

An OSHA Handbook

Workplace



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AS A SMALL-BUSINESS OWNER, YOU ARE CHARACTERISTICALLY a risk taker. Each day, you match your business acumen against larger and better financed corporations, as well as against other self-employed, free-spirited individuals like yourself.

There is excitement and challenge in such a venture. To succeed, you need good information, the ability to be a good manager of people, and the intelligence and inner strength to make good decisions regarding the safety of yourself and your employees. Unfortunately, thousands of workers die each year, and many more suffer injury or illness from workplace conditions. How likely is it for your business to actually experience a work-related death, serious injury or illness? It is true that the odds are slim, and so many owners and managers do not understand why there is such concern around OSHA, job safety, health standards, inspections, citations, etc. However, the odds aren't

for Small Businesses

Safety Focus

non-existent, and each year some businesses will suffer the kind of losses we are talking about. Their owners and managers will tell you then it is too late to do anything once a serious accident has already happened, that prevention

is the only real way to avoid many losses. ♡

Reducing losses is a goal that owners and managers clearly share with OSHA. Though people may approach this goal differently, it remains our common

intent, and OSHA wants to work with you to ensure safe and healthful work practices. When you make job safety and health part of your everyday operations, you can't lose.

A 4-POINT PLAN

Each workplace is different. But while the details may vary, there are four basic elements that are always found in workplaces with a good accident prevention program.

1. The manager or management team leads the way by setting policy, assigning and supporting responsibility, setting an example and involving employees.
2. The worksite is continually analyzed to identify all hazards and potential hazards.
3. Methods for preventing or controlling existing or potential hazards are put in place and maintained.
4. Managers, supervisors and employees are trained to understand and deal with worksite hazards.

Regardless of the size of your busi-

Special Report

This two-part exploration of workplace health and safety comes from the Occupational Safety and Health Administration, whose mission is to prevent work-related injuries, illnesses and deaths. Find more resources and information online at www.osha.gov.

ness, you should use each of these elements to prevent workplace accidents and possible injuries and illnesses. Developing a workplace program following these four points should lead you to do all the things needed to protect your employees' and your own safety and health. If you already have a program, review it in relation to these elements to help improve what you have.

Follow this 4-point approach to safety and health protection in your business, and you should also see an improvement in efficiency. It may help you reduce insurance claims and other costs. While it does not guarantee compliance with OSHA standards, this approach will help you toward full compliance and is a way to document your best health and safety practices.

This approach is not usually very expensive. Especially in smaller businesses, it generally does not require additional employees. Usually, it can be integrated into other business functions with modest effort. The key to the success of this plan is to see it as a part of your business operation, reflected in all your work. As you continue, the program becomes an easy, built-in process that only needs periodic

checks and updates.

POINT ONE: MANAGEMENT COMMITMENT AND EMPLOYEE INVOLVEMENT

As an owner or manager, your attitude towards job safety and health will be reflected by your employees. If you are not interested in preventing employee injury and illness, nobody else is likely to be. At all times, demonstrate your personal concern for employee safety and health in the workplace. Your policy must be clearly set. Only you can show its importance through your own actions. Demonstrate the depth of your commitment by involving employees in planning and carrying out your efforts.

Consider forming a joint employee-management safety committee. This can help start a program and maintain interest in it. If you have few employees, consider rotating their participation on the committee so that all can play an active role.

As a small-business employer, you have inherent advantages: close contact with your employees, a specific acquaintance with the problems of the whole business, and usually a low worker turnover. You

have probably already developed a relationship of loyalty and cooperation that can be built upon. These advantages may not only increase your concern for your employees but also may make it easier to get their help.

Action Items:

- Post your own policy on the importance of worker safety and health next to the OSHA workplace poster where all employees can see it.
- Hold a meeting with all employees to communicate the policy to them and to discuss your objectives for safety and health for the rest of the year.
- Demonstrate support from the top by taking an active part in your safety and health program. For example, personally review all inspection and accident reports, and follow up.
- Ensure that all managers (you included) follow all safety requirements that employees must follow, even if you are only in their area briefly. For instance, be sure to wear a hard hat in any hard-hat area.
- Use your employees' special knowledge and help them buy into the program by having them make inspections,



OSHA REPORT ON HAND AND POWER TOOLS

COMMON SENSE IS YOUR BEST PROTECTION

The U.S. Department of Labor's Occupational Safety and Health Administration provides baseline safety information for all businesses that use hand and power tools. This excerpt from OSHA report #3080 provides the safety guidelines for most of the hand and power tools that are used in the contracting and installing workplace. Following these safety guidelines will help prevent accidents and costly (and painful) injuries, allowing for lower cost to the company both in lost work hours and workers' compensation. Many of these tips are common sense things that we often forget to do. That's why regular review is so helpful: It can help these common-sense safety rules become second nature.

5 BASIC TOOL RULES

These five basic safety rules can help prevent hazards associated with the use of hand and power tools:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use, and do not use damaged tools.
- Operate tools according to the manufacturers' instructions.
- Provide and properly use the right personal protective equipment.

Following these rules of thumb may save more than just your thumb when you're working with power tools.

Employees and employers should work together to establish safe working procedures. If a hazardous situation is encountered, it should be brought to the

attention of the proper individual for hazard abatement without delay. The following sections identify various types of hand and power tools and their potential hazards. They also identify ways to prevent worker injury through proper use of the tools and through the use of appropriate personal protective equipment.

HAND TOOL SAFETY

Hand tools are tools that are powered manually. Hand tools include everything from axes to wrenches. The greatest hazards posed by these tools result from misuse and improper maintenance. Appropriate personal protective equipment, such as safety goggles and gloves, must be worn to protect against hazards that may be encountered while using hand tools. Workplace floors should be

put on safety training or help investigate accidents.

- Make clear assignments of responsibility for every part of the program that you develop. Make certain everyone understands them. The more people involved, the better. A good rule of thumb is to assign safety and health responsibilities in the same way you assign production responsibilities: Make it part of everyone's job to work safely.

- Give those with responsibility enough people, time, training, money and authority to get the job done.

- Don't forget assignments after you make them. Recognize and reward those who do the assignments well, and correct those who don't.

- Take time to review what you have accomplished against what you set as your objectives, and decide if you need new objectives or program revisions to get where you want to be. Do this at least once each year.

POINT TWO: WORK-SITE ANALYSIS

It is your responsibility to know what's in your workplace that could hurt your workers. Worksite analysis is a group of processes that helps keep your workers safe. If you need help getting started with this

process, you can call your state consultation program. Also, OSHA publishes a booklet entitled *Job Hazard Analysis* that gives some good guidance.

Action Items:

- Request a visit from your state consultation program covering safety and health to get a full survey of the hazards that exist in your workplace and those that could develop. You can also contract these services from private consultants.

- Set up a way to get expert help when you make changes to ensure that the changes are not introducing new hazards into your workplace. Also, keep current on newly recognized hazards in your industry.

- Make it a periodical assignment, maybe to teams that include employees, to look carefully at each job, taking each apart step by step to see if there are any hidden hazards in the equipment or processes.

- Set up a system of checking to ensure that your hazard controls have not failed and that new hazards have not appeared. This is usually done by routine self-inspections. Your state consultant can assist.

- Provide an easy way for your employees to let you or another manager know when they notice or discover things that look harmful to them.

- Learn how to do a thorough investigation when things go wrong and someone gets sick or hurt. This will prevent recurrences.

- Take the time to look back over several years of injury or illness experience to identify patterns that can lead to further prevention. Thereafter, periodically look back over several months of experience to determine if any new patterns are developing.

POINT THREE: HAZARD PREVENTION AND CONTROL

Once you know what your business' hazards and potential hazards are, you are ready to put in place systems to prevent or control those hazards. Whenever possible, you will want to eliminate those hazards. When you cannot eliminate hazards, systems should be set up to control them.

Action Items:

- Set up safe work procedures based on hazard analysis, and make sure that each employee understands and follows the procedures. Involve employees in the analysis that results in these procedures.

- Be ready to enforce the rules for safe work procedures by asking your employees to help you set up a disciplinary system



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kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

Wrenches must not be used when jaws are sprung to the point that slippage occurs. Impact tools such as drift pins, wedges and chisels must be kept free of mushroomed heads. The wooden handles of tools must not be splintered. Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Spark-resistant tools made of non-ferrous materials should be used where flammable gases, highly volatile liquids and other explosive substances are stored or used.

Additional hand tool hazards include:

- The tip of a chisel used as a screwdriver may break and fly off, hitting the user or other employees.

- A loose, splintered or cracked wooden handle on a hammer or axe may allow the tool head to fly off and strike the user or other employees.

- Sprung wrench jaws may slip.

- If impact tools such as chisels, wedges or drift pins have mushroomed heads, the heads might shatter on impact, sending sharp fragments flying toward the user or others.

The employer is responsible for the safe condition of tools and equipment used by employees. Employers shall not issue or permit the use of unsafe hand tools. Employees should be trained in the proper use and handling of tools and equipment. When using saw blades, knives or other tools, employees should direct the tools away from aisle areas and away from others working nearby. Knives

and scissors must be sharp; dull tools cause more hazards than sharp ones. Cracked saw blades must be removed from service.

POWER TOOL SAFETY

Power tools must be fitted with guards and safety switches; they are extremely hazardous when used improperly. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, powder-actuated and hydraulic. To prevent hazards associated with the use of power tools, workers should observe the following general precautions:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat,

that will be fair and understood by everyone.

- Where necessary, provide personal protective equipment, and be sure your employees know why they need it, how to use it and how to maintain it.
- Provide for regular equipment maintenance to prevent breakdowns that can create hazards.
- Ensure that preventive and regular maintenance are tracked to completion.
- Plan for emergencies, including fire and natural disasters, and drill everyone frequently enough so that if the real thing happens, everyone will know what to do even under stressful conditions.
- Ask your state consultant to help you develop a medical program that fits your worksite and involves nearby doctors and emergency facilities. Invite these medical personnel to visit the business before emergencies occur and help you plan the best way to avoid injuries and illness during emergencies.
- Ensure the ready availability of medical personnel for advice and consultation on matters of employee health. This does not mean that you must provide health care. But if health problems develop in your workplace, you are expected to get medical help to treat them and their causes.

To Fulfill the Above Requirements, Consider the Following:

- You should have an emergency medical procedure for handling injuries, transporting ill or injured workers and notifying medical facilities with a minimum of confusion. Posting emergency numbers is a good idea.
- Survey the medical facilities near your place of business, and work with them as part of your plan. Cooperative agreements could possibly be made with nearby larger plants that have medical personnel or facilities onsite.
- Have a procedure for reporting injuries and illnesses that is understood by all employees.
- Consider performing routine walk-throughs of the worksite to identify hazards and track them until they are corrected.
- If your business is remote from medical facilities, you are required to ensure that adequately trained professionals are available to render first aid. Adequate first aid supplies must be readily available for emergency use. Arrangements for this training can be made through your local Red Cross, your insurance carrier, your local safety council and others.
- You should check battery-charging stations, maintenance operations, laborato-

ries, heating and ventilating operations, and any corrosive-materials areas to make sure you have the required eye washes and showers.

- Consider retaining a local doctor or an occupational health nurse on a part-time or as-used basis to advise you in your medical and first-aid planning.

POINT FOUR: TRAIN EMPLOYEES, SUPERVISORS AND MANAGERS

An effective accident prevention program requires proper job performance from everyone in the workplace. As an owner or manager, you must ensure that all employees know about the materials and equipment they work with, the inherent hazards, and what you are doing to control those hazards. No employee should undertake a job until he or she has received instructions on how to do it properly and has been authorized to do that job. Furthermore, no employee should undertake a job that appears unsafe.

You may be able to combine safety and health training with other training that you do, depending upon the potential and existing hazards.

Action Items:

- Ask your state consultant to recom-



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oil and sharp edges.

- Disconnect tools when not using them, before servicing and cleaning them, and when changing accessories such as blades, bits and cutters.
- Keep all non-workers at a safe distance from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Maintain tools with care. Keep them sharp and clean for best performance.
- Follow instructions in user's manuals for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance when operating power tools.
- Wear proper apparel for the task. Loose

clothing, ties and jewelry can become caught in moving parts.

- Remove all damaged portable electric tools from use and label them clearly: "Do Not Use."

GUARDS

The exposed moving parts of power tools need to be safe-guarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains and other reciprocating, rotating or moving parts of equipment must be guarded. Machine guards, as appropriate, must be provided to protect the operator and others from:

- Point of operation.
 - In-running nip points.
 - Rotating parts.
 - Flying chips and sparks.
- Safety guards must never be removed

when a tool is being used. Portable circular saws with blades larger than 2 inches in diameter must be fixed with guards at all times. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except where it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work material.

OPERATING CONTROLS & SWITCHES

The following handheld power tools must be equipped with a constant-pressure switch or control: drills; tappers; fastener drivers; horizontal, vertical and angle grinders with wheels more than 2 inches in diameter; disc sanders with discs greater than 2 inches *(continued on p. 56)*

mend training for your worksite. (The consultant may be able to do some of it.)

- Train and test your employees on every potential hazard they could be exposed to and how they can protect themselves.
- Pay particular attention to your new employees and to old employees who are moving to new jobs. Because they are learning new operations, they are more likely to get hurt.
- Make sure that you train supervisors on all the hazards that face their employees and how to reinforce training. Verify that everyone knows what is expected.
- Make sure that you and your top management staff understand all of your responsibilities and how to hold subordinate supervisory employees accountable for theirs.

DOCUMENT YOUR ACTIVITIES

Document your activities in all elements of the 4-point workplace program. Essential records, including those legally required for workers' compensation, insurance audits and government inspections must be maintained as long as

the actual need exists. Keeping records of your activities (such as policy statements, training sessions for management and employees, minutes from safety and health meetings, information distributed to employees, etc.) is greatly encouraged. Maintaining essential records also will aid:

- 1) The demonstration of sound business management as supporting proof for credit applications, for showing "good faith" in reducing any proposed penalties from OSHA inspections, for insurance audits and others; and
- 2) The efficient review of your current safety and health activities for better control of your operations and for planning improvements.

Safety and Health Record Keeping

Records of sales, costs, profits and losses are essential to all successful businesses. Records of accidents, injuries, illnesses and property losses can also be helpful. The sole purpose of OSHA record keeping is to store factual information about certain accidents that have happened.

When the facts have been determined, causes can often be identified, and control procedures can be instituted to prevent a similar occurrence from happening.

Injury and Illness Records. OSHA requires a minimum of injury and illness record keeping. The records provide one measure for evaluating the success of your safety and health activities. Success generally means a lack, or reduced number, of employee injuries or illnesses. There are five important steps required by the OSHA record-keeping system:

1. Obtain a report on every injury requiring medical treatment (other than first aid).
2. Record each injury on the OSHA Form No. 200.
3. Prepare a supplementary record of occupational injuries and illnesses for recordable cases either on OSHA Form No. 101 or on workers' compensation reports giving the same information.
4. Every year, prepare the annual summary (OSHA Form No. 200); post it no later than February 1, and keep it posted

Deep blue.



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until March 1. (Next to the OSHA workplace poster is a good place to post it.)

5. Retain these records for at least five years.

Note this important follow-up step: During the year you should periodically review the records to see where injuries are occurring. Look for any patterns. These records can help you to identify high-risk areas that need immediate attention.

Since the basic OSHA records include only injuries and illnesses, consider expanding your own system to include *all* incidents, including those where no injury or illness resulted, especially if you think such information would assist you in pinpointing unsafe conditions and procedures. Safety councils, insurance carriers and others can assist in instituting such a system.

Injury and illness record keeping makes sense, and OSHA recommends this practice to all employers. There are some limited exemptions for small-business employers with 10 or fewer employees. Other exemptions exist for businesses

that have certain SIC codes (specifics in Title 29 Code of Federal Regulations (CFR) 1904). The employer is required to report to OSHA all work-related accidents within eight hours of being notified of the accident.

Regardless of the number of employees you have or the SIC classification, you may be selected by the Federal Bureau of Labor Statistics or a related state agency for inclusion in an annual sample survey.

Exposure Records and Others. The injury and illness records may not be the only records you need to maintain. Certain OSHA standards that deal with toxic substances and hazardous exposures require records on the exposure of employees, physical examination reports, employment records, etc.

As you work on identifying hazards, you will be able to determine whether these requirements apply to your situation. If required, they should be used with your control procedures and with your self-inspection activity. They should not be considered mere bookkeeping.

YOUR ACTION PLAN: START NOW

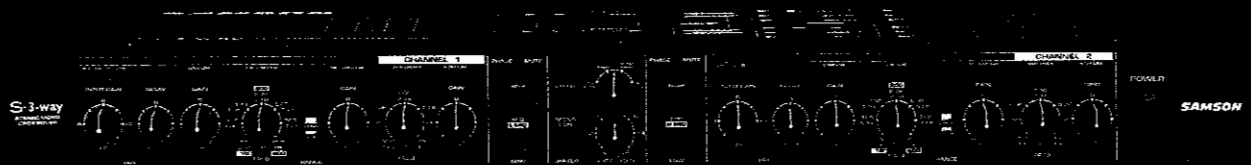
The time to start your safety and health program is now. Since you have a better picture of what constitutes a good safety and health program, you can now address the practical concerns of putting these elements together and devising a program to suit your workplace. This plan provides the most direct route for getting organized to complete your 4-point program.

You may have been taking notes for your own action plan as you went through the preceding description of the 4-point program. Now, decide exactly what you want to accomplish, and determine the necessary steps. Then, plan out how and when each step will be done and who will do it.

The plan should consider your company's immediate needs and provide for ongoing, long-term worker protection. Once your plan is designed, follow through and use it! You will then have a program to anticipate, identify and eliminate conditions or practices that could result in injuries and illnesses.

If you have difficulty deciding where to begin, remember that you can contact

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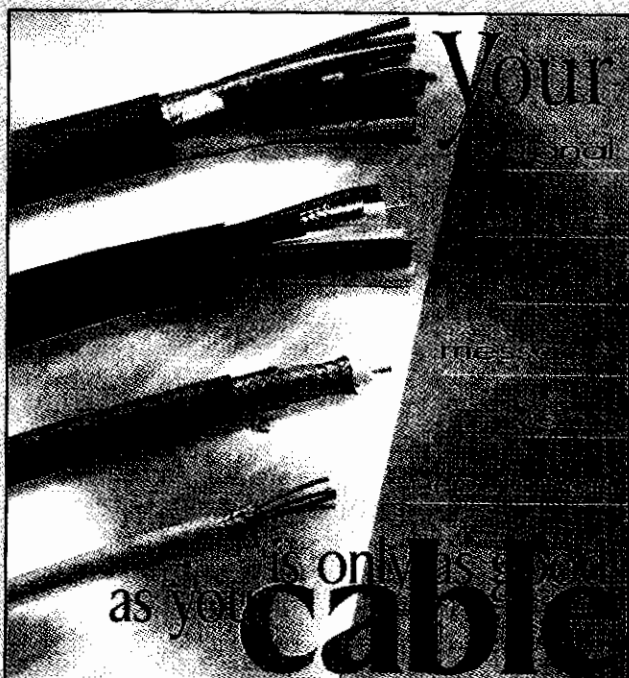
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your state consultation program for assistance. Whether you choose to work with a consultant or to develop a program yourself, there are publications available from the state consultation program and OSHA that give detailed steps to creating an effective safety and health program. Your reward will be a workplace with high levels of efficiency and productivity, and low levels of loss and injury.

DESIGNATING RESPONSIBILITY

You must decide who in your company is the most appropriate person to manage your safety and health program. Who can ensure that the program will become an integral part of the business? In many cases, it will be you. It could be the plant manager or a key supervisor. It could also be an engineer, personnel specialist or other staff member.

Whoever you choose should be committed to workplace safety and health. He or she should have the time to devote to developing and managing the program and be willing to take on the responsibility and accountability that goes with operating it effectively. The success of your program hinges on the individual's success and on your support. Remember that even when you appoint someone as your safety manager and delegate the authority to manage the program, the ultimate responsibility for safety and health in your workplace rests on you.

You or your designated health and safety manager will need to take (or be sure you have already taken) the following actions.

GET SOME HELP ON THE DETAILS

First, note all the changes made since the Occupational Safety and Health Act became law in December 1970. For example, the federal law contains provisions for allowing a state to develop and operate its own occupational safety and health program in place of the federal OSHA program. It is possible that the regulatory aspect of the law is now being operated by your state government. If you are not sure which level of government has current jurisdiction over your establishment, phone the nearest OSHA office to find out.

Second, you will need these federal OSHA publications (or comparable state publications):

OSHA Workplace Poster (Job Safety and Health Protection OSHA 2203). You must have the federal or state OSHA poster displayed in your workplace.

Standards that Apply to Your Operations. These are the regulations OSHA uses when inspecting for compliance. These standards are the baseline for your own inspections and are useful in determining what specific changes need to be made when hazards are identified. Most businesses come under OSHA's General Industry Standards, but if you are involved with construction or maritime operations, you will need the standards that apply to these classifications. (In states with OSHA programs, use the appropriate state standards.)

Record-Keeping Requirements and the Necessary Forms. You need these if you have 11 or more employees. These forms are not too different from other information forms you have been keeping for workers' compensation and other records.

Occupational Safety and Health Act. You may want this for your own information and reference in the future.

CLEAN UP YOUR PLACE OF BUSINESS

Poor housekeeping contributes to low morale and sloppy work in general, even if it is not usually the cause of major accidents.

Most safety action programs start with an intensive cleanup campaign.

Get rid of rubbish that has collected; make sure proper containers are provided; see that flammables are properly stored; make sure that exits are not blocked; if necessary, mark aisles and passageways; provide adequate lighting, etc. Get everyone involved.

START GATHERING FACTS ABOUT YOUR SITUATION

Before you make any changes in your safety and health operations, gather as much information as possible about the current workplace conditions and about business practices that are already part of your safety and health program. This information can help identify any workplace problems and see how to solve them. The assessment should be conducted by the person responsible for the safety and health program and/or a professional safety and health consultant. It consists of two major activities.

The first is a comprehensive safety and health survey of your entire facility, designed to identify any existing or potential hazards. It should include checking on the use of any hazardous materials, observing employee work habits and practices,

and discussing safety and health problems with employees.

The second major activity is an assessment of your existing safety and health program to identify areas that may be working well and those that may need improvement. You will want to gather together as much information as you can that relates to the safety and health management of your workplace.

You should include the following in this review:

- Safety and health activities. Examine current and previous company policy statements, rules (both work and safety), guidelines for proper work practices and procedures, and records of training programs.

- Equipment. Make a list of your major equipment, principal operations and the locations of each. Give special attention to inspection schedules, maintenance activities, and plant and office layouts.

- Employees' capabilities—Make an alphabetical list of all employees, showing the date they were hired, what their jobs are and what experience and training they have had. Special attention should be given to new employees and to employees with disabilities.

- Accident, injury and illness history.



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(continued from p. 50) in diameter; belt sanders; reciprocating saws; saber saws, scroll saws, and jigsaws with blade shanks greater than 1/4 inch wide; and other similar tools.

These tools also may be equipped with a lock-on control, if it also allows the worker to shut off the control in a single motion using the same finger or fingers. The following handheld power tools must be equipped with either a positive on/off control switch, a constant pressure switch, or a lock-on control: disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; platen sanders, routers, planers, laminate trimmers, nibblers, shears and scroll saws; and jigsaws, saber saws and scroll saws with blade shanks a nominal 1/4 inch or less in diameter. It is recommended that

the constant-pressure control switch be regarded as the preferred device over the lock-on control and release.

Other handheld power tools, such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools with no means of holding accessories securely, must be equipped with a constant-pressure switch that will shut off the power when the pressure is released.

ELECTRIC TOOLS

Employees using electric tools must be aware of several dangers. Burns and electrical shocks, which can lead to injuries or even heart failure, are among the most serious hazards associated with electric-powered tools. Under certain conditions, even a small amount of electric current

can result in fibrillation of the heart, and death. An electric shock also can cause the user to fall off of a ladder or other elevated work surface and be injured due to the fall.

To protect the user from shock and burns, electric tools must have a 3-wire cord with ground and be plugged into a grounded receptacle, be double insulated or be powered by a low-voltage isolation transformer. The 3-wire cords have two current-carrying conductors and a grounding conductor. Any time an adapter is used to accommodate a 2-hole receptacle, the adapter wire must be attached to a known ground. The third prong must never be removed from the plug. Double-insulated tools are available that provide protection against electrical shock without (continued on p. 59)

Examine your first-aid incidents, workers' compensation insurance payments, and workers' compensation awards, if any. Review any losses. Determine how your insurance rate compares with others in your group. Special attention should be given to recurring accidents and types of injuries, etc.

Look at the facts you have assembled to identify any major problem areas. Look for such things as interruptions in your normal operations, too many employees taking too much time off, or too many damaged products. Assistance in this kind of problem identification can often be obtained from compensation carriers, local safety councils, state agencies, major suppliers and even, perhaps, a competitor.

Once a problem is identified, you can work on the corrective action or a plan for controlling the problem. Take immediate action and make a record of what you do. However, don't become overly involved in looking for major problem areas during this fact-finding stage. Remember that no single hazardous situation causes all of your safety and health problems. Therefore, it is likely that no single action will greatly improve your safety and health program.

If you have found no major problems at this point, don't stop. Now it is time to develop a preventative, comprehensive safety and health program.

ESTABLISH YOUR 4-POINT SAFETY AND HEALTH PROGRAM

The success of any workplace safety and health program depends on careful planning. Take time to think through your goals. Then you can design a step-by-step process that will create your fully effective operation. Follow the 4-point program for best results:

Management Commitment and Employee Involvement. Establish your management commitment and involve your employees. No safety and health program will work, especially in the long term, without this commitment and involvement. You should have already taken the first step by designating the person who will be responsible for your program.

Be certain that your employees are as widely involved in the program as possible from the beginning. They are the people most in contact with the potential and actual hazards at your worksite. They will have constructive input for the development of your safety and health program.



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(continued from p. 56) third-wire grounding. On these double-insulated tools, an internal layer of protective insulation completely isolates the external housing of the tool.

The following general practices should be followed when using electric tools:

- Operate electric tools within their design limitations.
- Use gloves and appropriate safety footwear when using electric tools.
- Store electric tools in a dry place when not in use.
- Do not use electric tools in damp or wet locations unless they are approved for that purpose.
- Keep work areas well lighted when operating electric tools.
- Ensure that cords from electric tools do not present a tripping hazard.

In the construction industry, employees who use electric tools must be protected by ground-fault circuit interrupters or an assured equipment-grounding conductor program.

PORTABLE ABRASIVE WHEEL TOOLS

Portable abrasive grinding, cutting, polishing and wire buffing wheels create special safety problems because they may throw off flying fragments. Abrasive wheel tools must be equipped with guards that: 1) cover the spindle end, nut and flange projections; 2) maintain proper alignment with the wheel; and 3) do not exceed the strength of the fastenings. Before an abrasive wheel is mounted, it must be inspected closely for damage and should be sound- or ring-tested to ensure that it is free from

Again!



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Its ultimate success will depend upon their support—which stems from them being able to give meaningful input.

Make sure your program assigns responsibility and accountability to all employees in your organization. A good safety and health program makes it clear that every employee at every level is responsible for his or her part of the program. Make it clear that each employee will be held accountable for his or her safety and health-related duties.

Work-Site Analysis. Establish and regularly conduct your worksite analysis. This is an ongoing process that includes routine self-inspections. Create the systems and procedures necessary to prevent and control the hazards that have been identified through your worksite analysis. These control procedures will be your basic means for preventing accidents.

Hazard Prevention and Control. The OSHA standards that have been promulgated can assist you greatly since they address controls in order of effectiveness and preference. The hierarchy of controls is as follows: engineering, administrative, work practice and personal protective equipment. Whenever feasible,

engineering, administrative, or work practice controls should be instituted even though they may not eliminate the hazard or reduce exposure to or below the permissible exposure limit. They must, however, be used in conjunction with personal protective equipment to reduce the hazard or exposure to the lowest practical level. Where no standard exists, creative problem solving and consultant resources should help you create effective controls. The basic formula OSHA follows is, in order of preference:

1. Eliminating the hazard from the machine, the method, the material or the plant structure.
2. Abating the hazard by limiting exposure or controlling it at its source.
3. Training personnel to be aware of the hazard and to follow safe work procedures to avoid it.
4. Prescribing personal protective equipment for protecting employees against the hazard.

Training. Establish and provide ongoing training for employees, supervisors and managers to ensure that everyone knows about the hazards and how to control them. Each of these points is crucial if you want to establish a safe and healthful

workplace for yourself and your employees. Together, these elements reinforce your program, thereby making it more difficult for accidents and work-related health problems to occur.

DEVELOP AND IMPLEMENT YOUR ACTION PLAN

Develop an action plan to help you build your safety and health program around the four points discussed above. It is a specific description of problems and solutions, but it is not ironclad. It can and should be changed to correspond with changes in the workplace. A good action plan has two parts:

1. A list of all needed major changes or improvements to make your safety and health program effective. Assign each item a priority and a target date for completion, and identify the person who will monitor or direct each action.
2. A specific plan on how to implement each major change or improvement. Write out what you want to accomplish, the steps required, who is assigned to do what, and when you plan to finish. This part of the action plan helps you keep track of details; when several improvements are being made at once, it is easy to overlook an important prerequisite for your next action.



OSHA Report: Hand & Power Tools in the Workplace

cracks or defects. To test, wheels should be tapped gently with a light, non-metallic instrument. A stable and undamaged wheel, when tapped, will give a clear metallic tone or ring. To prevent an abrasive wheel from cracking, it must fit freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flange. Always follow the manufacturer's recommendations. Take care to ensure that the spindle speed of the machine will not exceed the maximum operating speed marked on the wheel.

An abrasive wheel may disintegrate or explode during start-up. Allow the tool to come up to operating speed prior to grinding or cutting. The employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of wheel breakage. When using a powered grinder:

- Always use eye or face protection.
- Turn off the power when not in use.
- Never clamp a handheld grinder in a vise.

PNEUMATIC TOOLS

Pneumatic tools are powered by compressed air and include chippers, drills, hammers and sanders. There are several dangers associated with the use of pneumatic tools. First and foremost is the danger of getting hit by one of the tool's attachments or fasteners while using the tool. Pneumatic tools must be checked to

see that the tools are fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

If an air hose is more than 1/2 inch in diameter, a safety excess-flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure. In general, the same precautions should be taken with an air hose as those recommended for electric cords because air hoses are subject to the same kinds of damage, and also present a tripping hazard. When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being ejected during tool operation.

OSHA provides a worksheet that may help you design an overall action plan. Once the plan has been established, check to make sure it is realistic and manageable, then address all the steps.

Communication. Open communication with your employees is crucial to your success. Their cooperation depends on understanding what the safety and health program is all about, why it is important to them, and how it affects their work. Remember that the more you do to involve them in the changes you are making, the smoother your transition will be.

By putting your action plan into operation at your workplace, you will have taken a major step toward having an effective safety and health program. You can keep your program on track by periodically checking its progress and by calling on a state consultant when you need assistance. Any good management system requires a periodic review to make sure that the system is operating as intended. Every so often, you should look carefully at each critical component in your program to determine what works well and what changes are needed.

Assistance. Insurance carriers, suppliers of

durable equipment and raw materials, fellow businesspeople, local safety councils and many local, state and federal agencies—including the state consultation programs and OSHA area offices—can provide technical assistance. You may even find help in the yellow pages of your telephone directory, which will give you the names of many companies that specialize in items and services relating to safety, health and fire prevention.

Self-Inspection. The most widely accepted way to identify hazards is to conduct safety and health inspections. The only way you can be certain of the actual situation is to look at it from time to time. Begin a program of self-inspection in your own workplace. This is a must for finding where probable hazards exist and whether they are under control.

You can receive self-inspection checklists from OSHA that make this process easy. Additional checklists are available from the National Safety Council, trade associations, insurance companies and other similar service organizations.

IN CONCLUSION

Establishing a good safety and health program at your place of business will take

some time and resources, but you should be pleased with the results. Employees will be reassured because of your commitment to their safety and health on the job. You will probably save money through increased productivity and reduced workers' compensation insurance costs. You will find increased respect in your community. The rewards you receive will surely exceed the cost of your investment in safety and health protection. **SVC**

The 4-point workplace program described here is based on the Safety and Health Program Management Guidelines issued by OSHA on January 26, 1989. For a free copy of the guidelines, send a request and SASE to OSHA Publications, P.O. Box 37535, Washington, D.C. 20013-7535. Although voluntary, these guidelines represent OSHA's policy on what every worksite should do to protect workers from occupational hazards. The guidelines are based on OSHA's experience with the voluntary protection programs, programs designed to recognize and promote effective safety and health management as the best means of ensuring a safe and healthful workplace. For more on the guidelines and VPP, please contact OSHA's Office of Cooperative Programs, U.S. Department of Labor, 200 Constitution Avenue NW, Room N3700, Washington, D.C. 20210, 202/219-7266.



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Pneumatic tools that shoot nails, staples or similar fasteners, and operate at pressures of more than 1000 pounds per square inch must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work surface.

Spray Guns. Airless spray guns that atomize paints and fluids at pressures of 1000 pounds or more per square inch must be equipped with automatic or visible manual safety devices that will prevent pulling the trigger until the safety device is released. Eye protection is required, and head and face protection is recommended, for employees working with pneumatic tools. Screens must also be set up to protect nearby workers from being struck by flying fragments around

chippers, riveting guns, staplers and air drills. Compressed air guns should never be pointed toward anyone. A chip guard must be used when compressed air is used for cleaning.

Jackhammers. Use of heavy jackhammers can cause fatigue and strains to muscles and joints. Heavy rubber grips help reduce these effects. Workers operating a jackhammer must wear safety glasses and safety shoes that protect them against injury if the jackhammer slips or falls. A face shield also should be used.

Noise is another hazard associated with pneumatic tools. Working with noisy tools such as jackhammers requires proper, effective use of appropriate hearing protection.

LIQUID-FUEL TOOLS

Fuel-powered tools usually operate on gasoline. The most serious hazard comes from fuel vapors that can burn or explode and also give off dangerous exhaust fumes. The worker must be careful to handle, transport and store gas or fuel only in approved flammable-liquid containers, according to proper procedures for flammable liquids. Before refilling a fuel-powered tool tank, the user must shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors. When a fuel-powered tool is used inside a closed area, effective ventilation and/or proper respirators (i.e., atmosphere-supplying respirators) must be used to avoid breathing carbon monoxide. Fire extinguishers must also be available in the area. ■