

## SAFETY – BEFORE YOU DO ANYTHING

### For Safe Operation

For safe operation of a forklift, skid-steer loader and/or aerial platform you must be an authorized operator. To be authorized, you must understand the written instructions supplied by the manufacturer, have training, including actual operation of the machine and know the safety rules and regulations for the jobsite.

An operator should not use drugs or alcohol that can change his/her alertness or coordination. An operator on prescription or over-the-counter drugs needs medical advice on whether or not he/she can safely operate machines.

### Know the Rules

Make sure you understand the rules covering traffic at your jobsite. Make sure you know what all signs, flags and markings mean. Make sure you understand hand, flag, whistle, siren or bell signals. Make sure you know when to use lights, turn signals, flashers and horn or siren.

These are some of the rules you must live by:

Forklift	Skid-Steer Loader	Aerial Platform
<ul style="list-style-type: none"> <li>• Know the capacity and operating characteristics of the machine.</li> <li>• Never modify or remove any part of the machine.</li> <li>• Look before backing up.</li> <li>• Keep others away from your operation.</li> </ul>		
<ul style="list-style-type: none"> <li>• Fasten your seatbelt/operator restraint before you start.</li> </ul>		<ul style="list-style-type: none"> <li>• Check the work area for hazards that might cause tip over.</li> </ul>
<ul style="list-style-type: none"> <li>• Carry the load low – at a minimum clearance.</li> </ul>		<ul style="list-style-type: none"> <li>• Maintain specific distances from electric power lines.</li> </ul>
<ul style="list-style-type: none"> <li>• Never use attachments unless specifically authorized by the manufacturer.</li> </ul>		<ul style="list-style-type: none"> <li>• Never allow ground personnel near your machine and NEVER permit anyone to stand or pass under a raised platform.</li> </ul>
<ul style="list-style-type: none"> <li>• Always lower the forks to the ground and set parking brake before dismounting.</li> </ul>	<ul style="list-style-type: none"> <li>• Always lower the lift arms and put the bucket or attachments flat on the ground or lock the lift arms with the lift arm restraint device(s).</li> </ul>	<ul style="list-style-type: none"> <li>• Wear approved personal fall protection devices as required.</li> </ul>
<ul style="list-style-type: none"> <li>• If machine is to be unattended, shut off engine, cycle hydraulic controls and remove key.</li> </ul>	<ul style="list-style-type: none"> <li>• Engage the parking brake, stop engine, cycle hydraulic controls to eliminate pressure and remove the key before you dismount.</li> </ul>	<ul style="list-style-type: none"> <li>• If machine is to be unattended, lower platform, shut off engine and engage parking brake.</li> </ul>

## **Know Your Equipment**

Know how to operate all equipment on your machine. Know the purpose of all the controls, gauges and dials. Know the rated load capacity, speed range, braking and steering characteristics, turning radius and operating clearances. Keep in mind that rain, snow, ice, loose gravel, soft ground, etc., change the operating capabilities of your machine.

Study the DANGER, WARNING or CAUTION safety signs on your machine and the information signs too.

Read and understand the manufacturer's operator's manual before starting the engine. If there is no manual with the machine – get one. Study it before you start work.

If there is something in the manual you don't understand, ask your supervisor to explain it to you.

## **SAFETY – BEFORE OPERATION**

### **Use All Available Protective and Safety Devices**

To protect you and others around you, your machine may be equipped with the following safety equipment. See that each item is securely in place and in operating condition.

<b>Forklift</b>	<b>Skid-Steer Loader</b>	<b>Aerial Platform</b>
<ul style="list-style-type: none"><li>• Guards</li></ul>		
<ul style="list-style-type: none"><li>• Safety signs</li></ul>		
<ul style="list-style-type: none"><li>• Audible and/or visual alarms</li></ul>		
<ul style="list-style-type: none"><li>• Seatbelt</li></ul>		<ul style="list-style-type: none"><li>• Chain, gate or bar closure</li></ul>
<ul style="list-style-type: none"><li>• Side shields or screen</li></ul>		<ul style="list-style-type: none"><li>• Stabilizers or outriggers</li></ul>
<ul style="list-style-type: none"><li>• Warning light and devices</li></ul>		<ul style="list-style-type: none"><li>• Turntable lock</li></ul>
<ul style="list-style-type: none"><li>• Fire extinguisher</li></ul>		<ul style="list-style-type: none"><li>• Emergency controls</li></ul>
<ul style="list-style-type: none"><li>• FOPS and/or ROPS</li></ul>		<ul style="list-style-type: none"><li>• Ground controls</li></ul>

Know which devices are required for your operation. Never remove or modify any equipment.

### **Check the Equipment**

Before you begin your workday, take time to check your machine and have all systems in good operational condition. Make sure inspection logs are completed before each shift.

Forklift	Skid-Steer Loader	Aerial Platform
<ul style="list-style-type: none"> <li>• Check for broken, missing or damaged parts.</li> </ul>		
<ul style="list-style-type: none"> <li>• Check for missing, damaged or unreadable safety signs.</li> </ul>		
<ul style="list-style-type: none"> <li>• Check the tires for cuts, bulges and correct pressure.</li> </ul>		
<ul style="list-style-type: none"> <li>• Check for cracked welds and other evidence of structural damage.</li> </ul>		
<ul style="list-style-type: none"> <li>• Perform all maintenance procedures outlined by the manufacturer.</li> </ul>		

## **Clean Up**

Keep work surfaces and engine compartments clean.

Always lower the pallet forks, bucket or platform to the ground, set the parking brake and turn off the engine before cleaning the machine. If necessary to leave equipment suspended, make sure blocks or props are installed.

Clean any windows, windshields and lights and make sure wipers operate properly. Remember, visibility in all directions is important.

Clean steps, pedals and floor/platform. Remove grease or oil. Brush away dust or mud. In the winter, scrape away snow and ice. Remember – slippery surfaces can be hazardous.

Remove or put away tools, lunch buckets, chains and hooks. Remember – loose items on the floor/platform could cause an accident.

## **Check the Work Area**

Learn – beforehand – as much about your working area as possible.

*Check at ground or floor level.* Inspect the surface over which you will travel. Look for holes, drop-offs and obstacles. Look for weak spots on docks, ramps or floors. Look for oil spills, wet spots and slippery surfaces. Look for soft soil, deep mud and standing water. Watch for anything that might make you lose control or cause the equipment to tip over.

Clear away trash and debris. Pick up anything that might puncture a tire. Make sure aisles, ramps, doorways and passages are clear.

Plan your work. Make sure you know where you will make your pickups, lifts and turns. Before you raise a load, know where you will place it.

*Check overhead.* Check the clearances of doorways, canopies and overhead wires. Know exactly how much clearance you have under power lines and telephone cables.

Never approach power lines with any part of your machine unless all local, state/provincial and federal (OSHA) required safety precautions have been taken. Use extreme caution.

<b>Voltage Range</b>	<b>Minimum Safe Approach Distance</b>
0 to 300V	Avoid Contact
Over 300V to 50KV	10 Feet
Over 50KV to 200KV	15 Feet
Over 200KV to 350KV	20 Feet
Over 350KV to 500KV	25 Feet
Over 500KV to 750KV	35 Feet
Over 750KV to 1000KV	45 Feet

### **Use Caution when Fueling**

Never fill the fuel tank with the engine running, while smoking or when near an open flame. Only fuel equipment in a well ventilated area. This also includes charging batteries.

Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately.

Be sure to use the correct type and grade of fuel.

Ground the fuel funnel or nozzle against the filler neck to prevent sparks and be sure to replace the fuel tank cap.

When refueling liquid petroleum gas powered equipment, always follow manufacturer's specifications and/or applicable regulations.

## **SAFETY – STARTING AND TESTING**

### **Look Out for Others**

Before starting, walk completely around the equipment. Make sure no one is under it, on it or close to it. Let other workers and bystanders know you are starting up and don't start until everyone is clear of the machine.

### **Access Properly**

Always use "three point contact" with the machine. Face the machine when you enter or leave the machine. "Three point contact" means that 3 out of 4 arms and legs are in contact with the machine at all times during access and egress.

Clean your shoes and wipe your hands before climbing on. Use handrails, grab-irons, ladders or steps when accessing.

Never use control levers as a handhold when climbing on or off. Never step on foot controls when accessing or climbing off. Do not use a steering or control lever as a handhold when you enter or leave the machine.

Never enter a moving machine.

Do not ride on equipment that was not intended for that purpose. Never exceed the number of recommended riders on personnel lifting equipment.

**Start Safely**

Follow the starting procedures recommended by the manufacturer of the piece of equipment. Check all instruments, gauges and indicator lights.

Check for instructions in the manufacturer’s manual for cold weather starting.

When starting your equipment in an enclosed space, make sure there is enough ventilation. Exhaust fumes can kill.

**Test the Controls**

After starting, recheck all gauges and lights. Check the audible and/or visual alarms. Make sure everything is functioning correctly. Be certain you can control both speed and direction before moving.

Operate the travel control lever(s) to ensure correct operation in forward and reverse. Test steering – right and left – while moving slowly in a clear, safe area.

**SAFETY – DURING OPERATION**

**Follow Safe Operating Practices**

Forklift	Skid-Steer Loader	Aerial Platform
<ul style="list-style-type: none"> <li>• Operate the controls smoothly – don’t jerk the steering levers.</li> <li>• Avoid sudden stops, starts, turns or changes in direction.</li> <li>• Never attempt to work the controls except from the operator’s seat/control station.</li> </ul>		
<ul style="list-style-type: none"> <li>• Keep your seat belt/operator restraint fastened.</li> </ul>	<ul style="list-style-type: none"> <li>• If there is more than one person on the platform, only the designated operator should operate the controls.</li> </ul>	
<ul style="list-style-type: none"> <li>• Carry the load low.</li> </ul>	<ul style="list-style-type: none"> <li>• Never jam an operating control from one travel direction to the other. Return to neutral, stop, then proceed in the other direction.</li> </ul>	
<ul style="list-style-type: none"> <li>• Never leave the operator’s seat without first lowering the attachment to the ground, setting the parking brake and placing controls in neutral or park.</li> </ul>	<ul style="list-style-type: none"> <li>• If the machine is to be unattended, lower platform, shut off engine and engage parking brake.</li> </ul>	

Keep all parts of your body inside the operator's compartment/platform railings while operating the machine. Do not touch, lean on or reach through lift mechanism or permit other to do so.

Stay alert. Should something break, loosen or malfunction on your machine, stop work, shut off the engine and seek qualified assistance to correct the condition. Do not operate the machine until authorized personnel have corrected the condition.

### **Watch Out for Others**

Be aware of what is going on. Be alert. Never allow an unauthorized person to operate your machine. They could injure themselves or someone else.

Keep others away from your operation. Never allow anyone to stand or pass under the load/working platform.

Never drive your machine up to someone standing in front of a fixed object.

Know the pinch and wrap points on your equipment. Keep others away from articulation joints, masts, lift chains, cylinders, etc. Keep all shields and guards in place.

### **Traveling On the Jobsite**

Take it slow and easy when traveling through congested areas. Traffic courtesy pays off.

Give the right of way to loaded machines. Maintain a safe distance from other machines. Pass cautiously.

Don't obstruct your vision when traveling or working. Operate at speeds slow enough so you have complete control at all times. Travel slowly over rough or slippery terrain.

## **Lifting the Load and Traveling Safely**

<b>Forklift</b>	<b>Skid-Steer Loader</b>	<b>Aerial Platform</b>
<ul style="list-style-type: none"> <li>Know the rated load capacities of your machine and never exceed them.</li> </ul>	<ul style="list-style-type: none"> <li>Most loaders are heavier on the rear axle when unloaded and heavier on the front axle when fully loaded.</li> </ul>	<ul style="list-style-type: none"> <li>Be sure you are wearing your personal fall-protection equipment and it is properly attached to the appropriate attachment point.</li> </ul>
<ul style="list-style-type: none"> <li>When traveling over rough terrain, slow down to prevent losing control. Avoid steep slopes or unstable surfaces.</li> </ul>		<ul style="list-style-type: none"> <li>Whenever possible, travel only in the full-down, stowed position for maximum stability.</li> </ul>
<ul style="list-style-type: none"> <li>If possible, plan to load, unload and turn on flat level ground. If loads are to be rehandled several times, place stacking blocs under loads.</li> </ul>		<ul style="list-style-type: none"> <li>Be certain you know which direction is forward/reverse, left/right in relation to the position of your platform.</li> </ul>
<ul style="list-style-type: none"> <li>Travel up and down on inclines, slopes and ramps as follows:            LOADED forklift/bucket – forklift/bucket pointed uphill.            EMPTY forklift/bucket – forklift/bucket pointed downhill.</li> </ul>		<ul style="list-style-type: none"> <li>When traveling with platform in a raised position, use extreme caution and very slow speed.</li> </ul>
<ul style="list-style-type: none"> <li>Tilt the forks back to position the load for travel, then lift the load only enough to clear obstacles.</li> </ul>	<ul style="list-style-type: none"> <li>The center-of-gravity of your skid-steer loader shifts as loads are lifted and lowered. Never attempt to make sharp turns or travel on steep slopes with a raised load.</li> </ul>	<ul style="list-style-type: none"> <li>Make sure machine is on firm level ground before raising the platform. If equipped, deploy extendible axles, outriggers, or stabilizers.</li> </ul>
<ul style="list-style-type: none"> <li>Always check clearance above, below and on all sides before raising, lowering or rotating the load/platform.</li> </ul>		

## **Watch Out for Hazardous Working Conditions**

It is your responsibility to evaluate working conditions and adjust your operation accordingly.

When traveling over rough terrain, soft ground, or wet/icy surfaces, slow down and shift to a lower gear.

Travel only at speeds that permit stopping in a safe manner.

Downshift with great care. Sudden deceleration could shift or topple the load.

A sudden reversal of travel direction could tip the load or over-turn the machine. Come to a gradual stop before reversing direction.

Be alert and careful when operating near the edge of a loading dock, embankment, ditch or ramp. Use a spotter if necessary or install stop blocks.

When driving on a floor, dock or bridge, be sure the combined weights of machine, attachments and load do not exceed the safe limit. Check for sufficient overhead clearance.

## **Center of Gravity – Forklift**

A forklift truck is based on the balance of two weights on opposite sides of the front axle. In order for this principle to work for the forklift, the load on the forks must be balanced by the weight of the total forklift truck. The location of the center of gravity of both the truck and the load is also a factor. This basic principle is used for picking up a load.

The point within an object at which the whole weight of the object may be regarded as being concentrated is called the center of gravity. If the object is uniform, its geometric center will coincide with its center of gravity. If it is not uniform, the center of gravity could be at a point outside of the object. When a forklift picks up a load, the forklift and load have a new combined center of gravity.

The stability of the forklift is determined by the location of its center of gravity, or if the forklift is loaded, the combined center of gravity. A forklift has moving components and therefore has a center of gravity that moves. The center of gravity, and therefore the stability, of the loaded forklift is affected by a number of factors such as:

- The size, weight, shape and position of the load.
- The height to which the load is lifted.
- The amount of forward or backward tilt of the mast.
- Tire pressure.
- Dynamic forces created when the forklift is accelerated, braked or turned.
- Condition and grade of surfaces on which the forklift is operated.

## **Place the Load Safely – Forklift**

Be sure the landing point you intend to use can safely support the load. This may not always be true in the case of scaffolds or hollow floors. If there is any question of overloading, separate the load into two or more lifts.

When stacking or placing a load high, use extreme caution because there may be other workers in the immediate area who you cannot see. Make sure that bystanders are away from the area where the load can tip or fall.

Bring the forklift as close to the landing point as possible with the load held low. Do not raise the load for placement if the forks are tilted to one side. If your machine is equipped with a leveling mechanism, level the machine before the load is raised. If your machine has outriggers, these should be lowered into position.

Set the parking brake. Slowly and carefully raise the load but maintain a slight back tilt to cradle the load. Never tilt forward unless the load is over the landing point and ready to be set down.

As lift height increases, your depth perception decreases. Placing the load safely at a high elevation may require a signaler to guide you.



If there is any indication of instability during the lift (moving, leaning, swaying), stop immediately, lower the load and restack it. If necessary, move the forklift to a more stable, level position. Make sure the center of gravity of the load is centered on the forks.

As the load approaches the desired height, slow the lift speed to a minimum. Continue the lift until the load is slightly higher than the landing point.

The forklift becomes less stable as loads are raised higher.

Once the load is higher than the landing point, carefully place the load directly over the landing point. Gently lower the load until the forks are free. Avoid exerting any down pressure when landing the load. Forks should be nearly level and parallel to the landing surface so they may be easily retracted from under the load.

### **Work Safely – Aerial Platform**

When the platform has been raised into the working position, be extremely cautious to prevent any object from striking or interfering with the operating controls. Secure all tools, equipment or other materials placed on the platform to keep them from shifting or falling. Keep ropes, electrical cords and hoses coiled and stowed away when not in use.

Keep the platform floor clear of debris and loose objects that might cause you to slip.

Never use ladders, planks, steps or other devices to provide additional reach or gain greater height.

Do not lean or sit or climb on the platform railing. Always keep both feet on the platform floor at all times.

Never allow anyone to tamper with, service, or operate a machine from the lower control station while personnel are in the platform, except in an emergency.

The structure of the aerial platform must not be used as a welding ground.

Aerial work platforms cannot be operated if wind conditions exceed 25 mph.

## SAFETY – DURING SHUTDOWN

### Safe Parking

Park your machine in a designated area or out-of-traffic, preferably on level ground.

### Safe Shutdown

Correct shutdown is important to safe operation. Refer to your manufacturer's manuals. Follow these general steps:

Forklift	Skid-Steer Loader	Aerial Platform
<ul style="list-style-type: none"><li>• Come to a full stop.</li></ul>		<ul style="list-style-type: none"><li>• Place the platform in stowed position.</li></ul>
<ul style="list-style-type: none"><li>• Lower the forks/bucket flat on the ground.</li></ul>		<ul style="list-style-type: none"><li>• Travel to a suitable parking area.</li></ul>
<ul style="list-style-type: none"><li>• Position controls in neutral/park.</li></ul>		<ul style="list-style-type: none"><li>• Come to a full stop.</li></ul>
<ul style="list-style-type: none"><li>• Set parking brake.</li></ul>		<ul style="list-style-type: none"><li>• Place controls in neutral.</li></ul>
<ul style="list-style-type: none"><li>• Idle engine for short cool-down period.</li></ul>		
<ul style="list-style-type: none"><li>• Shut off engine. Remove ignition key.</li></ul>		

### Safe Dismounting

Never dismount from moving equipment. Observe proper shutdown practices before dismounting.

Dismount carefully using three-point contact and face the machine. Keep your feet and hands away from the controls. Never jump off the machine.