RS3

OPERATOR MANUAL

PETERSEN INDUSTRIES, INC. | 4000 SR 60 WEST, LAKE WALES, FL 33859

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The Petersen Industries RS3 loader features two driving stations. The truck can only be driven during transport from the truck chassis' cab, known as the Lower Cab. When operating the loader from the Lower Cab in transit mode, the bucket must be properly stowed. The boom also must be stowed with the knuckle below the roofline of the upper cab whenever in over-the-road travel mode.

During loading operations, the truck can also be moved from the loader operator's station (Upper Cab) for quick, efficient loading into other vehicles. The Upper Cab features a second set of controls, including a steering wheel, foot throttle, brakes, horn, and gear selector. The Upper Cab is intended for route travel only, so speed and gear selection is restricted because of this.

There are also controls for the loader, outriggers, and suspension locks in the Upper Cab. The intended driving station is determined by changing the main control switch in the Lower Cab, and a diverter valve on the side of the loader before entering and exiting the Upper Cab.

The RS3 loader also features counterbalancing and a suspension-locking mechanism to limit the need for outriggers during applicable loading operations. **Note:** Study the RS3 Load Chart affixed to the loader and in this manual. If outriggers are necessary to safely make the lift, the outriggers must be utilized before attempting to move the debris. Safety ALWAYS takes precedence over speed when operating any equipment.

Also, when loading debris into other transport vehicles, be sure to maintain a good line of communication between the loader operator, the transfer-truck driver, and any ground personnel.

PART 1: SAFETY PRECAUTIONS

It is important that all workers understand the safety and operational requirements of the loader as death or serious injury can result from improper use of the loader. It is the operator's responsibility to control the loader with skill, good judgment, and caution. Following all safety procedures helps to avoid accidents, prevent unnecessary damage to equipment, and ensures safety of the crew.

Do not allow untrained personnel, even on a temporary basis, to operate this equipment. Always keep children, visitors, and untrained personnel away from the equipment.

READ, **UNDERSTAND**, and **FOLLOW** the following **Safety Messages**. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in this manual and in the Safety Messages on the implement. Always follow the instruction in this manual and use common sense to avoid hazards

Training

It is essential that all operators read and understand this manual. Before using the loader, operators must be trained by an experienced loader operator and be thoroughly familiar with the operation of controls, the correct operating procedures, maximum lifting capacities, and safety precautions of the loader.

The health and safety of each crew member is of primary importance. Consequently, each member has an obligation to make sure that all safe operating procedures are followed. The operating procedures described in this manual are Petersen Industries' recommendations and do not necessarily cover all employer and government regulations. Each operator is responsible for understanding and observing all federal, state, and local regulations pertaining to the operation of this loader.

Each crew member must receive instructions on the proper function of this machine and remain alert to spot any abnormalities or malfunctions. This will help prepare each member to recognize if it is not operating properly.

Safety Messaging

There are various safety messages throughout this manual which utilize symbols and safety words to call out unsafe practices or conditions. Your loader also has required safety decals that are designed to alert those operating, working around, or performing maintenance on the loader to certain safety hazards. The safety decals are used to show the consequence of human interaction with a hazard in terms of:

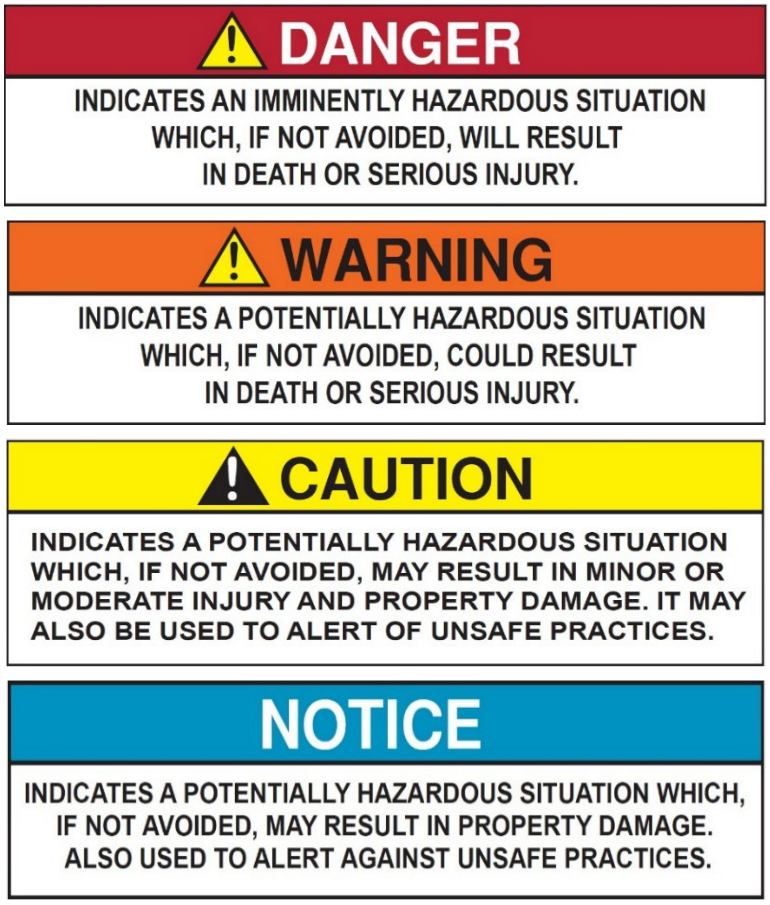
- **The degree of severity**

  MINOR injury, SEVERE injury, or POSSIBLE death

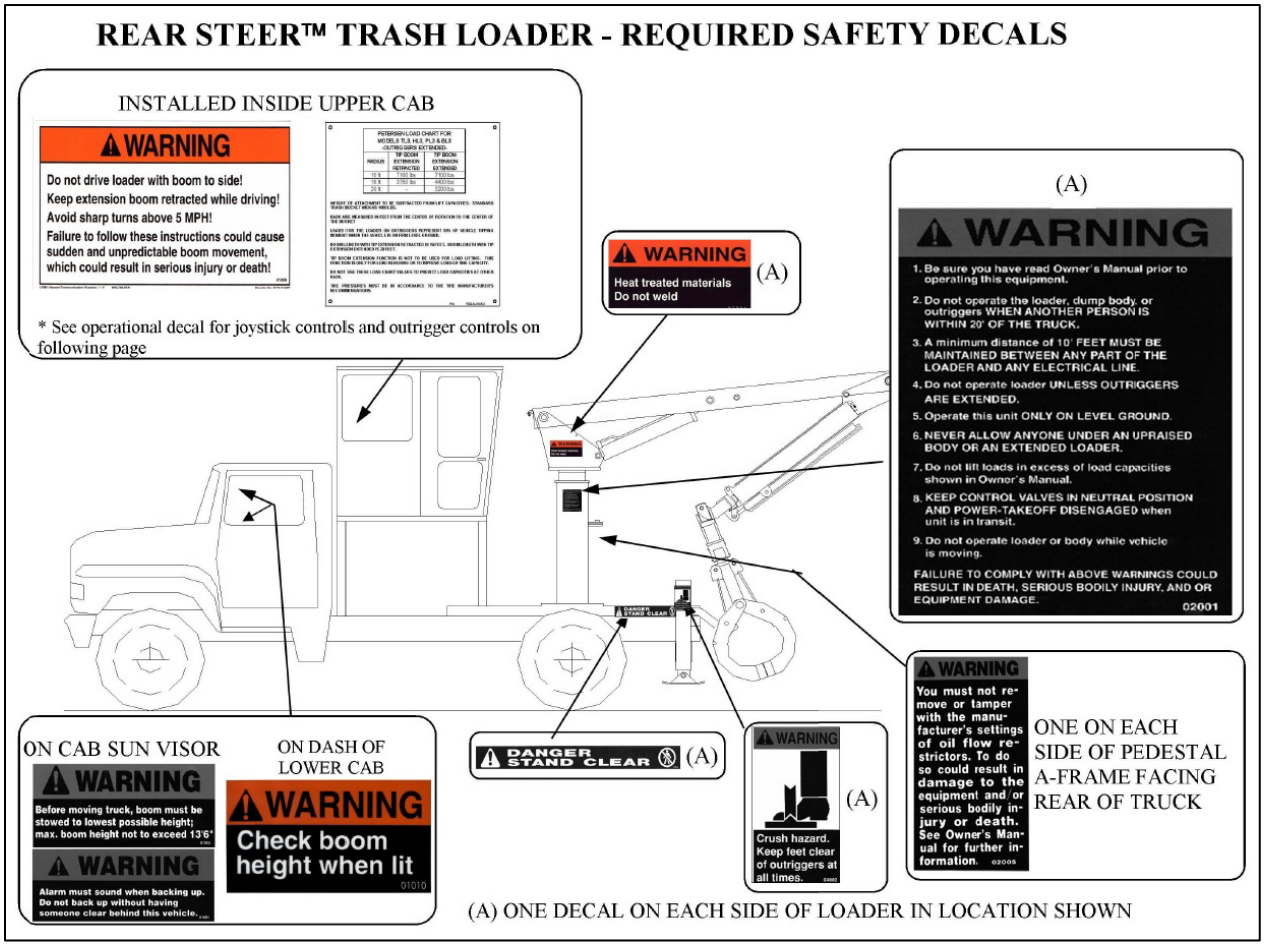
- **The probability of severity**

  WILL result in, COULD result in injury

There are four classifications of safety messages. The severity of each classification is highlighted through signal words, colors, and symbols. Here is each classification of safety message and what they indicate:

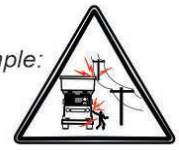


Watch for any of these placards and use the appropriate steps to ensure your safety, and the safety of those around you during the operation, maintenance, or transport of the loader.

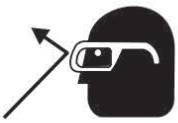


RS3 Safety Decal Locations

Pictographs are also used throughout this manual to help draw visual attention to safety issues that are to be avoided, or best practices to promote safety while operating the loader. Here are examples of pictographs you might find in this manual.

SAFETY HAZARD	SAFETY AVOIDANCE	SAFETY PREVENTION
Pictograph surrounded by a triangle indicates a Safety Hazard that must be avoided.	Pictograph in a circle or inside a box indicates an avoidance procedure that should be followed to prevent injuries.	A circle with a slash through it indicates an action that is prohibited.
Example: 	*Example:* 	*Example:* 
Equipment contacting overhead electrical lines	Always shut off engine and remove key before working on equipment.	No Smoking

Always wear protective clothing and personal safety devices issued to you or required by job conditions when operating or working on this loader. Requirements include but are not limited to; wearing a hard hat, safety shoes, goggles, face shield, or safety glasses (with side shields that comply with ANSI Z87 standards), protective gloves, hearing protection, and reflective clothing.

					
Wear Safety Glasses to Comply with ANSI Z87	Wear Hard Hat	Wear Safety Shoes	Wear Hearing Protection	Wear Protective Gloves	Wear Safety Reflective Vest

Key Safety Points:

- Do not operate the loader under any circumstance if there is reason to believe the unit is broken or malfunctioning.
- Modifications to any part of this loader can create a safety hazard and therefore shall not be made without the manufacturer's written approval.
- Never attempt to move the boom of a broken or malfunctioning unit without assistance from another crane or lifting device.
- Any attempt to use or move the broken or malfunctioning unit could result in serious bodily injury or death.

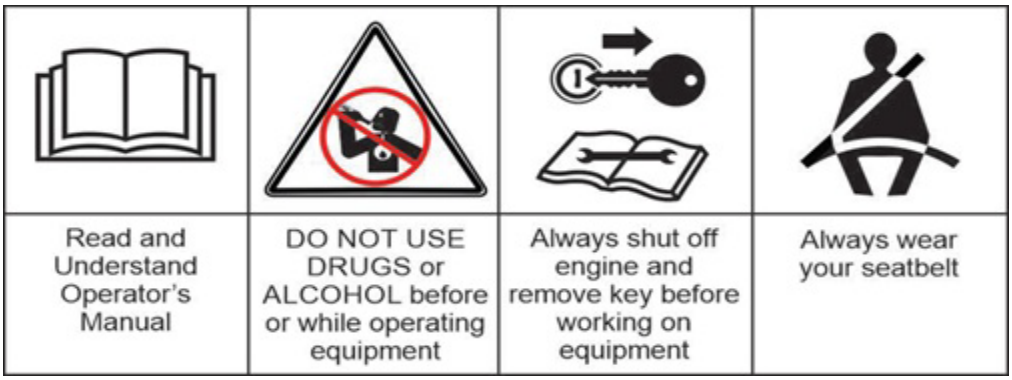
Crew members should always be prepared for an emergency. Operators should never take another person's word but should always personally check the equipment each day before using the equipment to ensure safe operation.

⚠ WARNING

NEVER WEAR LOOSE CLOTHING OR JEWELRY WHEN WORKING ON OR AROUND THE EQUIPMENT. THESE ITEMS CAN CATCH ON CONTROLS OR BE DRAWN INTO OTHER PARTS OF THE LOADER.

Safe Operating Practices

Safe operation of the loader is everyone's responsibility and becomes paramount during the operation of and working around the loader. As the operator, it is your responsibility to ensure your safety, as well as the safety of others. These are some **requirements to ensure safety of the entire crew:**



Always maintain three-point contact with the machine during entry and exit of the cab or operator's station. Use provided hand bars and never grab control levers or the steering wheel when mounting or dismounting the machine. Always face the machine when mounting or dismounting and do so only after the truck and all moving parts have stopped moving completely.

High-Pressure Fluid Safety

Ensure that all hydraulic hoses, lines, and fittings are tight and in good condition and do not operate the loader if there are oil or fuel leaks. Have hydraulic hoses replaced or tested by a qualified service facility if there is a suspected leak.

DANGER

HIGH-PRESSURE FLUID LEAKS CAN BE INVISIBLE. IF A LEAK IS SUSPECTED, USE PAPER OR CARDBOARD TO INSPECT LEAKS. DO NOT USE BODY PARTS OR HANDS TO LOCATE A POTENTIAL LEAK.

Keep hands and body parts away from suspected pin holes in hydraulic lines or any areas ejecting hydraulic fluid. High-pressure hydraulic fluid can be invisible and will impregnate skin. If injured, seek immediate medical attention. The fluid will need to be surgically removed from the body. Failure to seek proper medical attention will result in serious injury or death.

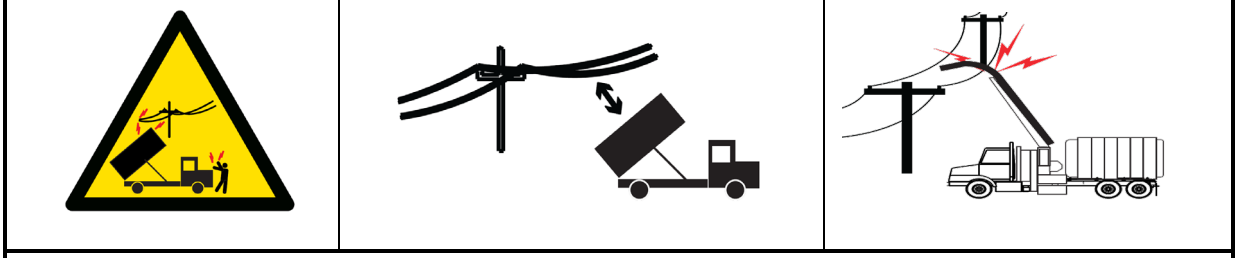
			
High pressure fluid can erode skin.	High pressure fluid can impregnate skin.	DO NOT use hands to locate hydraulic leaks.	Wear safety glasses & gloves. Use cardboard to locate leaks.

Always disengage the PTO, shut off the engine, and wear appropriate PPE whenever investigating a potential hydraulic leak. Use a piece of cardboard when trying to locate a hydraulic leak. **DO NOT** use your hand, or any other body part.

Power Lines/Electrical Hazard Safety

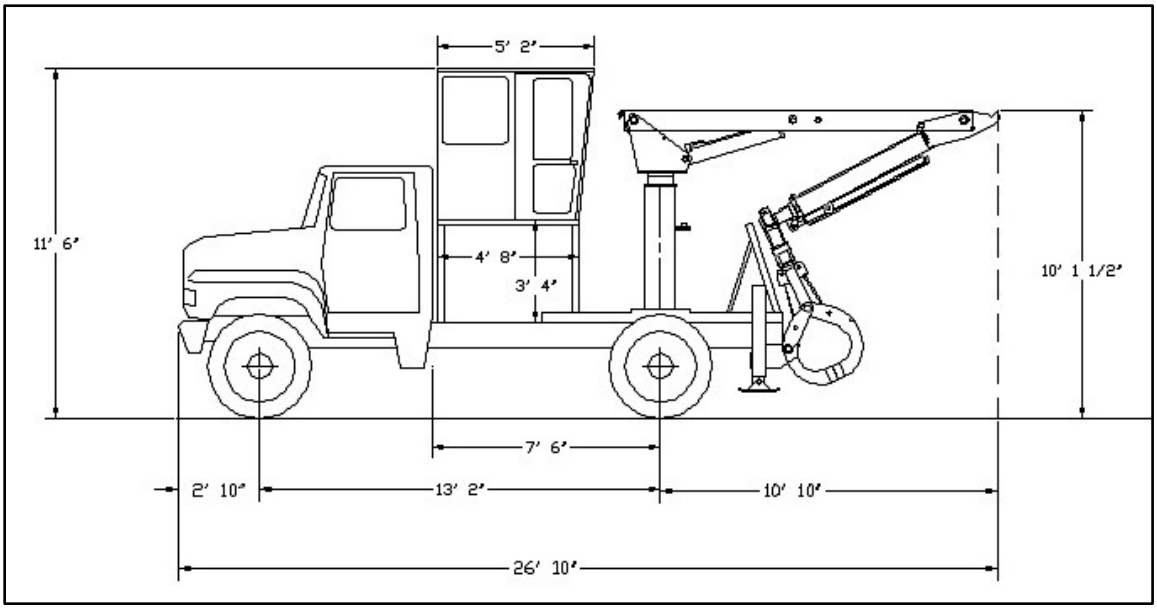
Always survey the work site for any potential power lines before performing any function. If power lines are present, follow all requirements for operating mobile equipment around power lines. Extreme care must be used to prevent electrocution. Always ensure that the appropriate power or utility company has de-energized the lines before operating the loader.

⚠ WARNING



Contacting power lines will result in death or serious injury. **DO NOT** allow any part of the machine within 10 feet of power lines or electrical shock can result.

If shutting down nearby power lines is not an option, ask if the utility company can install insulation over the lines for the duration of the time you will be operating in the area. A minimum safe distance of 10 feet must be maintained. Do not allow any team member to approach or carry any conductive object closer than 10 feet to any potentially energized power line.



When in the over-the-road travel mode, make sure the boom is stowed with the knuckle below the roofline of the upper cab, as shown above.

PART 2: DAILY INSPECTIONS

Daily inspections are a vital step in identifying and limiting potential hazards that might arise from improperly functioning equipment.

Prior To Using The Loader Each Day:

- Perform chassis manufacturer recommended and Class-B, pre-trip inspection of the truck.
- Check the battery terminals for corrosion.
- Check that tire pressures are sufficient for proper suspension lock operation.
- Due to the RS3's suspension-locking mechanism, it is important to keep tire pressures to the maximum psi allowed by the tire manufacturer.
- Check the back-up alarm. The backup alarm MUST always sound when the transmission is in reverse (R).
- If the loader is equipped with other alarms or warning lights, check these items for proper operation.
- Visually inspect the PTO support bracket for cracks, damage, or loose fasteners.
- Check the hydraulic system for drops of hydraulic fluid or lubricating oil under the chassis, any outrigger which may have crept down, or any signs of damage or improper maintenance. Hydraulic hoses should be free from cuts and abrasions with no evidence of binding or leakage.
- Ensure that outriggers are retracted and the bucket is resting securely in the bucket rack. If a trailer is attached, make sure the swing (float) valve is disengaged and the bucket is open and resting on the body floor or load.
- Check for proper operation of the LOAD HOLDING VALVES on the main boom cylinder, tip boom cylinder, tip extension cylinder, and each down cylinder on the outriggers.
- Inspect that the LOCK COLLAR is secure and there is no more than 1/4-inch gap between it and the bottom of the spindle bearing housing.

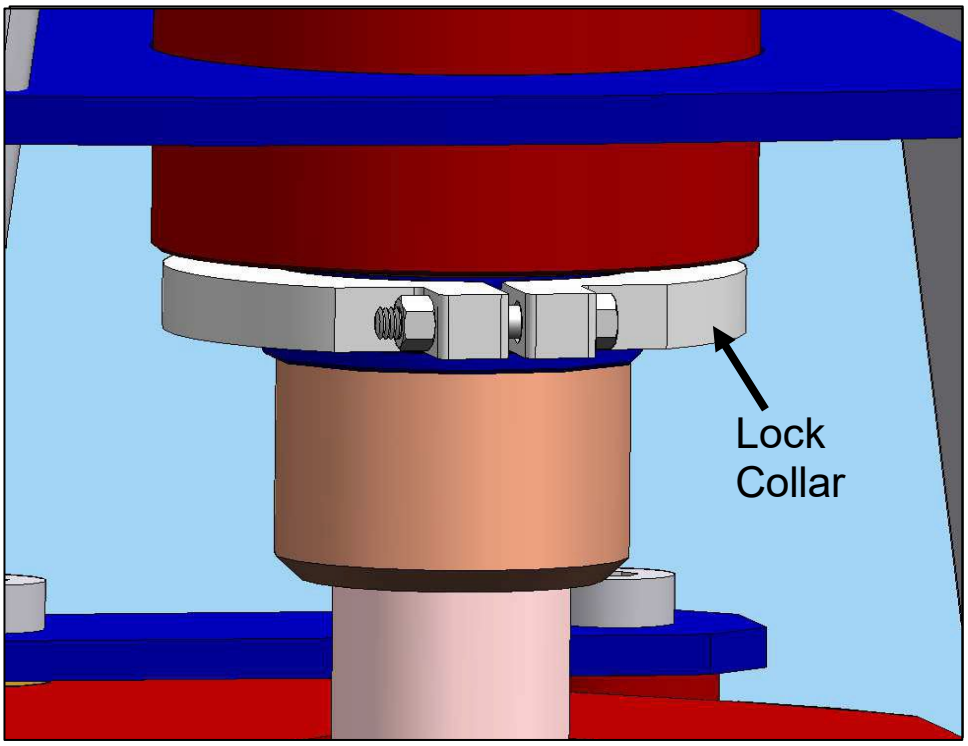
PART 3: SAFETY DEVICES

Lock Collar

The lock collar is an integral component that holds the head and spindle assembly in the pedestal. The lock collar must remain in place and properly torqued during any use of the trash loader. The lock collar must be tight against the bottom of the spindle bearing housing with a maximum gap of one-quarter inch (1/4").

Under normal operating conditions, there is very little load applied to the lock collar. Improper lock collar installation and/or the improper operating practices could result in the head assembly being pulled up, and out of the pedestal assembly. The separation of these two loader components will result in equipment damage and could result in serious personal injury or death.

Maintenance and shop personnel **must continuously check** for signs of abuse. Corrective measures must be taken if there is evidence of abusive and/or unsafe loading practices.



WARNING

DO NOT OPERATE THE LOADER IF THERE IS REASON TO BELIEVE THE UNIT IS BROKEN OR MALFUNCTIONING. ANY ATTEMPT TO USE OR MOVE THE BROKEN OR MALFUNCTIONING UNIT COULD RESULT IN SERIOUS BODILY INJURY OR DEATH.

Load-Holding Valves

Load-holding valves are safety features, designed to hold hydraulic pressure in the cylinder to support the load. They are plumbed directly onto the **main boom lift cylinder**, **tip boom cylinder, tip boom extension cylinder**, and the **outrigger down cylinders**. They only allow the load to be lowered when sufficient hydraulic pressure is applied to the release port of the valve. These valves provide hose rupture protection as well as prevent leak-down whenever the control valves are approaching the end of their service life.

To test the function of a specific load-holding valve, raise the component that is moved by a given cylinder (the main boom for example) so that there would be room for gravity to lower the component. Then, with the PTO off, attempt to move that component with its joystick, foot pedal, or lever. If the load moves, the load-holding valve is not working properly. Perform this test daily for each cylinder listed above.

WARNING

IF A LOAD-HOLDING VALVE MALFUNCTIONS, DO NOT ATTEMPT TO ADJUST THE VALVE OR CONTINUE TO USE THE LOADER. HAVE THE TRUCK REPAIRED BY A QUALIFIED REPAIR PROFESSIONAL.

The main boom and tip boom cylinders have load-holding valves for the extend direction only, whereas the tip boom extension cylinder has load-holding valves for both directions of movement. Test each direction of the tip boom extension cylinder with the tip boom angled so gravity would cause the load to move if the valves were not present.

To test each outrigger cylinder's load-holding valve, extend the outrigger foot pads down until the outriggers noticeably raise the loader. This will make it noticeable if the cylinder allows the loader to lower during the PTO-off test.

Back-Up Alarm

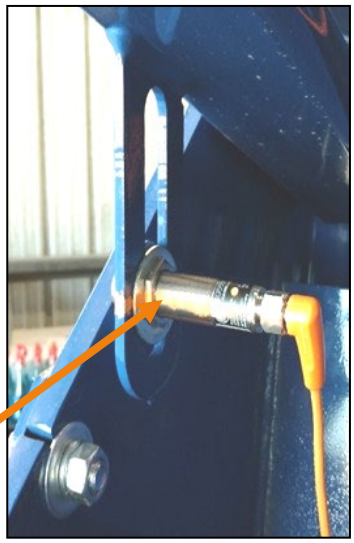
All loaders have a back-up alarm that must sound when the gear selector is in Reverse (R). The back-up alarm is to be checked daily. If the alarm is not working, it must be repaired before putting the vehicle into service. Always honk horn as a warning before moving loader and use a spotter if you do not have a clear view of the area behind the loader.

Boom-Up Alarm

All truck-mounted loaders have a warning system to alert the loader operator when the boom is not stowed properly. The system consists of a sensor installed on the boom and an audible alarm and red light installed in the truck cab. This system is designed to warn the loader operator when the boom is above the safe height for travel. **It is not to replace an operator's good judgment on safe travel height of the boom according to surrounding conditions.**

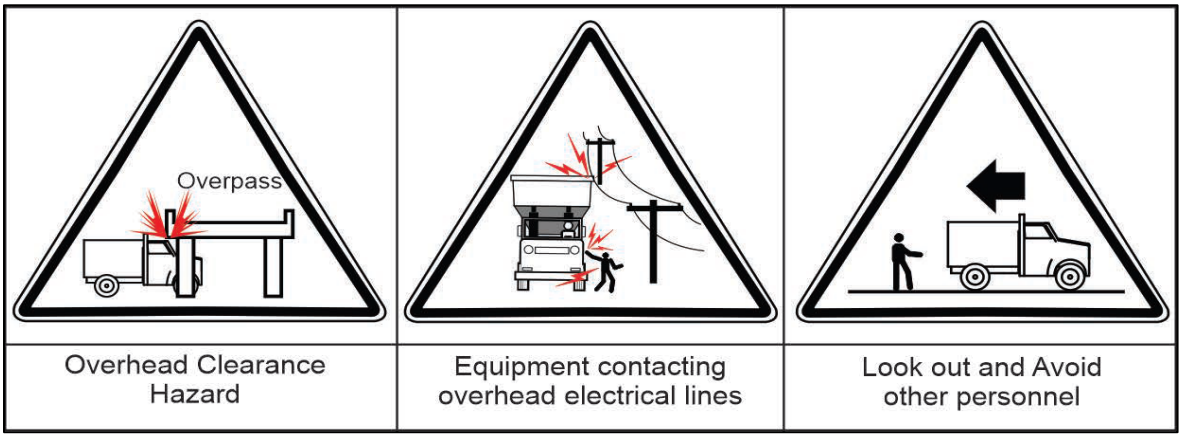
The boom-up alarm may have a round dial attached to the light, which can be turned to adjust the audible alarm.

The boom-up light will illuminate if the sensor passes the head side plate.



Operators should always be aware that some routes may have streets, roads, alleys, etc. that have overhead obstructions below the current set point of the boom sensor and should conduct their operations accordingly.

It is the operator's responsibility to be aware of all potential operating hazards and to take every reasonable precaution to ensure their safety, as well as the safety of other people, animals, and property. Look out and avoid other personnel, machinery, and vehicles in the area. **DO NOT** operate the loader if pedestrians or untrained people are within 30 feet of the active job site.



PART 4: CONTROLS

Cab Controls *(Upper & Lower)*

As mentioned, the vehicle can be operated by either the Lower or Upper Cab controls. To do so, both the Main Control and Air Conditioning Control Switches must be set correctly in the Lower Cab to properly allow for use in the Upper Cab.

Air Conditioning/Heating

Operation of the **air conditioning** in the Lower Cab is as specified in the OEM chassis manufacturer's manual. Proper operation of the air conditioning in the Upper Cab requires that the Lower Cab's air conditioning control dial be set to "Max" and fan speed set to "Low".

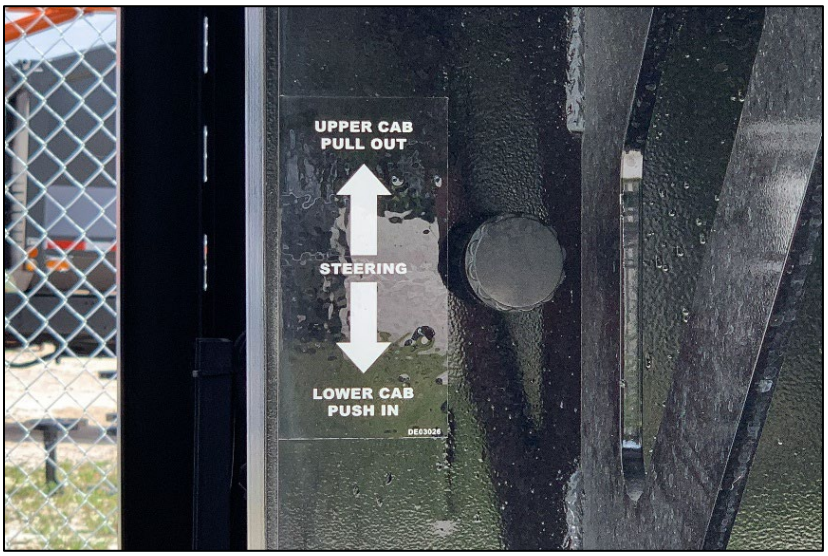
Operation of the **heater** in the Upper Cab requires no special settings from the Lower Cab. But proper operation of the heater in the Lower Cab does require that the Upper Cab's temperature control knob be set to the maximum temperature possible to enable adequate heating to the Lower Cab.

Main Control Switch

The Main Control Switch determines from which cab the truck's chassis systems should receive input. The switch must be set to the Lower Cab for over-the-road transit and Upper Cab to be able to use any of the Upper Cab controls for the loader and for stop-and-go route loading operations.

Power Steering Diverter Control Valve

Prior to climbing into the Upper Cab, the operator must first set the Power Steering Diverter to the Upper Cab position. This valve diverts fluid pressure from the chassis' OEM pump to the Upper Cab power steering motor. Pulling the knob out sets the valve for the Upper Cab, and pushing the valve in restores control to the Lower Cab position. Make sure the valve is seated completely for the desired cab position.



RS3 Power Steering Diverter Valve

Parking Brake

The parking brake must be set before leaving either the Lower or Upper Cab for any reason and must be disengaged before traveling from one stop to another. There is a knob to control the parking brake in both cab locations. **Note:** For the parking brake to function from the Upper Cab, it is mandatory to aply the parking brake in the Lower Cab before exiting, and vice versa.

To set the parking brake, use the truck's service brakes to bring the loader to a stop. Then, put the truck's transmission in Neutral (N) and apply the parking brake. Always have the truck's service brakes applied before removing the parking brake to prevent unintentional rolling once the parking brake is released.

Transmission Selector

There is a transmission control pad in both cabs, as well as a steering column stalk for selecting direction of movement of the vehicle from the Upper Cab. Options are limited to Forward (F), Reverse (R) and Neutral (N). Forward and Reverse are designated by the chassis direction, not which way the operator is facing. While driving from the Upper Cab controls, loader speed will be limited.

Upper Cab (Only) Controls

The loader's Upper Cab control station is designed to provide the best view of the working area and ensure the highest possible safety for the operator. Do not alter or modify any of the loader's control systems and any malfunctioning components should be repaired immediately.

Power-Take-Off (PTO) Switch

The PTO switch is located on the dashboard in the Upper Cab of the loader and must be engaged to use any loader or outrigger functions. There is a PTO indicator light that will be illuminated any time the PTO is engaged. The PTO switch should be turned to the "Off" position whenever the operator leaves the Upper Cab. If the PTO fails to engage, check that the main control switch has been set to Upper Cab operation.

NOTICE

HIGH ENGINE RPM EXPERIENCED DURING ACTIVE, STATIONARY REGEN MAY PREVENT PTO ENGAGEMENT. TO TEMPORARILY LOWER ENGINE RPM DURING REGEN, DEPRESS THE BRAKE PEDAL SLIGHTLY, THEN ATTEMPT TO ENGAGE THE PTO.

Accelerator Pedal

There is a multi-use accelerator pedal in the Upper Cab of rear-steer loaders. This pedal is used during movement of the loader whenever the loader's transmission is in forward or reverse gear. The pedal also serves as a throttle-up setting whenever the transmission is in Neutral. It will allow raising engine speed for increased hydraulic fluid flow but limits maximum engine speed to 1400 RPM.

Remote Start/Stop & E-Stop

There are two buttons on the steering column for activating the remote Start/Stop and Emergency (E-Stop) engine shutoff. Pressing in the Start/Stop button will kill the engine. Pressing again (and holding) the same button will re-start the engine.

In the case of an emergency, the E-Stop button can be quickly depressed, causing an immediate shutdown of the truck engine. All loader functions will be disabled it until the E-Stop button is returned to the “Run” position by intentionally pulling it back out.

Loader Controls

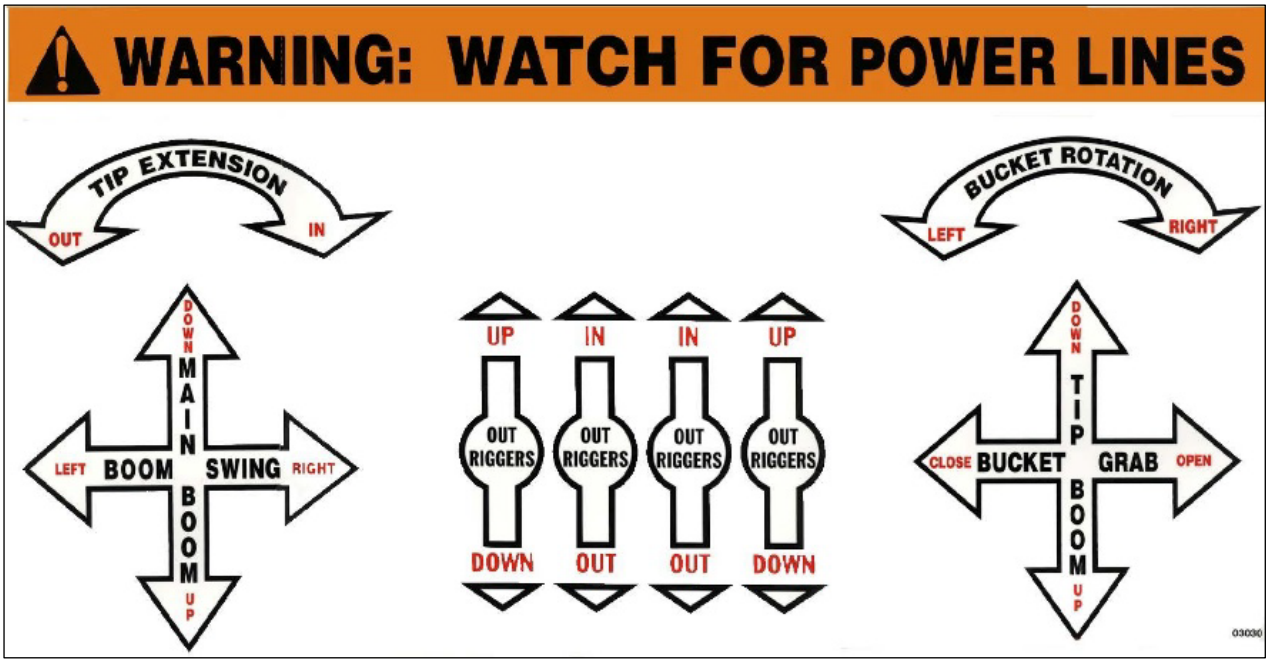
The optimum and safest method of operating the loader controls is by feathering the input of each function. Do not jerk a control lever to full speed or from one extreme to the other. Activate the controls by moving the control smoothly from the neutral position. After a slow, smooth start, then continue to move the control further to increase speed, if needed. Reverse the procedure to stop any function, returning the control smoothly back to the neutral position.

Placards show the specific movements of controls for each function according to the type of controls installed on the loader. The loader control placards indicate the direction to move the control handles for various functions such as boom elevation, boom swing, tip boom elevation, tip boom extension, bucket grab, and bucket rotation. The outrigger placard gives visual instructions for horizontal outrigger (in/out), and vertical (up/down) functions.

The RS3 can be ordered with one of several different operator control input devices including **Dual Mechanical Joysticks**, **a Single Electronic Joystick**, or **Dual Electronic Joystick** controls. For each configuration, the layout of the loader control station is designed to provide the best view of the working area and ensure the highest possible safety for the operator. Do not alter or modify any of the loader’s control systems and it is the operator’s responsibility to have any malfunctioning components repaired before continuing to use the loader.

Mechanical Joystick Controls

This configuration uses two mechanical joysticks to operate all loader functions. Each joystick is moved or rotated for a specific function, as shown in the diagram below. Outrigger control is performed with the four levers on the left side of the operator's seating.



Boom & Bucket Mechanical Joystick & Outrigger Control Functions

LEFT JOYSTICK

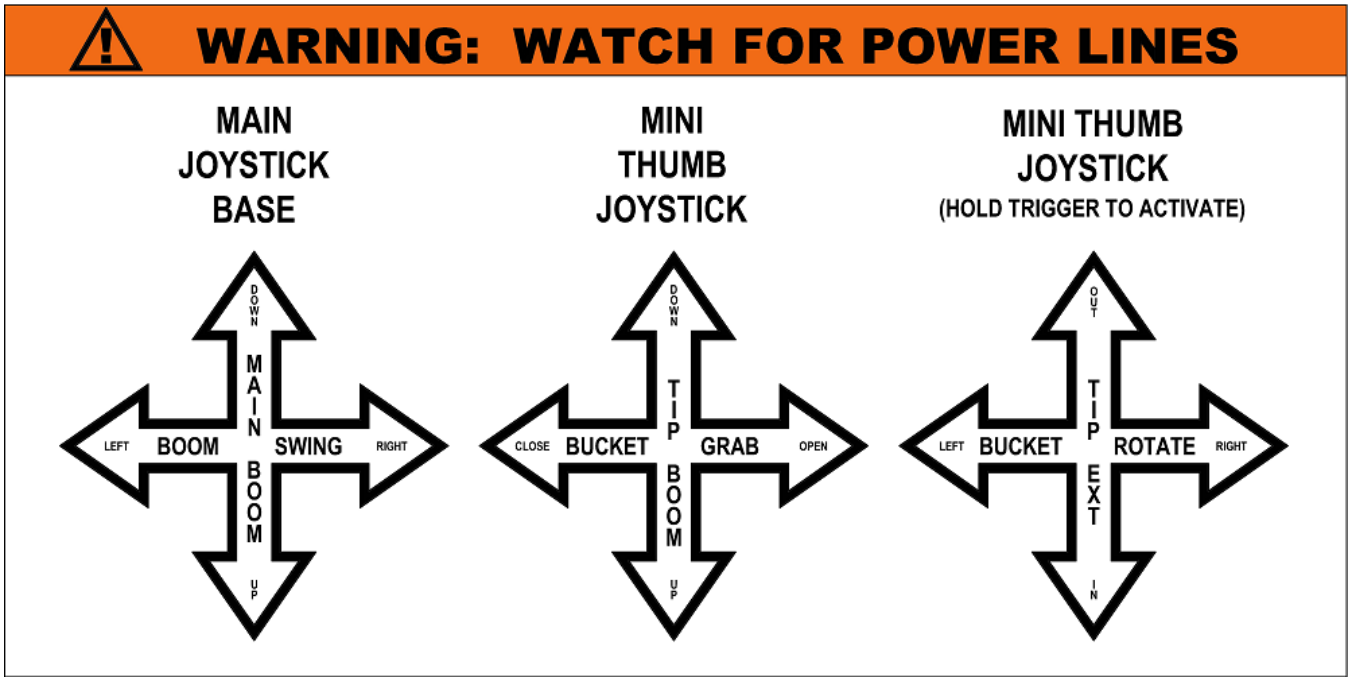
Main Boom	Pull the joystick **BACK** to raise the boom.
	Push the joystick **FORWARD** to lower the boom.
Boom Swing	Move handle **RIGHT** to make boom swing right.
	Move handle **LEFT** to make boom swing left.
Tip Extend	Rotate handle **COUNTERCLOCKWISE** to extend.
	Rotate handle **CLOCKWISE** to retract.

RIGHT JOYSTICK

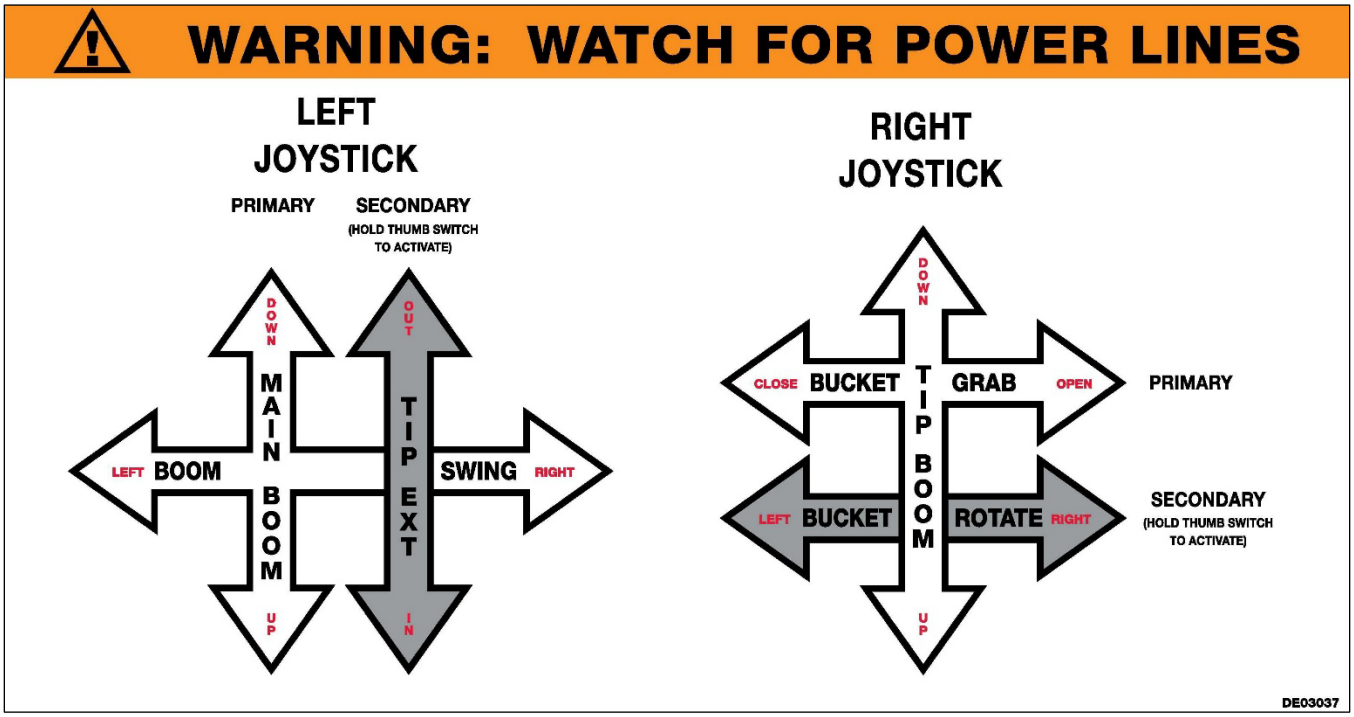
Tip Boom	Pull handle **BACK** to raise tip boom.
	Push handle **FORWARD** to lower tip boom.
Bucket Grab	Move handle to **RIGHT** to open bucket.
	Move handle to **LEFT** to close bucket.
Bucket Rotate	Twist handle **CLOCKWISE** to rotate bucket right.
	Twist handle **COUNTERCLOCKWISE** to rotate bucket left.

Electronic Joystick Controls

If the loader is equipped with Petersen's electronic joystick controls (Single- or Dual-Joysticks), the function of each joystick will be indicated on a decal within the operator station. There will be a separate set of controls for the outriggers to the left of the operator seat.



Single Electronic Joystick Control



Dual Electronic Joystick Control

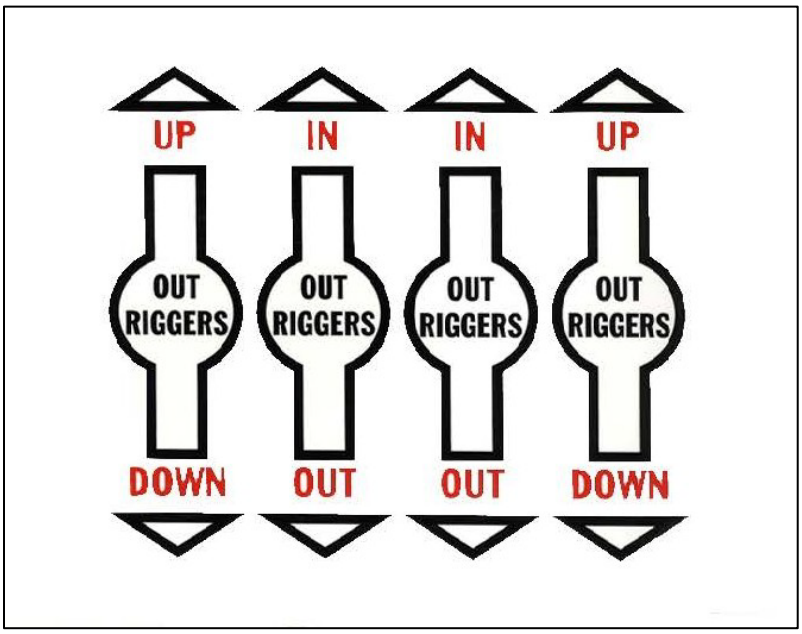
Suspension Lock Valve

RS3 loaders with steering capability utilize a suspension-locking device to allow for more efficient movement between cleanup sites during loading. A mechanism is incorporated into the truck's suspension, which bypasses the leaf-spring assembly and locks the suspension. This is to improve the stability of the loader during boom operation yet provides for driving of the vehicle between debris piles.

An air valve controls the engagement of the locking mechanism. The suspension lock must be activated before performing any operations with the loader and must be deactivated (returned to the travel position) whenever the operator exits the Upper Cab in preparation for transit of the loader using the Lower Cab. It is imperative that the truck's tires be maintained at the **maximum air pressure recommended by the tire manufacturer** to limit unwanted movement of the loader due to tire deflection.

Outriggers

All RS3s are equipped with outriggers, which are required for heavier loads at extended radii. There are four outrigger handles mounted on the left side of the operator's seat. Each lever controls a specific function (In/Out/Up/Down) for a particular outrigger. To achieve the loader's full rated lifting capacity as shown on the Load Chart, the outriggers must be fully extended.

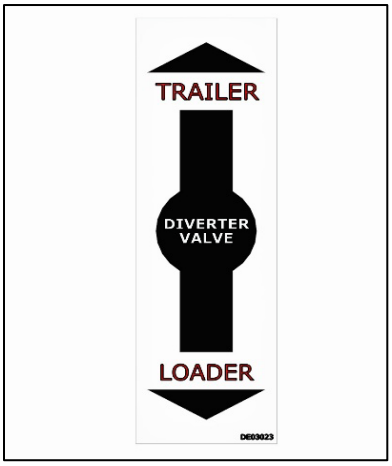


Safety information regarding outriggers:

- Always keep feet clear of outriggers to avoid serious crushing injury.
- Failure to use the outriggers when loading may create an unstable condition which could result in the loader overturning and cause serious injury or death.
- Use outriggers instead of suspension locks whenever lifting with an extended boom.
- Some concrete surfaces are relatively thin and cannot withstand outrigger loading. Thin concrete can break apart and cause instability while loading.

Tow-Package-Equipped Loaders

Diverter Valve



Loaders with the trailer towing package will have a diverter valve to switch between operation of the loader or operating the dump and jackstand functions of the trailer being towed. Just like the loader, using the trailer's hydraulic system requires the truck's PTO be engaged during the operation.

The valve would be set to the "LOADER" (down) position to operate any of the loader functions from the operator's station. Placing the valve in the "TRAILER" (up) position allows use of the trailer-mounted controls to raise or lower the trailer body or the jackstand.

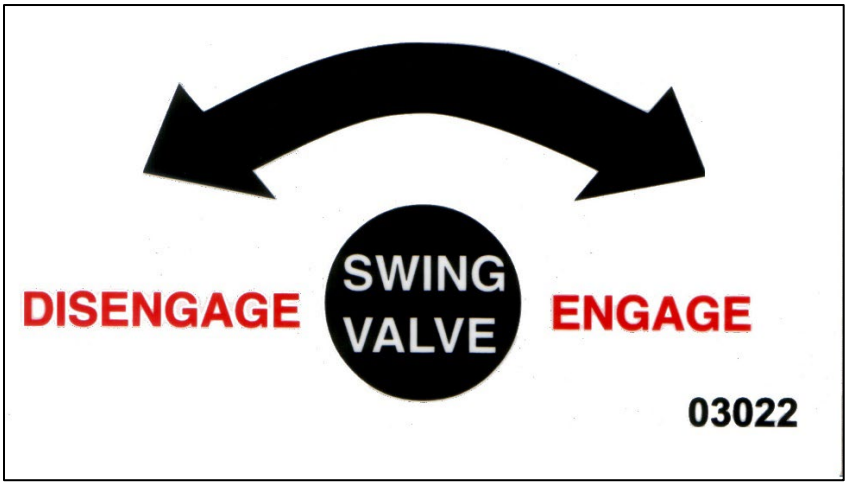
Swing (Float) Valve

Loaders equipped with the trailer towing package will also feature a swing (float) valve to allow the boom to either be controlled using hydraulic power, or to "float" without hydraulic resistance. Using "float" mode should ONLY be used when the boom is safely stored completely inside of a trailer body for transport. It is designed to allow the main boom assembly to pivot with the towed trailer when stowed. Loaders can either utilize a mechanical handle or operator-cab-mounted electric switch to control the float valve function.

WARNING

THE SWING (FLOAT) VALVE MUST BE ENGAGED PRIOR TO RAISING THE BOOM OR THE BOOM COULD SWING FREELY, CAUSING SEVERE BODILY HARM OR DEATH.

The float valve should always be engaged before performing any loader operations, or when the bucket is stowed in the bucket rack, outside of a trailer. Traveling with the bucket stowed in the trailer, the valve, or switch, should always be set to the "Disengage" position. This allows the main boom assembly to rotate freely with the trailer during travel.



Failure to stow the boom and bucket properly could result in hydraulic actuator damage or could allow the boom to slew (swing) and the bucket to fall outside of the body. Loss of boom control with the bucket outside of the dump body could result in damage to objects in the vicinity of the grapple truck, and/or serious injury or death to people in the vicinity of the grapple truck.

NOTICE

LOADERS WITHOUT A TOWING PACKAGE WILL NOT BE EQUIPPED WITH A SWING (FLOAT) VALVE OR A TRAILER DIVERTER VALVE.

PART 5: SETTING UP AT THE JOB SITE

Safely positioning the vehicle is an important first step at the job site. Plan the lift and seek the best possible work site before positioning the vehicle. A firm and level surface near the debris being loaded is an ideal location. Avoid uneven, rocky or muddy terrain, or steep grades. The location should be selected such that outriggers can be fully extended horizontally (if needed) with the outrigger pads landing on a firm surface.

If it is necessary to use the loader on an inclined surface, outrigger use is mandatory. Extreme care should be used, as loader slewing torque, stability, lifting capacity, and other functions may be affected adversely. Increased caution must be exercised with the swing function since an inclined surface will increase the downhill slewing speed and, as a result, lengthen the time it takes to stop the motion.

If possible, the truck should be positioned in an area free from overhead obstructions which allows performance of the entire task without repositioning. The operator must be familiar with the swing arc of the loader and position the truck so that the load is well within this arc.

Precautions and Procedures for Loading:

- Before leaving the cab, engage all safety lights, place the transmission in Neutral (N), and set the parking brake.
- Use extreme care and consider using safety cones to mark the vehicle if the truck interferes with traffic flow or conditions make the vehicle not easily visible.
- Before commencing work, make sure the debris you are going to load does not conceal any fixed objects, such as fire hydrants or guy wires.
- Ensure it is impossible for any portion of the loader to come within 10 feet of any power line. **NOTE:** power lines deflect in wind, and additional clearances may be necessary.
- Do not operate the loader during electrical storms, when high wind conditions exist, or in poorly lit conditions.
- Do not operate the loader if another person, other than the operator, is within 30 feet of any moving part of the loader or debris.
- Do not allow anyone under a raised boom, bucket, or debris at any time.
- When accessing the control station, use the provided handholds and steps; and face the steps when getting on and off. Never use controls as handholds. If handholds or steps are broken or missing, have them repaired before using the loader.
- Do not attempt to lift more than the capacities shown on the LOAD CHART for a given radius.

Failure to heed these instructions can result in serious personal injury or death.

PART 6: OPERATING THE LOADER

1. Before leaving the Lower Cab, place the transmission in neutral (N) and set the parking brake. Engage the truck flashers and strobe lights. Set the main and air conditioning control switches for use in the Upper Cab position.
2. Shift the Power Steering Diverter Valve switch to the Upper Cab position by pulling out the knob.
3. Seat yourself in the Upper Cab. Adjust the seat and rearview mirrors. Fasten your seatbelt.
4. If so equipped, make sure the diverter valve is in the “Loader” position and the swing (float) valve is engaged before conducting any boom operations.
5. Engage the PTO. For operations below 40°F, a hydraulic tank heater is recommended. Allow the hydraulic oil to reach 40°F before commencing work.
6. Set the Suspension Lock valve to the "On" position.
7. If required, fully extend all outriggers to level the loader side to side and ensure that the vehicle is stabilized.
8. Raise boom from its storage rack or from inside of trailer body and rotate the boom from side to side to ensure that the suspension locks engage. *(When suspension locks are engaged, the operator will still experience some machine movement due to tire compression.)*
9. Open the bucket and lower it over the trash. Close the bucket so that you have a firm grip on the trash. Raise the boom slightly and activate the bucket grab once again to ensure the grapple has a firm grip on the trash.
10. It is recommended the tip extension be retracted prior to swinging the load to minimize stress on the boom and swing gearbox.
11. **DO NOT** drive the loader with the boom to the side or the tip boom extended.
12. When driving from the Upper Cab, avoid sharp turns above 5 MPH, even with the suspension locked.

NOTICE

WHEN DRIVING THE TRUCK FROM THE UPPER CAB, THE STEERING AXLE IS NOW BEHIND THE OPERATOR. THE TRUCK’S WHEELS WILL SWING WIDE WHEN MAKING TURNS. WATCH FOR VEHICLES, STRUCTURES, AND PEDESTRIANS, AND ALWAYS PROCEED WITH CAUTION.

Loading A Trailer Or Other Loader:

- **Do not** use the bucket to sweep the load to the front of the dump body as you can damage the bucket and other loader components.
- **Do not** overload or allow limbs or other debris to protrude from the body.
- **Do not** excessively pack the load. Excess packing could result in floor damage and/or loader damage.
- **Do not** allow the bucket to swing beyond parallel to the tip boom. If the bucket flips up beyond parallel to the tip boom, the gimbal can damage the end of the tip boom.
- **Do not** leave a load suspended when the operator is away from the control station. If it is necessary for the operator to manually rake any remaining trash into a pile, the boom must be properly stowed before leaving the operator's control station.
- **Only** operate the loader from the operator's station.
- For units with trailers in tow, you **must** leave room to stow the bucket for travel within the body sides.
- **Do not** sit or stand at the Upper Cab control station when the truck is being driven from the Lower Cab.
- **Do not** attempt to lift loads exceeding the safe working capacity shown on the Load Capacity Chart.
- **Do not** impose lateral loads on the boom.

Always load from the curb side of the lane you are traveling in. After completing the load, signal to the trash truck driver to pull forward to the next pile of trash. If outriggers were used to make the lift, make sure they are up and retracted prior to moving the vehicle. Apply the brake pedal with your right foot. Release the parking brake. Select (R), Reverse, on the transmission range selector. You are now ready to drive the loader to the next trash pile.

Driving Between Load Sites:

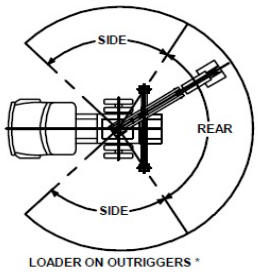
- When approaching an intersection or stop signal, keep the end of the boom out of the intersection.
- Never enter an intersection, road, or other lanes with any part of the loader without fully surveying your surroundings; then proceed with caution.
- Exercise extreme care when passing through or turning at an intersection when driving from the Upper Cab. (It may be necessary to knuckle the tip boom under the main boom or swing the boom to maintain a safe distance from other vehicles or obstacles.)

- When simultaneously operating loader functions and driving, the PTO will disengage if engine RPM exceeds 1750 RPM. The PTO will re-engage once engine RPM falls below 900 RPM.

When you arrive at the next load site, set the parking brake and switch the transmission into Neutral (N), in preparation to begin loading. Use outriggers if necessary and do not attempt to lift loads exceeding the recommended loader lifting capacity.

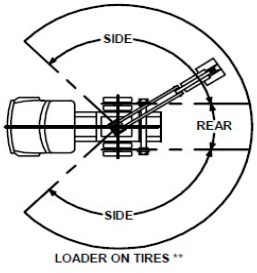
PETERSEN INDUSTRIES RS-3 LOAD CHART

LOADER ON OUTRIGGERS **				
RADIUS	SIDE		REAR	
	TIP EXTENSION RETRACTED	TIP EXTENSION EXTENDED	TIP EXTENSION RETRACTED	TIP EXTENSION EXTENDED
10 ft	6511 lb *	6834 lb *	7630 lb	8420 lb
13 ft	4820 lb *	5485 lb *	5611 lb	6477 lb
16 ft	3800 lb *	4242 lb *	4400 lb	5240 lb
20 ft	-	2737 lb *	-	3260 lb



LOADER ON OUTRIGGERS *

LOADER ON TIRES ***				
RADIUS	SIDE		REAR	
	TIP EXTENSION RETRACTED	TIP EXTENSION EXTENDED	TIP EXTENSION RETRACTED	TIP EXTENSION EXTENDED
10 ft	4220 lb *	4263 lb *	5505 lb *	5850 lb *
13 ft	2800 lb *	3000 lb *	4142 lb *	4838 lb *
16 ft	2100 lb *	2100 lb *	3307 lb *	3840 lb *
20 ft	-	1473 lb *	-	2530 lb *



LOADER ON TIRES **

WEIGHT OF ATTACHMENT TO BE SUBTRACTED FROM LIFT CAPACITIES. STANDARD TRASH BUCKET WEIGHS 1000 LBS.

RADII ARE MEASURED IN FEET FROM THE CENTER OF ROTATION TO THE CENTER OF THE BUCKET

LOADS MARKED WITH (*) ARE LIMITED BY THE STABILITY OF THE LOADER.

**LOADS FOR THE LOADER ON OUTRIGGERS REPRESENT 85% OF VEHICLE TIPPING MOMENT WHEN THE VEHICLE IS ON FIRM LEVEL GROUND.

***LOADS FOR THE LOADER ON TIRES (OUTRIGGERS FULLY RETRACTED) REPRESENT 75% OF VEHICLE TIPPING MOMENT WHEN THE VEHICLE IS ON FIRM LEVEL GROUND.

BOOM LENGTH WITH TIP EXTENSION RETRACTED IS 16 FEET. BOOM LENGTH WITH TIP EXTENSION EXTENDED IS 20 FEET.

TIP BOOM EXTENSION FUNCTION IS NOT TO BE USED FOR LOAD LIFTING. THIS FUNCTION IS ONLY FOR LOAD REACHING OR TO IMPROVE LOAD-LIFTING CAPACITY.

DO NOT USE THESE LOAD CHART VALUES TO PREDICT LOAD CAPACITIES AT OTHER RADII.

TIRE PRESSURES MUST BE IN ACCORDANCE TO THE TIRE MANUFACTURER'S RECOMMENDATIONS.

P/N: PDECAL06:001

Note: If the hydraulic system ever fails, call a qualified recovery professional and, if necessary, arrange for an auxiliary service vehicle that can provide a hydraulic power source for stowing the boom and preparing the truck for safe transport to the repair facility.

Preparing For Transport

If **NO trailer is pulled** in transit, the boom and bucket must be securely racked to the loader. Make sure the tip extension is retracted and center the main boom and bucket over the storage rack. Lower the boom and bucket until the boom is resting completely against the support, the bucket is secured in the hooks of the bucket rack, and the main boom is in the horizontal position.

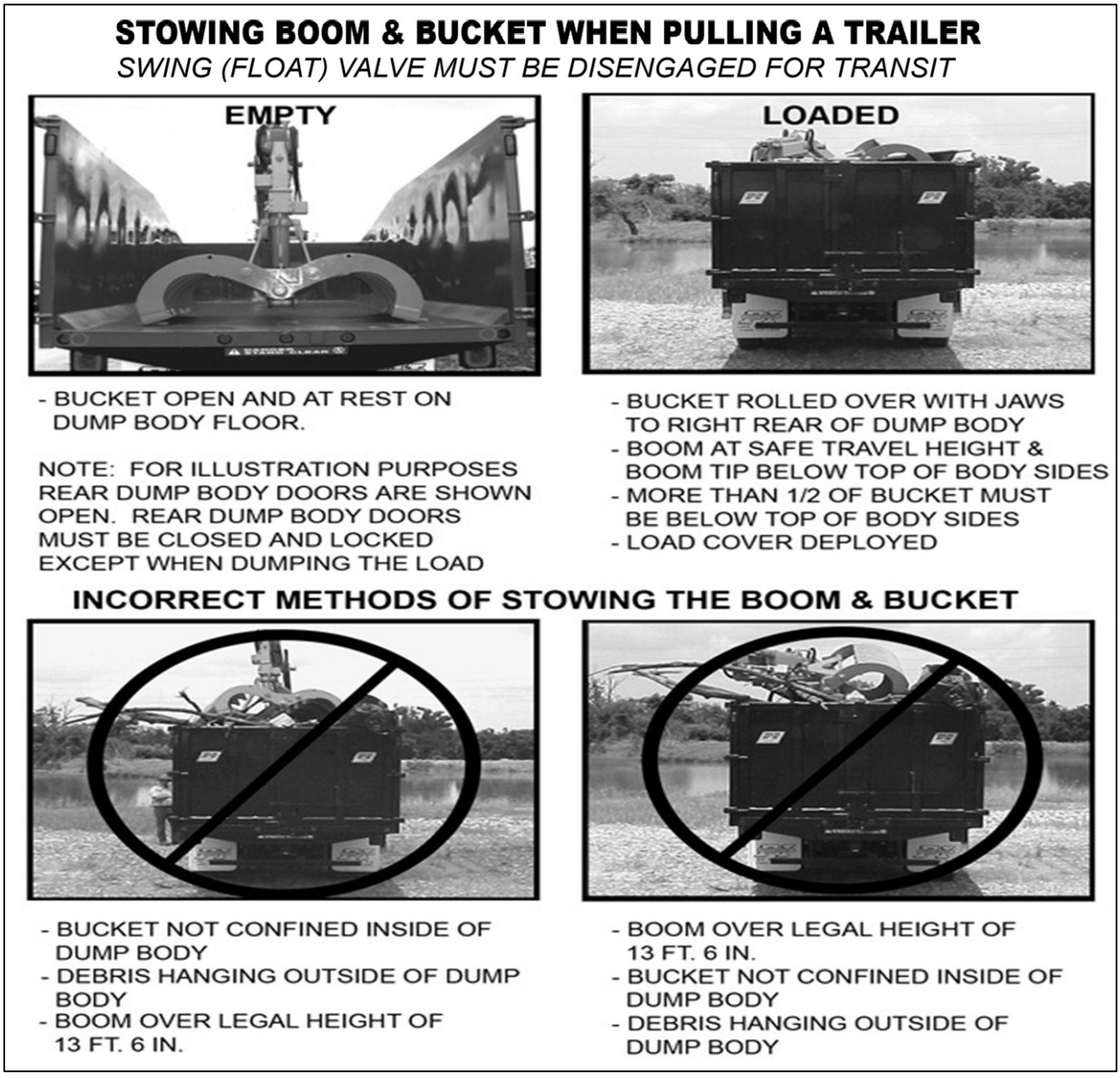
Stowing the bucket for transport when NOT towing a trailer.

Move the PTO switch to the “Off” position and disengage the suspension locks. Before exiting the Upper Cab, set the air conditioning/heat to the required settings for Lower Cab operation. After exiting the Upper Cab, ensure the door is latched securely and use the handholds to dismount the loader. Push the diverter valve knob in to divert power steering to the Lower Cab.

From the Lower Cab, set the main control switch to Lower Cab operation and set the HVAC selector switch for use in the Lower Cab. There is a warning light and alarm to alert the operator if the boom is not properly stowed. If the alarm is sounding, you MUST adjust the boom to the proper height for travel before moving the loader.

If a **trailer IS pulled,** leave room in the body to stow the boom and bucket. Stow the bucket in the open position with its sides parallel to the sides of the body. The operator should rest the bucket on the body floor or on top of the load. If the trailer is loaded, always ensure that at least half of the bucket and tip of the boom are below the top of the trailer sides before travel.

If the bucket and boom cannot be stowed at the proper height with the bucket open, the operator can use the Bucket Roll method to reduce the height of the boom. The trailer body must be at least half full to use the Bucket Roll method.



WARNING! – Failure to stow the boom and bucket properly could result in damage to property or injure people in the vicinity of the grapple truck.

Once the bucket has been properly stowed for travel, retract all outriggers, disengage the PTO, and pick up any safety cones or markers before moving the loader.

PART 7: IDENTIFYING POTENTIAL HAZARDS

The daily inspections are designed to identify any potential hazards or maintenance items that require attention before using the loader. Throughout the course of the day, you, as the loader operator, are also in the best position to identify any items before they can become potential hazards.

It is your responsibility to report any noticeable changes in the operation of the loader or any items that could become larger issues if left unaddressed such as wear, rust, or a lack of lubrication. Report any observations to your supervisor to determine the best course of action to resolve the issue. Careful attention during the operation of the loader not only prolongs the life of the equipment, but also prevents downtime in the field, and helps ensure the safety of the entire crew.