

Bauman Machine Inc.
Employee Guidelines for Shop Safety

Bauman Machine Inc. Health & Safety Policy

Bauman Machine Inc. is committed to providing a safe and healthy environment for the entire facility and to complying with all applicable Federal and State laws and regulations pertaining to occupational and environmental safety.

It is the responsibility of all Supervisors and employees to follow safe working practices, obey health and safety rules and regulations, and work in a way that protects their health and that of others, and does not harm to the environment.

Signed by Mark McCarty, President

It is each employee's responsibility to conduct tasks in a safe manner by complying with the following shop rules. These basic safety rules are for *your* benefit. In addition, you are required to comply with all other safety policies, rules, procedures and guidelines established by Bauman Machine Inc.

You may view this handbook in electronic format on the Bauman Machine Inc. Net Web site.

1. Go to <http://www.baumanmachine.com>
2. Under "Downloads" in the left-hand column, click on Icon.
3. Under "Policies" on the right-hand side, click on Safety Program.

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Introduction

A. Responsibilities of Personnel

This handbook provides minimum safety and health performance standards for employees to prevent injuries and unsafe acts. As an employee, you may be exposed to a wider variety of potential hazards. The key to preventing accidents is your own positive attitude. This handbook lays out safety and health rules and procedures for your particular job in an easy, quick-find format using understandable language. It is practical, but is not all-inclusive. It does not cover all safety conditions, but can make you aware of potential hazards or errors that have resulted in injuries in the past. Be advised that more detailed safety and health procedures can be found in equipment manuals, and supplemental local management rules and procedures. With your total cooperation and diligence to tasks at hand and working closely with your supervisor, we can continue to improve our safety program.

B. Reporting Unsafe Conditions or Acts

If you observe an unsafe condition or an unsafe act, report it immediately to your supervisor immediately.

SECTION I

General Safety Rules

Safety rules are established for your benefit. All employees must observe safe working practices and safety rules as a primary responsibility mandated by the Occupational Safety and Health Administration (OSHA) under Public Law 91-596, as amended by.

General safety rules include but are not limited to these listed below.

A. Your Personal Safety Standards

- If you need help, ask your Supervisor.
- Never use defective equipment or work in unsafe conditions. Always report any unsafe conditions and accidents in the shop to your Instructor or Shop Supervisor.
- Alert your Supervisor and get first aid immediately for any injury.
- Do not touch moving objects or any part of a machine that is moving (belts, pulleys, chucks, cutters, etc.)
- Do not lean against any machine.
- Clean the chips from a machine with a brush—not a rag or bare hands.
- Do not try to repair electrical parts or damages. Report them to the Instructor or Shop Supervisor.
- Never remove any lockout tags from power sources. Always check with your Supervisor when you find a lockout tag.
- Check electrical cords before you plug them in.
- Do not run over cords with dollies, carts or forklifts.
- Turn off the power before leaving a machine or tool.
- Never engage in horseplay, scuffling, or fighting on postal premises.
- Do not run. Running is an at-risk behavior that is prohibited under normal conditions.
- Observe and obey all facility rules, procedures, signs, and regulations.
- Never work under the influence of intoxicants or narcotics.
- Never bring or have in your possession contraband material such as firearms, dangerous weapons, fireworks, intoxicants, or narcotics on company premises.
- Never possess drugs on company premises unless a physician has prescribed the drugs for treatment of a specific ailment or disease, and you have notified the medical unit or your supervisor in advance. **If you are taking prescription drugs that impair physical or mental ability, do not drive, climb ladders, operate vehicles, or work on moving equipment.**
- Know your limitations. Do not attempt any activity that exceeds your physical limitations.
- Keep your work area clean, safe and healthful through proper maintenance and cleaning of property and equipment.
- **When you are in doubt about anything, ask your Supervisor.**

B. Operating Equipment, Machinery, and Tools

* Operate or maintain equipment only when authorized to perform the work.

* Never operate defective equipment. Tag the equipment as being “Locked Out” or “Do not Use” (tag), and remove it from service. Report the situation to your supervisor immediately.

* Do not operate equipment that is out of service.

* Never operate equipment or machinery unless guards are in place and all other safety devices (such as E-stops) are functioning.

1* Wear eye protection that is marked as meeting American National Standards Institute (ANSI) standard Z81.7 when you use compressed air or when the potential for eye injuries exists.

* Keep clearly labeled *stop* buttons in plain view and accessible, including emergency-stop buttons on power-driven equipment.

* Make sure your supervisor reviews and approves configuration changes that you propose to make to any building or equipment. Resolve safety discrepancies before implementing the changes.

* Make sure energy accumulation devices such as pneumatic lines, hydraulic lines, and capacitors are depleted to zero-energy status and locked out before repairs are started on the device.

* Using compressed air to blow dust, dirt, or debris off yourself or anyone else is extremely hazardous and not allowed.

C. Climbing, Lifting, and Maneuvering Operations

* Never climb onto or cross over machinery unless the system is locked out.

* Do not throw tools and equipment from one employee to another or drop them from one level to another. Transfer tools and equipment from hand-to-hand.

* Do not block aisles and emergency exits with equipment

— keep them open for emergencies and egress. Use designated traffic aisles when traveling within the facility. Do not take shortcuts through work areas.

SECTION II

Fire Prevention and Protection

Fire prevention is the correction of unsafe practices or conditions that could result in a fire. Every fire is ignited through a combination of heat, fuel, and oxygen. In most cases, a human act or omission creates a fire. Below are some recommended procedures to reduce unsafe practices and conditions.

A. Reporting Fire Hazards

* Immediately report all suspected fire hazards to your supervisor.

B. Emergency Evacuations

* Be familiar with your floor plan and know the location of and how to use fire extinguishers and fire exits.

* Be familiar with and know how to use your local emergency phone numbers, including 911, if available, as well as fire department, police department, hospitals, and ambulance services numbers

* Be familiar with the emergency evacuation system. If the alarm is announce, follow the directions of the assigned supervisors and go directly to your designated assembly area.

C. Fires in Your Work Area

No disruptive action or unnecessary talking is allowed during a fire evacuation so that instructions and directions can be heard and understood by everyone. A first-stage (incipient stage) fire is one that can be controlled using a portable fire extinguisher.

* In case of fire, sound your local alarm first. Take all other required steps to report the fire to fellow employees and the fire department.

* If you have any doubt about your ability to extinguish the fire, leave the area immediately.

* Only if you have received training on how to use fire extinguishers and can use them safely, should you attempt to put out only incipient stage fires.

* Do not fight fires involving electrical transformers because they may contain carcinogenic substances called polychlorinated biphenyls (PCBs).

D. Fire-Fighting Equipment

* Fire hoses, hydrants, are to be used by municipal fire departments for fire-fighting purposes only and not for any other purpose.

* Passageways leading to fire exits or fire-extinguishing equipment must be kept accessible at all times.

* Report the location of used or damaged fire extinguishers to your supervisor immediately.

E. Flammable Materials

* Store flammable and combustible liquids or solvents (up to 5 gallons) *only* in approved safety cans.

* Properly label the contents of safety cans and store them in designated areas.

* Dispose of oily rags or other flammable waste in metal containers.

* Gases or vapors escaping from the contents of damaged parcels may be flammable or toxic. Follow the guidance found in Material Safety Data Sheets (MSDSs) for handling spills and leaks of specific products and chemicals.

* Static electricity can cause sparks that can start a fire. To prevent fires in portable gasoline containers, place them on the ground and fill them keeping the nozzle in contact with the container at the inlet during fuel transfer.

F. Smoking

* Smoking is not permitted in office, break rooms, welding area, bathrooms, storage buildings, tool room or storage rooms.

* Smoking is not permitted within 25 feet of the diesel Tank, LPG Storage area, or any posted NO SMOKING Sign, and oil storage tanks, spray paint operations, or other operations involving flammable liquids or gases.

G. Hot Work

Hot work (e.g., cutting, welding using electric arcs or oxy-fuel gas flames, chipping, or grinding) presents a potential for fire and explosion danger.

* Do not perform hot work in the following areas:

- In an explosive atmosphere, such as flammable gases, vapors, liquids, or ignitable dusts.
- Within 50 feet or less of exposed, readily ignitable material.

SECTION III

Office

A. Observing Office Safety Standards

* To eliminate tripping or tipping hazards or injuries when operating drawers, doors, cabinets, and equipment, follow these safety procedures:

- Keep drawers and doors closed in desks and file cabinets when not in use.
 - Open drawers of file cabinets slowly, standing to one side.
 - Close one file drawer before opening another.
 - Do not operate or attempt to repair office equipment or machinery unless authorized.
 - Maintain the guards that cover moving parts on office equipment to prevent snagging clothing, hair, or fingers.
 - Keep paper cutters in a closed, locked position when not in use.
 - Exercise care when you use and store sharp or pointed instruments, such as a letter opener, scissors, pencil, or other similar objects.
 - Adjust the video display terminal, keyboard, mouse, chair, and other equipment for maximum comfort.
- * Handle cleaning fluids with care because they may be toxic, flammable, or both.

B. Clearing Obstructions

* Keep all aisles clear of tripping hazards (e.g., wastebaskets, electrical cords, boxes, and trash).

* Keep floors dry. Spilled water or liquids on the floor, immediately wipe it dry to eliminate potential slipping hazards.

C. Climbing

* When climbing, use a step stool or ladder. Do not climb onto chairs or other office furniture.

D. Lifting

* Use your legs instead of your back when lifting.

* Ask for assistance when the object is too heavy, is awkwardly shaped, or blocks your view when you carry it.

SECTION IV

Occupational First Aid

A. Reporting Injuries or Illnesses and Getting Treatment

Bauman Machine's primary concern is that you receive proper treatment for an injury as soon as possible. The rules and procedures listed below are intended to protect you if you are injured on the job. The lack of prompt attention to even slight injuries could lead to more serious complications.

* If you are injured or become ill from work-related causes, you must report the problem immediately to your supervisor, even if it seems minor.

* Never move a seriously injured employee, unless by remaining in the area he or she is in danger of further injury.

B. Eye Injuries

* Do not permit a fellow employee to attempt to remove a foreign object from his or her eye.

* Have all eye injuries, yours and others, treated immediately by professional medical personnel.

* If corrosive liquids such as acids or other irritants splash in your eyes, flush them for 15 minutes thoroughly with clear, cold running water. You may need help to hold your eyes open. Seek assistance immediately.

SECTION V

Good Housekeeping

A neat, orderly workplace is a safer and more efficient place. This section specifies rules for maintaining a clean workplace. Keeping your immediate work area clean is your personal responsibility.

A. Personal Items

* Eat and store food and beverages only in authorized areas. Do not store or consume them in rest rooms, shops, or where chemicals are stored.

B. Obstacles

* Keep aisles, passageways, stairways, exits, and walking areas free from obstructions at all times.
* Make sure electrical panels, switches, fire-fighting equipment, emergency exit doors, are kept clear of obstructions.

C. Spills and Leaks

* If you suspect that a spilled substance is potentially hazardous or is releasing vapors, evacuate the area immediately, notify your supervisor.
* If the spilled substance is flammable, take every precaution to avoid possible ignition of the substance.
* Do not use electrical equipment around a flammable spill. These actions could ignite the flammable substance.
* If an incidental spill of a known substance occurs clean it up immediately.

D. Work Areas

* Follow manufacturer's instructions and warnings regarding materials, supplies, and equipment.
* Clean up scraps, dirt, or other refuse at day's end.
* Keep floor dry or use absorbant pads on all wet floor areas.
* Never mix cleaning compounds. The chemicals used in them, such as ammonia and chlorine, when combined, can form toxic or explosive mixtures.

SECTION VI

Personal Safety and Protective Equipment

Personal safety requires you to use good judgment and common sense. Personal protective equipment (PPE) is required and supplied by the Bauman Machine Inc. for the jobs or tasks that you perform. If you have questions about PPE, see your supervisor. When handling chemicals, refer to the Material Safety Data Sheet (MSDS) for recommended PPE.

A. Personal Safety

1. Clothing

* Wear sensible, properly fitting clothing to work. Oversized clothing, wide-flared pants, full dresses or skirts, full or flared sleeves on shirts or blouses, loose aprons, and similar clothing can be hazardous and are not acceptable when working with machinery, vehicles or moving equipment.

2. Jewelry

* Do not wear jewelry such as necklaces, neck chains, pins, dangling earrings, bracelets, watches, watch chains, or rings around moving machinery or exposed electrical circuits.

3. Hair

* If your hairstyle restricts either your forward or peripheral vision, or if your hair can become entangled in moving machinery or equipment, it must be tied back or otherwise confined.

4. Footwear

* At all times, wear appropriate footwear that is fully enclosed at the heel, toe, and sides and is made of leather or a substantial synthetic material (canvas or nylon is not acceptable).
— Open shoes (including those with open sides, toes, or heels) such as thongs, sandals, mules, house slippers, clogs, or wedgies are not allowed.

B. Personal Protective Equipment

1. Eye and Face Protection

* Wear eye and face protection clearly marked as meeting the American National Standards Institute, ANSI Z87.1, standard when working in areas where hazards exist that could cause eye injuries.
* Prescription safety-glasses with side shields must be worn where work hazards exist that could cause eye injuries.
* Safety goggles or face shields are mandatory for the following activities:
— Handling or pouring acid or other corrosive chemicals.
— Drilling, soldering, grinding, chipping, or using an emery wheel.
— Using compressed air.
— Breaking concrete or other material that could cause flying objects and debris.
— Performing overhead tasks that pose possible eye injuries due to falling debris.

- * Never look at or in the direction of a welding arc without appropriate eye protection because doing so can cause painful damage to your eyes.
- * Wear proper eye protection of the correct shade when observing or performing welding operations. Use appropriate shielding against arc flashes to protect eyes of other employees.

2. Hand Protection

Cuts, scrapes, and other hand injuries can be avoided through proper hand protection such as gloves.

- * If there is a possibility of hand injury, such as when handling corrosive or contaminated objects, wear proper gloves. If unsure of the appropriate glove for the task, ask your supervisor for assistance.

- * Do not wear gauntlet gloves around moving equipment.

- * Protective hand cream and lotion are not considered PPE by OSHA definition. Although they offer some protection from exposure to oil, grease, chemicals, or corrosive or irritating cleaning compounds, they are not a substitute for proper PPE.

3. Hearing Protection

If noise levels on your job exceed 85 decibels for the full 8-hour period, Safety and Health personnel will provide a selection of approved hearing protection devices and assist you with their fit and care.

- * You may be required to wear hearing protection if noise levels cannot be controlled to below OSHA limits.

- * Do not use radio headsets as a substitute for approved hearing protectors in areas where hearing protection is required.

- * You may request and be provided with hearing protection regardless of noise level if you experience discomfort.

SECTION VII

Lifting and Material Handling

A. Lifting Techniques

Lifting is so integral to our everyday activities that most of us do not think about it, but it is often done incorrectly. Lifting is the single most at-risk behavior and can directly cause injuries such as strains, pulled muscles, disc lesions, and painful hernias. Before lifting anything, check the immediate area and route of travel to be sure that no obstruction or hazard can cause a slip, trip, fall, or striking-against accident.

- * If you determine that there is a possibility of hand injury, wear proper gloves.

- * Assess the load. If it appears to be too heavy or bulky to lift comfortably, ask for assistance.

- * Take care to use the following simple techniques for proper lifting:

— Place one foot alongside the object being lifted and one behind it. This gives you greater stability and your rear foot can provide a better upward thrust.

— Use a sit-down position and keep your back in a straight line.

— Tuck in your chin so your neck and head are in a straight line with your back.

— A palm grip is one of the most important elements of correct lifting. Keep your fingers and hands extended around the object you are going to lift, using your full palm.

— When your arms are held away from your body, they lose much of their strength and power. Keep the load you are lifting drawn close against your body. Tuck your arms and elbows against your side to keep the body weight centered.

— Position your body with your weight centered over your feet. This provides a more powerful line of thrust and ensures better balance. Start the lift with a thrust of your rear foot.

— Avoid twisting during lifting. By simply turning your forward foot out and pointing it in the direction you are moving, you will avoid this most common and greatest danger of injury.

- * Do not fight to recover a dropping object or lost load. Get out of its way and let it fall.

- * Do not suddenly lift or release loads. These actions can cause stress to the spine and back muscles.

Always lift, move, and lower with smooth motions.

B. Material-Handling or Hoisting and Rigging Equipment

You must be knowledgeable in hoisting and rigging techniques before performing these activities.

- * Before using them, inspect ropes, chains, cables, slings, jacks, skids, slings, straps, and other hoisting and rigging apparatus for defects or modifications. Additionally inspect ropes, chains, and cables for illegal splicing, frayed parts, or worn and stretched portions.

- * Remove from service all damaged or defective material-handling equipment or components. Report them to your supervisor.

- * Never lift a load and leave it suspended or unattended.

- * Do not exceed the lifting capacity of hoisting devices for any reason.

SECTION VIII

Ladders

Climbing or standing on crates, boxes, tables, swivel chairs, or other makeshift devices to reach high places can cause falls and serious injury and is strictly prohibited.

Information involving the use and maintenance of ladders is listed below.

A. General

- * Wear appropriate PPE when using a ladder.
- * Do not paint ladders as this may hide defects.

B. Selection

- * Use the correct size ladder for the job.
 - Straight or extension ladders should not be climbed above the third rung from the top.
 - Ordinary stepladders should not be climbed above the second tread from the top.
- * Before use, inspect for defects or unsafe conditions such as loose rungs, weak treads, or broken, bent, or stuck fittings.
- * Use approved safety feet on all straight and extension ladders.

Never use makeshift arrangements in place of approved ladders.

C. Placement

- * Set ladder feet about 1/4 of the ladder length away from the wall that the ladder is leaning against.
- * Extend ladders at least 3 feet above the surface to be accessed such as rooftops.
- * Place ladders on solid floors and ground only. When using ladders on fixed platforms or catwalks, additional measures must be taken to ensure your safety.

Never increase ladder height by placing it on the top of an elevated object.

- * Tie a ladder securely in position or station an employee at its base to steady it.

D. Use

Only one person at a time may be supported by a straight, extension, or stepladder.

Ladders 18 feet or more in length should be carried by two people.

- * When going up or down a ladder, use each rung, face the ladder, and use both hands for climbing. Before climbing or descending, footwear should be free of grease, mud, or other slippery substances.

Never do any of the following activities when using ladders:

- Never climb ladders while carrying materials. The materials must be pulled up with a rope securely attached or in a container.
- Never use metal ladders when working on or within contact range of electrical panels or circuits or when changing fluorescent tubes
- Never use ladders in a horizontal position for runways or as scaffolds.
- Never use stepladders as straight ladders.
- Never place ladders in front of doors opening toward the ladder unless the door is blocked open, locked, or guarded.
- Never place ladders against windows.
- Never leave tools or materials lying on ladder steps or on top of stepladders.

SECTION IX

Motor Vehicle Operations

Vehicle accidents can be a source of serious personal injury for employees who drive in their regular duties or for specific job assignments. Defensive driving, a driver's desire and ability to control accidents, is the best way to prevent vehicle accidents. You are expected to drive all company vehicles in a dependable, efficient, safe, and courteous manner. When driving, you are responsible for motor vehicle safety and for following all safety requirements.

A. Licenses

Only authorized personnel can operate company owned vehicles.

You must have in your possession a valid state driver's license when operating a company owned vehicle.

- * Inform your supervisor immediately if your state driver's license is revoked or suspended.

B. Civil Laws

- * Obey all state and local vehicle codes when driving any company vehicle.
- * Police citations for traffic violations are your personal responsibility, are charged to your driving record, and can affect your personal insurance rates.
- * Promptly report to your supervisor all traffic violations committed while on duty.

1. Safety Belts

- * You and all passengers must wear safety belts at all times the vehicle is in motion.

2. Fueling

- * Shut off the motor before refueling.
- * Know where the emergency shut-off switch for the fuel pump is located.
- * Do not smoke within 25 feet of gasoline pumps or gas.
- * Be sure the nozzle of the pump hose touches the edge of the vehicle gas tank to avoid static sparking.

* Make sure that static electricity does not cause sparks that can start a fire. To prevent fires in portable gasoline containers, place them on the ground and fill them keeping the nozzle in contact with the container at the inlet during fuel transfer.

3. Engine Exhaust

The gas released by internal combustion engines — carbon monoxide — is odorless, tasteless, colorless, and deadly. **Always make sure there is adequate ventilation for vehicles before you before you run a vehicle inside the building.**

SECTION X

Forklifts

You must be trained and authorized to operate Bauman Machine Inc's Forklifts. Operators are responsible for ensuring vehicle safety and following all safety requirements. Immediately report to your supervisor all accidents and property damage caused or done by Forklift.

A. Vehicle Regulations

* Inspect brakes, steering apparatus, horn, etc., each day prior to using.

B. Driving Regulations

1. Do not operate forklifts in a reckless manner; this is strictly prohibited.
2. Do not ride with any part of the body protruding from the powered industrial truck.
3. Make sure there is adequate clearance before proceeding under all overhead obstructions.
4. Face the direction toward which you are moving and be careful of rear-end swing when turning corners.

1. Speed

- * Drive trucks below 5 mph (that is, about the speed of a fast walk).
- * Approach all intersecting aisles and crossings slowly and cautiously. Sound the horn to inform pedestrians of your approach.
- * Keep at least 3 vehicle lengths behind other vehicles when traveling.

2 Backing Up

- * Check to be certain there is a clear path to the rear before backing.
- * Do not back through doorways, unless your field of vision is clear.

C. Work Practices

- * Use industrial lift trucks only for lifting and hauling loads. Do not use them as a means of personal transportation or for raising personnel to elevated locations, unless properly equipped and installed personnel platforms are used.
- * Lift, lower, and carry loads with industrial lift trucks with the lifting mechanism vertical or tilted back, but never tilted forward.
- * Keep forks on a moving lift truck low (just high enough to clear all floors and low enough to clear all overhead obstructions). Under normal conditions, 3 inches above floor level should be sufficient.
- * When approaching or leaving a building where the ramp incline is greater than 10 degrees, turn the lift truck so that the load is on the upgrade side and cannot slip off the forks.
- * Never use propane-powered equipment in poorly ventilated spaces.

D. Maintenance

- * Repair trucks only if you are authorized to do so. * Disconnect the batteries of in-plant powered trucks before performing corrective maintenance on them. Follow appropriate lockout procedures.
- * Do not get under a lift truck to do repairs unless it is properly held up by jack stands.

SECTION XI

Hand Tools

- * Carry hand tools safely and properly.
- * Store sharp-edged tools in a safe place.
- * Use only tools in good condition and only for their designed purposes and implement the following work practices:
 - Avoid unsafe practices such as the use of a wrench as a hammer or a screwdriver as a chisel.
 - Do not use tools with splintered, broken, rough, or loose handles.
 - Do not use any defective wrench that may be likely to slip. Examples include an open end or adjustable wrench with spread jaws or a pipe wrench with dull teeth.
 - Do not use impact tools, such as chisels, drills, hammers, and wedges that have mushroomed heads.
 - Never use a knife as a screwdriver.
 - Wear eye protection when using striking tools.

SECTION XII

Power Tools

A. Work Practices

- * Portable electric tools must use three-wire conductors and must be grounded, unless double-insulated and listed by Underwriters Laboratories (UL), Factory Mutual, or other recognized testing agencies.
- * All portable tools found not to be in proper working condition must be immediately removed from service and tagged as defective.
- * Wear eye and face PPEs.
- * Use the proper shield, fixture, adapter, or accessory suited for the application, as recommended or supplied by the manufacturer.
- * Required eye, face, and hearing protection is to be worn by operators, assistants, and other personnel nearby when the tool is in use.
- * Operate tools strictly in accordance with manufacturer's instructions.
- * Never use tools in an explosive or flammable atmosphere.

SECTION XIII

Machine Work

A. Work Practices

1. Personal

- * Do not use compressed air to blow dust, dirt, or other debris from clothing or the body.
- * Wear adequate eye protection, such as high-impact safety glasses with side protection, when operating shop machinery that could propel broken cutting tools, chips, or broken work.
- * Wear goggles or face shields for grinding and sanding because of the small-sized material being removed.
- * Wear hearing protection as appropriate.
- * When operating or observing machines within an arm's length, do not wear loose clothing, neckties, gloves, sweaters, rings, watches, bracelets, or other objects that could become entangled or could present an electrical contact hazard.
- * Protect long hair that could become entangled in moving parts.
- * Do not leave machines that are operating unattended.

2. Work Area

- * Do not leave tools on machines that may fall into moving parts.
- * Maintain floors around machines in nonslippery condition.
- * Do not attempt to wipe or clean work areas while machines are in motion.

3. Operational

- * Before starting machines with rotating chucks, check first to ensure that keys or drifts have been removed and the work is securely clamped.

These operations are prohibited:

- Do not manually gauge work while machines are running.
 - Do not hand brake machines.
 - Do not remove chips from a machine while it is in motion.
- * Never attempt to remove or install nuts on machine arbors or threaded work by using the power of the machine.
 - * All drives, pinch points, and points-of-operation on machine shop equipment must be guarded, and all guards must be securely in place while the machine is in motion.

A. Grinders

Grinding wheels or other abrasive-wheel machines must meet grinder's specifications and must not be notched or otherwise altered.

- * Never use grinders or other abrasive wheel machines lacking appropriate guards.
- * Remove from service all altered or damaged grinding wheels and give them to your supervisor.
- * Never grind on the side of the grinding wheel.
- * Grind soft metals such as aluminum only on wheels designed for those metals.
- * Do not adjust guards while the wheel is in motion and make sure guards have these characteristics:
 - To prevent the work from being jammed between the wheel and the rest, use work rests to support the work and adjust them to no more than 1/8 inch away from the wheel.
 - At the position that the operator stands in front of the abrasive wheel opening, ensure that tongue guards are provided and adjusted to not more than 1/4 inch away from the wheel.

SECTION XIV

Welding

Improper welding practices or unsafe equipment can result in serious injury and facility fires. The absence of particular advice on safe welding and other hot work in this handbook does not rule out your need to apply commonly accepted safe practices. When in doubt, contact your supervisor for additional safety precautions.

A. Training

* If you perform welding or cutting, you must be suitably trained in the following areas:

- Safe operation of equipment.
- Processes involved to perform tasks.
- Use of fire-extinguishing equipment.

B. Work Area

* Fire protection and fire-extinguishing equipment must be properly located at the worksite before welding, cutting, or brazing.

* Adequate ventilation must be provided while welding in small or poorly ventilated areas.

* If welding anywhere other than designated welding rooms, these precautions should be taken:

- Remove combustibles within a radius of at least 50 feet away from the job site, or cover them with flameproof covers or guards, or make them safe by other means.

C. Operation

* Use only approved apparatus such as torches, regulators or pressure-reducing valves, acetylene generators, and manifolds.

* Regulators must be equipped with a flashback arrestor.

* All portable electric welding units must have frame ground wires connected to ground before the machine is operated.

* Avoid contact with wet surfaces, ground wires, or metal objects when changing electrodes.

* All materials should be cooled or plainly marked "Hot" after the job is completed.

* Never use combustible materials to support the object being welded.

* Never burn or weld in the presence of flammable vapors, liquids, or ignitable dusts.

* Never burn or weld on lead-containing materials (LCM).

* Never weld, cut, braze, solder, or otherwise heat an empty container that previously contained flammable or explosive substances (such as gas tanks or oil drums) unless all substances and their latent fumes have been completely removed by decontamination.

D. Protective Equipment

1. Personal Protective Equipment

If you are exposed to hazards from welding, cutting, or brazing operations, you must be protected with PPE as follows:

* Make sure all clothing is free of grease and oil while welding or cutting.

* Make sure you wear adequate eye protection when within the protective curtain of welding operations.

* Wear appropriate goggles or helmets with proper shade-numbered colored lenses when gas welding or cutting.

* Wear welding helmets with the proper shade number when performing electrical arc welding.

* Wear adequate eye protection when chipping slag from the weld.

* Protect the whole body from drippings and slag especially when welding overhead.

* Use welding blankets, covers, and curtains when hazardous exposure warrants their use.

2. Welding Screens

* For everyone's protection in the work areas, welding screens must be in position when welding.

E. Compressed Gas Cylinders

1. Use

* If valves cannot be opened by hand, the gas cylinder supplier must be notified.

Never use a hammer or cheater bar to open or close cylinder valves.

* All cylinders with a water-weight capacity exceeding 30 pounds must be equipped with a means of connecting a valve-protection cap or with a collar or recess to protect the valve.

* Keep cylinders far enough away from actual welding or cutting operations so that sparks, hot slag, or flames cannot reach them.

* Never use the valve-protection caps on compressed cylinders for lifting cylinders from one vertical position to another.

* Under no condition will acetylene be generated, piped (except in approved cylinder manifolds), or used at a pressure in excess of 15 psi gauge pressure or 30 psi absolute pressure.

* Do not use oil or grease on cylinders or regulator connections.

- * Close all cylinder valves when work is finished and/or when cylinders are empty.
- * Keep cylinder valves closed at all times and the hose bled when the torch is not in use.

2. Storage

Compressed gas cylinders must be legibly marked with either the chemical or the trade name of the gas.

- * Report all unmarked cylinders to your supervisor immediately.
- * Store cylinders in definitely assigned and clearly identified places away from elevators, stairs, and walkways.
- * Store cylinders in a well-protected, well-ventilated, dry location and at least 20 feet from highly combustible materials.
- * Keep cylinders away from sources of heat.
- * Store all cylinders upright, capped, and secured to walls by chains or other sturdy nonflammable materials.
- * Mark empty cylinders, segregate them from full cylinders, and promptly return them to the supplier with the protection caps in place and valves closed.
- * Transport gas cylinders securely lashed upright with the valve covers in place.

SECTION XV

Hazardous Energy Control---Lockout/Tagout

Effective hazardous energy control procedures protect you during servicing and maintenance when an unexpected energization, startup, or release of stored energy could occur and cause injury. Working on or near exposed de-energized electrical conductors and parts of electrical equipment can also be a hazard. Hazards to be guarded against include (1) contacting live electrical circuits or parts and (2) being caught in, crushed by, struck by, or thrown from equipment.

There are no exceptions to the following procedures cited in OSHA Standard 1910.147.

A. Authorization and Responsibility

When locking out equipment, follow procedures listed in Bauman Machine Inc specific lockout/tagout program.

- * You must review the most recent specific energy control procedure usually found near the machine or equipment to be locked out.

B. Rules

Bauman Machine Inc. will provide adequate locks or other hardware meeting OSHA requirements. All machines and equipment must be locked out to protect against accidental or inadvertent operation when there is potential injury to personnel. Lockout also applies when anyone is working on or near exposed *de-energized* electrical circuits or parts. If you are authorized and affected by lockout, specific procedures must be available at all times to you.

- * You must not attempt to operate any switch, valve, or other energy isolating device that is locked out.
- * You are responsible for carrying an individually issued lock and lockout device at all times.
- * * Lockout devices must be applied so that they hold the energy isolating device (disconnect switch) in a *neutral* or *off* position.
- * Each lockout device must only be removed by the person who applied the device.
- * Prior to starting work, operate the pushbutton or normal operating controls to verify that the appropriate equipment has been de-energized and make certain it will not operate. Return operating controls to the *neutral* or *off* position after verification.
- * If a lockout procedure will extend into the following shift, you must remove your lock and immediately replace it with the personal lock of the employee on the next shift who will continue the work.

C. Lockout Precautions

Probably the most difficult mistake to overcome is the assumption that a job is too small for a lockout. Bypassing lockout procedures because they seem to be a nuisance can cost lives.

Always lock out machines and equipment when the job calls for it. You must protect yourself and your fellow workers from unnecessary risks.





- * Pulling fuses is no substitute for locking out — there is no guarantee that the circuit is dead or that someone cannot reactivate the circuit by replacing the fuse.
- * Pushbuttons, selector switches, and other circuit control devices are not energy isolating devices.
- * Locking out one source of power to machines or equipment may not be enough because many use a combination of energy sources — electrical and pneumatic, or steam and hydraulic. Be aware of auxiliary energy sources and determine that they have *zero energy state* potential.
- * Bleed air and hydraulic lines and lock out main valves using the appropriate lockout device.
- * Block or dissipate all stored or residual energy in flywheels, springs, or pneumatic or hydraulic systems.
- * Plugs and cords on portable units should be disconnected.
- * Do not assume that pumps, blowers, fans, and compressors that are intermittently operating are harmless when dormant or not functioning. Lock them out!

SECTION XVI

Hazard Communication/Right to Know

Employees have the legal right to know what hazards are presented by chemicals used in the work place. This information is provided in the form of Material Safety Data Sheets (MSDSs). MSDSs are contained in 3 ring binder located under the time clock. Employees who cannot find the MSDSs or have questions should contact their Supervisor. When employees receive MSDSs directly from manufacturers, they should turn it in directly to Tammi Noblitt.

Bauman Machine Inc. uses the following standard numeric and color rating system to identify the type and severity of hazards presented by a chemical:

RED		Flammability
BLUE		Health
YELLOW		Reactivity
WHITE		Special Consideration
0		No Hazard
1		Slight Hazard
2		Moderate Hazard
3		Severe Hazard
4		Extreme Hazard

Goals of Right to Know:

- To help reduce the risk involved in working with hazardous materials.
- To transmit vital information to employees about real and potential hazards of substances in the work place
- To reduce the incidence and cost of illness and injury resulting from hazardous substances
- To promote public employer's need and right to know
- To encourage a reduction in the volume and toxicity of hazardous substances

Hazardous Substance

A hazardous substance is any substance that is a physical hazard or a health hazard.

(a) "**Health Hazard**" means any chemical or biological substance or agent that is listed in the U.S. Occupational Safety and Health Administration's list of Toxic and Hazardous Substances, 29 CFR Part 1910, Subpart "Z," and any other substance including, but not limited to, chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hematopoietic system, and agents that damage the lungs, skin, eyes or mucous membranes, and any substance for which a Material Safety Data Sheet has been provided by the manufacturer as a hazardous material, or such substances deemed by the Commissioner, based on documented scientific evidence, that poses a threat to the health of an employee.

(b) "**Physical Hazard**" means a chemical that is a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive, and is contained in the U.S. Occupational Safety and Health Administration's list of Hazardous Materials, 29 CFR Part 1910, Subpart "H," and any substance for which a Material

Safety Data Sheet has been provided by the manufacturer as a hazardous material and/or based on documented scientific evidence that poses a threat to the safety of an employee.

Identifying Hazardous Substances

Every container of hazardous substance must bear a label showing the chemical name and/or the manufacturer's label. In addition, many containers will have pictorial labels suggesting the protective measures required in handling the substance.

Other labels and placards will utilize a numbering system of 0-4 to determine the seriousness or the hazard of the substance in the three categories of Health, Flammability, and Reactivity. In all cases, a 0 means the least threat while a rating of 4 means the greatest danger.

How to Determine Which Substances Are in Your Place

Discuss this topic with your supervisor and review the Chemical Information List (CIL). To determine the extent of the hazard of each substance on the CIL, or protective measures required in using the chemical, locate the Material Safety Data Sheet (MSDS) for each substance. The MSDS will provide an in-depth analysis of the substance along with all precautions necessary to handle the substance safely.

Chemical Information List/Material Safety Data Sheets

Chemical Information List (CIL) is the list of all hazardous substances in a specific location. Every substance on the CIL will have a Material Safety Data Sheet (MSDS) on file.

It is very important to know how to read and understand the MSDS. It is designed and written in sections:

Section I

Product Identification-(Chemical Name and Trade Names)

Section II

Hazardous Ingredients-(Components and Percentages)

Section III

Physical Data=(Boiling point, density, solubility in water, appearance, and color, etc.)

Section IV

Fire and Explosion Data

(Flash point, extinguisher media, special fire fighting procedures, and unusual fire and explosion hazards)

Section V

Health Hazard Data=(Exposure limits, effects of overexposure, emergency and first aid procedure)

Section VI

Reactivity Data-(Stability, condition to avoid, incompatible materials, etc.)

Section VII

Spill or Leak Procedures-(Steps to take to control and clean up spills and leaks and waste disposal methods)

Section VIII

Control Measures- (Respiratory protection, ventilation, protection for eyes or skin or other protective equipment)

Section IX

Special Precautions (How to handle and store, steps to take in a spill, disposal method, and other precautions)

Bauman Machine Inc. has a written Hazardous Communication program. The program is outlined in the front of each MSDS book, along with a complete Chemical Inventory List (CIL).