Baler Operation & Safety

Goodwill Industries of Lower South Carolina, Inc.
Goals

This safety session should teach employees to:

- Understand the potential hazards of a baler.
- Know and understand baler safety and proper operations.
- Know how to safely clear jams and perform lockout/tagout procedures on the equipment.
- Follow the procedures to create a new bale.

Applicable Regulations: ANSI Z245.2, Z245.5 and 29 CFR 1910.146, 147, 212
Background

- Compacting and baling equipment reduces large amounts of salvaged items or solid waste to smaller, more manageable units by means of powered rams. Some of these salvage or waste items include:
  - Paper or cardboard (Goodwill Commissary Use)
  - Cotton or textiles (Goodwill Retail Use)
  - Metals (Non-Goodwill Use)

- Balers compress the refuse material into bales (bound or unbound) for transport.
Types of balers

- Compacting and baling equipment are available in many sizes and configurations. These machines may have one or more rams for compressing materials or extruding bales which may move vertically or horizontally.
Workers at risk

- Only some Goodwill locations use balers in their daily operation.
  - 002 Warehouse (5 balers)
  - 236 Bluffton, 251 Myrtle Beach, 252 Conway, 253 Sumter, 254 Florence, 255 Walterboro, 256 Little River, 257 Carolina Forest, 259 N. Myrtle Beach, 266 Hartsville

- **Only Goodwill employees** trained in proper operation are authorized to use the balers. **Volunteers and Community Service workers are not allowed** to operate the equipment.
Balers are Dangerous

- The most common types of injury associated with baler operation include:
  - Crushing
  - Amputation of body parts
  - Cuts on hands
  - Eye injuries

- Most of these injuries can be avoided by ensuring employees are properly trained, observing all safety standards, and utilizing all protective gear when operating the baler.
Balers are Dangerous

- From 2011-2012, 14 baler injuries were reported to OSHA with 8 of them being fatal (57%).
- A majority of the fatalities were avoidable. Causes included:
  - Not following established operating procedures
    - Reaching into equipment during operation
  - Not properly tagging out equipment before clearing jams
    - Co-workers energizing equipment while an employee was inside.
  - Not following established safety guidelines
    - Bypassing safety guards and kill switches
Age Requirements

- Eighteen is the minimum age for employment in non-agricultural occupations declared hazardous by the Secretary of Labor.

- Each baler shall have a warning sign posted in a conspicuous location.
Responsibilities

- **Employers** shall provide workers with instruction and training in safe work methods before assigning them to operate, clean, service, maintain, or repair the equipment.

- The **worker** shall be responsible for using the safety features on the compactor or baler.
Responsibilities

- The **worker** shall ensure that all persons are clear of the point of operation before starting up the machine or a compaction cycle.

- The **employer** shall inspect safety interlocks, switches, and other protective devices to ensure that they are not disabled or bypassed. The employer shall not permit operation of the baler unless these devices are fully functional.
Lockout/Tagout

Because ram motion ceases during a jam, workers may not recognize that the machine remains operational and the ram could activate inadvertently unless the power supply for the machine is disconnected.

Whenever unjamming, performing maintenance, or repairing a baler, the machine should be de-energized and OHSA’s lockout/tagout procedures [29 CFR 1910.147] should be followed.
Lockout/Tagout

- **Managers and Maintenance personnel** are the only employees authorized to lockout/tagout equipment using established procedures. Assistant Managers and Lead Associates are not authorized to tagout equipment.

- **Employees** needing to lockout/tagout equipment need to contact one of those individuals listed above.
**WORKERS** should take the following steps to protect themselves from injury when operating or working near compacting and baling equipment:

- **Never** bypass or disable interlocks or control switches.
- **Keep** all equipment guards in place during operation.
- **Before** attempting to clear jammed material from a compactor or baler, power the baler down. And follow corporate lockout/tagout procedures.
Proper Operation

- Goodwill LSC utilizes vertical balers in our locations.
- Employees operating the balers must be trained in safe operation and use the required safety equipment which includes:
  - Safety Gloves
  - Safety Glasses (if baling brittle material such as plastics that may splinter or shatter)
Operating Procedures

To make a new bale:

- Open the front door completely to a 90 degree angle.

- Go to the rear of the machine. Pull the chain and hook towards the ceiling and drop the chain towards the floor.
Operating Procedures

- Place a thin layer of cardboard on the bottom of the machine (cover the full area).

- Close the door and secure it by turning the wheel on the side.
Operating Procedures

- Fill the baler with textiles or cardboard. When full, run the machine by pulling down the safety gate ensuring it is seated completely.

- Push the “DOWN” button on the power panel on the side of the machine.
Operating Procedures

- Once the machine cycles it will return to the top and the gate will be open. Continue the same process until full.
Once full, the machine will stop and a red light on the panel will be on solid - it is now a completed bale. Raise the ram by pushing the “UP” button until there is enough room to place cardboard over top of the clothes (cover area completely with a thin layer of cardboard).
Operating Procedures

- Push the “DOWN” button and the machine will cycle and stop. The “RED LIGHT” will come on indicating a completed bale. Push in the “EMERGENCY STOP” button on the power panel.

- Open the front door to a 90 degree angle
Operating Procedures

- Place six (6) baling wires through the designated slots and secure on the face (front) of the bale by running the wires through the end with the eyelet/hole and wrap around the wire 8-10 times. You can run the wire back through the eyelet/hole 5-6 times which will also secure the wire.
Pull the gate door down again until it is fully seated and walk behind the baler. Pick up the hook and chain assembly and place the hook over the top of the baler ram (middle of baler inside open slot).
Operating Procedures

- Place a good pallet in the front of the baler making sure it is up against the base of the baler and in the center of it.
Operating Procedures

- Pull the “EMERGENCY STOP BUTTON” out on the panel and then push the “UP BUTTON” on the power panel. The machine will cycle up until the balers chain and hook assembly tip the bale forward onto the pallet.

![Image of bale being ejected](image-url)
Operating Procedures

- Remove the bale with a manual pallet jack, or IF CERTIFIED, an electric stacker or counterbalance forklift and begin the process again.
Conclusion

- Baling equipment has widespread use across varied industries. The hazards discussed in this lesson involve the repercussions of hazardous work practices, circumventing safety devices, and failing to follow lockout/tagout procedures. All of which could lead to serious injuries or fatalities in the work area.

- Failure to follow operating or safety procedures may lead to termination of employment.
Practical Exercise

- Using the steps explained in this lesson and appropriate safety procedures and gear, create a bale under the instruction of a certified operator.