steps
 - Perform a detailed walk-around inspection of the machine and jobsite surroundings
 - Check for the presence of all safety devices, loose pin and bolt connections, wear and tear items, hydraulic and fuel leaks, and structural damage of any kind
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- Pay attention to obvious maintenance deficiencies including, but not limited to, clogged radiator and cooler cores, combustion air intake system, frayed or otherwise damaged hoses, hose assemblies, or leaking hydraulic lines
- Never attempt to operate a defective or damaged material handler
- Climb up, facing the machine using a three-point stance
- Perform the daily maintenance as outlined in the manufacturer's manual
- Verify that all maintenance has been completed and documented
- Ensure that all doors are unlocked but closed and secured
- Ensure that all windows and mirrors are clean and not obstructed. Mirrors must be properly positioned for best possible visibility
- Adjust the seat and armrests to the most comfortable position
- Ensure the area of operation is clear of personnel and obstructions
- Sound the horn to alert anyone in the vicinity of the machine
- Ensure that other personnel are aware that the machine has started and the operation commences
- Operate the machine only outdoors or in a well-ventilated interior space

Starting and Operating the Material Handler:

- Maintain good communication and visibility at all times
- Use one of the signals to alert all personnel in the area of the impending machine operation
- Sound the horn twice
- Energize the beacon or flasher light (if applicable)
- Start engine as specified by the manufacturer and allow systems such as coolant and hydraulic fluid to warm up to operating temperatures
- Test all machine and attachment functions and brake systems
- Bring the machine into proper working position and begin operation

- During operation, make sure that attachments sufficiently clear buildings, power lines and other obstructions
- Be sure to operate within the machine attachment's lifting capabilities at all times
- Use slow, progressive movement when operating attachment functions such as boom, stick, and grapple or magnet

Shut-Down Procedure:

- Park the machine on level and firm ground
- Align the upper deck with the undercarriage, install house lock pin if applicable
- Lower the attachment completely to the ground
- Engage the parking and swing brake functions
- In case of an emergency, if the machine stops on an incline, lower the attachment completely to the ground and use the appropriate blocks/chucks to keep the machine from rolling downhill
- Disengage the safety lever and shut down the engine
- Gradually reduce the engine speed and idle it for five minutes prior to shut-off
- Work joysticks in a circular motion to relieve pressure
- Shut and secure windows and covers and lock doors
- Climb down facing the machine using a three-point stance
- Remove the battery disconnect switch (if applicable)

Maintenance Procedures:

- Always follow the manufacturer's scheduled and preventive maintenance and inspection procedures and instructions
- Prior to any maintenance and/or repair service follow the proper lock-out/tag-out procedure

Visitor/Vendor/Supplier Alert:

- Post safety signs that inform of all jobsite hazards
- Inform visitors, vendors and suppliers to maintain the proper and safe distance from operational equipment, especially in the loading and unloading area General Safety

Instructions:

- Make the operator aware of the dangers and risks involved with the operation of this machine
- Train every employee what each warning signal or audible alarm represents
- Identify potential areas where flying debris may occur
- Frequently check the placement of safety signs and make certain they are legible and complete. Replace missing or illegible safety signs at once
- Adhere fully to the instructions on the safety signs
- Identify and cordon off or mark specific areas that are prohibited to enter during operation
- Ensure that trip and falls hazards are kept out of drive and walk ways
- Always follow good housekeeping procedures