



Perkins patented Graboxx w/standard fork pockets

User Manual

MODEL # PT8200



Perkins Manufacturing Company  
Creators of the TuckAway® Cart Lifter  
[www.perkinsmfg.com](http://www.perkinsmfg.com)

800-882-5292

Revised:  
12/27/24  
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# Specifications

Cart compatibility	ANSI Compatible Refuse Carts. From 30 to 96 Gallons in size, that meet ANSI Type "G" specifications.
Typical mounting application	Fork Mounted, Slide on/off as needed. Locking Blocks and Safety Chain included.
Truck compatibility	Fits most standard commercial front-loader waste collection vehicles.
Flow rate requirement	16.5 gpm
Cycle times in seconds (at 16.5 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	Actuator will produce 32,000 in-lbs. of torque at 2200 psi.
Weight capacity**	400 lbs. (bin and contents combined)
Dump angle	45 degrees from the horizon +/-2 degrees
Can capacity	4 cubic yards / 1,000 lbs. (at 225 lb./yard average)
Reach	48"
Approximate unit weight (not counting packaging)	2200 lbs.
Hydraulic package	Sold separately
Joystick, sensors, diverter valve	Sold separately
Limited warranty	1-year from ship date***

*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 enclosed in this manual for full details of coverage

\*\*\*\* Cycle Times will vary depending on the truck's pump output, and how the valves are configured / adjusted. Do not exceed the cycle times shown.



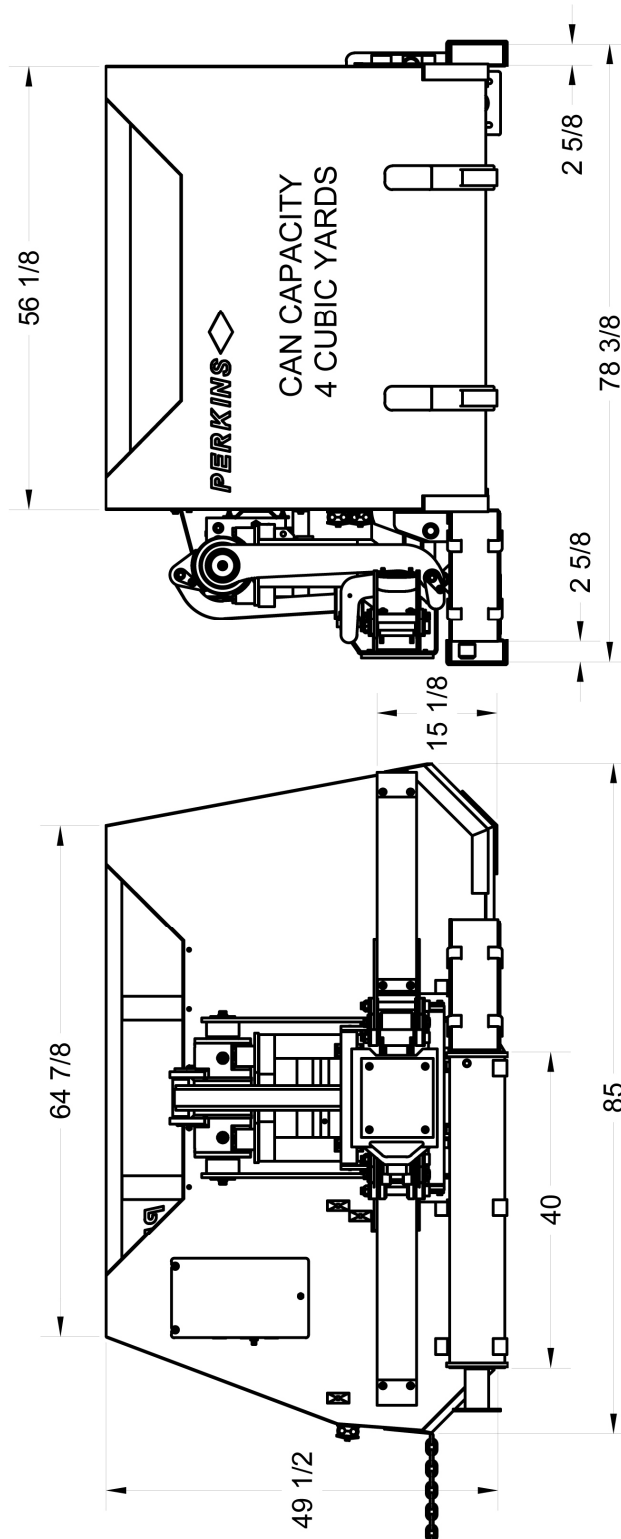
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# Product Dimensions




Dimensions are for reference only and are subject to change.




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 <b>PELIGRO</b>		 <b>DANGER</b>
<p><b>Peligro puede ser electrocutado.</b></p> <p><b>Cerciorese de la ausencia de líneas electricas antes de vaciar.</b></p>		<p><b>Overhead electrocution hazard.</b></p> <p><b>Check for overhead power lines before dumping.</b></p>

© Perkins Manufacturing Company Label # D72494

<h1 style="text-align: center; color: white; background-color: #003366; padding: 10px;">NOTICE</h1>
<h2 style="margin: 0;">Graboxx PT8200 Automated Can</h2>
<p><b>Compatible with ANSI Z245.60 type "G" containers</b></p> <p><b>Set main relief pressure to manifold at 2200 psi</b></p> <p><b>Maximum 95 gal bin weight: 400 lbs.</b></p> <p><b>Set flow to control valve at 14 - 16.5 gpm max.</b></p> <p><b>2.5 seconds extend, 1.5 seconds retract</b></p> <p><b>2 seconds to dump, 2 seconds to lower</b></p>
<div style="display: flex; align-items: center;"><div style="margin-left: 10px;"><p><small>Perkins Manufacturing Company</small> <small>800-882-5292 <a href="http://www.perkinsmfg.com">www.perkinsmfg.com</a></small></p></div></div>

© Perkins Manufacturing Company Reorder No. D72495





## Safety Guidance / Labeling

 <b>ATENCIÓN</b>		 <b>CAUTION</b>
<b>Punta Peligrosa. Mantenga las manos alejadas.</b>		<b>Pinch point hazard. Keep hands clear.</b>

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Label # D72496

 <b>PELIGRO</b>		 <b>DANGER</b>
<b>Manténgase alejado del levantador. Un golpe causaría lesiones o la muerte.</b>		<b>Stand clear of lift. Contact will cause injury or death.</b>

© Perkins Manufacturing Company

Label # D72497

 <b>ADVERTENCIA</b>		 <b>WARNING</b>
<b>Riesgo de inyección cutánea. Proteja las manos y el cuerpo de líquidos en alta presión. Purgue la presión antes de realizar cualquier servicio. No busque fugas usando sus manos.</b>		<b>Skin injection hazard. Protect hands and body from high pressure fluids. Relieve pressure before performing service. Do not search for leaks using your hands.</b>

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<b>NOTICE</b>	
<b>Maintenance Requirements</b>	
	<p><b>Read and understand manual prior to operating this equipment.</b></p> <p><b>Follow maintenance guidelines per the manual.</b></p> <p><b>Inspect machine daily prior to use and report any problems to service immediately.</b></p> <p><b>Failure to operate and maintain the unit within guidelines will void the warranty.</b></p>
	<p>Perkins Manufacturing Company 800-882-5292 <a href="http://www.perkinsmfg.com">www.perkinsmfg.com</a></p>

©Perkins Manufacturing Company Label # D72499

 <b>ADVERTENCIA</b>		 <b>WARNING</b>
<p><b>Peligro puede ser aplastado.</b></p> <p>Manténgase alejado cuando la caja esté bajando.</p>		<p><b>Crush hazard.</b></p> <p>Stay clear when box is lowering.</p>

©Perkins Manufacturing Company D72500



## Safety Guidance / Labeling

 <b>ATENCIÓN</b>		 <b>CAUTION</b>
<b>Peligro puede ser aplastado.</b> No se coloque debajo del contenedor cuando esté elevado.		<b>Crush hazard.</b> Do not stand below container when it is elevated.

© Perkins Manufacturing Company

Label # D72523

 <b>ATENCIÓN</b>		 <b>CAUTION</b>
<b>Superficie caliente.</b> Los componentes pueden alcanzar +170 grados. No tocar.		<b>Hot surface.</b> Components can reach +170 degrees. Do not touch.

© Perkins Manufacturing Company

D72524

 <b>ATENCIÓN</b>		 <b>CAUTION</b>
<b>NO pise ni se pare sobre esta superficie.</b>		<b>Do NOT step or stand on this surface.</b>

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Label # D72545



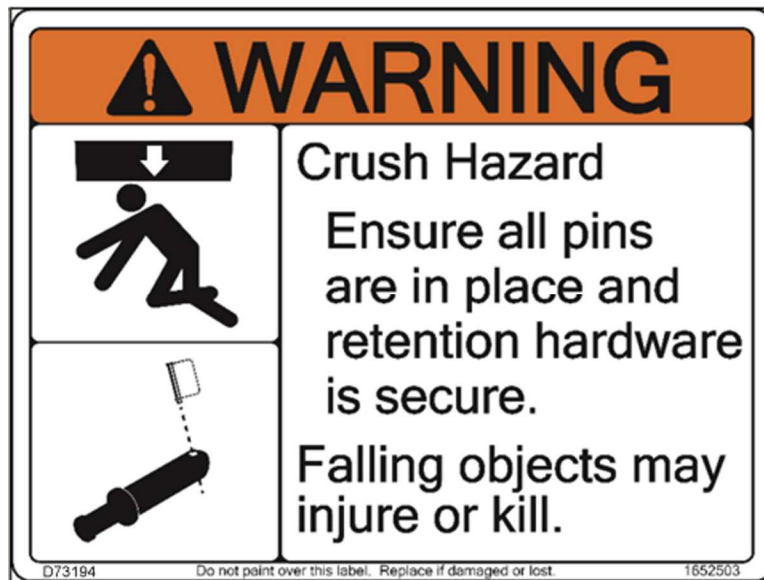
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## Safety Guidance / Labeling



Please do not paint over any safety labels. Replace worn or missing labels immediately.

All users must read and understand the manual and be properly trained before operating this equipment.



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# Installation safety

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

Installation of this equipment may require welding, painting, grinding, torching, and working with high-pressure hydraulic systems. Appropriate safety equipment should always be used. Installation and adjustment should be performed by someone knowledgeable with hydraulic/electric equipment/procedures.

Always follow OSHA specified lock-out procedures while working with a truck. Please note that trucks using CNG or fully electric vehicles may have extra safety precautions, always follow the safety guidance of that vehicle's manufacturer.

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.

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. <http://blog.parker.com/10-things-not-to-do-when-your-hydraulic-fitting-leaks>

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.



# Non-Perkins hydraulics

It is important to note that the performance of the Graboxx arm relies greatly on the hydraulic system it is a part of/connected to. The truck's systems provide the flow/pressure without which the Graboxx will not function. The flow and pressure settings must be correct for the Graboxx to operate as expected. If any adjustment of the truck's flow or pressure is needed, please refer to your vehicle's owner manual for guidance.

## 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 Graboxx will require approximately 16.5 GPM to meet this speed. See the OEM truck 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 Graboxx 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.

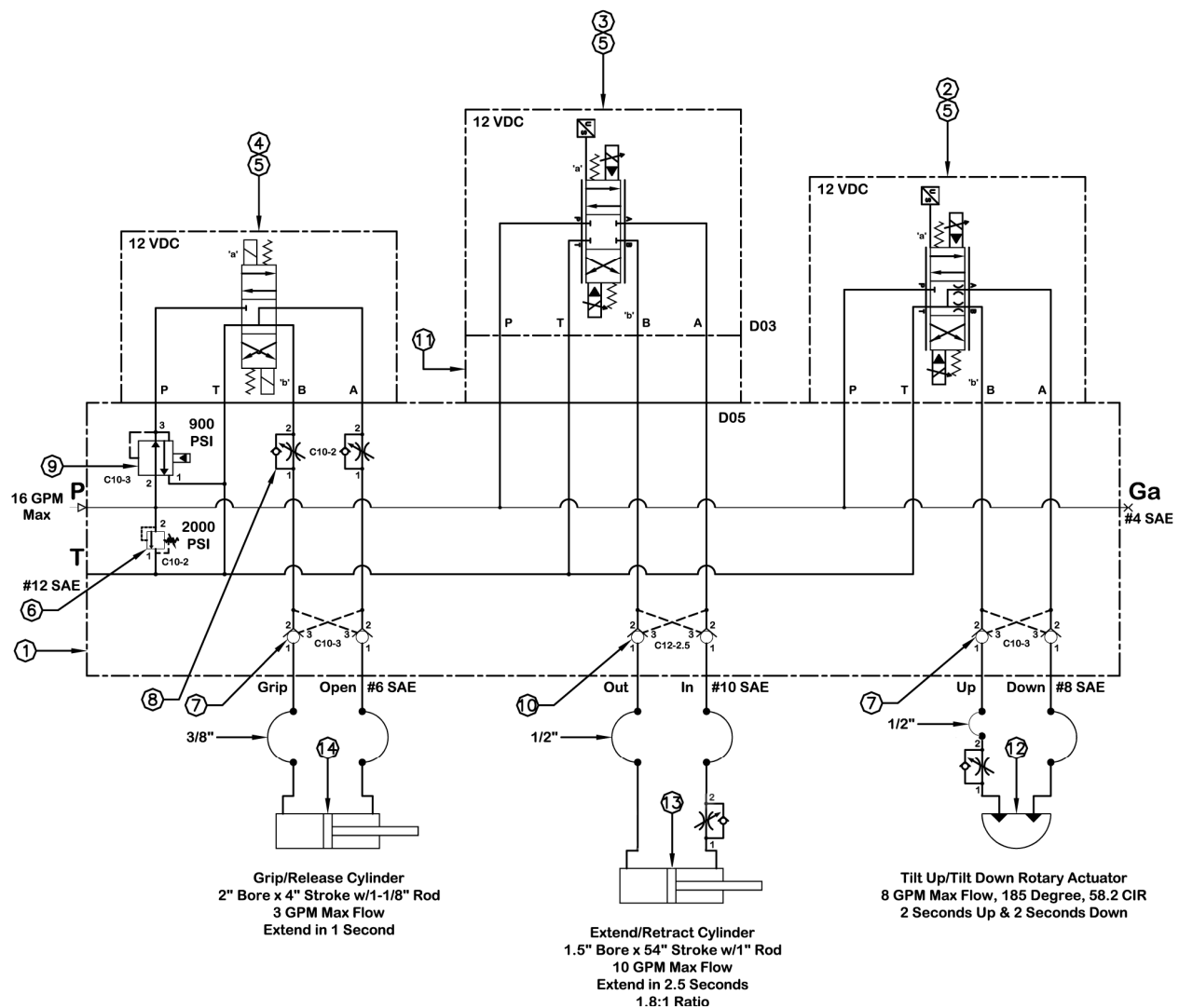


# Hydraulics

## Hydraulic Source

- 1- Perkins does not provide the diverter valve or valve stack to deliver oil to the Eco-Maxx III. Please refer to McNeilus Truck and Manufacturing, Inc. for guidance.

## Hydraulic Schematic (Perkins portion only)

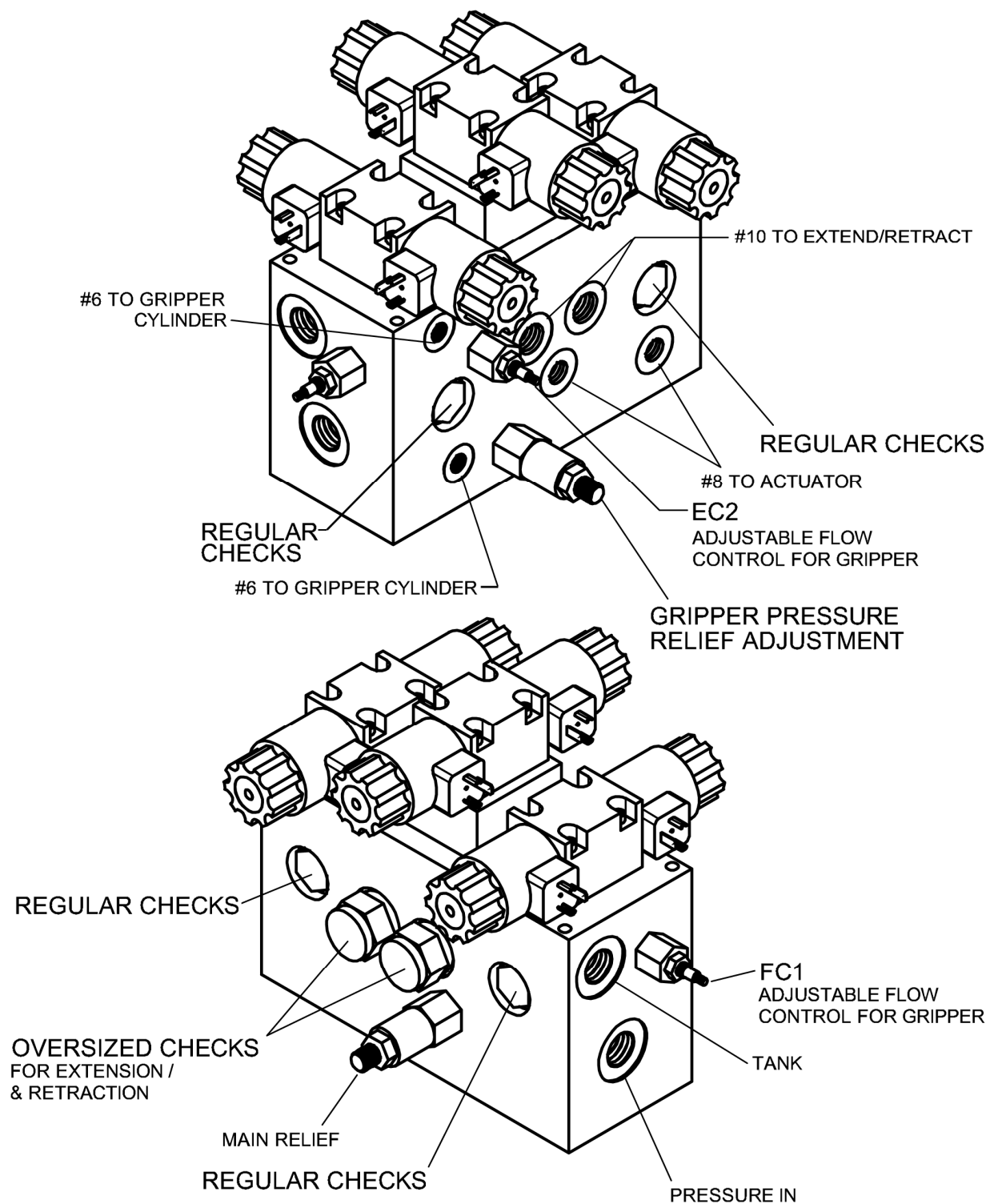


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**Primary Control Valve D38313**



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# Adjustment of Primary Control Valve

**Main Relief:** This adjustment controls the maximum pressure that the rest of the Graboxx 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 truck's hydraulic system. If help is needed in adjusting the max speed, please consult the truck's manual. There is no speed adjustment for Perkins that will increase speed beyond what is provided.



## Adjustment of Actuator Speed in Down direction



One-Way  
Adjustable  
Flow Control

**One Way Adjustable Flow Control:** Located tucked underneath the rotary actuator is a one-way adjustable flow control, which leads to the left-hand port of the actuator. Its function is to slow down the gripper assembly/ actuator when it is rotating down, preventing the cart from slamming back down into the ground. This valve does NOT affect the rotate-up speed.

Located on the cylinder retract port is a hi-flow adjustable flow control. Its function is to slow down the cylinder on the retract cycle preventing shaky movement.

If the speed is too fast, turn the adjustable knob clockwise (in)  $\frac{1}{4}$  turn at a time. Test the movement in-between adjustments to see the resulting speed change. If the speed is too slow, open the adjustment by turning counterclockwise. Once the correct speed is found, lock in the adjustment by turning the set screw located on the handle (shown in picture).



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## Electric Harness D38316

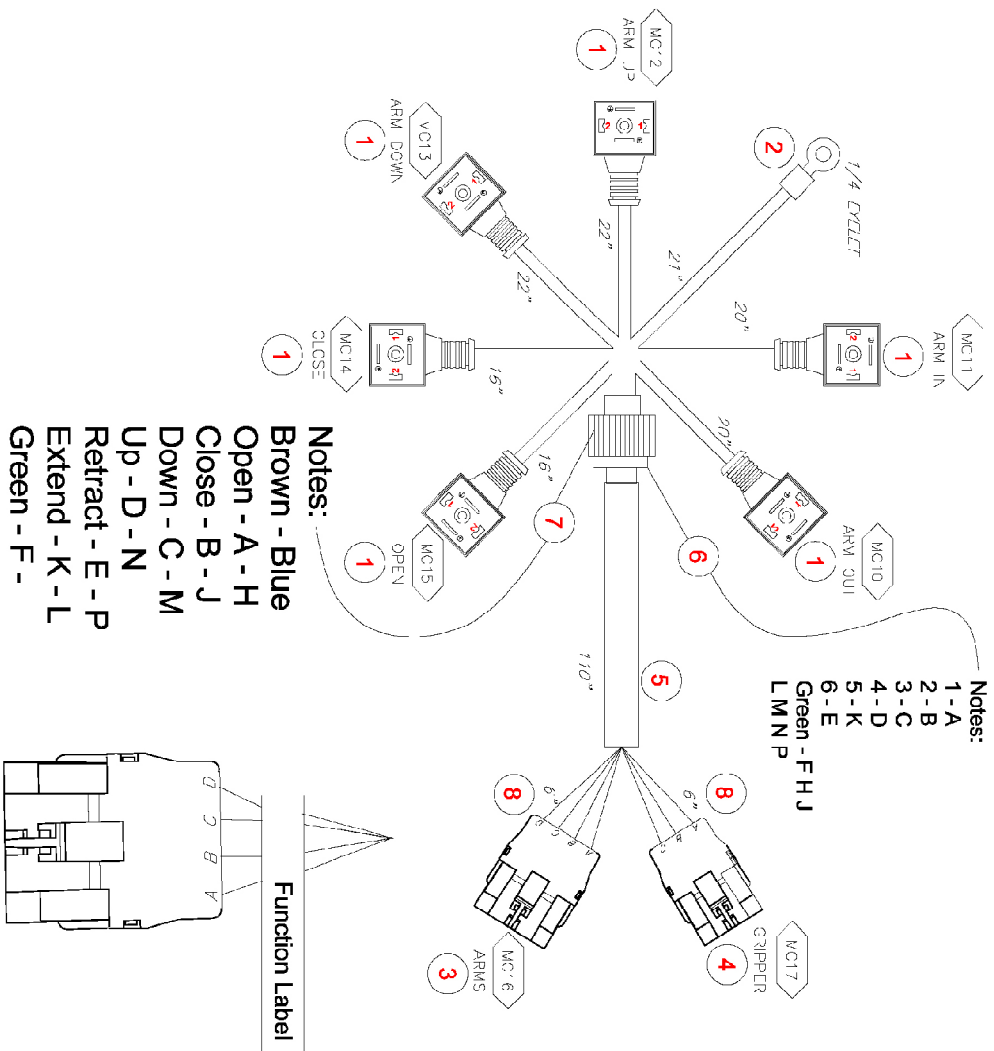


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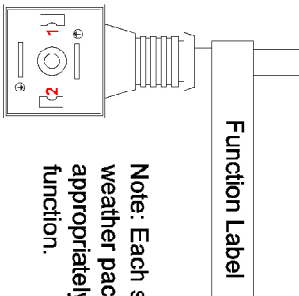
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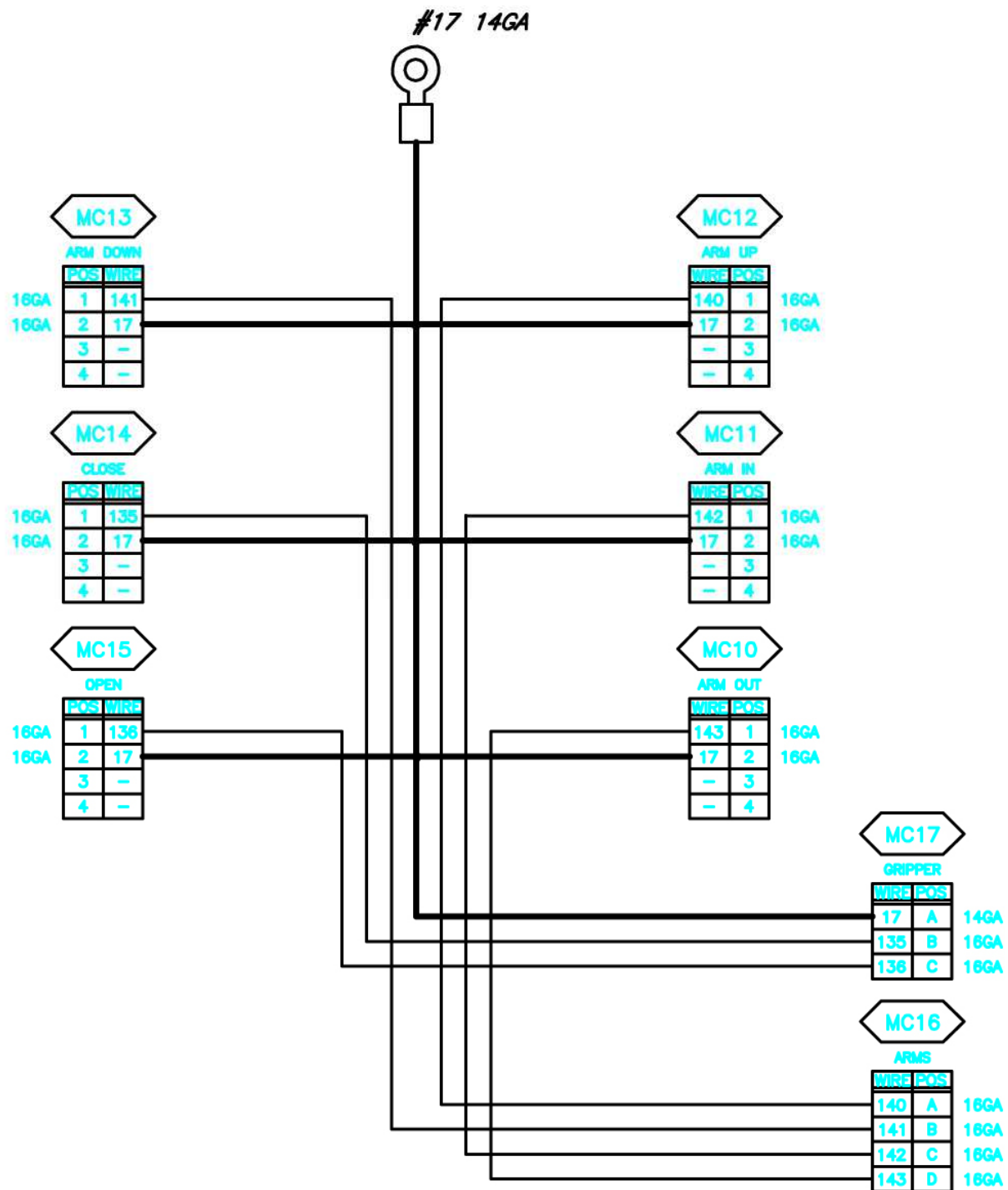




Bill of Material			
1	6	A90265	SOLENOID CABLE
2	1	A90980	1" EYELET
3	1	D72679	4 PIN LOCKING WEATHER PACK
4	1	D72678	3 PIN LOCKING WEATHER PACK
5	9.7 Ft	D50286	14G/7 WIRE CABLE
6	1	A90353	18-14 RECEPTICAL CONNECTOR
7	1	A90352	18-14 PLUG CONNECTOR
8	1 Ft	CC3333	3/8" CABLE COVER



# Electric Harness (Continued)

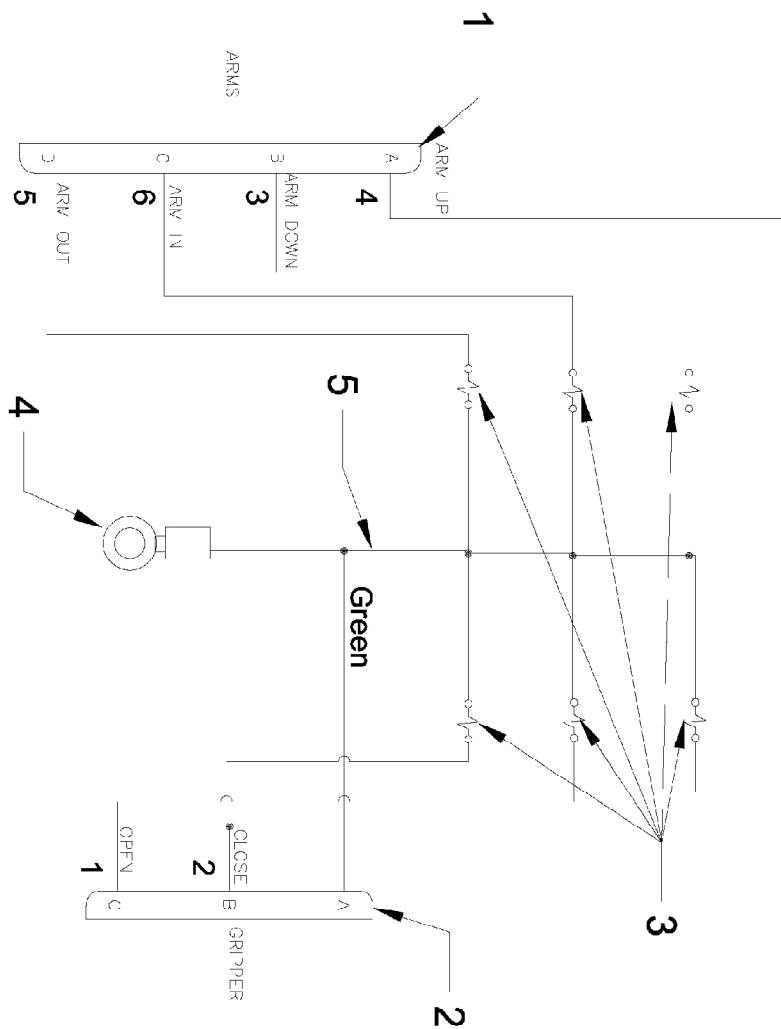


## Electric Harness (Continued)

FIND#	QTY	PART#	DESCRIPTION	TAG
1	6		CAN-PAK 5J 664-A01-USOAN	MC10 MC13 MC11 MC14 MC12 MC15
2	1		3M EPS200 DUAL WALL HEATSHRINK OR EQUIV - 2" 34124 TE 14-16 1/4" DIA OR EQUIV.	
3	1		PACKARD WEATHER PACK 4 PIN SHROUD 12020830 TERM, FEMALE, 12020830 SEAL, 15324982	MC16
4	1		PACKARD WEATHER PACK 3 PIN SHROUD 12020827 TERM, FEMALE, 12020830 SEAL, 15324982	MC17
5	A/R	-	VINYL BRAID 12PPI	-

WIRE LEGEND	
DESCRIPTION	CIRCUIT
(17 GROUND) WIRE, BLACK GXL	17
(135 GRIP CLOSE), WIRE, GRAY, GXL	135
(136 GRIP RELEASE), WIRE, WHITE GXL	136
(140 LIFT UP), WIRE, GRAY, GXL	140
(141 LIFT DOWN), WIRE, BROWN, GXL	141
(142 SLIDE IN), WIRE, BROWN, GXL	142
(143 SLIDE OUT), WIRE, GRAY, GXL	143





Bill of Material				
1	1	D72679	4 PIN LOCKING WEATHER PACK	
2	1	D72678	3 PIN LOCKING WEATHER PACK	
3	6	A90265	SOLENOID CABLE	
4	1	A90980	$\frac{1}{4}$ " EYELET	
5	21	D63456	14G GREEN WIRE	In





## BUCKET

IN	DOWN	OPEN
OUT	UP	CLOSE

VALVE

## CABLE, 10'

CONNECTOR	1	A	WHITE - NEGATIVE
	2	B	RED
	3	C	GREEN

CONNECTOR	1	A	WHITE W/ BLACK
	2	B	BLACK
	3	C	BLUE
	4	D	ORANGE

A - WHITE - NEGATIVE  
B - WHITE/BLACK DOWN  
C - RED CLOSE  
D - GREEN OPEN  
E - BLUE IN  
F - ORANGE - OUT  
G - BLACK - UP



## 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.

**Do not lift anything that grabbers can't 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.**

The Grabboxx is designed to lift and dump plastic bins, 30-96 gallon in size. Do not use the Grabboxx to lift other objects, as those objects might break free from the grasp of the gripper arms and this can lead to injury or damage. For example, attempting to lift an appliance may cause pieces of the appliance to go flying, so this is not recommended.

Do not use the equipment as steps, they are **not to be used to lift people**. Do not use the Grabboxx to help lift a commercial container, or to crush/breakdown an item. Do not use the arm of the Grabboxx to try to compact/push trash down into the hopper. Doing so can cause serious damage or injury and will void the warranty.

Do not use the controls to shake the Grabboxx arm. 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. It is the operators responsibility to watch the work area and make sure there are no one nearby while the equipment is in use.

When inspecting the unit's structure and hardware, make sure the hydraulics are off and depressurized. If performing a repair or replacement of a component, do not leave any portion of the equipment suspended freely. Always secure components with a hoist/crane, so that nothing can fall down suddenly.

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.



# 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 Graboxx arm through all positions to verify correct function.
- ☐ Replace any hardware that is missing, tighten any hardware which is loose.
- ☐ Check rubber pad condition and replace if worn beyond use.
- ☐ 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 Graboxx arm are self-lubricated. Most pivot points contain grease zerks to allow greasing as needed.

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

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. Refer to pages 14-21 for location of wear items.

Item	Part Number	Description	Qty.
	D38027	Large Composite Slide Block	2
	D38366	Short Composite Slide Block	2
	CC7150	Rubber Bumper w/Plate	2
	D72226	IGUS composite self-lubricated bearing 1x1	20
	D38363	Rubber Flap (Dump over)	1
	D38559	UHMW Face	1
	D72404	IGUS composite self-lubricated bearing 1.25 x 1.25	8
	D38399	Rubber Belt - Gripper	2
	D37751	UHMW Roller – Gripper Tips	4
	D72614	2" dia Cam Roller	4
	D73314	1 ¾" dia. Cam Roller	2

*Wear items are not covered by warranty.*

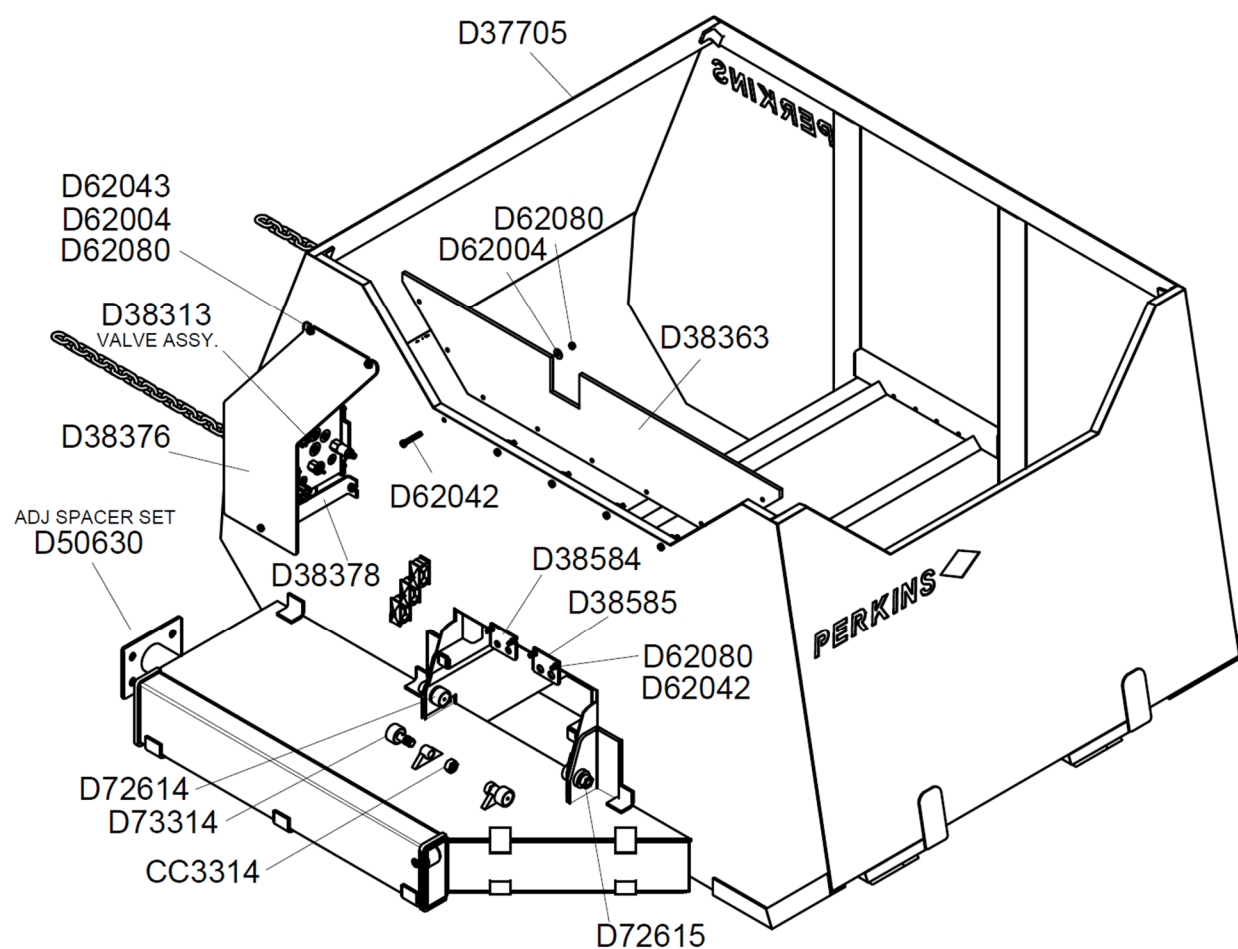


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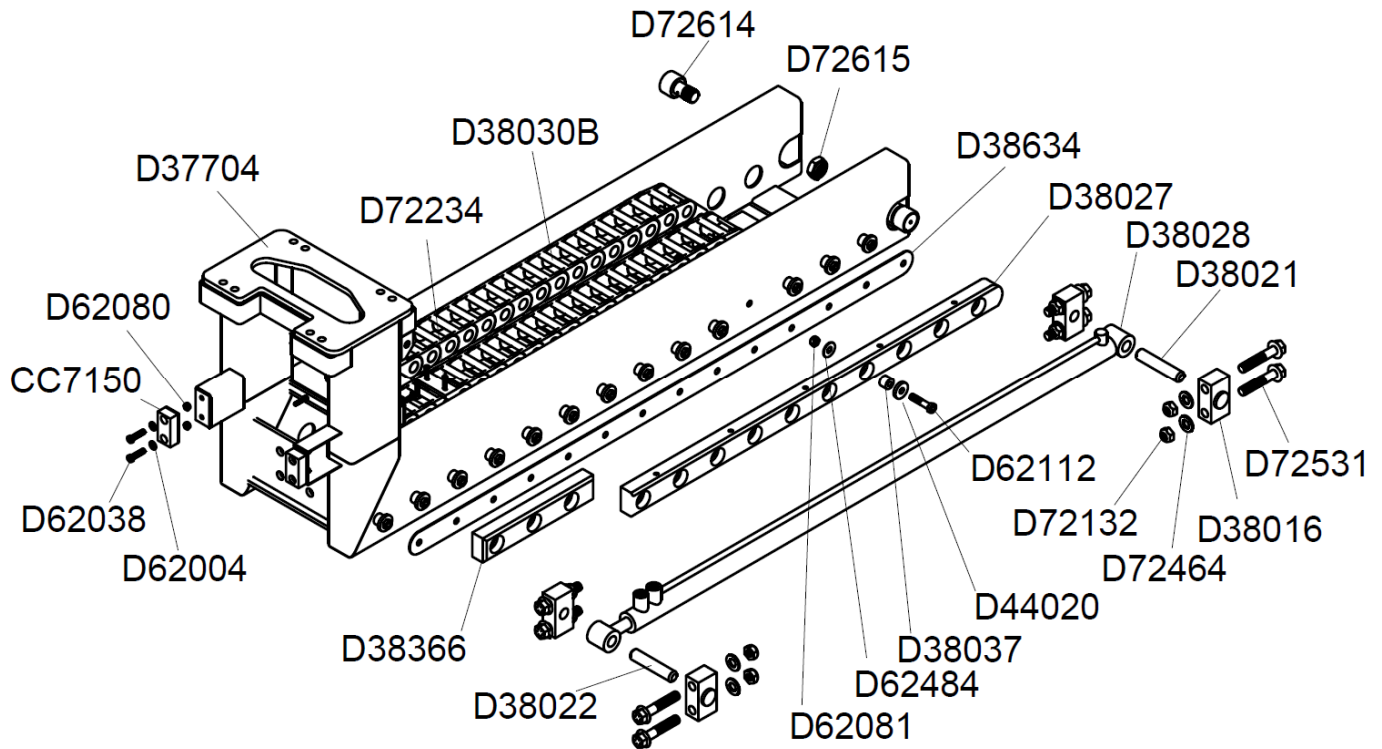
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**Fig 1 Can Body**





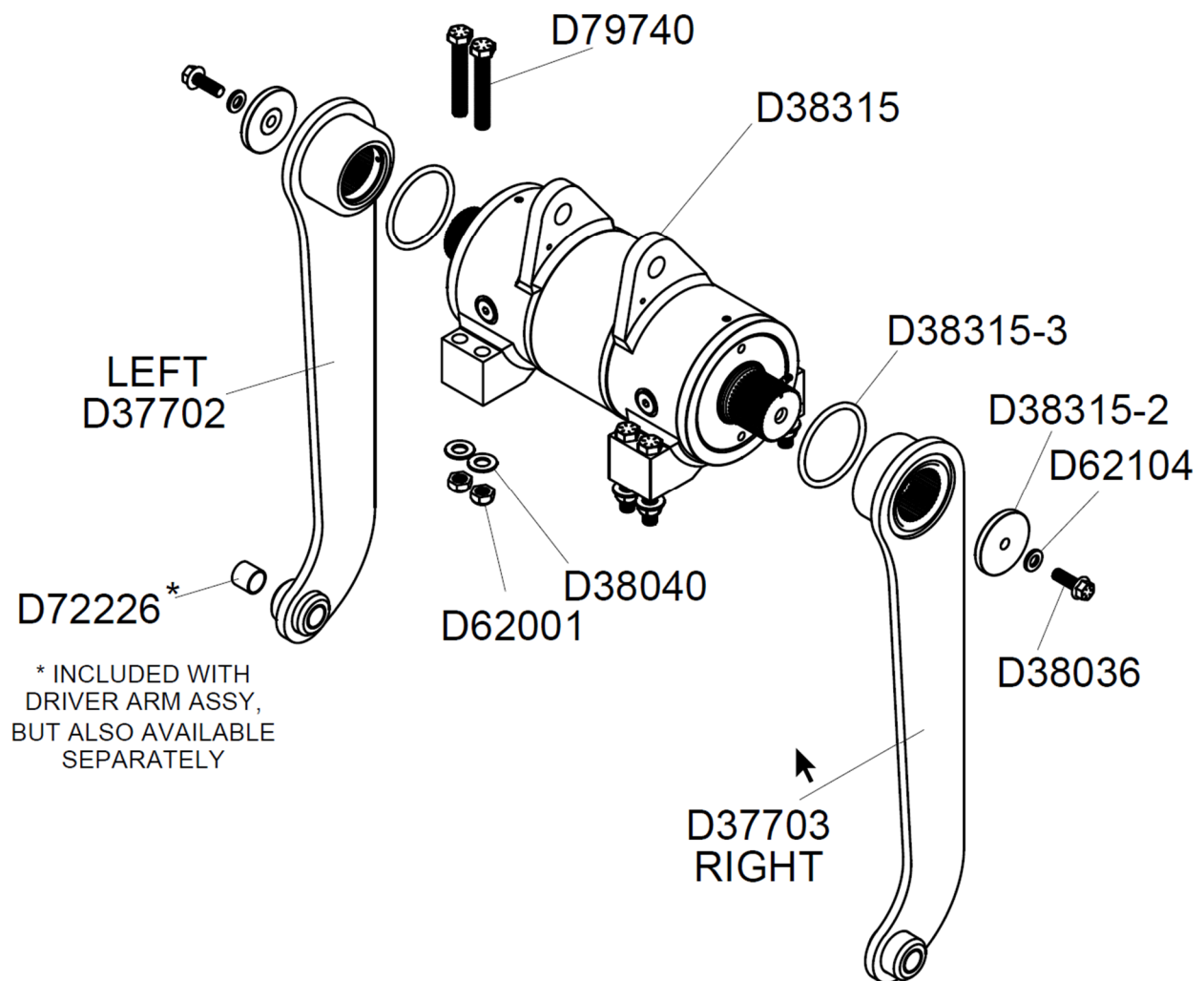
**Fig 2 Extension slide section**



- Tighten bolt #21 / nut #17 using a torque wrench to 110 ft-lbs.
- Tighten bolt #15 / nut #14 using a torque wrench to 210 ft-lbs.



**Fig 3 Actuator and driver arm section**



- Tighten bolt #28 / nut #26 using a torque wrench to 210 ft-lbs.
- Tighten bolt #33 using a torque wrench to 110 ft-lbs.



**Fig 4 Idler arm section**

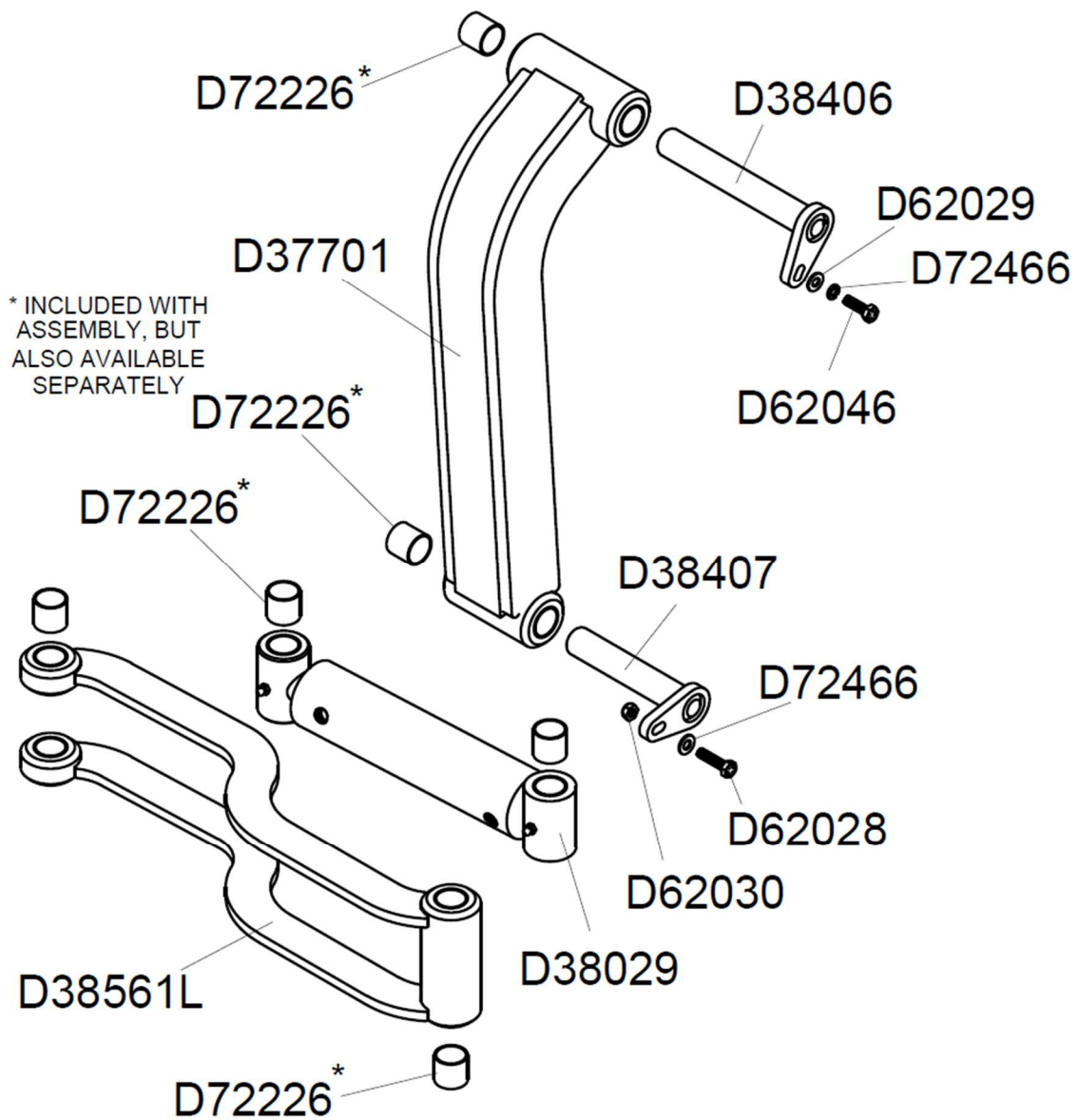


Fig 6 Faceplate section

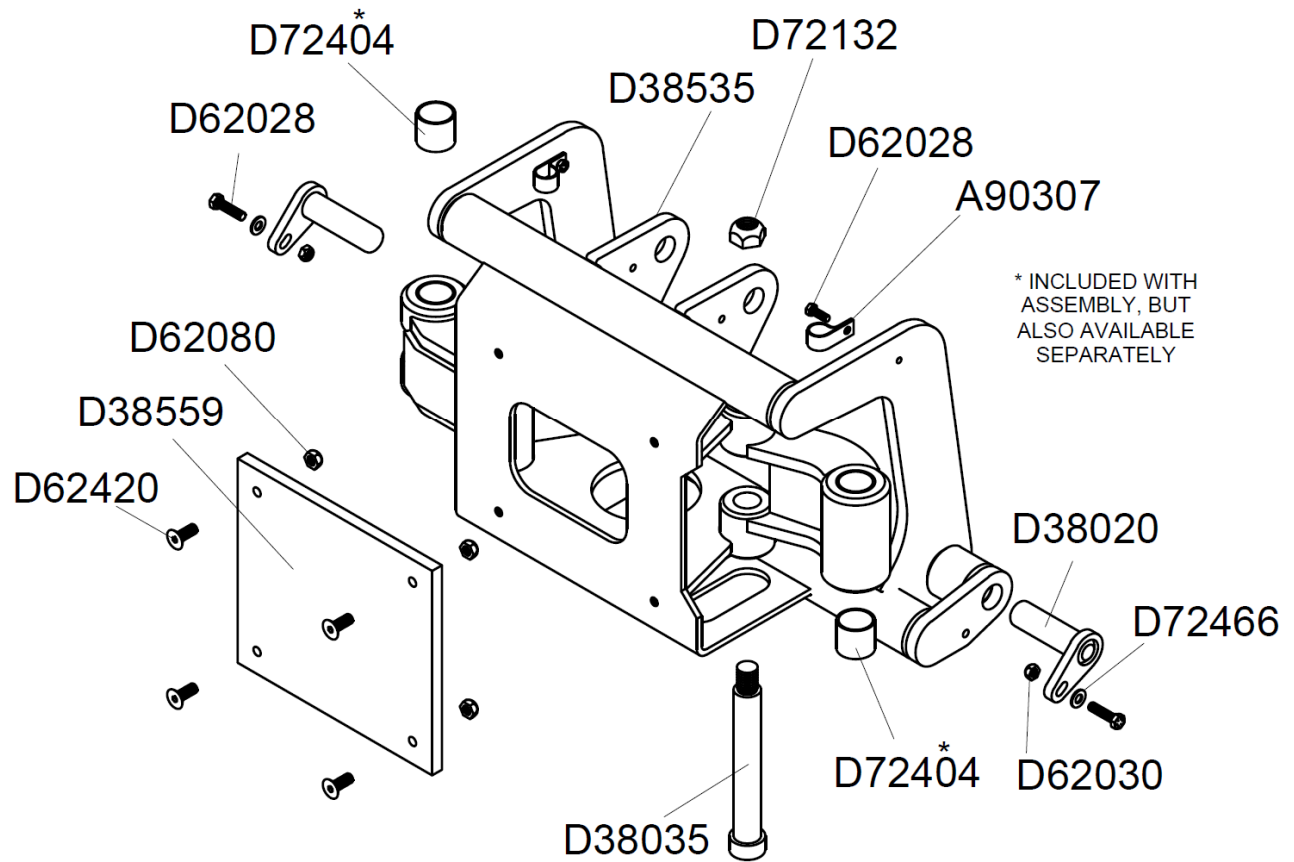


Fig 7 Left-hand gripper arm section

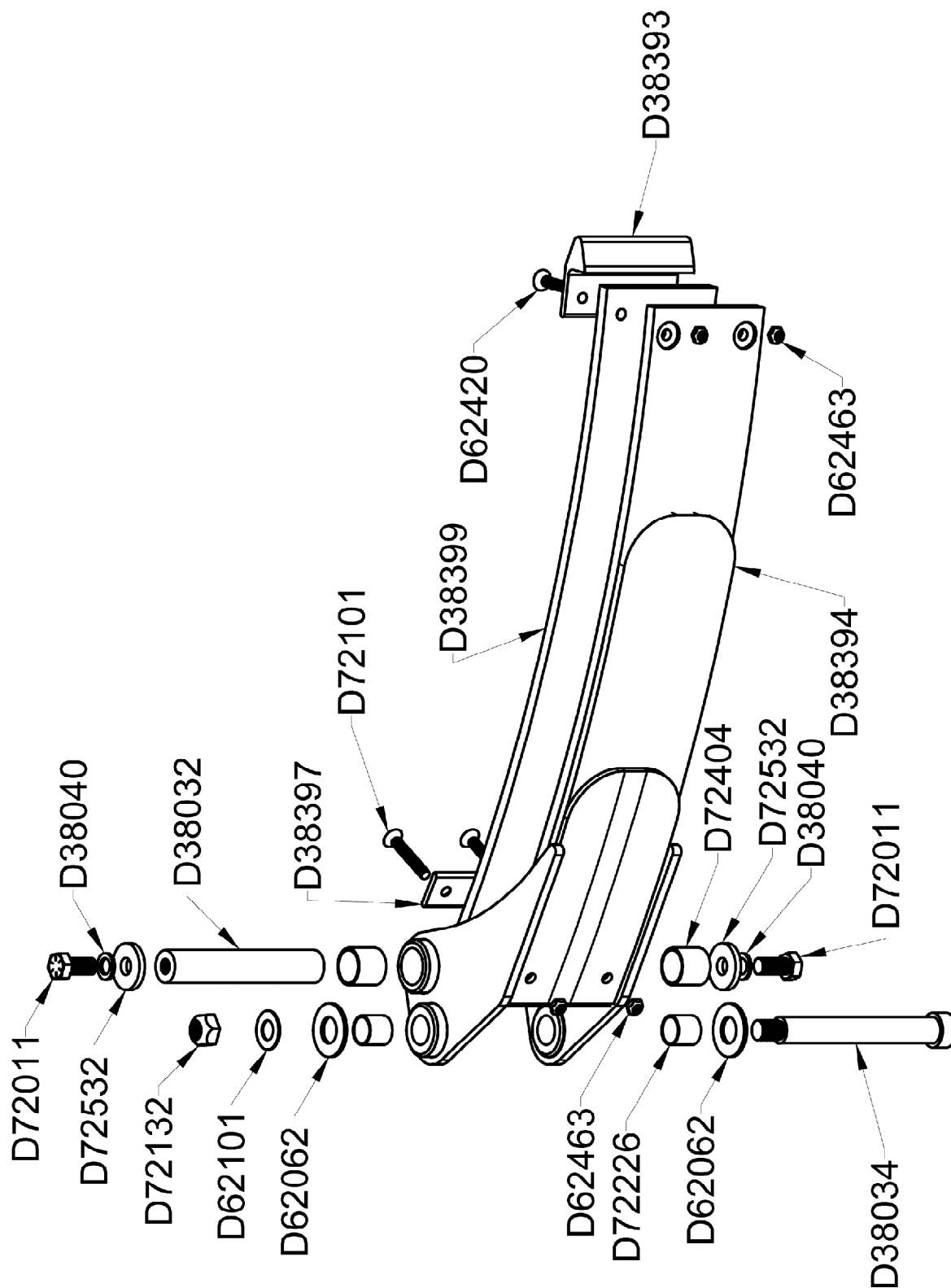


Fig 8 Right-hand gripper arm section

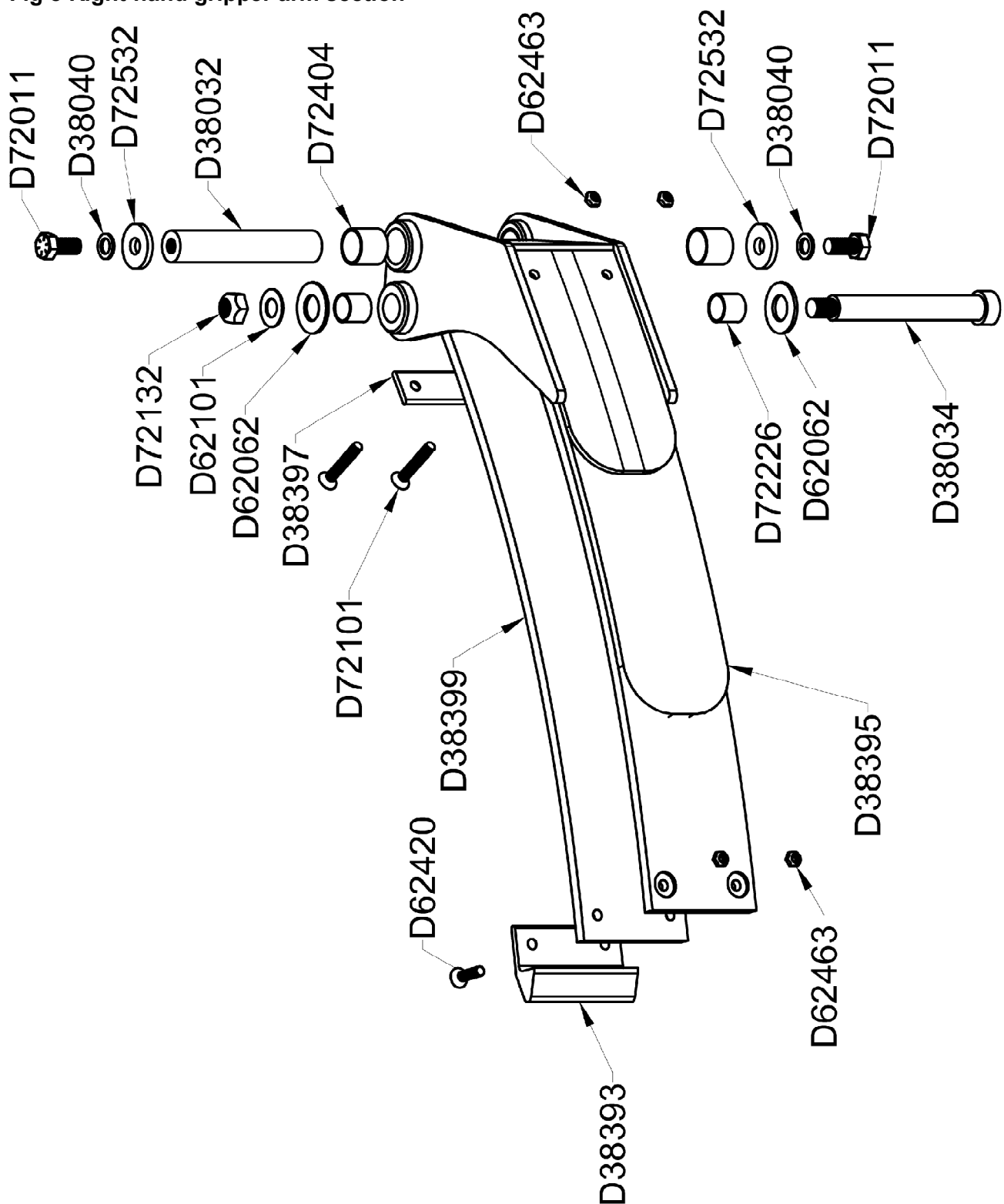
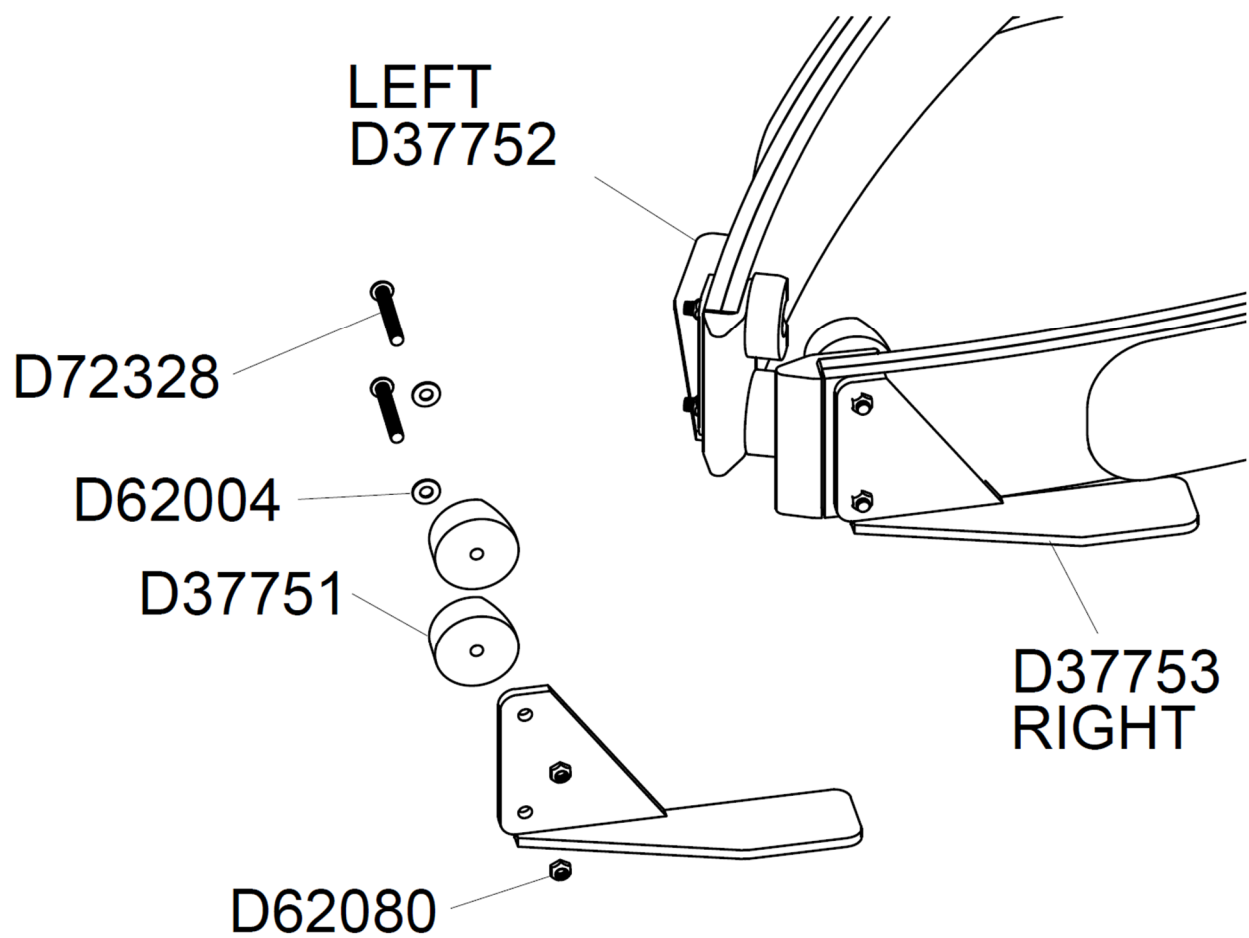




Fig 9 Gripper Arm Tip Addendum



## Parts List

Part number	Description	Qty.
D38315-2	RETENSION DISC - ECO-MAXX ACTUATOR	2.0
D38315	HKS 32K ACTUATOR - LARGE SHAFT, DOUBLE MOUNTING -	1.0
D38027	LARGE SLIDE BLOCK (REV C)	2.0
D38021	PIN EXTENSION CYL ANCHOR Ø1 X 5 3/16	1.0
D38022	PIN EXTENSION- ROD END Ø1 X 5	1.0
D38028	EXTENSION CYLINDER 1.5" BORE X 48" STROKE (REV C)	1.0
D38029	HYDRAULIC CYLINDER 2" BORE X 4" STROKE (REV C)	1.0
D38030B	LRG PLASTIC HOSE GUIDE CHAIN (REV B)	2.0
D38034	SHOULDER BOLT Ø1 X 7, S.S.	2.0
D38035	SHOULDER BOLT Ø1 X 6 1/2, S.S.	1.0
A90307	VIBRATION-DAMPING LOOP CLAMPS, 3/4" ID	2.0
CC7150	RUBBER BUMPER W/ PLATE (REV A)	2.0
D38016	CYL ANCHOR WELD	4.0
D38037	STEEL INSERT	26.0
D72526	PERKINS GRABOXX LABEL KIT	1.0
D38535	FACEPLATE WELDMENT (REV D)	1.0
D38559	UHMW FACE PAD (REV A)	1.0
D72531	FLANGE HEAD 3/4-10 x 4 BOLT, ZINC PLATED	8.0
D72464	NORD-LOCK LOCKWASHER 3/4	8.0
D72132	LOCKNUT 3/4-10, GR 8, ZINC PLATED	11.0
D44020	RETENSION DISC	26.0
D62484	USS FLATWASHER 1/2 x 1.37 OD ZINC PLATED	26.0
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	34.0
D79740	BOLT HHCS 5/8-11 X 4 GR8, ZINC PLATED	8.0
D62001	LOCKNUT 5/8-11 DISTORTED THREAD, GRADE 8, ZINC-	8.0
D38040	NORD-LOCK LOCKWASHER 5/8" (REV A)	12.0
D72042	BOLT HHCS 1/2-13 X 2 1/2, GR8, ZINC PLATED	4.0
D62008	SAE FLATWASHER 1/2 X 1.06 OD ZINC PLATED	12.0
D38036	FLANGE HEAD 1/2-13 X 1 1/2	2.0
D62104	NORD-LOCK LOCKWASHER 1/2" x.17" THK	2.0
D72530	NARROW WASHER - 1/2 ID x 23/32 OD	4.0
D62038	BOLT HHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	4.0
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	21.0
D72005	BOLT FHCS 3/8-16 X 1 ZINC PLATED	6.0
D72234	BOLT HHCS 1/4-20 X 3/4 GRADE 8, ZINC PLATED	6.0
D62018	SPLIT LOCKWASHER 1/4" GR 8, ZINC PLATED	2.0
D72159	PLASTIC DUAL CLAMP TIE	4.0
D62457	LOCKNUT 1/4-20 GR8 ZINC PLATED	12.0
D62103	SAE FLATWASHER 1/4 X 5/8 OD ZINC PLATED STEEL	8.0
D62413	BOLT HHCS 1/4-20 X 1 GR8 ZINC PLATED	4.0
D72532	RETAINING DISC - 1.75 OD X .656 HOLE X .25 THICK	4.0
D62101	SAE FLATWASHER 3/4 X 1.5 OD ZINC PLATED	2.0



## Parts List

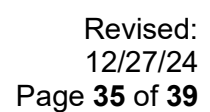
Part number	Description	Qty.
D62062	SAE FLATWASHER 1 x 2 OD ZINC PLATED	4.0
D62046	BOLT HHCS 5/16-18 X 1" GRADE 8, ZINC PLATED	1.0
D62029	SAE FLATWASHER 5/16 x .688 OD (ZINC PLATED)	8.0
D72466	NORD-LOCK LOCKWASHER 5/16	1.0
D62028	BOLT HHCS 5/16-18 X 1 1/4 GR8, ZINC PLATED	3.0
D62030	LOCKNUT 5/16-18 GRADE 8 ZINC PLATED	8.0
D38313	3-FUNCTION CONTROL VALVE ASSY, 2-PROPORTIONAL, 1	1.0
D38406	LONG IDLE PIN WELD (TOP) Ø1 X 6 13/16 (REV A)	1.0
D38407	SHORT IDLE PIN WELD (BOTTOM) Ø1 X 5 1/4 (REV A)	1.0
D38020	LOWER DRIVER PIN WELD Ø1 X 3 1/4 (REV A)	2.0
D38032	GRIPPER ARM PIVOT PIN, DOUBLE THREADED Ø1 1/4 X 6	2.0
D38315-3	EXTERNAL O-RING SEAL, SHAFT GUARD, EXCLUSION SEAL	2.0
D38316	ELECTRICAL HARNESS - SOLENOIDS ECO-MAXX	1.0
D72011	BOLT HHCS 5/8-11 X 1 1/4 GR8, ZINC PLATED	4.0
D72544	BOLT HHCS 5/16-18 X 5 3/4 ZINC PLATED, GR 8	4.0
D63124	BULKHEAD ELBOW 90°, #6MT - #6MT	2.0
D63214	BULKHEAD 90, #8MT BOTH ENDS	2.0
D38585	#8 BULKHEAD PLATE	1.0
D38584	#6 BULKHEAD PLATE (REV A)	1.0
D72546	ELBOW 90°, #12MO - #12MT	2.0
D63491	SERIAL NUMBER PLATE	1.0
D72009	DRIVE SCREW #6-3/8 PLATED	4.0
D38363	RUBBER FLAP	1.0
D62042	BOLT HHCS 3/8-16 X 2 GRADE 8 ZINC PLATED	9.0
D38366	COMPOSITE SLIDE BAR EXTENSION (REV B)	2.0
D72614	CAM ROLLER 2"	4.0
D72615	LOCKNUT 1 1/8-12 THIN GR 5 ZINC PLATED	4.0
D72649	#6 HYDRAULIC HOSE ASSY X 48" W/ PARKER SPIRAL WRAP	1.0
D72650	#6 HYDRAULIC HOSE ASSY X 50" W/ PARKER SPIRAL WRAP	1.0
D72651	#6 HYDRAULIC HOSE ASSY X 120"	2.0
D72652	#8 HYDRAULIC HOSE ASSY X 115"	2.0
D72653	#6 HYDRAULIC HOSE ASSY X 36"	2.0
D72654	#10 HYDRAULIC HOSE ASSY X 39"	2.0
D72655	#8 HYDRAULIC HOSE ASSY X 40"	2.0
CC3056	ADAPTER #10MO - #10MT	4.0
D72644	ADAPTER #8MO - #8MT 2.7" LONG BODY	2.0
D63074	ADAPTER #6MT - #6MO	2.0
D72535	ADAPTER #8MP- #12MT	2.0
D63014	HOSE CLAMP SET #8 (DUAL HOSE)	4.0
D38375	#8 HYDRAULIC HOSE ASSY X 78"	1.0



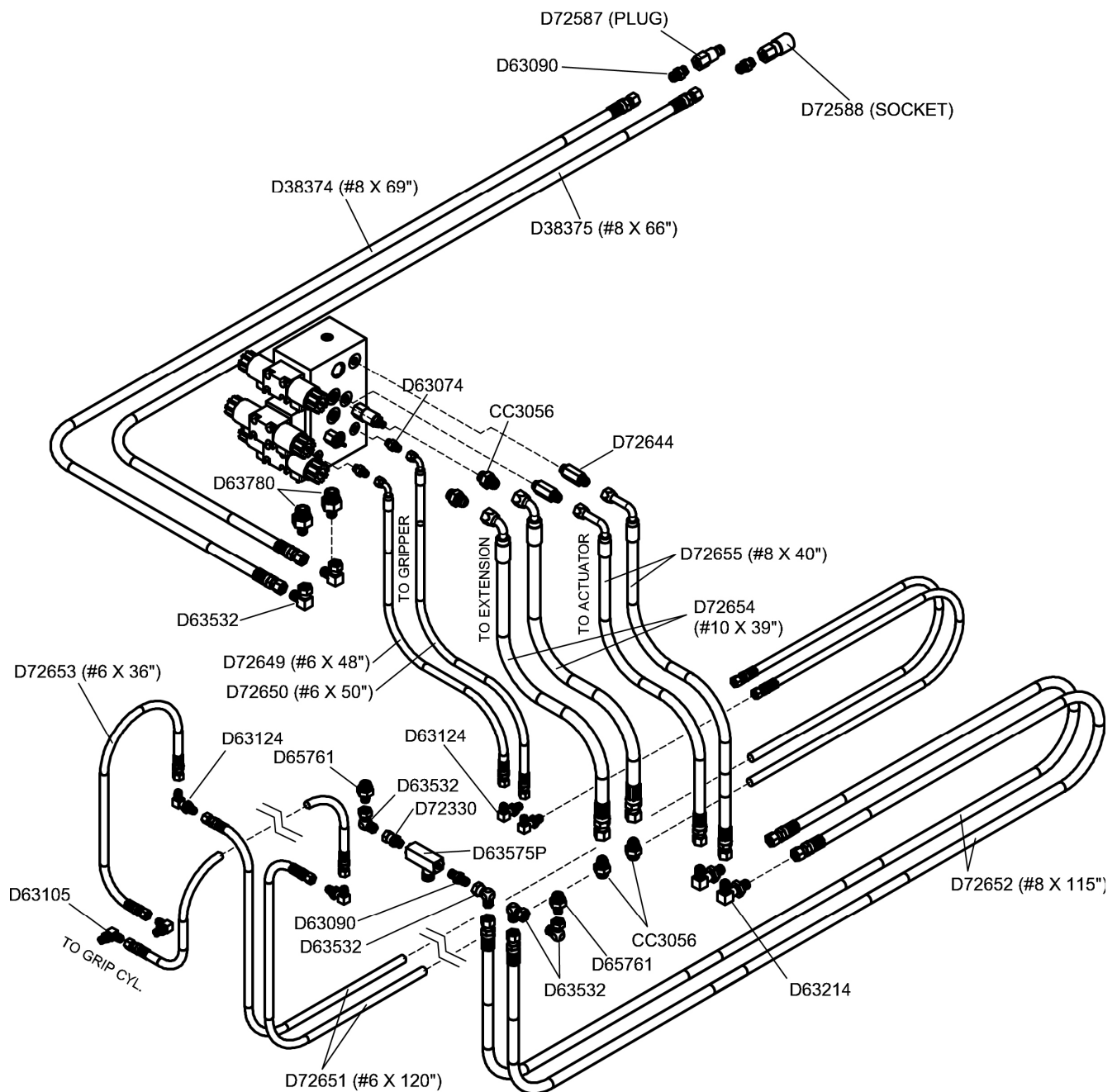
## Parts List

Part number	Description	Qty.
D38374	#8 HYDRAULIC HOSE ASSY X 81"	1.0
D63780	ADAPTER #12MO - #8MT	2.0
D63532	ELBOW 90°, #8FT - #8MT	6.0
D38376	MAIN COVER PLATE - VALVE SECTION PROTECTOR (REV B)	1.0
D38378	BOTTOM RIGHT COVER PLATE BRACE	1.0
D62004	USS FLATWASHER 3/8 X 1 OD ZINC PLATED	15.0
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	2.0
D62043	BOLT HHCS 3/8-16 X 3/4 GR8, ZINC PLATED	4.0
D62112	BOLT HHCS 1/2-13 x 2 1/4 GR8, ZINC PLATED	26.0
XF540042	1/2 PLUG FOR PENDANT XF CONTAINERS	6.0
D38634	SIDE STRIP (REV A)	2.0
D38399	RUBBER BELT - ULTRATHIN ARMS	2.0
D38397	BELT ANCHOR CONNECTING PLATE	2.0
D38395	ULTRATHIN ARM ASSY - RIGHT HAND	1.0
D38394	ULTRATHIN ARM ASSY - LEFT HAND	1.0
D38393	ULTRATHIN ARM TIP	2.0
D62420	BOLT FHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	4.0
D62463	LOCKNUT 3/8-16 THIN, ZINC PLATED	8.0
D72101	BOLT FHCS 3/8-16 X 2 1/2 GR8, ZINC PLATED	4.0
D38635	QUICK DISCONNECT, 8NPT-8 F ST, 1/2-14 NPSF	1.0
D38636	QUICK DISCONNECT, 8NPT-8 M ST, 1/2-14 NPSF	1.0
D72550	ELBOW 90°, #10FT-#10MT	1.0
D73122	ADAPTER, # 10MO - # 10FT	1.0
D63575-15	ADJUSTABLE FLOW CONTROL PARKER - 15 GPM MAX. #10	2.0
D38637	BRACKET, HARNESS	1.0
D73177	FITTING, #8MP - #8MT	2.0
D72172	BOLT HHCS 1/2-20 X 1 GR 8, ZINC PLATED	2.0
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	3.0
D72238	BOLT HHCS 1/2-13 X 1 3/4 GR8, ZINC PLATED	3.0
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	4.0
D65761	ADAPTER #10MO - #8MT	2.0
D73196	FIXED FLOW CONTROL, 10 GPM	1.0
D73197	FIXED FLOW CONTROL, 16 GPM	1.0
D37701	IDLER ARM WELD, LONG	1.0
D37702	LH DRIVER ARM WELD, LONG	1.0
D37703	RH DRIVER ARM WELD, LONG	1.0
D37704	SLIDE WELDMENT, SHORT (REV A)	1.0
D37705	FULL CAN WELDMENT, W/TALL POCKETS (REV B)	1.0
D73314	1 3/4" DIA CAM ROLLER	2.0
CC3314	LOCKNUT 3/4-16 GRADE L9 FAMALL	2.0



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# Hydraulic Replacements



Perkins Manufacturing Company  
 Creators of the TuckAway® Cart Lifter  
[www.perkinsmfg.com](http://www.perkinsmfg.com)

800-882-5292

Revised:  
 12/27/24  
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# Troubleshooting

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

Check the overall 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 truck's flow valve accordingly to achieve the desired setting.

If the overall speed is good, but the unit rotates 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 max pressure being delivered to the Perkin manifold should be 2200 psi. If it is not, adjust the main pressure relief on truck per the OEM instructions for your vehicle.

The Perkins manifold (shown on page 12) has it's own relief, which should be set to 2000 psi. The maximum capacity of the Grabboxx 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.



### **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 Pads have become worn**

The pads will wear out over time. Pads which are very worn and tattered or frayed may need to be replaced. Rubber pads are wear items not covered by warranty.

### **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.



## Making a warranty claim

**Perkins may issue an RGA# for goods to be returned for inspection, however issuing an RGA# is not an assumption of the warranty being granted. Warranty is never approved until the failure has been analyzed and found to be defective by Perkins staff. You will be invoiced for any replacement parts shipped.**

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. Because the tag is frequently lost, damaged, or painted over, it is a good idea to write down the serial number in this manual at the time of installation.



At right an example of a serial number plates. 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.

Perkins liability in all cases shall be limited to the value of the part/component in question.

Once you have the serial number, please call Perkins Manufacturing at 800-882-5292 for additional instructions to make a warranty claim.

