Machine Safe Guarding

Gang Nailer

- Gang nailers used at are pneumatically-powered, manually-fed devices used to press a single connector plate onto the ends of wood rails or trusses.
- The single stroke mechanism is controlled via finger-activation of the two-handed controls at the operator station. This two-handed trip requires concurrent pressure on both buttons in order to operate the press.
- At no time are any operating controls to be wedged, taped-down, or otherwise bypassed.
- At no time is the gang nailer to be used if the operating controls are malfunctioning, or enable one-handed operation of the press.
- Operating buttons must be configured to prevent inadvertent bumping or activation by use of body parts other than the fingers (e.g., knee, torso, etc.)
- It is essential that the weight of the long narrow wood material used in this equipment be fully-supported without tipping, sliding or other movement or instability at all times while the press is being used.
- Positioning hands must remain clear of the press area and not oriented so they may suddenly slip into this area as steadying or supporting force is applied.
- If the nailer is not operating properly, immediately discontinue use and tag the equipment with a tag that reads: "Out of Order - Do Not Use".
- Only trained and authorized personnel may use the gang nailer.

Onsrud Shear

- Onsrud shear presses used are pneumatically-powered, manually-fed devices used to cut thin metal or plastic sheet material.
- The single stroke mechanism is activated by the operator depressing the foot pedal while holding the material with both hands.
- The foot pedal and the full length of the shear's point of operation must remain guarded at all times. Guarding on the foot pedal is intended to prevent activation of the shear press via the unintended depressing of the foot pedal. Guarding of the full length of the shear's point of operation is intended to prevent fingers or hands from entering the point of operation and must be positioned within ½" of the material being fed into the shear.
- At no time are foot pedal operating controls to be wedged, taped-down, or otherwise bypassed.
- At no time is the shear to be used if the operating controls are malfunctioning, the guard is not within 1/2" of the work piece, or it enables continuous (multi-stroke) operation of the press.
- Barriers must be erected along the entire length of the rear portion of this equipment, or it must be otherwise closed off, to prevent the unguarded point of operation from being accessible or exposed to other persons.
- Positioning hands must remain clear of the cutting area and not oriented so they may suddenly slip into that area as steadying or supporting force is applied.
- If the shear is not operating properly, immediately discontinue use and tag the equipment with a tag that reads: "Out of Order - Do Not Use".
- Only trained and authorized personnel may use the Onsrud shear

Machine Safe Guarding

Drill Press

- Do not wear loose clothing such as long sleeve shirts, gloves, or jewelry while operating a drill press. Confine long hair with a cap or hair net.
- Wear a face shield while drilling to protect the face from flying parts of either the bit or work piece.
- Keep the chuck guard in place and maintain good housekeeping on the shop floor area around the press (e.g., no build-up of saw dust).
- Make sure the table locking clamp is tightened securely and that the press is anchored to the shop floor.
- Turn off power to make adjustments. Never hold material by hand while drilling, and never attempt to stop a piece of work that begins to revolve in the drill press by-hand. Turn the press off and wait for the bit to stop spinning before removing the material.
- Secure the work in a press using a vise or clamp before drilling. Make sure the bit is up to full speed before applying it to the work piece to avoid seizing of the material or loss of control of that work piece.
- Never allow any part of your body to touch the drill bit or any revolving part of the drill press while it is in motion. Positioning hands must remain clear of the bit area and not oriented so they may suddenly slip into the bit area as steadying or supporting force is applied.
- Support any long stock with a stand and position yourself so the stock is to your left during the drilling. When you are drilling round stock, be sure to use a V-shaped (or similar) drill block to support and hold the material. Clamp the stock to the drill press table using a clamp.
- Once the hole is drilled, the bit may still be in-motion. The operator should ensure that the bit is no longer in-motion before reaching in to retrieve the piece. Avoid becoming distracted while using the drill press (talking to co-workers, momentarily looking away, etc.).
- The drill press must have a magnetic circuit disconnect feature to ensure it does not automatically power-up if power is interrupted.
- Belt and pulley drive mechanisms must be fully enclosed at all times while the press is in use.
- If the press is not operating properly, immediately discontinue use and tag the equipment with a tag that reads: "Out of Order - Do Not Use".
- Only trained and authorized personnel may use the drill press.

Bench Or Pedestal Grinders

- Before turning on the grinder, ensure there is no more than 1/8" clearance between the wheel and tool rest and no more than 1/4" between the wheel and the tongue guard or spark deflector located at the top of the periphery guard. As the grinding wheel wears down to a smaller diameter, it may be necessary to adjust the tool rest and tongue guard closer to the grinding wheel to remain as close as possible for maximum support and safest use. Make sure the tool rest and tongue guard are securely tightened so they will not shift position during use or make contact with the wheel.
- The periphery guard must remain in place at all times during operation and the tool rest positioned just below the center of the grinding wheel.
- Never use a chipped or cracked grinding wheel. Always inspect each wheel before mounting on the grinder and replace a cracked wheel immediately. Do not use a wheel that vibrates.

Machine Safe Guarding

- In addition to safety glasses, a face shield must be worn during grinding operation. Do not wear any loose clothing, gloves, or jewelry during use of this equipment. Hair must be contained or in a hair net to ensure that it will not be caught on the moving parts.
- When starting the grinder, do not stand directly in front of the grinder. Stand to one side and turn it on, letting it come up to speed and idle for a minute. This ensures proper alignment, that the guard is clear of binding or material, and that any damaged part of the wheel won't strike you.
- When grinding, do not force the tool. It will do a better job and be safer at the rate for which it was designed. Always keep the work piece moving across the face of the wheel. Continual grinding against the same spot on the wheel will cause grooves to be worn into the face of the wheel.
- Never grind against the side of the wheel. Always grind on the face of the wheel only.
- Do not start the grinder with the work piece pressed against the grinding wheel.
- Avoid awkward hand positions where a sudden slip could cause your hand to move into the wheel.
- Keep proper footing and balance at all times.
- If the grinder has missing parts or is damaged, turn off the grinder, remove the plug and tag the grinder "Out Of Service - Do Not Use".
- Only authorized and trained personnel may use a grinder.

Pipe Threading Machine

- The floor area around the pipe threading machine must be kept free of cut pieces or ends, lubricating oil, loose pieces of floor covering, water/snow/ice, or metal shavings (all of which may pose a slip hazard). The general work area around this machine must remain well lit at all times for safety of the operator.
- Loose clothing or hair, gloves and jewelry are prohibited during use of this machine. Keep sleeves buttoned and shirts tucked in. Keep hands away from the rotating pipe and fittings.
- The electrical cord for the pipe threader must be out of walkways or covered by a cord protector (i.e., not run along the floor where it could be damaged or pose a trip hazard).
- The operator should avoid conversation or distraction during use of the machine. Stop the machine before wiping threads or screwing on fittings.
- This machine (including the cord, ground pin, and foot pedal) should be inspected for broken, missing, misaligned or binding parts or other conditions that may affect its safe and normal operation. If these conditions are found, or if the machine is not operating properly, the operator is to immediately discontinue use, tag the machine "Out Of Service - Do Not Use", and notify their supervisor so they can call for necessary repair.
- The foot switch must have a guard over it at all times. The foot switch should be positioned so the operator can control the machine, tools and work piece. It should allow the operator to stand facing the directional switch, use the foot switch with his left foot, and have convenient access to the directional switch, tools and chucks without reaching across the machine. This machine is designed for one person operation.
- At no time are foot pedal operating controls to be wedged, taped-down, or otherwise bypassed.
- The pipe threading machine's legs must be anchored to the shop floor or a stand to prevent tipping.

Machine Safe Guarding

- Long and heavy pipe extending four feet or more beyond the machine should be supported using pipe supports or stands to further prevent tipping or oscillation of the pipe. Three feet of clearance must be maintained around this machine to ensure others are not contacting the machine or its moving parts. A guard or barricade should be used for this purpose where there is pedestrian, forklift or other traffic that could lead to entanglement or cause the machine to tip.
- The machine should be operated from the side to eliminate the need to reach over the machine.
- Keep hands clear from rotating pipe and fittings. Stop the machine before wiping threads or screwing on fittings. Allow the machine to come to a complete stop before touching the pipe or machine chucks to prevent entanglement and serious injury.
- Tighten the chuck hand-wheel and engage the rear centering device on the pipe before turning on the machine to prevent oscillation of the pipe.
- Do not use this machine to "make-on" or "break-off" fittings. This practice is not an intended use of this threading machine.
- Only trained and authorized personnel may use the pipe threader.

Pin Router

- Keep the shop floor area surrounding the table router clear of wood shavings and other slip or trip hazards and ensure the area is well-lit.
- Do not wear loose clothing such as long sleeve shirts, gloves, or jewelry while operating a pin or table router. Confine long hair with a cap or hair net.
- Keep the bit guard in place at all times while using this machine.
- Turn the router off and wait for the bit to stop spinning before reaching into the area of the bit.
- Make sure bits are sharp and undamaged. Damaged bits can snap during use. Dull bits require more force to push the work piece, possibly causing the bit to break.
- Make sure the work piece is free of nails or other foreign objects. Cutting into nails or similar objects can cause the work piece to jump causing loss of control.
- Feed the work piece against the rotation of the bit. The bit rotates counter-clockwise as viewed from the top of the table. Feeding the work in the wrong direction will cause the work piece to climb up on the bit and may lead to loss of control during operation.
- Always guide the material with both hands to maintain firm control.
- Make sure the routing bit is up to full speed before applying it to the work piece to avoid seizing of the material or loss of control of that work piece.
- Never allow any part of your body to touch the router bit while it is in motion. Position hands by holding the work piece at its outer edge, clear of the bit area and oriented so they can't suddenly slip into the bit area as steadying or supporting force is applied.
- Before first-use, inspect the jig's cleats, handle and frame for cracks, or sign of excessive wear or damage which could result in failure of the jig - leading to possible hand contact with the bit when force is applied. Do not exert hand force in the direction of the bit and avoid using excessive force on the jig. Use only enough force to guide the jig - allowing the bit do the work.

Machine Safe Guarding

- Avoid becoming distracted while using the router (talking to co-workers, momentarily looking away, etc.).
- The router must have a guarded foot switch. It should not be used if this guard is missing.
- At no time are foot pedal operating controls to be wedged, taped-down, or otherwise bypassed.
- If the router is not operating properly, immediately discontinue use and tag the equipment with a tag that reads: "Out of Order - Do Not Use".
- Only trained and authorized personnel may use the pin router.

Miter Saw

- Only employees have received this training and who are authorized to use the miter saw by their supervisor may do so.
- A major direct cause of injury with the miter saw occurs due to 'cross-arming' the saw. Cross-arming a miter saw refers to a situation where the material being cut is positioned on the same side as the hand used to operate the saw. For example, as you face the saw, if you positioned the material to the left side of the blade and proceeded to lower the saw's armature using your left hand, but reached into the point of operation to retrieve the piece with your right hand, then you would be essentially crossing your arms during use of the saw. This sets you up for your right hand to make possible contact with the still-exposed spinning blade when the saw remains in the semi-lowered position with the guard retracted.
- The second major cause of injury with the miter saw occurs when a long piece of material is not fully supported and 'tips' up during your attempt to make the cut. This is why free-hand cuts are not permitted at any time. The material must remain against the fence during the cut. If your positioning hand remains on the material while it tips or moves, this could force that hand upward into the still-spinning and exposed blade (particularly with open-faced types of guarding). A material stand or longer fence is needed for longer materials. Remember that, even with a blade brake, the blade still has momentum and will keep spinning - even after you release the trigger. The blade should be brought up to full speed before making contact with the material for a smooth cut that will be less likely to cause the material to move or tip.
- Another major direct cause of injury is where the fingers or thumb of the positioning hand are oriented toward the blade instead of toward the fence. This situation is even more dangerous if your hand force is applied downward or toward the blade instead of toward the fence. The positioning hand on the material should remain well-clear of the blade area during the cut in case the material suddenly jogs or moves. Knots, sap and changes in thickness or varied angle can make material prone to sudden movement. The length of the fence should be sufficient to allow you to keep your positioning hand well-clear of the blade at all times. Stands and clamps can also be used to support and hold longer material.
- Employees are never to remove, wedge, tie, tape or otherwise hold the guard back with their hand to make a cut on the miter saw. If the piece is too large, such that it makes contact with the guard, do not make the cut using this saw.
- The trigger, guard retraction and armature should spring back into position (without bouncing or misalignment) after being released. If these parts show signs of misalignment, weakening spring, or 'hanging-up' or sticking into position without retracting, discontinue using the saw and notify your supervisor of such conditions immediately.
- The miter saw should remain anchored to a bench or stand at all times during use to prevent any movement or tipping. Saw stands that are not mobile (i.e., on wheels) must be anchored to the shop floor before use is permitted. Full-length gloves should not be worn during use of the miter saw.
- Two major contributing causes of injury with this saw include taking your eye off the saw blade while reaching in to remove the material or off-fall at the same time you are distracted, and excessive pace that leads to reaching into the saw's point of operation before the armature is fully-raised and the blade guard has fully retracted back into osition around the blade (see cross-arming above).

Machine Safe Guarding

Tile Saw

- Only employees who have undergone this training and who have been authorized by their supervisor may use the tile saw.
- Before initial use of the tile saw, operators must first review the operating manual of the tile saw so they are familiar with safety precautions unique to that particular model and type of saw.
- This wet saw must be plugged into a magnetic drop-out cord and then only into a GFCI-protected outlet. Its cord must have an undamaged ground pin with its plug. The saw is not intended to be operated for dry cutting. Never dry cut with blades designed for wet cutting.
- Never feed the tile into the blade faster than the blade can cut. Forcing the material into the blade can cause you to loose control of the tile material, and possibly result in injury to fingers or your hand from contact with the blade. The saw is only designed for single pieces of tile cutting at one time. Only tile material should be fed into this saw (the blade type and design of this saw does not permit safe cutting of other materials such as metal or wood).
- Make sure that the directional force of your fingers is to the side of, not directly into, the blade. Guide the material with steady pressure (versus excessive uncontrolled force that could lead to kickback, rise-up or instability of the tile material and possible injury to your fingers or hand).
- The fence must be used with this saw. No free cuts are permitted (including radius or curve cuts).
- The blade guard must remain in position at all times during use of the tile saw. Make sure the blade area is clear of debris, adjusting tools and other objects before startup. Always inspect for damaged or misaligned saw parts before initial use. Never assume the saw is exactly the way you left it the last time you used it.
- Do not grind tile on the side of the blade.
- Never leave any saw running while unattended.
- The tile saw should be secured to a base or bench before cutting begins.
- Do not reach over the blade of this saw. Make sure loose apron or shirt material such as sleeves or shirt tails remain tucked or tied back during use of saws. No full-length glove use is permitted during use of saws.
- Work areas must remain clear (including free from trip/slip hazards) and well lighted.
- Operators should not make blade changes or modifications to this saw without specific authorization from a supervisor. These changes should otherwise be made only by maintenance personnel using the proper parts and correct installation procedures intended for this saw.

Band Saw

- Only employees who have undergone this training and who have been authorized by their supervisor may use the band saw.
- Directional feed of material should be directly into the blade (with hands to the side of the blade), not at an angle. Special care must be taken with smaller pieces or pieces with varying dimension or angle by adjusting hand force to avoid sudden release or instability of the material. Use a guide, block or jig for smaller pieces to avoid hand placement close to the blade.
- Never allow yourself to become distracted while using this saw (such as conversation with others, momentarily looking up to speak with someone, or to remove all-fall material). Keep your eyes on the blade area at all times during the cut.

Machine Safe Guarding

- Band saw must be anchored to the shop floor or a work bench to prevent instability or movement of the saw during operation. It must be directly plugged into a magnetic drop-out cord. Its cord must have an undamaged ground pin with its plug. Lockout procedures must remain posted at this saw and followed at all times before repairs or adjustments are made requiring removal of guards. Never leave any saw running while unattended.
- Never feed the material into the blade faster than the blade can cut. Forcing the material into the blade can cause you to loose control of the material, and possibly result in injury to fingers or your hand from contact with the blade. The saw is only designed for single piece cutting at one time. Only material posted at the saw or indicated by your supervisor should be fed into this saw. The blade type and design of this saw may not permit safe cutting of other materials such as certain types of metal. Check with your supervisor before cutting materials other than wood.
- Make sure that the directional force of your fingers is to the side of, not directly into, the blade. Guide the material with steady pressure (versus excessive uncontrolled force that could lead to kickback, rise-up or instability of the material and possible injury to your fingers or hand).
- Any adjustable horizontal working surface of a band saw must be secured before starting any cut on a band saw. The floor area surrounding the band saw must be free of trip or slip hazards such as blocks of wood, excess dust, cords and hoses, etc. Longer material must be supported at all times to prevent tipping or instability.
- The blade guard must remain in the lowered position to within 1/2 inch of the material at all times during use of this type of saw. Make sure the blade area is clear of debris, adjusting tools and other objects before startup. When cutting is completed, the guard should be fully lowered to the table so the next operator has to adjust it within 1/2 inch to their material.
- Always inspect for blade or guard damaged or misaligned parts before initial use. Never assume the saw is exactly the way you left it the last time you used it. The guard must fully enclose all parts of the drive system such as drive belts and wheels.
- Do not reach over, around or past the blade of this saw. Make sure loose apron or shirt material such as sleeves or shirt tails remain tucked or tied back during use of saws. No full-length glove use is permitted during use of saws.
- Work areas must remain clear of other machinery, racks or other objects that create congestion while handling large or long material, and well lighted.

Mud Mixer

- The mixer is never to be operated (with movement of the paddles) without its top grate in place. Where the mixer is equipped with a whisker-sensor on the lid (instead of a top grate), designed to interrupt operation of the paddles whenever the lid is raised, the operator is to immediately discontinue use of the machine, tag it 'Out of Order - Do Not Use', and report to their supervisor any failure of that sensor, defect in the on/off control switch, or any other mechanical defect with this mixer.
- Employees shall never place their hand inside the mixer tank unless the controls are placed in the 'off' position and the power to the mixer is locked out (i.e., the power source is disconnected so the mixer is isolated from any air or electric power source). This includes even momentary checking of the thickness or texture of the mixing material, clearing jams or retrieving items dropped into the mixer. If preferred, an extended hand tool may be used for this purpose (with the power off) without having to lockout the machine. Relieve all hydraulic pressure before servicing the mixer. The mixer's rotating paddles operate close to the inside periphery of the mixing tank - creating danger from pinch points or entanglement. Even momentary contact with this mixer's rotating paddles can cause severe injury to fingers, the hand and/or the arm.

Machine Safe Guarding

- Only personnel who have undergone this documented training, reviewed the Desco operating manual, and received authorization from management are to operate this machine.
- Operators are not to perform maintenance on the mixing machine without specific authorization to do so from management.
- Lockout procedures are to remain posted at the machine for use by the operator or maintenance personnel. Power interlocks or knife switches, if not in the immediate vicinity of the mixer machine, must be labeled as to the equipment they control.
- The chain drive, and any rotating drive shafts on the exterior of the mixer must remain covered at all times to ensure no hair, clothing or other objects can become caught.
- Operators should not wear loose, baggy or dangling clothing items such as loose long shirt sleeves or tails, baggy pant legs, dangling jewelry, watches or long hair that could become caught in any of the moving parts of the mixer.
- The on/off controls to the mixer must be in working order and accessible to the operator. At no time are any operating controls to be wedged, taped-down, or otherwise bypassed. The mixer must have a magnetic disconnect feature to prevent automatic startup following a power failure. The receptacle must be GFCI protected since the mixer operates in a wet or damp location.
- Operators are not to stand on buckets or stacked items to gain additional height while working around the mixer in order to avoid the potential for loss of balance near its moving parts. The area should be kept free of trip hazards for the same reason.
- Again, if the mixer is not operating properly for any reason, immediately discontinue use, tag the equipment with a tag that reads: "Out of Order - Do Not Use", and notify the supervisor.

Safety Talk

Machine Safeguard Training Acknowledgement

Training Date: ____/____/_____

Training Was Provided Today On The Fixed Equipment Checked Below:

- ☐ Gang Nailer
- ☐ Onsrud Shear
- ☐ Drill Press
- ☐ Bench & Pedestal Grinder
- ☐ Pipe Threader
- ☐ Pin Router
- ☐ Belt Sander
- ☐ Belt Conveyor
- ☐ Trash Compactor/Baler
- ☐ Cathedral Saw
- ☐ Miter Saw
- ☐ Band Saw
- ☐ Tile Saw
- ☐ Mud Mixer

By my signature below, I acknowledge that I have received training on the items checked above and have had the opportunity to ask questions concerning safe use of fixed machinery in my work area.

Employee Name: _____ Employee Signature: _____

Trainer Signature: _____

Safety Talk

Machine Safeguarding Quizzes

True False

Gang Nailer

___ ___ 1. It is okay to wedge or tape-down the control buttons on the gang nail press if I keep my fingers or hands out of the press.

___ ___ 2. If the wood material in the gang nail press tips or moves suddenly, I should place my fingers or hand in the press to secure it.

___ ___ 3. The wood material I am placing in the press should be supported so it doesn't tip, slide or otherwise move.

___ ___ 4. The gang nail press is a multi-stroke press, meaning it will press the material several times each time I depress the control button.

___ ___ 5. It is okay to ask a co-worker to push the control buttons on the gang nail press while I hold the material in place.

___ ___ 6. I must always remain aware of the placement of my thumbs, fingers and hands, as well as the direction of any force applied when holding or placing the material so those body parts are not placed or slip into the press - possibly causing a serious crush or pinch injury.

Shear

___ ___ 1. The Onsrud shear must be guarded only where material is fed into it.

___ ___ 2. The guard on the shear may be removed as long as my hands are far enough away.

___ ___ 3. Guarding is required on the foot pedal controls of the shear press.

___ ___ 4. The rear portion of the shear must be closed off or guarded at all times.

___ ___ 5. The guard on the shear must remain within 1/2" to the work at all times.

Employee Signature: _____ Date: ____/____/_____

Supervisor/Manager: _____ Date: ____/____/_____

Machine Safeguarding Quizzes

True False

Drill Press

___ ___ 1. Only safety glasses are required when using the drill press.

___ ___ 2. I can wear a dangling chain around my neck using the drill press as long as I stand back..

___ ___ 3. Only after the hole is drilled can I immediately reach-in to retrieve the work piece.

___ ___ 4. I can have rolled-up sleeves using the drill press as long as the work piece is secured with a clamp or vise.

___ ___ 5. I must avoid becoming momentarily distracted while using the drill press.

Grinders

___ ___ 1. I can use a cracked grinding wheel as long as it is guarded and I have a face shield.

___ ___ 2. I am expected to stand to the side when starting up a grinder to help ensure nothing will be thrown toward me.

___ ___ 3. Tool rest must be secured to within 1/4" of the grinding wheel.

___ ___ 4. A tongue guard is not required if the peripheral guard is in place.

___ ___ 5. Loose hair or clothing, gloves or jewelry are items that are not permitted with grinder use.

Pipe Threader

___ ___ 1. Only trained and authorized personnel may use a pipe threader.

___ ___ 2. The foot switch for the pipe threader must have a guard over it at all times.

___ ___ 3. Small pieces of pipe can be on the shop floor as long as they are under the machine.

___ ___ 4. Oil on the shop floor around the pipe threader is an example of a slip hazard.

___ ___ 5. It is okay to wear gloves when using the pipe threader to keep your hands clean.

Employee Signature: _____ Date: ____/____/_____

Supervisor/Manager: _____ Date: ____/____/_____

Machine Safeguarding Quizzes

True False

Pin Router

___ ___ 1. As soon as I turn off the table router I can reach in and retrieve the work piece.

___ ___ 2. A dull pin router bit requires that I apply more force.

___ ___ 3. Hands should be positioned at the outer edge of the work piece rather than palm-down on the work piece to eliminate the risk of the hand slipping toward the spinning bit.

___ ___ 4. I should keep my eyes on the work piece in relation to the router bit and not become momentarily distracted, which could lead to injury.

___ ____ 5. Loose clothing such as unbuttoned sleeves, jewelry and long hair that is not confined are all examples of hazards when using high-speed machinery such as the pin router.

Miter Saw

___ ___ 1. Three major direct causes of injury with the miter saw include 'cross-arming' the saw tipping of longer unsupported material, and sudden movement of the material with the positioning hand held too close to the blade.

___ ___ 2. If my miter saw's guard or the saw armature 'hangs-up' without fully retracting, I am to stop using the saw and report the condition to my supervisor immediately.

___ ___ 3. Anyone can use the miter saw as long as they have received training from a more experienced co-worker.

___ ___ 4. Free-hand cuts made using a miter saw are okay as long as the material is held firmly.

___ ___ 5. I should never permit momentary distractions to cause me to take my eyes off the blade area when using the miter saw.

Employee Signature: _____ Date: ____/____/_____

Supervisor/Manager: _____ Date: ____/____/_____

Safety Talk

Machine Safeguarding Quizzes

True False

Tile Saw

___ ___ 1. Tile saws can be used to cut material other than tile.

___ ___ 2. The saw guard must be in place at all times during use of this saw.

___ ___ 3. The amount and direction of force used, and position of my hands in relation to the blade are keys to my safe use of this saw.

___ ___ 4. The operator must avoid forcing the material through the saw blade to avoid instability of the material and possible injury.

___ ___ 5. Only training and authorized personnel may operate this saw.

Band Saw

___ ___ 1. Full length glove use is a good idea when using the band saw because of possible splinters from wood material being cut.

___ ___ 2. The guard should be lowered to within one inch of the material on a band saw.

___ ___ 3. Anyone in the plant is allowed to operate a band saw.

___ ___ 4. When feeding material into the band saw, hand placement must remain to the side of the blade, not directly into the blade.

___ ___ 5. The guard should be raised up as high as possible while making the cut.

Employee Signature: _____ Date: ____/____/_____

Supervisor/Manager: _____ Date: ____/____/_____

Machine Safeguarding Quizzes

True False

Mud Mixer

___ ___ 1. Reaching a hand into the mixer drum in order to check the thickness of the material inside is not allowed unless I turn off the mixer and isolate its power source first.

___ ___ 2. The top grate is not required for operation of the mixer as long as the mixer has a cover or lid.

___ ___ 3. Anyone in the plant can operate the mixer.

___ ___ 4. The turning paddles inside the mixer are capable of causing severe injury to hands and arms that are placed in the mixer.

___ ___ 5. Operators must be familiar with methods to isolate the mixing machine from all power sources as listed in the lockout procedures posted.

___ ___ 6. A magnetic disconnect is required to ensure the machine will not startup automatically should the power fail and come back on.

Employee Signature: _____ Date: ____/____/_____

Supervisor/Manager: _____ Date: ____/____/_____

Safety Talk

Answer Key to Machine Safeguarding Quizzes

Gang Nailer

1. False — It is never okay to wedge or tape-down control buttons or pedals on any press.

2. False — Fingers and hands should never be placed in the press - even during sudden movement or instability of the wood material being fed into the gang nail press.

3. True — The material being fed into the press must be supported to prevent tipping, sudden movement or instability.

4. False — The gang nail press is a single-stroke, manually-fed press.

5. False — The press must not be activated with another employee's fingers or hands near the point of operation.

6. True — The press operator must remain conscious of their hand, thumb and finger placement and directional force being applied to prevent a serious crush injury.

Shear

1. False — The entire length of the shear must remain guarded at all times

2. False — The guard may not be removed from the shear during operation under any circumstances.

3. True — Guarding is required on the foot pedal controls of the shear.

4. True — The rear portion of the shear must remain guarded, blocked, or otherwise closed-off or from access by other persons.

5. True — The guard must remain within 1/2" of the work at all times.

Drill Press

1. False — Face shield is required during drill press operation.

2. False — No exposed jewelry is permitted during use of the drill press.

3. False — After the motion of the bit stops it is safe to reach-in to retrieve the piece.

4. False — Rolled-up sleeves may be caught in the bit and pull the hand or arm in.

5. True — Distractions such as conversation or even momentarily looking away can lead to serious injury. Turn off the press and ensure the bit has stopped spinning before conversing or looking away.

Answer Key to Machine Safeguarding Quizzes

Grinder

1. False — A cracked grinding wheel cannot be used on the grinder.
2. True — You should stand to the side when starting up the grinder.
3. False — The tool rest must be secured to within 1/8" of the grinding wheel surface.
4. False — A tongue guard is required and must be adjusted to within 1/4" of the grinding wheel surface.
5. True — These items are not permitted with grinder use since they may pull parts of the body into the moving equipment.

Pipe Threader

1. True — Only trained and authorized personnel may use this machine.
2. True — The foot switch must remain guarded.
3. False — Pipe pieces are not to be placed or dropped on the shop floor. A container, rack or pipe stand should be used instead.
4. True — Oil on the shop floor is an example of a slip hazard.
5. False — Gloves may not be worn by threading machine operators at any time.

Table Router

1. False — The operator should not reach-in until the bit stops completely.
2. True — The bit should be kept in a sharp condition to reduce the force necessary and risk of breaking the bit.
3. True — Hands should be positioned at the edge of the piece rather than flat against the piece to reduce the risk of the hand slipping in the direction of the bit when force is applied.
4. True — The operator should avoid becoming distracted or taking his eye off the routing task.
5. True — These are all examples of hazards associated with moving machinery such as a table router.

Safety Talk

Answer Key to Machine Safeguarding Quizzes

Miter Saw

1. True — These are the three major direct causes of injury using miter saws.
2. True — Misalignment, 'hung-up' or sticking guards or armature must be immediately reported.
3. False — Only employees who have taken this training and who have received authorization from a supervisor may operate a miter saw.
4. False — Free-hand cuts are not permitted at Skyline due to high risk of lost control of the piece.
5. True — Your eyes should be on the blade area at all times during saw use.

Tile Saw

1. False — The tile saw is designed for use with tile material only.
2. True — The guard must be in place over the blade during use of the saw.
3. True — Hand placement, and direction of hand force, are both keys to safe use of any power saw.
4. True — The operator must avoid forcing material through a saw blade to prevent instability of the material during the cut and possible injury from contact with the blade.
5. True — Only employees who have undergone this training and who have received authorization from their supervisor may use a saw.

Band Saw

1. False — Full length glove use is not permitted with saw use.
2. False — The guard should be lowered to within 1/2 inch of the material on a band saw.
3. False — Only trained and authorized personnel may operate a band saw.
4. True — When feeding material into the band saw, hand placement must remain to the side of the blade, not directly into the blade.
5. False — See #2 above.

Answer Key to Machine Safeguarding Quizzes

Mud Mixer

1. True — The mixer must be turned off and the mixer isolated from any power source before any part of the body is placed inside the mixing drum.

2. False — The grate is required to be in place at all times during operation of the mixing machine.

3. False — Only persons who have undergone this training and received management authorization may use this machine.

4. True — Severe injury could result from contact with the turning paddles inside this mixer.

5. True — Operators must be familiar with methods to isolate the mixer from power sources.

6. True — A magnetic disconnect feature is required on this machine to ensure it will not automatically startup following a power failure without the operator resetting the disconnect.

MAXIMUM ALLOWABLE DISTANCE OF THE FEED OPENING FROM THE HAZARD FOR GUARDED EQUIPMENT SUCH AS A SHEAR

For reference, the table to the right is taken from Subpart O of the OSHA Standard for machine safeguarding which shows the recommended openings in relation to the distance to the point of operation.

Options if a physical guard cannot be adjusted or installed include use of two-hand controls (such as those found on a gang nailer).

Distance of opening from point of operation hazard (inches)	Maximum width of opening (inches)
1/2 to 1-1/2	1/4
1-1/2 to 2-1/2	3/8
2-1/2 to 3-1/2	1/2
3-1/2 to 5-1/2	5/8
5-1/2 to 6-1/2	3/4
6-1/2 to 7-1/2	7/8
7-1/2 to 12-1/2	1-1/4
12-1/2 to 15-1/2	1-1/2
15-1/2 to 17-1/2	1-7/8
17-1/2 to 31-1/2	2-1/8