



TL2

OPERATOR MANUAL

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

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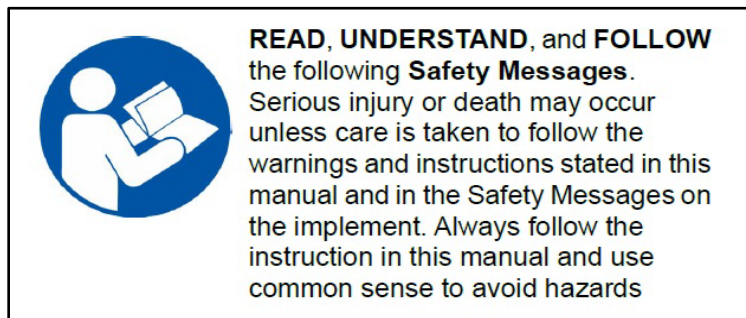
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PART 1: SAFETY PRECAUTIONS

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.

Users of this equipment must be trained by an experienced loader operator who is familiar with all aspects of operation, safety, and maintenance of this loader. 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.



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. They must 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 himself and his fellow workers to make sure that only safe operating procedures are followed. All operating regulations recommended by the vehicle manufacturer, employer, as well as municipal, state and federal agencies must also be observed. 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.

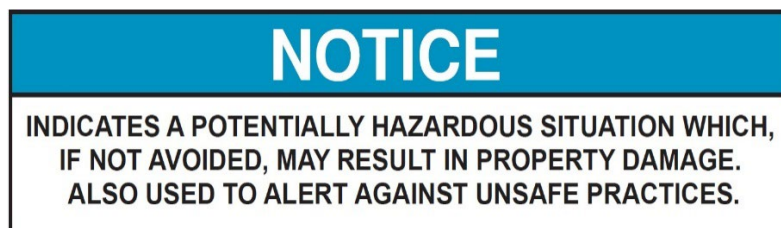
Each crew member must receive instructions on the proper function of this machine and remain alert to spot any abnormalities or malfunctions. This will help prepare each member to recognize if it is not operating properly.

Safety Messaging

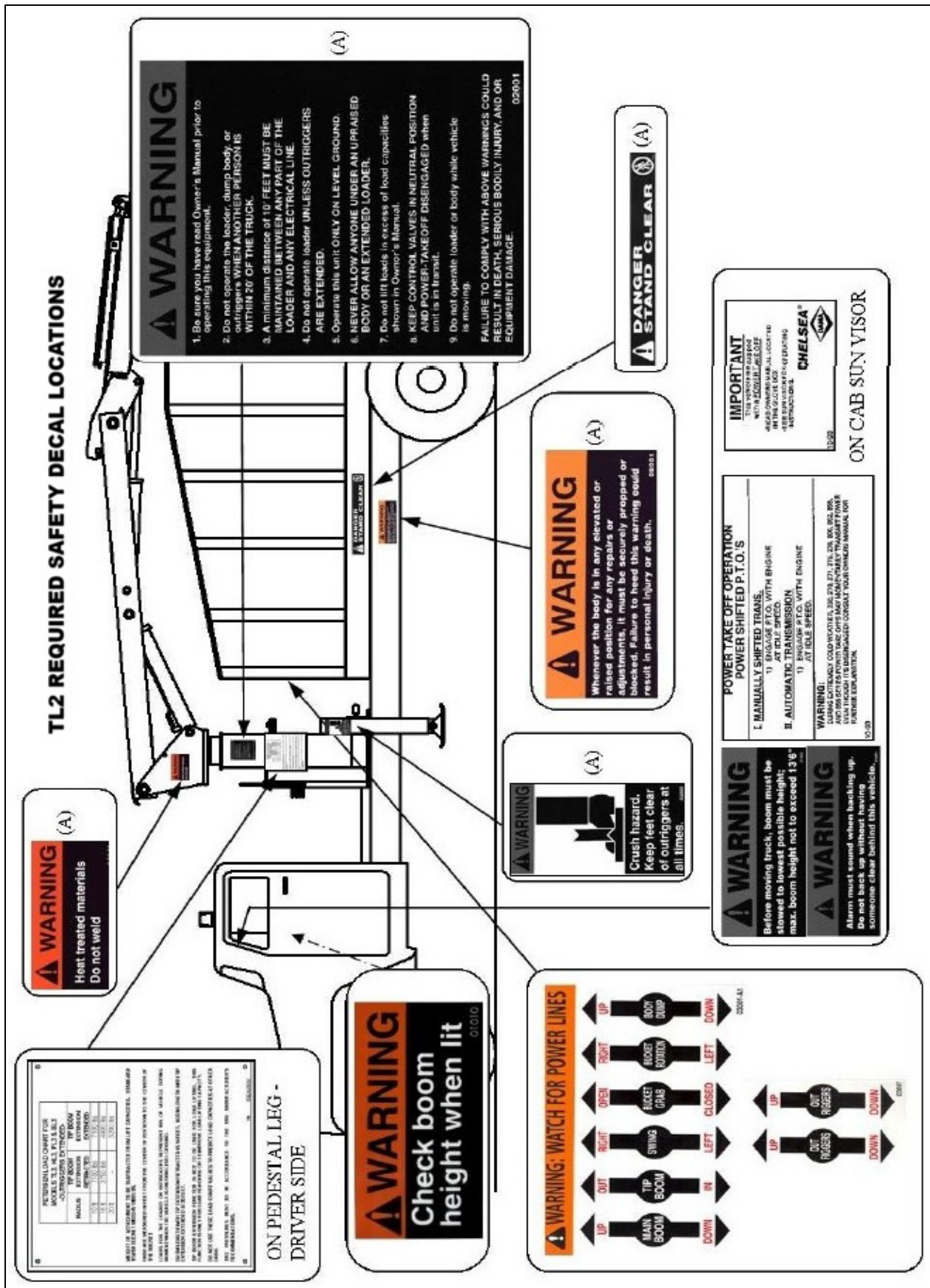
There are various safety messages throughout this manual which utilize symbols and safety words to call out unsafe practices or conditions. Your loader also has required safety decals that are designed to alert those operating, working around, or performing maintenance on the loader to certain safety 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

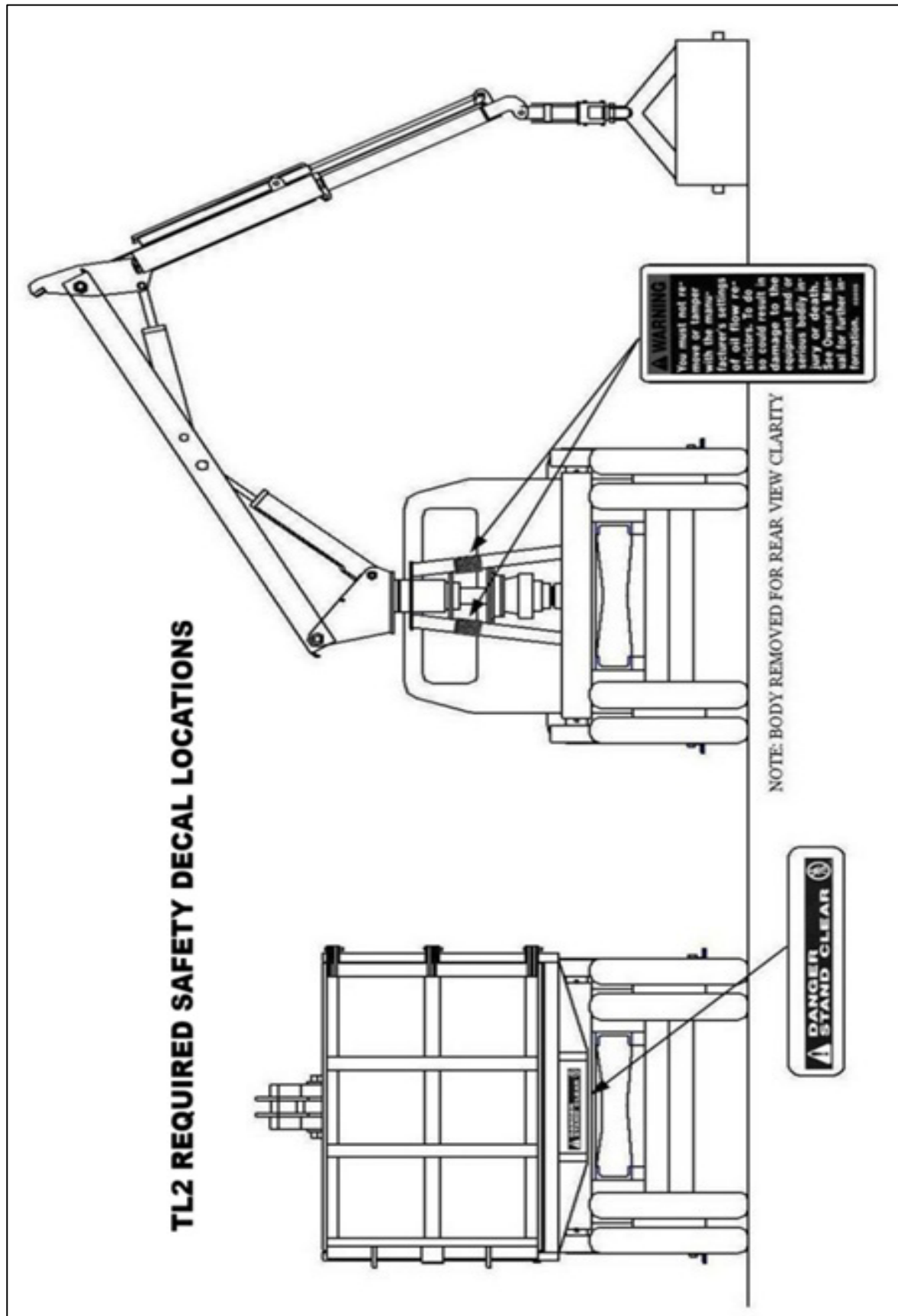
There are four classifications of safety messages. The severity of each classification is highlighted through signal words, colors, and symbols. Here is each classification of safety message and what they indicate:



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.

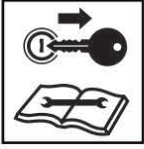


TL2 Safety Decal Locations

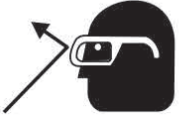


TL2 Safety Decal Locations (Pg.2)

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 will find in this manual.

SAFETY HAZARD	SAFETY AVOIDANCE	SAFETY PREVENTION
Pictograph surrounded by a triangle indicates a Safety Hazard that must be avoided. <i>Example:</i>  Equipment contacting overhead electrical lines	Pictograph in a circle or inside a box indicates an avoidance procedure that should be followed to prevent injuries. <i>Example:</i>  Always shut off engine and remove key before working on equipment.	A circle with a slash through it indicates an action that is prohibited. <i>Example:</i>  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.

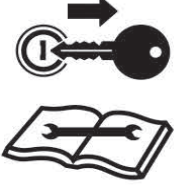
					
Wear Safety Glasses to Comply with ANSI Z87	Wear Hard Hat	Wear Safety Shoes	Wear Hearing Protection	Wear Protective Gloves	Wear Safety Reflective Vest


WARNING

NEVER WEAR LOOSE CLOTHING OR JEWELRY WHEN WORKING ON OR AROUND THE EQUIPMENT. SUCH 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**:

				
Read and Understand Operator's Manual	DO NOT USE DRUGS or ALCOHOL before or while operating equipment	Always shut off engine and remove key before working on equipment	Always install Debris Body and tail gate props before working under equipment	Always wear your seatbelt

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.



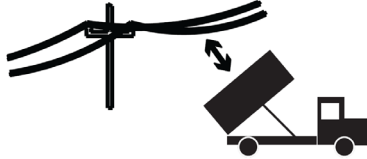
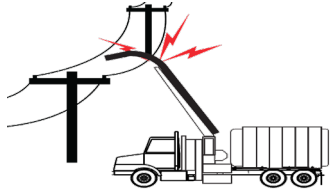
Keep hands and body away from suspected pin holes in hydraulic lines or any areas ejecting hydraulic fluid. High-pressure hydraulic fluid can be invisible and will impregnate skin. If injured, seek immediate medical attention. The fluid will need to be surgically removed from the body. Failure to seek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

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 the back-up alarm. The backup alarm **MUST** always sound when the transmission is in reverse (R).
- Verify that the boom-up alarm sounds when the boom is set above the vehicle's pre-set truck height travel limit.
- If the loader is equipped with any additional 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 any unusual conditions such as 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. The hydraulic hoses should be free from cuts and abrasions and there should be no evidence of binding or leakage.
- Ensure that outriggers are fully retracted and the bucket is open and resting on the floor of the body. If the body contains debris, the bucket should be open and resting on the load.
- Check for proper operation of the LOAD HOLDING VALVES on the main boom cylinder, tip boom cylinder, tip extension cylinder, and each 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.



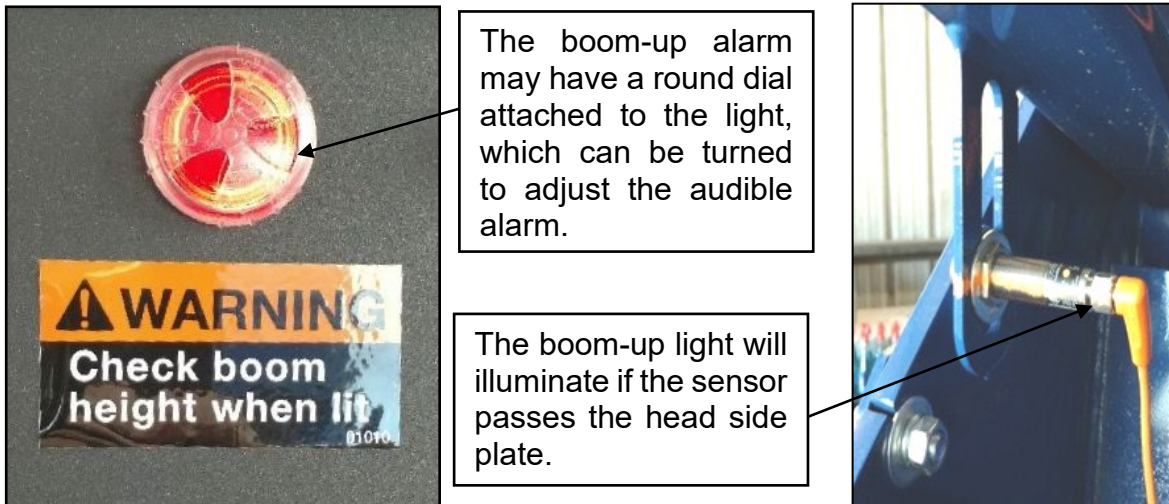
WARNING

DO NOT OPERATE THE LOADER UNDER ANY CIRCUMSTANCE 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.

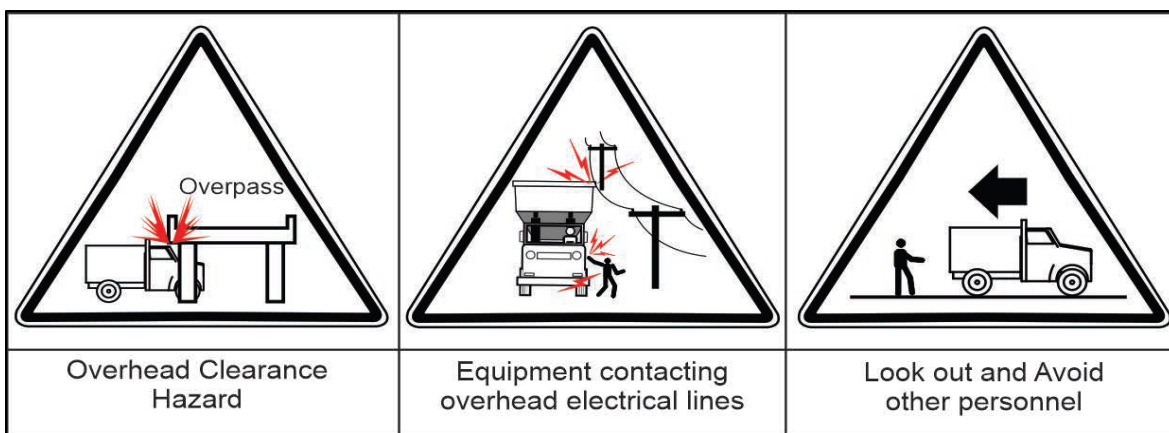
PART 3: SAFETY DEVICES

Boom-Up Alarm

All truck-mounted loaders have a warning system to alert the loader operator when the boom height exceeds the legal limit. 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 intended to replace an operator's good judgment on safe travel height of the boom according to surrounding conditions.**



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 passersby or untrained people are within 30 feet of the active job site.



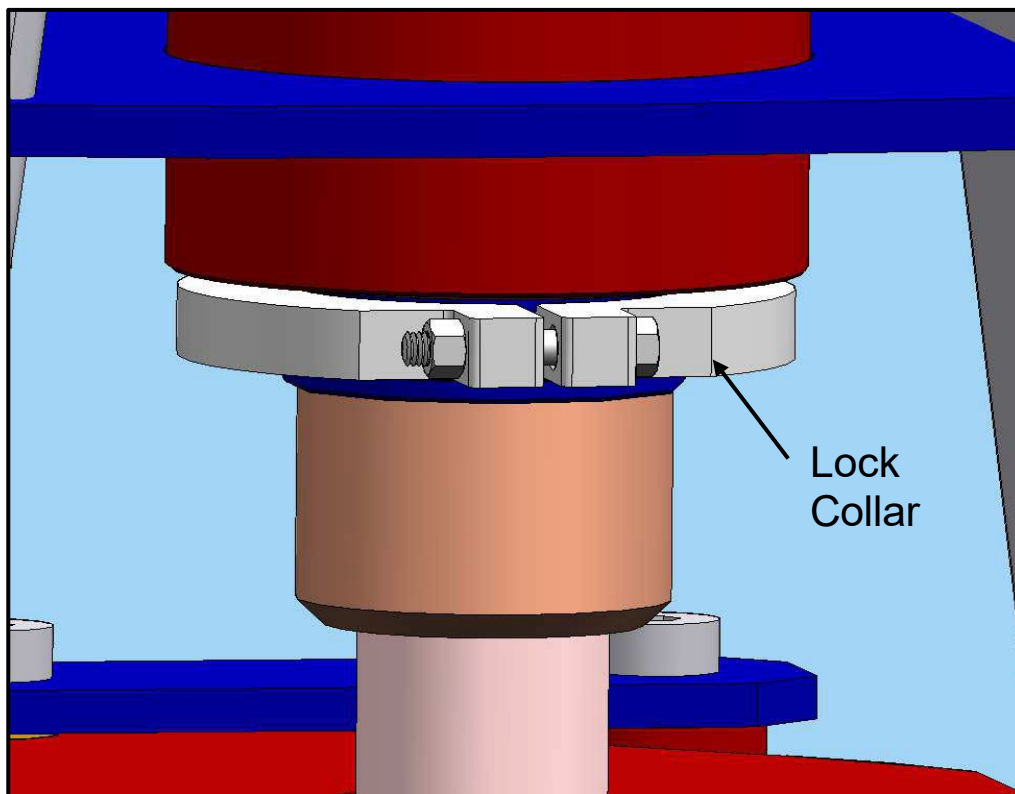
Back-Up Alarm

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.



Lock Collar

The lock collar is an integral safety component of the trash loader designed to hold the head and spindle assembly in the pedestal. The lock collar must be in place and the lock collar bolts properly torqued prior to use of the trash loader.



A visual inspection of the lock collar should be part of the daily inspection routine before the loader is put into service. The lock collar must have one-quarter inch (1/4") or less gap between the collar and the bottom of the spindle bearing housing.

Under normal operating conditions, there is very little load applied to the lock collar. The following improper operating practices could put excess stress on the lock collar and therefore must be avoided:

- Excessively packing the load with the boom.
- Forcing the dump body down with the boom.
- Improper positioning of the boom prior to raising the dump body.

Improper lock collar installation and/or improper operating practices could result in the head assembly being pulled up out of the pedestal. 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 and corrective measures taken if there is evidence of abusive and/or unsafe loading practices.

Swing Lock

The swing lock assembly features a drop-in pin between the head and pedestal to secure the boom and head assembly for transporting the loader. It is imperative to unlock the swing lock assembly before operating the loader. The locking pin is activated by rotating the handle on the head assembly. Unlocking the head is done by lifting the handle and rotating the pin toward the rear of the loader, allowing the head assembly to swing freely. Rotating the lever toward the cab drops the pin to lock the boom for transport.



Swing Lock Open



Swing Lock Closed

The swing lock is an integral part of the loader's safety mechanism and must be checked during the daily inspection to ensure that it is working as designed. The lock must be engaged before transporting the loader.

Hydraulic Safety Devices

There are flow devices designed into the loader's hydraulic system to control the flow of fluid. Hydraulic fluid pressures, as well as responsible loader operation and speed are essential to the safe operation and longevity of the loader.

To maintain safe loader control, you must ensure that proper engine speed is observed, all oil flow restrictors are in place and have not been modified, and all valves are operating properly. You must not remove or tamper with the manufacturer's recommended settings of oil flow devices. Excessive operating speed causes erratic operation of the loader, decreases operator control, and increases the stresses on the loader's supporting structures, which could cause unexpected component failure.

Pressure Relief Valves

Pressure relief valves are used to maintain safe and effective fluid pressures throughout the hydraulic system. You must not adjust, remove, or tamper with the manufacturer's recommended settings of pressure relief devices.

Load-Holding Valves

Load-holding valves are a key safety component of the loader's hydraulic system. The valves are plumbed directly onto the **main boom lift cylinder, tip boom cylinder, and the outrigger down cylinders**. These valves are designed to support the load by preventing the unwanted transfer of hydraulic fluid in, or out of the cylinder. They prevent the cylinder from moving until sufficient hydraulic pressure is applied to the release port of the valve to allow the load to be adjusted. These valves provide hose rupture protection as well as prevent leak-down when the control valves are in their neutral position.

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, turn the PTO off, attempt to move that component with its control lever. If the load moves, the load-holding valve is not working properly. Perform this test for each cylinder listed above.

The main boom and tip boom cylinders have load-holding valves for one direction only. To test each outrigger load-holding valve, extend the outrigger foot pads down until the loader noticeably lifts. This will make it noticeable if the cylinder allows the loader to lower during the PTO-off test.

Note: If a load-control valve malfunctions, do not attempt to adjust the valve or continue to use the loader. Have the truck repaired by a qualified repair professional.

Flow Restrictors

Restrictors designed into the loader's hydraulic system slow the operation of various functions such as the rotation of the boom and bucket. These restrictors are preset from the factory and must not be removed or modified.

It should take approximately 20 seconds (± 3 seconds) for the boom to make a complete arc from swing stop to swing stop. There are also flow restrictors on the bucket assembly to limit its rotation speed. The bucket assembly should make approximately 15 rotations per minute. Damage to the bucket rotator mounting bolts or motor shaft or housing could result if bucket rotation speed is uncontrolled.

If an operator experiences hydraulic failure while on route, first try to get the hydraulic system working again. If you cannot, we recommend calling an auxiliary service vehicle that can provide a power source for the loader's hydraulic system. Using the auxiliary power source to run the hydraulics, replace all loader components to the travel position, and then return the loader to the shop for repair.

Power-Take-Off (PTO) Switch

The PTO switch is located on the dashboard in the cab of the truck. To engage the PTO, use the service brakes to bring the vehicle to a full stop, place the vehicle's transmission into neutral (N), set the parking brake, and then engage the PTO switch. At the completion of loading operations, turn off the PTO switch, apply the service brakes, disengage the parking brake, and then select the appropriate transmission gear.

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.

PTO Over-Speed Control

The hydraulic pump assembly used on this loader is engineered to work in conjunction with the transmission installed in the chassis of the loader. The PTO is designed in accordance with the transmission to run the pump at the appropriate speed for best performance.

Exceeding the factory-preset pump speed will cause excess oil flow, which may cause unsafe operating speeds, excessive oil temperature, and undue wear on the loader and chassis. The purpose of the PTO over-speed control is to protect the loader and hydraulic systems by disengaging the PTO if engine RPM exceeds 350 RPM higher than the preset throttle-up speed. This condition may occur if there is an attempt to move the loader without prior disengagement of the PTO.

PART 4: CONTROLS

Throttle Control



A throttle-up control switch is installed in the center console between the Dual-Walk-Through (DWT) control stations and is dependent on the PTO being activated. There is a push/pull-type switch to permit the operator to easily increase the loader's engine speed for most efficient loading or decrease it whenever the loader is at rest. This allows for better communication with a fellow crew member, for example. Pulling out the switch activates the throttle-up function, raising the engine's speed. Pushing in the switch lowers engine speed to allow better communication with crew members.

Always use the throttle-up function to increase engine speed when using the loader. The throttle-up feature is dependent on the in-cab PTO switch being activated. If the loader does not respond to control input and the engine speed does not increase when the throttle-up switch is activated, check that the in-cab PTO switch has been engaged.

Horn & Engine Cut-Off

On the same console as the throttle-up control, there are two momentary push buttons. One button operates the horn and the other activates the engine shutoff in the case of an emergency. Familiarize yourself with which button operates what function.

Loader Controls

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. It is the operator's responsibility to have any malfunctioning components repaired before continuing to use the loader.

The control handle configuration is the same at both operator stations on the control platform. Always operate the loader on the side closest to the debris being loaded. Do not store any collectibles on the operator's platform, as they can create a tripping hazard or become lodged in the controls.

The optimum and safest method of operating the joystick and foot pedal 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, which imposes undue shock loads on the equipment. Begin each function by moving the control lever smoothly from the neutral position to start a motion. After a slow, smooth start, move the handle further to increase speed, if needed. Move the handle smoothly back to the neutral position to end any function.

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 control handles for various functions, such as **boom elevation, boom swing, tip boom elevation, bucket grab, bucket rotation, and body dump**. The outrigger placard gives visual instructions for horizontal outrigger in/out, and vertical outrigger up/down.

Standard Lever Controls

The optimum, safe method of operating the controls is by feathering, moving each lever smoothly from the neutral position to start motion. After a slow, smooth start, move the joystick control further to increase speed. To end any movement, allow the lever to move smoothly back to the neutral position. Do not jerk the control levers to full speed or from one extreme to another. Do not store any collectibles on the operator's platform, as they can create a tripping hazard or become lodged in the controls.

Loader and outrigger control handle configuration is the same at both operator stations. For the best view, always operate the loader on the side closest the work being completed. Operating all loading and unloading functions of the loader can be accomplished on either side through the six vertical control handles. Loaders equipped with standard lever controls also have two horizontally facing handles on each side of the platform to control the outriggers.



Decals on the body of the loader indicate the direction of each control handle to actuate a specific function. The decal lists function for **boom elevation**, **tip boom elevation**, **boom swing**, **bucket grab**, **bucket rotation**, and **body dump**. The outrigger decals also indicate a specific lever and direction of movement for **outrigger up/down** functions. The handles are configured in the same order on either side of the platform. The top handle on either side operates the left outrigger. The bottom handle on either side operates the right outrigger.

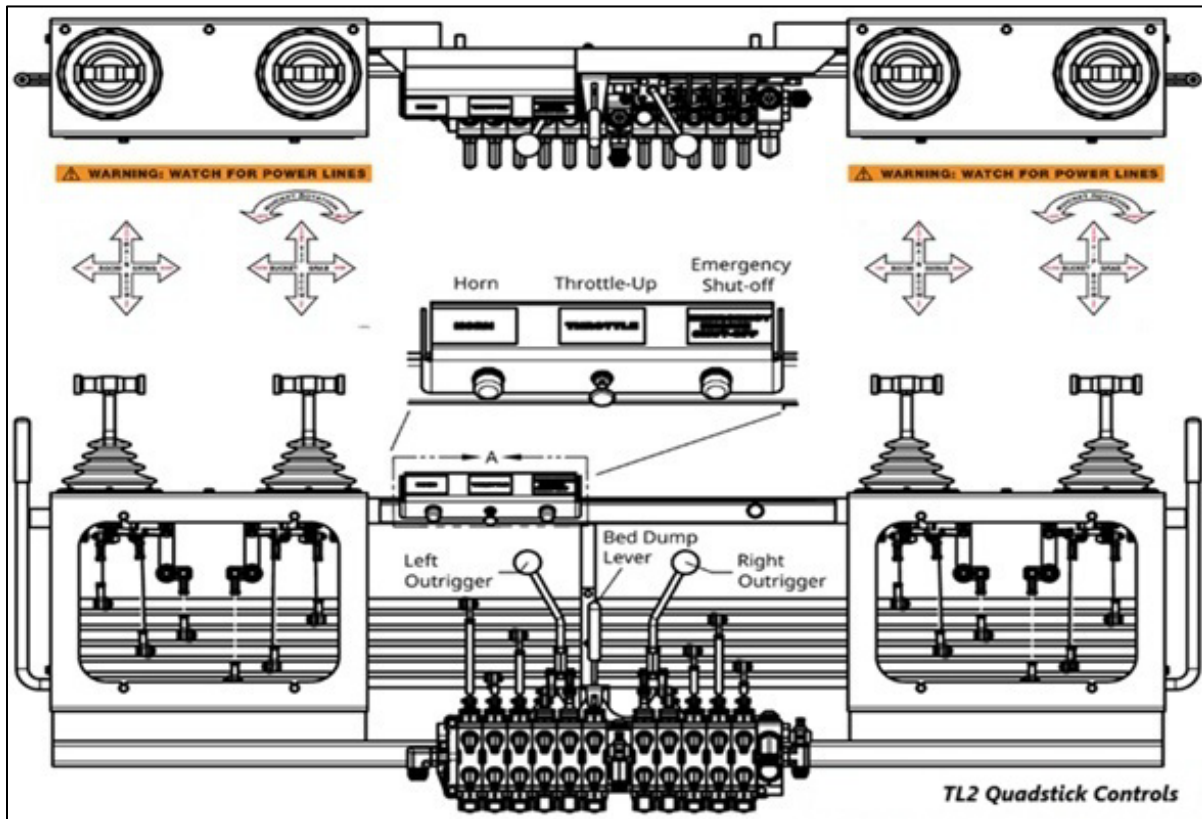
The following decal shows the loader control handle and outrigger configuration with arrows indicating the direction to push or pull a specific handle for each function.





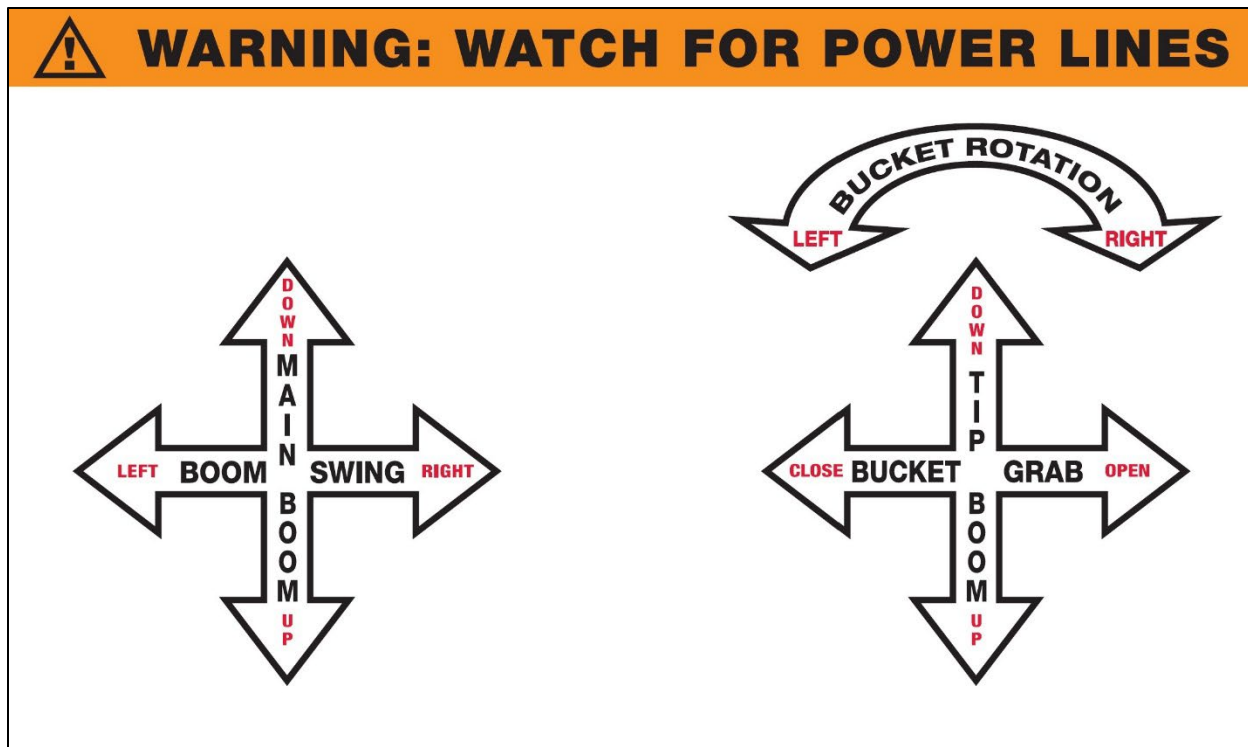
Quadstick Controls

There are controls on each side of the operator's platform to allow operation of the loader on the side closest to any work being completed. Use the same control lever movements on either side to manipulate the boom elevation, boom swing, bucket grab, and bucket rotation.



The optimum, safe method of operating the controls is by feathering, moving the joystick smoothly from the neutral position to start motion. After a slow, smooth start, move the joystick control further to increase speed. To smoothly stop any movement, move the joystick control smoothly back to the neutral position. Do not jerk the control levers to full speed or from one extreme to another.

Do not store any collectibles on the operator's platform, as they can create a tripping hazard or become lodged in the controls.



All TL2 Quadstick Loader Control Functions:

Left Joystick

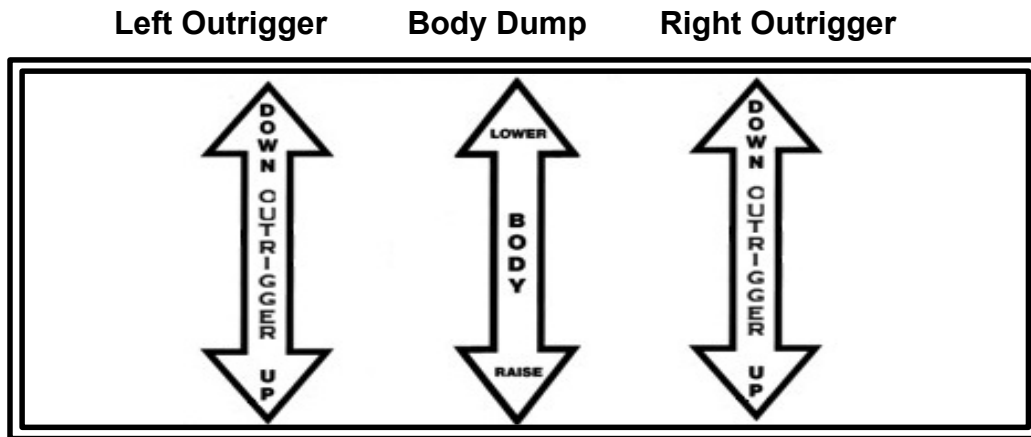
- Boom Swing** Move handle **RIGHT** to make boom swing right.
Move handle **LEFT** to make boom swing left.
- Main Boom** Pull handle **BACK** to raise boom.
Push handle **FORWARD** to lower boom.

Right Joystick

- Tip Boom** **PULL** handle back to raise the tip boom.
PUSH handle forward to lower the tip boom.
- Bucket Grab** Move handle **RIGHT** to open the bucket.
Move handle **LEFT** to close the bucket.
- Bucket Rotate** Twist handle **CLOCKWISE** to rotate bucket CW.
Twist handle **COUNTERCLOCKWISE** to rotate bucket CCW.

Outriggers and Body Dump

At the center of the work platform there are three control handles. The two handles with the round knobs are the outrigger control handles. The round knob on the left controls the left outrigger, and the round knob on the right controls the right outrigger. The handle between the outrigger control handles is the body dump handle.



Lever Inputs:

Left Outrigger Handle

PUSH the handle forward to lower the left vertical outrigger foot.

PULL the handle back to raise the left vertical outrigger foot.

Right Outrigger Handle:

PUSH the handle forward to lower the right vertical outrigger foot.

PULL the handle back to raise the right vertical outrigger foot.

Body Dump:

PULL the handle back to raise the dump body.

PUSH the handle forward to lower the dump body.

PART 5: SETTING UP AT THE JOB SITE

Safely positioning the vehicle is an important first step at the job site. An ideal parking location is firm, level, and dry ground or pavement located near the material to be picked up. If possible, the truck should be positioned in an area free from overhead obstructions and allows performance of the entire task without repositioning.

Avoid uneven, rocky or muddy terrain, or steep grades. Pick a location so that the outriggers can be fully extended and the outrigger pads rest on a firm, level surface. The loader should be positioned in an area that is free from overhead obstructions and, if possible, allows performing the entire pickup without repositioning. Identify any potential hazards for operators or others nearby. Do not operate the loader if unsafe conditions cannot be controlled.

Do not store any collectibles on the operator's platform, as they can create a tripping hazard or become lodged in the controls.

PETERSEN LOAD CHART FOR MODEL TL 2 -OUTRIGGERS EXTENDED-	
RADIUS	No. 1 OUTRIGGERS
10 ft	5320 lbs
16 ft	2650 lbs

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

RADI ARE MEASURED IN FEET FROM THE CENTER OF ROTATION TO THE CENTER OF THE BUCKET.

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

BOOM LENGTH FULLY EXTENDED IS 16 FEET.

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 DE06003

TL2 Load Capacity Chart

If it is necessary to use the loader on an inclined surface, extreme care should be used. Various functions, such as slewing torque, stability, and lifting capacity may be affected adversely when used on uneven or non-level surfaces. Caution must be exercised with the swing function specifically, since a "downhill" incline will increase the slewing speed and lengthen the time it takes to stop the motion.

The operator must be familiar with the swing arc of the loader and should position the vehicle so that the load is well within this arc. The amount of swing is controlled by positive stops built into the design. Damaged or missing head and pedestal stops possess an unsafe condition by allowing the boom to swing too far, resulting in damage to the swing actuator, which could also result in loss of boom-swing control.

Job Site Safety Precautions

- Before leaving the cab, engage all safety lights, place the transmission in neutral, and set the parking brake.
- Extreme caution should be taken when operating extendible outriggers where there is traffic. Use 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.
- The vehicle should be positioned so that it is impossible for any portion of the equipment to come within 10 feet of any energized power line. All wires should be considered energized until the electrical utility authorities verify otherwise and the wires are visibly grounded.
- Do not operate the loader during electrical storms, when high wind conditions exist, or in poorly lit conditions.
- Do not operate the loader, outriggers, or dump body if another person is within 30 feet of any moving part of the loader, body, or debris.
- Do not allow any person under a raised body, boom, bucket, or debris at any time.
- When accessing the loader control station, use the handholds and steps provided. Always face the steps and maintain three points of contact when getting on and off. Never use controls as handholds.
- Do not mount the machine if handholds or steps are broken or missing.
- If the hydraulic system fails, call a qualified recovery professional and arrange for an auxiliary service vehicle that can provide a hydraulic power source for stowing the boom if necessary.



WARNING

THE TRUCK'S CAB-OPERATED PARKING BRAKE MUST BE SET BEFORE LEAVING THE CAB FOR ANY REASON. USE THE VEHICLE'S SERVICE BRAKES TO STOP THE VEHICLE, PUT THE TRANSMISSION INTO NEUTRAL (N), AND APPLY THE PARKING BRAKE.

PART 6: OPERATING THE LOADER

When you have selected the best loading site, apply the service brakes and put the transmission in Neutral (N).

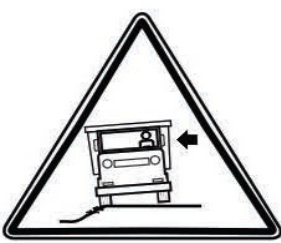
Loading Procedure:

1. Engage the PTO. For operations below 40°F, a hydraulic tank heater is recommended. If a tank heater is not available, allow the hydraulic oil to reach 40°F before commencing work.
2. Using the ladder and handholds, climb into the operator's station. Do not use controls as handholds.
3. Before conducting any boom operations, extend all outriggers to stabilize and level the loader side-to-side.
4. Raise the boom from inside the dump body and swing over trash pile. Rotate the bucket so it best aligns with trash.
5. Lower open bucket 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 make sure you have a firm grip on the trash.
6. Lift and swing the load over the dump body. It is recommended to load the front of the body first.
7. Observe that the load or boom does not contact overhead wires, outside structures, or the loader.

Only operate the loader from the operator's station and never leave a load suspended when away from the loader controls. If it is necessary for the operator to manually rake any remaining trash into a smaller pile, the boom must be safely stowed in the dump body. Likewise, no one should ever be at the controls of the loader while the truck is in motion.

Only lift loads that are within the safe working capacity as indicated on the [LOAD CAPACITY CHART](#) of this manual. Do not overload the dump body and always leave room to store the boom and bucket once loading is completed. Never allow limbs or debris to protrude from the dump body and refrain from using the bucket to pack or sweep the load to the front of the body, as this can damage the bucket and other loader components.



		
ALWAYS keep a safe distance from any power lines to prevent electrocution.	Use care whenever operating loader and outriggers to prevent crushing/pinching harm.	ALWAYS ensure the loader is positioned on firm, level ground and the parking brake is engaged before operating.

- **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 the dump body. You must have room to stow the bucket within the body sides for travel.
- **Do not** 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 smaller pile, the boom must be stowed in the dump body.
- **Only** operate the loader from the operator's station. Do not attempt to operate the loader from any position other than in the seat within the operator's station.
- **Never** climb on operator controls or other loader components.
- **Do not** sit or stand at the operator control station when the truck is in motion. The control station is to be manned only when the vehicle has been parked and the proper procedures for setting up to load have been followed.
- **Do not** attempt to lift loads exceeding the safe working capacity shown on the Load Capacity Chart (shown below). **Do not** test the loader's ability to pick up a load that might exceed the safe working capacity by seeing if the loader leans when the load is lifted.
- **Do not** impose lateral loads on the boom.

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.

Using The Bulk Bag Attachment



If the loader is equipped with the Petersen Industries [BULK BAG ATTACHMENT](#), you can easily use this feature to load any bulk debris bags throughout the route. Here are the steps for using this feature:

- Position the open bucket over the bag. The bucket must be close enough to attach the straps yet allow room to safely manipulate the straps onto the hanger of the bucket.
- Shut down the PTO and truck's engine. Take the keys with you so the truck cannot be started.
- Route the first strap to the left of the pivot pin, under and to the right of the wiper weldment, and wrap the loop of the strap around the hanger.
- Repeat the process for the strap on the other side of the bucket.
- Start the truck and engage the PTO.
- Climb back into the control station and slowly lift the boom and rotate the bucket to visually check that both straps are secure on each hanger.
- Slowly lift the load, watching for overhead wires or obstructions.
- Rotate the boom to place the bag into the body of the loader.
- Lower the bag until it rests on the floor of the body with a little bit of slack in each strap.
- Close the bucket slowly until each strap is removed from its respective hanger.
- Raise the boom so the straps fall free of the bucket.
- Use the bucket to re-position the debris within the body if necessary.
- Repeat for any remaining bags.

Cargo Covering

If the loader is equipped with a tarp to cover the load, you will be raising and moving the boom to permit covering the load. That is why you should only operate the tarp with the outriggers extended and securing the loader. Ensure there are no power lines which the boom or tarp system could contact during operation.

When covering the load, take care that the tarp assembly does not contact the boom or other nearby objects as it moves over the load. Also make sure the tarp is properly stored before attempting to load or unload the dump body.

If you have a Petersen Industries self-winding tarp, you will use the boom to pull the cover over the load. If the loader has a “goalpost-style” tarp system, you will need to raise the boom sufficiently to allow the tarp to move through its entire arc as it deploys or retracts.

Manual Goalpost Tarp



The manual goalpost tarp assembly features a hand crank to operate. It is recommended that the drive chain assembly be inspected and lubricated monthly. Frequent or heavy use in dusty environments may require more frequent maintenance scheduling. If the chain drive system exhibits any noise or uncommon stiffness, or if there are signs of rust, have the chain cleaned and lubricated with oil or similar lubricant.

Self-Winding Tarp Assembly



Self-Winding Tarp Assembly

To operate the self-winding tarp assembly, raise the boom and carefully move the bucket toward the front of the body, rotating the bucket so you can access the D-ring on the side hinge of single-cylinder buckets, or the supplied mount on the top of the dual-cylinder bucket. Continue to bring the bucket closer until the hook on the tarp chain can be fastened to the bucket.



As you move the boom and bucket over the load to the back of the body, the self-winding tarp will deploy. Lowering the boom and bucket down into the body will secure the load with the tarp.

Powered Goalpost Tarp



If the loader is equipped with a powered tarp system, operating the powered tarp is done by rotating the rotary switch located on the street side of the body in the desired direction. ALWAYS ensure that the boom is raised enough that it will not contact the tarp as it moves over the load.



If the tarp is inoperable, reset the breaker at the rotary control switch by pressing in on the reset button located on the tarp control panel. If that doesn't fix the issue, have the tarp system inspected by your technician.

Stowing The Bucket

Always leave room in the dump body to stow the boom and bucket. If the loader is equipped with a swing lock, also be sure to engage the locking pin before traveling with the loader.



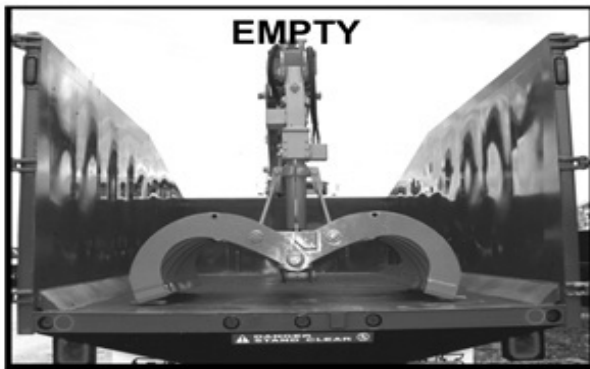
When the boom is stowed, the bucket sides should be parallel to the sides of the dump body.

Stow the bucket in the open position, resting on the body floor or on top of the load. The bucket must never swing above the tip boom as damage to the end of the tip boom is possible. For single-cylinder buckets **ONLY**, if there isn't enough room to keep an open bucket and boom at a safe travel height, the bucket can be stored closed and rolled over the load. The rear of the dump body must be at least half full to use the bucket-roll method for stowing.

Using The Bucket-Roll Method

If the loader has a **single-cylinder bucket** assembly, you can gain boom clearance over a full load by utilizing the bucket-roll method. This is **NOT** recommended for dual-cylinder bucket assemblies. Here is how to use the bucket-roll method:

1. Use the control handles on the curb side.
2. Close the bucket and rotate until bucket sides are parallel to body sides.
3. Move the bucket to the curb side rear corner of the dump body.
4. Rest the bucket on the load.
5. Simultaneously boom down and swing the boom to the street side until the boom tip and at least half of the bucket is below the top of body sides. No part of the loader or load can be over the legal height of 13' 6" for travel.

CORRECT METHODS OF STOWING THE BOOM & BUCKET

- BUCKET OPEN AND AT REST ON DUMP BODY FLOOR.

NOTE: FOR ILLUSTRATION PURPOSES REAR DUMP BODY DOORS ARE SHOWN OPEN. REAR DUMP BODY DOORS MUST BE CLOSED AND LOCKED EXCEPT WHEN DUMPING THE LOAD



- BUCKET ROLLED OVER WITH JAWS TO RIGHT REAR OF DUMP BODY
- BOOM AT SAFE TRAVEL HEIGHT & BOOM TIP BELOW TOP OF BODY SIDES
- MORE THAN 1/2 OF BUCKET MUST BE BELOW TOP OF BODY SIDES
- LOAD COVER DEPLOYED

INCORRECT METHODS OF STOWING THE BOOM & BUCKET

- BUCKET NOT CONFINED INSIDE OF DUMP BODY
- DEBRIS HANGING OUTSIDE OF DUMP BODY
- BOOM OVER LEGAL HEIGHT OF 13 FT. 6 IN.



- BOOM OVER LEGAL HEIGHT OF 13 FT. 6 IN.
- BUCKET NOT CONFINED INSIDE OF DUMP BODY
- DEBRIS HANGING OUTSIDE OF DUMP BODY

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

**WARNING**

FAILURE TO STOW THE BOOM AND BUCKET AS INSTRUCTED 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.

PART 7: DUMPING THE LOAD

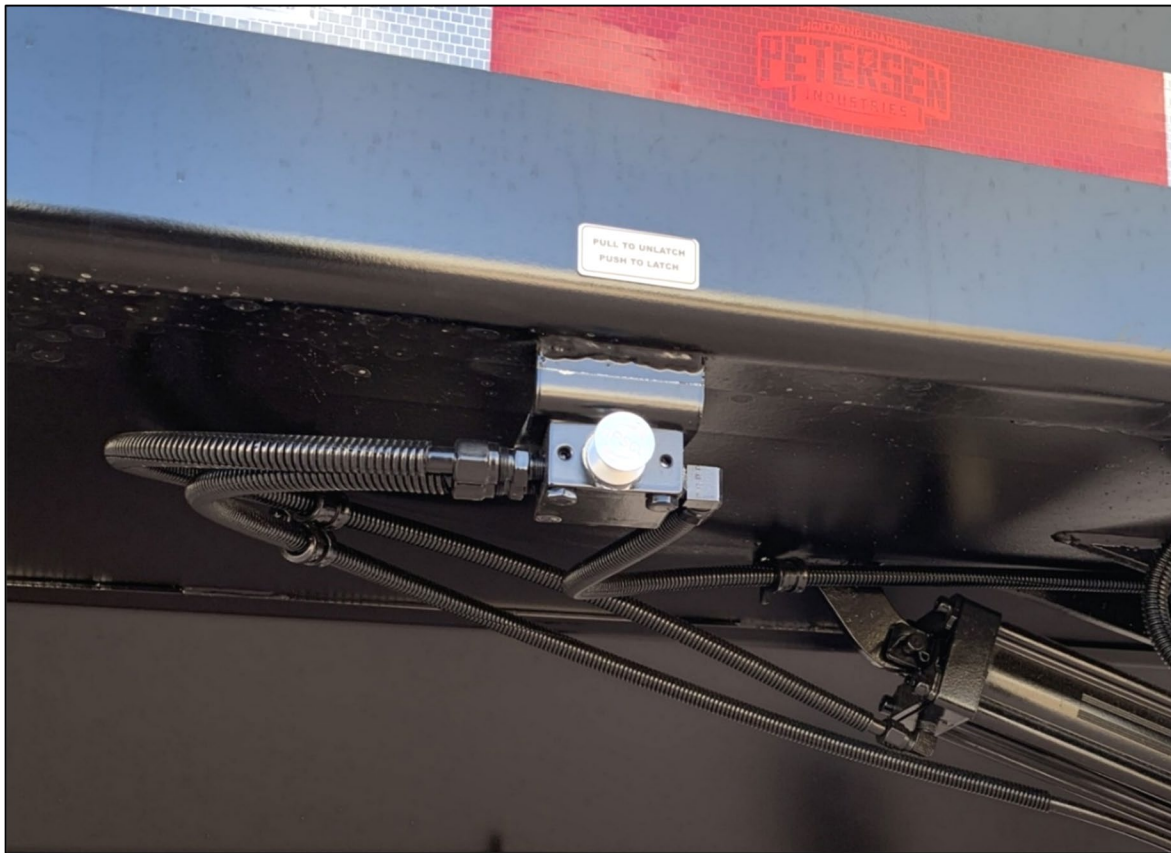
As you prepare to dump the load, it is important that you choose a level, firm area. Each of the following steps must be followed precisely and in sequence. Do not rush through the process and ensure that each step is completed in the proper order.



WARNING

DO NOT LIFT BODY UNTIL REAR DOORS ARE OPEN AND SECURED TO ANCHOR POINTS ON SIDES OF DUMP BODY.

1. Always set the parking brake before leaving the cab of the loader.
2. Open the rear dump body door(s) and latch to anchor point on side of dump body **before raising the body**. Use caution when opening doors, as items against the doors could fall out of the body and cause injury.



If the loader is equipped with a rear door air latch mechanism, there will be a control knob toward the rear of the body on the driver's side. Unlatch the door by pulling on the knob. Pushing the knob in activates the latch mechanism.

3. Engage the PTO.
4. Extend outriggers and lower to the minimum ground clearance allowing the truck to pull forward without dragging. This provides emergency stabilization in the event the truck needs to be pulled forward to completely empty the body.

5. If the load is covered with a tarp, lift the boom and retract the tarp. If it is a self-winding tarp, remember to unhook the tarp from the bucket after uncovering the load.
6. Raise the main boom to the maximum elevation and keep it centered over the dump body during the entire dumping procedure, as the outriggers are not fully lowered.
7. Place the tip boom in a position so that it will not contact the headboard of the dump body when the dump body is raised.
8. Activate the body dump switch to raise the body and empty the load. Make sure you avoid contact between the boom and the dump body.
9. If the pile of debris behind the truck prevents complete dumping, disengage the PTO and SLOWLY move the truck forward to empty the body completely. *(Extreme caution should be used during this movement as the outriggers are partially down, and the boom is raised.)*
10. If debris is stuck in the dump body, lower the body and dislodge the debris with the loader.
11. Once you finish dumping, lower the body.
12. Stow the boom and bucket in the dump body with the bucket open and resting on the body floor.
13. Lift and retract the outriggers and disengage the PTO.
14. Close and lock rear doors of the dump body.



Dumping Precautions:

- **DO NOT** use the loader boom to force the dump body down.
- **DO NOT** attempt to dump the load until the rear door(s) are fully open and latched to anchor points on the side of dump body.
- **DO NOT** travel with rear doors open. They must be closed and locked for travel.
- **ALWAYS** ensure the boom assembly is below the regulated maximum height before moving the loader.

PART 8: 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 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.