

Automated Front Load Container

User Manual

PC2020





Perkins Manufacturing Company Creators of the TuckAway® Cart Lifter www.perkinsmfg.com 800-882-5292 Revised: 6/15/20 Page 1 of 25

# Table of Contents

Specifications
Dimensions
Installation Safety9
Hydraulics
Electric Harness
Safety Tips
Preventative Maintenance19
Fig 1 Can body types
Fig 2 Extension slide section
Fig 3 Actuator and driver arm section22
Fig 4 Idler arm section23
Fig 5 Extension cable guide and bumper24
Fig 6 Faceplate section
Fig 7 Left-hand gripper arm
Fig 8 Right-hand griper arm27
Fig 9 Additional Components
Parts Key
Hydraulic Hoses & fitttings
Label Placement
Troubleshooting & warranty



# **Specifications**

Cart compatibility	ANSI Compatible Refuse Carts. From 30 to 96 Gallons in size, that meet ANSI Type "G" specifications.
Typical mounting application	Front loader
Truck compatibility	
Flow rate requirement	16.5 gpm
Cycle times in seconds (at 14 gpm)	Extend Out 2.5 / Retract In 1.5 Gripper 1.5 to open or close Lift up cart 2/ Lower Cart 2
Maximum pressure setting*	2,000 psi, to be set on truck relief valve (not supplied)
Torque production	Lifting actuator will produce ~30,000 in-lbs. of torque at 2,000 psi. Extension actuator will produce 21,333 in-lbs of torque at 2,000 psi.
Weight capacity**	400 lbs.
Dump angle	45 degrees from the horizon +/-2 degrees
Can capacity	4.2 cubic yards / 1,000 lbs. (at 225 lb./yard average)
Reach	54"
Approximate unit weight (not counting packaging)	2200 lbs.
Hydraulic package	Sold separately
Joystick, sensors, diverter valve	Sold separately / not provided by Perkins
Limited warranty	

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

\* Actual pressure required to lift a load can vary.

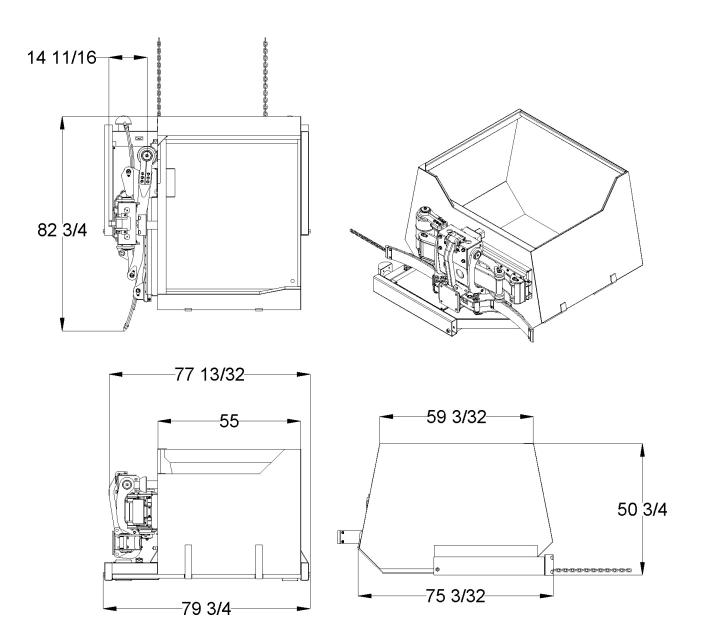
\*\* Do not lift more than the recommended amount printed on the cart by the cart manufacturer or damage or injury may result.

\*\*\* See Warranty page for full details of coverage. Warranty begins at time of shipment.



# Dimensions

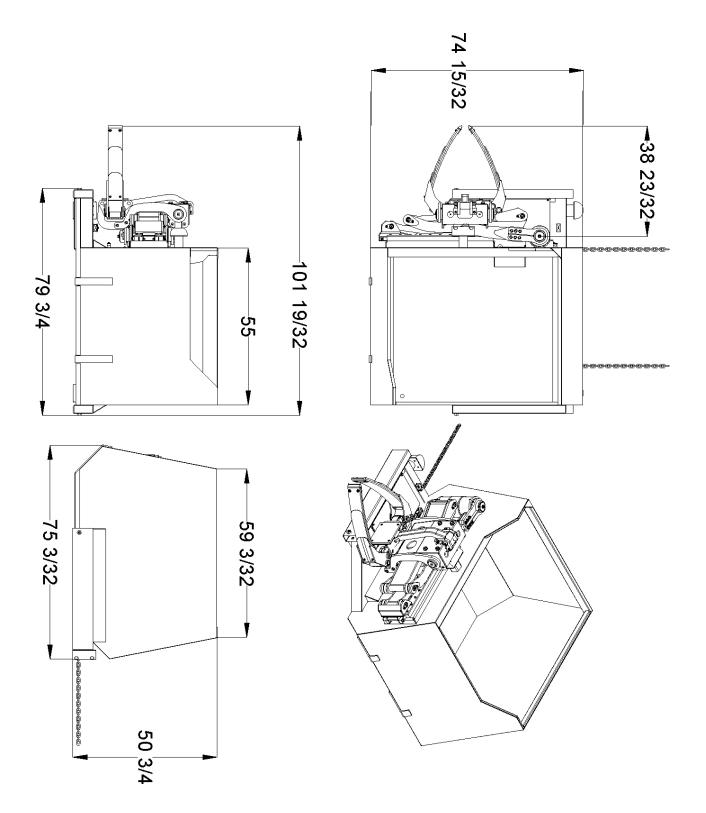
Dimensions are for reference only and are subject to change.





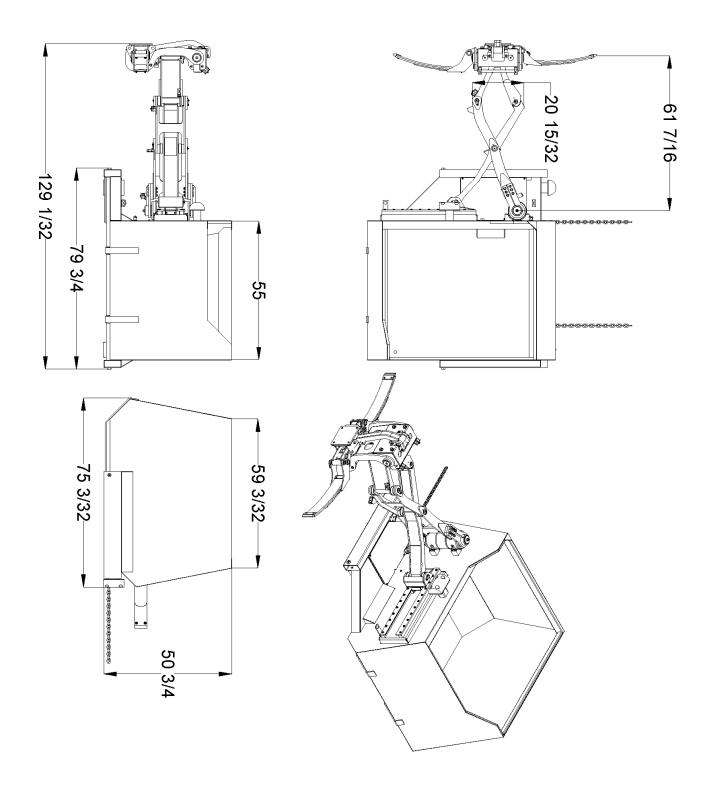
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800-882-5292 Revised: 6/15/20 Page **4** of **25** 



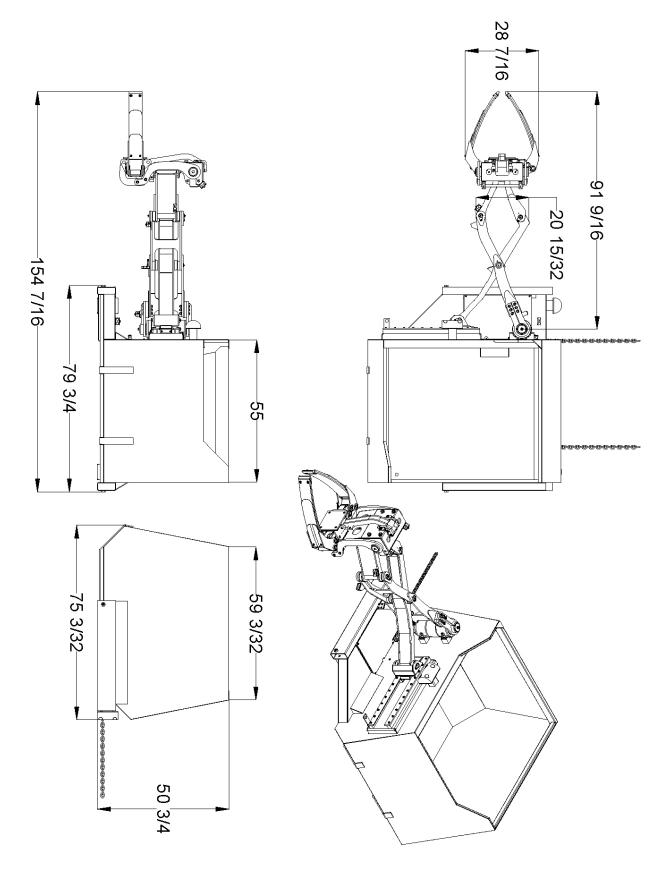


800-882-5292 Revised: 6/15/20 Page **5** of **25** 



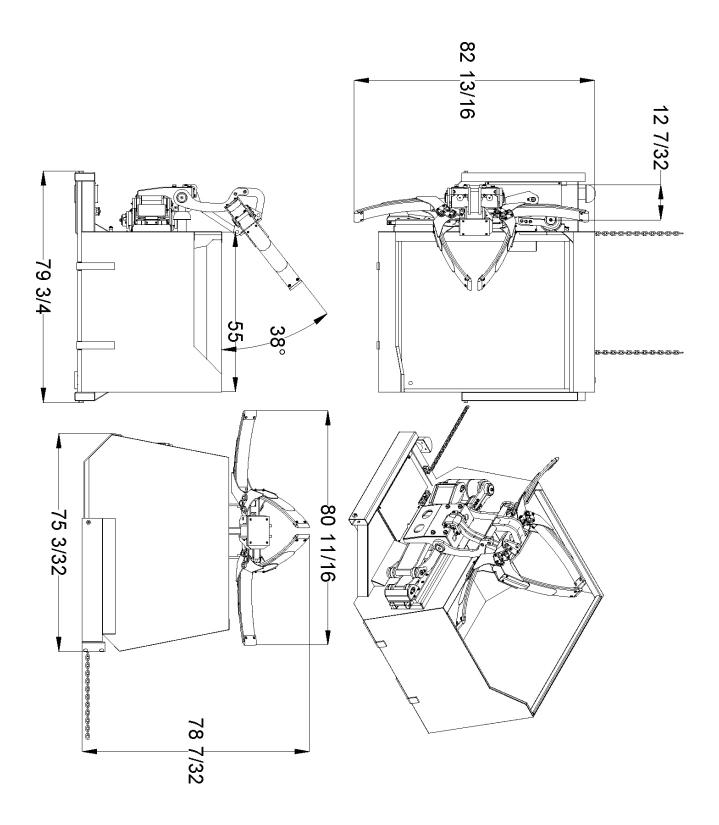


800-882-5292 Revised: 6/15/20 Page **6** of **25** 





800-882-5292 Revised: 6/15/20 Page **7** of **25** 





800-882-5292 Revised: 6/15/20 Page **8** of **25** 

### Installation safety

Please read this manual prior to install, repair or use of this cart lifter.

Installation of this equipment may require welding, painting, grinding, torching, and working with high-pressure hydraulic systems. Appropriate safety equipment should be used always.

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

This equipment is heavy. Always use proper heavy lifting equipment.

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

The vehicle and the surrounding area should be clear of waste and flammable materials.

Torching and welding can cause a fire. Use caution. Clear away flammable materials before any torch cutting or welding.

Do not open/loosen any hydraulic lines unless the system is off and depressurized. Any raised equipment will fall if hydraulic lines are opened. Always use chains or straps when working with any portion of the equipment when it is worked on while elevated.

Never check for leaks with your bare hands. Pressurized hydraulic leaks can pierce the skin and cause infection or death.

Always double-check hydraulic fittings and hoses for tightness prior to reactivating the pump. See the following guide regarding hydraulic fittings. <u>http://blog.parker.com/10-things-not-to-do-when-your-hydraulic-fitting-leaks</u>

Check the visibility of all brake and signal lights around the truck. If a light has become obscured to other drivers by the installation of the equipment, relocate the light for better visibility.

If painting or touch up is necessary, perform in a well-ventilated area 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 equipment not covered in the manual, it is recommended to call Perkins at 800-882-5292.



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### Non-Perkins hydraulics

It is important to note that the performance of the PC2020 arm relies greatly on the hydraulic system it is a part of/connected to. Perkins does sell a hydraulic tap-in kit (sold separately) which can be used to control the PC2020, or with the right adjustments you can use existing OEM controls from competitor brands. How the unit behaves and performs will depend on the hydraulic settings as set by the installer. Please note that improper settings will not be cause for warranty claims.

### 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, these issues can eventually lead to premature wear and tear of both the Perkins lifter as well as your vehicle's hydraulic system.

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.

### Lifter Speed

The cycle time of the lifter is very important for safe operation. Perkins suggests a cycle time that is listed on the specifications page. Faster cycle times may be dangerous. Running a lifter too fast can damage the equipment and/or result in personal injury.

The speed of the cart lifter is determined by the rate of oil (gallons per minute [GPM]) going to the unit. The PC2020 will require approximately 16.5 GPM to meet this speed. See trucks manufacturer instructions for adjusting flow. **Running the equipment too fast will void the warranty**.

### Weight Capacity

The maximum amount of weight that can be lifted is limited by the pressure relief valve at the pump, or at the valves or both. The settings must be determined with a pressure gauge. The PC2020 requires 2,000 psi to lift a 400 lbs. of load. Place a pressure gauge after the control valves and run the rotate up function until the rotation stops and continue activating the control valve and note the pressure on the gauge. Adjust the relief valve per the manufacturer's instructions.

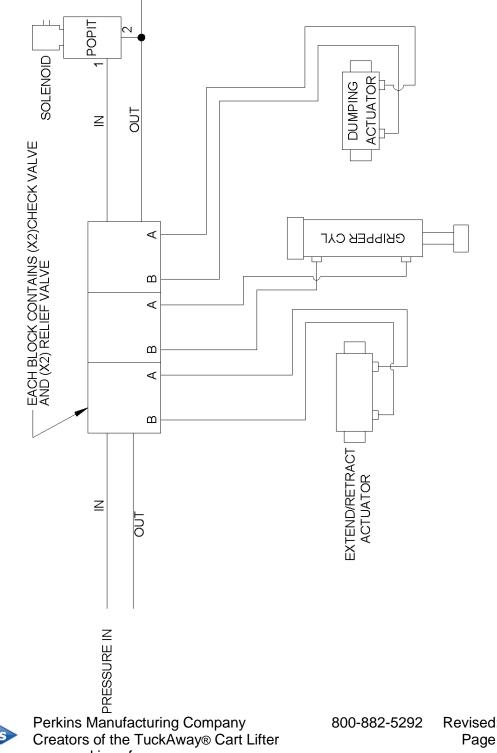


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### **Hydraulic Source**

1- Perkins does not provide the diverter valve or valve stack to deliver oil to the PC2020. Please refer to truck manufacturer for guidance.

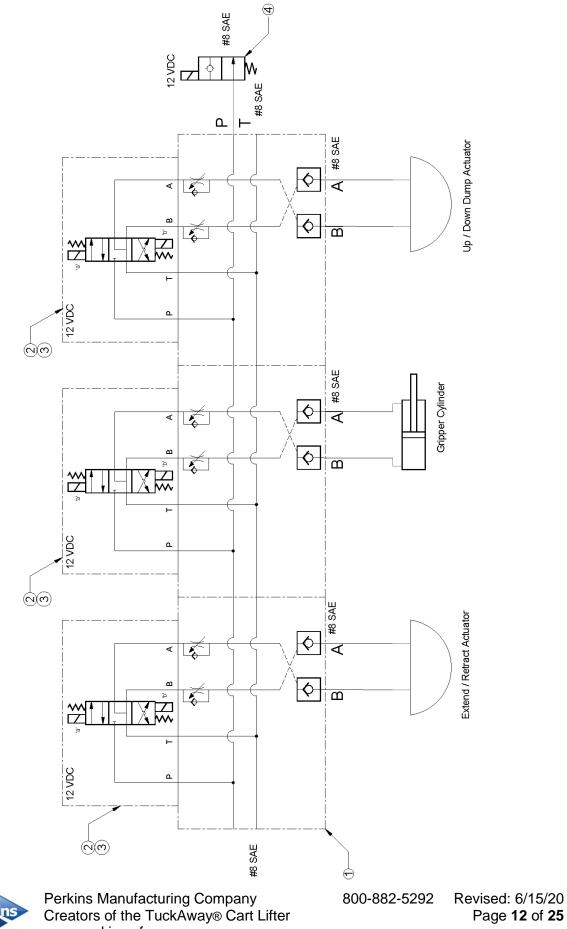
### Hydraulic Schematic (Perkins portion only)





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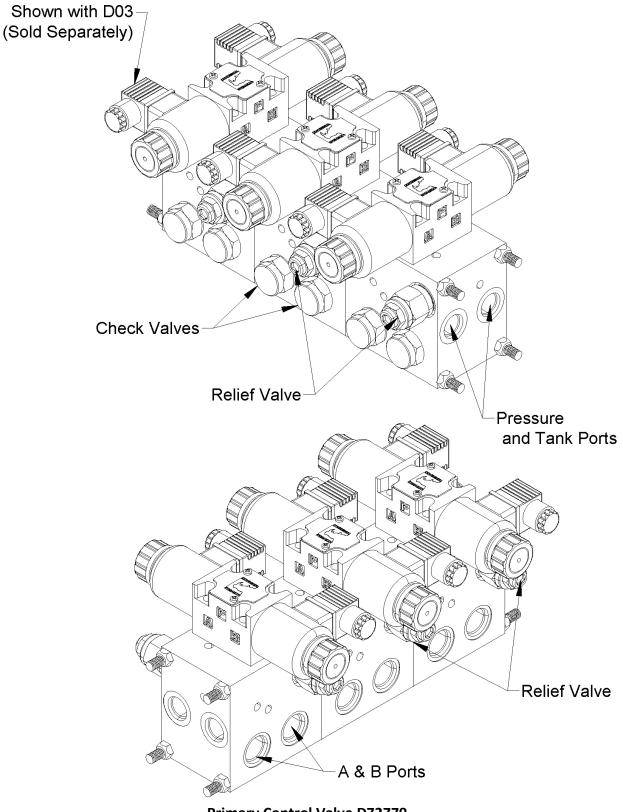
Revised: 6/15/20 Page 11 of 25





Page 12 of 25

### Hydraulic Adjustments



**Primary Control Valve D72779** 

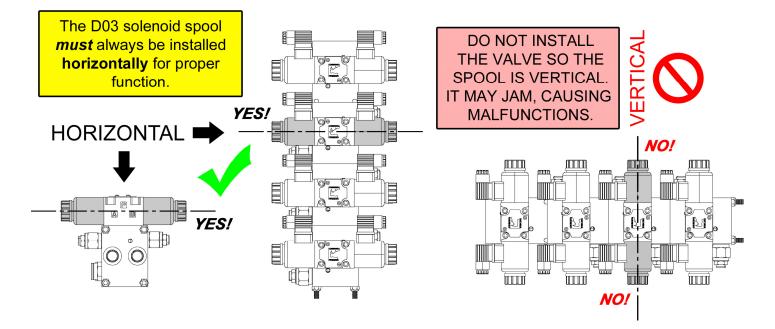


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# NOTICE ON THE POSITION OF THE D03

### DIRECTIONAL CONTROL VALVE STACK

The control valve stack must be installed in a way that the d03 spool is horizontal at all times. Inside the valve is a spool with springs. The springs self-center the spool when the power is disengaged. When positioned horizontally, the spool self-centers normally. When incorrectly positioned vertically, the springs must work harder to return the spool to center, which may lead to jamming and malfunctions.



Please orientate the valve properly during your installation process so malfunctions do not occur.

If the spool does become jammed, it can be freed by manually sticking a screwdriver into the slot at the end of the spool and giving a small push to un-stick the spool.



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# Adjustment of Primary Control Valve

**Main Relief**: This adjustment controls the maximum pressure that the rest of the PC2020 circuit will have available. The setting is 2,000 psi. This is found by adding a gauge in the circuit and running one of the operations until it stops. While continuing to hold the function active, the pressure will rise until the relief opens. Turning the relief in clockwise will increase the available pressure. Stop when the pressure reads 2,000 psi and secure the adjustment by turning the locking nut.

**Gripper Pressure Relief Adjustment:** This adjustment controls how hard the gripper arms will squeeze the carts. By reducing this pressure, you can prevent over-squeezing of the plastic carts. The desirable setting is 900 psi. This is set the same way as the main relief, by using a gauge and measuring the pressure in the circuit with the close-gripper circuit activated. Tighten or loosen the adjustment until you reach 900 psi. Lock the adjustment by tightening the locking nut.

**FC1 / FC2:** These adjustments fine tune the speed of the gripper arms. The gripper arms only require about 3 gpm to function, but there is about 14 gpm in the system. Without this valve adjustment, the gripper arms would slam very fast, causing wear and tear. Adjust FC1 and FC2 in by turning clockwise will decrease the flow sent to the gripper arms. (FC1 is one direction, FC2 is the other direction). Check the speed open and the speed close and adjust FC1 and FC2 accordingly so the gripper arms move at a speed that is productive but not slamming. Tighten the locking nut under the adjustment when finished to retain that setting.

**Check Valves:** Not adjustable. However, if it is suspected that they are stuck / not working, shut the system off, depressurize the circuit and remove the cartridge. Check it for damage, debris, or wear. Cleaning the cartridge and freeing the debris inside may be enough to allow the check to return to normal function. If not, replace the cartridge.

**Speed Adjustment**: Please note that the maximum speed of the unit is determined by oil flow rates generated by the specific trucks hydraulic system. If help is needed in adjusting the max speed, please consult with truck manufacturer. There is no speed adjustment for Perkins that will increase speed beyond what is provided.



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### Safety tips

Always follow your company's safety policy during the use of this equipment, including use of proper clothing/ personal protective gear, reflective clothing, etc.

The use of lock-out devices and all appropriate PPE during repairs is recommended.

Do not lift anything that grabbers cannot securely grab. Damaged or oversize carts cannot be very well secured, causing them to fall from the machine, which can cause damage or injury and will void the warranty. See Cart compatibility on the Specifications page of this manual for more information.

Do not use the equipment for any purpose other than what was designed for. Lifters are not meant as steps, they are **not to be used to lift people**, or 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.

Do not use the controls to shake the PC2020. Some operators will do this to shake out any garbage stuck inside the container. Excessive shaking can damage the components and will void the warranty.

Speeding up the equipment 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 equipment unless the area around it is clear of personnel. This means, do not touch the equipment while it is in operation and do not stand or sit under/near the equipment while it is moving. This equipment has pinch points which can cause serious injury. Always stay clear.

When inspecting the unit's structure and hardware, make sure the hydraulics are off and depressurized.

Avoid contacting the lifter device with the ground, posts, walls, and other foreign objects as this will cause damage.

Remember to watch for trees and power lines when dumping the container into the truck.

Remember to place the container up into the truck before driving at speeds over 15 mph, or when crossing intersections.

Remember the extend/retract function and up/down function are proportional. A joystick with proportional controls must be used or the proportional effect will not work.



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### Preventative maintenance

Perform an inspection daily, prior to leaving the yard. Have a qualified mechanic repair any issues found below before using the equipment.

□ Operate the PC2020 arm through all positions to verify correct function.

□ Replace any hardware that is missing, tighten any hardware which is loose.

□ Check gripper belt condition.

Look for and repair immediately if you discover any cracks in components/welds.

Look for and repair immediately if you discover any hydraulic leaks.

#### Greasing

Most major points of the PC2020 arm are self-lubricated.

Grease both ends of the gripper cylinder using the supplied grease zerks once per week.

□ Grease the ends of the actuator once per month (hand pump only, DO NOT use a highpressure air-powered greasing system)

□ Grease all pins through supplied grease zerks.

Repeat the grease process any time after a power-washing or heavy rain. Keeping the equipment on the grease schedule is important to normal operation and proper preventive maintenance.

#### Wear Items

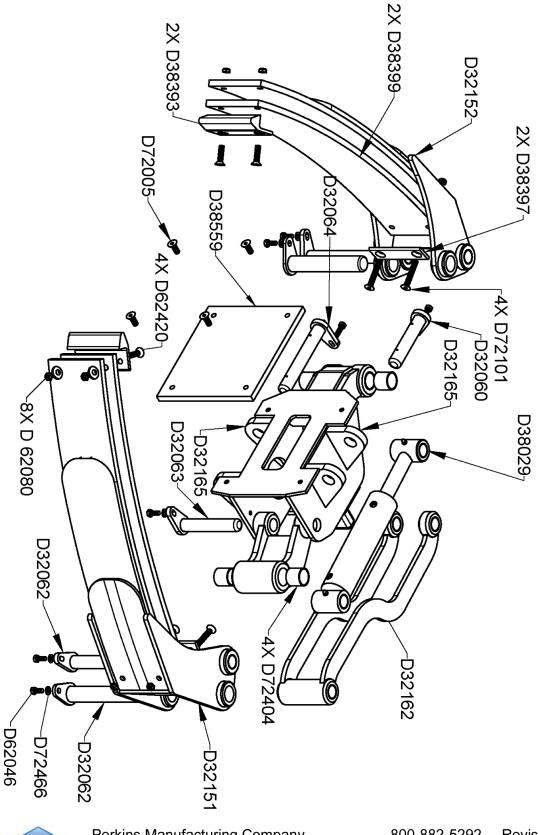
There are parts considered wear items because of their constant friction and/or contact within itself or other external items during functioning. It is recommended to keep wear items in stock to replace quickly as needed. Regularly visually inspect the unit to detect any unusable item that may cause further damage to other parts and cause bigger problem or delay. See below for wear items.

Part Number	Description	Qty.
D38559	Rubber Face	1
D32167	Composite GSM Blue Slide Block	2

Wear items are not covered by warranty.



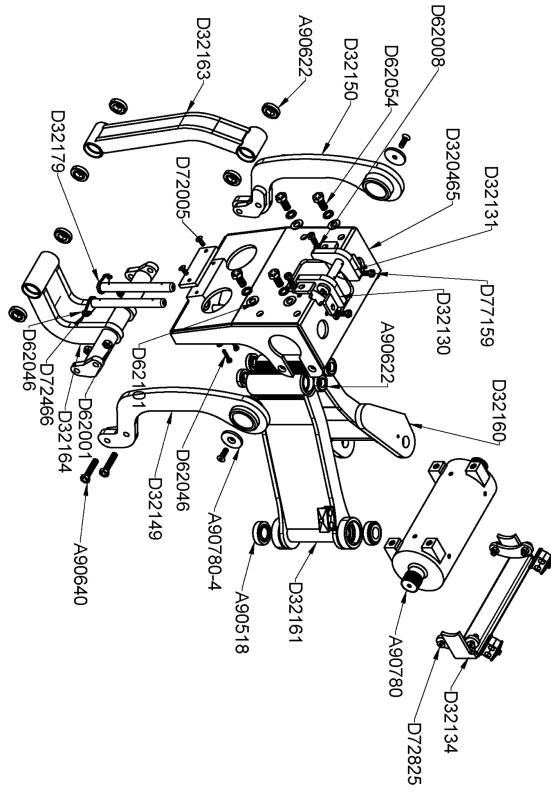
Perkins Manufacturing Company Creators of the TuckAway® Cart Lifter www.perkinsmfg.com 800-882-5292 Revised: 6/15/20 Page **16** of **25** 



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Perkins Manufacturing Company Creators of the TuckAway® Cart Lifter www.perkinsmfg.com 800-882-5292 Revised:

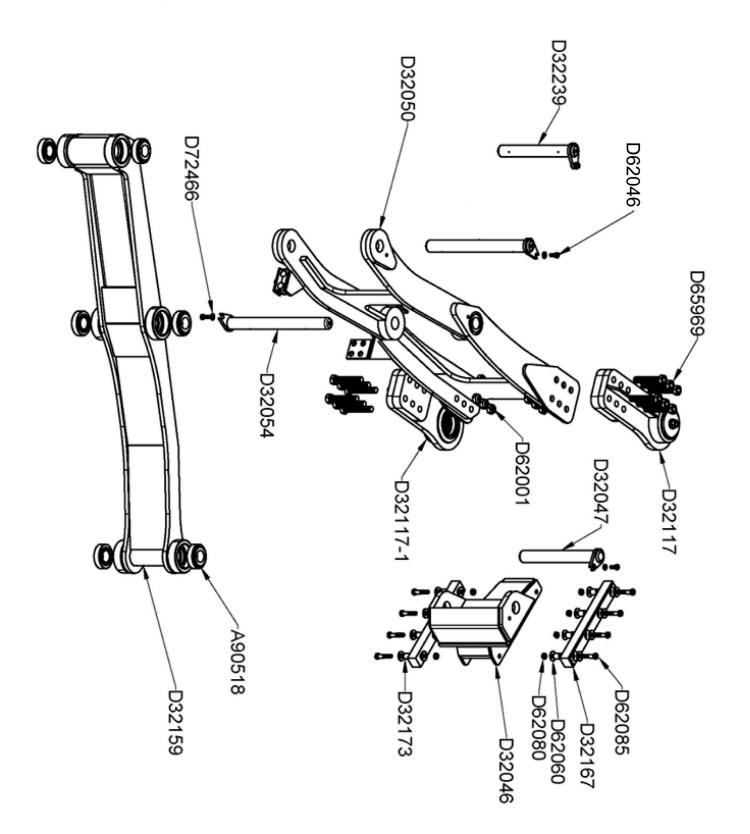
Revised: 10/3/23 Page **17** of **25** 





800-882-5292 Revised: 1

Revised: 10/3/23 Page **18** of **25** 





800-882-5292

Revised: 10/3/23 Page **19** of **25** 

## D32044 Gripper and Slide Assembly list

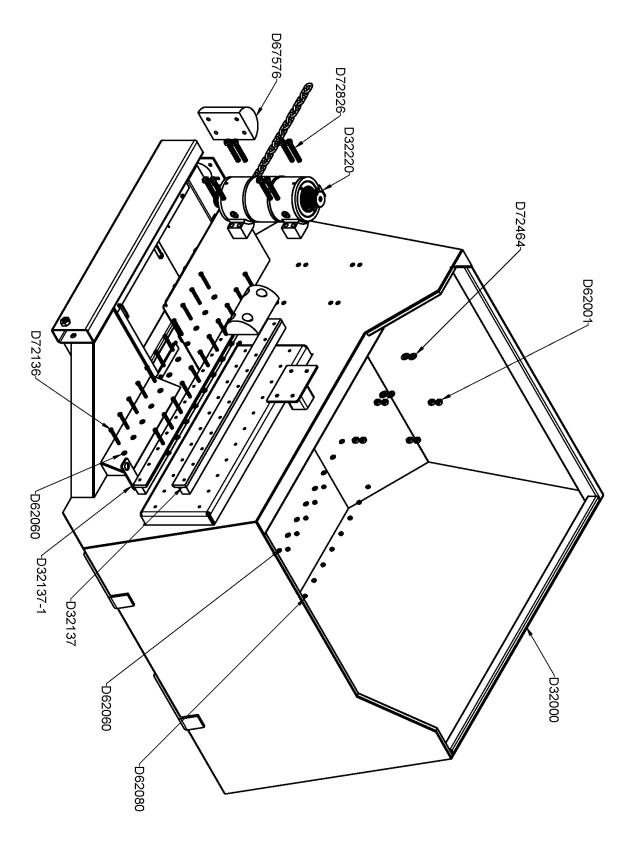
Item	Description	Qty
D32047	Slide Pin Weldment	1
D32054	SLIDE DRIVER ARM PIN	2
D32058	LEFT GEAR PIN	1
D32060	GRIPPER HEAD IDLER PIN	1
D32061	CROSSBAR PIN	2
D32063	LOWER CYLINDER PIN	1
D32064	LOWER GRIPPER HEAD PIN	1
D32062	IDLE GRIPPER PIN	2
D32050	SLIDE DRIVER ARM WELDMENT	1
D32150	LH DRIVER ARM WELDMENT	1
D32149	RH DRIVER ARM WELDMENT	1
D32134	ACTUATOR LOCK WELDMENT	2
D32131	IDLER ARM LH LINK WELDMENT	1
D32130	IDLER ARM RH LINK WELDMENT	1
D32117	DRIVER HUB WELDMENT	1
D32045	ACTUATOR FACEPLATE WELD.	1
D32138	SLIDE GUARD	2
D32137	SLIDE BLOCK	1
D32159	Slide Idler Arm Assembly	1
D32160	LH Gear Arm Assembly	1
D32161	RH Gear Arm Assembly	1
D32162	Cross Bar Link Assembly	1
D32163	Idler Arm Assembly	1
D32164	Lower Driver Link Assembly	1
D32165	Faceplate Assembly	1
D32166	Slide Assembly	1
D32169	LH Gripper Arm Assembly	1
D32170	RH Gripper Arm Assembly	1
D32179	Gear Pin	2
D32239	LOWER GRIPPER HEAD PIN	1
D32137-1	Lower Slide Block	1
D32117-1	LOWER DRIVER WELD	1



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800-882-5292 Revised: 6/15/20 Page **20** of **25** 

### **Can Assembly**





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800-882-5292 Revised: 6/15/20 Page **21** of **25** 

ltem	Description	Qty
D32000	PAC Can Weldment	1
D32044	Gripper and slide Assembly	1
A90780	45K Helical Rotary Actuator (HKS)	1
D38029	GRIPPER CYLINDER 2 X 4 rev C	1
XF570017	SPACER TUBE KIT, FOR SECURING THE CARRY CAN TO FORKS	2
D65969	BOLT HHCS 5/8-11 X 2 1/2	12
D62001	LOCKNUT 5/8-11 Distorted Thread, Grade 8, Zinc-plated	24
D72466	NORDLOCK LOCKWASHER 5/16	12
D62046	BOLT HHCS 5/16-18 X 1 GR8, Zinc Plated	12
A90780-4	RETAINING DISC - 45K	2
A90780-6	EXTERNAL O-RING SEAL -45K	2
D72136	BOLT HHCS 3/8-16 X 3 GR 8 ZINC	22
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	22
D62060	SAE FLATWASHER 3/8 x 13/16 OD X 1/8TH zinc plated	44
A90640	Bolt HHCS 5/8-11 x 2 3/4 lg GR8, ZINC PLATED	4
D62081	LOCKNUT 1/2-13 GRADE 8 PLATED	4
D72825	Bolt FHCS 1/2-13 x 1 1/2 zinc plated gr8	6
D62029	SAE FLATWASHER 5/16 x .688 OD (ZINC PLATED)	2
D62101	SAE FLATWASHER 3/4 X 1.5 OD Zinc Plated	4
D72464	NORDLOCK LOCKWASHER 3/4	4
D62008	SAE FLATWASHER 1/2 X 1.06 OD ZINC PLATE	4
D62104	LOCKWASHER 1/2" NORDLOCK	6
D77159	BOLT HHCS 1/2-13 X 1, GR 8 (ZINC PLATED)	4
D72005	BOLT FHCS 3/8-16 X 1 ZINC PLAT	4
D72826	Bolt HHCS 5/8-11 x 3 zinc plated, gr8	8
D62109	SAE FLATWASHER 5/8 x 1.312 OD ZINC PLATED	16
D62409	BOLT HHCS 1/2-13 X 1 1/4, Zinc Plated	2
D63238-9	EXTERNAL HUB SEAL O-RING	2
D73008	Actuator Flange 515583 rev E	2
D38559	Rubber Face	1
D32176	Hydraulic Kit - PC2020	1
D62054	BOLT HHCS 3/4-10 X 1 1/2 GR 8	4
A90617	PAC Label Kit - Any Color Container	1
D32220	32k Helical Rotary Actuator, Wide Feet, 66 deg travel	1
D38315-3	External O-Ring Seal, Shaft Guard, Exclusion Seal	2
D32204	COVER PLATE REV A	1
A90307-1	Snug-Fit Vibration-Damping Loop Clamps - 3/8" id	8
CC6054	Proximity Sensor, Normally Open, 12-24vdc	1
D67576	Rubber Truck Bumper HALF-BARREL, 4-HOLE	3
CC7150	RUBBER BUMPER WITH PLATE REV A	1



800-882-5292 Revised: 10/3/23

# Troubleshooting

#### Unit operates slowly, or too fast.

Check the flow adjustment coming from the truck. Install a flow gauge in the line prior to the Perkins manifold to read the flow coming to the manifold. The flow should read between 14-16.5 gpm. Adjust the flow valve accordingly to achieve the desired setting.

If the unit is rotating down too fast or slow, adjust the one-way flow control valve located underneath the actuator (see page 14). It restricts oil coming out of the actuator on the way down, to prevent the cart from slamming to the ground. Turning in slows the decent and turning out speeds the decent up. This adjustment will NOT affect the rotate up speed.

### Unit does not pick up the weight

Use a pressure gauge to determine the maximum pressure available. The pressure being delivered to the Perkin manifold should be 2200 psi. If it is not, adjust the main pressure relief on the truck system per OEM instructions.

The Perkins manifold (shown on page 12) has it's own relief, which should be set to 2000 psi. The maximum capacity of the PC2020 is 400 lbs. Do not exceed.

### Unit operates jerky

It is likely that there is air in the system. You usually would see this with a new install, after recent work on the hydraulics, or after the quick disconnects have been opened. Operate the equipment through all its motions several times without a load and the jerkiness should clear up as the air is moved out of the system.

Other causes for jerky motions and start/stops can be attributed to rapid open and closing of check valves. Check valves require a minimum amount of flow to remain open. If your system is stuttering during movement, you may need to increase the flow setting for that operation.

### One function does not work but the other components do.

Check the solenoids. This might require two people. The solenoids light up when the joystick is activated. It can be common for the solenoid plug to become loose, have a bad connection, or for the wire to become snagged/damaged on tree branches. Check that the solenoid lights up when the joystick is activated for the function in question. If it does not light, check the cable for continuity. If it does light, make sure it is firmly tightened on the manifold assembly. If this is not the problem, check the wiring for damage.



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### Grippers open / close too fast or too slow

Fine tune the gripper movement by opening and closing the adjustable restriction valves on the main control valve. One adjustable restriction valve controls one direction, the other valve controls the opposite direction. Opening the adjustable restriction valve speeds the movement, closing the adjustable restriction valve slows the movement. Make adjustments 1/2 turn at a time until the desired speed is reached. (See page 12 & 13)

### Too much play in components

If after using the equipment some time, the components seem loose, it may be necessary to consider replacing some of the wear items. The self-lubricated bearings and slide blocks are the most common wear components. Fresh bearings/blocks will help the unit last longer. The slide blocks have indicator circles on their surfaces. When the surface wears away enough, the circles disappear. When the circles are no longer visible, consider replacement of the slides.

### Rubber Belts have become slack

The belts will wear out over time and when they have become worn, they should be replaced.

If carts consistently come loose, check the belts, and make sure it is in good condition, replace if needed.

### Undesired movement of the hydraulic components

Unwanted movement is prevented by PO check valves. If a component drifts out when it is not activated, it may be necessary to check the condition of the PO check cartridge in the Perkins manifold. With the system off and depressurized, loosen the check cartridge and slide it out. It may be necessary to clean the cartridge, remove foreign debris, or replace the cartridge with a new one.

### Cart are crushed by gripper arms

If your carts are being crushed, you can limit the squeezing-power of the gripper arms by setting the adjustment on the primary control valve (shown on page 12) called "Gripper Pressure Relief Adjustment". The correct setting is about 900 psi but can be fine-tuned to suit your needs. Instructions on how to make this adjustment are on page 13.



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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.





realizar cualquier servicio.

No busque fugas usando sus manos.



**AWARNING** 

Skin injection hazard. Protect hands and body from high pressure fluids. Relieve pressure before performing service. Do not search for leaks using your hands.

Reorder No. D72498

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 wetlooking 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.



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Pinch points and crush hazards.

Stand clear during operation.

Worker can be injured by moving parts.

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# **ATENCIÓN**

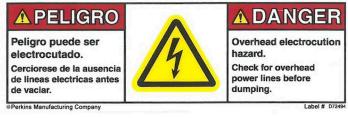
Puntos de pellizco y riesgos de aplastamiento.

Manténgase alejado durante la operación.

El trabajador puede resultar lesionado por Partes que se mueven.









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800-882-5292

Revised: 8/11/23 Page **49** of **50** 



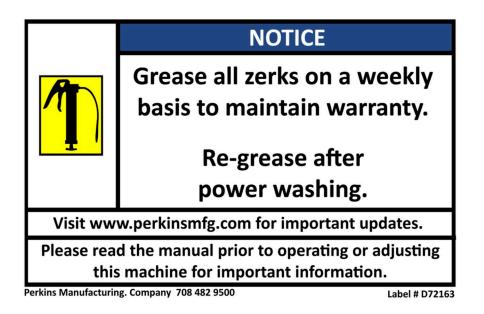


Dress appropriately for work with pants and sleeves that are not too long or too loose. Shirts should be fitted or tucked in. Avoid wearing loose and dangling jewelry. Tie back long hair and tuck braids and ponytails behind you or into your clothing. Wear the appropriate, well-fitting gloves for your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





Perkins Manufacturing Company Creators of the TuckAway® Cart Lifter www.perkinsmfg.com 800-882-5292 Revised: 11/13/20 Page **50** of **50**  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:

<u>DANGER</u>: 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.

<u>CAUTION</u>: 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.

<u>NOTICE</u>: 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 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 <u>svaldez@perkinsmfg.com</u>. 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.



### **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.

# 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.