

Skid Steer Loader Operation and Safety

LENGTH: 16 MINUTES

Production Year: 2024

PROGRAM SYNOPSIS:

When it comes to moving rock, dirt, mulch, and other heavy jobsite materials, the skid steer loader is one of the most useful and versatile machines available. Available with wheels or tracks, these powerful machines can dig, lift, carry, dump, and spread various types of materials. These machines are known as skid steers because they turn by slowing or completely locking the wheels or track on one side of the machine. This program discusses the hazards of these machines and how to operate them safely.

PROGRAM OBJECTIVES:

After watching the program, the participant should be able to explain the following:

- The dangers associated with skid steers;
- How to safely mount and dismount the vehicle;
- Being aware of pedestrians and the surroundings outside the vehicle;
- The importance of a pre-use inspection;
- How to safely operate the machine.

PROGRAM OUTLINE:

INTRODUCTION

- When it comes to moving rock, dirt, mulch, and other heavy jobsite materials, the skid steer loader is one of the most useful and versatile machines available.
- Available with wheels or tracks, these powerful machines can dig, lift, carry, dump, and spread various types of materials. These machines are known as skid steers because they turn by slowing or completely locking the wheels or track on one side of the machine.
- Skid steer loaders are highly maneuverable, with the ability to spin 360 degrees, travel up and down inclines, and maneuver over rough and uneven terrain. These abilities, coupled with the compatibility with a wide variety of special-purpose attachments, made the skid steer loader one of the most popular pieces of mobile heavy equipment.
- Unfortunately, skid steer loaders can also be dangerous when operated in a careless or unsafe manner. Incidents involving skid steer loaders all too often result in serious injuries and fatalities.

BE FAMILIAR WITH THE EQUIPMENT

- Being authorized by your employer to operate a skid steer loader carries with it a large responsibility. As a skid steer operator, you have been entrusted by your employer to operate your machine in a professional manner, always keeping safety as your number one priority, while minimizing wear and tear on the loader and being careful not to damage nearby equipment or property.
- Operators should be familiar with the loader's operator's manual and warning labels, and demonstrate to their employer their proficiency in the hands-on operation of the specific skid steer loader they will be using.
- Before being authorized to operate a skid steer or perform work nearby, it's important to understand the risks and hazards presented by the machine. There are multiple pinch points and crush points associated with the various movements of the bucket, lifting arms, drive wheels or tracks, and any accessories. Operators must never allow other workers to approach these hazard areas while the skid steer is in operation or running.
- Fully lower the bucket or other attachments and turn off the machine before signaling a coworker that it is safe to approach. This also means that no riders of any kind are allowed on the skid steer. And never allow anyone to stand on the bucket, forks, or other attachments as a means of reaching elevated work.

MOUNTING AND DISMOUNTING THE VEHICLE

- On many skid steer loaders, the operator must climb over the bucket in order to enter the operator's compartment. This places the operator in close proximity to the pinch points and crush points created by the bucket and lifting arms,

and great care must be taken when entering and exiting the vehicle. Only enter and exit the loader when the bucket is fully lowered, the parking brake is set, and the engine is off.

- To avoid a slip and fall while climbing, make sure the soles of your footwear are free of any mud or slippery substances, and make sure the steps and handholds are clean as well.
- Always maintain three points of contact with the vehicle when mounting or dismounting. This means two feet and one hand, or two hands and one foot, should remain in solid contact with the step or handhold.
- Be sure to face the machine when entering and exiting and make slow, cautious movements to prevent falling. Do not use any control mechanism as a handhold or foothold. On some skid steers, this could cause inadvertent movement of the vehicle and cause serious injury.
- Of course, never jump onto or off of the vehicle. This leads to many injuries each year.
- Only operate the skid steer while properly seated inside the operator's compartment, with the seatbelt on and the restraint arm lowered.
- Most modern skid steer loaders have proximity sensors that prevent all movement of the machine if the operator is not seated with the restraint bar lowered.
- Never try to defeat or cheat these types of safety interlocks, and never attempt to operate any of the control mechanisms from outside the operator's compartment. This places you directly in harm's way.
- Keep your head and arms inside the cab at all times while the loader is running.

AVOIDING RUNOVER AND BACKOVER INCIDENTS

- In addition to the pinch and crush hazards we have just discussed, the potential for runover and backover incidents is another serious hazard associated with skid steer loaders.
- All jobsite personnel should be made aware of the dangers presented by mobile equipment and vehicles on the jobsite. These vehicles have multiple blind spots, which may prevent the operator from seeing a nearby pedestrian.
- Whenever possible, keep all unnecessary personnel away from the immediate area of the active skid steer operations.
- Operators must keep a sharp lookout for any nearby workers or vehicles before initially moving the loader and with each change of direction. Stop and sound the horn at blind spots and intersections. Yield the right-of-way to pedestrians and then proceed slowly and carefully when it is safe to do so.
- Extra care must be taken prior to backing up. Look around both sides of the vehicle as well as behind it. Be sure to utilize any mirrors or backup cameras if they exist. Do not move in reverse until you have verified that the path is clear.
- One of the main contributors to runover and backover incidents is operator complacency. Many loader operations are repetitive in nature and involve a pattern of picking up a load, traveling to a location, dumping the load, and then repeating the pattern over and over and over again.
- A professional skid steer operator will thoroughly look around and behind the machine before backing up or changing direction every time. This is because a safe operator knows that a pedestrian or vehicle can unexpectedly appear at any time.
- All job site personnel should be instructed to never stand directly behind a skid steer loader and to never place themselves between a skid steer and a solid object, such as another vehicle or building.

FALLING OBJECTS

- Another danger presented by skid steer loaders is the risk of being struck by falling objects or crushed by the lowering of the bucket or other attachments.
- Never allow any person to walk or stand directly under any type of raised load or attachment. Even a small mistake by the operator or a machine malfunction can result in falling objects or an unexpected lowering of the lift arms.
- If service or maintenance must be done with the lift arms raised, secure them by using the lift arm supports provided by the manufacturer.
- Keep in mind that the operator is not immune from being struck by falling objects. This is why a hard hat and safety glasses are necessary PPE for a skid steer operator. Loose materials or unstable loads can spill from the back of a raised bucket and strike the operator.
- Many skid steers do not have enclosed cabs, and items falling onto the operator can cause injury or be fatal. Prevent this by never overloading the bucket and be sure to keep the bucket level while lifting.
- Also, always operate the lifting controls in a slow, smooth manner. Avoid sudden starts, stops, and jerky movements.

PRE-USE INSPECTION

- Next, we will discuss some of the key elements for safe skid steer operation, starting with the pre-use inspection. Safe skid steer operation depends on all aspects of the skid steer functioning properly and being in good working order. This must be confirmed prior to each use by performing a pre-use inspection.
- In general, the pre-use inspection should start with a 360-degree walk-around looking for any obvious fluid leaks or damage to any major component, such as the bucket, lifting arms, chassis, and any attachments. The rollover protection, falling object protection, and side screens should be in place and in good condition.
- Visually inspect hydraulic hoses and fittings for damage, leaks, kinks, or signs of chafe. Inside the engine compartment, inspect belts, hoses, and electrical wiring for any sign of damage or loose connections. Look for any indication of fluid leaks and verify that the engine compartment is free of any trash or debris that may have accumulated.
- The radiator should be clean and free of excessive dirt build-up, and make sure the coolant level is appropriate.
- Remove the oil dipstick, wipe it clean, and reinsert it fully. Then remove it again and verify that the engine oil level is not low. Also, check the level of the hydraulic fluid. Top off any fluids as necessary.
- Next, remove any trash or debris from the operator's compartment. Good housekeeping is critical for safe operation.
- Carefully enter the operator's compartment while maintaining three points of contact. After putting on the seatbelt and lowering the restraint bar, start the machine and test the function of the lifting controls. Raise and then lower the lifting arms. The movement should be smooth and controllable. Also, tilt the bucket up and then down, making sure the controls work as expected.
- Next, operate the machine in reverse. Listen to ensure the backup alarm is functioning and verify the backup camera is working if the machine is equipped with one. Test the brake by releasing the control, then return the machine to the starting point by driving in forward.
- Test the brake again by releasing the control. Verify the operation of the steering function by turning the loader in each direction. And finally, sound the horn to verify that it is working properly.
- Be aware that this is not an all-inclusive list. Be sure to follow the entire pre-use inspection checklist provided by the manufacturer or your employer.

INSPECT THE WORK AREA

- Once the equipment has been verified safe to operate, it's up to you, as the authorized operator, to do so safely. Prior to work, inspect your travel path and work area for overhead hazards, such as power lines, chemical pipes, conveyors, and similar obstacles.
- Verify you have enough vertical clearance before proceeding and always maintain at least 10 feet of clearance from energized power lines up to 50,000 volts. Higher voltages will require even more clearance distance.
- Also, check the ground conditions and soil stability in your intended work area. Do not operate in soft, unstable soil or areas with deep ruts as they can lead to a tip-over. Operate on firm, level ground whenever possible.

STABILITY

- Consult the operator's manual, dealer, or manufacturer to determine the maximum weight the loader can safely lift and carry. Known as the Rated Operating Capacity, or ROC, this weight limit will vary based on the overall weight of the machine, size of the bucket and other attachments, whether the loader has wheels or tracks, and the firmness and levelness of the ground.
- It's important to understand that a stationary skid steer on level ground is capable of lifting more weight than it can safely carry. In other words, just because the loader can lift it does not mean you can safely travel with it and place it.
- Only lift and carry loads that are within the manufacturer's Rated Operating Capacity for your particular skid steer loader. It's always better to make two trips rather than overloading your machine.
- Here are some additional key points about stability: a loader with a load low to the ground is more stable than a loader with a raised load. Always travel with the load as low to the ground as possible. A loader traveling slowly is more stable than a loader moving quickly.
- Moderate your speed based on the load you are carrying and the condition of the traveling surface. A loader moving on firm, level ground is more stable than a loader moving in soft, unstable or uneven ground.

- Ensure the terrain is safe before attempting to travel across it. Also, traveling too fast over rough terrain will cause the loader to bounce excessively, making it hard to control.
- Here is the key takeaway about stability: a loader moving quickly with a raised load on unlevel ground can quickly become unstable and tip over. Conversely, operating in a smooth, slow manner with the load low to the ground maximizes the loader's stability and prevents tip-overs.

INCLINES

- Next, let's discuss safely operating on inclines. If you must travel on a slope or incline, only go straight up or straight down, while keeping the heaviest part of the machine uphill. When the bucket is empty, the heaviest part of the machine is the rear end and engine compartment. Keep the rear end of the loader uphill when the bucket is empty.
- When the bucket is loaded, keep the loaded bucket uphill when climbing or descending slopes. Never travel sideways or turn while on a slope. Make sure you are completely off the slope and back on level ground before turning. Also, keep well clear of any drop-off, trench, or excavation. When operating near these types of hazards, it's a good idea to reduce the engine speed control to ensure slow, safe operation.

SAFE OPERATION

- When picking up a load of loose material, drive carefully forward into the material and then tilt and raise the bucket slowly. Check behind you before backing away from the pile, then lower the bucket as close to the ground as possible before traveling to your destination.
- Before raising the bucket to dump, be as close as possible to where you wish to place the load. This minimizes traveling with the load raised. Then, raise the bucket as needed and tilt downward to dump.
- When dumping into a truck, be sure to extend the load over the bed far enough so the bucket clears the sides of the truck when you dump. Then return the bucket to a level "carry" position and back up just enough to clear the truck. Then lower the bucket to the ground before traveling farther.
- When you are finished with a skid steer, be sure to park it in an authorized area, out of harm's way. Be sure to lower the bucket fully, set the parking brake, and remove the key if it has one.

CONCLUSION

- As an authorized operator of a skid steer loader, you are responsible for the safe operation of an extremely powerful and versatile machine.
- Take this responsibility seriously by operating in a manner that minimizes wear and tear on the loader, protects nearby equipment and property from damage, and above all, places your safety and the safety of those around you as your number one priority.

SKID STEER LOADER OPERATION AND SAFETY

ANSWERS TO THE REVIEW QUIZ

1. a
2. a
3. a
4. a
5. b
6. a
7. b
8. a
9. a
10. a

SKID STEER LOADER OPERATION AND SAFETY

REVIEW QUIZ

Name _____ Date _____

The following questions are provided to determine how well you understand the information presented in this program.

1. Skid steer loaders are highly maneuverable, with the ability to spin 360 degrees, travel up and down inclines, and maneuver over rough and uneven terrain.
 - a. True
 - b. False

2. Operators should be familiar with the loader's operator's manual and warning labels, and demonstrate to their employer their proficiency in the hands-on operation of the specific skid steer loader they will be using.
 - a. True
 - b. False

3. Always maintain three points of contact with the vehicle when mounting or dismounting by using two feet and one hand, or two hands and one foot.
 - a. True
 - b. False

4. When backing up, look around both sides of the vehicle as well as behind it and use any mirrors or backup cameras if they exist.
 - a. True
 - b. False

5. It is not necessary for an operator to use any PPE since they are safe inside the cab of the vehicle.
 - a. True
 - b. False

6. In general, the pre-use inspection should start with a 360-degree walk-around looking for any obvious fluid leaks or damage to any major component.
 - a. True
 - b. False

7. Always maintain at least two feet of clearance from energized power lines up to 50,000 volts.
 - a. True
 - b. False

8. The Rated Operating Capacity, or ROC, details the maximum weight the loader can safely lift and carry.
 - a. True
 - b. False

9. When the bucket is empty, the heaviest part of the machine is the rear end and engine compartment.
 - a. True
 - b. False

10. When dumping into a truck, be sure to extend the load over the bed far enough so the bucket clears the sides of the truck when you dump.
 - a. True
 - b. False