

Heavy Equipment Operation

Packet

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Sample Equipment Waiver and Release of Liability

Waiver and Release of Liability for Equipment

[Equipment Owner's Name or Company Name] [Address] [City, State, Zip Code] [Email Address] [Phone Number]

[Company Name Leasing/Using Equipment] [Address] [City, State, Zip Code] [Email Address] [Phone Number]

[INSERT EQUIPMENT OWNER/ COMPANY NAME], hereafter identified as the "LESSOR," hereby acknowledges that [INSERT COMPANY NAME LEASING/USING EQUIPMENT], hereafter identified as the "LESSEE," is voluntarily using certain equipment (the "Equipment") provided by [INSERT LESSOR] (see attached Schedule A for equipment list). In consideration of being allowed to use the "Equipment", the LESSEE agrees to release and waive any claims, liabilities, damages, actions or causes of action that may arise from or be related to the LESSEE'S use of the "Equipment", as detailed below:

- 1. Assumption of Risks: The LESSEE understands and acknowledges that the use of the "Equipment" carries with it certain inherent risks and hazards. The LESSEE voluntarily assumes all risks associated with the use of the "Equipment", including but not limited to risks of injury, property damage or loss.
- 2. Release and Waiver: To the fullest extent permitted by law, LESSEE hereby release, discharge, and hold harmless the LESSOR its officers, directors, employees, agents, successors, and assigns from any and all claims, liabilities, demands, actions, causes of action, costs and expenses, whether at law or in equity, that arise out of or in connection with the use of the "Equipment".
- 3. Indemnification: The LESSEE agrees to indemnify and hold the LESSOR harmless from any claims, liabilities, damages, actions or causes of action brought against them by any third party arising out of or in connection with LESSEE's use of the "Equipment".
- 4. Personal Responsibility: The LESSEE acknowledges that the LESSEE is solely responsible for its actions and conduct while using the "Equipment". The LESSEE agrees to use the "Equipment" in a safe and responsible manner and comply with all applicable laws, rules and regulations.
- 5. Safety Responsibility:
 - a) Compliance With Regulations: The LESSEE agrees to comply with all applicable laws, regulations and industry standards relating to the use of the leased "Equipment" and safety requirements. This includes but is not limited to occupational health and safety regulations and guidelines.
 - b) Maintenance and Inspection: The LESSEE shall be responsible for inspecting and maintaining the safety equipment in good working condition throughout the lease term. Any necessary repairs or replacements shall be promptly made by the LESSEE at their expense unless such repairs or replacements are required due to normal wear and tear.
 - c) Training Requirement: Prior to the LESSEE'S use of the leased "Equipment", the LESSEE shall provide training to the LESSEE'S designated operator(s) on the proper operation, handling, and maintenance of the "Equipment". The training shall cover all necessary aspects of safe and effective "Equipment" operation.

- d) Certified Trainer: The LESSEE shall ensure that the training is conducted by a qualified and certified trainer who has the necessary expertise and knowledge regarding the leased "Equipment". The trainer shall have sufficient experience and competence in training individuals on the safe use of the specific "Equipment" being leased.
- e) Training Content: The training shall include but not be limited to the following topics:
 - i. "Equipment" operation and controls
 - ii. Safety procedures and precautions
 - iii. Maintenance and servicing requirements
 - iv. Potential hazards and risk mitigation measures
 - v. Emergency procedures and protocols
 - vi. Any specific guidelines or regulations applicable to the "Equipment"
- f) Training Documentation: The LESSEE shall maintain records of the training provided, including the date, duration, topics covered, and the names of the LESSEE'S designated operator(s) who received the training. The LESSEE may be required to sign an acknowledgment confirming their participation in the training.
- g) Acknowledgment of Training: By signing this lease agreement, the LESSEE acknowledges that they possess the skills and knowledge required to safely operate the leased "Equipment". The LESSEE agrees to operate the "Equipment" only in accordance with the provided training and the manufacturer's instructions.
- h) Indemnification: The LESSEE shall indemnify and hold the LESSOR harmless from any claims, liabilities, fines, injury, or causes of action or expenses arising out of the LESSEE'S failure to operate the leased "Equipment" in a safe and proper manner, including failure to comply with the training received.
- i) Refresher Training: If the lease term extends for a significant duration or if substantial modifications are made to the leased "Equipment" during the lease term, the LESSOR may require the LESSEE or the LESSE'S designated operator(s) to undergo refresher training to ensure ongoing competency and safety.
- 6. LESSEE's Insurance Obligations:
 - a) Throughout the term of this "Equipment" lease contract, the LESSEE shall obtain and maintain, at its own expense, comprehensive general liability insurance, including product liability coverage, with limits of not less than [insert coverage limits] per occurrence and [insert aggregate coverage limits] in the aggregate.
 - b) LESSEE shall also maintain property insurance covering the "Equipment", including but not limited to fire, theft and damage, with coverage limits at least equal to the full replacement value of the "Equipment".

c) The insurance policies obtained by the LESSEE shall name the LESSOR as an additional insured and loss payee, as their interests may appear, and shall contain a waiver of subrogation in favor of the LESSOR.

7. Proof of Insurance:

- a) LESSEE shall provide the LESSOR with certificates of insurance evidencing the coverage required under this clause. Such certificates shall be provided prior to taking possession of the "Equipment" and shall be maintained and renewed throughout the lease term.
- b) LESSEE shall provide written notice to the LESSOR in the event of any material change or cancellation of the insurance coverage.
- 8. Compliance with Insurance Requirements:
 - a) LESSEE shall ensure that the insurance coverage complies with all applicable laws and regulations.
 - b) The insurance policies obtained by the LESSEE shall be issued by reputable and financially sound insurers acceptable to the LESSOR.
 - c) LESSEE shall promptly notify the LESSOR in writing of any claims made under the insurance policies and shall cooperate fully with the LESSOR and its insurers in the investigation and settlement of such claims.
- 9. Binding Effect: This Waiver and Release of Liability shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.
- 10. Governing Law and Jurisdiction: This Waiver and Release of Liability shall be governed by and construed in accordance with the laws of [State/Country]. Any dispute arising out of or in connection with this agreement shall be subject to the exclusive jurisdiction of the courts in [State/Country].

[INSERT LESSEE] has carefully read and understood this Waiver and Release of Liability, and [INSERT LESSEE] voluntarily agrees to its terms and conditions. [INSERT LESSOR] acknowledges that [INSERT LESSEE] has had the opportunity to seek independent legal advice before signing this document.

LESSEE'S Authorized Representative Full Name:		
LESSEE'S Authorized Representative Signature:		Date:
LESSOR'S Full Name:	-	
LESSOR'S Signature:	_ Date:	

Schedule A Equipment List

Equipment Name/Serial Number:	Jobsite:	Dates of Use:

Note: This waiver is a general template and may not be suitable for all situations. It is recommended to consult with a lawyer to ensure compliance with local laws and to customize the waiver to meet your specific needs.

Heavy Equipment Checklists

CHECKLIST | HEAVY EQUIPMENT INSPECTION

Presented by IDR Specialty

Date: Review conducted by:

The use of heavy equipment on the job can carry various safety risks. With this in mind, it's important to implement adequate precautionary measures—such as inspecting equipment for potential problems before use. Utilize this checklist to properly inspect heavy equipment in the workplace and identify any repair needs.

BODY APPEARANCE	GOOD	NEEDS REPAIR	N/A
Body panels (e.g., dents, dings and rust)			
Visible weld repairs, stress cracks			
Glass condition (e.g., cracks larger than 0.2 inches)			
Windshield wipers			
Chassis/undercarriage (e.g., front and rear axles and springs)			
Lubrication points			
COCKPIT/OPERATOR CABIN	GOOD	NEEDS REPAIR	N/A
Control switches			
ROPS			
Steering wheel			
Hour meter			
Gauges (e.g., speedometer, odometer, oil pressure, fuel and battery)			
Door latches/canopy			
Horn			
First-aid kit			
Fire extinguisher			
Seat belt(s)			
Hand signal chart			
Condition of seat(s) and carpeting			
Clutch pedal			

Vehicle documentation			
ENGINE/UNDER THE HOOD	GOOD	NEEDS REPAIR	N/A
Oil pressure/color/appearance			
Oil leaks			
Coolant color/appearance			
Exhaust color			
Belts			
Grime buildup			
Engine noises			
Fuel system			
Air filter			
Cabin air filter			
Windshield wiper fluid			
Power steering fluid			
Transmission fluid			
Spark plugs			
Brake fluid			
Battery			
Engine mount			
ELECTRICAL SYSTEM	GOOD	NEEDS REPAIR	N/A
Battery (e.g., corrosion and loose terminals)			
Headlights/taillights			
Turn signals			
Backup signal			
Starter			
Alternator			

$\pmb{\text{CHECKLIST}} \mid \text{heavy equipment inspection}$

Other:			
HYDRAULIC SYSTEM	GOOD	NEEDS REPAIR	N/A
Hydraulic oil level			
Hydraulic pumps			
Hydraulic hoses			
Reservoir			
POWERTRAIN	GOOD	NEEDS REPAIR	N/A
Transmission			
Shift lever			
Clutch			
Front and rear axles			
Lug nuts			
Tire tread			
Tire pressure			
Parking brake			
Track condition			

See below for additional, equipment-specific checklists. Contact us today for further risk management guidance.

EQUIPMENT-SPECIFIC CHECKLISTS

CRANES—TOWER	GOOD	NEEDS REPAIR	N/A
Swivel bearing			
Swivel motor			
Swivel joint			
Hydraulic motor(s)			
Hydraulic hoses			
Hydraulic pressure			
Lattice boom extension			
CRANES—BOOM	GOOD	NEEDS REPAIR	N/A
Lift cylinder			
Extend cylinder			
Hydraulic hoses			
Wear pads			
Wire rope end			
Tower and lift cylinder pins			
Sheave/wear pads			
CRANES—LOAD BLOCK AND HOOK	GOOD	NEEDS REPAIR	N/A
Capacity marking			
Weight marking			
Sheave/wear pads			
Safety latch			
Hook swivel			
Hook twist			
Pin for load block			
Hook appearance (e.g., cracks and corrosion)			

CHECKLIST | HEAVY EQUIPMENT INSPECTION

Other:			
CRANES—OUTRIGGERS	GOOD	NEEDS REPAIR	N/A
Pad condition			
Outrigger function			
Beams			
Outrigger lock			
Hydraulic hoses			
SIDE STEERS	GOOD	NEEDS REPAIR	N/A
Cab side screen/shields			
Bucket teeth/cutting edge			
Lifting eye			
BACKHOES/WHEEL LOADERS	GOOD	NEEDS REPAIR	N/A
Pad condition			
Outrigger function			
Beams			
Outrigger lock			
Hydraulic hoses			
Loader bucket			
Lift cylinder			
Extend cylinder			
Hydraulic hoses			
Wear pads			
Wire rope end			
Tower and lift cylinder pins			
Sheave/wear pads			
Backhoe			

$\pmb{\mathsf{CHECKLIST}} \mid \mathsf{HEAVY} \; \mathsf{EQUIPMENT} \; \mathsf{INSPECTION}$

Bucket teeth/cutting edge				
Swing gear and cylinders				
Swing lock/brake				
Lifting eye				
Backhoe, swing tower and loader pins and bushings				
TELESCOPIC HANDLERS (TELEHANDLERS)	GOOD	NEEDS REPAIR	N/A	
Fork condition				
Fork carriage condition				
ВООМ				
Lift cylinder				
Extend cylinder				
Hydraulic hoses				
Wear pads				
Wire rope end				
Tower and lift cylinder pins				
Sheave/wear pads				
OUTRIGGERS				
Pad condition				
Outrigger function				
Beams				
Outrigger lock				
Hydraulic hoses				
CRAWLER BULLDOZERS	GOOD	NEEDS REPAIR	N/A	
Bucket teeth/cutting edge				
Blade lift cylinder				

RIPPER ASSEMBLY				
Scarifier points				
Scarifier shanks				
Ripper points				
Ripper shanks				
MOTOR GRADER	GOOD	NEEDS REPAIR	N/A	
CIRCLE DRIVE				
Circle shoes				
Moldboard brackets				
Wear strips				
Circle drive gears				
RIPPER ASSEMBLY				
Scarifier points				
Scarifier shanks				
Ripper points				
Ripper shanks				
Blade/plow				
ASPHALT FINISHERS	GOOD	NEEDS REPAIR	N/A	
Hopper				
Augers				
Screed				
ROAD ROLLERS	GOOD	NEEDS REPAIR	N/A	
Roller				
Water tank				
Vibration gear pump				



CHECKLIST | DAILY OPERATING INSPECTION FOR HEAVY EQUIPMENT

Presented by IDR Specialty

Use this daily pre-shift equipment inspection checklist to prevent safety issues caused by damaged equipment. This should be completed prior to the use of the equipment and at the start of each shift. All operators must be trained and evaluated on the types of equipment and attachments they will be operating.

Date:	Operator:	Job number:
Equipment number:	Type:	Milage/hours:
Location:	Serial number:	Shift:
Hour meter reading:	Mileage:	

SAFETY AND OPERATIONAL CHECKS (PRIOR TO EACH SHIFT)

Have a qualified mechanic correct all problems.

EXTERIOR	N/A	OK	MAINTENANCE NEEDED
Lights			
Tires (condition and pressure)/tracks			
Steps/handrails			
Exhaust			
Hydraulic hoses (check visually)			
Bucket			
Teeth/edge			
Safety warnings attached (refer to parts manual for location)			
Fitting (greased)			
Hydraulic oil fluid level (dipstick)			
Transmission fluid level (dipstick)			
Operator's manual in container			
Capacity plate attached (information matches model, serial number and attachments)			
Fuel level			

$\pmb{\text{CHECKLIST}} \mid \text{ daily operating inspection for heavy equipment}$

Hitch/coupler		
Wipers		
Fenders		

INSIDE CAB	N/A	OK	MAINTENANCE NEEDED
Backup alarm functioning properly			
Parking brake functioning smoothly			
Service brake functioning smoothly			
Steering operation functioning smoothly			
Drive control (forward/reverse) functioning smoothly			
Tilt control (forward and back) functioning smoothly			
Hoist and lowering control functioning smoothly			
Roll-over protection in place			
Horn functioning properly			
Lights and alarms (where present) functioning properly			
Hour meter functioning properly			
Hydraulic controls functioning properly			
Instrument monitors/gauges functioning properly			
Glass windows intact			
Mirror intact			
Fire extinguisher inspected			

Explanation of defects:		
☐ Repairs needed		
☐ Repairs NOT needed		
Operator's signature:		
☐ Repairs COMPLETED by mechanic		
Mechanic's signature:	Date:	
Contact your supervisor for further assistance in conducting daily checklists for pethereof.	owered industrial trucks or	variations

Heavy Equipment Safety Matters

Provided by: IDR Specialty

Avoiding Extra Riders on Equipment

You operate heavy machinery on a regular basis, so you know many of the hazards you face. But you may not realize that letting an extra person ride on equipment intended to transport only one person is asking for an accident.

It is important that everyone on the job site is familiar with the dangers of extra riders on equipment, so that we can ensure everyone's safety and protection.

Hazards of Extra Riders

- The operator may not be able to see his or her surroundings as easily.
- Access to crucial operating levers or controls on the equipment may be obstructed.
- The operator could become distracted by the rider's presence.
- There is increased risk of the extra rider being thrown from the equipment because they lack protection from safety belts and rollover features.
- If the extra rider is outside the cab, he/she is being exposed to potentially harmful dust, noise and chemicals.
- It increases the risk of a multiple-injury accident.

Alternative Solutions

- Use a car or truck to transport coworkers to remote work areas.
 - Make sure you have safe transportation back from the

- remote area at the end of the day so you are not tempted to catch a ride as an extra passenger on equipment.
- Plan your work assignments in advance so you can secure safe transportation to and from the location.
- Only use seats that were installed by the equipment manufacturer. Do not use makeshift seats on equipment. Just because the extra rider is sitting does not mean he or she is safe from harm allowing an extra passenger is always a hazard.
- An enclosed cab does not mean the extra rider is protected. In an overturn, this will not protect the extra passenger from harm.
- Even if the equipment has a training seat, it should only be used by people who are legitimately being trained.
- Familiarize yourself with IDR Specialty
 Marine's extra rider policy. It is strictly
 enforced, so set a good example for one
 another.

Provided by: IDR Specialty

Earth Mover Safety

Because of their size and mobility, earth movers present a host of unique risks on the jobsite. Moreover, when injuries occur in or around earth-moving machinery, they tend to be serious—and sometimes even fatal. To prevent accidents and injuries on the worksite, follow these safety guidelines.

Plan Ahead to Prevent Accidents
Your commitment to safety begins before you even step into the driver's seat. Thorough preparation and planning can greatly reduce your chance of accident or injury.

Earth-moving machine operators should:

- Check the work area for hazards such as boulders, tree roots or overhead power lines. If power lines are present, maintain 10 feet of clearance at all times.
- Take note of ground conditions, especially if mud, snow, ice or surface water is present.
- Inspect your equipment prior to use. Look for loose or missing bolts or pins, oil or coolant leaks, and any signs of damage to wheels, tires, hydraulic systems or other moving parts.
- Check the brake system and brake lights to ensure they are fully operational.
- To ensure safe visibility, make sure the windshield and mirrors are free of dirt and debris.

Safe Operating Procedures

Earth movers can cause serious damage if proper operating precautions are not followed:

- Stay seated with your seatbelt fastened at all times while operating the earth mover.
- Wear any and all required personal safety equipment, including safety glasses, gloves, helmet, ear protection and proper footwear.
- Do not exceed manufacturer's recommended load limits.
- Avoid sharp turns on uneven terrain, which can cause the vehicle to become unsteady and potentially flip over.

General Safety Policies

- Make sure all earth-moving vehicles are equipped with rollover protection.
- Maintain back-up alarms for equipment with limited rear visibility.
- Train workers to stay clear of backing or turning vehicles with rotating cabs.
- Verify that all machine operators have proper training and experience.

If you have any questions or concerns about earth mover safety, contact your supervisor.

Provided by: IDR Specialty

Maintain Three-point Contact to Prevent Falls

Mounting or dismounting a large truck or piece of equipment without hurting yourself seems simple, but many accidents involve this type of injury. The best way to prevent falling while getting into or out of a truck, tractor cab or heavy equipment is to follow the three-point contact system. Keep reading to learn more.

The Three-point Contact System

Three-point contact is exactly that—three of your four limbs are in contact with the vehicle at all times. That can be two hands and one foot, or two feet and one hand.

No matter what type of access system available on your vehicle or equipment, the three-point system will significantly reduce the chance of a slip or fall because it allows you to maintain maximum stability and support when entering and exiting the equipment. The three points work to form a triangle, distributing your body's weight at the center.

Remember, the only person who can prevent a fall is you. Here are some simple dos and don'ts to follow when entering or exiting a large vehicle or other construction equipment to avoid injury.

Dos

- Exit and enter your vehicle facing the cab.
- Use extra caution in bad weather.
- Get a firm grip on rails or handles.
- Use parts designed by the manufacturer for mounting and dismounting. This includes steps, running boards, traction strips, foot

holds and handgrips.

- Look below for obstacles on the ground before exiting.
- Wear safe, nonslip shoes with good support.
- Keep your shoes clean. Excess mud, grease and oil can cause you to slip.
- Inspect any hand holds and ladders/rungs to ensure they are in good condition.
- Only climb on and off stationary equipment.

Don'ts

- Never carry anything with your free hand when mounting or dismounting. Put the object on the vehicle floor and reach up for it when you get down on the ground.
- Don't rush to climb out of your vehicle or machinery after a long period of sitting.
 Climb down slowly to avoid straining a muscle or losing your balance.
- Never jump out of equipment or vehicles. You may land off balance and fall.
- Don't use tires, wheel hubs or machine tracks as a step surface.
- Don't use door frames, door edges or door handles as a handhold.

Provided by: IDR Specialty

Mounting and Dismounting Equipment

Because jumping down off large equipment is a common practice for construction workers, it's no surprise that lower back, knee, ankle and neck injuries occur more frequently. Regardless of the type of equipment you work with, mounting and dismounting safely should always be top of mind.

What You Can Do

When a person jumps from a height of more than one foot, the force that goes through the body is about 14 times the person's body weight. In other words, a 165-pound person who jumps out of construction equipment or any other high surface is exerting 2,310 pounds of force on their body.

This can cause injury to bones, tendons and cartilage. And if you're doing this activity multiple times every workday, the damage to the body can be extensive.

To lessen your risk of injuries, follow these simple mounting and dismounting instructions for trucks and other tall equipment or machinery.

- When using a new piece of machinery, become familiar with proper mounting and dismounting procedures.
- When dismounting and mounting, maintain three-point contact. This means having contact with the equipment by either one foot and two hands or one hand and two feet. The smaller the triangle you form with your body, the more stable you are.
- Always face the vehicle, both when

mounting and dismounting.

- Look at the surface below before stepping and make sure it is even to prevent ankle and knee injuries.
- Never mount or dismount moving equipment.
- Do not mount or dismount with anything, including tools, in your hands. Not only does it throw the body off-balance, it also reduces your chance of recovering your balance if you do slip. Use a drop rope to raise and lower supplies, tools and equipment instead.
- Handholds and footholds are on the equipment for a reason—use them.
- Wear appropriate clothing. Loose or torn clothing can get caught on equipment when you are jumping down instead of climbing down. In slippery conditions, wear proper footwear to prevent slipping hazards.
- Proper vehicle maintenance also contributes to the safe mounting and dismounting of equipment. Make sure running boards, treads, steps, footholds and platforms are kept clear. Hazards like ice, snow and grease could cause slips, trips and falls.

Provided by: IDR Specialty

Preventing Pinch Point Injuries on the Job Site

Pinch point hazards are situations where machines, hand tools, equipment and other conditions put workers' hands, feet or entire body in danger. There are many pinch point hazards on the construction site, some as small as a pair of pliers and others as large as an excavator. In fact, most equipment has the ability to cause pinch point injuries.

Pinch point hazards are particularly difficult to guard against because in many cases, they cannot be prevented by using engineering controls or personal protective equipment (PPE). Often times the best defense is using care, caution and alertness on site.

To reduce your risk of pinch point injuries at work, the most important thing you can do is identify potential hazards before your shift or when working with new equipment. Pay particular attention to any equipment with moving parts, moving objects that come into close contact with fixed objects and heavy objects stacked closely together.

Even commonplace objects on the construction site—like extension ladders, heavy steel doors or heavy covers for bins and hoppers can put you at risk. Use the following safety recommendations to protect yourself:

 Be extremely cautious when placing your hands, fingers or feet between two objects.
 If you are within a pinch point, consider alternative ways to get the task done. If there is no other way to complete the task, make sure that all moveable parts are immobilized before continuing to work.

- Keep your feet firmly planted on surfaces designed for walking, climbing or standing, and never use your feet to brace, force or chock objects.
- Wear appropriate gloves for the task at hand.
- Follow all lockout/tagout procedures.
- Secure materials so they cannot fall or roll by strapping, racking or interlocking them down.
- Be cautious when handling drums, rebars, rings and other metal objects.
- Watch out for rolling hazards.
- Refrain from wearing jewelry or loose clothing, and always tie long hair back.
- Know how to turn off equipment immediately in case of an emergency.

Provided by: IDR Specialty

Reduce the Risks of Diesel Exhaust Exposure

A variety of construction equipment relies on diesel fuel for power. Unfortunately, diesel emissions contain approximately 20 times more harmful particles than regular gasoline. This means that there is an increased risk for adverse health effects while working around diesel-powered equipment at the job site.

To stay safe during your daily operations, it is important to follow safe work practices that will reduce your exposure.

Health Effects of Exposure

In the long-term, occupational exposure to diesel exhaust increases the risk of lung cancer and other lung diseases by as much as 40%. In the short-term, such exposure can cause:

- Fatigue
- Drowsiness
- Tightness in the chest
- Wheezing
- Altered sense of smell
- Irritation of the noise, eyes and throat
- Nausea
- Heartburn

If you begin to feel any of these symptoms while working in an area where a diesel engine is running, notify your supervisor and move to an area where you can get some fresh air.

Ventilation Is Important

Exposure increases exponentially when dealing with diesel exhaust in an enclosed area. To

improve ventilation:

- Run engines indoors only when absolutely necessary.
- Attach exhaust extraction hoses to the exhaust pipes of idling vehicles or equipment to direct exhaust outside.
- Use mechanical ventilation systems to help move contaminated air out of the work area.
- Open as many doors and windows as possible to increase circulation.
- Do not run diesel engines near the fresh air intake of a building.

Proper Maintenance Helps

Preventative maintenance practices can reduce the amount of harmful exhaust diesel engines produce.

- Service engines regularly to ensure they function properly and emit as little exhaust as possible.
- Check for leaks in the exhaust system. Never tamper with an engine to try and improve fuel economy. Adjustments may increase emissions.
- Use emission control devices such as collectors, particle traps or air scrubbers.

- Replace any filters, and clean such devices regularly.
- Check vehicles' operator compartments for any damage that may allow exhaust to seep in while in use. This could include cracks or holes in the cab's body or damage to weather stripping around doors and windows.

Personal Protective Equipment (PPE)
If other control methods cannot reduce the amount of exhaust, use proper PPE.

- Only a full-face piece, positive pressure, supplied air respirator can provide adequate protection.
- Make sure respirators are properly fitted, cleaned, stored and maintained by Occupational Safety and Health Administration standards.
- Always use PPE in addition to, and never as a substitution for, other control methods.

For more safety tips, talk to your supervisor.

Provided by: IDR Specialty

Safe Vehicle Fueling at the Worksite

Refueling trucks, cars, machinery or other vehicles is a familiar activity, but it can be an extremely dangerous job if done incorrectly. Not only can improper refueling cause burns, fires or explosions, but the gasoline or diesel itself is also a hazardous substance with the potential for leaks and spills.

Always refuel your equipment in a way that keeps yourself, others and your vehicle safe from damage. Here are some tips to follow when refueling on the job site:

- Always concentrate on the task at hand. Do not try to complete other tasks while refueling.
- Stand by the tank so you can act quickly if something goes wrong.
- Do not refuel while smoking, while others are smoking or near any other open flames.
- Do not overfill the fuel tank 95% full is a good guideline for any type of vehicle.
- On hot days, allow room in the tank for the fuel to expand.
- Turn off the engine and chock the wheels if there is a possibility the equipment or vehicle could roll.
- Do not top off the tank.
- Use only the hold-open latch provided on the pump.

Refueling Machinery With a Portable Container

 Place the container on the ground when refueling, never on the bed of the work

vehicle.

- Keep the nozzle in contact with the fuel tank's inlet tube.
- Do not refuel in areas with heavy vehicle or foot traffic.
- Do not refuel in areas that have the potential for spills or fuel ignition.
- Use only approved fuel containers.
- After filling, wipe off the container and ensure the cap is secure and the air vent is tight.

In the Refueling Area

- Clearly mark refueling areas to avoid the possibility of accidents, including spills or inadvertent ignition.
- Clean up all spills immediately. If you have to leave a spill unattended, mark off the area to reduce to possibility of slips.
- Make sure there is a fire extinguisher available in the area before you begin fueling and that you know how to use it.
- Keep the entire area unobstructed, making sure equipment can enter and exit the area smoothly and that it is free of garbage and debris.

Provided by: IDR Specialty

Safely Backing Up Vehicles

Backing up a vehicle, whether it is a heavy dump truck or a small automobile, can be a difficult task with a lot of dangers involved. In fact, many accidents occur when vehicles are backing up at only 5 mph. This can be due to blind spots, poor planning or lack of skill.

Fortunately, these dangers can be minimized by following proper precautions. Review this guidance for best practices on safely backing up vehicles at the construction site.

Tips for Safety

When you can avoid backing up, do so. Otherwise, follow these safety tips:

- Back up slowly and never hurry through the process. Keep the vehicle in control at all times.
- If you have doubts about what is behind you or if space is too tight, do not back up.
- Make use of your rearview mirrors and rear window (if there is one) before and during the process; don't open your door to look behind you.
- Dump trucks and heavy equipment such as bulldozers and graders have blind spots in which the operator has no view. In these cases, the back-up route should be planned ahead of time.
- Back up only as far as needed and then proceed forward to move the vehicle the rest of the way.
- Back in and then drive out going forward when parking in a lot.

- Place a cone behind your vehicle when parking if you will need to back out later.
 This will allow you to maintain clearance if a vehicle parks behind you.
- If you are in a blind spot, beep your horn twice or sound your backup alarm before backing.
- Watch out for overhead power lines or any other obstructions that you may come in contact with.
- Do not back around corners or exit ramps on the freeway.
- Walk around the entire vehicle looking for hazards and remove them if necessary.

Spotters

Strongly consider using a spotter when backing your vehicle. When using a spotter:

- Maintain contact with your spotter at all times. If you cannot hear and see them, do not back up until you can.
- Agree on hand signals that the spotter will use to signal you to back up and stop.
- Ask the spotter to walk around the vehicle and survey the backing area to check for hazards. Have them check your overhead clearance as well.

- Be sure the spotter is at least 8 feet away from the vehicle before you backing up.
- Some job sites require flaggers. Stay aware
 of and work closely with these key members
 of your team when backing up.

Our Commitment to You

At IDR Specialty Marine, we put your safety first. If you have any doubts about your safety on the job—regarding driving your vehicle or any other issue—do not hesitate to talk to your supervisor.

Provided by: IDR Specialty

Skid-steer Loader Safety

If you operate or work near skid-steer loaders, take these steps to protect yourself.

Follow safe operating procedures.

- Read and understand all safety and operating procedures outlined in the operator's manual, workshop manual, and safety decals.
- Operate the loader only when properly positioned in the operator's compartment never from the outside.
- Stay seated when operating the loader controls.
- Operate with the seat belt snuggly fastened and the restraint bar properly positioned, if one is provided.
- Keep hands, arms, legs, and head inside the operator's compartment while operating the loader.
- Load, unload, and turn on level ground when possible.
- Travel and turn with the bucket in the lowest position possible. Carry the load low.
- Operate on stable surfaces only. Avoid slippery surfaces
- Do not travel across slopes. Travel straight up or down, with the heavy end of the machine pointed uphill.
- Keep bystanders away from the work area.
- Never modify or bypass safety devices.
- Never carry riders.

 Be aware that each machine may operate differently.

Enter and exit from the loader safely.

- Enter and exit a loader when the bucket is flat on the ground or when the lift-arm support device is in place.
- When entering a loader, face the seat and keep a three-point contact with handholds and steps.
- Never use foot or hand controls as steps or handholds.
- Keep all walking and working surfaces clean and clear of debris.
- Before leaving the operator's seat, remember to do the following:
 - o Lower the bucket flat on the ground.
 - Set the parking brake.
 - Turn off the engine. Maintain the machine in safe operating condition:
- Follow the manufacturer's instructions.
- Keep the foot controls free of mud, ice, snow and debris.
- Regularly inspect and maintain the following safety devices:

- o Control interlocks
- o Seat belts
- o Restraint bars
- o Side screens
- o Rollover protective structures
- o Falling object protective structures
- Never modify or bypass safety devices.
- Never exceed the manufacturer's recommended load capacity.
- If you must perform service under a raised bucket, make sure the lift-arm support device is in place.

For more safety tips, talk to your supervisor.

Source: NIOSH

Provided by: IDR Specialty

Struck-by Vehicle Hazards

Because construction sites often contain moving vehicles and heavy equipment, struck-by hazards are a common concern. In the event that an employee like you gets struck, the resulting injuries can be severe.

To protect yourself and others from struck-by hazards on the job, consider the following guidance.

Reducing Your Risk

The Occupational Safety and Health Administration offers some ways in which you can reduce your risk of being struck while on the job, including:

- Always wear a safety belt when operating equipment, except when the vehicle does not have a rollover protection structure or when it is designed for standup operation only.
- Check vehicles before each shift to ensure that all parts and accessories are in safe working condition.
- Do not drive vehicles in reverse when you have an obstructed view unless a co-worker signals that the path is clear.
- Make sure that you and all other personnel are out of the way before using dumping or lifting devices.
- Lower or block bulldozer and scraper blades, end-loader buckets and dump bodies when they are not in use, and leave all controls in the neutral position.
- Set the parking brake when vehicles are

parked and chock the wheels if they are on an incline.

- Never exceed a vehicle's rated load or lift capacity.
- Wear reflective clothing to get motorists' attention on construction sites. To avoid getting struck by inattentive motorists, use traffic signs, barricades or flaggers to divert traffic.
- Never transport your co-workers unless there is a safe place to ride.
- Cranes, power shovels, loaders and other equipment that loads haulage vehicles must be equipped with a cap shield or canopy to protect the driver from falling materials.

Provided by: IDR Specialty

Using Boom Lifts Near Power Lines

Working from a boom lift or cherry picker comes with its share of hazards. These risks are compounded when you add power lines to the mix. Electrocution from contacting power lines is responsible for half of boom lift-related deaths.

When performing electrical work with a lift, it is extremely important that you use the proper precautions to keep yourself and those around you safe from unnecessary injury.

Basic Precautions

In any situation where a boom lift or cherry picker is used, keep these precautions in mind:

- Test the lift controls each day prior to use to ensure that they are in good working order.
- Wear a body belt as part of a tethering or restraint system with a lanyard attached to the boom or basket.
- Do not exceed the boom and basket load limit set by the manufacturer.
- Never climb or sit on the sides of the basket; always keep your feet planted on the floor.
- Avoid sudden, jerky movements that could cause the basket to collide with nearby objects, such as power lines.

Proper Protective Equipment

When working on or near lines, use the following personal protective equipment:

- Insulated hard hat
- Voltage-rated shoes
- Rubber gloves and sleeves
- Insulated tools

Insulated Buckets

Boom lifts designed for electrical work have additional insulation to protect against electrical currents. However, the insulation may only protect certain parts of the lift.

- A basket liner only protects the portion completely covered by the liner. Conductive materials that extend beyond the liner can conduct electricity, rendering it ineffective. Most buckets have a small section at the top (which should be noted by the manufacturer) that uses metal for support and is not insulated.
- Never try to modify or alter the insulation on a basket. It could reduce its level of protection.

When Working From the Ground

While a majority of the dangers involved with boom lifts come from working in the basket, workers on the ground are also at risk for injury. To stay safe when working below or near a lift:

- Watch for falling objects when the boom is directly overhead.
- Avoid making unnecessary contact with the vehicle. If the operator in the bucket makes contact with a power line, electricity could be conducted through the lift.

- Always be conscious of the boom's movements. Alert the operator if you see potential hazards.
- Do not operate the boom from the ground unless there is an emergency.
- If performing work near a roadway, make sure that traffic is properly directed away from the lift. Collision with the lift can eject the operator from the basket or force the basket into nearby power lines.
- Be ready to respond in case the operator gets into trouble.

For more safety tips, talk to your supervisor.

Provided by: IDR Specialty

Workplace Accidents Can Be Costly

We all know that safety is essential in construction, but do you realize just how costly a job site injury can be? According to the National Safety Council, the average cost per workplace injury is \$1,300. It may not seem like all that much, but the extra expense to pay for injuries has a powerfully negative effect to a company's bottom line.

Why is profitability also an important issue to you? The only way that IDR Specialty Marine can stay in business is to operate at a profit, and that capability can be threatened by a serious workplace injury.

The Real Cost of Workplace Injuries
It may be surprising to hear that most
companies do not have a high profit margin—3%
is about average. Expenses take a large chunk of
the income, and competition limits how much
we can charge for the services we provide.

Each time an accident occurs, the cost of the injury must be subtracted from profits. Consider the following two examples:

- At a 5% profit margin, an extra \$20,000 in income is needed to compensate for a \$1,000 injury.
- If the profit margin is nearer to 1%, an additional \$100,000 worth of new income is necessary to maintain that profit level for the same injury.

As you can see, that adds up to a lot of extra contracts just to compensate for a single injury. Plus, every time a worker gets hurt on the job, other employees are affected too. You may

need to work extra hours to make up for the injured worker, the cost of insurance can go up, or the company may be forced to make difficult budget decisions such as cutting hours or having temporary layoffs.

Also, recovering from an injury can mean time away from work, reduced compensation, painful rehabilitation and frustrating adjustments to daily life.

Practice Prevention

Though operating at a profit is essential to our success, our top priority is to keep our employees safe and healthy. That's why we are counting on you to help practice good safety principles on the job site, including wearing personal protective gear, following all safety procedures and noticing unsafe situations.

Safe work behavior will contribute directly to our bottom line, as well as to everyone's job security. By observing safety precautions, we can limit on-the-job accidents. It is always wiser to spend a bit more time doing the job safely than to risk getting a serious injury. Be sure to always follow our safety guidelines and stay alert for unsafe conditions.

For more safety tips, talk to your supervisor.