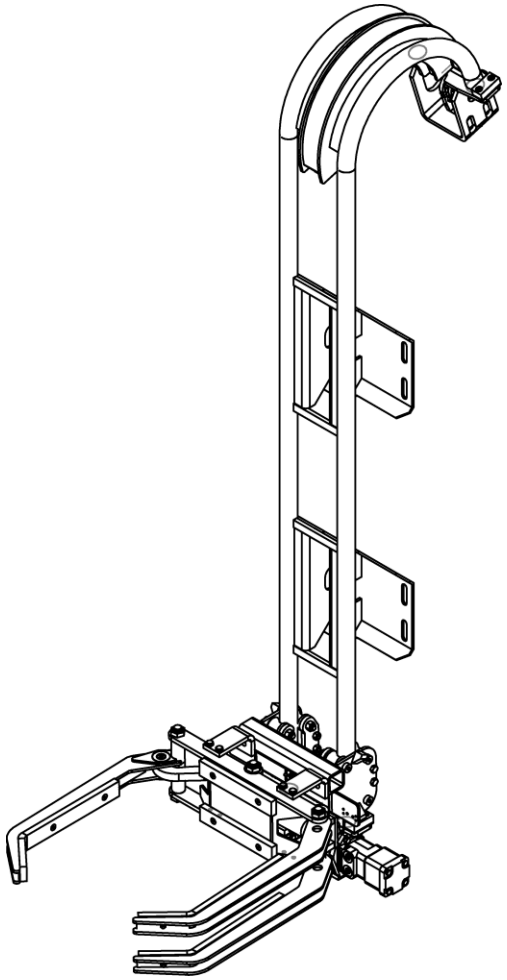
Installation & Operational Manual

Model GC300 series

2” Tube-Cane Lift



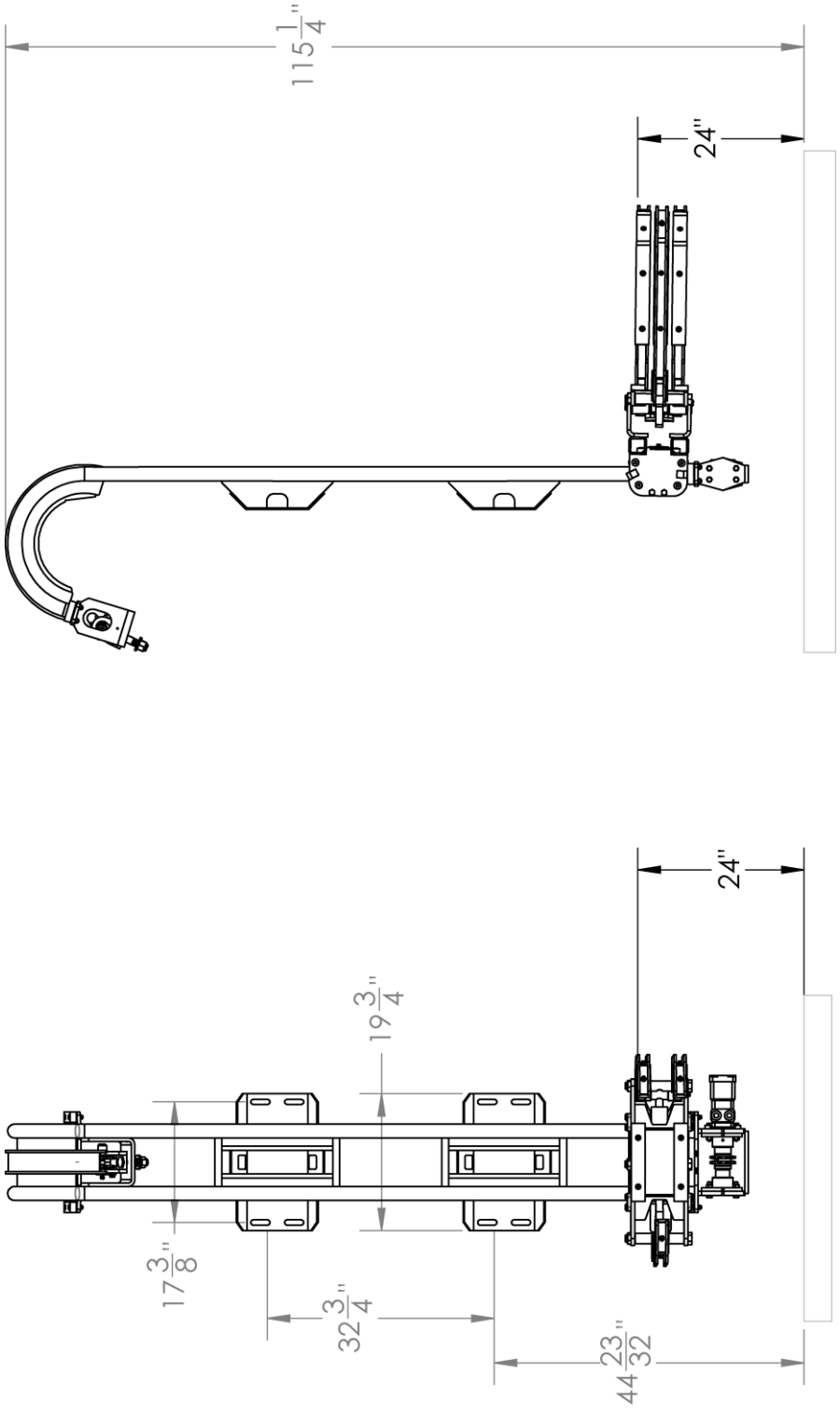
Cart Compatibility	ANSI Type B, US-Style two-bar carts having a bar to bar dimension of 14 ¾ - 15 ¼".
Typical Mounting Application	Side Mounted on open-top dump body
Tipper-Bar Compatible?	N/A
Flow Rate Requirement	8-10 gpm
Cycle Time	24 seconds (12 up and 12 down)
Recommended Pressure Setting*	1,650 psi at the pressure relief valve
Maximum System Pressure	3,000 psi
Weight Capacity**	400 lbs
Dump Angle	45 degrees from the horizon
Mounting Height (ground level to top of gripper arms)	24"-26"
Approximate Unit Weight (not counting packaging)	Varys by model
Hydraulic Package	Tap-In kits are sold separately
Warranty	1-years ***

Perkins regularly makes product improvements. Specifications are subject to change without notice.

* Actual pressure required to lift a load can vary.

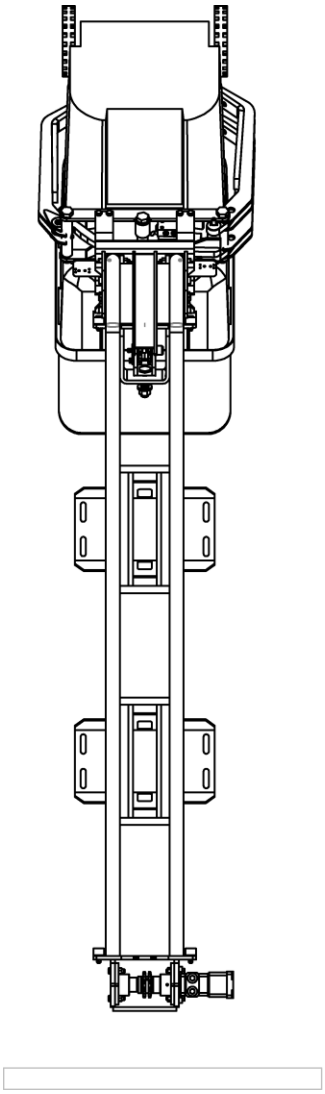
** Do not lift more than the recommended amount printed on the cart by the cart manufacturer or damage or injury may result.

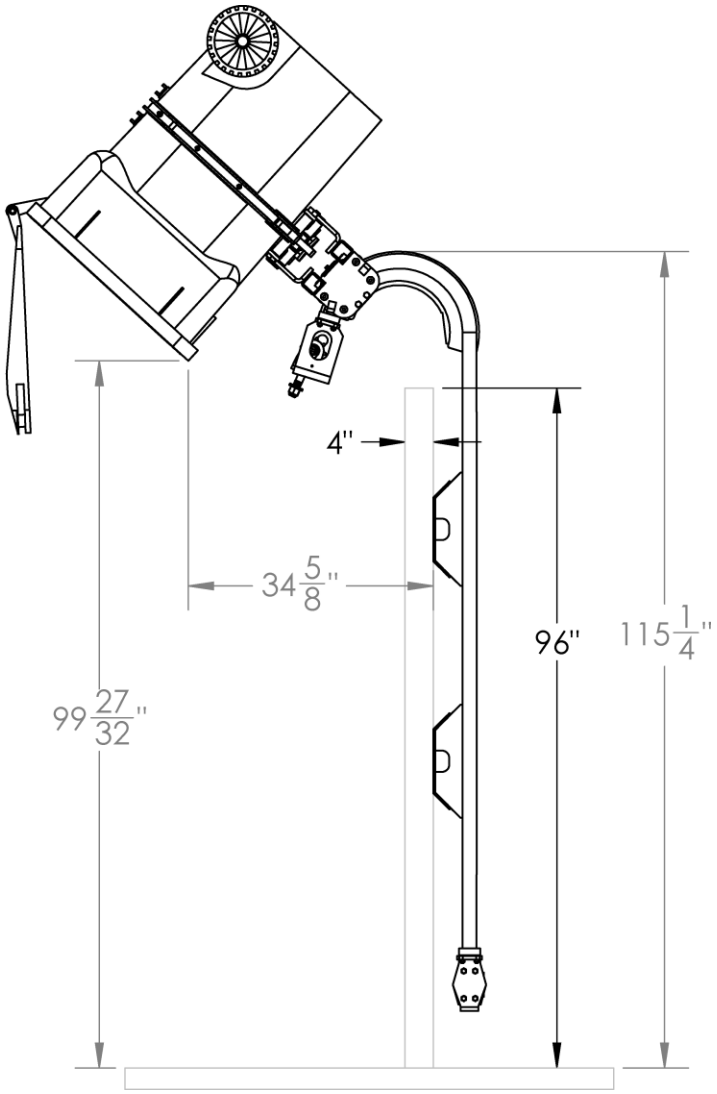
*** See Warranty page for full details of coverage



GC300-8 shown

Perkins regularly makes product improvements. Dimensions are subject to change without notice.





Max height will vary on specific model

GC300-8 shown

GC300-8 : ~115 1/4" min height

GC300-10 : ~132 1/2" min height

Gripper arms must be between 24"-26" from the ground to the top of the arms.

Cart Types

ANSI Type B carts (US-Style two-bar carts) with a dimension of 14 ¾ - 15 ¼" bar to bar spacing.

ANSI Type C Carts (European-type) Using an upper lip for lifting. Height to ground varies with size of cart.

ANSI Type D Carts (Diamond-Type)

ANSI Type G Carts (Automated Collection) Having a rounded body ideal for gripper arms to clasp around.

The GC300 is fully compatible with any ANSI TYPE carts.

Note: Some ANSI Type B carts are also Type G compatible, but some carts, particularly older designs, are not. This affects gripper-arm type of lifters that rely on grasping the cart around it's body. If using a gripper arm type of lifter, check your carts and see if they have rounded corners (look for approximately 6" radius). If so, they are likely ANSI Type G compatible.

Key Hydraulic Components

Adjustable Flow Control

Hand Valve

PO Check Valve

Hydraulic Motor

Valves are sold separately or as part of a tap-in kit. The valves are shown for reference / identification purposes only. Your specific installation may require other equipment not shown.

Please read this manual prior to installing, repairing or using this cart lifter.

✪ Installation of this equipment requires welding, painting, grinding, torching and working with high- pressure hydraulic systems. The appropriate safety equipment should be used at all times.

✪ Always follow OSHA specified lock-out procedures while working with a truck.

✪ Cart lifters weigh, on average, between 185 to 300 lbs. Do not lift the lifter onto the mounting plate by hand. Always use proper lifting equipment.

✪ Always use a chain or strap to secure the lifter in the upright position during the installation process. Unsecured lifters may fall suddenly causing injury.

✪ The truck to which the lifter is to be installed should be empty of waste. Torching and welding can ignite the contents of the truck and cause a fire.

✪ Do not weld on the truck unless a ground is in place and the battery is disconnected.

✪ Do not open/loosen any hydraulic lines unless the system is off and depressurized.

✪ Always double-check hydraulic fittings and hoses for tightness prior to reactivating the pump.

✪ Always relocate lights that need to be moved due to the position of the cart lifter to a clear and unobstructed area clearly visible to drivers.

✪ All painting of the truck/lifter after installation is complete should be done with proper ventilation and per local regulations. Do not paint over caution and warning labels.

✪ If there are any questions about the proper installation or use of the cart lifter not covered in the manual, it is recommended to call Perkins at 800-882-5292.

Please be aware of the risks of working with welding equipment and consumables. Always use safety protection equipment. The sparks may ignite fire, always clean the area from flammable material or flammable chemicals, do not weld close to gas lines or on top of electrical cords or installations. Disconnect battery cables from the battery and make sure the vehicle is perfectly grounded prior to attempt to do any weld. Always weld in a ventilated area.

WHEN WELDING, WEAR APPROPRIATE EYE AND SKIN PROTECTION. WELDING LIGHT CAN BLIND. WELDING LIGHT CAN SUNBURN THE SKIN. LONG TERM EXPOSURE TO WELDING LIGHT CAN CAUSE CANCERS. ALWAYS WEAR PPE WHEN WELDING. PROPER PPE SHOULD ALSO BE WORN BY ANYONE IN THE THE WORK ZONE WHO MIGHT ALSO BE EXPOSED.

HYDRAULIC SYSTEMS CAN LEAK OUT HIGH PRESSURE WHICH CAN CAUSE SERIOUS INJURY, GANGRENE OR DEATH. DO NOT CHECK FOR LEAKS WITH YOUR BARE HANDS AND AVOID CONTACT WITH LEAKING OIL STREAMS.

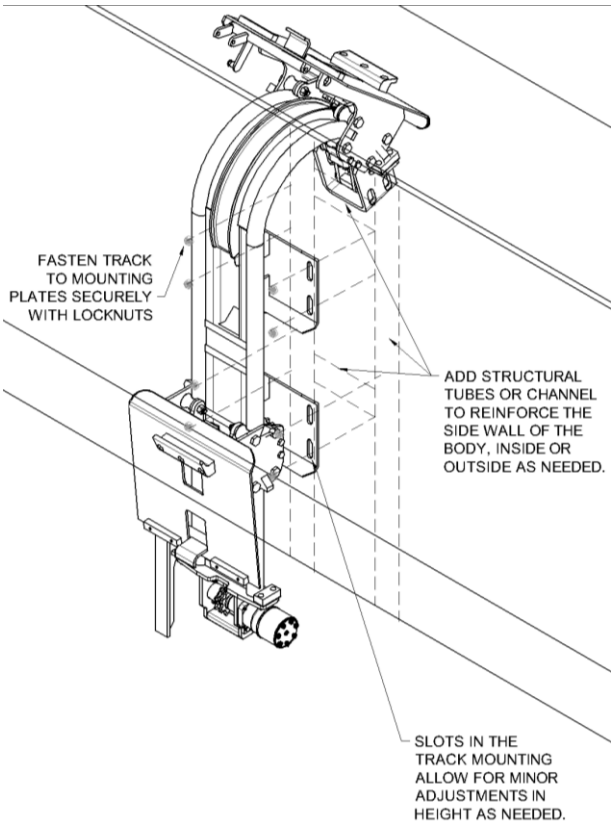
HYDRAULIC OIL CAN ENTER THE BLOODSTREAM. SEEK MEDICAL ATTENTION IMMEDIATELY IF YOUR SKIN IS PUNCTURED BY HYDRAULIC OIL.

HYDRAULIC SYSTEMS CAN BECOME HOT (GENERALLY UP TO 170-180 DEG. F.) TO AVOID BURNS, DO NOT TOUCH VALVES, ACTUATORS, CYLINDERS, AND OTHER HOT COMPONENTS, EVEN AFTER THE SYSTEM IS SHUT OFF IT WILL REMAIN HOT AND TAKE TIME TO COOL DOWN.

ALWAYS TURN OFF A SYSTEM BEFORE SERVICING IT. DEPRESSURIZE THE CIRCUIT BY ACTIVATING THE CONTROLS WITH THE SYSTEM OFF TO RELIEVE ANY BUILT UP PRESSURE.

NEVER WORK UNDER A RAISED LOAD. RAISED EQUIPMENT CAN SUDDENLY FALL WHEN A VALVE OR LINE IS OPENED (LIKE A MOUSETRAP). IF THE EQUIPMENT MUST BE SERVICED IN THE RAISED POSITION, SECURE THE EQUIPMENT WITH CHAIN OR STRAP TO HOLD IT UP SAFETY.

Reinforce the Mounting Plate



Dimensions shown above are an example only and will vary from truck to truck

The sidewall of a truck is not typically deigned to accommodate lifters and their loads. It is necessary to add additional supporting structure, in the form of channel or tubing, so that the mounting plates are anchored on a rigidly fixed surface. Due to vehicle width restrictions, it may be necessary to reinforce this area from within the body of the truck.

Failure to fully support the mounting plate can lead to rapid premature failure of the cart lifter.

After the cart lifter and supports are tack welded in place, move the cart lifter by hand up and down carefully, making sure there are no interferences. Double check the hook height to the ground. If everything appears satisfactory, the lifter's mounting plate and supports may be welded fully.

The mechanical portion of the installation is complete.

Hydraulic Oil

The most important component of any hydraulic system is the oil. Perkins cart lifters use standard seal materials and should therefore be compatible to most grades of hydraulic oils, operating in typical weather conditions for most of North America. However, the condition of the oil is an important consideration that should not be overlooked.

Hydraulic oil may be dirty, contaminated, lost its viscosity, burned up, or have too high a concentration of absorbed water and/or air. While these things are unlikely to cause an immediate performance issue with your cart lifter, these issues can lead to premature wear and tear in the longer term.

Perkins would like to take this opportunity to remind you to check the quality of your hydraulic oil periodically and make sure it meets your standards. Oil that is maintained in good condition will help your equipment last longer.

Non-Perkins Controls

Some customers with new trucks may choose to use hydraulic controls provided by the OEM. As long as the GPM and pressure settings used match the specifications required, then the lifter should operate fine. Perkins cart lifters do not require special Perkins valves to operate.

In other cases, a Perkins cart lifter may be replacing a competitive lifter for which controls are already installed. Again, Perkins cart lifters should work just fine with competitive equipment, as long as the GPM and pressure settings are adjusted within the specified ranges.

Lifter Speed

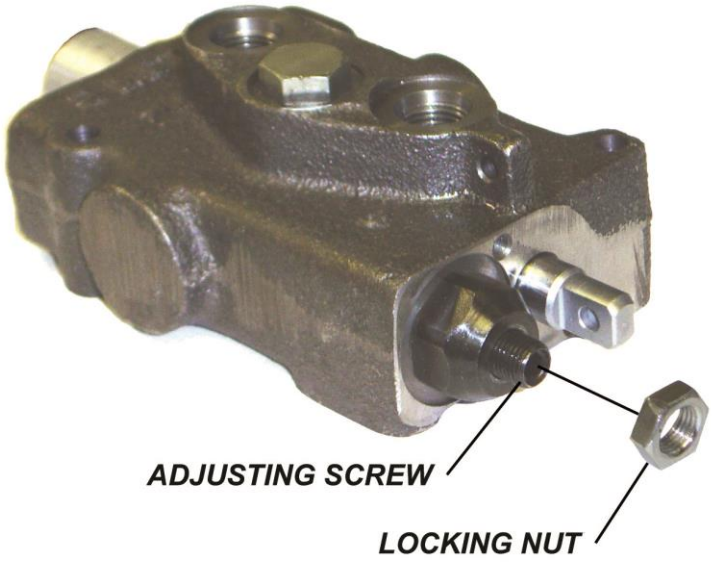
The cycle time of the lifter is very important for safe operation. Perkins suggests a complete cycle time of 24 seconds (12 seconds up and 12 seconds down). Faster cycle times may be dangerous. Running a lifter too fast can damage the cart, or make a cart break loose off the lifter and fall, resulting in damage and/or injury.

The speed of the cart lifter is determined by the rate of oil (gpm) going to the unit. The GC300 lifter will require approximately 8-10 gpm in order to meet this speed. A gauge is recommended but not needed to determine proper lifter speed. Counting the cycle time using a stop watch is adequate to determine proper flow rate. Running a lifter too fast will void the warranty.

Weight Capacity

The maximum amount of weight that can be lifted is limited by the pressure relief valve. The settings must be determined with a pressure gauge. The GC300 requires 1500 psi to lift a 400 lb load. Place a pressure gauge after the hand valve and run the actuator until it stops, continue activating the handle and note the pressure on the gauge. Adjust the relief valve according to the manufacturer's instructions.

Adjusting the Lifting Capacity



Note: The setting for the D6080-27k is approximately 1650 psi to lift 400 lbs.

Hand Valve: D63228 (valve only)

This valve directs the flow to the lifter to make it move up or down. It features a "deadman" stop. Release the handle and the lifter should stop moving.

The valve has a built-in pressure relief valve. To increase the lifting capacity, loosen the locking nut and turn the adjusting screw clockwise. It is recommended to use a pressure gauge to achieve the right setting. Raise the lifter until it stops and continue to pull the handle. Note the pressure on the gauge and adjust the screw accordingly.

When the pressure is correct, retighten the locking nut.

Replacement Parts:
D63127 – Seal Kit
D63192 – Spring Kit
D63672 – Cartridge Kit

Troubleshooting the Hand Valve

This valve does not affect lifter speed! Only adjust this valve if the lifter won't pick-up the desired weight, or if a chattering noise is heard.

Don't be fooled! Containers full of water, concrete, rocks, dirt, wet grass of other materials can easily weigh far more than the capacity of the lifter. Just because the lifter doesn't pick up that heavy cart, doesn't mean the lifter needs adjustment! If there is doubt, try weighing the container in question.

Maintaining the Hand Valve

This valve requires no periodic maintenance. If a problem is traced to the hand valve, turn the system off and remove the cartridge. Clean and inspect the cartridge. Make sure the handle returns to center on it's own. If it doesn't, it may need a spring kit.

There are usually multiple relief valves within the same system. They must be set at least 100 psi apart from each other or they will "chatter". Adjusting one valve to be set differently than another should

eliminate the problem. Example: Pump relief valve 2000 psi, packer relief valve 1900 psi, lifter relief valve 1650 psi.

Maintaining the PO Check Valve

PO Check Valve: D63580

The valve locks the oil from escaping unless the hand control is activated. This locks equipment in position and prevents drifting when equipment is idle. It also acts as a safety, in the event of a broken hose, the valve stops the movement of the equipment.

This valve is not adjustable.

This valve requires no periodic maintenance.

If a problem is traced back to the PO check, turn off the system and remove the cartridge. Clean and inspect for damage. Replace cartridge if needed, flush the valve, rebuild and install.

Maintaining the Adjustable Flow Control

Adjustable Flow Control Valve: D63575

The valve is located on the left-hand side port of the rotary actuator. It's purpose is to restrict oil coming out of the actuator when the lifter is moving back down. By restricting the oil, the lifter is prevented from "getting ahead" of the oil and slamming into the ground.

This valve only works in one direction, so adjusting it does not affect the speed of the upwards direction.

The valve has a small arrow stamped into its body. The arrow should point away from the actuator.

If the lifter comes down too quickly, try turning this valve in clockwise ¼ turn at a time until the down direction is smooth and under control.

Operating Instructions

The recommended cycle is 7.5 seconds to travel up and 7.5 seconds to travel down. This cycle time is based on the safe and smooth movement that the plastic cart can be swung about at without risking damage to the cart or injury to the operator. Therefore, operating the lifter faster than this time will void the warranty.

> **It is recommended that the lifter be visually inspected on a daily basis to ensure that there is nothing obviously in need of repair. Broken or missing parts/hardware should be attended to immediately to avoid risk of further damage to the lifter, damage to the cart, or injury to the operator. Operating a cart lifter that is not properly maintained is hazardous.**

Step 1: Make sure the lifter is all the way down, to facilitate easy cart engagement.

Step 2: Roll a loaded cart to the lifter and position the upper bar of the cart on the upper saddle of the lifter or in a position where the lifter will engage the bar once it starts it's motion. (It is not necessary to lift the cart onto the upper saddle)

Step 3: Look and make sure no one is in the area of the lifter or cart, then operate the hand valve by pulling up on the handle. The lifter will roll up the track and engage the cart and at the top of the track, raise it to 45 degrees above the horizon.

> Safety Note: The hand valve operates like a deadman switch. Releasing the handle at any time will stop motion of the lifter. Normal operation may be resumed by operating the handle again.

> Safety Note: Regular lifter operators sometimes shake the cart to help discharge the garbage. Being that on the GC300, the cart is very high overhead of the operator. Shaking the cart could be hazardous, should it break loose, therefore, shaking the cart using the GC300 is not recommended and the operator does this at their own risk.

Step 4: Lower the cart by reversing the hand valve handle (pushing down), until the cart is safely returned to the ground and the lifter has disengaged the cart.

Step 5: Remove the empty cart and repeat the process as needed.

Safe Operating Tips

Always follow your company's safety policy during the use of this lifter, including use of proper clothing/ personal protective gear, reflective clothing, etc. Remember, you are operating the lifter on a public road/alley among moving traffic. Always be aware of your surroundings and watch for cars and pedestrians.

Do not lift anything with the lifter other than ANSI TYPE B approved carts which are in good condition. Non-approved carts may not lock properly, causing them to fall from the lifter, which can cause damage or injury and will void the warranty.

Do not use the lifter for any purpose other than lifting a cart. Lifters are not meant as steps, they are not to be used to help lift a commercial container, or used to crush/breakdown an item. Doing so can cause serious damage or injury and will void the warranty.

Speeding up the lifter beyond the recommended cycle time and/or adjusting the relief valve to pick up weights heavier than the recommended load can lead to damage or injury and will void the warranty.

Do not operate the lifter unless the area around it is clear of personnel. This means do not touch the lifter while it is in operation and do not stand or sit under/near the lifter while it is moving. Lifters have pinch points which can cause serious injury. Stay clear at all times.

The GC300 can hang low to the ground at certain points of their lift cycle. Likewise, if left in the up position while driving, it will be the highest point of the truck and subject to striking branches or other structures. It is the operator's responsibility to move the lifter to a safe position while going down the road. Damage caused by striking foreign objects is not covered by warranty.

Checking the chain tension

Always check the tension of the chain from UNDER the carriage, not above, as the chain tension above the carriage will always remain constant from the weight of the carriage hanging.

Raise the carriage a few feet off the ground so that the chain under the carriage is accessible by hand. With the machine stopped, wiggle the chain back and forth. A good tension on the chain should allow the chain to wiggle about ½”-3/4” back and forth.

CRITICAL NOTE ON CHAIN:

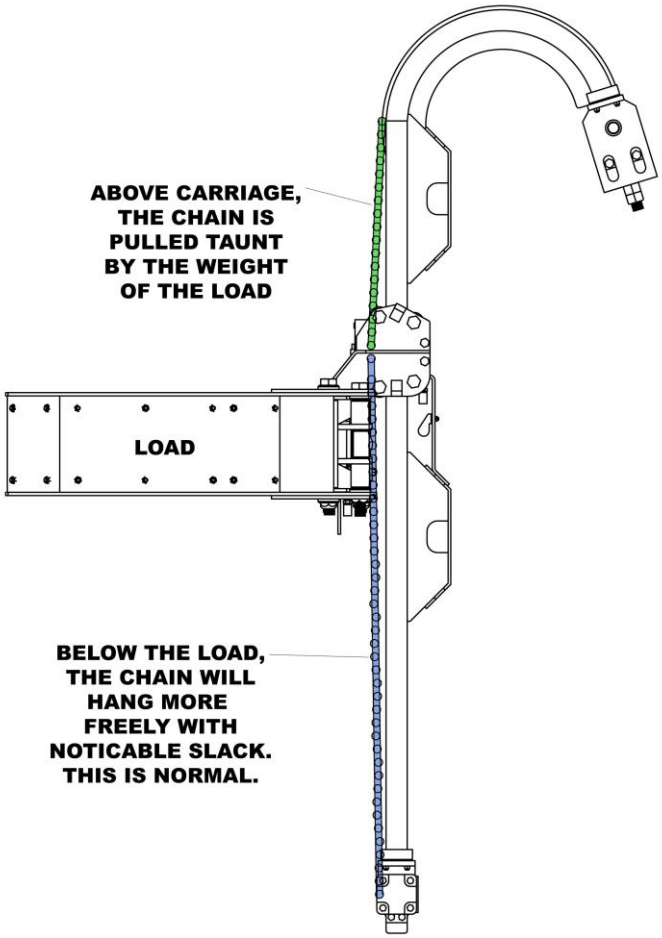
ROLLER CHAIN CAN BE PERMANENTLY DAMAGED BY BEING OVERTIGHTENED. NEVER OVER TIGHTEN THE CHAIN. FOLLOW THE INSTRUCTIONs BELOW CAREFULLY.

ROLLER CHAIN IS NOT MEANT TO BE REPAIRED, WELDED, OR PATCHED. IF CHAIN DAMAGE OCCURS, IT IS NECESSARY TO REPLACE THE ENTIRE CHAIN ASSEMBLY.

Normal Chain Behavior

Shown at right is the carriage mid-position. Above the carriage, the chain is held tight (taunt) by the weight of the load pulling on it.

Below the carriage, the chain carries no load, so the chain will appear to have some slack to it. This is normal.

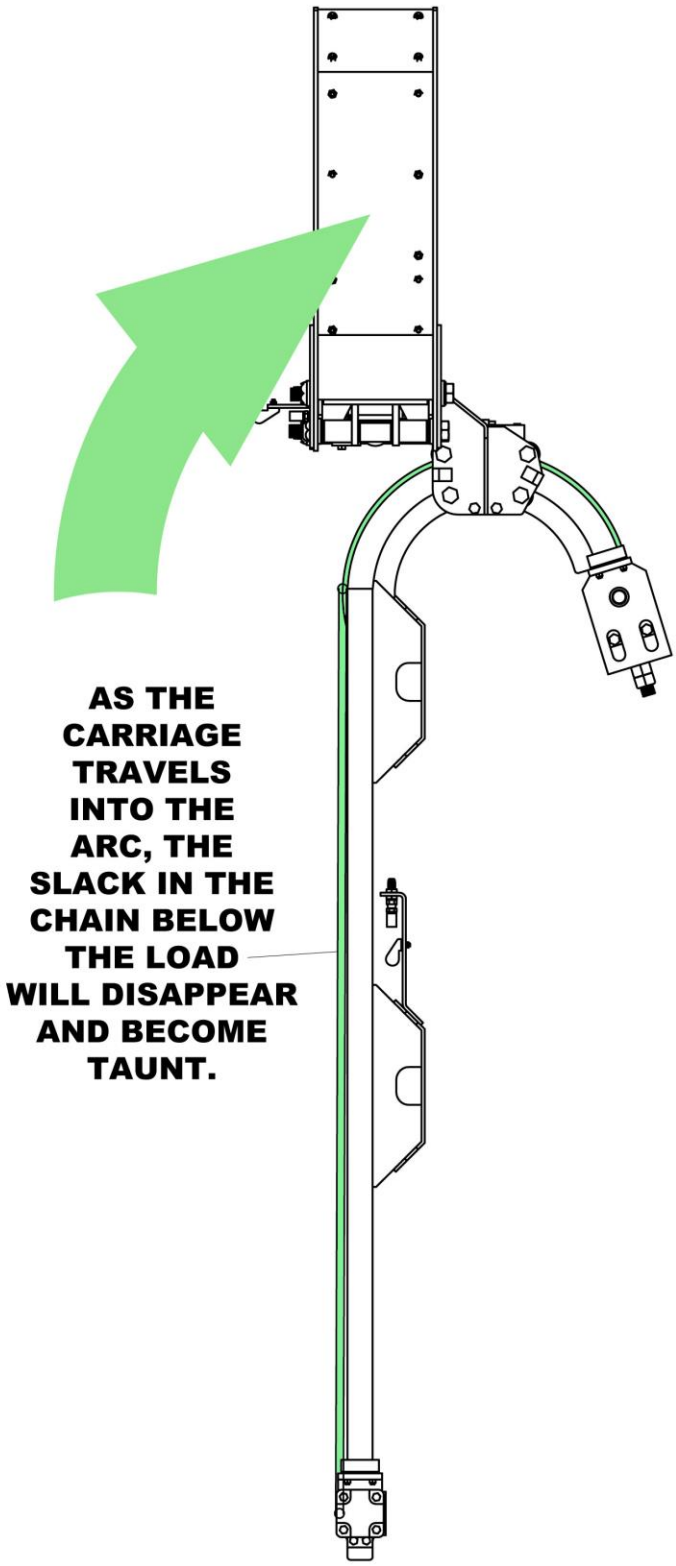


Normal Chain Behavior

As the carriage travels into the arc position, the chain below the carriage will lose it's slack and become taunt.

The chain below the carriage will always be taunt when the carriage is traveling in the arc.

This is normal. When the carriage returns to the vertical leg portion of the track, the chain below the carriage will regain it's normal slack amount.



Chain Adjustment

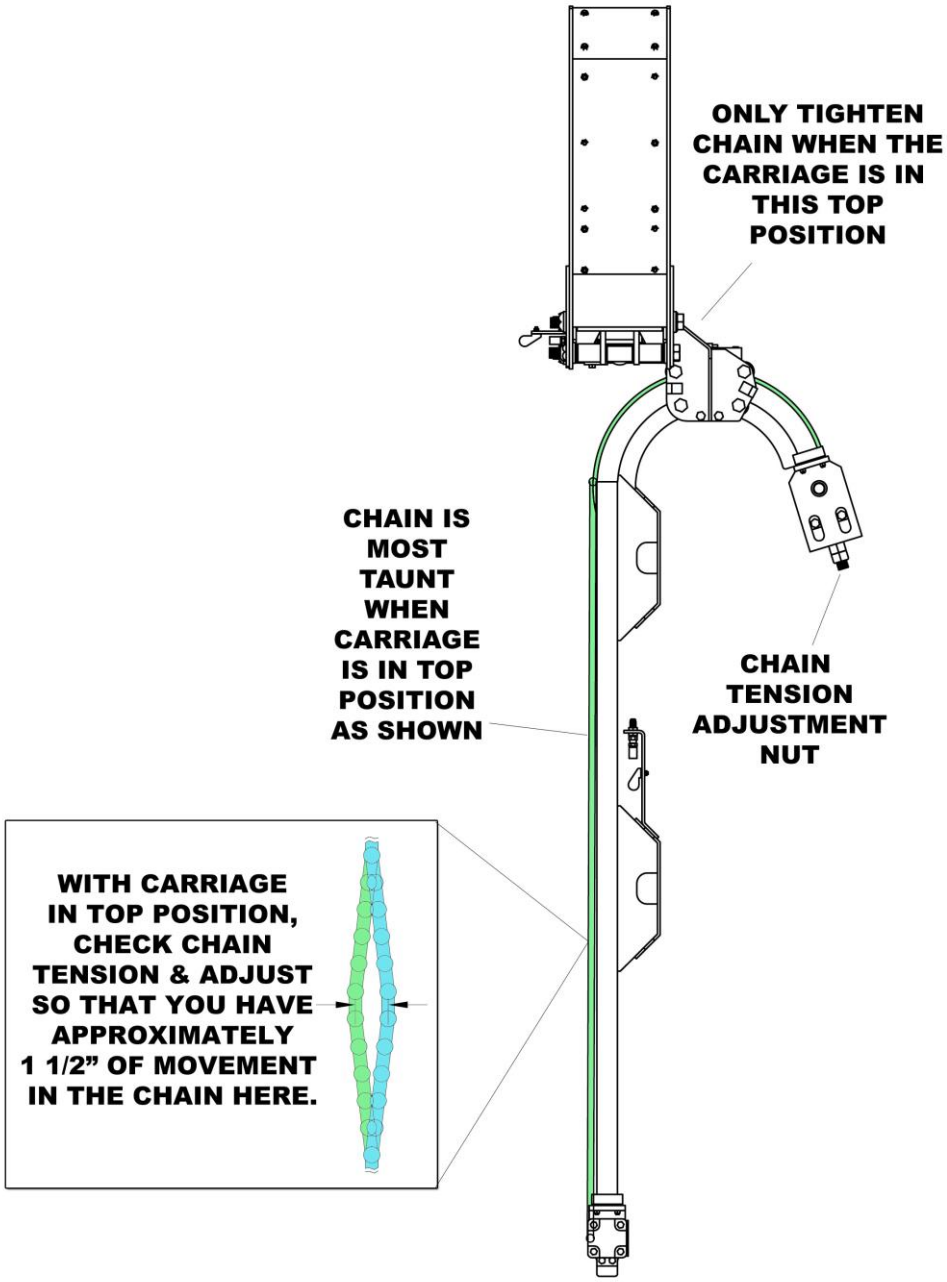
To check the chain tension, it is critical to place the carriage in the correct position first. Operate the lifter and stop the movement when the carriage is in the top position as shown at right.

Stop the hydraulics for safety.

Using your hand, grasp the roller chain that hangs at eye shoulder level. Pull it forward and back. The chain should have movement equal to approximately 1 ½" as shown at right. It is not an exact amount.

Tighten the adjustment nut indicated in the top right of the image until the desired amount of slack is achieved.

Mark the adjustment with a paint marker for future reference



For outdoor applications, it is necessary to lubricate the roller chain once per week.

For indoor applications, it is necessary to lubricate the roller chain once per month.

Lubrication may be performed via aerosol, spray, or brush. The grease used should be a penetrating type that can get into the rollers and crevices of the chain. Move the carriage up and down to be able to lubricate both front and back sections of the chain as well as hidden, inaccessible portions of chain.

When a chain is damaged, the entire chain should be replaced. It is not recommended to repair sections or portions of chain. This can lead to additional failures, which can be hazardous.

When checking the tension of the chain, follow the chain tensioning procedure in the manual. Do not over-tighten chain. Some slack hanging under the carriage is a necessary part of operation.

Power Cut Off Circuit

Your Perkins cane lifter REQUIRES a power cut-off circuit, which comes installed on the cane. It must be wired up at the time of installation and working, or else component damage will occur!

All Perkins canes are sold with a separate line item: The power cut-off circuit. There are four different kits available, depending on the type of controls you will have:

DC4460	For use with hand valve operated canes (12v circuit)
DC4460+24v	For use with hand valve operated canes (24v circuit)
DC4645	For use with pendant push button operated canes (12v circuit)
DC4645+24v	For use with pendant push button operated canes (24v circuit)

The purpose of the power cut-off circuit is to stop hydraulic power to the lift motor when the carriage reaches the end of the track. When the carriage is about to reach the physical stops, the sensor will detect the carriage position and send a signal that interrupts power to the lift motor, allowing the carriage to coast gently into the stops. This prevents damage to the motor, driveshaft and chain.

For instructions on how to hook up and adjust the power cut-off circuit, please refer to the separate manual detailing that process.

Operating the cane without the power cut-off circuit installed and working will lead to damage that will NOT be covered by warranty. If the sensors stop working, or the wires get damaged, they must be replaced immediately. Do not operate the cane lift without the power cut off circuit, damage will result!

Lifter operation is erratic, lifter does not move smoothly

When the lifter does not move smoothly, there is typically air in the system. This is usually an issue after the initial installation or a recent repair where the hydraulic lines may have been opened. Bleed air out of the system by loosening a fitting very slightly and running the hand valve to create flow. Excess air should bleed out of the opening in the fitting. Retighten when complete done.

In rare instances, the flow may be too low. This would also be noticeable if the lifter was also very slow.

Cart lifter will not pick up the weight

The cart may be overweight. If the cart is obviously very heavy and hard to move, try removing a few items from the top to lighten the load.

The hand valve relief pressure setting may be set too low. Check and adjust the pressure using a pressure gage. Note the pressure being delivered and adjust accordingly.

If adjusting the hand valve's relief does not bring the pressure up to where it should be, then the truck's relief pressure setting may be set too low. Try adjusting the truck's relief valve (see manufacturer's instructions on how to do this for your vehicle)

In cases of older equipment, the hand valve may be in need of replacement or repair.

If all pressures are set properly and the hand valve works, then the motor may have internal leakage. It may be necessary to replace or rebuild the motor and or seals within the motor.

Lifter operates slowly

Check the flow adjustment. Use a flow meter to make sure each lifter receives approximately 10 gpm. Adjust flow as needed following instructions in the manual.

Engine idle may be too low to provide adequate flow. Following the manufacturer's instructions, adjust the engine idle. Remember increasing engine idle will increase fuel consumption.

The hand valve may be faulty. Check, clean and/or replace as needed.

The truck's pump may be faulty, unable to deliver the desired flow. Contact your truck manufacturer.

In rare instances, debris within the oil may be clogging the diverter valve. Check and clean the valve as needed.

Lifter operates too fast

Check diverter valve adjustment screw. Adjust in to lower the flow delivered to the lifters.

Engine idle speed may be too high. Adjust per the manufacturer instructions.

Hand valve lever sticks, does not return to center

A worn or broken spring on the spool will cause the handle to fail to return to center. This is dangerous, since this means the deadman stop feature is not working. Check and replace the spring with part number D63192.

If the spring is not the problem, check and clean the hand valve of any rust/corrosion and debris in or around the spool or the external parts.

On new installations, this is the result of having the pressure and tank lines reversed. Check and make sure that the pressure line goes to the "IN" port and the tank line goes to the "OUT" port.

Hand valve is leaking oil

This is typically caused by worn or damaged seals. Install new seals with part number D63217

In some cases, the spool itself is worn. If so, replace the hand valve.

Unable to achieve 1500 psi at the hand valve

The truck's pressure setting may be too low. Adjust the truck pressure according to the manufacturer's instructions.

If pressure cannot be increased further, it may be necessary to install a speed up switch which will rev the engine higher during peak need to deliver the desired pressure. Note that speed up switches will increase fuel consumption.

Unable to achieve over 1400 psi

The truck pressure is too low. If adjustments do not help, the pump may be bad or underpowered. Contact your truck manufacturer.

Lifter breaks the lower bars of carts

First, make sure there is no damage to the lifter. Replace damaged components as needed.

On new installations, check the mounting height. It is common for brand new lifters to break lower bars if the lifter is installed too low. Remove the lifter and remount at the correct height.

Lifter breaks upper bar of carts

The upper bar of the cart is typically broken when the cart is lifted while it is excessively loaded, or while the lifter is operated too quickly. Adjust the speed of the lifter to bring the cycle time to 15 seconds. Make sure the pressure is set no higher than 1500 psi.

Make sure the lifter is not damaged. Bent or broken lifter parts can contribute to cart damage.

Lifter drops carts

Check the lower latch and make sure it rotates smoothly, that the drive roller behind the plate properly contacts and rolls against the strike plate to the right of the track, and that the spring has not been overstretched or missing.

Make sure the upper hook is not damaged.

Carts which are damaged or have missing lower bars will obviously not latch properly and should be repaired or replaced.

Some carts do not meet ANSI standards. Measure the problem cart and see that the bar to bar spacing is within 14 ½ - 15 ¼.

Lifter slams down to the ground or comes down too quickly

On the way down, the lifter can get ahead of the oil and free fall. Check that the adjustable flow control is mounted to the left side of the actuator, with the arrow pointed away from the actuator, and that the valve is adjusted properly. Try ¼ turn adjustments until the lifter returns to ground level smoothly.

Lifter drifts out of position when not in use

Make sure the PO Check valve is installed. If it is and the lifter still drifts, remove the PO check and remove and clean the cartridge. If the valve is damaged, replace it.

If the problem does not seem to be the PO check, the hand valve may have internal leakage. Replace the hand valve seals and/or spool as needed.

If the problem persists, then the actuator may be leaking internally. Check for internal leakage by running the lifter up and holding the hand valve while reading a pressure gage. If the pressure falls, then the actuator is leaking internally and should be rebuilt with a new seal kit.

Lifter is in good condition, latch is adjusted, but lifter still breaks carts

In this case, the lifter is most likely being operated too fast, or the carts are overweight. Excessively hard shaking of the carts by the operators can also lead to cart damage. Train your operators to operate the lifters properly.

For complete warranty coverage details, please see the warranty page at the end of this manual.

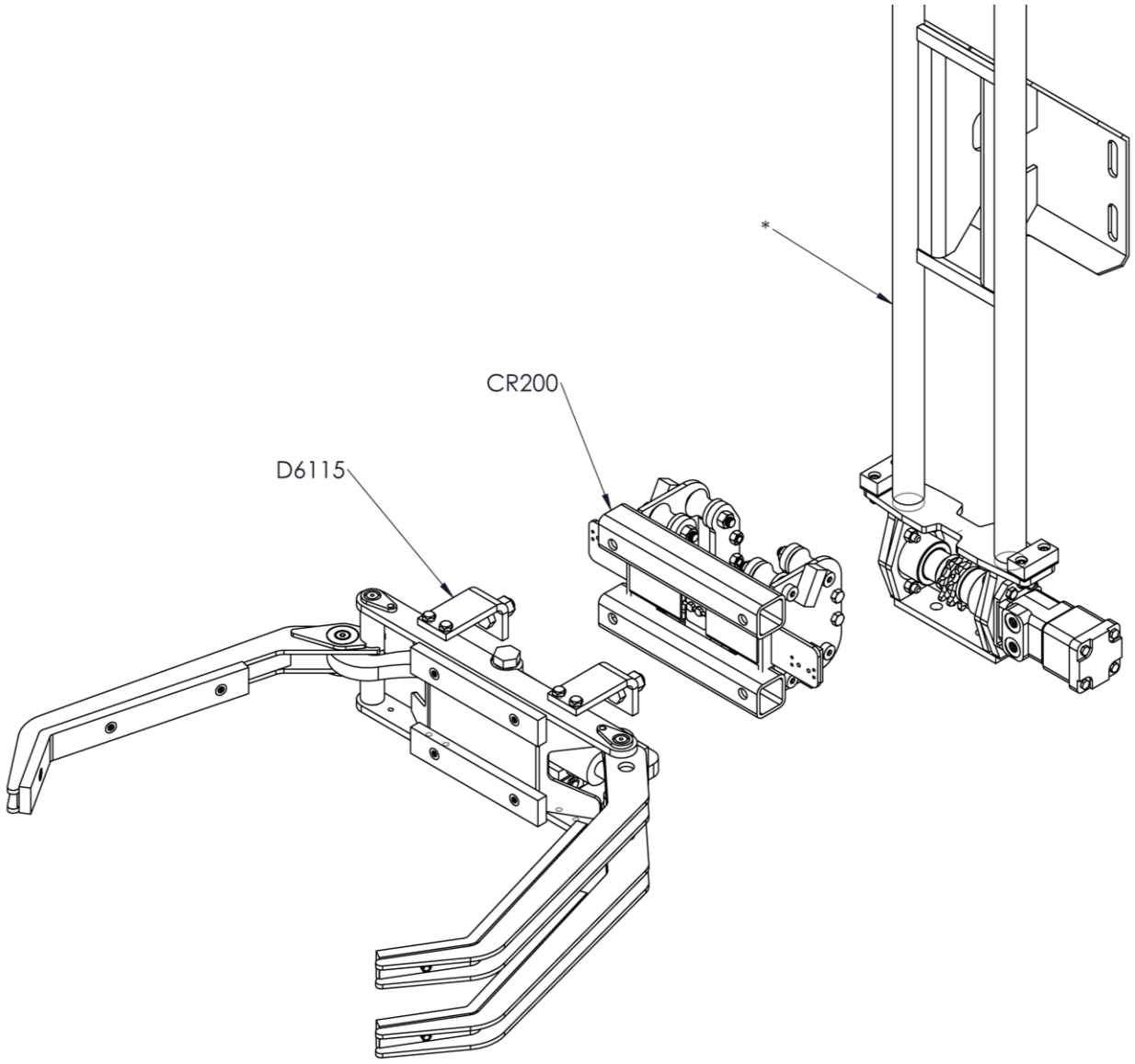
If you suspect that failure of the lifter to operate is due to a defect, please take a moment to locate the serial number of your lifter.

Warranty cannot be honored on lifters or individual pieces unless a serial number is provided. Since the tag is frequently lost, damaged, or painted over, it is a good idea to note the serial number in this manual at the time of installation.

At right is an example of the serial number plate. It will be stamped with a model number and serial number.

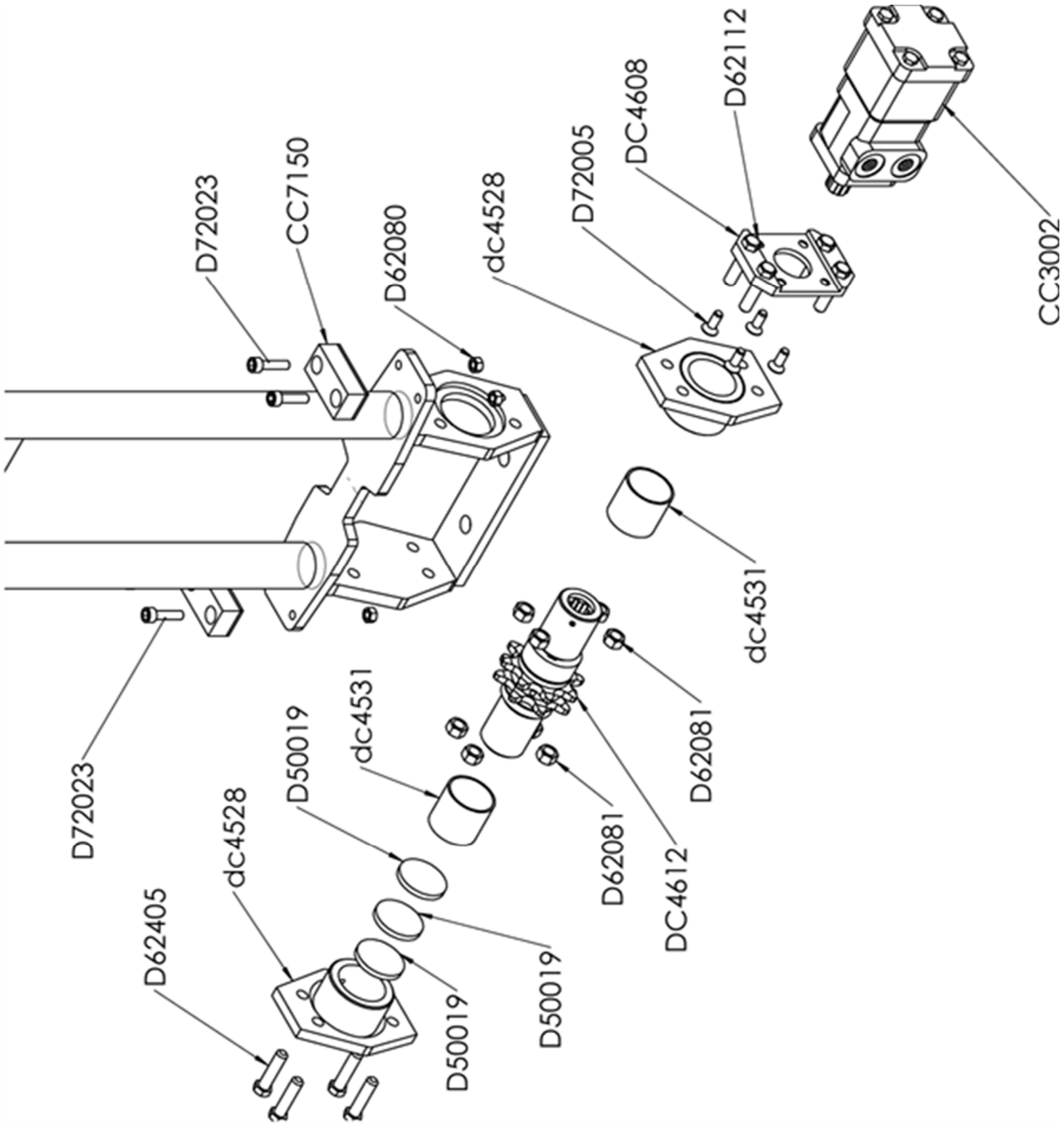
Warranty coverage does not apply to collisions, operator errors or neglect. Warranty does not cover shipping costs, labor to replace parts, downtime, etc. Further details can be found on the warranty page.

Once you have the number, please call Perkins Manufacturing at 800-882-5292 for additional instructions.

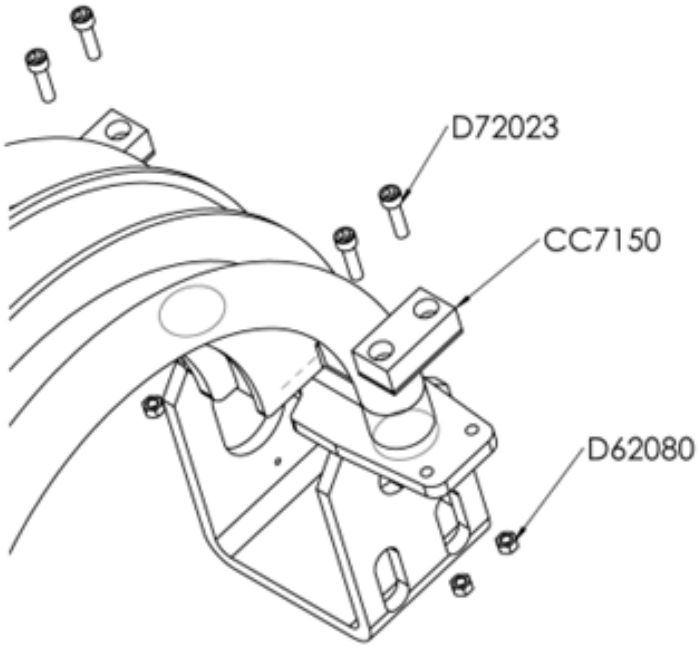


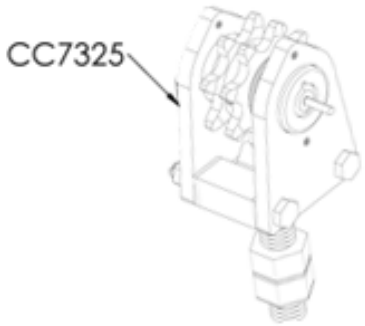
Item	Description	Qty
D6115	GRIPPER ASSEMBLY ATTACHMENT	1
CR200	2” Carrier Assembly	1
CC204-10*	2” Cane Assembly – For GC300-8	1
CR400+36*	Cane Assembly – For GC300-10	1

Exploded Parts View – Lower Track Area



Exploded Parts View – Upper Track Assembly

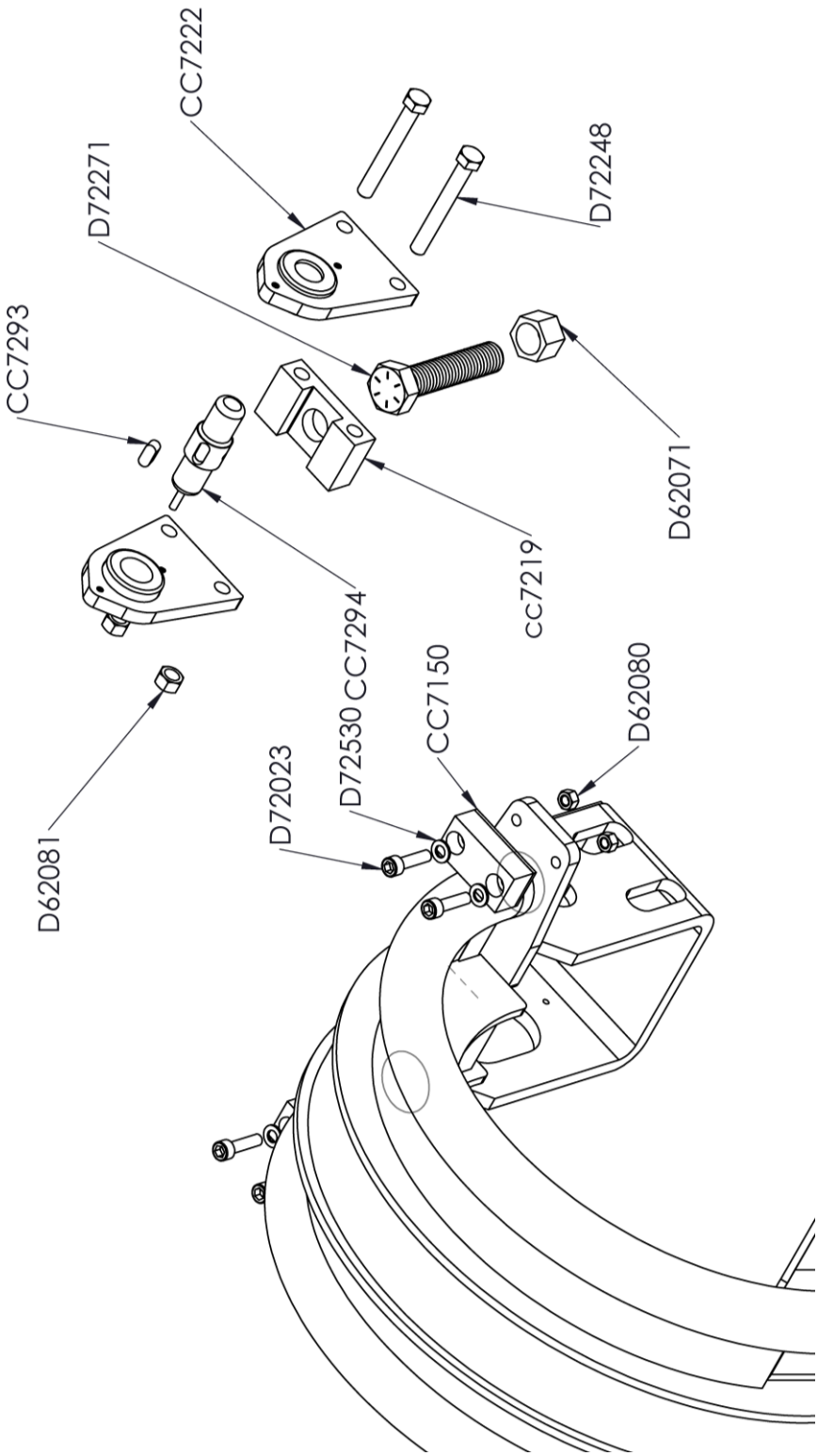




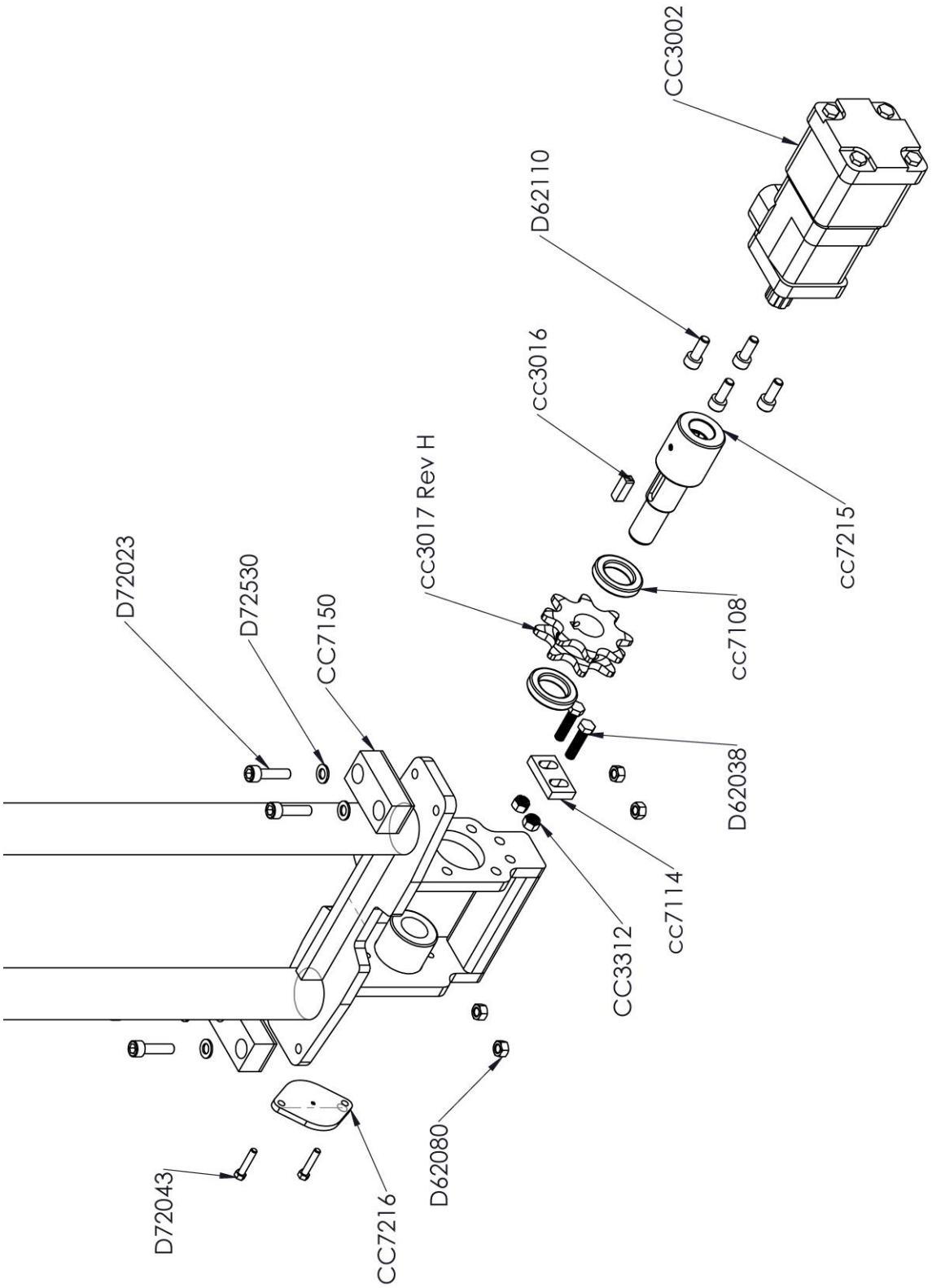
Item	Description	Qty
CC3002	''400'' Series Hydraulic Motor (514176) (522827) w/~24 cu/in displacement	1
CC3026	Idler Sprocket w/bearing A	2
CC7150	RUBBER BUMPER WITH PLATE REV A	4
D50019	Side Bushing, Plastic Spacer Disc REV A	3
D62062	SAE FLATWASHER 1 x 2 OD ZINC PLATED	2
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8'' high	1
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	1
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	8
D62081	LOCKNUT 1/2-13 GRADE 8 PLATED	8
D62106	SPLIT LOCKWASHER 3/8'' ZINC PLATED	1
D62405	BOLT HHCS 1/2-13 X 2, GR8, Zinc Plated	4
D72005	BOLT FHCS 3/8-16 X 1 ZINC PLAT	4
D72023	BOLT SHCS 3/8-16 X 1 1/2 GR8	8
D72028	90 DEG GREASE ZERK 1/4-28	1
D72236	BOLT HHCS 1-8 X 4 grade 8, zinc plated	1
DC4315	Upper Pin	1
DC4528	RH BEARING PLATE WELDMENT	2
DC4531	IGUS BEARING 2 X 2	2
DC4612	Shaft Weldment for 3" Tube Canes Rev. A	1
DC4626	Adapter Plate Weldment	1
CC7325	Tensioner Upgrade Kit	1
CC214-10*	Cane Weldment	1
CC3177*	Double Chain Connector 515563	1
CC3098-12*	Double Chain – Foot for CC204-7	22.5

*Not shown

Exploded View - CR400+36 Top Assembly



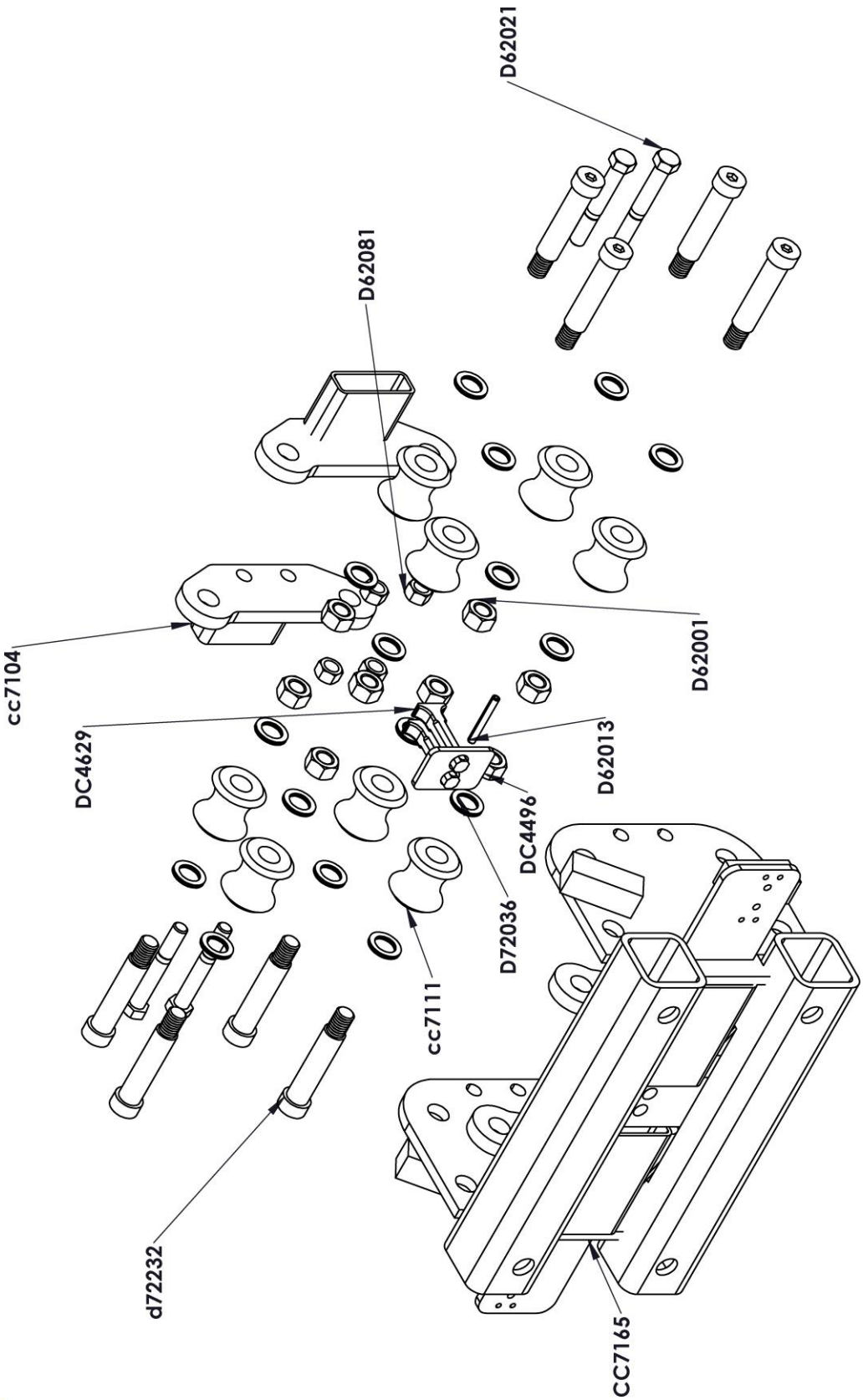
Exploded View - CR400+36 Lower Assembly



Item	Description	Qty
CC7216	SHAFT CAP	1
CC7215	DRIVE SHAFT (REV B)	1
CC7150	RUBBER BUMPER WITH PLATE (REV A)	4
CC7114	MOTOR STOPBLOCK (REV A)	1
CC7108	PLASTIC RING	2
A90266	HEAT-SHRINK TUBE 1.57" ID	2
CC7222	CHAIN TENSIONER WELDMENT PLATE	2
CC3312	LOCKNUT 3/8-16 GRADE L9 FAMALL	2
CC3177	DOUBLE CHAIN CONNECTOR 515563	1
CC3056	ADAPTER #10MO - #10MT	2
CC3002	"400" SERIES HYDRAULIC MOTOR (514176) (522827) W/~24 CU/IN DISPLACEMENT	1
D63029	PLASTIC GREASE ZERK CAP	1
D72397	TEST COUPLING W/ CAP	2
D72271	BOLT HHCS 1-8 X 4 1/2 FULLY THREAD, ZINC PLATED	1
D72248	BOLT HHCS 1/2-13 X 4 GR8 ZINC PLATED	2
D72234	BOLT HHCS 1/4-20 X 3/4 GRADE 8, ZINC PLATED	2
D72158	CAP #10 JIC HYDRAULIC	2
D72147	HOSE CLAMP #4 HOSE 515553	2
D72043	BOLT HHCS 1/4-20 X 1 1/4 GR8, ZINC PLATED	2
D72009	DRIVE SCREW #6-3/8 PLATED	4
D65925	SET SCREW 1/4-28 X 3/8 (CONE POINT)	2
CC7219	TENSIONER BLOCK (REV A)	1
D63491	SERIAL NUMBER PLATE	1
D62110	BOLT SHCS 3/8-16 X 1 GR8, ZINC PLATED	4
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	16
D62071	LOCKNUT 1-8 - GRADE 8, ZINC-PLATED, 7/8" HIGH	1
D62060	SAE FLATWASHER 3/8 ID x 13/16 OD X 1/8TH ZINC PLATED	2
D62038	BOLT HHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	10
Z102	GREASE ZERK STR. 1/4-28 515550	1
D63647	#4 HYDRAULIC HOSE ASSY X 140" W/#6 ENDS MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-4 JUMP #6 FEMALE SWIVEL JIC STRAIGHT ENDS	2
CC3334	BOLT HHCS 3/8-16 X 1 1/4 GRADE L9, ZINC PLATED	4
D72465	NORD-LOCK LOCKWASHER 3/8	4
CC7296	MD OIL-FILLED NYLON RING (REV A)	2
CC7292	TENSIONER BLOCK SHIM	2
D72023	BOLT SHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	4
D62463	LOCKNUT 3/8-16 THIN, ZINC PLATED	4

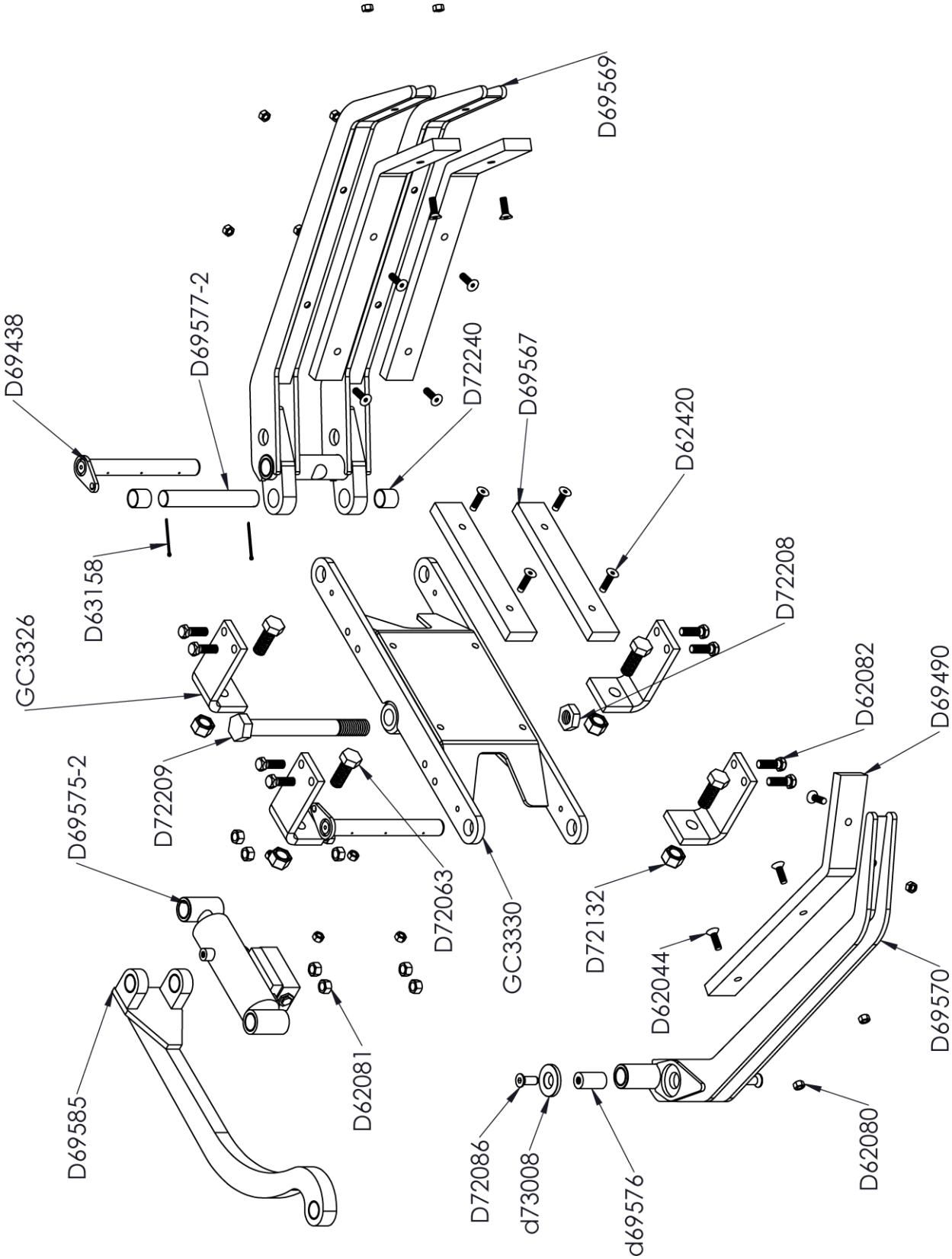
D72455	BOLT BHCS 1/4-20 X 3/4 GR8, ZINC PLATED	4
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	2
D62018	SPLIT LOCKWASHER 1/4" GR 8, ZINC PLATED	2
CC7299	SPRING ROLL PIN 1/4" DIA X 2 1/4 LG. ZINC PLATED	1
D62004	USS FLATWASHER 3/8 X 1 OD ZINC PLATED	2
CC3310	LOCKNUT 1/4-20 GRADE L9 FAMALL	4
CC3017	KEYED DOUBLE SPROCKET 515570 (REV H)	1
CC7293	SHORT KEY ADJUSTED	1
CC7294	TOP SHAFT ADJUSTED	1
CC3016	KEY 3/8 X 1 3/32 LONG (REV D)	1
D72530	NARROW WASHER - 1/2 ID x 23/32 OD	8
CC7113+36	Cane Weldment, 36" longer than standard cc7113	1
CC3150+20	Plastic Hose Chain Guide Track, Original 33 links + 20 additional links (53 links total)	1
CC3099+58	ORIGINAL DOUBLE CHAIN 173 LINKS + ADDING 58 LINKS = 231 LINKS TOTAL (ALL ONE PIECE)	1
D72226	COMPOSITE BEARING 1 X 1 X 1 1/8 OD ZSI (REV B)	4

Exploded Parts View – CR200 Assembly



Item	Description	Qty
CC7104	REAR ROLLER BRACKET WELD.	2
CC7111	Composite Roller - 2'' tube cane roller MD Oil-filled Nylon Material	8
CC7165	Carriage Weldment	1
D62001	LOCKNUT 5/8-11 Distorted Thread, Grade 8, Zinc-plated	8
D62013	ROLL PIN 1/4 X 2	1
D62021	BOLT HHCS 1/2-13 X 3 1/2 GR8, Zinc Plated	4
D62081	LOCKNUT 1/2-13 GRADE 8 PLATED	4
D72036	SPACER 3/4 X 1.125 OD X .062	32
D72232	S.S. SHOULDER BOLT 3/4 X 3 c	8
DC4496	Spacer Plate ''Rev A''	1
DC4629	Chain Lock	2

Exploded Parts View – Gripper Assembly



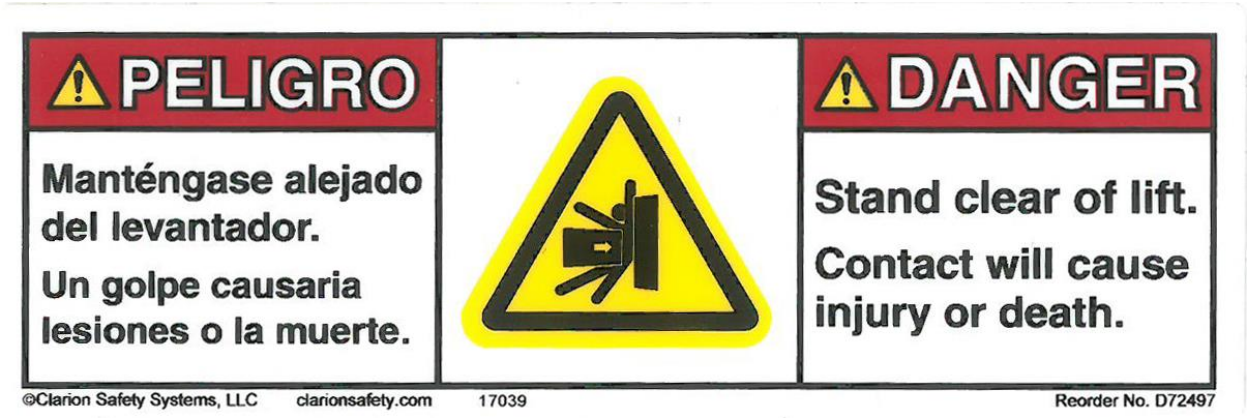
Item	Description	Qty
D62044	BOLT FHCS 3/8-16 X 1 1/4 GR8, ZINC PLATED	9
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	13
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	8
D62082	BOLT HHCS 1/2-13 X 1 1/2- GR8 ZINC PLATED	7
D63201	ADAPTER #4MO - #6MT W/.063 ORIFICE	1
D69565	OILITE BEARING AA1110-10 1"dia x 3/4 lg	6
D69567	CENTER RUBBER STRIP	2
D69569	DOUBLE RH GRIP ARM WELD	1
D69570	SINGLE LH GRIP ARM WELD (REV A)	1
D69575	HYDRAULIC CYLINDER ASSEMBLY WITH MANIFOLD & x2 PO CHECK CARTRIDGES 2" BORE X 3" STROKE (REV C)	1
D69585	LINKAGE ARM WELDMENT (REV D)	1
D72063	BOLT HHCS 3/4-10 X 2 GR8, ZINC PLATED	4
D72132	LOCKNUT 3/4-10, GR 8, ZINC PLATED	4
D72208	LOCKNUT 1-8-THIN X 1/2" HIGH, ZINC PLATED	1
D72209	BOLT HHCS 1-8 X 9, GR 8, ZINC PLATED	1
D72240	OILITE BEARING AA1110-01 1" ID X 1 1/8" OD X 1" LG (REV A)	1
D73008	ACTUATOR FLANGE 515583 (REV E)	4
GC3326	MOUNTING PLATE (REV B)	4
GC3330	FACEPLATE WELDMENT	1
D63158	COTTER PIN 7/64" x 2"	2
D69438	PIVOT PIN WELD, ARM 515587 (REV E)	2
D69576	SHORT PIN, INTERNAL THREADS	1
D69577-2	LONG PIN W/HOLES	1
D62420	BOLT FHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	4
D62409	BOLT HHCS 1/2-13 X 1 1/4, ZINC PLATED	1
D72086	BOLT FHCS 1/2-13 X 1, GR8, ZINC PLATED	4
Z102	GREASE ZERK STR. 1/4-28 515550	2
D69490	RUBBER PAD (REV C)	3
D63584	CAP #6 FEMALE JIC	2
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	1
D62043	BOLT HHCS 3/8-16 X 3/4 GR8, ZINC PLATED	1
D62105	SPLIT LOCKWASHER 1/2" ZINC PLATED	8
D62011	SPACER 1" ID X 2" OD 18GA, ZINC PLATED	2

Perkins provides each finished cart lifter with ANSI-specified caution labels. They are clearly placed directly on the machine for easy viewing by the operators.

Should the cart lifter ever be re-painted, or if the labels are damaged beyond recognition, it is advised to replace the labels immediately to help keep your crew safe.

OHSA always requires these labels to be in clear sight on the machine. Responsibility to maintain proper caution and warning labels is the responsibility of the end-user.

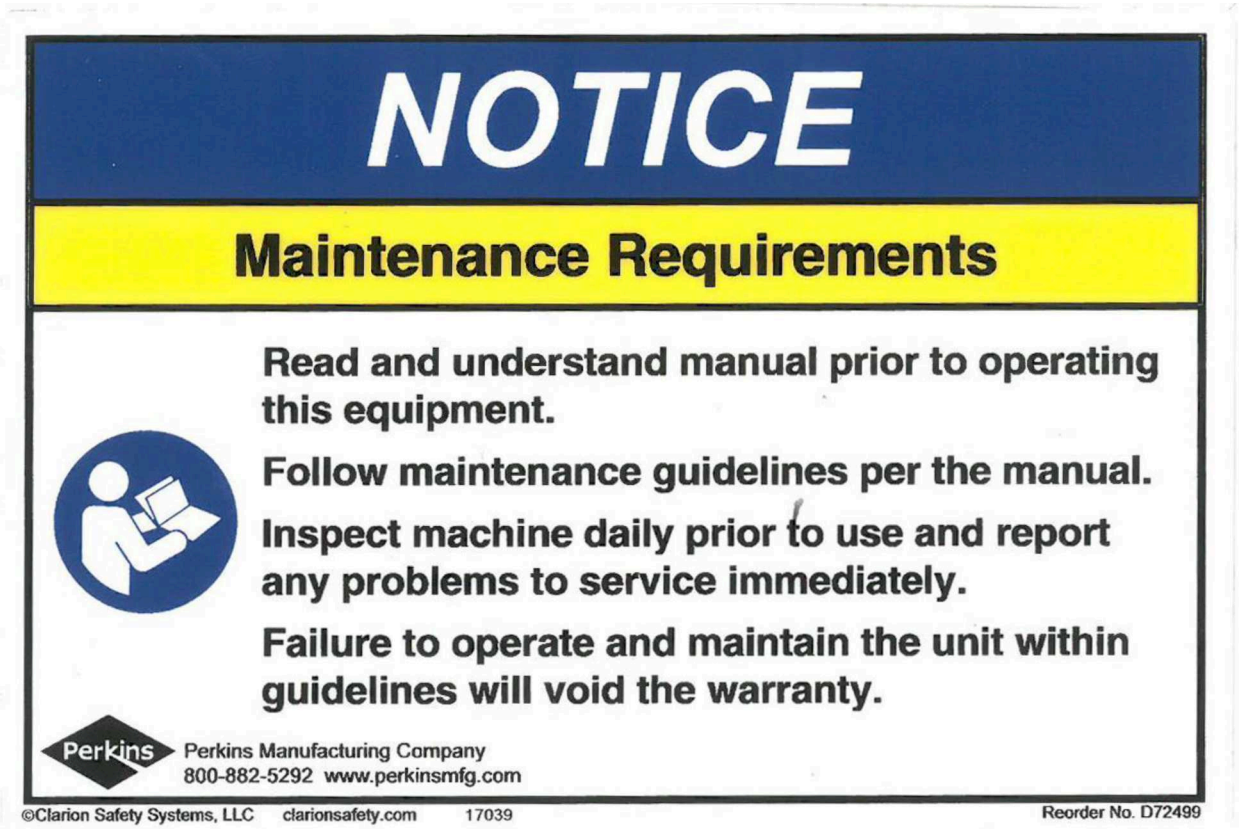
You should make sure that all pressure is bled/released from the hydraulic or pneumatic system; for some systems it may be possible to work on a part of the system by using line-breaking or blanking procedures. Never loosen or tighten a hydraulic connection when the system is under pressure. The connection could fail catastrophically and cause an injection injury and/or damage to property. Inspect hoses regularly for wear then replace hoses before leaks can develop. Hydraulics systems should look clean and dry. You can typically see leaks where the machine is collecting dirt and debris that is sticking to the oil. Look for wet-looking areas that are collecting dirt. Check for abraded/scuffed hoses, loose or damaged fittings, or worn out seals, or other physical damage that may have led to creating the leak.



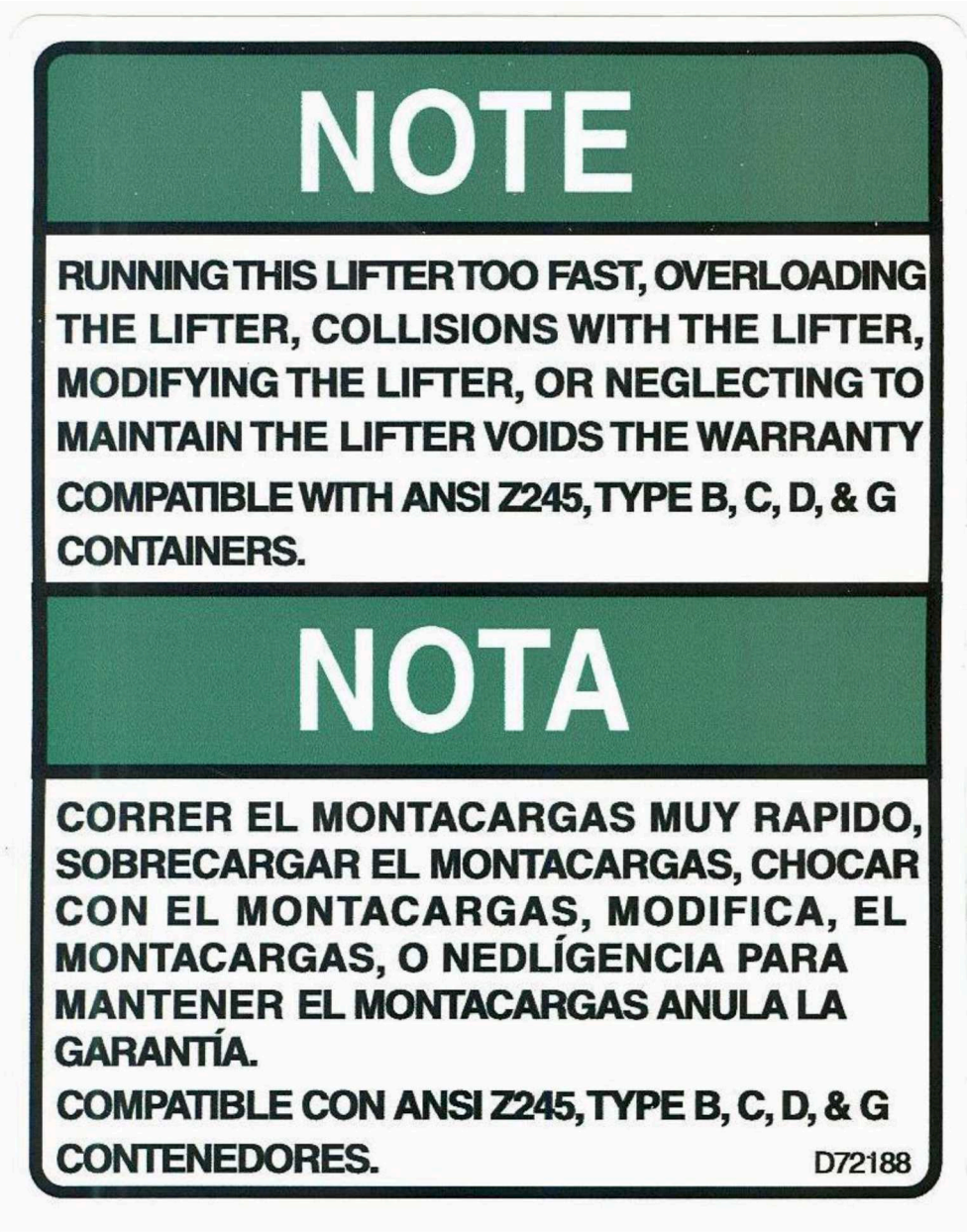
Dress appropriately for work with pants and sleeves that are not too long or too loose. Shirts should be fitted or tucked in. Avoid wearing loose and dangling jewelry. Tie back long hair and tuck braids and ponytails behind you or into your clothing. Wear the appropriate, well-fitting gloves for your job.

Look for possible pinch points before you start a task. Take the time to plan out your actions and decide on the necessary steps to work safely. Read and follow warning signs posted on equipment.

Machinery can pose a hazard with moving parts, conveyors, rollers, and rotating shafts. NEVER reach into a moving machine. Turn equipment off and use lockout/tagout procedures before adjusting, clearing a jam, repairing, or servicing a machine.



Maintaining the lifter is vital to ensure proper operation of the equipment and for warranty to be valid. Inspection of the lifter is also important to make sure there are no loose parts and that the chain is tightened properly. Not inspecting or maintaining the machine regularly can pose a hazard of parts coming loose, parts not moving properly or wear items to become too worn to not move properly. If any issues occur please contact service immediately.

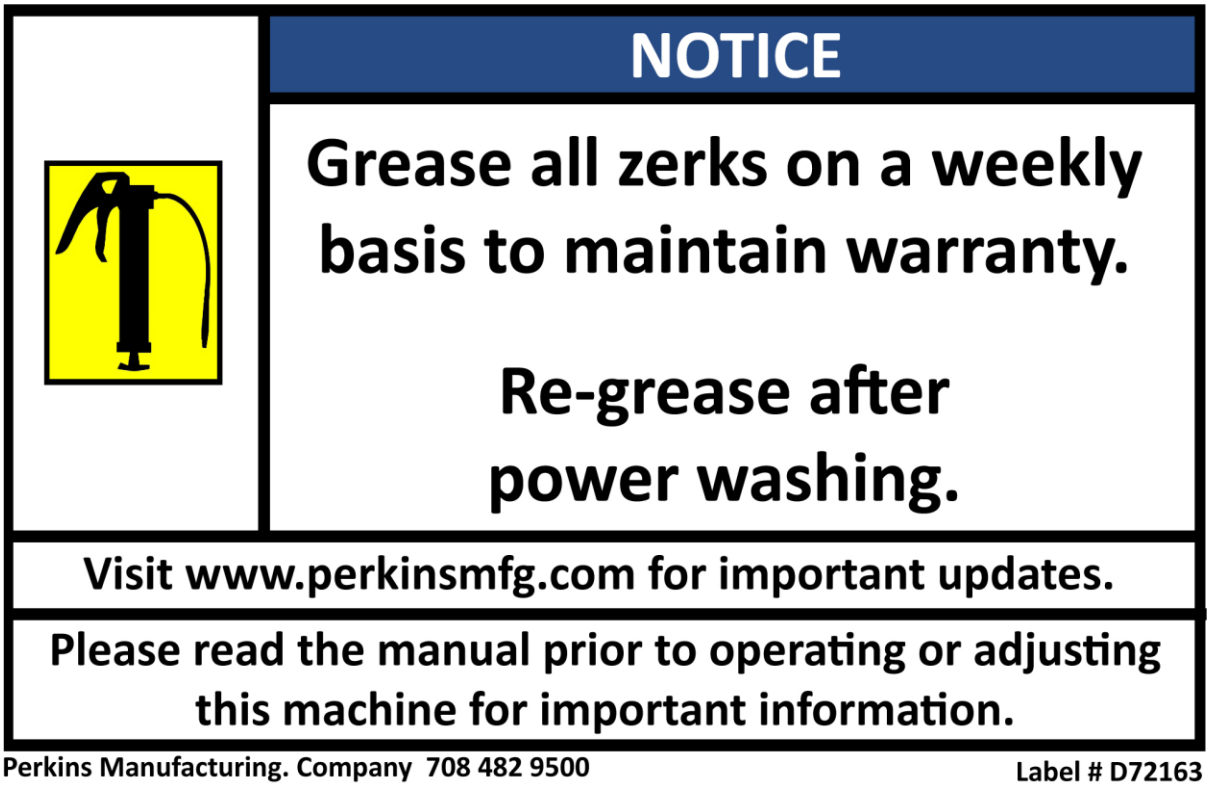


Running the lifter too fast or overloading will endanger the operator. Running the lifter too fast will cause the chain to jump possibly breaking the chain lock which will cause the lifter to drop straight down. Overloading the lifter can cause multiple issues with the hydraulic motor not running properly or the chain max weight capacity which could break the chain.

The power-cut off circuit MUST BE operational or damage will occur which will not be covered by warranty.

Perkins Mfg. Co. **Label # D72277**

The Perkins cane style lifter dumps high overhead. Make sure the cane is properly mounted to ensure the debris is dumped in the proper location as to avoid debris falling over or onto the operator. As well as ensure the tension on the chain is as stated within the manual as to not cause damage or breakage cause the lifter portion to fall or drop the container it was lifting.



Maintaining the lifter is vital to ensure proper operation of the equipment and for warranty to be valid. Inspection of the lifter is also important to make sure there are no loose parts and that the lifter is properly grease. Not inspecting or maintaining the machine regularly can pose a hazard of parts coming loose, parts not moving properly or wear items to become too worn to not move properly. If any issues occur, please contact service immediately.

Safety Labeling and Training Requirements

Perkins provides safety labeling on all outgoing product per ANSI regulations, seen below.

19-01 Warning, Label and Safety Instructions.

Include standard safety instructions as one of the first items in a manual. This helps emphasize safe use of the product and can help the user understand the hazards, the consequences of the hazards and how to avoid the hazards. Priority placement also increases the likelihood that the information will be read. Any symbols or pictograms physically on the product should be included in the appropriate section of the manual to reinforce the association between the nature and severity of the hazard and the correct behavior.

The American National Standards Institute (ANSI) standard Z535.6, *Product Safety Information in Product Manuals, Instructions, and Other Collateral Materials*, should also be applied.

To help ensure the product user sees and understands warnings and safety instructions, you should make them conspicuous. It is critical that you make proper use of the signal words *"danger", "warning", "caution" and "notice"* and their corresponding signal colors *red, orange, yellow*, and blue.

Choosing the appropriate signal words and colors are based on an estimate of the likelihood of exposure to the hazardous situation and what could happen as a result of exposure to the hazard. The American National Standards Institute (ANSI) standard Z535.4, *Product Safety Signs and Labels,* defines the hazard signal words as follows:

DANGER: Indicates an imminently hazardous situation which, if not avoided, "will" result in death or serious injury. This signal word is to be limited to the most extreme situations.

WARNING: Indicates a potentially hazardous situation which, if not avoided, "could" result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation, which, if not avoided, "may" result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE: Indicates information considered important, but not hazard related (e.g., messages relating to property damage).

It is the responsibility of owner of this product to maintain the safety labels, keep them clear & visible to all users, and replace the safety labels when they become worn or missing.

All users must read and understand this manual and the safety precautions before using this product.

Manufacturing Company

Perkins Return Policy:

If, within 30 days of receipt of the item(s), a customer would like to return an unused item(s), the customer may contact Perkins for a return authorization (RGA#). The item must be shipped within 2 weeks of the return authorization. The customer will pay the return freight and a 15% restocking fee on the return(s). The item must be in new / unused condition, and any damage or clean up required to restore the product to resalable condition will be charged to the customer.

Packages received without an RGA# on the packaging identifying who the product is from may be discarded or refused and credit may not be issued. Always make sure the RGA# is displayed on the box and on any included paperwork.

If Perkins shipped the wrong item(s), the incorrect item(s) may be returned within 30 days of receipt of the item by contacting Perkins for a return authorization (RGA#). The item(s) must be shipped within 2 weeks of the return authorization. Perkins will pay the return freight and waive the restocking fee.

If the return results in a net debit, the customer will be invoiced. If the return results in a net credit, the credit can be used against the replacement item(s) or a future purchase.

Special Notes:

Perkins does offer customized solutions and due to the customization of these items, Perkins cannot accept returns or refunds on anything custom ordered. This includes industrial units, cane lifters, and other items which have been specially fabricated to the customer's specifications. Unfortunately returns on these products cannot be accepted.

380 Veterans Parkway #110
Bolingbrook, IL 60440

Perkins Manufacturing Company
(708) 482-9500 Fax: (708) 354-5878

Email: tuckaway@perkinsmfg.com

Manufacturing Company

Perkins Warranty Procedure

This procedure for claiming warranty must be followed or warranty will not be approved, credit will not be issued, and replacement parts will not be shipped. This document is not a replacement for the warranty policy. Please refer to the last page of your manual, which describes the warranty policy in detail.

If you believe your Perkins lifter has suffered from a failure that could be covered by warranty, immediately lock out any equipment that has failed per OHSA guidelines.

Take photographs of the lifter, including overall views of the unit and some close-ups, as necessary to properly record the failure in a way our engineering staff can examine. While taking photos of the lifter, record the serial number of the lifter.

Call Perkins at (800) 882-5292 and ask to speak to the service department. Requests for warranty can also be emailed to svaldez@perkinsmfg.com. Attach any photos to the email, as necessary. The service department will use the photos to determine if the return of parts for inspection is necessary or not. If the return of parts is required, the service department will issue you an RGA number.

Your replacement parts will be shipped at the time of your warranty request, but they will require a purchase order number/payment in order to ship. (Credit will be issued later, after warranty status is determined.) Your replacement parts will feature RGA numbers on the documentation referencing your warranty request. Replacements are sent UPS ground. For faster shipping, the customer will be charged.

Clearly mark the box of any returns with the provided RGA number in a prominent place. This helps our shippers identify your items. When your returned parts arrive, our service and engineering teams will inspect your shipment and determine if the failure is a defect covered by the warranty or not. If the item(s) are covered by warranty, credit will be issued. If the item(s) were not covered by warranty, a report will be generated that fully describes the reasoning behind the decision.

Common Warranty Mistakes:

Please do not ship lifters/parts to Perkins without first obtaining an RGA number. Parts received without prior authorization or without RGA markings will be discarded and credit will not be issued.

Orders that are placed without discussing warranty status will be treated as a typical order and will be billed accordingly. Credit will not be issued for warranty requests after the order is placed.

No warranty is allowed on lifters/parts not having a serial number.

380 Veterans Parkway #110
Bolingbrook, IL 60440

Perkins Manufacturing Company
(708) 482-9500 Fax: (708) 354-5878

Email: tuckaway@perkinsmfg.com

Perkins Manufacturing One-Year Limited Warranty

PERKINS MANUFACTURING COMPANY warrants its products to be free from defects in material and workmanship under normal use for a period of **one (1) year** from the date of delivery to the first purchaser.

Any claim under this warranty must be handled in accordance with PERKINS' warranty procedure.

This warranty is expressly limited to the repair or replacement in PERKINS' discretion of any component or part of any PERKINS product unit manufactured by PERKINS which is brought to PERKINS attention promptly after discovery and is proven to PERKINS' satisfaction to have been defective in material or workmanship.

This warranty shall not obligate PERKINS to bear the cost of labor or transportation charges in connection with the repair or replacement of defective parts, and it shall not apply to a product upon which repairs, or alterations have been made unless authorized in writing by PERKINS.

Any damage, wear & tear or improper use, substitution of parts not approved by PERKINS, modifications other than those done by PERKINS or as authorized in writing by PERKINS, or any alteration or repair by others in such a manner which, in PERKINS' judgment, materially and adversely affects the product shall void this warranty. Operation at an actuator cycle time of less than six seconds shall void this warranty. Wear items used for anti-friction purposes are not covered by this warranty.

Periodic maintenance is required in order to maintain warranty but is not covered by warranty. Please refer to the maintenance section of the service manual for instructions.

PERKINS makes no warranty of products manufactured by others and supplied by PERKINS, the same being subject to warranties, if any, of their respective manufacturers.

PERKINS shall not assume any liability for any incidental, consequential, direct, or indirect damage, loss or delay of any kind, including, but not limited to, the loss of profits, product or downtime.

PERKINS warrants any service parts it may sell for a period of ninety (90) day from the date of delivery for replacement only. The item being replaced must be returned to PERKINS for evaluation upon its request. The cost of labor to replace such part shall be the responsibility of the owner. PERKINS does not warrant any used parts.

PERKINS, whose policy is one of continuous improvement, reserves the right to improve its products through changes in design or materials as it may deem desirable without obligation to incorporate such changes in products of prior manufacture.

THE ABOVE WARRANTY SUPERCEDES AND IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITING, ANY IMPLIED WARRANTIES OF MERCHANABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE OR ANY OTHER REPRESENTATIVE OF PERKINS IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY. THESE TERMS WILL BE CONSTRUED ACCORDING TO THE LAWS OF THE STATE OF ILLINOIS WITHOUT REGARD TO ITS CONFLICTS OF LAWS PROVISIONS. ALL ACTIONS OR PROCEEDINGS IN ANY WAY, MANNER OR RESPECT ARISING OUT OF OR RELATED TO THE GOODS WILL BE LITIGATED ONLY IN STATE OR FEDERAL COURTS, AS APPROPIRATE, LOCATED IN WILL COUNTY, ILLINOIS. BUYER CONSENTS AND SUBMITS TO JURISDICTION IN THE STATE OF ILLINOIS AND WAIVES ANY RIGHT TO TRANSFER THE VENUE OF ANY SUCH ACTION OR PROCEEDING.