

Baler & Compactor Selection / Safety

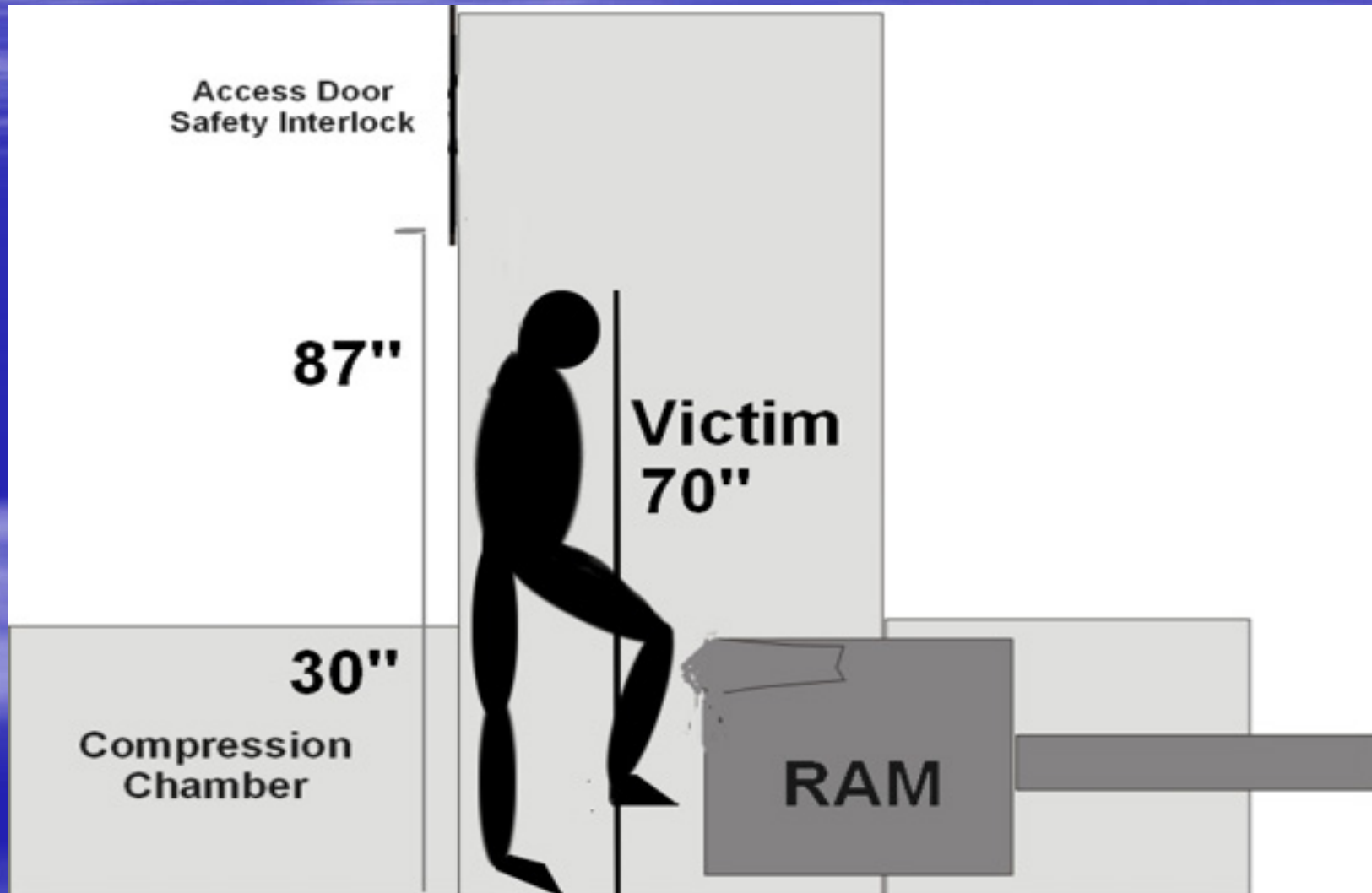


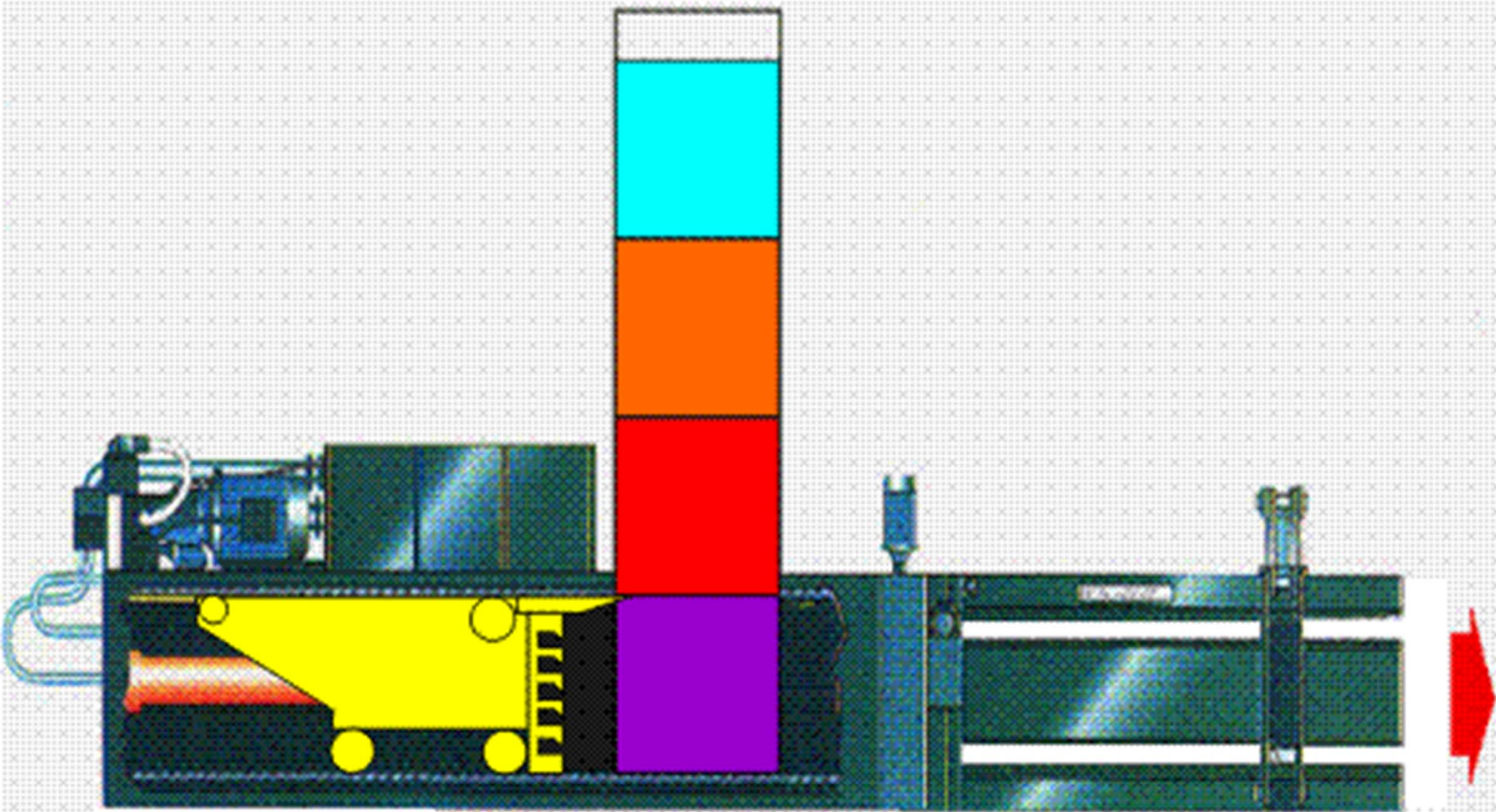
DANGEROUS RECYCLING EQUIPMENT

- BALERS
- COMPACTORS
- CONVEYORS
- SHREDDERS
- SHEARS
- DENSIFIERS
- PERFORATORS



A RAM OR "PLATEN" IS THE COMMON DENOMINATOR





***The best safety factor
is qualified operating
personnel, who
exercise reasonable
care when using the
equipment.***

SOME BASIC FACTS

- 43 people died in Compactor and Baler accidents in the past 16 years. That's between two and three people per year (OSHA)
- Study by ISRI shows that 24 of the 29 Baler deaths they studied were from paper/occ balers
- People don't respect paper/occ as they do other materials despite the fact that it is more prone to jams than metals or other materials

SOME BASIC FACTS

SWANA reports increase in fatalities in 2022

The Solid Waste Association of North America's (SWANA) annual report found that the majority of deaths took place during collection, with 25 reported. Eight landfill workers died in 2022, along with seven MRF employees and four maintenance workers

One death took place in a transfer facility, and one was classified in the "other" category.

The uptick in 2022 deaths comes after federal data showed the injury rate for the waste and recycling industry fell in 2021, reaching its lowest point since 2006.

WHY BALERS OR COMPACTORS?

- Baler & Compactors are one of the key factors limiting throughput at MRF's & Transfer Stations
- PRODUCTION vs. SAFETY
- Lack of training
- Lack of respect for machines power
- Tremendous forces involved
- Over 450,000 total pounds of force or 270 pounds per square inch!
- You cannot completely idiot proof ANYTHING

OTHER RISKS

- SHARP OBJECTS...BEFORE AND AFTER BALING



OTHER RISKS

- OVERSTACKED OR CARELESSLY STACKED BALES



OTHER RISKS

- VEHICLES....BOBCATS, FRONT END LOADERS, FORKLIFTS, TRUCKS ETC...



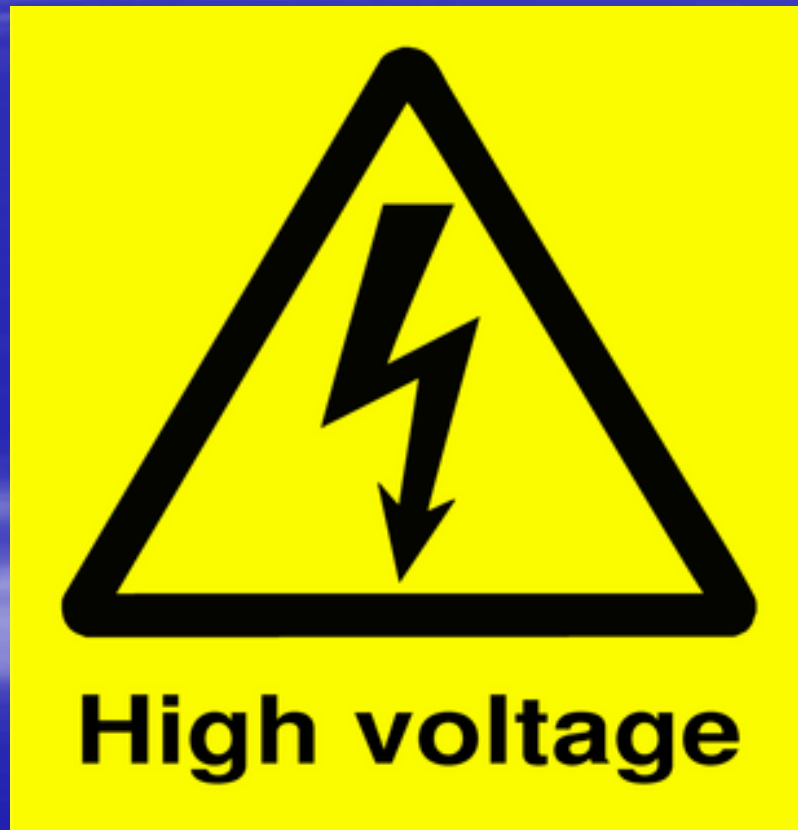
OTHER RISKS

- BALE TIES...BROKEN TIES AND NON-LOOP END ARE SHARP



OTHER RISKS

- HIGH VOLTAGE...TYPICALLY 460 VOLTS
3 PHASE



OTHER RISKS

- PINCH POINTS...Any moving parts present the possibility for a pinch hazard. All such points are guarded from access and noted via decals.



WHAT CAN WE DO?

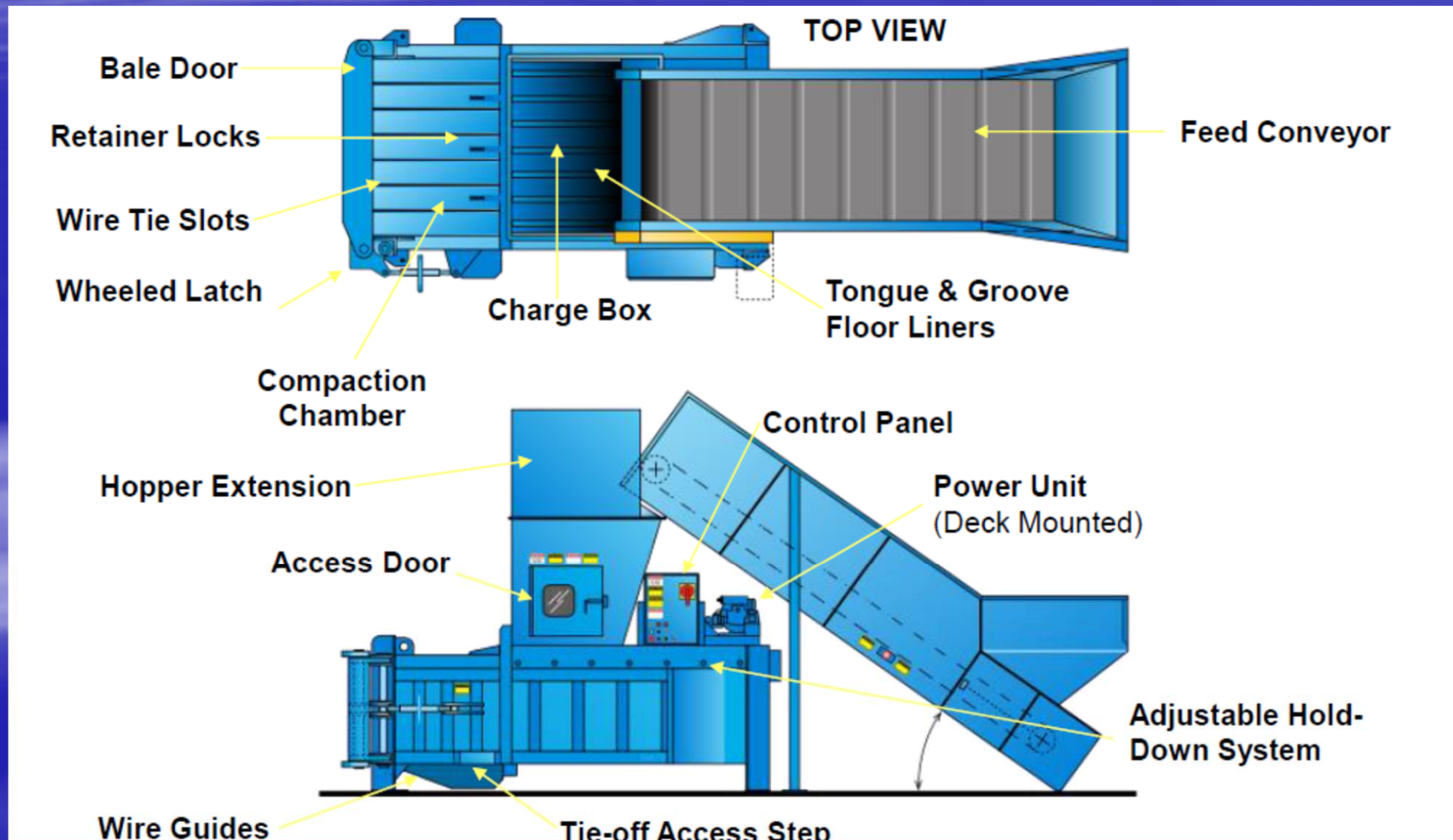
- TRAINING, TRAINING, TRAINING
- OSHA, ANSI, and the Department of Labor have all enacted rules/standards in response to deaths and injuries
- Safety measures developed by OSHA combined with voluntary standards developed by the solid waste industry working through the American National Standards Institute (ANSI) are helping to reduce injuries and fatalities caused by baler accidents.

WHAT CAN WE DO?

- PROPER SIZING OF BALER OR COMPACTOR...
 - WHAT MATERIAL ARE YOU PROCESSING?
 - WHAT IS YOUR PEAK VOLUME?
 - WHAT IS THE MAXIMUM SIZE OF YOUR MATERIAL?
 - HOW DO YOU WANT TO LOAD IT?

WHAT CAN WE DO?

CHARGE BOX VS HOPPER SIZE?





84" Rule



84" RULE

- ANSI standard permits an opening into a compactor if the length of a fixed guard (or loading hopper) in conjunction with the height of the opening from the ground exceeds 84 inches, so as to "prevent any persons from contacting moving parts at the point-of-operation."







WHAT CAN WE DO?

- The standards concerning baler safety are developed by a subcommittee of the ANSI Accredited Standards Committee Z245, which is administered by the Waste Equipment Technology Association (WASTEAC).
- Per F.L.S.A.(Fair Labor Standards Act) a restriction on Children under the age of 18 ... prohibited from: servicing, operating, unloading or **assisting in operating of compacting equipment** Loading only - **may** be allowed for ages 16-18 under very tight machine use restrictions

WHAT CAN WE DO?

- At least every five years, the ANSI subcommittee that deals with balers issues a revised ANSI standard. The most recent standard, which came out in 2004, introduced several important changes.
- Historically, the baler standard covered manufacturers' responsibilities for designing and making safe machines as well as the responsibilities of owners for training installers, operators, maintenance personnel and others working in the vicinity of a baler. In 2004, the baler subcommittee broke the standard into two pieces: A245.51-2004 for manufacturers and Z245.5-2004 for installers, maintenance technicians and operators.
- **NOTE: IF YOU BUY AN OLDER BALER, IT MAY NOT COMPLY WITH CURRENT STANDARDS!!!**

WHAT CAN WE DO?

- LOCK OUT TAG OUT
- LOTO is your first line of defense preventing accidents.
- Removes power from machine for maintenance purposes
- Must be strictly enforced



WHAT CAN WE DO?

- Innovation, friend of safety...
- **START UP BEACON LIGHT / AUDIBLE BUZZER**
- Any baler/compactor that can automatically cycle must have it. Operator must push and hold start button for 20 seconds during which time a light flashes and a loud buzzer sounds giving adequate time to move away from moving parts

WHAT CAN WE DO?

- MECHANICAL SAFETY INTERLOCK SWITCH vs. MAGNETIC INTERLOCK



WHAT CAN WE DO?

- STOP BYPASSING OR OVERRIDING SAFETY DEVICES
- Can easily be done with basic mechanical ability in order to speed up production



WHAT CAN WE DO?

- Clearing jams are a top cause of injury and death.
- DO NOT manually clear jams without enacting LOTO procedures!
- Purchase baler with 'STAMPER' if available



WHAT CAN WE DO?

- PROPER PPE...gloves, eye protection, hardhat, safety vest, steel toed boots



EMPLOYER RESPONSIBILITIES

- Provide instruction in safe work methods before operating, cleaning, servicing, or repair
- Inspect safety interlocks, guards, switches, and protective devices to ensure no bypassing or disabling
- No operation unless each device is fully functional according to manufacturer specifications.
- Purchase up to date and safe equipment that meets current safety standards
- **INSIST** that proper operating and maintenance safety procedures are followed **regardless of production consequence**

WORKER RESPONSIBILITY

- Follow ALL safety guidelines and procedures
- Ensure persons are clear of the machine before any compaction cycle and bale ejection cycle
- Never bypass or disable interlocks or control switches
- Report missing or broken parts to supervisor

***SAFETY IS NOT THE ENEMY
OF EFFICIENCY***

***WITH PROPER TRAINING, RESPECT OF
THE MACHINERY, AND COMMON SENSE,
THEY CAN COEXIST***

THANK YOU!!!

MATT HARRIS
MARATHON EQUIPMENT

662-889-3998

MATT.HARRIS@MARATHONEQUIPMENT.COM

