Heavy Equipment Safety

Operation of heavy equipment such as excavators, loaders, graders, rollers, and bulldozers, should always be done by highly skilled operators who have demonstrated the ability and necessary skills to operate safely. Ground-based workers should be trained in how to work safely around the equipment, and how to stay clear. Unsafe practices by either the operator or those around the equipment can create very dangerous situations. Serious injuries can occur if the equipment strikes a worker, or if the equipment is rolled over.

Here are a few common safety rules for operators and ground based workers to consider:

Good communication is essential. A standardized set of hand signals should be used by the operator and signal person. Operators should always know exactly where all ground based workers are located, and the wearing of high visibility vests will help the operator to locate them quickly. The equipment should have a back up warning alarm that can be heard by all nearby workers. Two-way radios are also valuable communication tools.

Heavy equipment must have a rollover protective structure (ROPS) meeting OSHA requirements. The ROPS is designed to protect the operator if the machine tips over. A seat belt must be worn so that the operator will not be thrown out of the seat during a rollover or upset situation. If working on slopes, try to avoid moving across the face of the slope. Try to operate up and down the slope face if possible. Use extreme caution when operating near open excavations.

Wear hearing protection when required. If it has been determined that noise levels around the equipment could potentially cause hearing loss, always use protective plugs or muffs when working on or around the equipment.

Never jump onto or off the equipment. Operators should always use the three-point contact rule when climbing onto or off heavy equipment. The three-point rule means having both feet and one hand, or one foot and both hands in contact with the ladder access at all times.

Inspect and service the equipment regularly. Complete equipment service in accordance with the manufacturer's recommendation. Periodic safety inspections on all components of the equipment should be done regularly by qualified personnel. Inspect the steering system and brake systems carefully. A pre-shift walk around inspection by the operator is highly recommended.

Injury accidents involving heavy equipment on construction sites have a higher probability of resulting in a fatality than many other types of accidents. It is critical to follow all safety rules and procedures when operating or working around heavy equipment.

SAFETY TAILGATE GUIDE

Heavy Equipment Safety

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Blind Spots in Mobile Equipment Operations

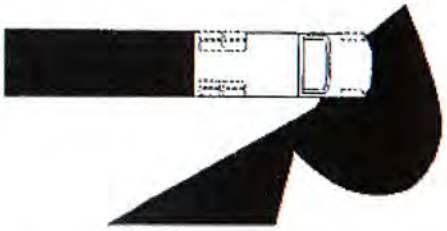
Two recent incidents in the news involving construction equipment backing over workers have highlighted the need for employers to review work practices where workers are required to be in the vicinity of moving vehicles and equipment.

One of the accidents resulted in the death of a worker who was hit by a vehicle-mounted aerial device that was being moved from one location to another. The other incident occurred when a dump truck used on a road repair project was backing into an unloading area, and ran over a worker involved in road maintenance work. In both cases, the accidents were caused by a lack of proper signaling and improper work procedures. Poor sight lines and lack of visibility are inherent in some equipment used on construction projects and in industrial workplaces. This is especially true when the equipment is backing up, or moving in areas where space is limited and the turning radius is tight.

Warning devices, such as back-up alarms and/or flashing lights are provided on some of the mobile equipment, but this is not always sufficient to ensure worker protection. This is especially true on projects where there are many pieces of equipment, constant movement, and high noise levels. Proper site planning, traffic control systems and worker training are the best ways to reduce accidents where vehicles and Employees must work in the same area. (See pre-job risk assessment check list.)

When doing your pre-job risk assessment consider these points:

- Consider the suitability of providing backup alarms on all mobile equipment.
- Whenever possible, plan the project to allow for drive-through operations that will limit the need for vehicles to back-up.
- Reduce foot traffic in areas where mobile equipment is to be working.
- Establish designated travel areas, ideally with barricades or other means to set apart from work locations.

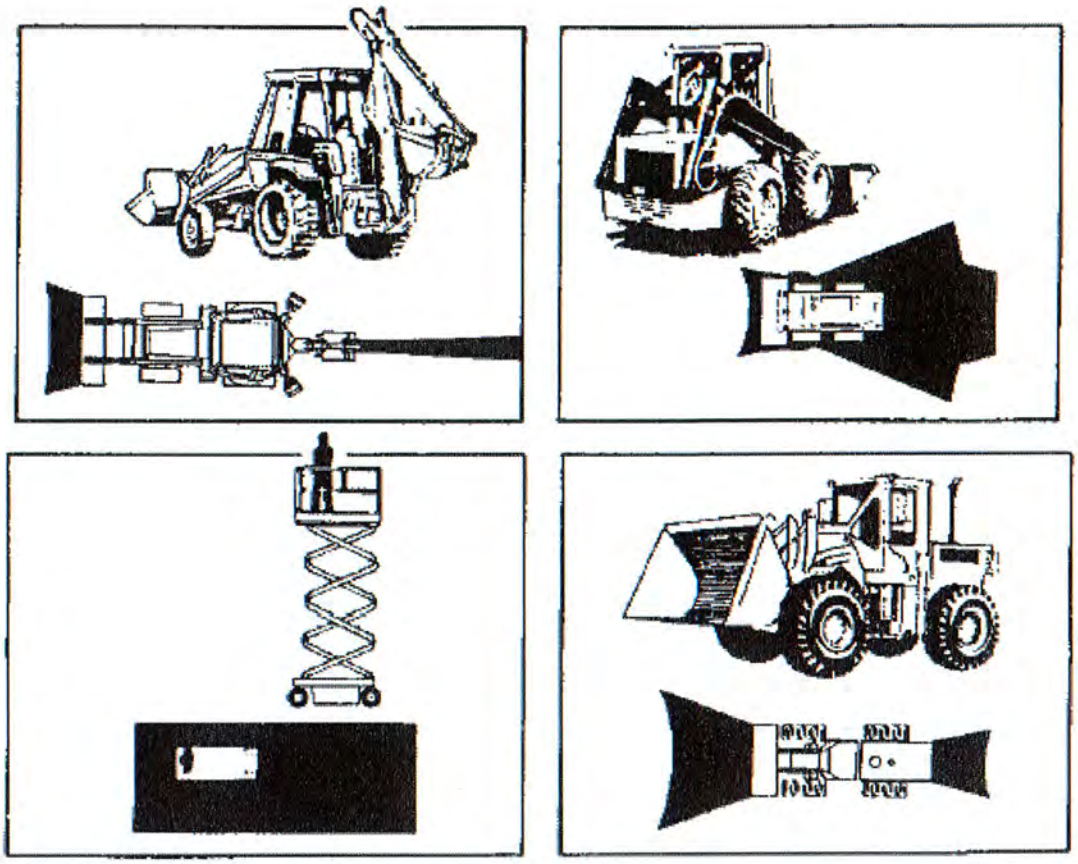


If you must have workers and mobile equipment working in the same area, establish a traffic control system. Where you have heavy traffic a signal person or traffic spotter should be designated to control traffic movement at the site. The signal person must be properly trained, wear reflective fluorescent blaze outerwear, wear safety footwear, headwear, and other personal protective equipment required on the project and use clearly understood hand signals or standard traffic control devices (STOP paddle, etc.).

The signal person must know driver 'blind spots' and remain at all times visible to the driver and any workers in the travel area. The signal person must make eye contact with the driver prior to signaling or changing location. The driver must always obey the signal person and never back up or move in congested areas without the signal person indicating the path is clear. The driver must be trained to understand all signals used by the signal person. Workers on foot should also be trained to recognize driver blind spots and avoid entering these areas.

SAFETY TAILGATE GUIDE

Driver blind spots (dark areas)



SAFETY TAILGATE GUIDE

Blind Spots in Mobile Equipment Operations

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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Construction Equipment

Construction equipment, including but not limited to; wheel and track tractors, loaders, and bulldozers, backhoes, excavation hoes, graders, scrapers, trenchers and ditchdiggers, pavement breakers, boom trucks, cranes and lifts, must be operated within the guidelines established by the manufacturer, and in accordance with safe operating procedures. All operators must be authorized and trained personnel, who have demonstrated to the unit supervisor, or the Maintenance Section Supervisor that they are familiar with the safe operation of each type and piece of equipment they are to operate. Each operator shall have read and understood the operating and maintenance manuals for each piece of equipment.

All construction equipment shall be equipped with roll-over protection (ROPS) to ensure operator safety, and be equipped with a functioning seatbelt sufficient to prevent the ejection of the operator in event of a roll-over. It is mandatory for all operators to wear the seatbelt when operating construction equipment equipped with ROPS.

All equipment shall be equipped with a backup alarm approved by Cal/OSHA which shall be operational at all times when equipment is moving in reverse.

The brakes of each piece of construction equipment shall be in operating condition and capable of stopping the equipment and any load, within limits set by the manufacturer. Brakes shall be inspected annually or every 150 hours of operation whichever comes first. All safety interlocks, neutral switches and implement travel speed limiting devices shall be in operating condition at all times.

Every operator shall wear personal protective equipment including, gloves, hard hat, goggles or safety glasses, and ear protection while operating equipment.

No employee shall operate, or continue to operate, any piece of construction equipment that he/she knows is defective, or becomes defective or unsafe while being operated. Such equipment shall be shut down and secured, and the Unit Supervisor notified immediately. The Unit Supervisor shall take appropriate steps to have the equipment repaired before it is returned to service.

SAFETY TAILGATE GUIDE

Construction Equipment

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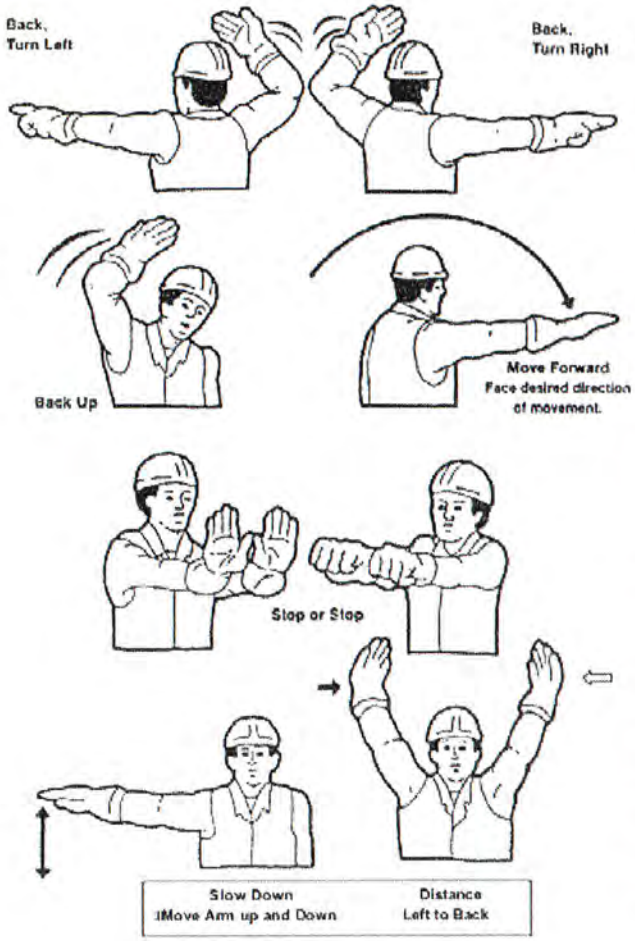
Spotters - An Important Requirement

The first requirement for safe backing is to have a spotter, someone to direct the driver. A spotter is necessary when the driver or operator does not have a full view of the backing path. This holds true for any vehicle or piece of equipment, whether it's a batch truck backing up to a paver, a mixer truck backing into a hopper or hoist bucket, or a materials truck making a delivery. This is the important rule for drivers and operators: "Don't back up unless you have a spotter directing your movement." It's an easy rule to remember. The important thing is to obey it.



THE SPOTTER'S RESPONSIBILITIES

The spotter has to watch out for others as well as for himself, and make sure the vehicle doesn't damage property. This may appear easy. It seems that all the spotter has to do is to direct a vehicle to back up when the path is clear of persons and objects. But there are dangers involved.

Sometimes when you're a spotter, you may have to pass behind a vehicle. If so, stop the vehicle first. As you're passing behind it, extend your hand at arm's length and place it against the back of the vehicle. Then if the vehicle starts to move because the driver's foot slips off the brake or clutch pedal, you'll be able to feel the movement and get out of the way.

When directing the driver, stand at the rear but well to the driver's side of the vehicle. This gives you an unobstructed view of the entire backing path. And the driver can see you clearly. It's important that the driver understands your signals. So get together with the driver before any backing and explain the signals you will use. In this way you can be reasonably sure there will be no misunderstanding. Always be sure to use the same signals for the same moves. Hand signals are much better than vocal signals. Because of noise, a shouted signal may not be heard or may be misunderstood.

BE SURE YOU'RE SEEN

Always be sure that you can be seen. In addition to standing well to the driver's side of the vehicle, wear a fluorescent vest. At night, don't blind the driver by shining your flashlight in the rearview mirror. And, day or night, when you walk backwards, be careful not to trip.

SPOTTERS AND DRIVERS WORK TOGETHER

Togetherness was never so important as when it comes to spotters and drivers of heavy equipment. Working as a team, they not only protect property but the lives of their fellow workers as well.

Spotters - An Important Requirement

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Road Work Safety

Road workers install, maintain, and improve our roads to keep them safe, but over 100 California road workers are killed each year while doing this work. Road work hazards such as moving vehicles and construction equipment require workers to stay alert and follow safety procedures.

Before conducting roadwork jobs, review the required tasks, location, and time of day to determine the necessary equipment, personnel, and materials. Plan how you will control traffic along the road and within the construction zone. Have enough trained flaggers to complete your work. Gather the signs, cones, flags, drums, and/or message boards that you will need for the job. Inspect your signage to make sure it is in good repair and highly visible. Clean or discard dirty equipment with limited visibility.

Get training on traffic control and safe work practices. Set up and maintain your roadside work zone properly. Get training on the equipment that you will use and drive, from the smallest tool to the largest moving vehicle. Operate tools and equipment according to the manufacturer's recommendations. Know the hazards of the chemicals and materials that you use.

Get training on the personal protective equipment (PPE) that you are required to wear, including its uses and limitations. Wear high visibility garments on your legs and chest. Wear your assigned PPE, including a hardhat, safety shoes, and work gloves. Consider earplugs or muffs, safety glasses, and fall protection depending on the job task.

In the work zone, watch for fast-moving motorists and large construction equipment. Set up parking zones that have safe entrances and exits. Group your vehicles on the same side of the road for visibility. Set up the job site and tasks to minimize the need to cross the active road. Set up traffic lanes within the jobsite for clear access and visibility.

Work facing traffic and stay alert, or station a lookout to watch oncoming traffic. Have an escape route and/or plan of action in place. Watch for backing vehicles because the driver often has a limited view. Practice good communication and make sure all vehicles have backup alarms. If you are flagging, acting as a lookout, or traffic director, remain alert. Do not drink, smoke, or have a conversation while performing these duties.

Road work is a physical job requiring strength and endurance. Stay fit so your body can do the work. Keep your back straight and use proper lift techniques. Use anti-vibration gloves when working with vibrating equipment. Take frequent micro-breaks every 30 minutes to stretch and relax your muscles. Rotate your tasks during the day to use different muscle groups.

Road work occurs in all types of weather and throughout the year. Wear appropriate clothing for the climate. Light colored layers and sunscreen protect you during the hot months while layers of moisture-wicking clothing protect you in the cold. Get plenty of rest, eat right, and drink enough to stay healthy and alert on the job. Take safety on the road!

SAFETY TAILGATE GUIDE

Road Work Safety

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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Flagger Safety

According to the CalOSHA Construction Safety Orders, flaggers are required at locations on a road construction or maintenance site where barricades and warning signs can't control the moving traffic. In these required situations, flaggers must be placed in relation to the equipment or operation so they can give effective warning.

What should a flagger wear?

A flagger must wear warning clothes in specific, highly visible colors. They can wear a vest, jacket or shirt in colors of orange, strong yellow-green or fluorescent versions of these. These garments must be worn rain or shine. If it's dark, the flagger should be wearing reflectorized garments, visible from a minimum distance of 1,000 feet. The flagger's station should be lit by portable lighting so the flagger will be clearly visible to approaching traffic.

What training is required for a flagger?

Before being assigned as a flagger, the individual must be trained in the proper fundamentals of flagging moving traffic. Training, instruction, and signaling directions used by flaggers should conform to the "Manual of Traffic Controls for Construction and Maintenance Work Zones," published by the State Department of Transportation.

Training should take into account the particular worksite condition and include the following:

- The Flagger equipment which must be used
- The layout of the work zone and flagging station
- Methods to signal traffic to stop, proceed or slow down
- Methods of communicating with workers in the work zone
- Methods of communicating with another flagger
- Trainee demonstration of proper flagging methods
- How to handle emergency situations
- Methods of dealing with hostile drivers
- Flagging procedures when only a single flagger is used

SAFETY TAILGATE GUIDE

Flagger Safety

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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Excavations

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of combustible materials. Each employee must be trained on these hazards to avoid injury.

Minimum Safety Equipment Required: Hard Hats

Trenching and excavation work presents a serious risk to all employees. The greatest risk is the cave-in of a trench or excavation. Cave-in accidents are much more likely to result in worker fatalities than any other excavation-related accidents. Other hazards include contact with buried utilities. Because of the hazards associated with excavation work, the following safe work practices and procedures must be implemented and enforced at all company construction projects:

- Remove or support all surface encumbrances whenever their location creates a hazard to employees.
- Identify underground installation (e.g., sewer, utility, fuel) locations prior to opening an excavation. Contact utility companies or owners to advise them on the proposed work and ask for the locations of utility underground installations prior to opening an excavation.
- Protect, support, or remove underground installations, as necessary, to safeguard employees working in open excavations.
- Structural ramps used by employees as a means of access or a competent person must design egress from excavations.
- A competent person qualified in structural design must design structural ramps for access and egress of equipment.
- All excavations or trenches that are 5 ft or more in depth must have a stairway, ladder, ramp, or other safe means of access and egress within 25 ft (7.6 m) of travel in any direction.
- The edges of a trench or excavation must be barricaded when the excavation is not readily seen because of plant growth or some other visual barrier.

- No employees are permitted underneath loads handled by lifting or digging equipment.
- A warning system (e.g., barricades, signals, or stop logs) must be used when mobile equipment is operated adjacent to an excavation.
- Testing must be conducted in excavations where oxygen-deficient atmospheres exist or could reasonably be expected to exist before employees are permitted to enter excavations greater than 5 ft in depth.

SAFETY TAILGATE GUIDE

Take adequate precautions, such as proper respiratory protection or ventilation, to prevent employee exposure to oxygen-deficient and other hazardous atmospheres.

- Emergency rescue equipment must be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation.

- Never work in excavations where water has accumulated or is accumulating, unless adequate precautions have been taken to protect you against the hazards posed by water accumulation.

- A **competent person** must:

  ✓ Classify soil types to determine sloping and shoring needs.
  ✓ Monitor water removal equipment and operations.
  ✓ Inspect excavations subject to runoff from heavy rains.
  ✓ Conduct daily inspections of excavations.

- A **competent person** must conduct inspections of excavations prior to the start of work and as necessary throughout each shift. Inspections must also be made after <u>every</u> rainstorm. Precautions must be taken before employees enter *a trench of any depth* that shows signs of water accumulation or wall sloughing due to moisture. Preventive precautions include the use of support or shield systems to prevent cave-ins, and the use of water removal pumps.

- Trenches 5 ft or more in depth must be shored or sloped back to an angle of incline required to prevent cave-ins. The angle of incline required varies with differences in the soil type, environmental conditions of exposure, and the application of surcharge loads. Any excavation in unstable soil may require shoring or sloping.

- Backfilling and removal of trench boxes or supports shall progress together from the bottom of the trench. Jacks, supports, or braces shall be released slowly, and in unstable soil, ropes shall be used to pull out the jacks and braces from above and clear of the excavation. All personnel shall be clear of the trench.
- Materials must be placed 2 ft (0.6 m) or more from the edge of the excavation. Precautions must be taken to prevent such materials from falling into the excavation.

SAFETY TAILGATE GUIDE

Excavations

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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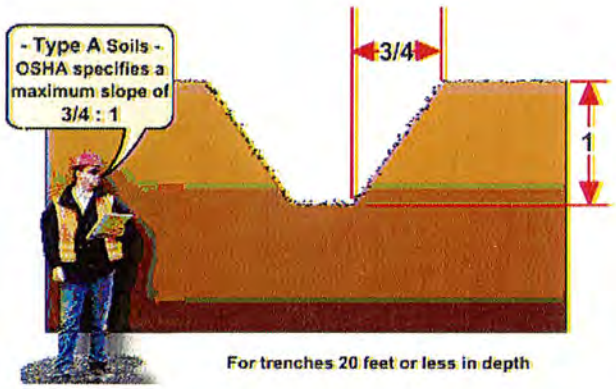
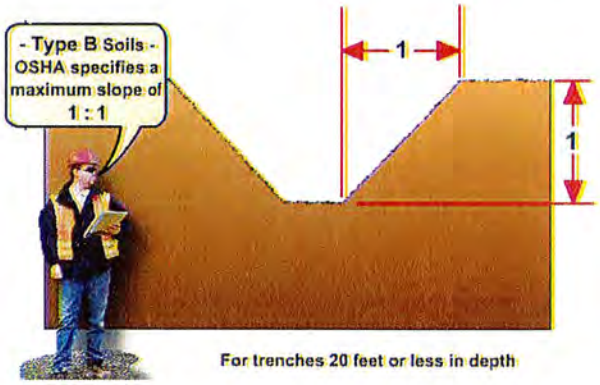
Trenching/Shoring Requirements Summary

- Before excavation, underground utilities shall be located and marked. Adjacent structures shall be stabilized.
- Appropriate barricades, fences, protected walkways and signs shall be provided to protect the public.
- A competent person shall be in charge of each excavation who is trained to identify hazardous conditions and who has the authority to take corrective action. The competent person shall inspect excavations on a daily basis and after every rain and fill out the trench inspection form.
- Workers shall be protected from cave-ins by either an adequate sloping system or an adequate support or protective system.
- Stairs or ladders shall be provided when workers enter excavations over 4 feet deep.
- A means of exiting the trench shall be provided every 25 feet.
- Workers shall stay away from any equipment loading or unloading material.
- Excavated or other material shall be retained 2 feet or more from the edge of the excavation.
- Workers shall not enter or work in trenches with hazardous atmospheres without adequate controls. Use an air monitor to test the atmosphere.
- Workers shall wear all required personal protective equipment including hardhats, safety footwear, gloves, eye protection, hearing protection and fall protection devices as needed.
- Shoring shall be placed so that shoring is 18 inches above the soil level.
- You must use plywood with the hydraulic shoring

Simple Slope Configuration Examples



Simple Slope Configuration Examples



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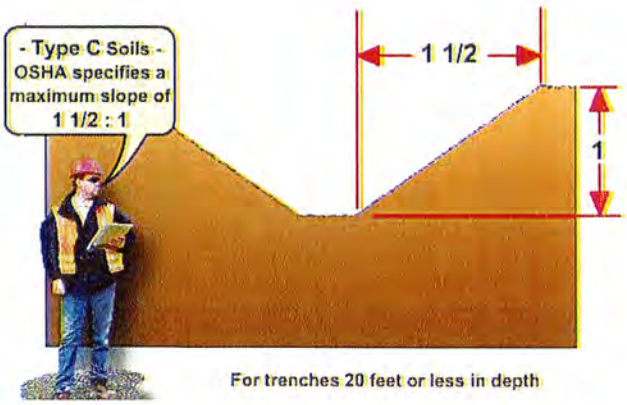

Type A Soil:

- Hard soil or clay
- ¾ : 1 (53 degrees) Example - ¾ feet of slope for every vertical foot

Type B Soil

- Silt – clumps & crumbles
- 1 : 1 (45 degrees) Example - One foot of slope for every one vertical foot

Type C Soil

- Sand – 1 ½: 1 (34 degrees) Example – 1 ½ feet of slope for every one vertical foot. Previously excavated trenches must be treated like type C soil – so this would be anywhere there is an existing pipe or underground utility.

SAFETY TAILGATE GUIDE

Trenching/Shoring Requirements Summary

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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SAFETY TAILGATE GUIDE

Lifting

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of improper lifting techniques. Each employee must be trained to know when to get assistance by using a mechanical advantage, or another employee, to avoid injury.

Minimum Safety Equipment Required: NA

Plan your move:

1. Size up the load and make sure your path is clear.
2. Get help as needed.
3. Use a dolly or other materials handling equipment if possible.
4. Use a wide, balanced stance with one foot slightly ahead of the other.
5. Get as close to the load as possible.
6. To ensure solid contact when lifting heavy objects, use your entire palm, not just your fingertips.
7. Tighten your stomach muscles as the lift begins.
8. When lifting, keep your lower back in its normal arched position, bend at the hips (stick your bottom out) and lift.
9. Pick up your feet and pivot to turn. Don't twist your back.
10. Lower the load slowly, maintaining the curve in your lower back.

Lifting heavy bags:

1. Put one knee down against the bag and pull the bag up your leg.
2. Rest the bag on the edge of the knee and stand upright.
3. Pull bag to your waist height.

Lifting over Barriers:
Use the "golfer's" lift for lighter objects in containers or behind barriers. Place one hand on a support, swing one leg behind as you reach, then push up on your hand and straighten up.

When heavier objects require two hands for an over-barrier lift, move close to the object, then bend at the hips while keeping your back in the normal arched position. Get a sure grip, then lift, allowing the muscles at the back of your legs to do the work.

Lifting Sheet Materials:

1. Where possible, store sheets at a convenient height and above ground on trestles.
2. Grasp sheet on long side at the mid-point.
3. Tip sheet up, then slide sheet partway off pile.
4. Bend at the hips first, then the knees, maintaining the normal curve in your lower back. Grasp sheet above and below at the mid-point.
5. Carry Sheet, keeping your back erect. Avoid leaning to one side.

SAFETY TAILGATE GUIDE

Lifting Sheet Materials from the Floor:

Method #1

1. Bend at the hips, then the knees, keeping body as upright as possible, and grasp sheet at midpoint.
2. Tip sheet up to horizontal position.
3. Stand sheet to vertical position.
4. With back to the sheet, bend your knees and place hands on either side of the sheet.
5. Carry the sheet, keeping back as upright as possible.

Method #2

1. Bend at the hips, then the knees, keeping your back as upright as possible, and grasp sheet at mid-point.
2. Tip sheet up to horizontal position.
3. Lift sheet slightly and put toe under mid-point.
4. Bend at the knees, keeping upright. Slip free hand under sheet.
5. Stand and lift, maintaining the normal curve in your low back.

For long carries of sheet material, use a carrying handle. Better yet, if walking surface is smooth and hard, use drywall cart.

SAFETY TAILGATE GUIDE

Lifting

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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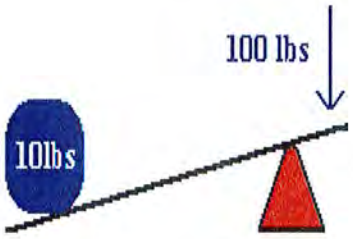
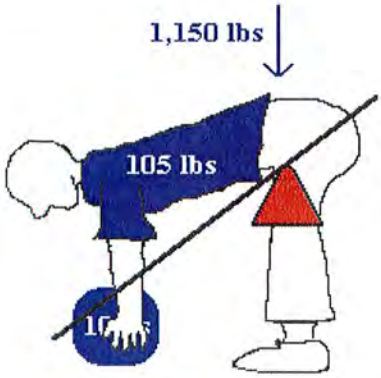
SAFETY TAILGATE GUIDE

Shoveling Techniques

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of improper shoveling techniques to avoid injury.

Minimum Safety Equipment Required: Safety glasses and Hardhat.

1. Keep feet wide apart with foot close to the shovel.
2. Keep bottom hand low and toward the shovel blade when picking up load.
3. Shift weight to rear foot keeping the load close to your body.
4. Turn feet in the direction of the throw. DO NOT TWIST YOUR LOWER BACK!
5. Bend at the hips, not at the waste – this keeps your back in a neutral position.
6. Keep the load close to your body

Lifting a ten pound object puts 100 pounds of pressure on your lower back	
When you add in the 105 pounds of the average human upper torso, you see that lifting a ten-pound object actually puts 1,150 pounds of pressure on the lower back.	

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SAFETY TAILGATE GUIDE

Roadside Equipment Repair

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of combustible materials. Each employee must be trained on these hazards to avoid injury.

Minimum Safety Equipment Required: Safety Glasses, Reflective Safety Vest Wear appropriate personal protective equipment consistent with the hazard

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- Use safe driving techniques when pulling off the road, parking off the road and pulling back onto the road.
- Use proper warning markers appropriate for daylight or darkness when parked to work on vehicles or equipment.
- Proper lifting techniques should be used. Get help or use equipment if necessary.
- Always park as far as possible away from traffic.
- Be certain jacks and hoisting equipment are rated for the loads being lifted.
- Use proper jacking and hoisting procedures.
- Take caution to avoid hot surfaces, liquids and materials.
- Use proper precautions when working with equipment subject to high pressure such as radiators, tires, hydraulic systems and batteries.
- Use proper safety precautions to avoid explosive, chemical injuries when working with or near batteries. Wear eye protection.
- Ascertain the stability of equipment being repaired and the service vehicles when stopped on the road or off the road, particularly on uneven terrain.
- Clean up gasoline, oils or detergents that may present fire or other safety hazards.
- Ensure that first aid kits and fire extinguishers are readily available and in good condition.
- Disable starting circuits or procedures systems when working around engines or other equipment moving parts to prevent inadvertent equipment or accessory movement.

Roadside Equipment Repair

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

Trainee Names:

SAFETY TAILGATE GUIDE

Driving Vehicles and Moving Equipment Safely

Many workplace injuries and deaths involve vehicles and moving equipment, but sometimes this equipment is essential to the work operation. All vehicle and equipment operators should be trained, competent, and safety-minded to avoid costly accidents and injuries. **Before operation, drivers should carefully read the operator's manual and observe the operating, maintenance, and safety instructions.**

Provisions that operators should consider:

- Get enough rest.
- Take occasional breaks, especially on hot days, to reduce fatigue.
- Vehicle operation should be limited or avoided when drivers are ill or taking medications that can affect alertness.
- Dress appropriately for the weather and work conditions, including head and eye protection. (If the vehicle doesn't have a protective cab, dust respirator and acoustic earmuffs or plugs may be required.)
- Before driving, seat belts should be securely fastened, even if the vehicle has roll over protection (ROPs).
- No one should ride on any part of a moving vehicle, except areas intended for transport. If there are no passenger seats, there should be no riders.
- See to it that everyone is at a safe distance from the equipment before moving.
- Only those with a driver's license should drive equipment on public roads.
- Vehicle ground speed should match operating conditions. Speed should be cut in turns, when near ditches and obstacles, on rough, hilly or muddy ground, and when visibility is poor.
- All workers should be warned not be approach or get on equipment that is under power.

How Operators Should Shut Down Machinery

When the vehicle is stopped, brakes should be set securely, using park lock, and remove keys to keep unauthorized persons or children from restarting the machinery. Operators should disengage the power take off, keeping shields and guards in place, and turn off the engine before unclogging, refueling or working on any power-driven machine.

Other workers can avoid danger from moving equipment by staying alert, out of the way, and by never walking under or alongside moving equipment. As an added safety precaution, a first-aid kit with emergency numbers should be kept in the vehicle or close enough for quick access.

SAFETY TAILGATE GUIDE

Driving Vehicles and Moving Equipment Safely

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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SAFETY TAILGATE GUIDE

Utility/Pickup Trucks

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of operating this equipment. Each employee must complete operator training to qualify for this piece of equipment.

Minimum Safety Equipment Required: Seat Belts

- Check out the vehicle using the "Inspection and Trouble Report Form", following all policies and procedures in using it.
- Make sure that at least one wheel chock is on board.
- Always curb the wheels and place the wheel chocks when parked on a grade.
- Operate the vehicle in compliance with all California Vehicle Codes.

- When stopping the vehicle in an area other than a regulated parking stall (to perform work), turn on the amber beacon.
- Make sure that the engine runs continuously, so as not to drain the battery.
- Never put any part of your body near the fan blades or other moving parts within the engine compartment while the engine is running.
- In the event of an accident with the vehicle, call your supervisor and the police department immediately. Fill out the accident packet located in the glove compartment.

SAFETY TAILGATE GUIDE

Utility/Pickup Trucks

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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SAFETY TAILGATE GUIDE

Driving In Wet Weather

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of performing this job duty. Each employee must complete operator training. .

Minimum Safety Equipment Required: NA

General Safety Rules:

- Remember that the streets are more slippery during the first rains of the year than later on when oils have been washed away.
- Check your tires. Worn or damaged tires are dangerous. Check the tire pressure during each gas fill-up.
- Check the windshield wipers. They must be working and not streak the windshield. Replace them prior to the rainy season if necessary.
- Drive with the headlights on – it's the law – if your lights are on your headlights are on. It also makes it easier for other drivers to see you in the rain.
- Keep two hands on the steering wheel. Do not try to eat or take notes while driving.
- Drive at a slower speed than usual. Leave extra space between you and the car in front. Your brakes will not stop you as quickly as in dry conditions, especially if you are pulling a trailer.
- Do not apply the brakes hard. Pump the brakes to avoid skidding as a skidding truck is difficult to control. If you start to skid, steer in the direction of the skid.

- Be careful when climbing in and out of the truck bed to unload equipment and debris; it is easy to slip and fall on the wet surfaces.

SAFETY TAILGATE GUIDE

Driving in Wet Weather

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Driving Distracted?

Driving down the road is no longer a lonely, quiet experience. With cellular phones, two-way radios, and stereos, the interior of your vehicle no longer offers a quiet place to focus on driving.

These days with everyone's life so busy, paying attention while driving can be difficult. Have you ever been driving down the road and suddenly you notice you don't remember the last three miles you traveled? Although your attention may only be diverted for a split second, the ever-changing variables of the road and other vehicles can make you instantly vulnerable to accidents.

The following rules can help you concentrate on what you should be doing...driving.

- Tie up loose ends before you leave the office.
- If you must travel in heavy traffic areas, plan your travel at times other then rush hour.
- Know the condition of the roads on which you are traveling and drive only as fast as those conditions allow.
- Wear your safety belt at all times.
- Set the radio to a station and leave it there until you stop again.
- Stay alert and drive defensively, with caution.
- Watch out for and anticipate other drivers, pedestrians or children on or near the road.
- Stay out of the other vehicle's blind spot
- Keep a safe distance from other drivers by maintaining a safety cushion around your car.

Safe drivers scan constantly for hazards, predicting how they may be affected by a hazard and pre-determining how to avoid or reduce them.

SAFETY TAILGATE GUIDE

Driving Distracted?

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Battery Charging- A Multitude of Hazards!

Explosive hydrogen....Acidic liquids and vapors....Electrical burns....Strains, sprains, hernias and compressed discs. All of these hazards arise when servicing, charging, or jumping the common lead-acid battery found in cars and trucks. Following a few common sense safety rules can minimize the hazards.

Eye Protection: First, always wear safety goggles or a face shield when working around a battery. Batteries contain corrosive acids that are capable of eating away metals. It takes just one droplet to cause serious eye damage. Just popping open the vent cap may throw out a droplet. A short or faulty regulator can cause the electrolyte to boil, releasing acid vapors. A fault within the battery could cause it to explode, throwing fragments of the case and acid.

Fire Protection: Lead-acid batteries produce flammable hydrogen gas while being charged. This highly explosive gas, generated within the cells, will expand and seep out of the vent caps. A cigarette, tool, or spark from any source could ignite the gas, causing the battery to explode. Always charge in a well-ventilated area. Remember too that the battery is receiving a charge and releasing hydrogen when the car is running, not just when hooked up to a battery charger.

Jump Starting: Dead batteries in cars and trucks are not uncommon- particularly in winter. The first thought is to get a jump-start. When jumping a battery, remember the following safeguards:

- Be sure all electrical equipment is off. If you connect the jumper battery while a load is being drawn, a spark could occur.
- Check the battery fluid level. If the plates are exposed, add water until they are covered. Never add acid.
- Make sure both batteries are of the same voltage.
- Make sure vent caps are in place to prevent electrolyte splash.
- Use good quality jumper cables-at least 10-gauge wire.
- Always be sure of your polarity when arranging the jumper cables:

    1. Connect the first cable to the positive (+) terminal of the *good* battery; then attach the other end of that cable to the positive (+) terminal of the *dead* battery.

    2. Next, attach the second cable to the negative (-) terminal of the *good* battery, and make the fourth and last connection to a clean metal part, such as the engine block of the car being energized, rather than to its negative battery terminal. This completes the electrical circuit, as if it was connected to the dead battery, but if sparks are produced, it serves to keep them away from any explosive battery gases.

    3. Never lay your tools on top of the battery. They could come in contact with both posts, or the positive post and a ground, creating a short.

SAFETY TAILGATE GUIDE

Protect Your Back: Batteries are heavy. If you must move one, use a battery strap as a handle, keep your back straight-don't bend at the waist--and tighten your stomach muscles as you lift. Don't twist your spine as you lift or move it.

Remember that these rules apply both on and off the job. The batteries in your own vehicle or on your boat are just as potentially dangerous. Respect the hazards and take no chances or short cuts!

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

SAFETY TAILGATE GUIDE

Battery Charging - A Multitude of Hazards!

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Battery Handling Safety

Batteries are used to power our automobiles, trucks, tractors, and construction or power equipment. There are different types of batteries such as lead-acid batteries, gel cells, and lead-calcium batteries. Most batteries contain sulfuric acid and lead. Because batteries contain chemicals, chemical reaction by-products, and an electrical current they can pose a hazard to workers if not handled properly. Workers that operate, maintain, and recharge batteries should use caution.

Before working with a battery, you should have training in proper handling procedures.

Consult the vehicle and battery owners' manuals for specific instructions on battery handling and hazard identification.

Do's and Don'ts

- DO wear personal protective equipment (PPE) such as chemical splash goggles and a face shield to avoid splashing acid in your face. If acid splashes on your skin or eyes, immediately flood the area with cool running water for at least 15 minutes and seek medical attention immediately.
- DO wear acid-resistant equipment such as gauntlet style gloves, an apron, and boots.
- DON'T tuck your pant legs into your boots because spilled acid can form a pool in your boots.
- DO be aware of the chemical hazards posed by batteries. The sulfuric acid (electrolyte) in batteries is highly corrosive. Acid exposure can lead to skin irritation, eye damage, respiratory irritation, and tooth enamel erosion.
- DON'T ever lean over a battery while boosting, testing or charging it.
- DON'T allow the battery solution to mix with salt water in marine environments; it can produce hazardous chlorine gas.
- DO practice good hygiene and wash your hands after handling a battery and before eating. If you handle the lead plates in a battery and don't wash your hands properly, you could be exposed to lead. Signs of lead exposure include loss of appetite, diarrhea, constipation with cramping, difficulty sleeping, and fatigue.

The chemical reaction by-products from a battery include oxygen and hydrogen gas. These can be explosive at high levels.

Overcharging batteries can also create flammable gases. For this reason, it is very important to store and maintain batteries in a well-ventilated work area away from all ignition sources and incompatible materials. Cigarettes, flames or sparks could cause a battery to explode.

Before working on a battery:

1) Always remove your personal jewelry before working on a battery. A short-circuit current can weld a ring or bracelet to metal and cause severe burns.
2) Disconnect the battery cables.
3) To avoid sparking, always disconnect the negative battery cable first and reconnect it last.
4) Be careful with flammable fluids when working on a battery-powered engine. The electrical voltage created by batteries can ignite flammable materials and cause severe burns. Workers have been injured and killed when loose or sparking battery connections ignited gasoline and solvent fumes during vehicle maintenance.

SAFETY TAILGATE GUIDE

Taking care of the battery:

1) Battery maintenance tools should be covered with several layers of electrical tape to avoid sparking.
2) Place protective rubber boots on battery cable connections to prevent sparking on impact if a tool does accidentally hit a terminal.
3) Clean the battery terminals with a plastic brush because wire brushes could create static and sparks.
4) Batteries can be very dense and heavy, so use proper lifting techniques to avoid back injuries.
5) Battery casings can be brittle and break easily; they should be handled carefully to avoid an acid spill. Make sure that a battery is properly secured and upright in the vehicle or equipment.
6) If a battery shows signs of damage to the terminals, case or cover, replace it with a new one.
7) Remember to dispose of old batteries properly.

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

SAFETY TAILGATE GUIDE

Battery Handling Safety

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Battery Jump Starting

This is primarily a safety check-off sheet to inform the employee of the dangers and hazards of combustible materials. Each employee must be trained on these hazards to avoid injury.

Minimum Safety Equipment Required: Safety Glasses

1. Improper procedures or techniques may result in personal injury and/or damage to the electrical system or computer components. Employees must complete battery training before jump-starting equipment.
2. Is the vehicle in a safe location to be jump-started?
3. If the battery is distorted/deformed, cracked, leaking, or missing a vent cap, DO NOT jump-start, call for assistance.
4. Wear appropriate personal protective equipment consistent with the hazard. Eye protection is required.
5. When working at night, have adequate lighting available.
6. Avoid leaning over the battery whenever possible.
7. Do not expose the battery to open flames or sparks (NO SMOKING).
8. Be sure any batteries that have filler caps are properly filled with fluid.
9. Do not allow battery acid to contact eyes or skin.
10. Both discharged and charged batteries must be of the same voltage.
11. Do not stand between vehicles.
12. Use proper procedure in accordance with the operator's manual. If no special instructions apply, proceed as follows for negative grounded batteries:
13. Make the jumper connections:
    - Connect one end of the red jumper cable to the positive (+) terminal of the booster battery and the opposite end to the positive

    Make the jumper connections continued:

    - (+) terminal of the discharged battery
    - Connect one end of the black jumper cable to the negative (-) terminal of the booster battery and the opposite end to an engine bolthead or good metal contact on the vehicle to be started, not to the negative battery terminal of the discharged battery

- Check the cables to make sure they will not be in the way of moving parts when the vehicle is started
- Start the engine of the vehicle with the good battery and run it at a moderate speed
- Start the engine of the vehicle with the discharged battery
- Remove all cables in reverse sequence. Begin by removing the cable from the engine of the vehicle that had the discharged battery.
- Keep hands and equipment from all moving parts, belts, machinery, etc.
- Never use external heat to aid in starting equipment when volatiles are present.

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

SAFETY TAILGATE GUIDE

Battery Jump Starting

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Why Use A Safety Can For Gasoline?

Gasoline is an extremely flammable liquid fuel. It should always be handled and stored properly in order to reduce the likelihood of fires and explosions. Personal injuries ranging from first degree burns to fatalities can result from improper handling and storage practices. Safety cans are designed to control the flammable vapors of gasoline and to provide a safe and convenient means for storage and transfer. Underwriters Laboratories (UL) *approved* safety cans should be used to carry, dispense, and store gasoline in quantities up to five gallons.

Failure to use approved *metal* containers for flammable or combustible liquids has often been cited by compliance officers. However, earlier this year, OSHA revised the rule on safety cans (1926.152(a)(1), allowing D.O.T. approved *plastic* safety cans. It was further determined that these plastic containers need not be equipped with a spring closing lid, spout cover and flash arresting screen.

Nevertheless, many state safety codes and jurisdictions will allow only metal safety cans on the worksite, at least until local codes are changed. Construction managers may feel that plastic will not hold up as well under heavy use and handling. Whatever standards must be followed, it is important to understand the features and benefits of a safety container so that you and your co-workers can best guard against fire or explosion.

Approved safety cans have several basic design qualities:

1. They have a spring loaded cap that closes the spout automatically when released. Tension in the spring forces the cap closed and provides a leak proof seal.

2. The spring tension is also designed to lift the cap slightly in the event of excessive internal vapor pressure inside the can. This automatically vents off vapors at approximately five psi internal pressure, to prevent the can from rupturing or exploding if it is exposed to excessive outside heat.

3. The spout is also equipped with a flame arrester screen designed to prevent outside fire from reaching the gasoline inside the can. This is the same type of screen that is found in marine gasoline engine carburetors. With the screen in place, if the can is involved in a fire, the vapors will burn around the spout, but will not permit an internal fire or explosion. This screen must not be removed or damaged. Sometimes safety cans are also used to hold thick liquids such as lubrication oil, which is not recommended. Since the heavy liquid will not pass through the screen, the screen is often removed, defeating an important safety feature of the container.

Finally, it is extremely dangerous to carry gasoline--even in a safety can--in the trunk of a vehicle. If the trunk heats up from the sun, the contents of the can will expand and pressure will raise the springed cap. This permits vapors to accumulate in the trunk, and an explosion may result.

Do your part to prevent fires that can lead to serious burns, loss of life and significant property damage. Whether it is required or just good sense, always use *approved* safety cans when handling gasoline or other flammable liquids. Periodically inspect the cap, spring and flame arrester screen as well, to be sure it will provide the safety you expect.

Why take chances?

SAFETY TAILGATE GUIDE

Why to Use a Safety Can for Gasoline?

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Asphalt

Asphalt is a black, sticky material that comes from crude oil. It is used in paving, roofing, waterproofing and some glues. Asphalt is often confused with coal tar or pitch. Coal tar and pitch come from coal, not oil. Asphalt is a solid or semisolid substance. It is mixed with solvents to make it more liquid, and easier to work with. Some of the solvents used to mix with asphalt are naphtha, toluene, and xylene. These solvents are hazardous substances, flammable, very smelly and increase the potential hazards of working with asphalt. There are many different types and grades of asphalt in current use.

Who is at risk? It is estimated that 350,000 workers are exposed to asphalt fumes each year. Workers most likely to be exposed to asphalt fumes are road workers, roofers, employees at hot-mix asphalt facilities and general construction workers.

Health Dangers

Breathing asphalt fumes is the most common method of exposure. The acute (immediate) health effects of asphalt fumes include; headache, skin rash, fatigue, eye and throat irritation, and cough. Exposure to asphalt fumes (and the solvents in them) over long periods of time (chronic exposure) may cause lung and stomach cancer. Long-term contact of asphalt with your skin can cause pigment change, which is made worse by sunlight exposure. To find out the specific hazards associated with the type of asphalt you are working with, consult the Material Safety Data Sheet from your employer.

Many forms of asphalt are flammable. This can lead to potential fires and explosions. Sources of ignition (e.g. sparks, flames, cigarettes, etc.) should be kept away from the area where the hot asphalt is being used. Asphalt is almost always used hot, so burns are a common form of injuries. Have a fire extinguisher available, of the correct type, for possible fires. Do not use a fire extinguisher unless you have been fully trained in its use.

Methods of Control

Substitution – there are many types of asphalt. Some are more hazardous than others. If possible, substitute a less hazardous form of asphalt in your construction project.

Isolation – isolating asphalt operations will minimize worker exposure. Where possible, transfer the asphalt automatically by pump to minimize exposures.

Enclosure – enclose the mixing and stirring operations. Stirring asphalt in an open kettle exposes you to fumes, solvent vapors and possible burns.

Prior to starting any job, discuss with your supervisor/employer the appropriate personal protective equipment necessary for the work being performed.

- Gloves – for the best protection, use thermally insulated gloves.
- Clothes – wear long sleeve shirts and long pants.
- Eye protection – wear indirect vent goggles when working with liquids. If the liquids are corrosive, highly irritating or toxic, wear a face shield along with the goggles.

Safe Work Practices

- Do not eat, smoke or drink where asphalt is handled.
- Wash hands carefully before eating, drinking, smoking or using the toilet.
- If you feel ill while working with asphalt, let your supervisor know right away.

SAFETY TAILGATE GUIDE

Asphalt

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Rebar Safety

Anyone working around or with concrete should be aware of the hazards and safety precautions related to this operation.

- Employees working more than 6 feet above any adjacent working surface, placing and tying reinforcing steel in walls, piers, columns, etc., must use a safety belt, harness or equivalent device.

- Employees should not be permitted to work above vertically protruding REBAR unless it has been protected to eliminate the hazard of impalement. The top of the rebar must be covered with a rebar cap, wood board or similar device (as shown below).

- Handles on bull floats must be of non-conductive materials or insulated with a non-conductive sheath when used around energized electrical conductors to prevent electrical shock.

- When using a powered or rotating type troweling machine, the control switch will automatically shut off the power when the operator removes his hands from the handle
- DO NOT USE "TIE-DOWNS" on the control switches.

Rebar Safety

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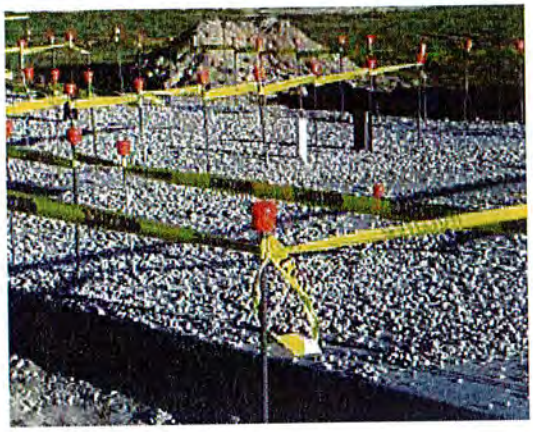

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SAFETY TAILGATE GUIDE

Rebar Safety

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Insect and Spider Bites

Each year many workers experience insect and spider bites serious enough to make them lose time off the job.

If you are stung by a bee:

- Remove the stinger gently (with tweezers or a credit card if possible) and avoid squeezing the poison sac. Apply an ice pack or a cloth dipped in cold water to reduce swelling and itching.
- (A sting from a yellow jacket can be deadly. These insects feed on dead animals and can cause blood poisoning.)
- If you have an allergic reaction to a bite, get medical help immediately.

Of spiders causing serious medical problems only the black widow and brown recluse are considered serious threats.

The black widow spider has a shiny black body, about the size of a pea. With legs extended, it's about an inch long. Females have a red or yellow hourglass mark on their underside. The black widow spider is partial to outdoor latrines and other places that attract flies. The black widow spider will attack with even the slightest provocation. Its bite is less painful than a pinprick, and does not cause a hole in the skin, but soon, intense pain and stiffness set in. Symptoms also may include fever, nausea, abdominal pain and chills. For children and the elderly, black widow bites can be lethal.

Also beware of the brown recluse spider. When it comes to insect bites, the bite of the brown recluse spider is one of the most feared. This yellowish-tan to dark brown spider is 1/4-1/2 inch long. It has a characteristic fiddle-shaped mark on its upper body. Its bite can have painful, disfiguring, and even deadly results. Within hours of a bite, victims may suffer severe pain and stiffness, fever, weakness, vomiting or a rash. The recluse's venom destroys cells and clots blood, blocking blood vessels and leading to gangrene. Within 24 hours, the wound erupts into an open sore ranging from the size of a thumbnail to that of an adult's hand. Anyone bitten by either spider should seek medical help immediately.

So basically, the first line of treatment, if you suspect a bite is to apply a cold compress. However, if you have a bite and experience other side effects, get medical treatment immediately.

Experts say, spiders typically don't go looking for human prey. Spiders are generally shy and try to avoid contact with humans. Leave them to their dark, secluded spaces – under rocks, in debris piles, sheds, closets and attics, and there's no worry. Invade their space, though, and risk a bite. Spiders will attack if trapped or if pressed against the skin.

Not all people react the same way to these spider bites. The variation may be due to the amount of venom injected or the person's physiology or immune system.

SAFETY TAILGATE GUIDE

Insects and Spider Bites

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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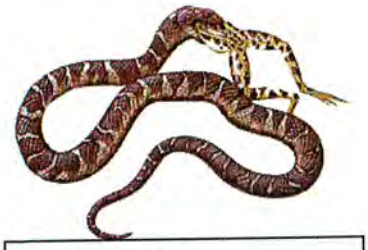
Watch Out For Snakes

Snakes are found in many parts of California and may pose a hazard for those who work outdoors. Although snakes generally avoid humans or animals, they can attack, particularly if they're surprised or are protecting their young or territory. Some snakes are considered "harmless," but others release a poisonous venom when they bite. If you'll be working or walking where snakes are found, be aware of their habits, dress for protection, and know what to do or not to do if you encounter or are bitten by a snake.

Poisonous snakes commonly found in California include coral snakes and pit vipers:

Copperhead Snake

Rattlesnake



Cottonmouth

A bite from one of these snakes should always be considered a medical emergency. Although deaths from snakebites are relatively rare, people who are bitten can't always positively identify the snake, so should get prompt medical care. Even a bite from a so-called "harmless" snake can cause an infection or allergic reaction in some people.

The key to avoiding snakebites is understanding their habits and staying alert. Snake seasons are spring, summer, and early fall. They're usually found where food (rodents), water, and protection are available such as abandoned structures, irrigation ditches, water holes, and in rock piles. They like places that offer both a place to sun and a place to hide. At night when it's cool, snakes become active hunting their prey.

If you'll be working or walking in snake infested areas...

- ✓ Wear protective clothing such as long pants, leather boots, and gloves.
- ✓ Be aware of your surroundings.
- ✓ Be cautious in tall grass and watch where you step.
- ✓ Walk in areas where the ground is clear so you can see where you step.
- ✓ Watch where you put your hands.
- ✓ Don't reach blindly into rock cracks, wood piles, animal burrows or under bushes.
- ✓ When you sit, look first, especially in shady areas.

Most snakebites happen when a snake is accidentally stepped on, handled or harassed. Many people are bitten because they try to get a closer look or try to kill it. So, leave snakes alone! If you encounter a snake, stay calm and freeze in place. The snake will often move away. If it doesn't move then you should slowly walk around it, keeping as far away as possible. Usually snakes are not aggressive and will not "chase" a person. They'd rather escape from noise and commotion or remain quiet and hidden.

SAFETY TAILGATE GUIDE

The symptoms of a poisonous snake bite vary depending on the snake's size and species, the amount of poison in its venom, the bite's location, and the victim's age and underlying medical problems. Specific treatment for a snake bite should be left to the emergency medical personnel. Most medical professionals recommend against incisions in the wound, tourniquets, ice or any other type of cooling on the bite and against electric shock. However, if someone is bitten, the American Red Cross suggests a few basic first-aid steps:

1. Keep the victim calm and still.
2. Have the victim lie down, with the affected limb immobilized and placed lower than the heart.
3. Remove rings, bracelets, boots or other restricting items from the bitten extremity.
4. Get medical care. Responding quickly is crucial.

Use common sense when you're in areas where there may be snakes. Keep in mind that an unprovoked snake doesn't want trouble any more than you do. Caution and respect are your best weapons against snake bites.

SAFETY TAILGATE GUIDE

Watch Out for Snakes

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Sun Safety

QUIZ: What do you know about the skin you're in?

1. Skin cancer is the most common form of cancer in the United States.
True - Skin Cancer is the most common form of cancer in the United States, with about 1 million new cases expected every year.

2. The development of a new mole or a change in an existing one may be a sign of skin cancer.
True - The development of a new mole or any changes in size, shape, color or texture in a mole may be the sign of skin cancer and should be reported to a dermatologist or your own doctor right away.

3. People with dark skin can't get skin cancer.
False - Anyone can get skin cancer. Darker-skinned people have more melanin in their skin, a brownish pigment in their skin that serves as a buffer by absorbing ultra violet ray, there by lowering but not eliminating the risk of skin cancer.

4. You can't die from skin cancer.
False - This year 7,500 Americans will die from malignant melanoma, which is responsible for six out of seven skin cancer deaths.

5. You have an increased risk of malignant melanoma if a parent, sibling, or child has had it.
True - Your risk is increase if an immediate family member has or has had a melanoma.

6. If you stay out of the sun, you'll never get skin cancer.
False - Even though there is a strong correlation between ultra violet exposure to the sun and all types of skin cancer, you can still get skin cancer if you stay out of the sun. It is important to regularly stay of out of the sun. It is important to regularly examine your skin for signs of cancer no matter how much sun you get.

7. Malignant melanoma cannot be cured.
False - When treated in its earliest stages, melanoma can be cured.

8. Melanoma can occur anywhere on your body.
True - Melanoma can develop any where on the body, even places that are not exposed to the sun, such as the bottom of your feet.

9. Redheads and blonds are more likely to get melanoma.
True - Redheads and blondes have a two-to-four-fold greater risk of developing skin cancer.

10. If you were born with one or more moles, you are more likely to develop malignant melanoma.
True - Most moles develop sometime after birth, but some people are born with them. "Birth moles" increase a person's risk of melanoma.

Self Exams

Research shows that regular skin self-exams could save 4,500 lives annually. How often you should perform skin self-exams depends on how high your risk is. Here's how to do one:

After showering, check yourself in a well-lighted room using a full-length mirror and a hand-held mirror.

Start by checking moles and birthmarks you've had since birth. Look for changes, especially a new mole or skin discoloration, a sore that does not heal, or any change in the size, shape, texture, or color of an existing mole.

Look at the front and back of your body in the mirror. Then raise your arms and look at your left and right sides.

Bend your elbows and look carefully at your fingernails, palms, forearms, and upper arms.

Examine the back, front and sides of your legs. Look between the buttocks and around the genital area.

Sit and closely examine your feet, including the toenails, soles, and spaces between the toes.

Look at your face, neck, ears, and scalp. Use a comb or hair dryer to move your hair so that you can see better. Or get someone else to check your scalp for you.

If you find anything suspicious, visit a dermatologist right away and ask for a full-body exam.

Skin Protection

The skin is the single largest organ of the body. The skin, when healthy, protects us from chemical, physical, and biological hazards. Skin weighs about 10% of our total body weight and is approximately one eighth of an inch thick. The skin is made up of two layers, the epidermis (outer layer) and the dermis (inner layer). The outer layer of skin is only 1/250th of an inch thick, and is the part of our skin that forms the protective barrier.

There are many skin irritants that employees may be exposed to in the workplace. One out of every four workers may be exposed to something that will irritate the skin. Many different things may cause skin damage. When something penetrates through the outer layer, the inner layer of skin reacts to it. Strong, or regularly repeated irritations of the skin may lead to skin diseases.

The skin contains oil glands, hair follicles, and sweat glands. These are like tiny holes. So the skin can be like a sponge when it contacts something. Skin also contains blood vessels, and some chemicals can penetrate the outer layer and enter the blood stream.

The type of environment you are in can cause skin problems directly or they can work with other factors to increase skin problems. These factors include:

- Heat – causes sweating. Sweating may dissolve chemicals and bring them into closer contact with the skin. Heat increases the blood flow at the skin surface and may increase the absorption of substances into the body.
- Cold – dries the skin and causes microscopic cracking. This cracking allows substances to cross the outer layer of the skin, thus entering the body.
- Sun – burns and damages the skin. Sun can increase absorption of chemicals. Sun reacts with some chemicals to enhance their negative affects on the body.

How to Protect Your Skin

- Wear long sleeve shirts and pants, to minimize the amount of skin exposed.
- When working outdoors, wear a hat with a brim.
- Use a high sun protection factor (SPF) sunscreen.
- Wash your hands regularly during and after work.
- Wear gloves when handling chemicals.
- Where possible, use tools to handle hazardous substances instead of your hands.

When using gloves or clothing to protect yourself and your skin, you should be careful when removing contaminated clothing, so as not to contaminate yourself.

If a worker is exposed, or thinks he/she may have been exposed to a hazardous substance, the area should be rinsed for at least 15 minutes. If a worker is accidentally contaminated, he or she should get under a shower immediately and remove the clothing while showering. Certain substances can be absorbed quickly across the skin. Time is critical. Medical help should be obtained immediately.

SAFETY TAILGATE GUIDE

Skin Protection

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SAFETY TAILGATE GUIDE

New Rules for Preventing Heat Illnesses

Purpose

To comply with CalOSHA Title 8, §3395 which requires employers to control the risk of occurrence of heat illness among employees who work outdoors. In Public Works, this would include the Road Services employees, Facility Services employees and some Engineering and Resource Protection employees.

Heat Illness

Heat Illness means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, and heat stroke.

Program Components

- Calculation of Heat Index for outdoor worksite
- Water
- Shade (Recovery Time)
- Prompt Medical Attention

Calculation of Heat Index

In general, employers should assume that there is a significant risk of heat illness for employees **working in the sun** if the Heat Index for the day is **80** or above. If employees will be **working in shade,** a heat index of **90** or above is the equivalent point of risk. This adjustment for work in the sun is critically important because the Heat Index you calculate from the chart assumes a person will be working in the shade.

The Heat Index can be calculated by checking the temperature and humidity at http://www.weather.com/ - just put in the zip code for the area where the crew will be working and have the crew Supervisor use the temperature and humidity numbers to apply to the heat index chart.

It is also necessary to account for the clothing workers are wearing. The Heat Index assumes people are wearing light summer clothing. When workers use heavier clothing, or use some types of personal protective equipment, the risk of heat illness becomes significant at a lower Heat Index.

Water

In conditions of high heat and strenuous work, the human body can lose over a quart of fluid per hour just by sweating. Continuous replacement of this lost fluid is critical to preventing heat illness, and this means assuring the presence of, ready access to, and consumption of potable drinking water.

Public Works will do it's best to provide the full-shift quantity of drinking water at the beginning of the work shift - 2 Gallons + 2 liters Water – Per Employee Per 10 Hour shift. The OSHA standard requires effective procedures for drinking water replenishment to allow employees to drink one quart or more per hour.

2 Gallons + 2 liters Water – Per Employee Per 10 Hour shift

SAFETY TAILGATE GUIDE

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2 Gallons + 2 liters Water – Per Employee Per 10 Hour shift

At all times there must be a sufficient quantity of water present and readily accessible to allow every employee to consume at least one quart of water per hour. Any water supply procedure that depends on replenishment during the work shift will be out of compliance if it is not *reliable*.

If employees cannot count on reliable replenishment of the water supply, they may feel pressured to reduce their water consumption in order to conserve the supply. Employers will also be out of compliance if at any time no drinking water is available to employees, or if their practice is to wait until the water vessel is empty to replenish it. It is similarly impermissible for an employer to replenish the drinking water supply only when requested by employees.

Shade

Public Works will provide shade for employees to take a rest break or "recovery period". "Shade" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Trees can be used for shade as long as the cover provided by the trees blocks the direct sunlight.

The shaded area must also allow the employee to assume a comfortable posture and must not cause exposure to another hazard. Therefore, the shade requirement cannot be met by using areas underneath mobile equipment, like a tractor.

The employee must be permitted to remain in the shade for a period of at least five minutes. The importance of prevention cannot be overstated. When employees wait until actual symptoms appear before seeking shade and recovery, they are at significant risk of developing serious heat illness and the purpose of the standard is defeated.

Medical Treatment

The preventive recovery period, a break in the shade, is not a substitute for medical treatment. If an employee has any symptoms of heat illness, first aid procedures should be initiated.

Heat Cramps

- If alert, give the person beverages to sip (such as Gatorade), or make a salted drink by adding a teaspoon of salt per quart of water. Give a half cup every 15 minutes. Cool water will do if salt beverages are not available.

- Massage affected muscles gently, but firmly, until they relax.

Heat Exhaustion - Are two or more of these signs of heat exhaustion present?

- Skin that is pale, cool and clammy
- Sweating
- Dry mouth
- Dizziness
- Fatigue and weakness
- Headache
- Nausea, vomiting
- Weak and rapid pulse
- Muscle cramps

SAFETY TAILGATE GUIDE

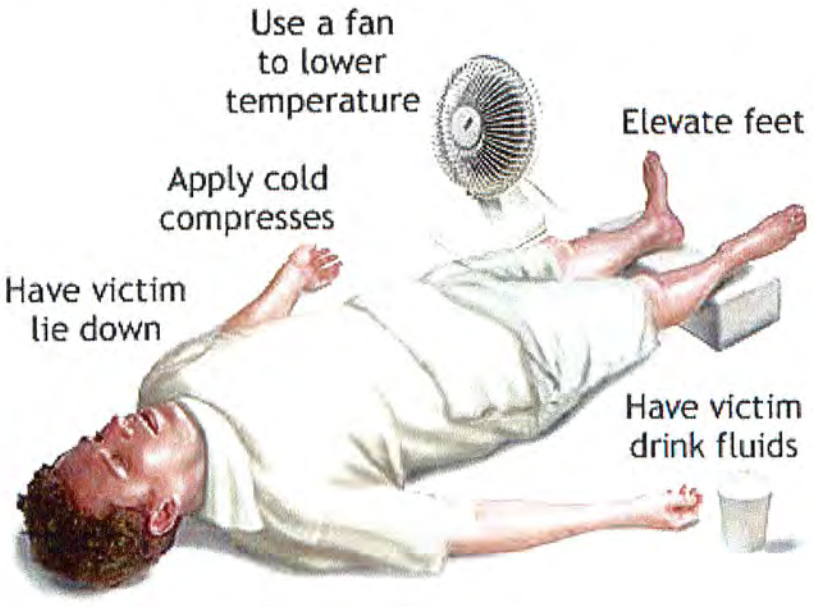
Heat Stroke

Signs of heat stroke:

- Body temperature 104 degrees F or higher
- Skin that is red, dry and/or hot
- Pulse that is rapid and then gets weak
- No sweating
- Confusion, hallucinations or loss of consciousness or convulsions

Treatment for Heat Stroke:

- **CALL 911**
- Move the person to a cool place indoors or under a shady tree. Place the feet higher than the head.
- Remove the clothing and either wrap the person in a cold, wet sheet; sponge the person with towels or sheets that are soaked in cold water; or spray the person with cool water. Fan the person.
- Put ice packs or cold compresses to the neck, under the armpits and to the groin area.



Heat Safety Supervisor's Daily Checklist

☐ WATER

- Is there plenty of fresh, cool drinking water located as close as possible to the workers?
- Is there a plan for refilling water coolers throughout the day?

☐ SHADE AND REST

- Is a shade structure available at all times (regardless of the weather) for workers to rest and cool down?
- Is the shade structure up and ready when the weather forecast is 85°F or higher?
- Do you have a plan in place for checking the weather forecast?

☐ TRAINING

- Have workers been trained to recognize and prevent heat illness BEFORE they start working outdoors?
- Can workers identify symptoms of heat illness?
- Is there a special plan in place to allow workers to get used to the heat?

☐ EMERGENCY PLAN

- Does everyone know who to notify if there is an emergency?
- Can workers explain their location if they need to call an ambulance?
- Does everyone know who will provide first aid?

☐ WORKER REMINDERS

Have workers been reminded to:

- Drink water frequently?
- Rest in the shade for at least 5 minutes as needed?
- Look out for one another and immediately report any symptoms?

The work can't get done without them.

CAL OSHA

SAFETY TAILGATE GUIDE

New Rules for Preventing Heat Illness

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Foot Safety - It's a Shoe in for Safety

Employees seldom complain about their feet -- they just keep trudging along in silent discomfort. Foot health is the responsibility of both management and employees. Even though foot injuries are not as prevalent as other types of injury, there is a definite correlation between the feet and symptoms in the knees, hips, and low back. In fact, neglecting the feet can result in overall body fatigue and create the potential for other types of fatigue-related injury.

A 2001 survey of 360 manufacturing and public works employees showed:

~ 45% do have foot pain on a regular basis
~ 23% have a tendency to twist their ankles
~ 51% have knee pain from time to time
~ 56% claim to feel it in their back when they've been on their feet all day.

Workers may be exposed to various hazardous conditions on the job, including slippery surfaces, climbing hazards, handling or working around heavy equipment and machinery and working around electricity. These different working conditions may require different safety footwear to protect the foot, and the worker, from injury.

Choose the Right Shoe

When choosing safety footwear, you must select the legally approved shoe or boot required for the job activity, equipment, and situation. Some situations may require safety toed, or steel toed boots to protect the top part of the foot. These safety toed shoes provide extra protection over the top of the foot and can make a difference in preventing an injury in an accident. ***The best way to buy work shoes is to get fit at a safety shoe store.***

No Shoes, No Work!

Safety shoes or boots with impact protection should be worn when workers carry or handle materials such as heavy packages, objects, parts or tools and for other activities where objects may fall onto the foot. Workers should be required to wear safety shoes or boots with impact protection when their work involves wheeling carts that carry heavy materials; handling heavy, bulky tools (paper, fabric, carpet, lumber etc.); working around heavy pipes or in situations where a heavy object may roll over a worker's foot.

Safety shoes or boots with puncture protection should be required where a worker could step on sharp objects such as nails, wires, tacks, screws, large staples, scrap metal, etc. And special types of insulating shoes or conductive shoes may be necessary for certain types of electrical work.

SAFETY TAILGATE GUIDE

Foot Safety - It's a Shoe in for Safety

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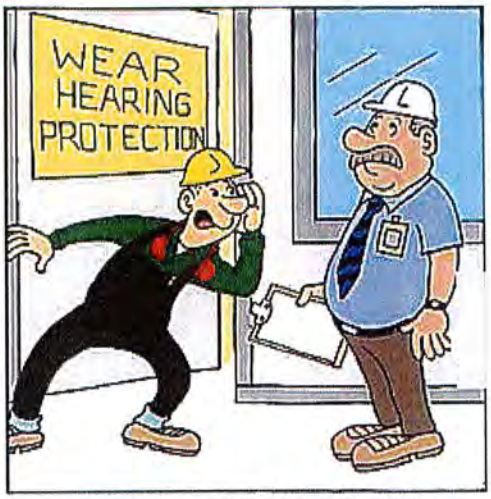
Hearing Protection

Noise is unwanted sound that can effect job performance, safety, and your health. Psychological effects of noise include annoyance and disruption of concentration. Physical effects include loss of hearing, pain, nausea, and interference with communications when the exposure is severe.



If I'm Wearing My What?!

Hearing protection is essential when noise exposures can't be controlled at their source. Both earplugs and earmuffs provide a physical barrier that reduces inner ear noise levels inner ear and prevent hearing loss from occurring. However, people often resist wearing these or use them incorrectly.

Employees resist wearing hearing protection more than any other type of personal protective equipment. One reason is they don't think they really need it. But hearing loss occurs so gradually (even in intense exposures) that by the time you notice it, irreversible damage has already occurred.

Another reason for not wearing hearing protection is that it can feel uncomfortable. Sometimes workers "spring" the muffs so they don't seal properly against the head, or snip off the inner portion of ear plugs leaving only the outer end to fool their supervisor. If you feel the need to do this, see your supervisor about obtaining a different type or style that fits you correctly and comfortably.

Slight initial discomfort may be expected when a good seal between the surface of the skin and the surface of the ear protector is made. The amount of protection you obtain depends on obtaining a good seal and even a small leak can substantially reduce the effectiveness of the protector. Remember to check the seal several times each day.

Protectors - especially ear plugs - have a tendency to work loose as a result of talking or chewing, and must be resealed occasionally.

Properly designed, fitted, and clean ear protectors will cause no more discomfort to most workers than wearing a pair of safety glasses. Earplugs are made of soft material such a neoprene to prevent injury to the ear canal. Skin irritations, injured eardrums, or other adverse reactions from using ear plugs are very rare if they are kept reasonably clean.

There are many different styles, types, and brands of ear protectors available, but when correctly fitted, they all provide similar levels of protection. The best hearing protector for you is one that fits correctly so that you can wear it properly.

Some signs that you should be wearing hearing protection include:

- If it is necessary for you to speak in a very loud voice, or shout directly into the ear of a person to be understood, it is likely that the noise level is high enough to require hearing protection.
- If you have roaring or ringing noises in your ears at the end of the workday, you are probably being exposed to too much noise.
- If speech or music sounds muffled to you after you leave work, but it sounds fairly clear in the morning when you return to work, you are being exposed to noise levels that are causing a temporary hearing loss. In time, this can become permanent if you do not take care.

HOW LOUD IS LOUD?

SAFETY TAILGATE GUIDE

Most of us take our sense of hearing for granted-we assume that *we* hear what everyone *else* hears. Loss of hearing may not be realized until a friend or spouse screams in frustration, "Why don't you ever *listen* to me!!" This is because hearing loss is usually gradual. Normally, it doesn't hurt, so we don't know it's happening. It doesn't annoy us like losing our eyesight. In fact, it is sometimes a blessing to tune out all the clatter and noise of the city and workplace.

Yet our ability to hear *when we want to* is precious and must be protected. Employers often reduce the amount of noise in the workplace by enclosing or muffling loud machinery, but they usually can't eliminate it entirely. Employers may also rotate workers out of an area so they needn't experience a full work day of excessive noise exposure. Whatever the length of time you work in an area with high noise levels, you are probably required to wear a type of hearing protection. Some people consider this a nuisance. The more you know about those ears of yours, however, the more likely you will take responsibility for protecting them.

Do you realize that noise exposure off the job can also damage your hearing? The critical sound level when hearing protection should be worn is 85 *decibels* (dBA), established for an 8-hour time weighted average.

20	**A faint whisper**
30-40	**Quiet pleasant sounds, a bird chirping**
40-50	**Quiet to normal office sounds**
50-60	Normal conversation
70-90	**Heavy machinery, electric motors, garbage disposal, city traffic**
100-120	**Jack hammer, power saw, motorcycle, lawn mower, rock music**
140+	**Nearly jet engine, gun shot (this level causes pain)**

The louder and longer your exposure, whether at work, at home, or during recreation, the more likely your hearing will be damaged. If you want to have a sense of "how loud is loud," the following examples, along with their decibel rating, will give you an idea:

Many disposable or reusable plugs are available and most of these reduce noise by about 20-30 decibels. The noise reduction rating (NRR) is usually marked on the package or on the box if they come in bulk. *However,* since the NRR is established in a laboratory with perfectly fitted plugs, experts recommend that the true rating is generally about 7 decibels less than indicated. Hearing protectors of the ear muff type are usually closer to the actual NRR.

Some degree of hearing loss is part of the normal aging process, but young people should also be warned about the dangers of a rock concert, boom box, lawn mower or loud car engine. Of course *they may not listen to you*-but if they have permanent hearing loss, they won't be able to listen to anyone, will they? Hearing Protection - Use it!

SAFETY TAILGATE GUIDE

Hearing Protection

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Hearing Protection - Earplugs

Does your company provide you with earplugs or other hearing protection? If so, you may be wondering if they are necessary or if you will be able to communicate when wearing them. The good news is that earplugs do not lessen your ability to hear your coworkers; if you need earplugs, your workplace is so noisy you can't hear them anyway Earplugs can screen out background noise (in much the same way that sunglasses screen out background glare) actually making it easier for you to hear sounds such as the human voice.

Types of Earplugs

There are three types of earplugs:

1. Formable earplugs made of waxed cotton or acoustical fibers can be molded to fit your own ear. They are disposable. Semi-disposal plugs of molded foam are used for up to a week.

2. Pre-molded inserts of soft silicone rubber or plastic are reusable, some come in different sizes.

3. Custom-molded earplugs are molded to fit the individual; silicone rubber or plastic molding compound is placed in each ear and allowed to set. The set compound may be used as earplugs or as molds for ear-plugs.

Effectiveness

Earplugs may reduce noise levels by up to 30 decibels. That is, ff the noise in your environment is 100 decibels, your earplugs could effectively reduce it to 70 decibels. When choosing earplugs, check the Noise Reduction Rating (NRR) on the package. The higher the number, the better the protection.

Fit and Maintenance

To work property, earplugs must completely fill the ear canal. When inserting earplugs, grasp your ear from behind your head with your opposite hand, and pull up to straighten the ear canal. Insert the earplug until it blocks sound; then hold it in place for a moment while it expands.

Make sure your hands are clean when inserting plugs, and keep reusable plugs clean by washing them after each use in warm soapy water, to avoid ear infection.

Properly fitting earplugs need not interfere with your comfort or ability to hew important sounds. And they can protect you from gradual loss of hearing that you may not notice until too late!

SAFETY TAILGATE GUIDE

Hearing Protection - Earplugs

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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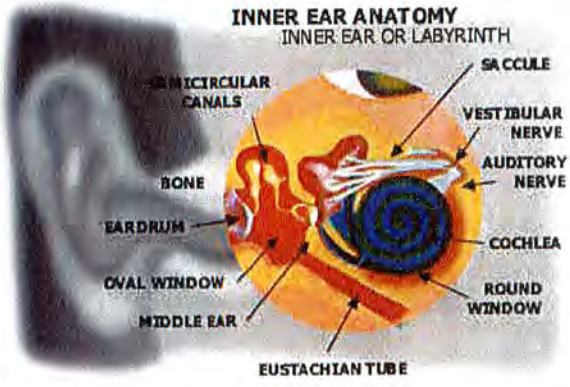
Hearing Protection - How Hearing Works

Are you one of the 20 million people who are exposed to hazardous noise on the job? If so, you'll want to protect yourself from hearing loss by learning how hearing works, how your own hewing is measured, and how high levels of noise can cause hearing loss over time.

Now the Ear Hears

Sound waves travel through the ear canal to the eardrum. This membrane vibrates when the sound waves hit it, much the same way a drum vibrates when you hit it. The vibrations are transferred through tiny, sensitive bones in the middle ear to the cochlea, a coiled, hollow structure in the inner ear that is filled with fluid and lined inside with thousands of tiny hair like structures called hair cells. When the sound vibrations transfer to the cochlea, they cause waves in the fluid to move the hair cells, which convert the vibrations into nerve impulses. The auditory nerve carries these impulses to the brain, where you interpret them as sound.



How Damage Occurs

The hair cells lining the cochlea of your ear are extremely fragile. Such things as infections, head injuries, and certain drugs can damage them, but the most common source of damage to hair cells is noise. Loud noise over a period of time causes these nerve cells to die off, usually so gradually that you are not aware that it's happening until your hearing is permanently damaged.

Audiometric Tests

Fortunately, we can measure hearing loss with a sensitive test that will keep track of your hearing ability and alert you and your company to hearing loss, long before it becomes severe enough to affect you. In this test, which measures your ability to hear sounds of different frequencies (pitches), you will be asked to listen to sounds and indicate when you hear them. The results are shown on an audiogram, a graph that shows the quietest sound you can hear at each frequency. This audiogram shows how hearing changes as we age: At lower pitches there isn't much difference, but as we get older we experience greater difficulty in hearing high pitches. The same changes take place when there is hearing loss from excessive noise. If you compare audiograms taken at one-year intervals and find that the line has dipped significantly, you are experiencing hearing loss, even though you may not yet notice it.

What Does "Too Loud" Mean?

Decibels, used for measuring hearing thresholds, are also used for measuring the loudness of noise. You are exposed to about 20 decibels in a quiet bedroom, 110 decibels when you are using a power saw. OSHA regulations require hearing protection to be made available if you are exposed to noise levels above 85 decibels for eight hours at a time. Always wear hearing protection when the noise level is over 90 decibels. You can tell you need hearing protection K you have trouble hearing someone talking two feet away, if you hear ringing or other sounds in your ears after you leave work, or if you have trouble hearing for a while after you leave work. You don't get used to noise. You may learn to ignore it, but your ears can't tune it out. You can help protect your precious hearing by wearing proper hearing protection, having your hearing tested yearly.

SAFETY TAILGATE GUIDE

Hearing Protection - How Hearing Works

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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Eye and Face Protection - Face Shields

For all-purpose face protection, Face shields are hard to beat they protect the face from splashes, heat, flying particles and other hazards while allowing for plenty of ventilation. They are especially recommended for welding, riveting and operations that involve extreme heat. But It is important to remember that face shields do not protect your eyes-they must be used in combination with goggles or safety glasses.

Face shields protect you from splashes, heat, flying particles and other hazards. A welding helmet is a specialized face shield that protects you from sparks, intense light and splashes of molten metal.

Types of Face shields

Most face shields are constructed of high-strength, flexible plastic such as acetate. Face shields designed for use in a high-impact environment may be made of polycarbonate, the material used in many safety glasses. Wire screen face shields are used in extremely humid environments. Face shields may be equipped with a crown to protect against falling particles or sparks, or a chin scoop to guard against chemical splashes. Some shields are tinted to protect from glare, while others feature glass inserts for the best visibility. Specialty designed face shields can be fitted to hard hats. A variation on the face shield is the welding helmet; a complete face-and-head covering that protects the wearer from sparks, intense light and splashes of molten metal.

Care and Fit

Choose a face shield with adjustable straps that fits snugly but not uncomfortably around your head, without sliding forward or to the side. A face shield should not be uncomfortable to wear. A strap across the top of the head provides support. The shield should cover your face from the forehead to the base of your neck without obstructing your vision. Because face shields are easily scratched, store your shield in a protected area. Replace a scratched face shield before it causes a vision related accident.

Remember, a face shield protects your face, not your eyes. Wearing your safety glasses or goggles along with your face shield is the best way to protect your eyesight.

SAFETY TAILGATE GUIDE

Eye and Face Protection - Face Shields

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First Aid for Eye Injuries

Foreign Body in the Eye

Particles of dust or grit or loose lashes are the most common foreign bodies found in the eye. In most cases, these can be easily removed. DO NOT ATTEMPT to remove a foreign body if it is on the colored part of the eye or embedded in the eyeball. In these cases, SEEK MEDICAL AID.

Treatment:

- Advise the patient not to rub the eye.
- Open the eye, ask the victim to look right, left, up and down so that you can examine the eye in detail.
- If you can see the foreign body, wash it out by pouring water from a jug into the affected eye, draining away from the good eye.
- If this is unsuccessful, if there is no water available, and the foreign body is NOT STICKING to the eyeball, lift it out, using the damp corner of a clean handkerchief.
- If you cannot remove the foreign body, cover the eye with an eye pad, secured lightly in position, and seek medical aid.

Chemicals in the Eye

Treatment:

- Wash away the chemical as quickly as possible by holding the affected side of the face under cold water, so that the water drains away from the face. Continue this for 10 minutes.
- If washing is not possible, lay the casualty down, protect the uninjured eye, and gently pour water into the open affected eye to drain away the chemical.
- Lightly dress the eye with sterile eye pad or clean cloth.
- Remove to hospital immediately.

Blow to the Eye

Treatment:

- If severe, if there is loss of vision, seek medical assistance.
- While waiting, cover the eye with clean dressing or clean folded handkerchief and keep the patient lying flat and quiet.

SAFETY TAILGATE GUIDE

First Aid for Eye Injuries

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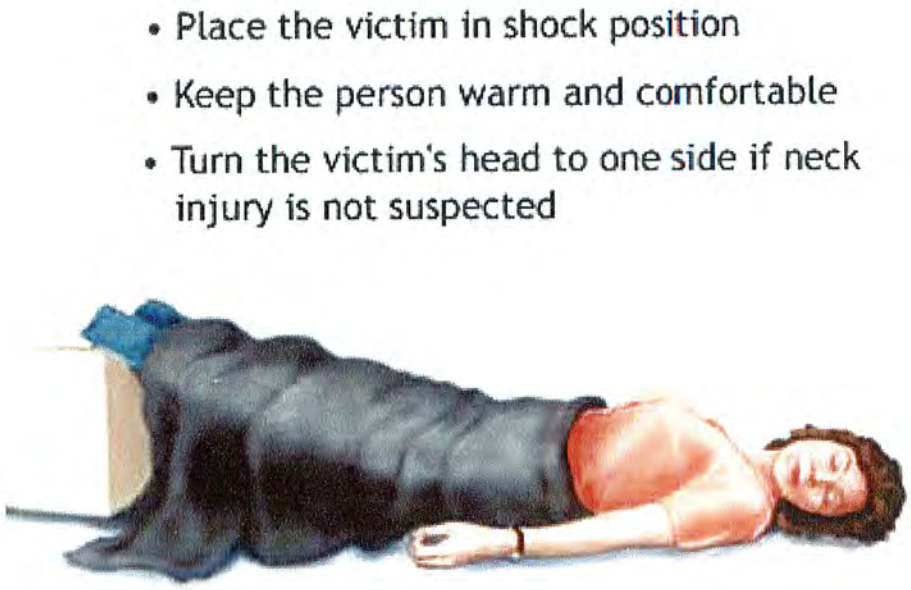
First Aid for Shock

Anytime someone has an injury; you must treat them for shock. Shock is the failure of the cardiovascular system to circulate enough blood to the vital organs. When a victim goes into shock, the body tries to heal itself by slowing circulation.

To help a victim who is in shock:

- Place them in a lying down position with the legs elevated 8-12 inches, as this will increase the circulation
- If the victim has a head, neck or back injury, leave them lying flat. (If you elevate the legs, you may do more damage to the spine)
- Cover them with a blanket to conserve body heat.
- If the victim has any difficulty in breathing, place them in a reclining position; this may improve their breathing.
- Monitor the vital signs closely and make sure that professional medical help are on the way.



SAFETY TAILGATE GUIDE

First Aid for Shock

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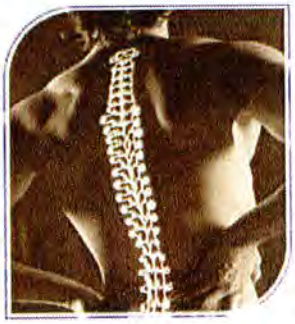
Back Injuries - Get Your Crew Back in Control

Jokes about nagging back pain get standup comedians a lot of laughs, but back strains and sprains are not at all funny, nor should they be an unavoidable curse to anyone.



Back injuries suffered in California's workplaces last year ran up a bill of millions of dollars. Those disabling back injuries were no laughing matter for the workers who lost time from work or from their personal activities. The sad truth is that most of the pain and lost time could have been prevented if workers had been more aware of how their backs function and how to safely lift bulky or heavy loads.

About your back- The *back* is a network of fragile ligaments, discs, and muscles that can easily be thrown out of order. The back's complex design breaks down when it is forced to perform activities it was not designed to do.

Watch your back- One sure way to risk injuring the back is to lift heavy or bulky loads improperly or unassisted. The unsupported back cannot operate like a derrick or a crane boom. Lifting with the back twisted or bent just begs for a pulled muscle or ruptured disc. The back can be damaged quickly but can take a long time to heal. So workers should be encouraged to do their lifting with good sense and a little extra help from a co-worker or mechanical aid.

How to Lift Properly

- Squat over the item to be lifted, and face it squarely. In this position, the back gets added lifting strength and power from the legs and arms. Tilt the item on edge with its long axis straight up so the center of the weight is as high as possible above the ground.
- Next, move up close to the item, because the backbone must act as a supporting column, and it takes the least strain close in. In this position, it's OK to lift.
- Still squatting, the feet should be set with legs pointed right at the load, with the back straightened
- Then grasp the load with both arms and slowly stand up with it.

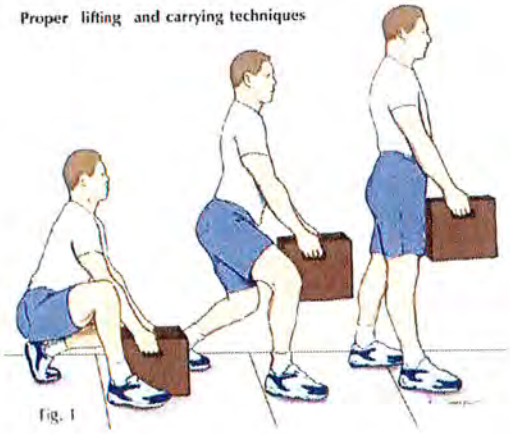


Fig. 1

You might notice that the correct way to lift is the easiest way to lift the load, with the least strain and awkwardness. To lift the wrong way will, over time, cause injury and pain and then no one will be laughing.

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Don't Take Back Problems Sitting Down

Why do so many of us have back problems today? In part, it's the way our work and lifestyle has evolved. As people grow more sedentary in an increasingly automated world, we're doing more sitting and adding extra pounds. As a result, our backs are becoming more vulnerable to injury.

Sitting, especially slouching, is one of the most common positions during our waking hours. It also happens to be one of the worst positions for our backs, by putting continuous pressure on the lower back muscles and disks.

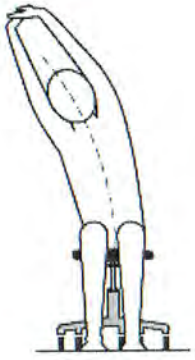
Low back pain is a warning that something is wrong. Recognize this warning and take steps to prevent a back problem from getting worse.

Vehicular vibration adds additional stress to the backs of those who drive long distances.

Here's some back comfort tips for drivers:

- Position the seat forward so that your knees are bent. If the tilt of the seats can be adjusted, change the angle slightly every so often.
- Placing a cushion at the small of your back and sitting in a slightly reclining angle may ease pressure on your lower back while driving.
- Change your sitting position frequently or get out of the vehicle every hour and walk around for a few minutes.
- Grip the steering wheel at the nine and three o'clock hand positions. This puts your arms and shoulders in a more neutral position.

Here are some helpful suggestions if you sit for long periods in an office chair during the course of your workday:



- Choose the right chair, a chair that supports the length and width of your back with adjustable armrests and a seat height you can adjust.
- Sit smart. Sit straight and close to your work, don't slump forward. Your buttocks should rest against the back of the seat. Your knees should stick out a hand's width beyond the edge of the chair with your feet resting comfortable on the floor or footrest.
- Adjust your work height and angle. Your surface work and keyboard should be at elbow level. If you work at a computer, the top of your screen should be at eye level.
- If possible, get up regularly and stretch or, shift your sitting position at least once every 30 minutes.

There are also some general lifestyle choices, which can reduce stress on your back. Sleep on a firm mattress, control your weight, getting some exercise, and for men, take that bulging wallet out of your back pocket when you sit. Make sitting a pleasure not a pain.

SAFETY TAILGATE GUIDE

Back Injuries - Get Your Crew Back in Control

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

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Ergonomics: Breaks, Rest Periods & Stretches

Ergonomic injury risk factors include forceful movements, repetitive motions, awkward postures, and lack of rest. Rest periods give the body time to recover from work; break time exercises and stretches strengthen the body. Workers should think of themselves as Industrial Athletes; athletes wouldn't participate in a sport without proper rest and warm-up, so use the same preparation on the job.

Maintaining overall health reduces your risk of injury. Get a good night's sleep to rest your body and maintain alertness. Eat healthy foods and drink fluids to boost energy and stay hydrated. Aerobic exercise and weight training increase strength and vitality. Stretching, yoga, and pilates improve flexibility and build core body strength.

Pay attention to signs of discomfort and fatigue on the job; these are warning signs from your body. As muscles tire during a work task, slouching can lead to poor posture, sloppy, uncontrolled movements, and injuries. Rest breaks mean recovery for the body. During a job task, take micro-breaks lasting 10-15 seconds every ten minutes. Take mini-breaks lasting 3-5 minutes every thirty to sixty minutes. These short breaks give the body a rest, reduce discomfort, and improve your performance.

Alternate your work activities and postures throughout the day. Rotating tasks may seem inefficient, but the rest and use of different muscle groups increases energy and maintains productivity. For example, if you are a landscaper, don't trim all of the shrubs, sweep up the trimmings, and then leaf-blow the whole area; work in sections and trim, sweep, and leaf-blow in alternating tasks. If you work at a single workstation and job task all day, move into different postures while you work: first standing, then standing with one foot resting on a stool, then sitting.

Stretches help you warm-up before work and relax during breaks; they increase flexibility and boost blood flow and oxygen to muscles. Perform stretches slowly and gently; avoid extreme postures and stop stretching if you feel pain or discomfort. Physical and Occupational Therapists are the most qualified individuals to generate a specific stretching and warm-up program.

Overall fitness and flexibility, adequate sleep, task rotation, and rest breaks can help limit the overall risk of injury.

SAFETY TAILGATE GUIDE

Ergonomics: Breaks, Rest Periods & Stretches

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SAFETY TAILGATE GUIDE

Avoiding Falls

Many serious and fatal injuries are caused by falls.

Everyone working on construction jobs must be alert to the hazards that can cause falls. If hazards are discovered, they should be reported to the supervisor and immediate action should be taken to eliminate them.

The following are the hazards that cause the majority of falls in the construction industry. Let's look at the ways to prevent or eliminate these hazards.

- Slippery areas, debris, lumber, and various hard materials and equipment scattered over the floor and construction site can cause serious falls. Proper housekeeping can eliminate these hazards and reduce falls caused by slipping, tripping and stumbling. Slippery floors caused by oil or grease spills or ice should be cleaned up immediately.
- Tools should be stored in a box or rack when not in use. Scrap and debris should be placed in a scrap container.
- Stairways and stairwells can also be serious hazards. Failure to use the handrail can result in a serious fall from the top to the bottom of the stairway. When going down stairs, keep your hand on the handrail so you can grasp it quickly to prevent a fall.

- Worn or broken treads on stairs are also slipping hazards. Replace any defective treads. Never place or store materials or tools on stairways.
- Floor openings and pits should always be barricaded or covered with planking that is securely fastened in place.
- Many serious falls can occur while hurrying. Walk, don't run. Management can do everything possible to provide safe working conditions. But we need your help.

Report any unsafe condition you discover immediately and follow the helpful suggestions we have discussed.

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

SAFETY TAILGATE GUIDE

Avoiding Falls

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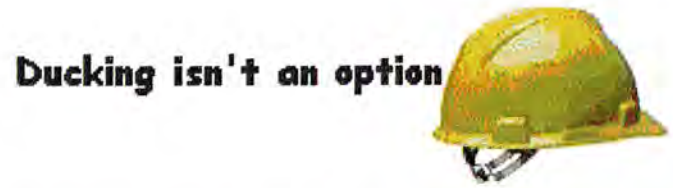
SAFETY TAILGATE GUIDE

Keep Your Hat On - Hard Hat Safety

When it comes to personal protection, your best friend on the job is your hard hat. And you've earned the right to wear it proudly because the work you do is demanding and dangerous. Over the years we've all known someone whose life was save by a hard hat. Lets talk about how your hard hat does its job, and how you can make sure it keeps on protecting you.

No matter what your hard hat is made of fiberglass or thermoplastics, it is specifically designed and certified by the American National Standards Institute to protect you from high impact. How much impact? Well, how about a hammer dropped onto your head from two stories above? A hard hat is able to do this because the shell is flexible enough to absorb some of the impact and transfer the rest of the impact to the special system of webbing inside the hat. The webbing in turn stretches and spreads the remaining stock throughout he head and body. And a hard hat does more than protect you from impact. The space in the hat combines the reflective surface to help you keep a cool head – 5 to 7 degrees cooler than the average baseball cap, for instance. In addition to protecting from impact and heat, Class A and B hats also protect from certain types of electrical shock.



Because a hard hat is carefully designed, it will only work well when you use it right. This means keeping that space between the webbing and the shell open – it wasn't meant as a place to store your cigarettes or your gum. Avoid wearing headgear under your hard hat, except for cold-weather liners specifically designed for it. The straps should be adjusted to fit you and only you: snug but not tight. Use only your own hat.

Check your hat for scratched, cracks, dents or brittleness. Wash the webbing in detergent at least every 30 days, replacing it when it gets frayed. Avoid getting creative with the shell. Drilling ventilation holes or painting the hat with solvent-based paints can weaken the shell. Incidentally, before you go out and test your hats by dropping hammers on them from a second story window, let me point out that a hard hat is designed to protect you from this impact – but only once. In fact, any time your hat receives a heavy blow you should replace it. By the same token, avoid dropping or throwing your hat. Some companies automatically replace hats at regular intervals even when there's no visible damage.

Some 70,000 workers are disabled by head injuries each year. Keep your hard hat on, and your chances of staying ahead of those injury statistics are excellent.

SAFETY TAILGATE GUIDE

Keep Your Hat On - Hard Hat Safety

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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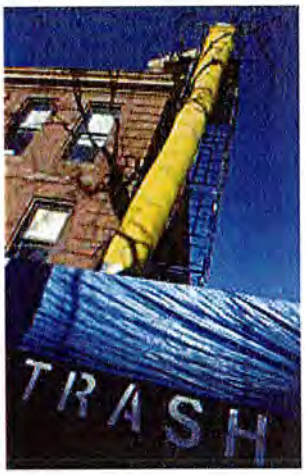
Housekeeping on Construction Sites

Picture your construction site in your mind. Construction sites can be busy and hectic with many workers and multiple contractors carrying on different yet simultaneous operations. What would happen if these groups never cleaned up after themselves? Trash and debris would pile up to become one large hazardous obstacle course. Imagine how difficult it would be to maneuver around such a site. How would you dodge the falling materials thrown or accidentally pushed over the sides of the building? How would you find your tools and supplies if they were covered by debris from other workers? A construction site with poor housekeeping is not productive nor is it a safe working environment.

Although, the overall safety of a construction site is the ultimate responsibility of the general contractor who maintains the site safety plan and communicates its information to all of the subcontractors on site, every worker on the site is responsible for safety. It's every worker's responsibility to know and following the site safety plan, practice good housekeeping, follow recommended work practices, and promptly report and/or correct hazards at the worksite.

If you're a construction site worker, you must...

- Do your part to keep the worksite free of unnecessary clutter and debris that could cause an injury or accident;
- Try to limit the amount of materials and chemicals onsite to the quantities that you will need;
- Place trash and debris in the proper receptacles located; conveniently throughout the job site as you go about your daily work;
- Remove combustible materials such as wood and paper from the site promptly;
- Keep form and scrap lumber with protruding nails cleared away from work areas, passageways, and stairs;
- Remove or bend over protruding nails prior to disposal and storage;
- Keep storage, staging, and work areas, along with all stairs and walkways on the construction site, free of obstructions, and debris;
- Store tools and materials neatly and out of the way in storage bins or lockers and keep flammable or hazardous wastes in covered, segregated waste containers;
- Ensure that materials stored on roofs or at heights are secured;
- Never throw waste, materials, or tools from a building or structure. Debris chutes are a safe means of removing this material from an elevated work site;
- Guard the area where the material could fall and post signs around the workplace to wear hard hats and watch for falling debris;
- Place protective guards across areas where workers may could fall or could face an impalement hazard;
- Control muddy areas using fill, gravel, boards and plywood, or other means.



You can do your part to keep the worksite a safer place for yourself and your coworkers, if you just remember to clean up as you go and at the end of each shift.

Housekeeping on Construction Sites

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

Trainee Names:

Housekeeping is an Important Part of Your Job

Your employer is not your mother! What do I mean by that, you ask? I mean, just like when you were young, your mother had to remind you to pick up after yourself. Now that you are on your own, you still need to be told sometimes. Housekeeping is a very important part of your job. Not only does it improve the overall appearance of your shop or work area, it shows that you take pride in where you work. The best way that you can help keep your work place clean is to pick up after yourself! Don't leave it for the next shift or another craft to worry about.

Here are some reasons to keep your work area clean:

- You reduce trip and fall hazards.
- Increased production. You won't have to waste time looking for a misplaced tool. You will always know where your tools are when you put them where they belong after you use them.
- If someone falls because of materials you left on the floor, you will feel guilty because you were a causal factor in the accident. Also, the injured worker may want to remind you of that!
- You reduce a potential fire hazard by removing unneeded combustibles from the work area.

Here are some tips to maintain a clean work area:

- Plan the job. Make a list of the needed tools/materials. This will help to minimize unnecessary clutter around your work area.
- Develop a routine for cleaning up at the end of the shift or periodically during the shift.
- Do not allow employees to eat, drink or smoke in the work area, not only because of litter problems, but also because of hygiene concerns.
- This is not, by all means, all-inclusive. Take responsibility for yourself and your work area! Remember, a clean work area is a productive work area and also enhances safety!

SAFETY TAILGATE GUIDE

Housekeeping is an Important Part of Your Job

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

Instructed by:_____ Date:_____

Trainee Names:

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Construction Safety - Identifying Construction Hazards

The following examples are intended to remind workers of the typical construction hazards we see regularly with hopes that everyone will put safety first and correct hazards as they find them.

HOUSEKEEPING - Not enough can be said about maintaining a clean work area! Keeping your area swept and free from debris not only prevents tripping hazards, but it makes it easier to perform your work. Make sure stored materials are stacked neatly and away from work areas.

EXTENSION CORDS - Make sure cord sets have a grounding plug in place before using. If insulation on cords is damaged, take the cords out of service. Elevate extension cords to prevent tripping hazards.

ELECTRICAL PANELS - All panels and boxes must have a cover in place to prevent electrical shock. Ground Fault Circuit Interrupters (GFCI) should be required on all circuits that will be used for portable power tools.

SCAFFOLDING - Elevated working surfaces must be fully planked with toe boards, handrails and mid rails installed. Scaffolds must be erected with vertical members resting on a solid base with the scaffold level. Never climb the outside of a scaffold; ladders are required. Never climb a ladder while carrying tools or materials. Instead, use a hoist line.

LADDERS - Stepladders are a major source for construction accidents. Make sure they are used properly and maintained in good repair. Remove broken or damaged ladders from service immediately. Never lean stepladders against a wall or work surface. Never separate extension ladders. Always make sure extension ladders are tied off.

SLIPPERY SURFACES - Make sure sand or some other slip resistant material is applied to icy walking surfaces. Clean up oil and water spills immediately. Another serious cause of slips are "rolly pollys." These are small round objects that can cause a slip when stepped on. Typical ones include: Welding rod ends, stubs from conduit and small diameter pipe.

LIGHTING - Most construction areas require a minimum of 5 foot candles. If you are having a hard time seeing your work, then you need to let someone know and get something done about it. Stairways are a common problem area and require good lighting.

EYE PROTECTION - It is too common to see workers who need eye protection not wearing it. The typical reason is because they did not have glasses with them. Wearing safety glasses all the time prevents this situation. Safety glasses alone are not adequate for tasks that create flying particulate matter such as grinding or cutting. Wear a face shield as well.

SAFETY TAILGATE GUIDE

Construction Safety - Identifying Construction Hazards

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Take a Close Look at Close Calls

A "close call" or a near-miss without injury is easy to shrug off and forget. But, there is a danger in brushing off injuries that don't hurt, harm or damage. When a "close call" happens, it should immediately send up a red warning flag that something was wrong, unplanned, unexpected, and could happen again. The next time it happens, it could result in serious damage, injury or death.

For every near-miss there are usually several contributing factors, most of which can be controlled. The best way to prevent the reoccurrence of an incident is by looking at those close calls. By investigating the root causes of an incident, steps can be taken to eliminate the hazard and improve the work system.

Sometimes there are multiple causes for an injury involving: equipment (unguarded machinery), environment (poor lighting or noise level), people (procedures not understood or not followed) or management (allowed shortcuts). Don't rush to judge. Examine the facts and find what's missing. Look for immediate and underlying causes. An immediate cause may be an unsafe condition like a mechanical failure or it could be an unsafe action by an employee. The underlying cause could be poor machine maintenance, a missing guard, a crowded work area or a lack of training.

All incidents should be reported to the supervisor so that injury report forms can be completed. Once an investigation is completed, solutions should be sought to prevent the injury from occurring again. Solutions may involve engineering controls, administrative controls, additional training, or increased communication between management and workers.

Workers should daily inspect the work area for unsafe conditions or unsafe actions and, if found, report them to the supervisor. Hazard awareness is key to preventing accidents before they happen. Take steps to eliminate hazards as soon as they are discovered. Learn the real lesson from close calls. They can happen again and again until they cause injury, so tell your supervisor about every accident, no matter how minor it may seem at the time. You never know when an incident may be repeated and result in an injury or even death.

SAFETY TAILGATE GUIDE

Take a Close Look at Close Calls

I have been instructed in the basic hazards of this equipment/procedure as listed above. I understand this proper safe work procedure.

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