



Installation & Operational Manual

S3-H01, S6-H01 & S8-H01

Satellite Collection Unit



Perkins Manufacturing Company
Creators of the TuckAway® Cart Lifter
www.perkinsmfg.com

800-882-5292

Revised: 7/5/22
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Specifications

Cart Compatibility – D6071	ANSI Type B, US-Style two-bar carts having a bar to bar dimension of 14 ¾ - 15 ¼”.
Cart Compatibility – D6098b	Most any carts from 35-95 gallon in size as well as 55 gallon barrels
Typical Mounting Application	Pick-up truck with 8’ bed, or chassis mounted.
Flow Rate Requirement	1.5 gpm (12vdc) (Choose a PTO system for faster speeds)
Cycle Time of Cart Lifter	8-10 seconds (up and down) (This time is for 12vdc)
Cycle Time of Dump Body	35 seconds (up and down) (This time is for 12vdc)
Recommended Pressure Setting*	2,000 psi at the pressure relief valve
Optional PTO (Requires a vehicle that is PTO-ready) See your vehicle dealer for details.	8gpm flow for faster speeds. Recommended for high demand applications with optional sweep lids
Weight Capacity of Cart Lifter	325 lbs * Adding chutes or other options can reduce the weight capacity of the tipper.
Weight Capacity of Dump Body	6,000 lbs max (with tarp) 5,000 lbs max (with sweep lid)
Dump Angle	45 degrees from the horizon
Mounting Height	Pick-up truck bed height approx. 33 ¾” off ground
Approximate Unit Weight (not counting packaging)	1,650 lbs (base unit), 4,650 lbs with all options. (Choose a vehicle with an appropriate payload capacity)
Fully Loaded SAT weight with trash	Assuming heaviest SAT, w/ all options, and fully loaded, the loaded system can weigh as much as 10,650 lbs
Warranty	1-year***

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

8’ foot bed required!



It is the customers' responsibility to select a vehicle with the appropriate payload capacity to be able to haul the material you plan to collect. A SAT system is too heavy for light trucks like a Colorado, Silverado, Tacoma, F150, and so on.

If collection speed is an important factor for your operation, consider selecting a PTO to drive your hydraulics faster. A PTO system **REQUIRES** a “pto-ready” transmission. Take care to speak with your vehicle dealer carefully regarding your PTO needs, as the transmission cannot be modified later.



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Bucket Capacities

SAT BODY				APPROX. WEIGHT	TOTAL CARRY	VEHICLE PAYLOAD	CAB TO END OF FRAME*
SIZE	TYPE	BODY	COVER	EMPTY	CAPACITY	REQUIRED	12V / PTO
3	STANDARD	FULL	TARP	1700	3000	4700	109" / 133"
6	STANDARD	FULL	TARP	2000	6000	8000	109" / 133"
6	STANDARD	FULL	SWEEP	2800	5000	7800	109" / 133"
6	STANDARD	SPLIT	TARP	2000	6000	8000	109" / 133"
6	STANDARD	SPLIT	SWEEP	2800	5000	7800	109" / 133"
8	STANDARD	FULL	TARP	2500	6000	8500	109" / 133"
8	STANDARD	FULL	SWEEP	3350	5000	8350	109" / 133"
8	STANDARD	SPLIT	TARP	2500	6000	8500	109" / 133"
8	STANDARD	SPLIT	SWEEP	3350	5000	8350	109" / 133"
8	FOOD WASTE	FULL	LIDS	4250	8000	12250	105" / 129"
10	FOOD WASTE	FULL	LIDS	4750	10000	14750	105" / 129"

These dimensions are minimum requirements for a base install. If you want options that take up rail space, like a platform or power washer or storage box, then add the length of your additional equipment to the minimums shown at left.

Please allow yourself some extra space! It's better to have extra space than not enough. If you aren't sure, ask!

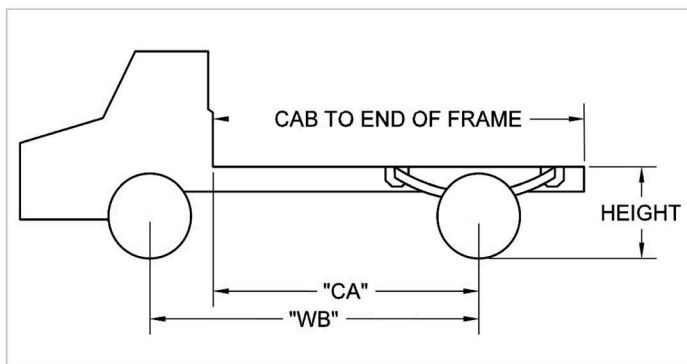
Weights shown above are approximate, based on core models without any options. All Bed Mount units must be 8' bed.

Adding options will add weight. (Cart Lifters, chutes, lights, pressure washer, liftgate, water tank, storage boxes, platforms, bumpers, fenders, etc must be totalled up and added to the "vehicle payload required column.

*PTO powered units need 24" more rail length for the hydraulic tank to mount.

It is the customer's responsibility select the right size truck.

Perkins is not liable for misjudgement.



Note: Adding options reduces the lifting capacity, as the machine then has to lift the additional weight of the option as well as the usual load.

Example: If you add a 45 lb chute to a bin tipper, then the bin tipper can no longer pick up the full load of trash, as it has to now lift trash + chute.

Note: Payload is what the vehicle can carry. Tow capacity is what the vehicle can pull. Payload is a grand total, so payload will include driver, passenger, tools/equipment, plus all options.

Do not overload the vehicle, as this can become hazardous.

Example: Overloaded vehicles can take longer to come to a stop, or might be top heavy and be more likely to tip over if turned rapidly.



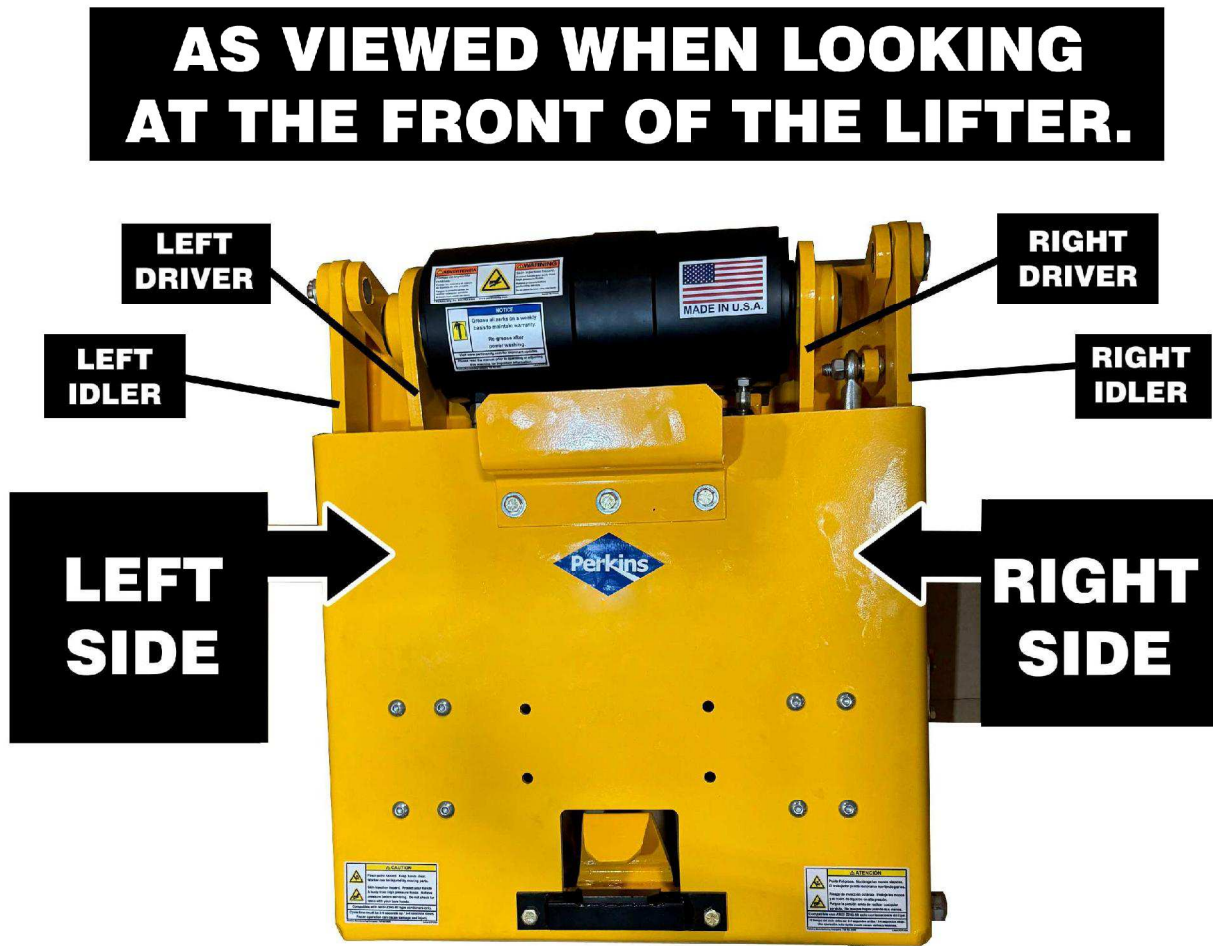
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Addendum

ORIENTATION OF LEFT AND RIGHT HAND SIDES

To eliminate any confusion when discussing “left” and “right”, please see graphic below. Left and Right is that of the observer, when viewing the machine from the front of the machine.



Drivers are always connected to the actuator hubs.

Idlers are not connected to the actuator.

Lifter shown is for example only. Your model may vary in appearance.

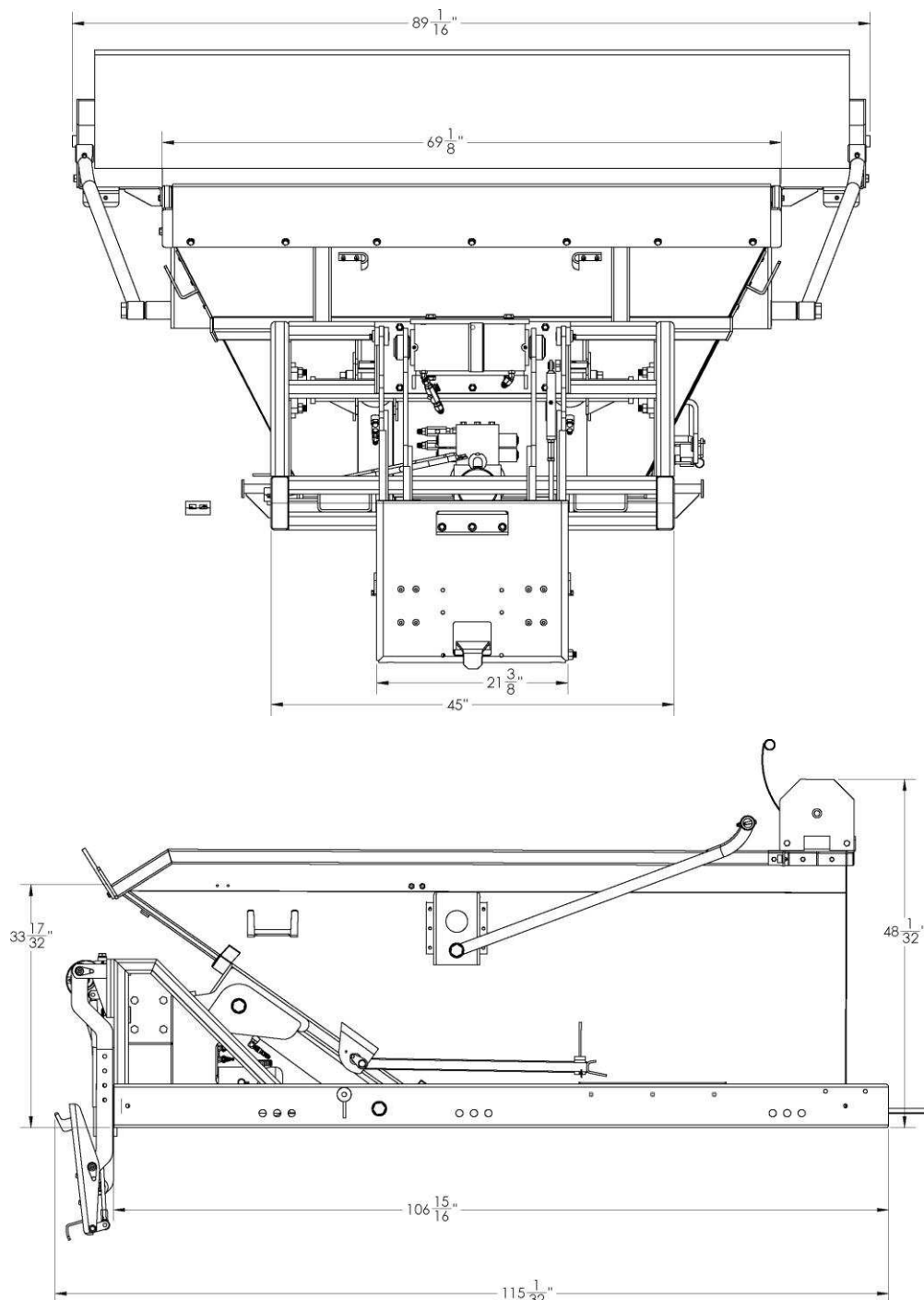


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Addendum

Overall Dimensions - 3-yard Body



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

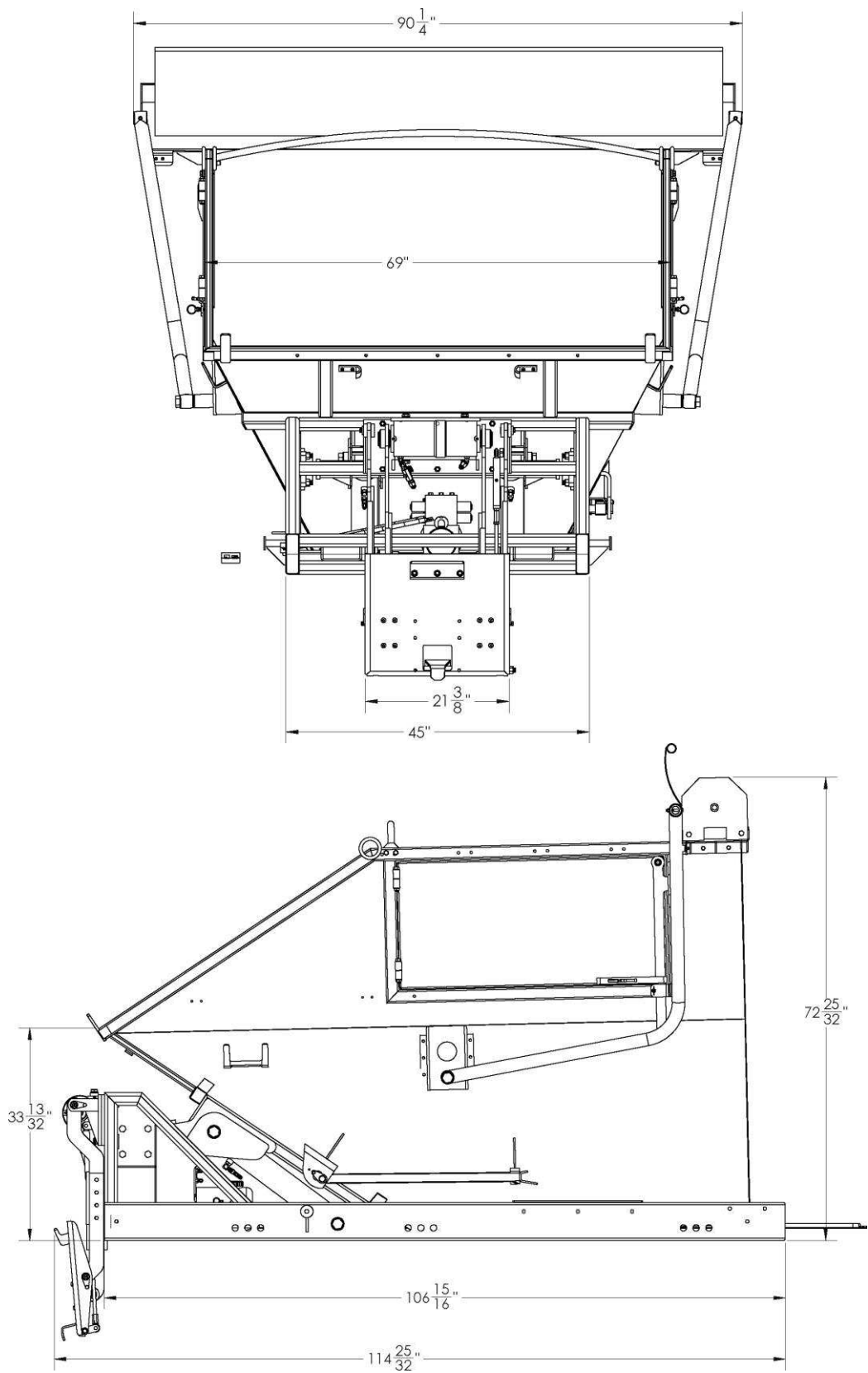


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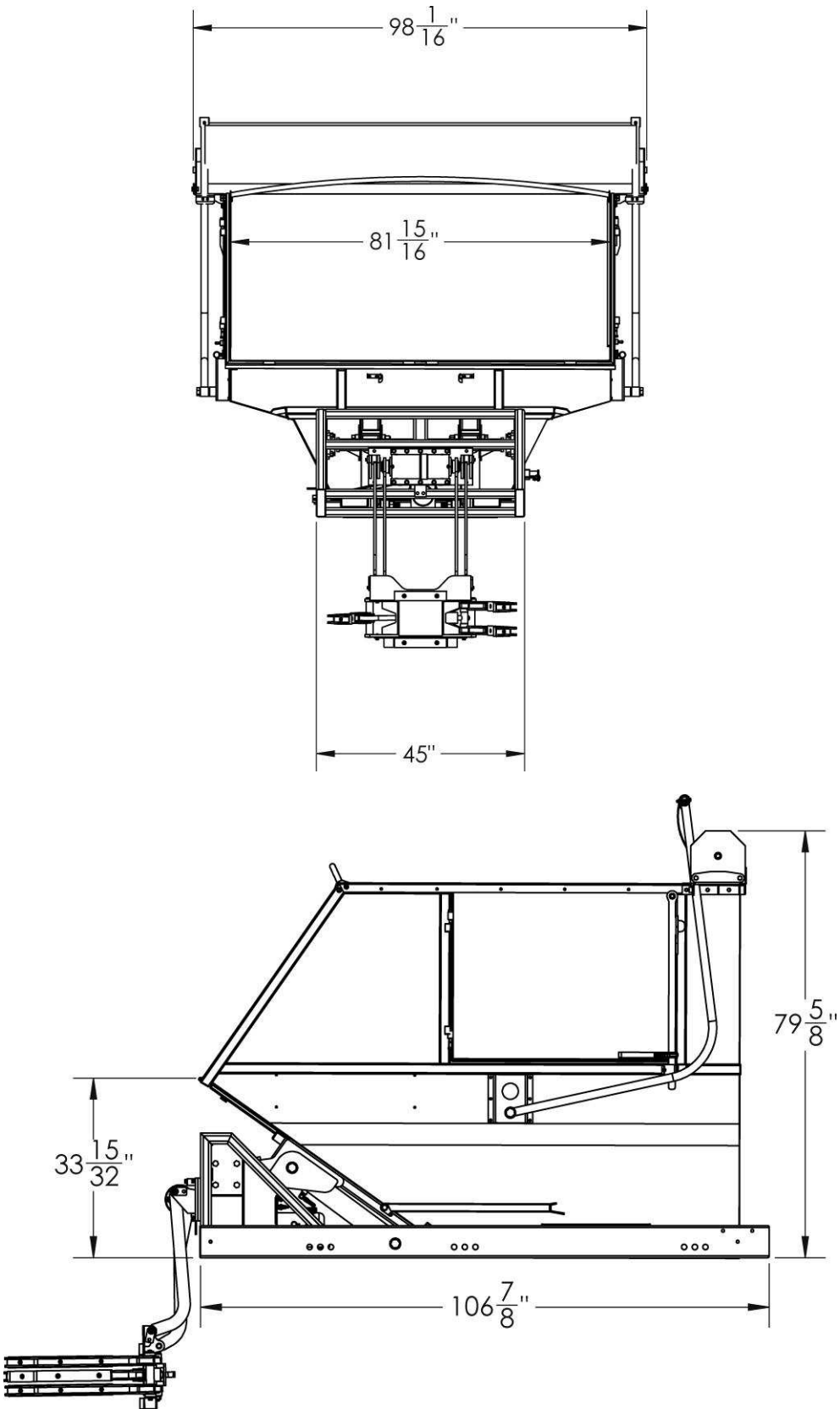
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6-yard Body



8-yard Body



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Glossary of Terms

Cart Types



ANSI Type B carts (US-Style two-bar carts) with a dimension of 14 $\frac{3}{4}$ - 15 $\frac{1}{4}$ " 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.

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.

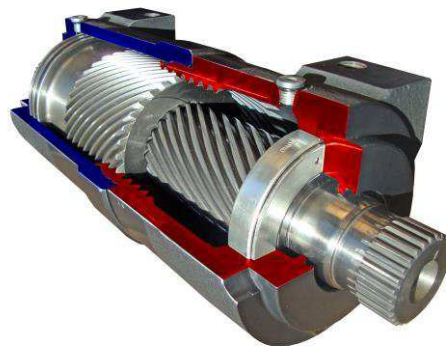
Key Hydraulic Components



OBSOLETE AS OF
NOV. 2014



OBSOLETE AS OF
NOV. 2014



Helical Rotary Actuator

PO Check Valve

Adjustable Flow Control

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.



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Installation Safety

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.
- ✱ Always use proper lifting equipment when positioning equipment during installation.
- ✱ 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.
- ✱ In the event that you are welding, clear the work area of flammable materials.
- ✱ 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.
- ✱ Relocate the license plate or any lights that might be obstructed by the tipper or dump body.
- ✱ Do not paint over caution and warning labels.
- ✱ Do not operate the dump body function unless the mounting brackets are fully anchored to the truck bed.
- ✱ Take care when operating the dump body. Be sure to only operate it on a smooth level surface. Sloped terrain could lead to unbalancing the truck.
- ✱ 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.



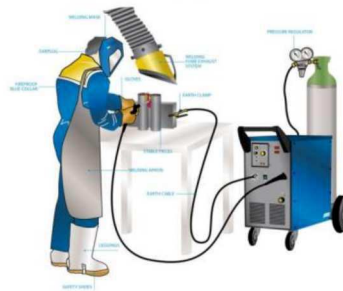
Please be aware of the risks of working with welding equipment and consumables. Always use safety protection equipment. The sparks may ignite fire, always clean the area from flammable material or flammable chemicals, do not weld close to gas lines or on top of electrical cords or installations. Disconnect 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.



Correct and safe electric welding station



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.

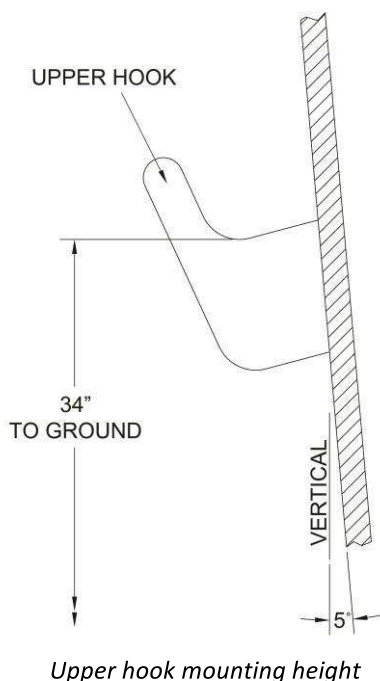


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Determine the Mounting Height



US – Style Hook Lifter

The mounting height is critical to the proper function of any cart lifter. The ideal location for the upper hook is 34" off the ground, when the lifter is positioned so that the faceplate is 5 degrees tilted back from vertical as shown in the diagram at left.

A cart lifter which has been positioned too low may kick carts away before successfully engaging them.

A cart lifter which is mounted too high will make it difficult for the operator to latch the cart at all, causing the operator to have to lift the cart onto the latch.

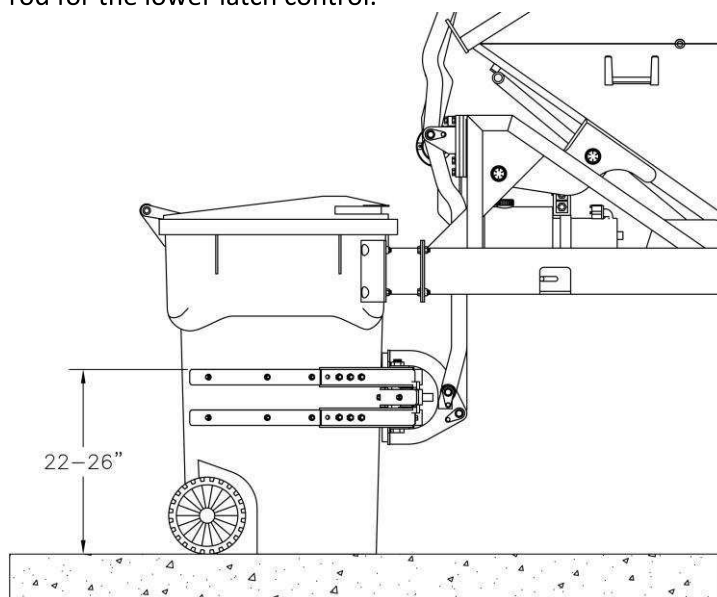
A good mounting height will make latching carts effortless with no lifting or holding the cart in place.

Adjust the driver and idler arm length in order to achieve this 34" dimension. When performing this adjustment, it will be necessary to also adjust the length of the plunger rod for the lower latch control.

Grabber-Arm Style Lifter

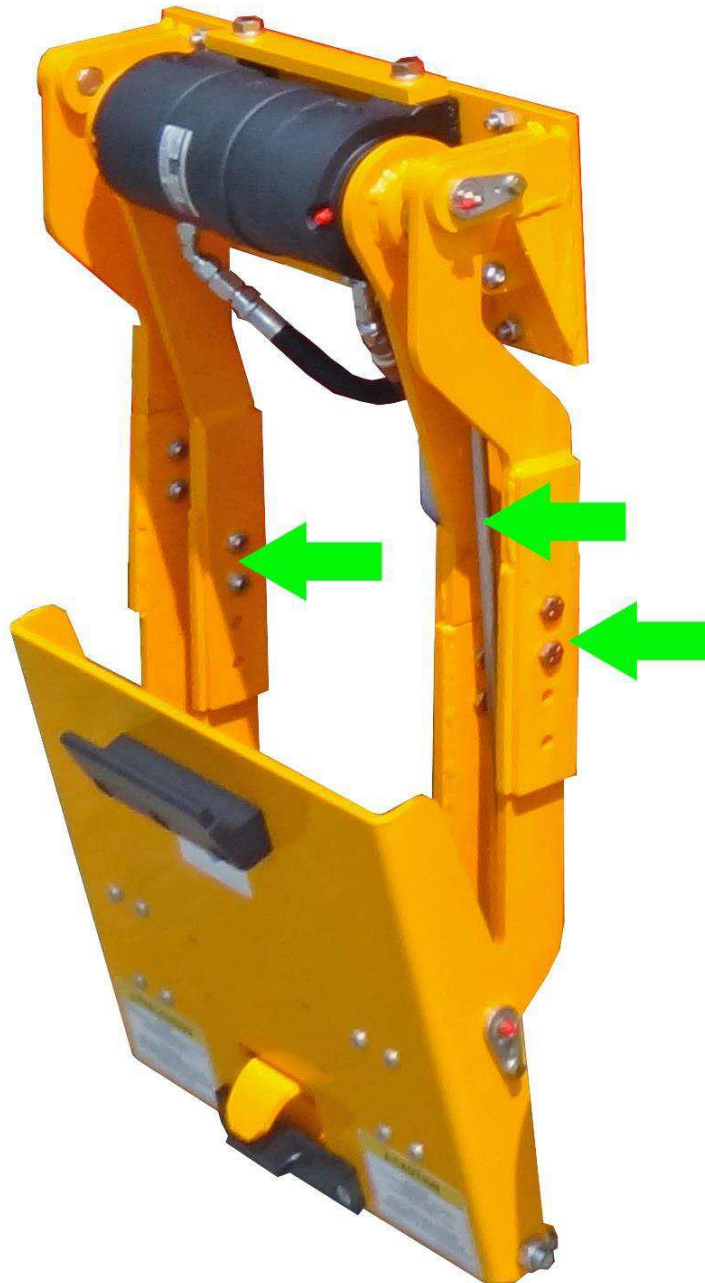
The mounting height of the gripper arms lifter is variable. The top of the gripper arm should be between 22 and 26" from the ground.

There is no adjustment necessary for this type of tipper.



Mounting Height Adjustment (D6071 only)

Adjust the height of the hooks (or gripper arms) by moving the bolt hole locations as indicated by the green arrows for shorter or longer arms, as needed. Also adjust the plunger length and/or the length of the gripper cylinder hoses, as needed for proper function. The height is already adjusted for common pick-up truck sizes, but if your truck differs, adjust prior to operation.

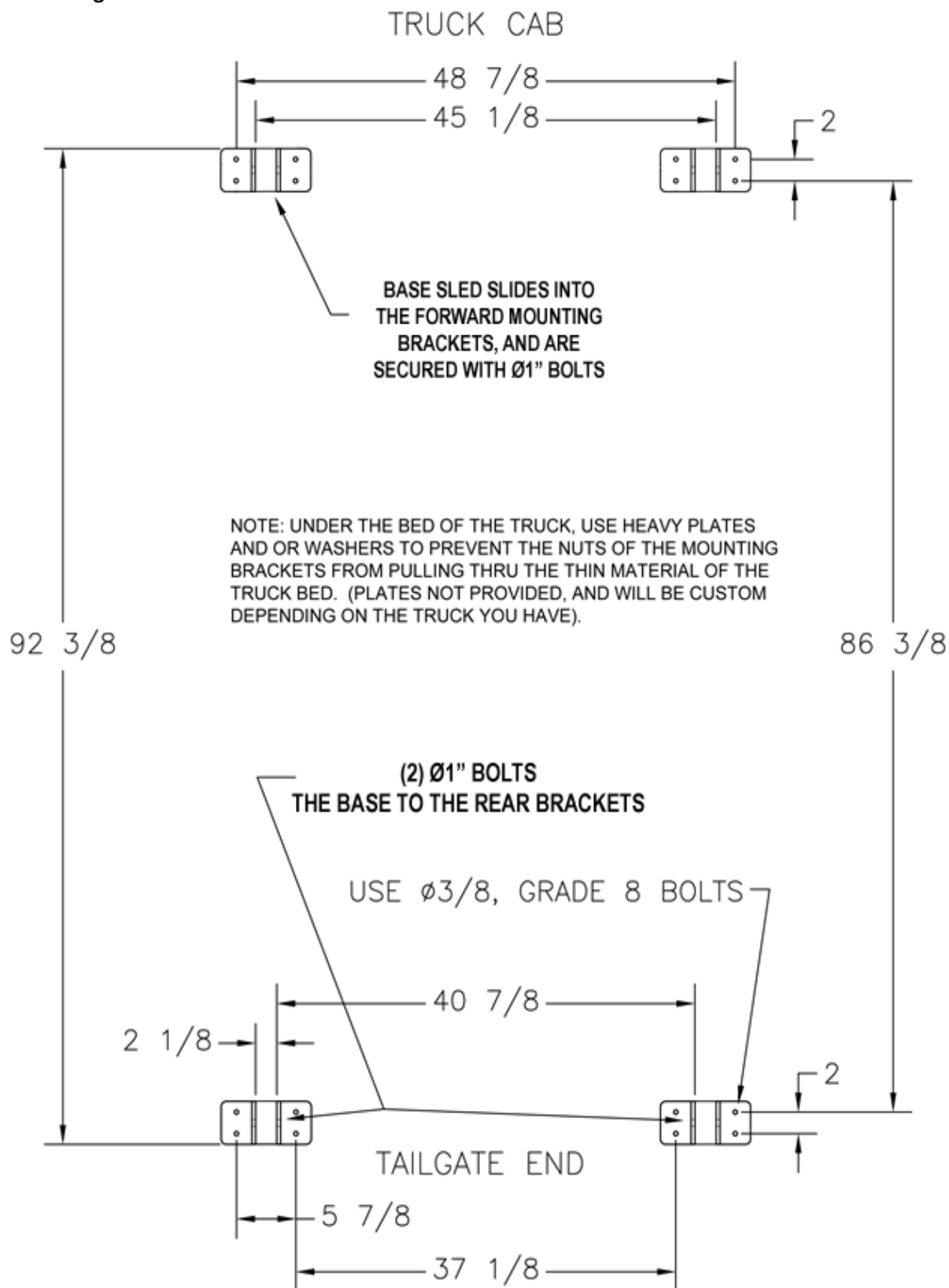


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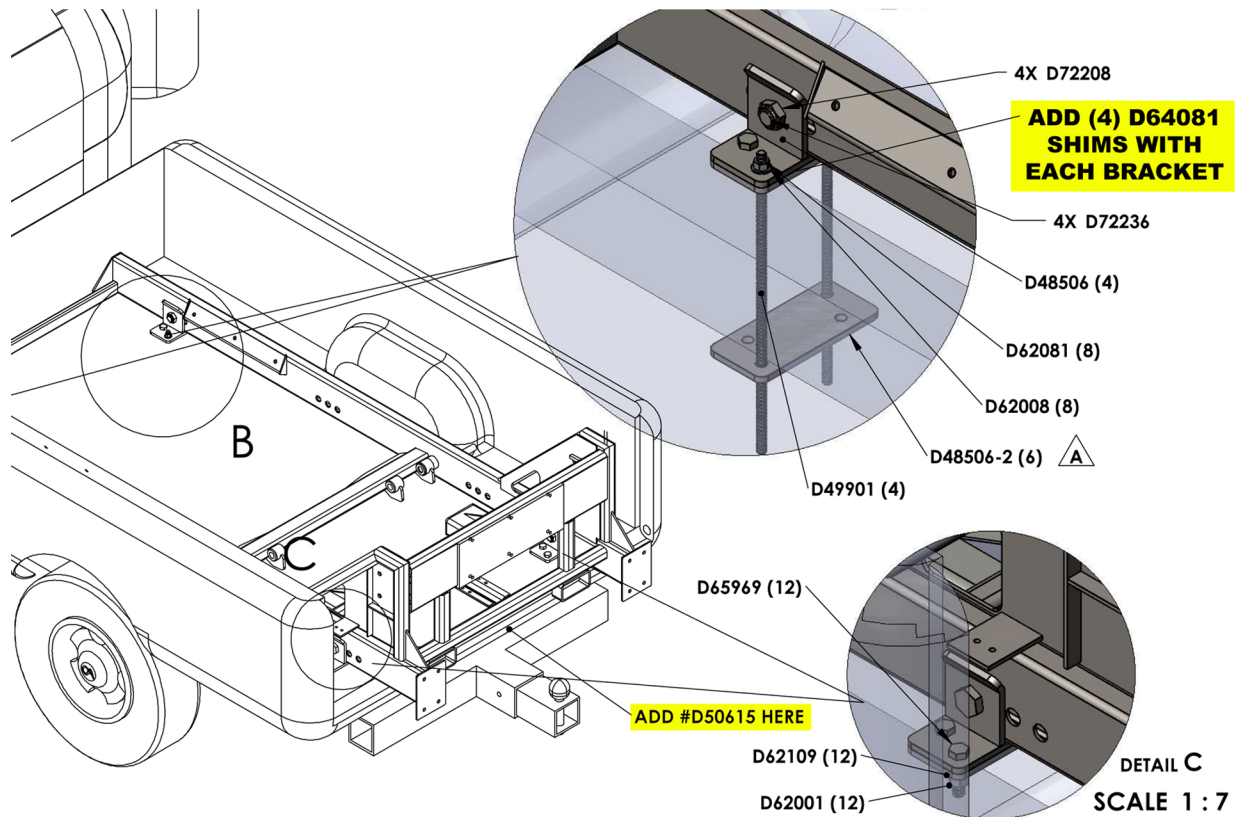
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Mounting Bracket Positions



Mounting Brackets

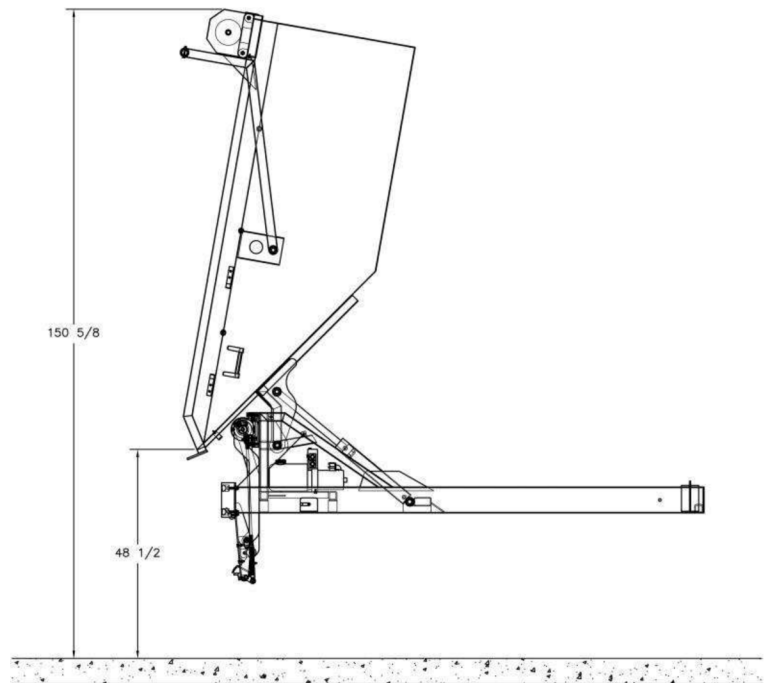


DO NOT OPERATE THE DUMP BODY INTO THE DUMPED POSITION UNLESS THE BASE WELDMENT IS SECURED TO THE PICKUP TRUCK WITH THE MOUNTING BRACKETS FIRMLY IN PLACE & ANCHORED TO THE BED.

The dump body does get high when in the dump position. Be cautious and make sure there are no overhead obstructions, or overhead cables above the dump body while raising it.

The mounting bracket behind the cab simply hold the base down. The pull pins towards the rear of the truck will secure the machine from sliding or moving.

If truck chassis frame is wider than D48506-2 mounting holes a custom lower plate must be made for proper mounting.



**WATCH FOR OVERHEAD OBJECTS AND POWER LINES.
OPERATE DUMP BODY ON LEVEL TERRAIN ONLY.**

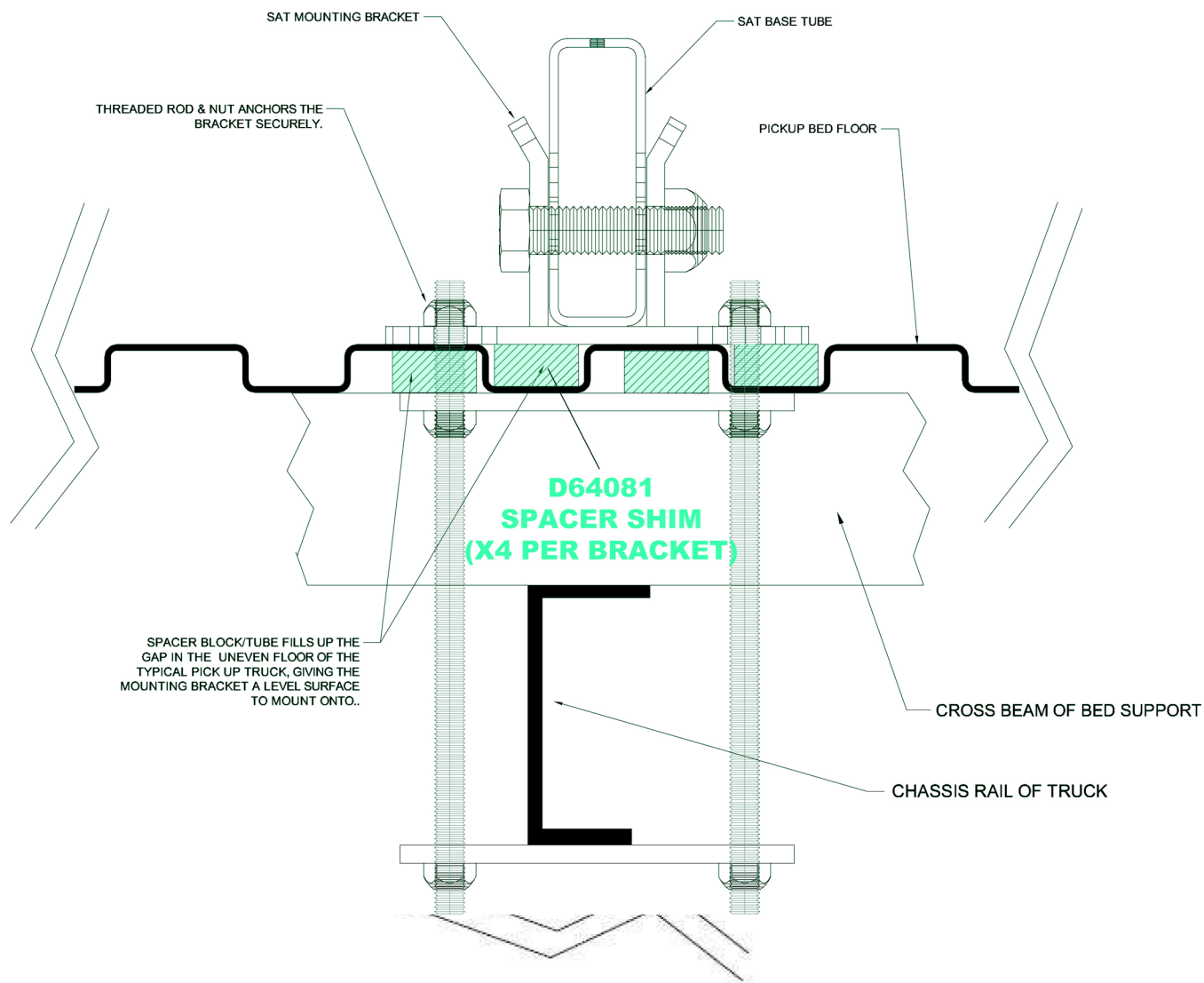


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FRONT (2) MTG BRACKETS (BEHIND CAB)

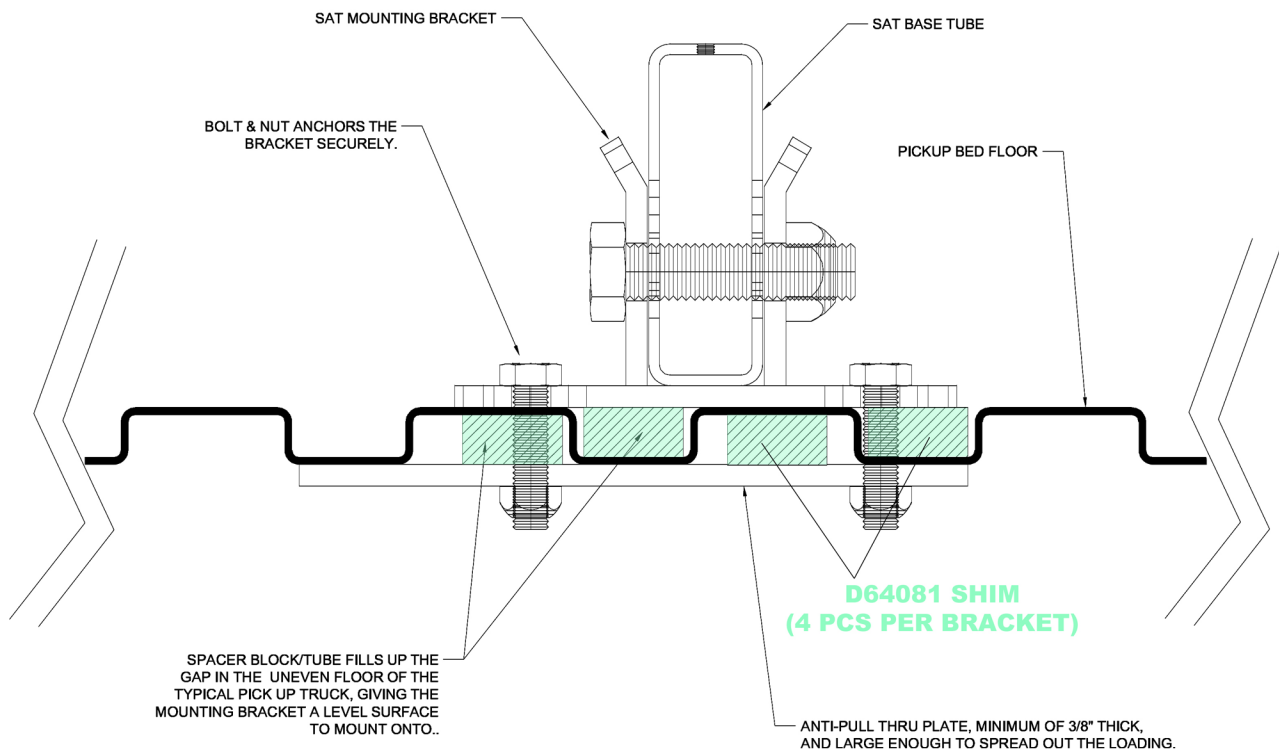


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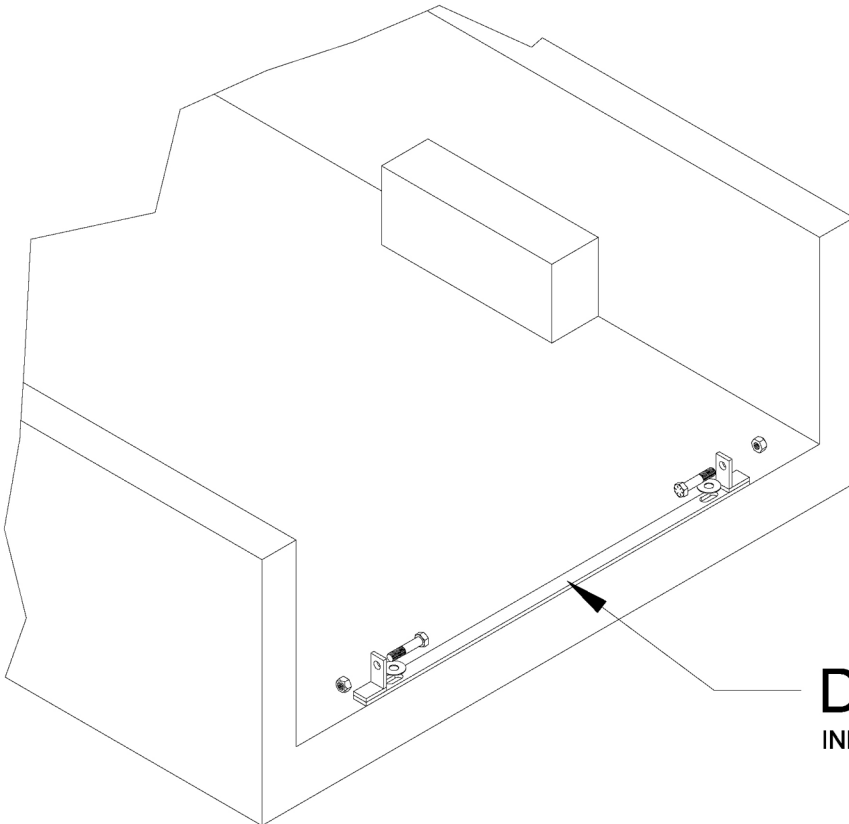
REAR (2) MTG BRACKETS (NEAR TAILGATE)



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D50615 PROTECTS
AND SUPPORTS
THE END OF THE
BED, (USED ON
SOME INSTALLS.)

D50615

INLCUDED WITH D49905 BED KIT



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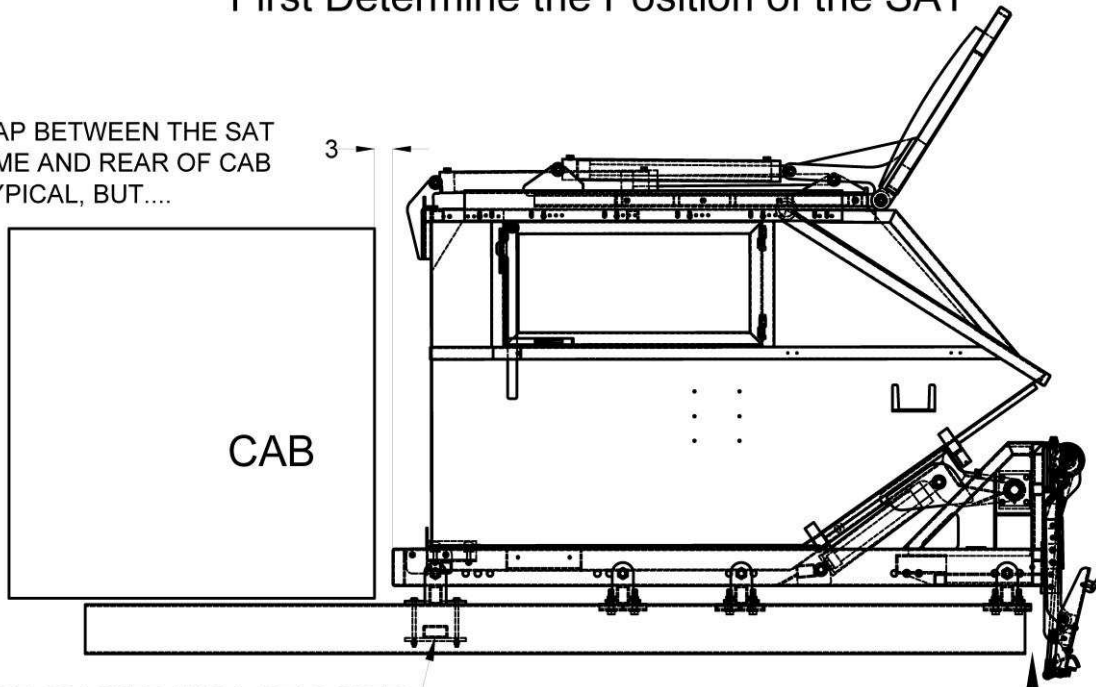
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CHASSIS MOUNTING INSTURCTIONS

First Determine the Position of the SAT

3" GAP BETWEEN THE SAT
FRAME AND REAR OF CAB
IS TYPICAL, BUT....



THE FRONT BRACKET SHALL BE LOCATED
DIRECTLY OVER A CROSS-FRAME MEMBER
ON THE TRUCK CHASSIS. DRILL A NEW
HOLE INTO THE SAT FRAME, IF NECESSARY.

NEED CLEARANCE!
CHECK THAT THE LIFTER DOES NOT CONTACT
THE BUMPER. IF IT DOES, SLIDE THE BACK
UNTIL YOU HAVE AT LEAST 2" GAP BETWEEN
BACK OF LIFTER & BUMPER.

*THE SAT FRAME IS PRE-DRILLED, BUT DUE TO VARIATIONS IN THE TRUCKS, IT MAY
BE NECESSARY TO DRILL A NEW HOLE THAT BEST SUITS YOUR INSTALL.



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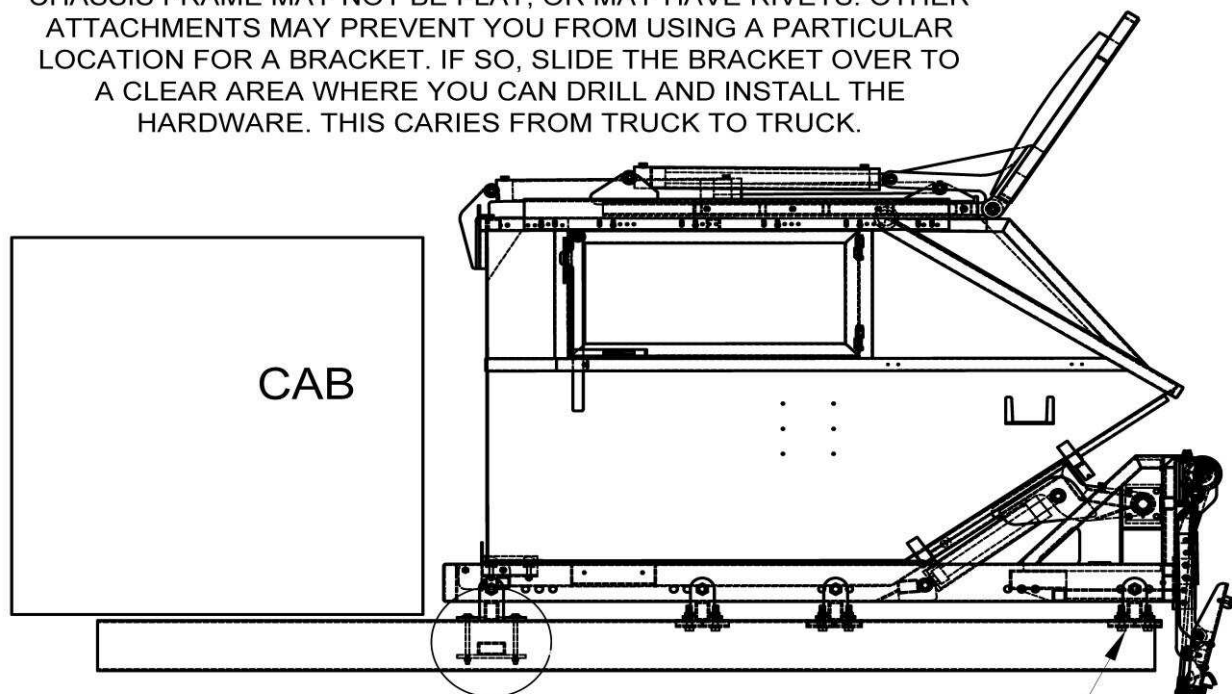
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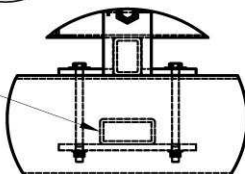
CHASSIS MOUNTING INSTURCTIONS

MARK THE POSITION OF THE (4) MOUNTING BRACKETS ON THE CHASSIS FRAME.

CHASSIS FRAME MAY NOT BE FLAT, OR MAY HAVE RIVETS. OTHER ATTACHMENTS MAY PREVENT YOU FROM USING A PARTICULAR LOCATION FOR A BRACKET. IF SO, SLIDE THE BRACKET OVER TO A CLEAR AREA WHERE YOU CAN DRILL AND INSTALL THE HARDWARE. THIS CARRIES FROM TRUCK TO TRUCK.



THE TRUCKS CROSS BEAM IS SANDWICHED BETWEEN THE FORWARD MOUNTING BRACKET AND A SUPPORT PLATE THAT GOES UNDER THE TRUCKS CROSS BEAM. USE 1/2-13 BOLTS AND LOCKNUTS TO DRAW THIS TOGETHER TIGHTLY.



THE END BRACKET SHOULD SLIDE OVER AS FAR TO THE REAR AS POSSIBLE AND UNDER THE PIVOT POINT, TO ACHIEVE THE BEST SUPPORT.

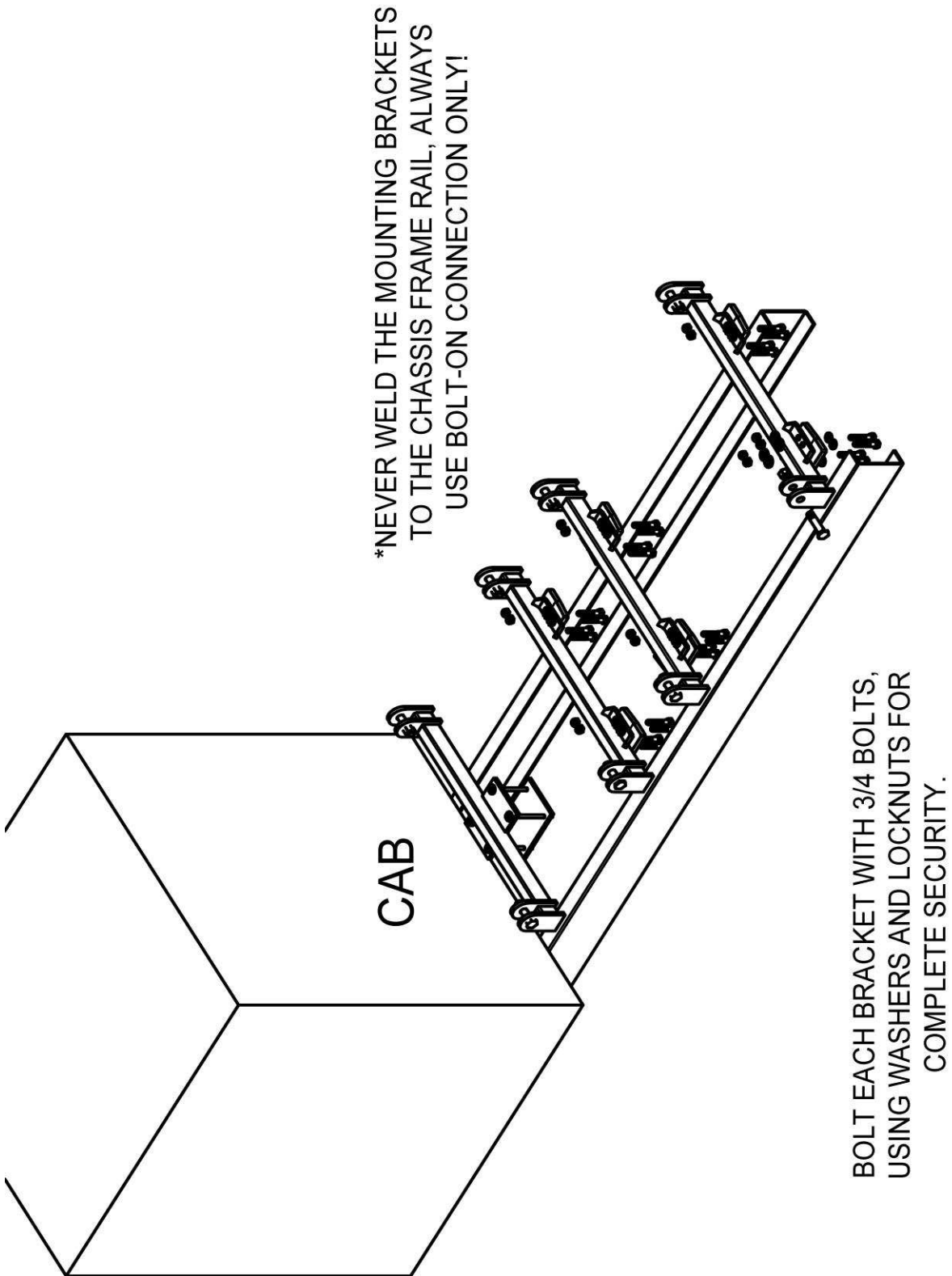


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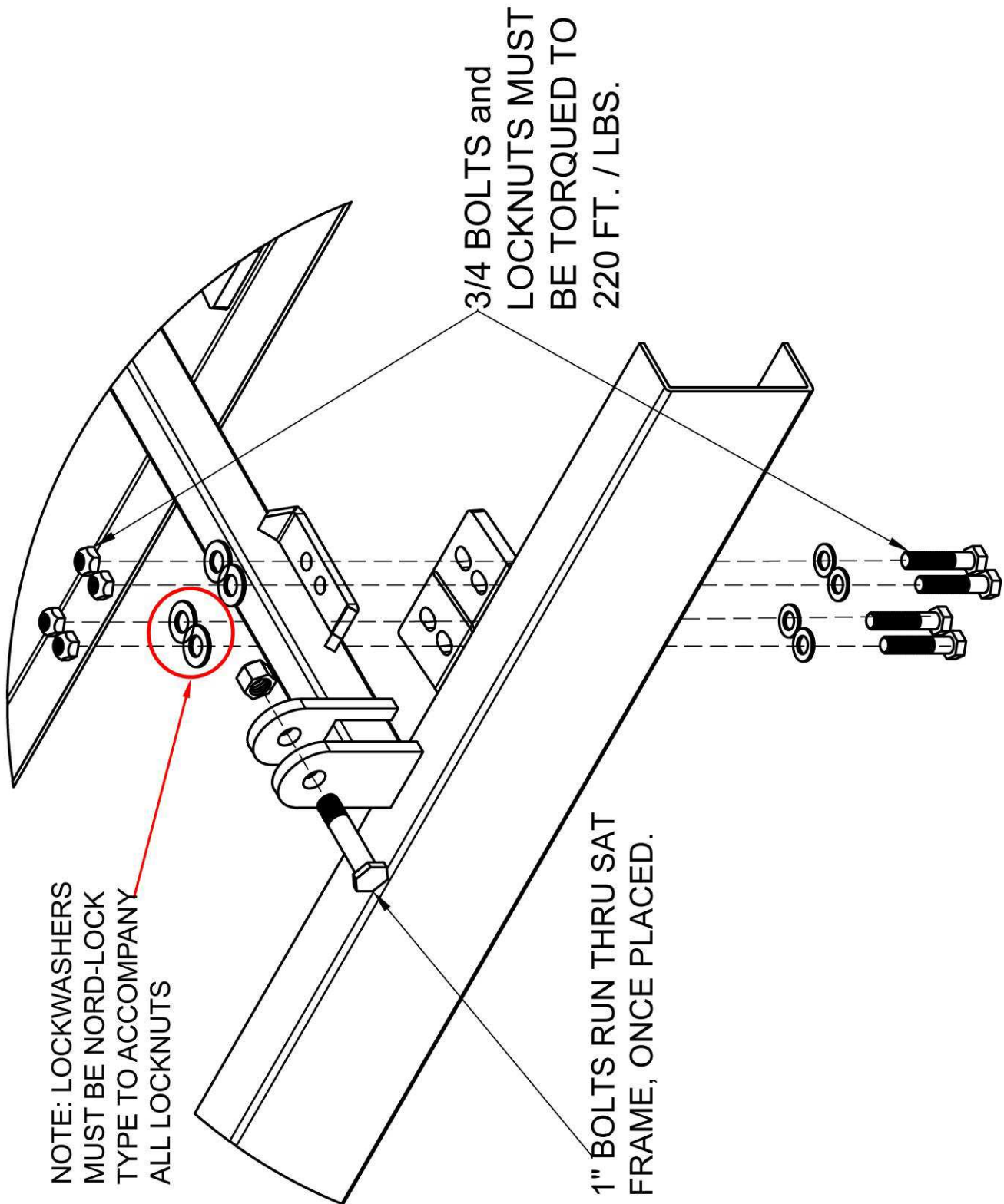
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CHASSIS MOUNTING INSTRUCTIONS



CHASSIS MOUNTING INSTURCTIONS



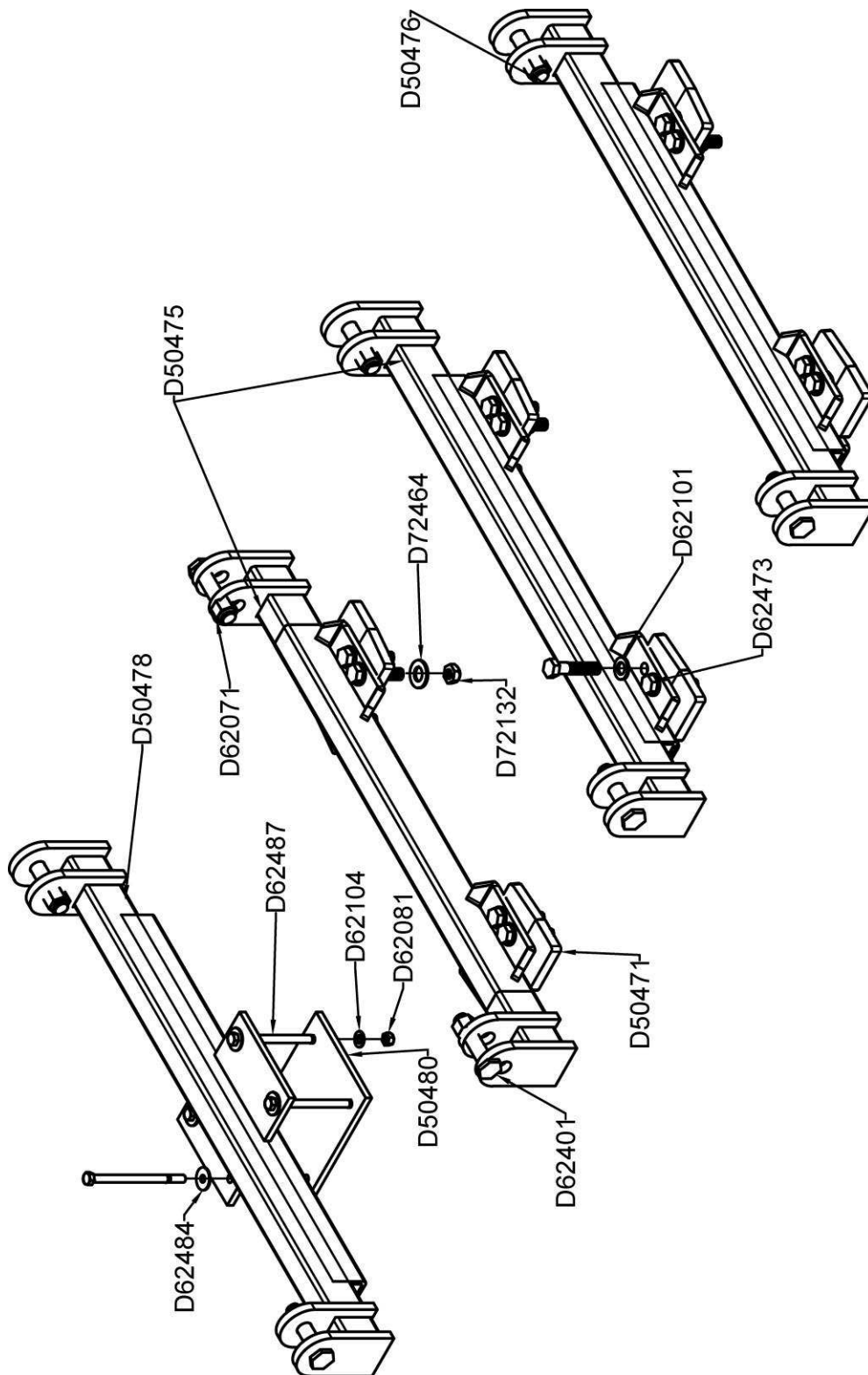
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D50477 – Exploded View

*Most commonly used; for chassis mounted SAT frames of 45"



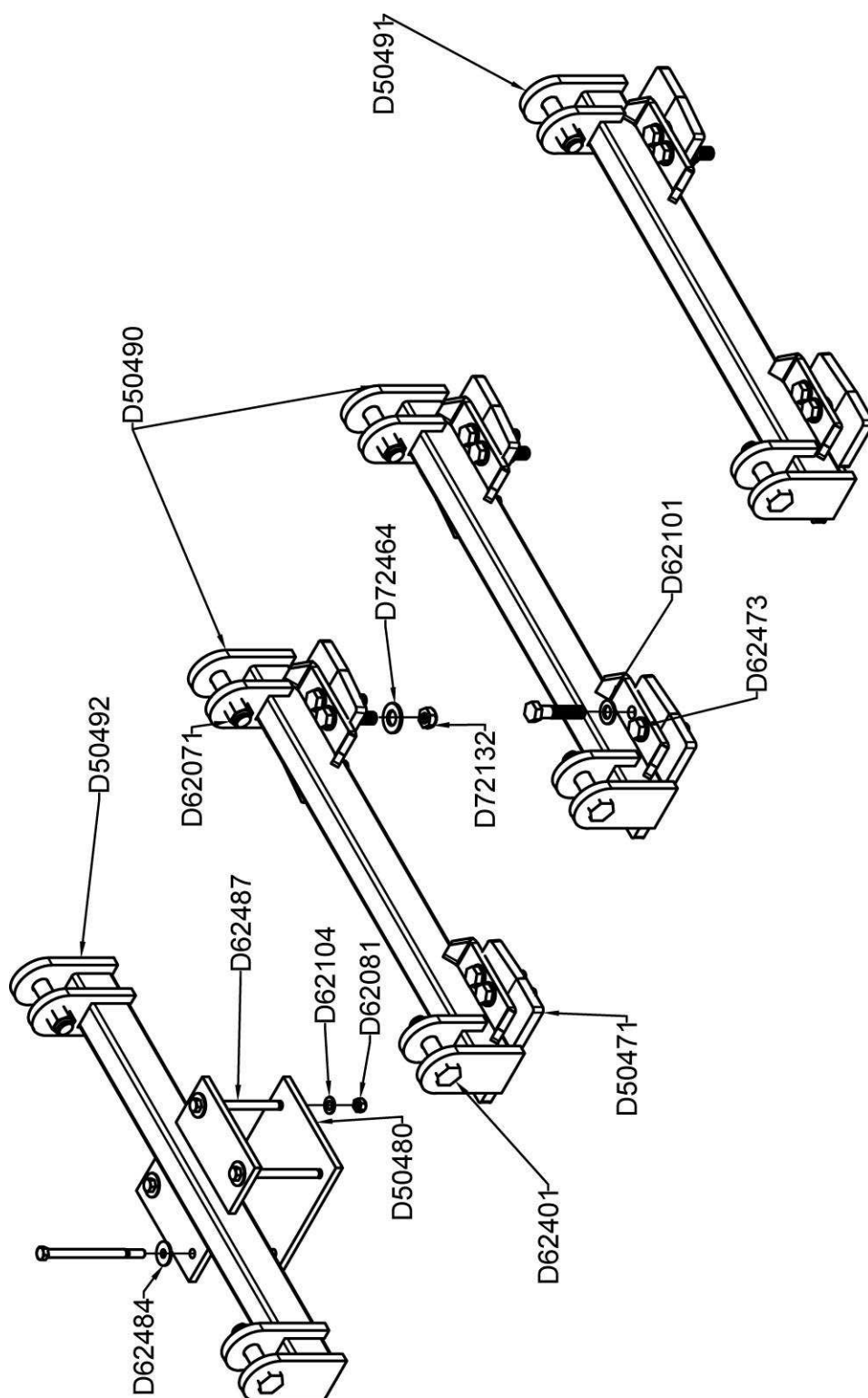
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D504477-34 – Exploded View

*Used only with chassis mounted SAT frames of 34”



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.

Lifter Speed

The cycle time of the lifter is very important for safe operation. Perkins suggests a complete cycle time of 8-10 seconds (4-5 seconds up and 4-5 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.

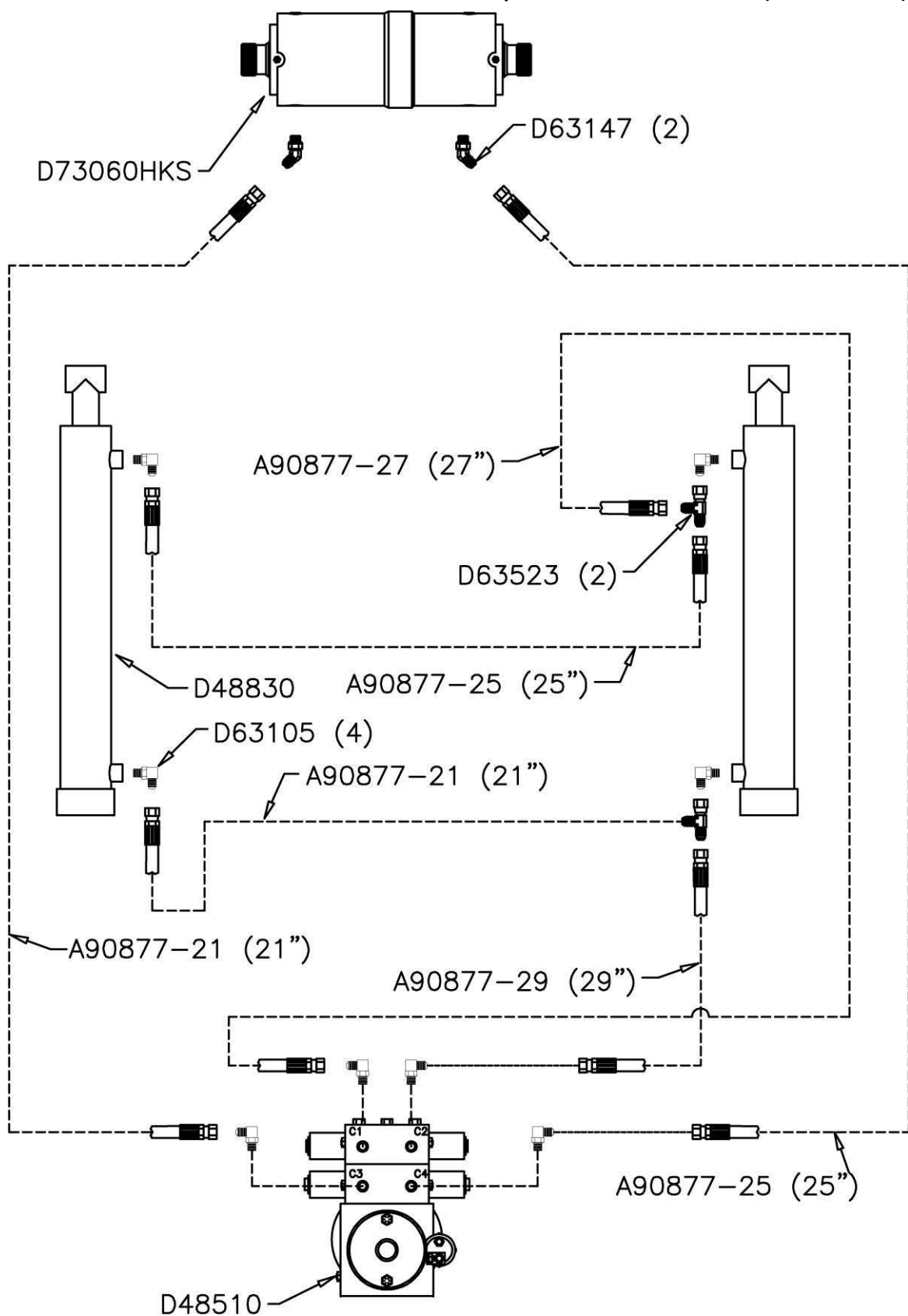
Count the cycle time using a stopwatch to determine proper flow rate. Running a lifter too fast will void the warranty.

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 lifter requires 2150 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.



Perkins Hydraulic Schematic (CURRENT)



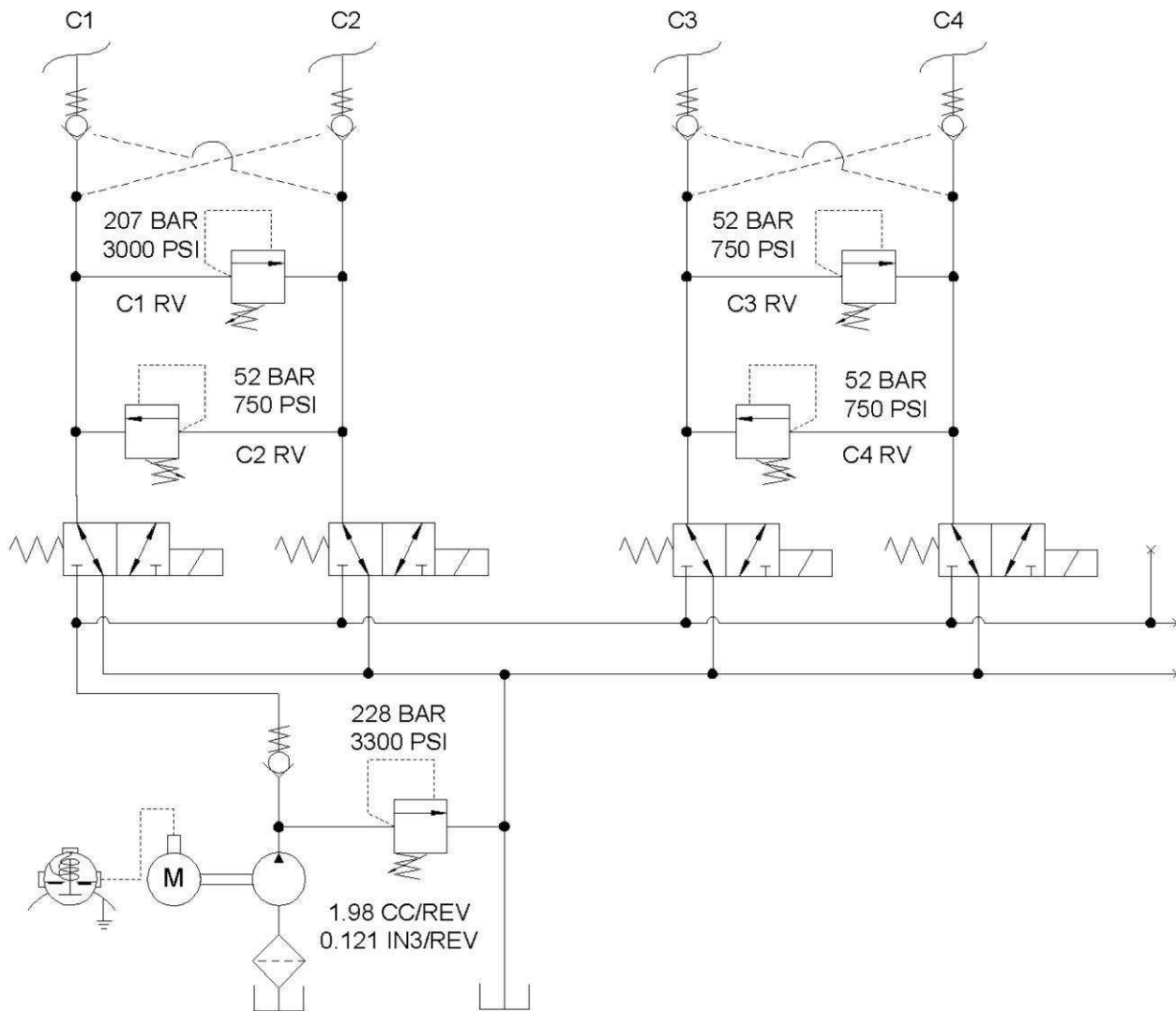
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Pump Assembly Schematic

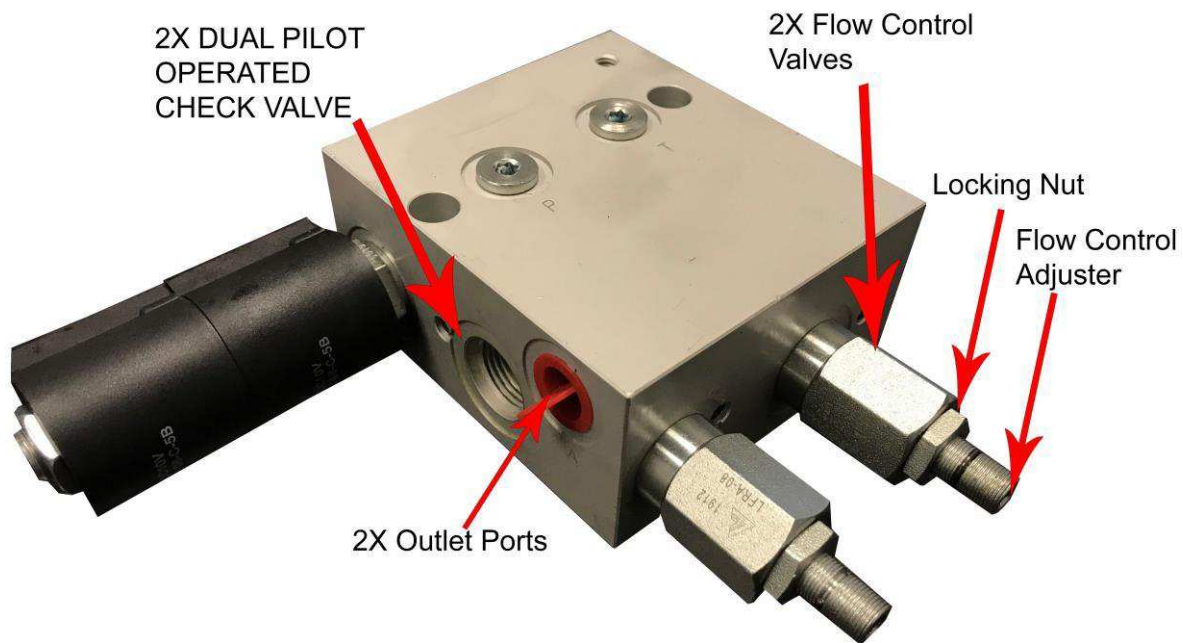


SCHEMATIC

This schematic represents the pump only, d48510, not the entire hydraulic schematic. For the entire schematic, see the previous page.



Adjusting the Pressure



To adjust the pressure, loosen the lock nut and then with an Allen wrench adjust the flow control to the appropriate speed for the lifter and SAT can. Then return the lock nut to its position to lock the flow control valve into position.

D72601 pump part number, a solenoid arrangement (shown above for lifter-free option)

D72602 has two solenoid arrangements.

D72603 has three solenoid arrangements (for lifter type clamp D6098)

There is a primary relief located on the side of the pump's multiple. Set this to 2700 psi, max. The individual Settings on solenoid blocks can be set as needed, preferably around 2150 psi. (Note: This pump assembly contains built-in PO check valves and built-in adjustable flow controls. Independent PO checks or adjustable flow controls included in previous constructions have been removed from future constructions as of November 2014)

All pump sets are sold separately.



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Pump Assembly



*** Pump assemblies sold separately.**

Shown is the pump assembly, prior to installation in the SAT structure.

The pendant is wired and secured. Wiring details are found on page 28. As you can see, the PO check valves are secured to the side of the manifolds of the solenoids. Hoses loop from the solenoid manifolds to the PO check valves, then from there on to the lift cylinders and cart lifter. See pages 11 and 12 for details of the hydraulic schematic.

With the D6071 lifter, the pendant will control the up and down cycles of the lifter as well as the dump and return body functions.

With the D6098 lifter, a third set of solenoids and PO is added for the extra function. In this case, an extra two-button pendant will be provided. The two button pendant will control the dump body up and down while the four button pendant will control the two functions of the D6098, which are the lift up and down and the gripper open and close functions.



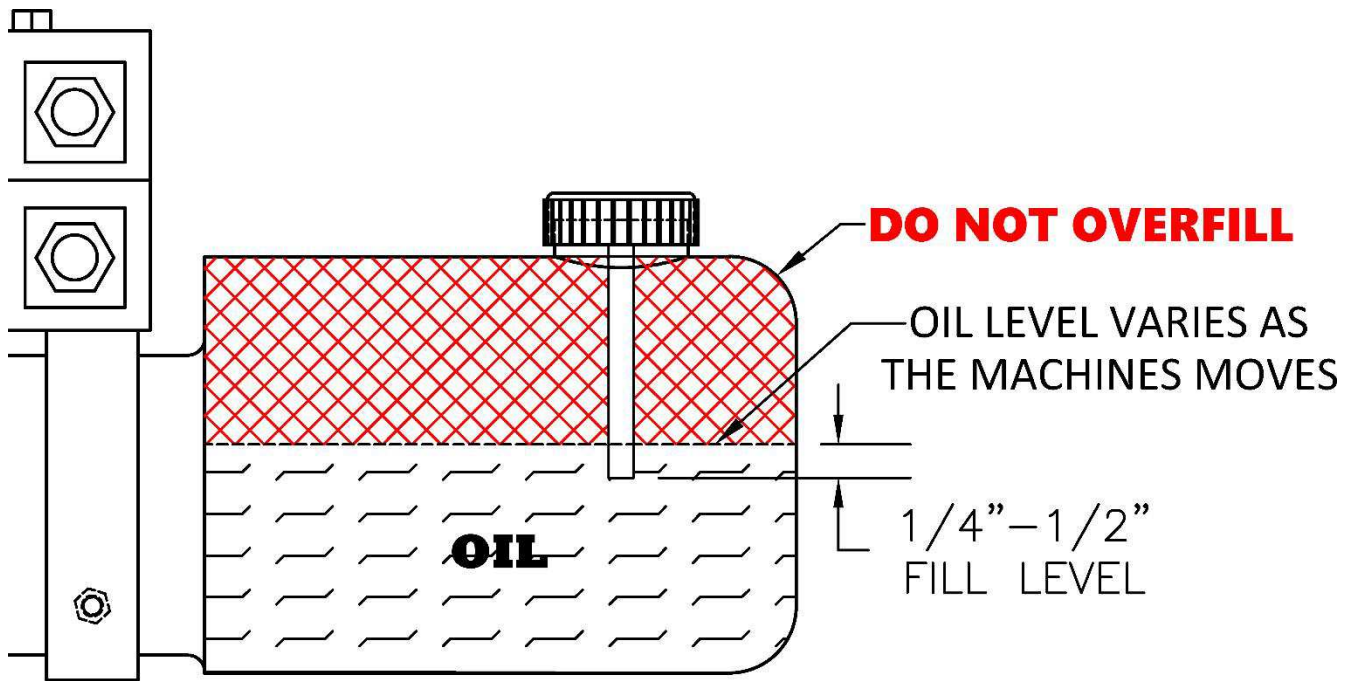
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OIL LEVEL INSIDE THE TANK



The oil level inside the tank rises and lowers as the equipment moves up and down. It is normal for the tank to appear less than full at times.

For initial setup only, the cylinders and hoses may be empty of fluid and will have to fill. Pour oil into the tank half-full and operate the equipment slowly. As the equipment fills with oil, the level in the tank will drop. Continue to add oil slowly, and operate the equipment bit by bit, until the cylinders and hoses are full. It will be necessary to bleed the air out of the system by operating all functions of the unit repeatedly until all the air has been flushed out. While there is air in the lines, the movement will at times be jerky or have a stutter. Once the air is completely out, the movement will become smooth.

NOTE: DO NOT OVERFILL THE OIL TANK.

The tank is "full" when the dipstick reaches about 1/4"-1/2" into the oil level. **NEVER FILL THE TANK TO THE TOP, EXCESS OIL WILL OVERFLOW OUT.**



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Maintaining the PO Check Valve (OBSOLETE NOV. 2014)

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.



This valve is redundant as is removed from builds constructed after Nov. 2014

Maintaining the Adjustable Flow Control (OBSOLETE)



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.

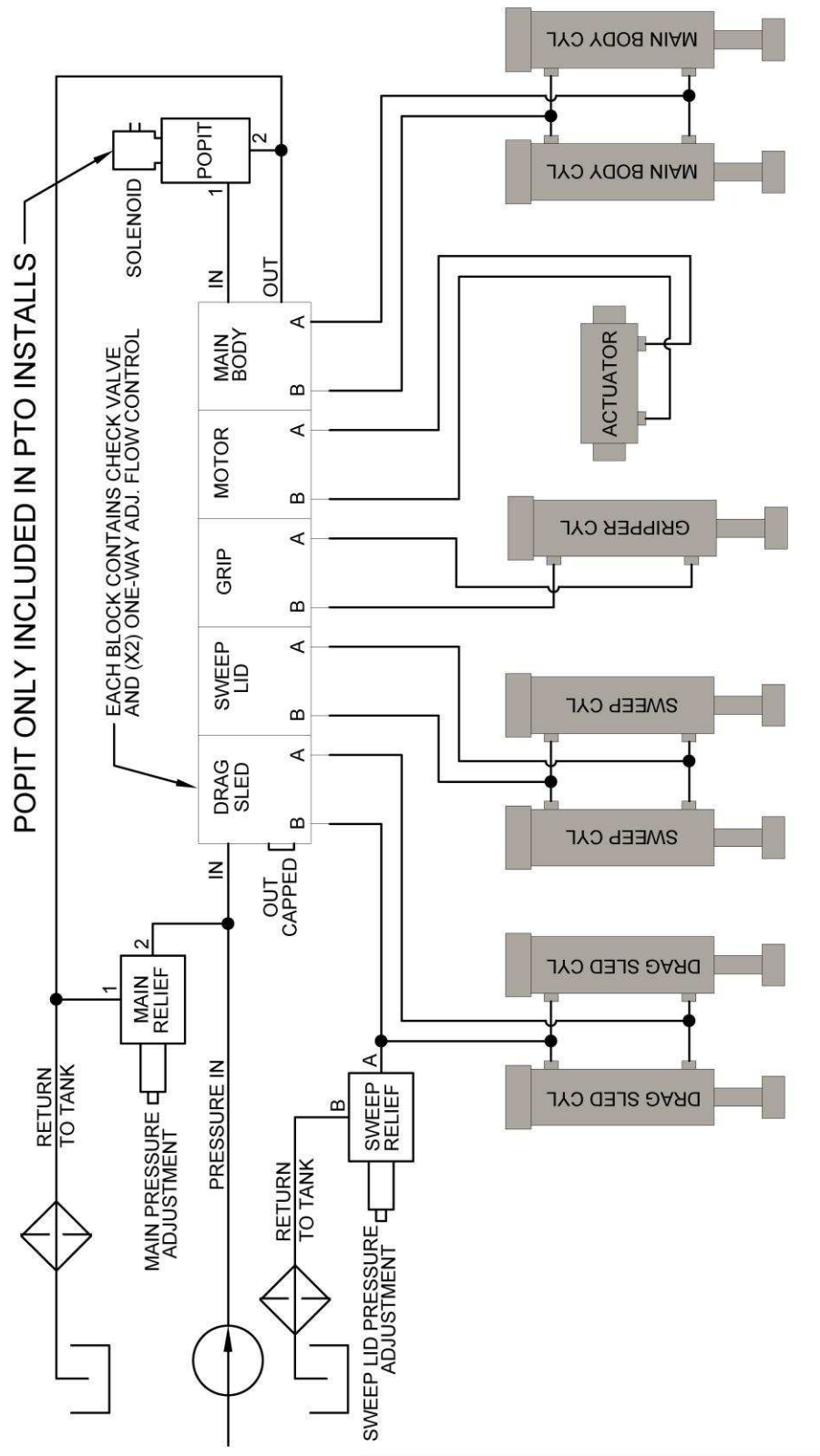
The valve has a small arrow stamped into its body. The arrow should point away from the actuator.

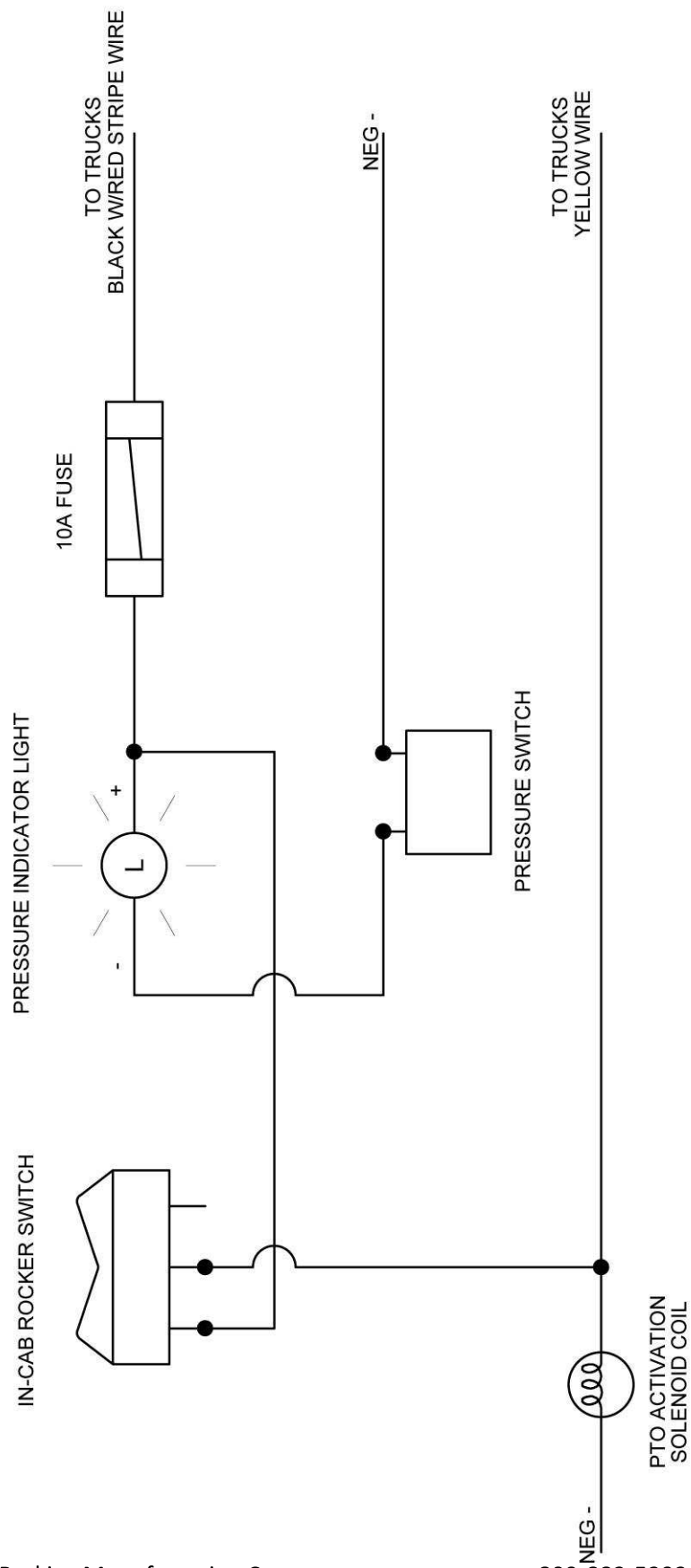
If the lifter comes down too quickly, try turning this valve in clockwise ¼ turn at a time until the down direction is smooth and under control.



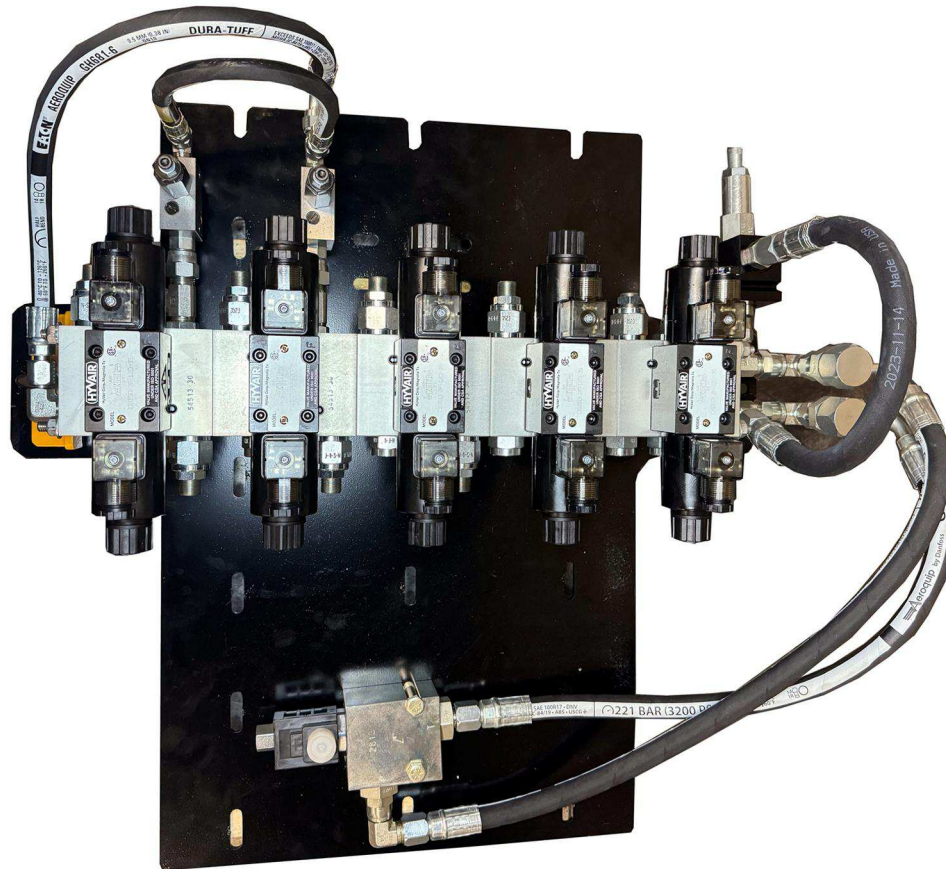
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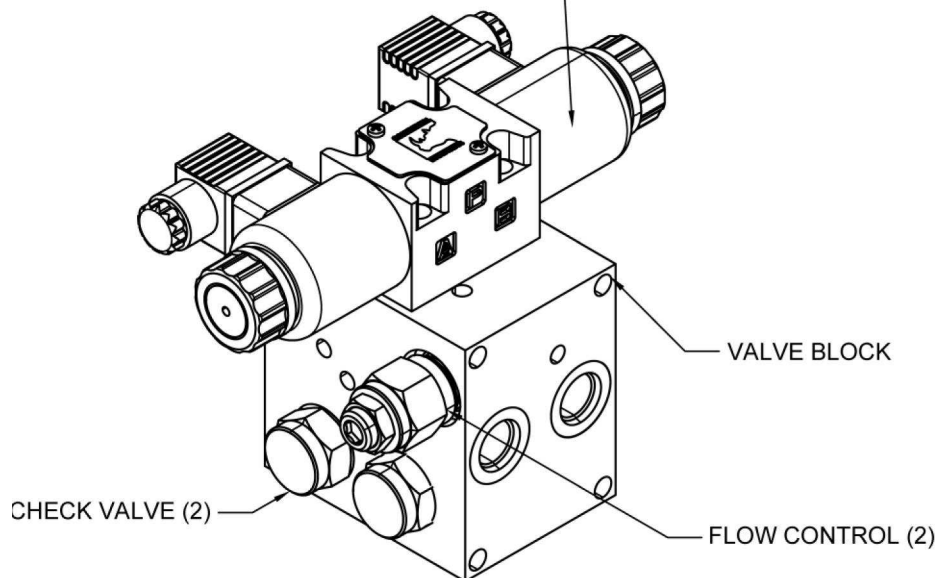


D72885 – Valve Bank



D72779 – Manifold Valve

D03 VALVE IS SHOWN FOR REFERENCE.
IT IS NOT INCLUDED IN THE D72779, DUE
TO THE NEED TO SWAP OUT TYPE
DEPENDING ON THE PROJECT.



SHOWN WITH D03 (SOLD SEPARATELY)



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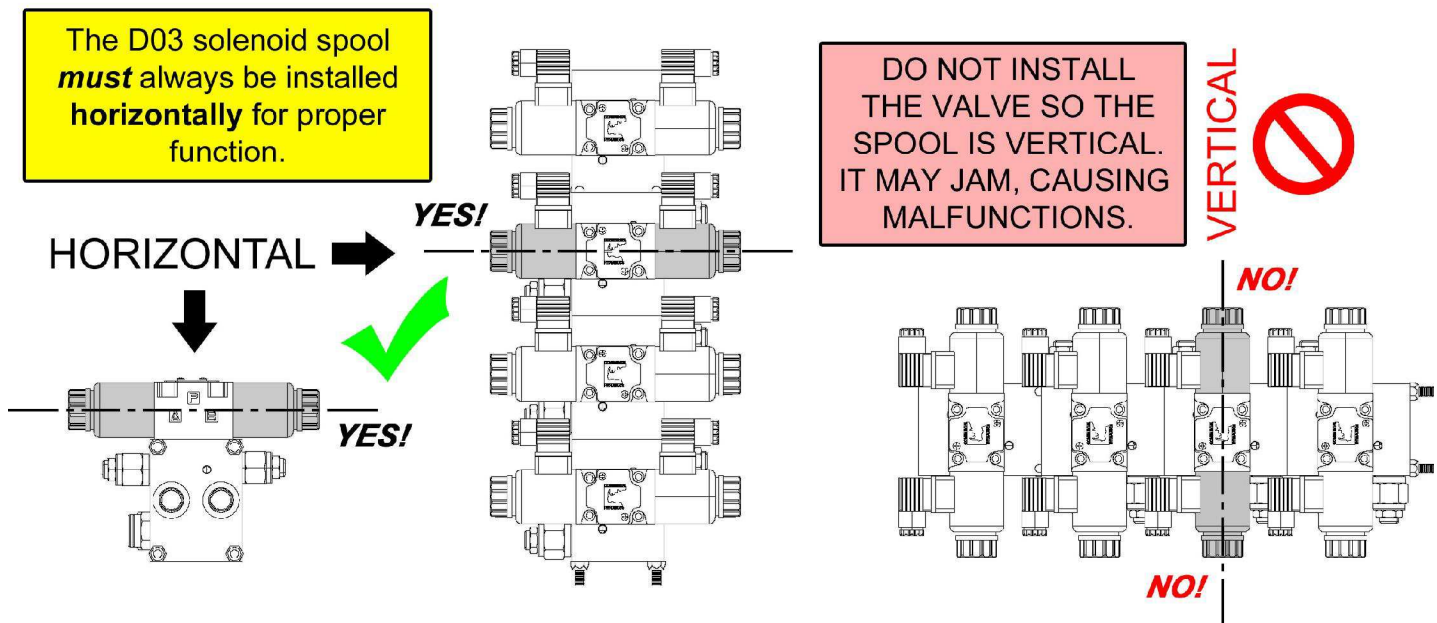
800-882-5292

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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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Addendum

D72885 – Valve Bank Parts list

Item	Description	Qty
D63061	ADAPTER #6MT - #8MO	9
D63780	ADAPTER #12MO - #8MT	2
D47095-1	#207 O-RING, INTERNAL HYDRAULIC SEAL	8
D47095-2	5/16-18 THREADED ROD, 12' BAR	8
D72246	BOLT HHCS 5/16-18 X 2 1/2 GR8, ZINC PLATED	2
A90270B	SOLENOID VALVE A,B TO TANK D03, OPEN CENTER, 12V	5
D72274	POPPET VALVE W/SOLENOID, NORMALLY OPEN, 12VDC 21 GPM MAX FLOW CAPACITY	1
D72779	MANIFOLD CONTROL VALVE FOR PTO OPERATION D03 COMPATIBLE (NOT INCLUDED) (REV A) (BUILT IN ADJUSTABLE FLOW CONTROL & PO CHECK)	5
D72813	ADJ. RELIEF VALVE, STAND ALONE, 20 GPM MAX, 100-4000 PSI MAX., #8 SAE PORTS, C10-2 CAVITY, PILOT OPERATED	1
D63090	ADAPTER #8MT- #8MO	3
D72330	ADAPTER #8FT - #8MO FEMALE JIC TO MALE SAE	2
D62030	LOCKNUT 5/16-18 GRADE 8 ZINC PLATED	12
D62029	SAE FLATWASHER 5/16 x .688 OD (ZINC PLATED)	4
D63551	TEE #8MO - #8MT - #8MT	2
D63639	ADAPTER #6MO - #8FT	1
D63209	TEE, #8MT - #8MT - #8FT SWIVEL NUT JIC SWIVEL RUN TEE	2
D63430	ADAPTER #8MT - #6MO	1
D63202	ELBOW 45°, #8FT - #8MT	1
D72528	REDUCER, #8FT - #6MT	1
D72708-18	#8 HYDRAULIC HOSE ASSY X 18" LONG MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-8 STANDARD #8 FEMALE SWIVEL JIC STRAIGHT ENDS	2
D73108	#8 HYDRAULIC HOSE ASSY, W/ X1 90° ELBOW ONE END ONLY X 18" LONG	1



Servicing the Perkins HKS Rotary Actuator

Perkins HKS 27k Actuator: D73060HKS

Common Parts: Seal Kit: D73060HKS-1 Actuator Shaft: D73060HKS-2 Bearing Kit D73060HKS-3

The manual for the actuator is provided separately and free of charge. It contains detailed instructions for rebuilding, based on a complete tear-down. Also, within the manual is a complete parts listing. To receive a copy of the actuator manual, simply call Perkins at 800-882-5292.

Flushing the Actuator

Because the oil displacement of the actuator is nearly equal to the displacement of the hoses, the oil inside the actuator does not fully displace to the system and get filtered with each use. Only a percentage of the oil displaces. Because of this, it is possible to have build-up of particles over time which can lead to premature wear, especially in dirty oil conditions. Perkins recommends flushing the oil in the actuator to the system to allow for complete filtration once every 6 months. This will help ensure the actuator has a very long lifespan.

To flush the oil, turn off / depressurize the system and connect a hose from one bleed port to the other. Tighten the fittings restart the pump. Run the hand valve back and forth several times, holding the handle down for about a minute each time. This ensures any particles have completely exited the actuator.

**BYPASS HOSE
USING THE #4
BLEED PORTS**



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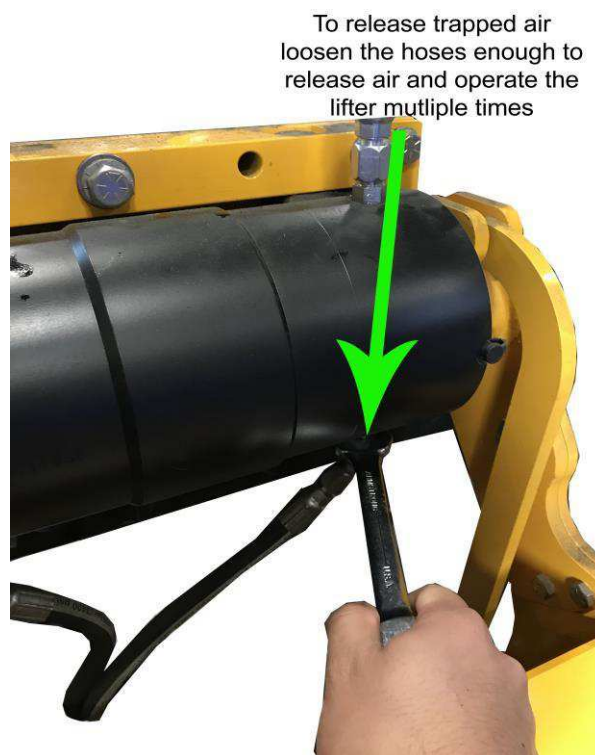
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Bleeding air from the Actuator

Air does not usually get trapped inside the actuator, but it does happen on occasion, particularly with initial installations. For this reason, the actuator has #4 bleed ports located atop it. Cracking the plug loose slightly will allow trapped air to escape.

Perkins recommends this be performed only as necessary. Lifter motion that is very erratic is usually a sign of trapped air. The lifter should be run several times up and down first, as this usually clears any trapped air without having to use the bleed ports.

Make sure the bleed ports are fully tightened when complete.



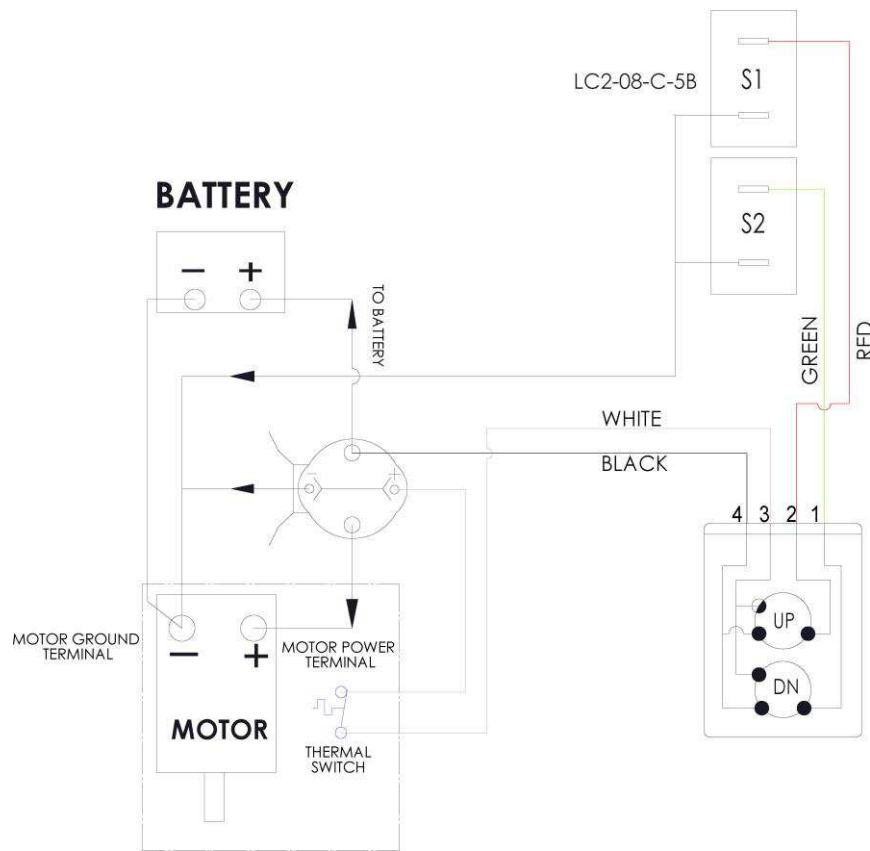
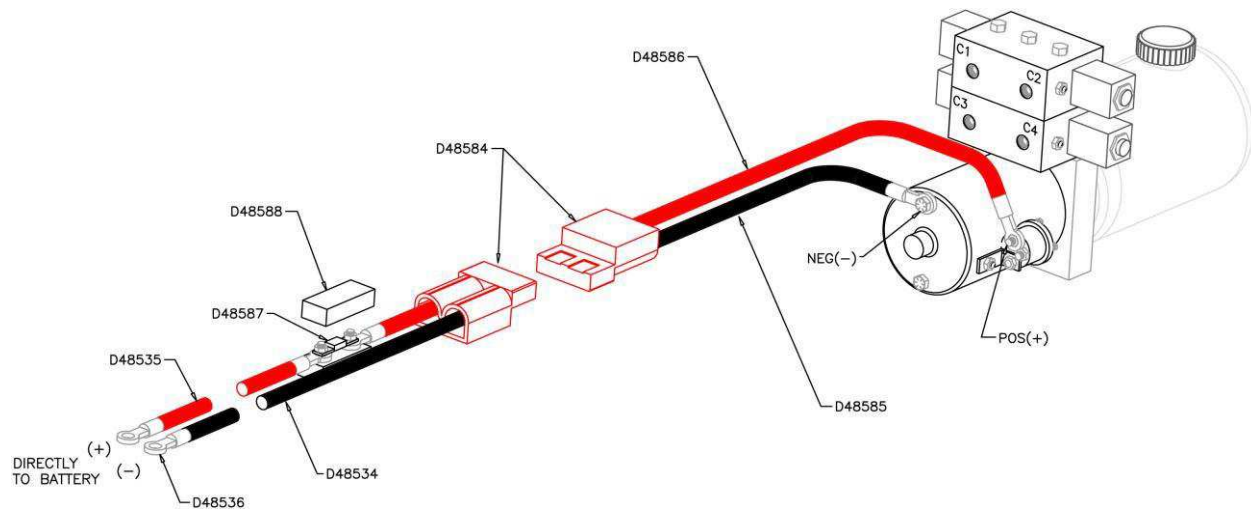
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Perkins Electric Wiring Guide

(SOLD SEPARATELY)



"UP" = RED WIRE
 "DOWN" = GREEN WIRE
 "COMMON" = WHITE
 "POWER" = BLACK



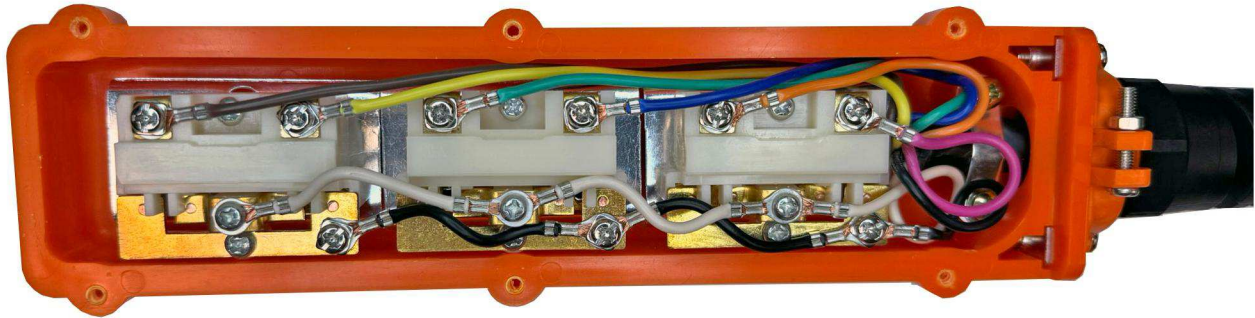
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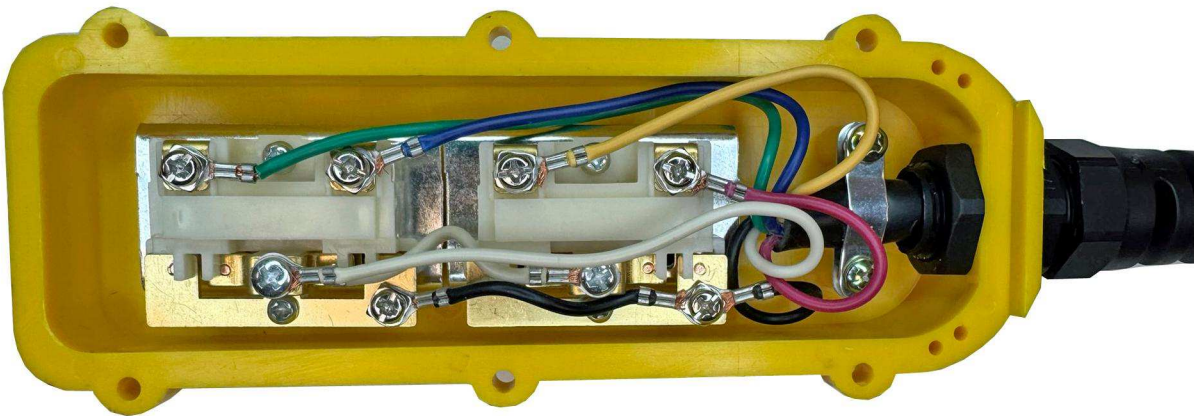
Revised: 7/5/22

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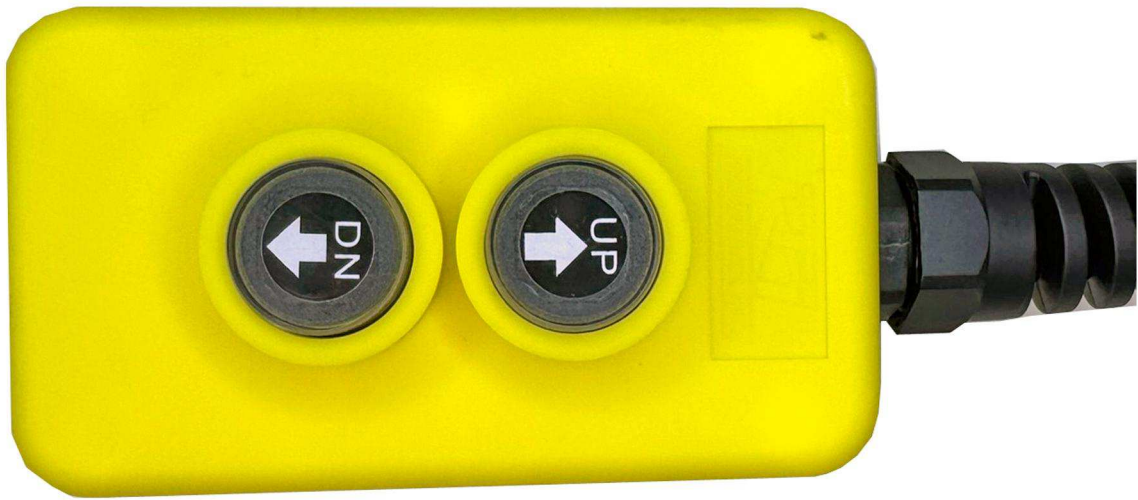
Perkins Pendant Wiring



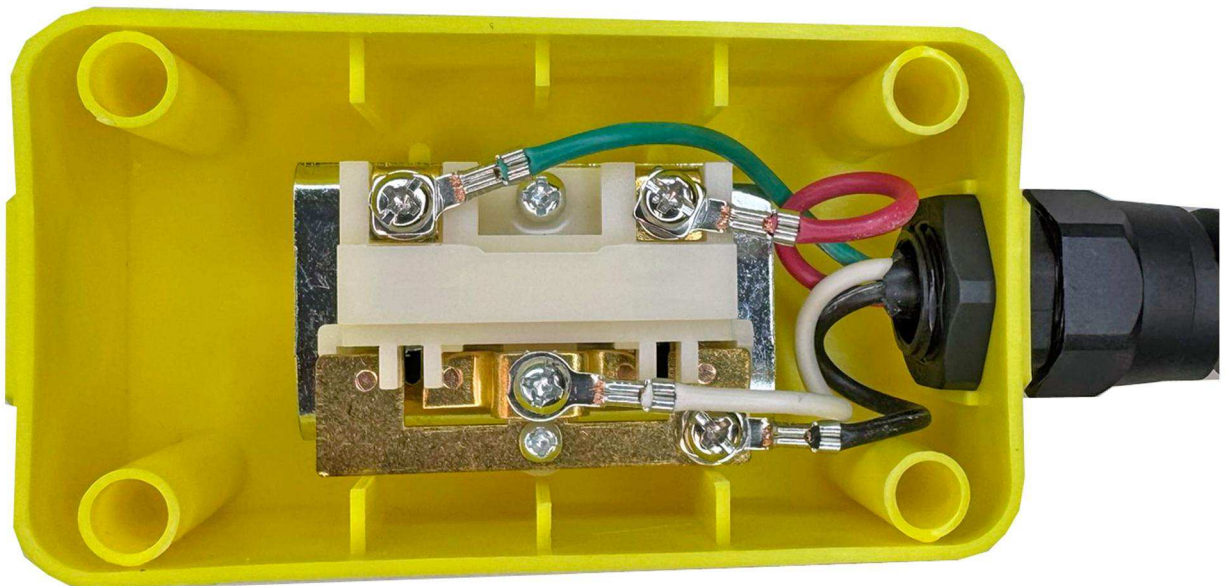
The pendant comes prewired. If repairs are necessary, re-wire the pendant as shown.



Perkins Pendant Wiring



The pendant comes prewired. If repairs are necessary, re-wire the pendant as shown.



 WARNING	
	This unit is equipped with an over-heat protection circuit. The circuit will shut off when the motor temperature is too hot, which will prevent the operator from damaging the motor with continued use. The circuit will automatically reset itself after the motor cools to a safe level. Then normal operation can resume.
Do not paint over this label. Replace if damage D72845	

Battery powered DC units have a duty cycle of 2 minutes of active use every 10 minutes. That means 2 minutes on, 8 minutes off. The intention is for periodic operation, with some driving time between uses. Example of acceptable use: Servicing a park or trail, where the bins are spread out and the motor will have time to cool off in-between service points.

The more the motor is used, the hotter it becomes. Overheated motors can suffer from permanent burnout without warning and need to be replaced. To prevent this, our power packs come with a built-in circuit with a thermometer. When the motor reaches a certain temperature, the circuit will trip, and the motor will stop working. If this happens, the operator simply needs to wait for the motor to cool enough for the heat protection circuit to automatically reset, then they can continue operation normally.

These battery-operated units are not intended for continuous back-to-back action. (Example, 20 bins at a single stop with little or no break between bins). In situations where all the bins are at one location, the circuit protecting the motor from overheating will trip, causing a delay in operations. If your operations involve heavy back-to-back usage, Perkins recommends equipping your vehicle with a PTO system instead which can handle continuous use.



Operating Instructions

THE VEHICLE MUST BE RUNNING DURING SAT OPERATION TO PREVENT DAMAGE.

The recommended cycle is 4-5 seconds to travel up and 4-5 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: 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 its motion. (It is not necessary to lift the cart onto the upper saddle). Be sure the upper hook of the cart has engaged upon the upper saddle of the lifter.

Step 2: Look and make sure no one is in the area of the lifter or cart, step aside and clear of the lifter and cart, and then operate the push button on the pendant. The lifter will rotate and engage the cart and raise it to 45 degrees above the horizon, as long as the button remains engaged.

Safety Note: The pendant operates like a deadman switch. Releasing the button at any time will stop motion of the lifter (or the dump body). Normal operation may be resumed by operating the button again.

Step 3: 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 4: Remove the empty cart and repeat the process as needed.

The dump body is operated by pressing and holding the appropriate button. Release button to stop motion at any time. Only operate the dump body when the tarp is open. Be sure there are no overhead obstructions such as ceilings, bridges, overhead branches, and especially be aware of power lines. Only operate the dump body when the truck is on a level surface, both front to back and side to side. Make sure the dump body is returned all the way down before driving the truck again. Do not leave the pendant unsecured while driving. Use the bracket provided to hold the pendant or leave it safely in the bed of the truck, don't leave it dangle.

The dump body may be dumped to the floor, or into the rear of a rearloader collection vehicle.



SAT Maintenance

- Grease the anchor and rod ends of the body lift cylinders at the grease zerk once per month, or immediately after any power washing.
- Grease the main body pivot anchor bearings once per month, or immediately after any power washing.
- Grease all grease zerks once a month, or immediately after a power washing.
- Check the mounting hardware that secures the SAT to the vehicle is tight and that there are no missing bolts/nuts. Check once a month and after every time the unit has been re-mounted to the vehicle.
- If your SAT comes with a bin lifter, follow the maintenance instructions for the bin lifter, including:
 - Check all hardware is tight, nothing missing.
 - If the movement of the bin lifter components become loose/sloppy, it may be necessary to replace the bushings in the arms to restore firm operation. Bushings should be replaced on average of every 1-2 years, depending on the environment/operating conditions of the bin lifter. Bushings are wear items, not covered by warranty.

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 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 bulk items, 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 of 6-8 seconds and/or adjusting the relief valve to pick up weights heavier than 400 lbs can lead to damage or injury and will void the warranty. (Household trash generally will weigh not more than 200 lbs, but construction debris, concrete, roofing tiles, and water/liquids can easily exceed 500-600 lbs.)



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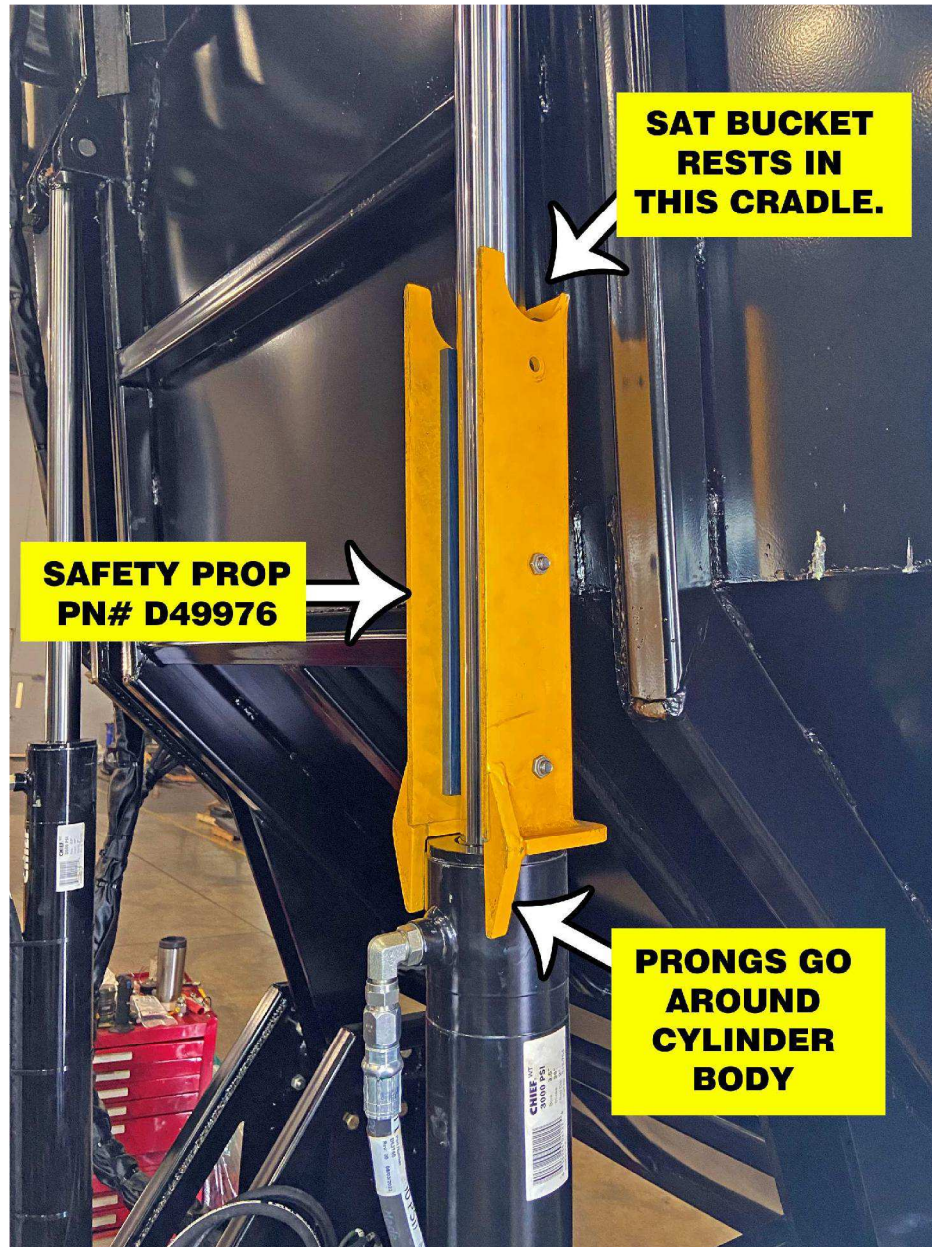
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USAGE OF SAFETY PROP #D49976

Any elevated body can fall suddenly if the hoses/lines/valves are opened. It is safest to work on the hydraulics with the equipment lowered. If the equipment must be worked on while elevated, then the elevated portion **MUST BE** secured via straps, chain, forktruck, etc to hold the elevated portion up and prevent crushing the service worker under the equipment. Do not scratch the cylinder rod while mounting the prop.

The safety prop D49976 comes with every SAT. It can be placed on the cylinder rod and used to prevent the bucket from falling down all the way. **It may not prevent all injuries.** Always use chains/straps or other equipment to prop up the bucket safely and securely while working on the hoses/lines/valves. When the work is complete, carefully remove the prop and store it inside the cab for future use.



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Addendum

Safe Operating Tips

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. Do not “help” the lifter raise an overloaded cart. Lifters have pinch points which can cause serious injury. Stay clear at all times.

It is the operator’s responsibility to move the lifter to a safe position while going down the road, such as putting the lifter all the way down into the storage position. Lifters left hanging out can be damaged when backing, which will cause serious lifter damage if a collision occurs. Damage caused by collisions is not covered by warranty.

Lifters of all kinds can be struck by utility poles, walls, other vehicles, backed into earthen hills, etc. It is the operator’s responsibility to position the cart lifter in a safe position prior to coming close to any other foreign object. If the lifter is damaged by collision, the damage will not be covered by warranty.

Do not operate the lifter up when the dump body is in use. Before operating the dump body, make sure the lifter is all the way down.

Watch for overhead obstructions, especially power lines, when operating the dump body.

Make sure the dump body is returned down before driving.

Do not operate the dump body unless the truck is sitting on level terrain. A steep slope combined with lifting the dump body may make the truck unstable.

Unplug the SAT battery cable when not in use (applies to 12v systems only, if you have a PTO, ignore).

If your SAT is powered by a PTO, turn it OFF before driving/travelling. The PTO should only be engaged while parked/working with the SAT.

Be careful not to crash the bin lifter into the body, or vise-versa. Do not crash the lifter into the sweep lid, if equipped. Collision damage is not covered by warranty.

Carefully wrap up the pendant cables before driving and store the pendants where they will not fall and drag on the ground. Do not store the pendants where they may become submerged. Pendants are water resistant but not waterproof. Pendant damage from dropping, dragging, or water submerged is not covered by warranty.

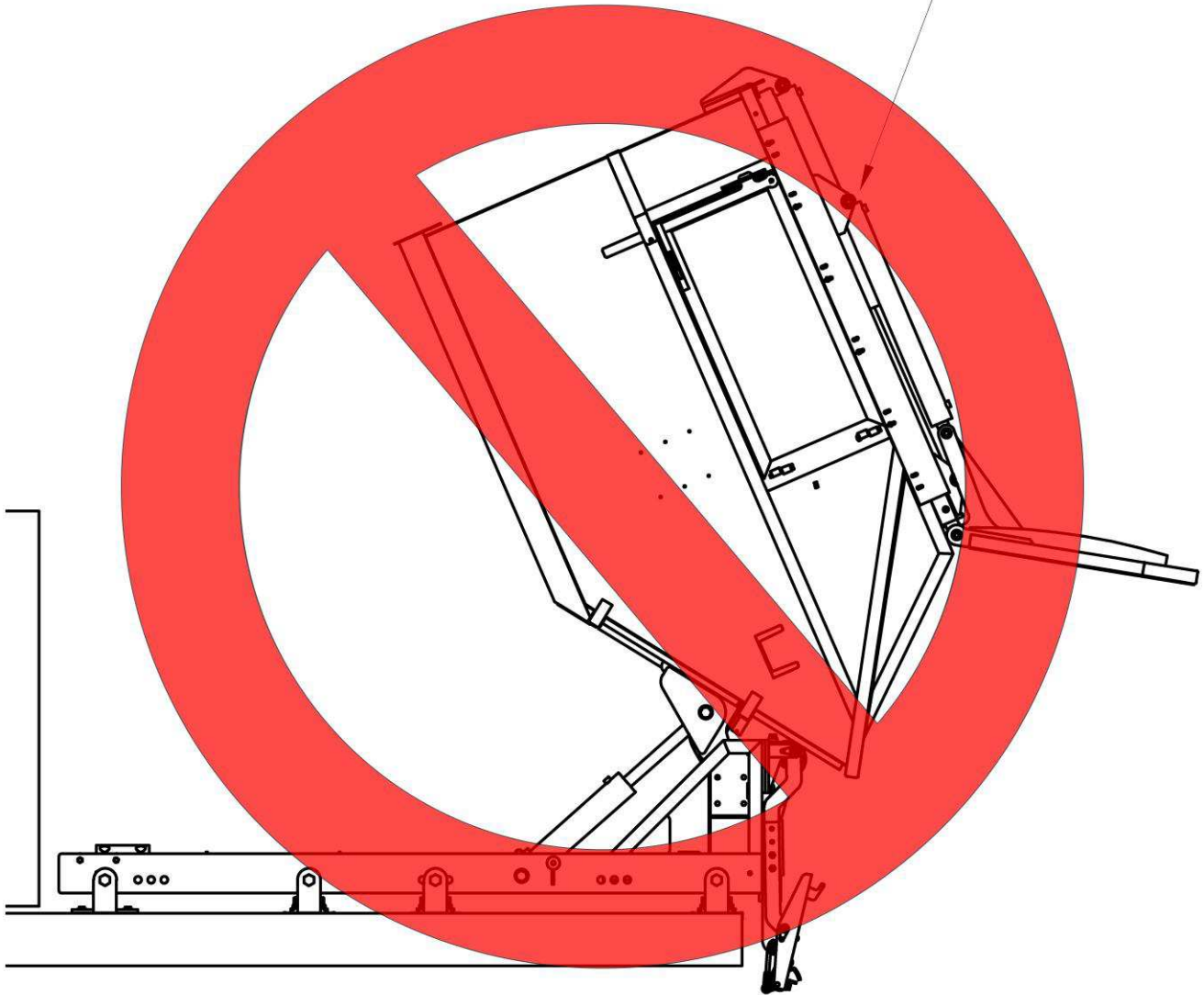


Safe Operating Tips

CAUTION!

SAT BODY MUST BE FULLY DOWN IN ORDER
TO OPERATE DRAG SLED OR SWEEP LID SAFELY.

DO NOT OPERATE DRAG SLED OR SWEEP LID
WHEN SAT BODY IS ELEVATED!



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Adjusting the Lifter

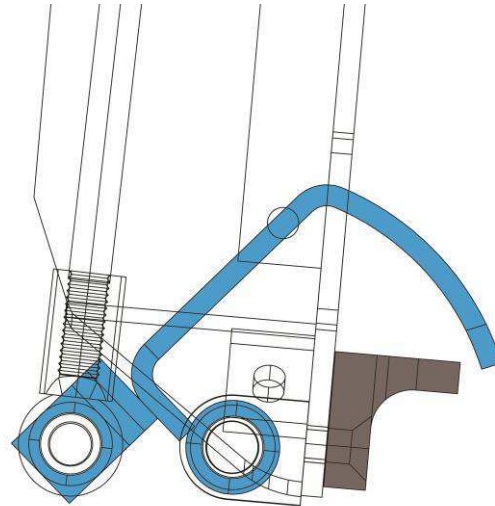
Correct Position of the Lower Latch

Shown at right is the correct position of the lower latch when the plunger assembly and threaded rod assembly are both adjusted properly and when the faceplate is 5 degrees prior to vertical.

The key is to make sure the tip of the latch is above the lower edge of the lower stop.

This position ensures that the latch is still open at the time of cart engagement to the lower bar.

The latch may be adjusted to be slightly higher than shown, but not lower, or else carts may not latch. Adjust the latch by extending or retracting the depth of the adjustable rods going in and out of the plunger rod eye, then retighten the nut securing the rod when complete.



Other Adjustments

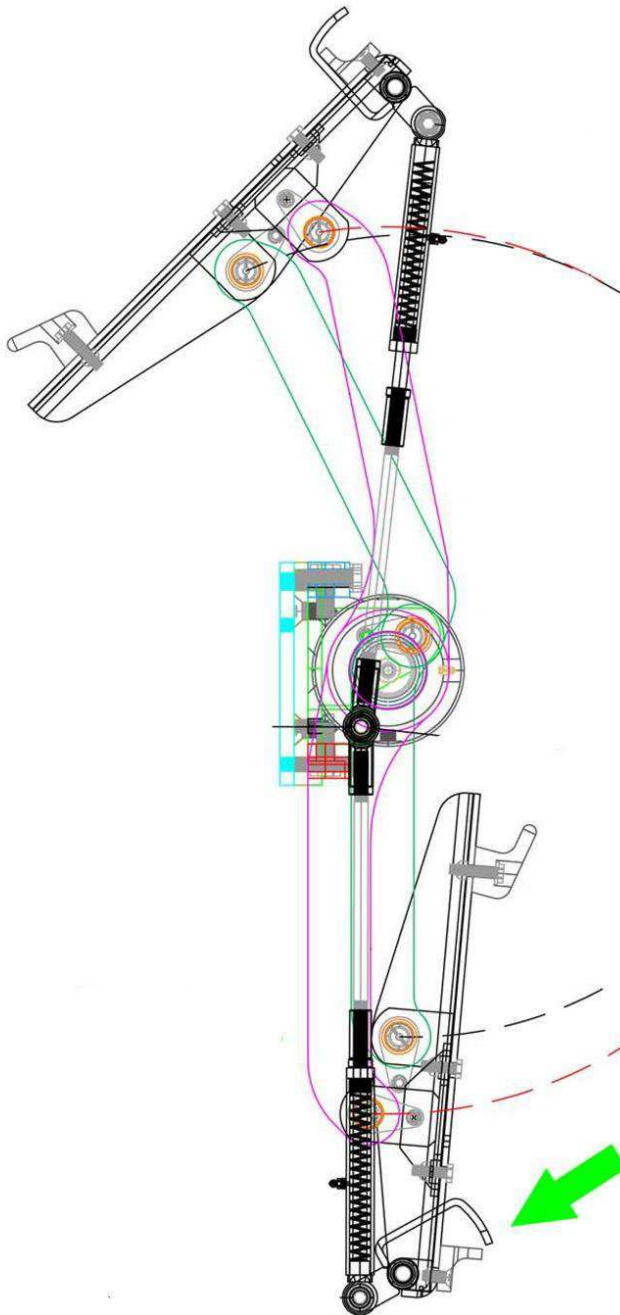
Make sure all hardware is firmly tightened. If any hardware loosens they may be affixed with Blue Loc-tite type 242 thread locker.

Perkins uses anti-seize lubrication on the shafts of the actuator when applying the driver bearing hubs. This typically does not wash away and helps in reducing corrosion. This makes removing the driver bearing hubs off the splines easier in the future. When rebuilding a lifter, reapply a fresh coating of anti-seize on the splines.

There is a wide variety of carts, some of which do not meet ANSI standards. Customers may experience engagement issues with some particular brands of carts and in circumstances like these, spacers can be added behind the upper saddle or behind the lower stop to extend them out from the faceplate. This helps certain brands/sizes of carts to lock to the lifter better. If you experience any difficulties with the cart type you have, please call Perkins at 800-882-5292 to discuss the problem and Perkins will advise the best solution to meet your needs.



Adjusting the Lifter



**CAUTION:
DON'T BEND YOUR
PLUNGER ROD!**

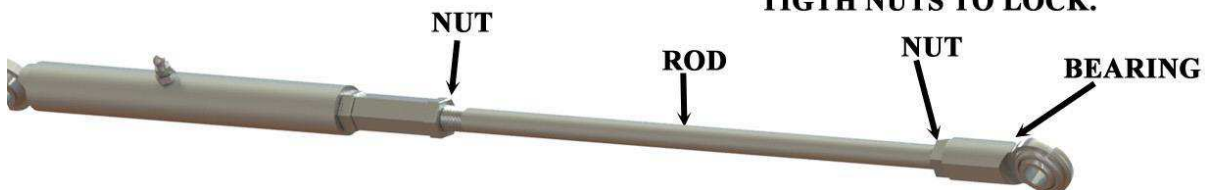
**IT IS A COMMON MISTAKE
WHILE SERVICING TO
FIT THE PLUNGER WITH
THE LIFTER UP, AND THEN
BEND THE PLUNGER
ON THE WAY DOWN DUE
TO IMPROPER LENGTH
ADJUSTMENT. WHEN THE
LIFTER IS UP, THE PLUNGER
IS STRETCHED!!!**

**WHEN ADJUSTED, PLUNGER
CAN BE MOVED BY HAND
AND THIS WILL SPRING BACK**

**USE THE CORRECT
LENGTH ADJUSTMENT
AS SHOWN AND THE
PLUNGER WILL NEVER
BEND. (PLUNGERS
ONLY WORK BY PULLING,
SO THEY CANNOT BEND
FROM NORMAL USE).**

**WHEN ADJUSTED
LATCH MUST BE ABOVE LOWER
STOP WHEN LIFTER IS CLOSED.
(APPROXIMATELY AS SHOWN)**

**LOOSE NUTS TO ADJUST
SCREW OUT ROD AND/OR BEARING
TO INCREASE DISTANCE.
SCREW IN ROD AND/OR BEARING
TO DECREASE DISTANCE.
TIGHT NUTS TO LOCK.**



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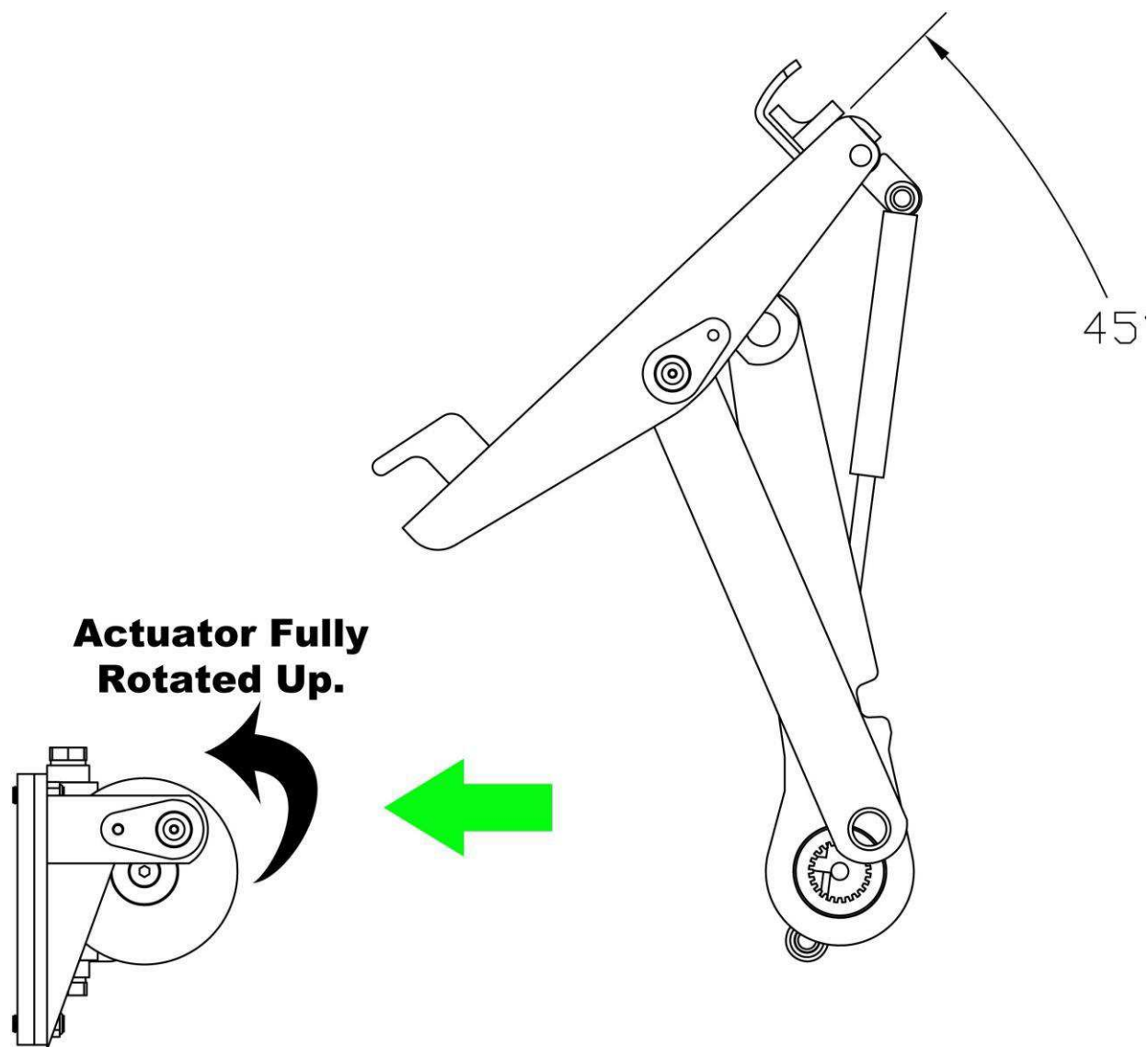
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Reassembling the Faceplate to the Actuator

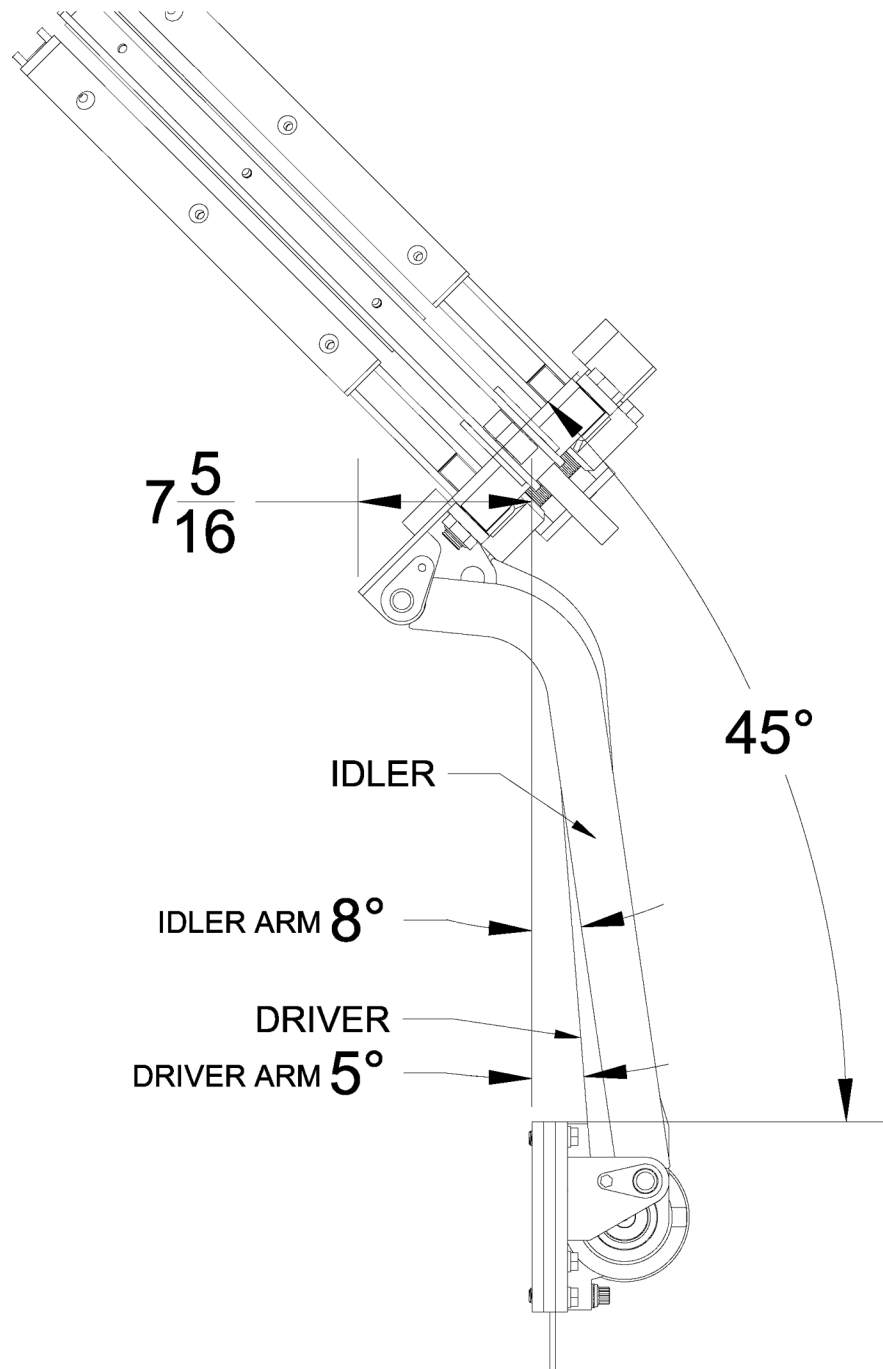
After a major tear-down, reassembling the lifter can be made simple when you remember to make matching marks on the teeth and driver hubs.

However, if this is forgotten, the correct position can be discovered by this method below. Rotate the actuator to the fully up position as shown in the diagram. Install the faceplate assembly so that the face is 45 degrees above the horizon.

Each tooth offers separation of 12.8 degrees, so if you use the wrong tooth, it should be readily obvious and easily correctible.



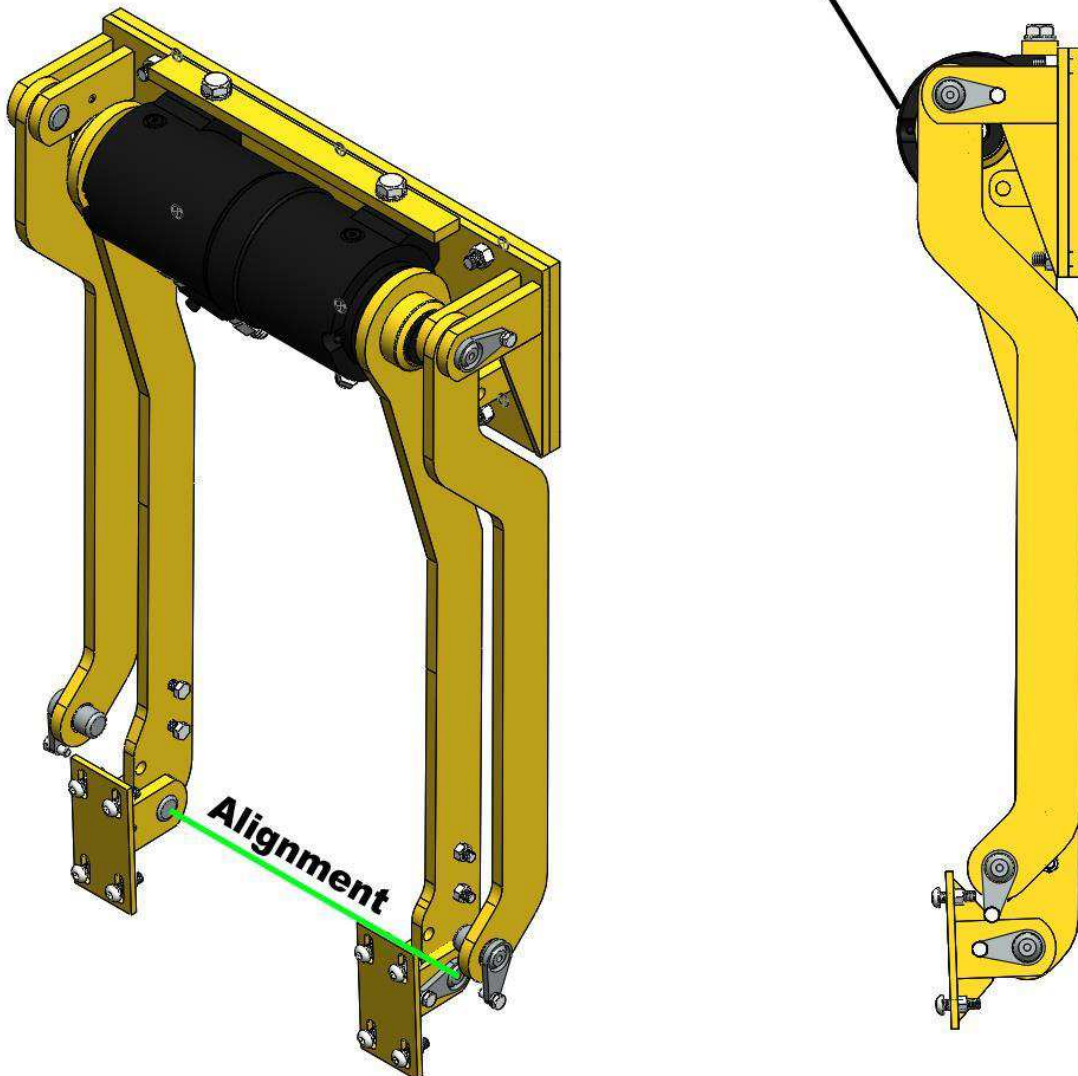
Reassembling the Faceplate to the Actuator



TO ADD DRIVER ARMS, ROTATE THE ACTUATOR "ALL THE WAY UP" UNTIL IT STOPS INTERNALLY. THEN MOUNT THE DRIVER ARMS AT THE ANGLES SHOWN ABOVE. YOU SHOULD GET 45° ON THE FACEPLATE ONCE YOU ADD THE IDLERS IN THIS POSITION. (DIMS ARE APPROXIMATE). THE TEETH OF THE SPLINES ARE 12.8° APART, SO IF YOU ARE ON THE WRONG TOOTH, YOU'LL KNOW.



**When re-installing the driver arms
be careful that the arms line up
on the same tooth of the actuator.**



**Misalignment will cause the bottom points
to not line up, which makes it impossible
to rebuild the lifter correctly.**



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.

Another possibility is the adjustable flow control, D63575 not functioning properly. Check the arrow printed on the valve body. The valve should be installed so the arrow points away from the actuator. Adjust, clean, or replace the adjustable flow control valve as needed.

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. (for reference, the lifter is designed to lift 400 lbs of household trash. A cart full of concrete, construction debris, or water, can easily weigh 500-600 lbs and should not be lifted)

The 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 all pressures are set properly and then the actuator may have internal leakage. Test for internal leakage by running the lifter all the way up and dead-head the lifter up. Note the pressure gage and see that the pressure stays constant as the hand valve is held depressed. If the pressure falls, you may have internal leakage and the actuator should be repaired/rebuilt with new seals.

Lifter operates slowly

Check the flow adjustment on the diverter valve. Use a flow meter to make sure each lifter receives approximately 1.5 gpm.

Be sure it is receiving the correct amps. The DC pump requires 250 amps to operate at peak performance, which requires the heavy gauge wires to be run up directly to the truck's battery.

The pump may be faulty, unable to deliver the desired flow.



Lifter breaks the lower bars of carts

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

Check adjustment of plunger assembly and threaded rod assembly. Check function of plunger. Adjust 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 6-8 seconds. Make sure the pressure is set no higher than 1950 psi.

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

Lifter drops carts

A common problem is the lower latch is not adjusted correctly or the latch is damaged or unable to move freely. Check, clean and grease the parts as necessary to achieve free motion of the latch and appropriate latch timing.

Make sure the upper hook is not damaged and make sure the lower stop is in place. Some customers have been known to remove the lower stop, but this leads to dropping carts and latch damage.

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.

Lifter or dump body do not operate at all

Check your electrical connections. Truck must be running and battery cables connected. Check the 250 amp fuse located in the fuse box next to the pump. Also check the smaller 20 amp fuse located on the black wire coming out from the pedant control cable.



Making a Warranty Claim

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.

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

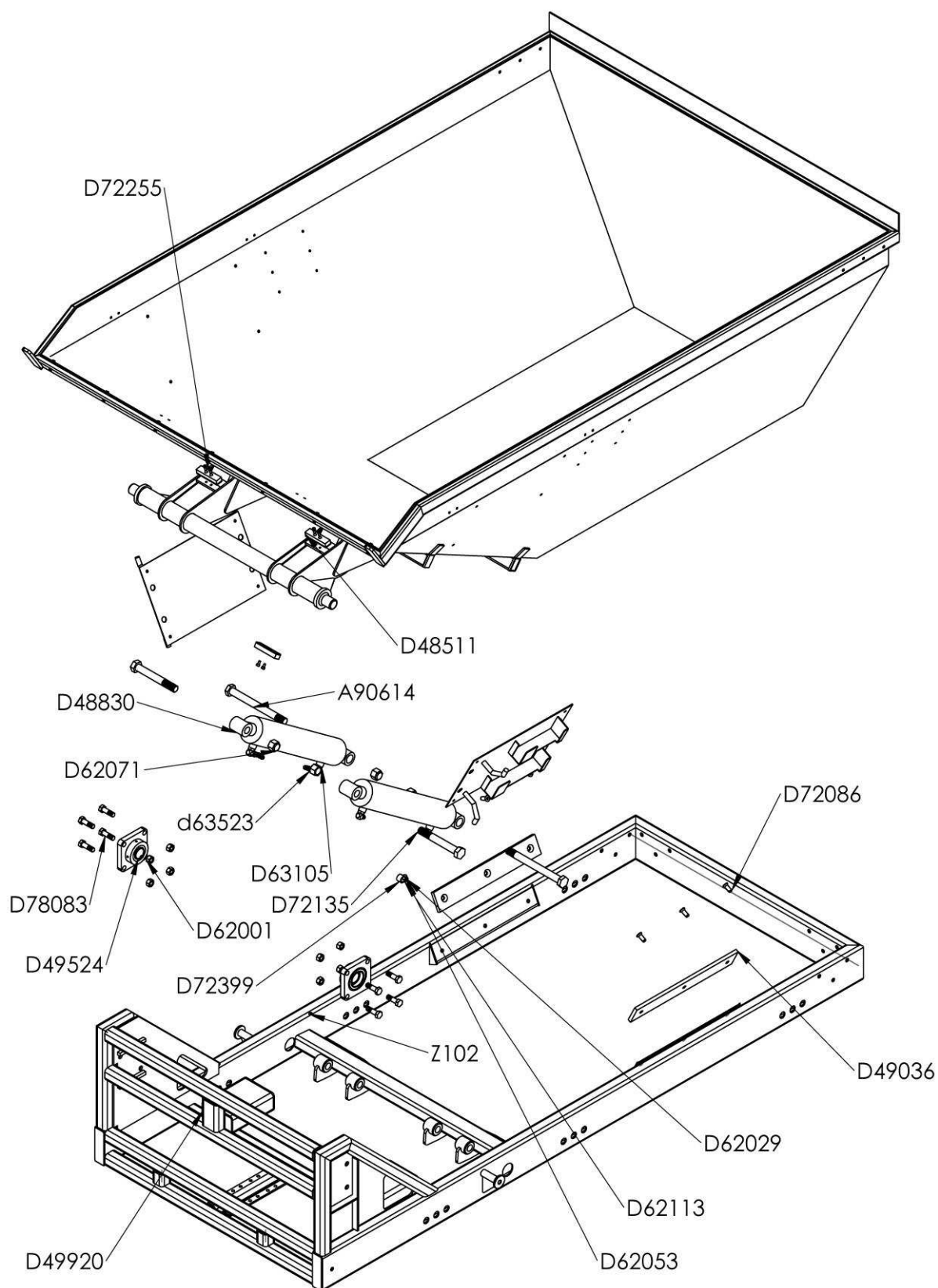


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Parts list S3-H01

Item	Description	Qty
D48874	Plastic Block Spacer REV A	1
D48616	#6 Hydraulic Hose Assy x 32" long MATCHMATE GLOBAL/EATON/AEROEQUIP GH681-6 Standard #6 Female Swivel JIC straight ends	1
D48617	#6 Hydraulic Hose Assy x 28" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	1
D48619	#6 Hydraulic Hose Assy x 40" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	1
D49036	UHMW BUMPER - SAT BODY REST	2
D62018	SPLIT LOCKWASHER 1/4" GR 8, ZINC PLATED	8
D48511	RUBBER BUMPER w/ BACKING STRIP Rev B	6
D62043	BOLT HHCS 3/8-16 X 3/4 GR8, ZINC PLATED	2
D72086	BOLT FHCS 1/2-13 X 1, GR8, ZINC PLATED	6
D72135	BOLT HHCS 1-8 X 7.5" GR 8, ZINC PLATED	2
D72255	BOLT SHCS 1/4-20 X 1/2, GR8, ZINC PLATED	8
D72419	PERKINS LOGO LABEL 16" long tip to tip diamond-cut	2
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8" high	4
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	2
D63597	ADAPTER #6MO-#6FT	2
D63523	TEE #6MT - #6MT - #6FT	2
D62457	LOCKNUT 1/4-20 GR8 ZINC PLATED	4
D63011	ELBOW 90 #6MT-#6MO	4
D63074	ADAPTER #6MT - #6MO	2
D63105	ELBOW 90 #6MT - #8MO	4
D62106	SPLIT LOCKWASHER 3/8" ZINC PLATED	2
D48830	Hydraulic Cylinder 3.5" x 16" Stroke - (24" retracted)	2
D62001	LOCKNUT 5/8-11 Distorted Thread, Grade 8, Zinc-plated	8
D62029	SAE FLATWASHER 5/16 x .688 OD (ZINC PLATED)	1
D62053	SPLIT LOCKWASHER 5/16" ZINC PLATED	3
D62113	BOLT HHCS 5/16-18 X 3/4 GR8, Zinc Plated	1
D72247	BOLT HHCS 5/16-18 X 2 GR8 ZINC PLATED	2

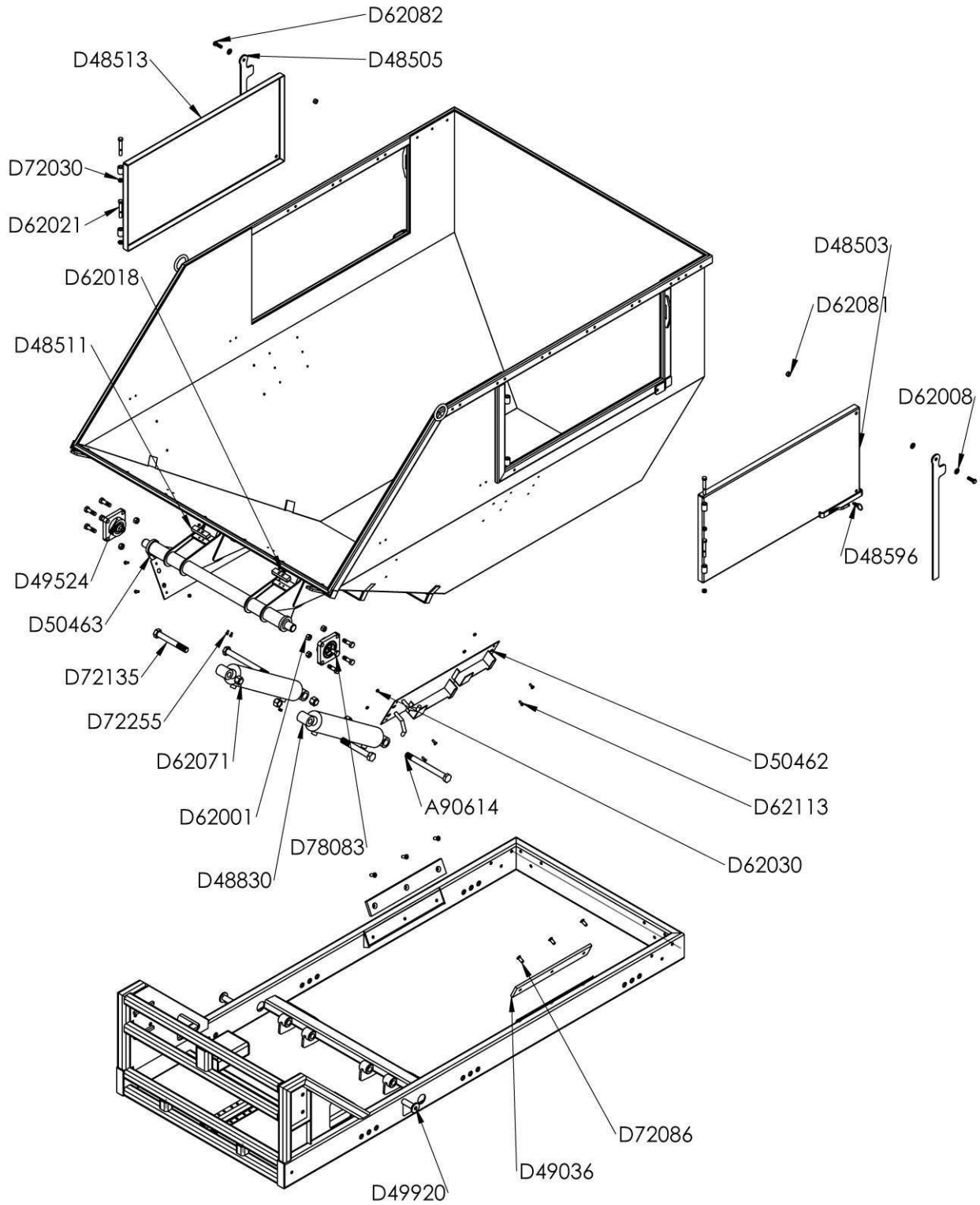


Parts list S3-H01 Cont.

Item	Description	Qty
D78083	BOLT HHCS 5/8-11 X 2 GR8, ZINC PLATED	8
D49524	1 1/2 BEARING WELD, 4X4 HOLES	2
D49920	Universal Base Frame For Satellites REV.C	1
D48657	3YD BODY WELD COMPLETE-NO TARP rev B	1
A90877-35	HOSE ASSY #6 x 35" LONG REV A W/#6 HOSE FEMALE JIC ENDS, BOTH ENDS AEROQUIP/EATON # GH681-6	1
D67576	Rubber Truck Bumper HALF-BARREL, 4-HOLE	2
D62484	USS FLATWASHER 1/2 x 1.37 OD ZINC PLATED	8
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	13
D72042	BOLT HHCS 1/2-13 X 2 1/2, GR8, ZINC PLATED	8
D72260	BOLT HHCS 1-8 X 10 SPECIAL, ZINC PLATED	2
D65925	SET SCREW 1/4-28 X 3/8 (CONE P	4
D50019	Side Bushing, Plastic Spacer Disc REV A	2
D72256	BOLT SHCS 1/4-20 X 3/4 GR8, ZINC PLATED	4
D72208	LOCKNUT 1-8-THIN 1/2" high, ZINC PLATED	2
D48917	RUBBER EXTENSION 16" KIT CONVEYOR BELT WITH HARDWARE, 3 & 6 yd SAT	1
D49976	CYLINDER SAFETY PROP BRACE ASSEMBLY	1



Exploded Parts View S6-H01



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Parts list S6-H01

Item	Description	Qty
D48874	Plastic Block Spacer REV A	2
D48616	#6 Hydraulic Hose Assy x 32" long MATCHMATE GLOBAL/EATON/AEROEQUIP GH681-6 Standard #6 Female Swivel JIC straight ends	2
D48617	#6 Hydraulic Hose Assy x 28" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	2
D48619	#6 Hydraulic Hose Assy x 40" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	1
D49036	UHMW BUMPER - SAT BODY REST	2
D48511	RUBBER BUMPER w/ BACKING STRIP Rev B	2
D48503	CURBSIDE DOOR WELD 6yd - FORMED PANEL STYLE REV D	1
D48505	DOOR LOCKER BAR 6 yd REV A	2
D48596	SPRING BACK PULL PIN	2
D48513	STREETSIDE DOOR WELD 6yd - FORMED PANEL STYLE REV D	1
D72030	LOCKNUT THIN 1/2-13, X 5/16" HIGH, ZINC PLATED	4
D72086	BOLT FHCS 1/2-13 X 1, GR8, ZINC PLATED	6
D72135	BOLT HHCS 1-8 X 7.5" GR 8, ZINC PLATED	2
D62021	BOLT HHCS 1/2-13 X 3 1/2 GR8, Zinc Plated	4
D72255	BOLT SHCS 1/4-20 X 1/2, GR8, ZINC PLATED	4
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8" high	2
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	8
D63105	ELBOW 90 #6MT - #8MO	4
D48830	Hydraulic Cylinder 3.5" x 16" Stroke - (24" retracted)	2
D48890	DUMP BODY WELD rev D	1
D62001	LOCKNUT 5/8-11 Distorted Thread, Grade 8, Zinc-plated	8
D62082	BOLT HHCS 1/2-13 X 1 1/2- GR8 (zinc plate)	2
D72247	BOLT HHCS 5/16-18 X 2 GR8 ZINC PLATED	2
D78083	BOLT HHCS 5/8-11 X 2 GR8, ZINC PLATED	8
D49524	1 1/2 BEARING WELD, 4X4 HOLES	2
D49920	Universal Base Frame For Satellites REV.C	1
D72208	LOCKNUT 1-8-THIN 1/2" high, ZINC PLATED	2
D62030	LOCKNUT 5/16-18 GRADE 8 ZINC PLATED	2
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	2
D62011	SPACER 1" ID X 2" OD 18GA, ZINC PLATED	4

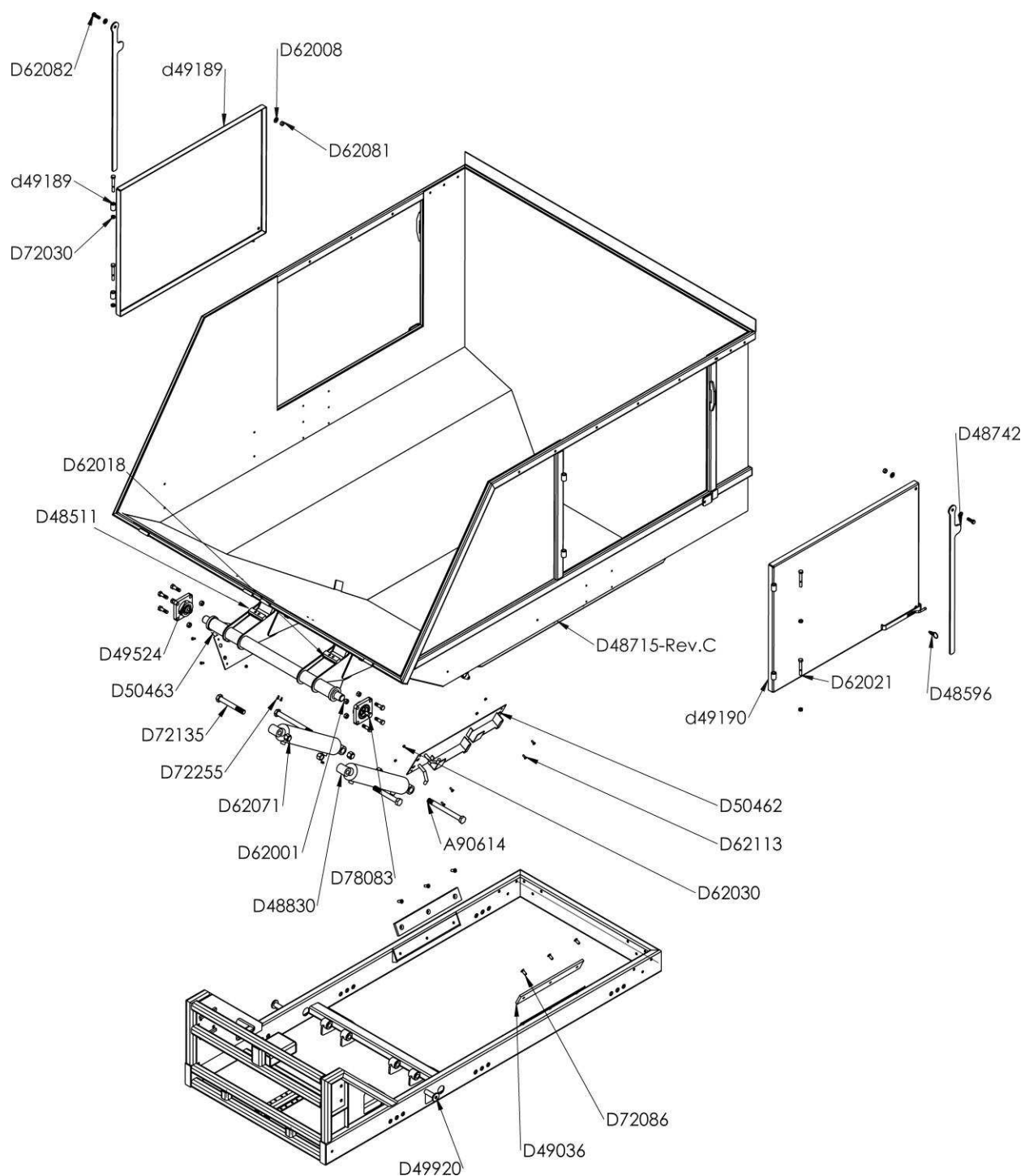


Parts list S6-H01 Cont.

Item	Description	Qty
D62484	USS FLATWASHER 1/2 x 1.37 OD ZINC PLATED	14
D62112	BOLT HHCS 1/2-13 x 2 1/4 Gr8, Zinc Plated	8
D72260	BOLT HHCS 1-8 X 10 SPECIAL, ZINC PLATED	2
D50019	Side Bushing, Plastic Spacer Disc REV A	2
D67576	Rubber Truck Bumper HALF-BARREL, 4-HOLE	2
D63147	ELBOW 45 6MT-6MO	2
A90877-26	#6 Hydraulic Hose Assy x 26" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	1
A90877-35	HOSE ASSY #6 x 35" LONG REV A W/#6 HOSE FEMALE JIC ENDS, BOTH ENDS AEROQUIP/EATON # GH681-6	1
D72090	SAT UNIT WARNING/LOGO LABEL PACK	1
D62028	BOLT HHCS 5/16-18 X 1 1/4 GR8, Zinc Plated	1
D72009	DRIVE SCREW #6-3/8 PLATED	4
D62106	SPLIT LOCKWASHER 3/8" ZINC PLATED	2
D48917	RUBBER EXTENSION 16" KIT CONVEYOR BELT WITH HARDWARE, 3 & 6 yd SAT	1
D72852	Self-Tapping Screws, #12 X 1" LONG, 5/16 HEX DRIVE HEAD	8
D49905	Mounting Kit For Bed Mounted Satellites REV A	1
D72063	BOLT HHCS 3/4-10 X 2 GR8, ZINC PLATED	8
D72132	LOCKNUT 3/4-10, GR 8, ZINC PLATED	8
D50465	Pendant Bracket Kit, bed mount	1
D49976	CYLINDER SAFETY PROP BRACE ASSEMBLY	1



Exploded Parts View S8-H01



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Parts list S8-H01

Item	Description	Qty
D48874	Plastic Block Spacer REV A	1
D48616	#6 Hydraulic Hose Assy x 32" long MATCHMATE GLOBAL/EATON/AEROEQUIP GH681-6 Standard #6 Female Swivel JIC straight ends	1
D48617	#6 Hydraulic Hose Assy x 28" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	1
D48619	#6 Hydraulic Hose Assy x 40" long MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 Standard #6 Female Swivel JIC straight ends	1
D48594	#6 Hydraulic Hose Assy x 16" long MATCHMATE GLOBAL/EATON/AEROEQUIP GH681-6 Standard #6 Female Swivel JIC straight ends	2
D49036	UHMW BUMPER - SAT BODY REST	2
D62018	SPLIT LOCKWASHER 1/4" GR 8, ZINC PLATED	8
D48511	RUBBER BUMPER w/ BACKING STRIP Rev B	6
D48596	SPRING BACK PULL PIN	2
D62043	BOLT HHCS 3/8-16 X 3/4 GR8, ZINC PLATED	2
D72030	LOCKNUT THIN 1/2-13, X 5/16" HIGH, ZINC PLATED	4
D72086	BOLT FHCS 1/2-13 X 1, GR8, ZINC PLATED	6
D72135	BOLT HHCS 1-8 X 7.5" GR 8, ZINC PLATED	2
D62021	BOLT HHCS 1/2-13 X 3 1/2 GR8, Zinc Plated	4
D72255	BOLT SHCS 1/4-20 X 1/2, GR8, ZINC PLATED	8
D72399	1/2" Clamp Loop	1
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8" high	4
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	2
D63597	ADAPTER #6MO-#6FT	2
D63523	TEE #6MT - #6MT - #6FT	2
D62457	LOCKNUT 1/4-20 GR8 ZINC PLATED	3
D63011	ELBOW 90 #6MT-#6MO	4
D63074	ADAPTER #6MT - #6MO	2
D63105	ELBOW 90 #6MT - #8MO	4
D62106	SPLIT LOCKWASHER 3/8" ZINC PLATED	2
D48830	Hydraulic Cylinder 3.5" x 16" Stroke - (24" retracted)	2
D34207	Pin arm (Weldment); Zinc plated	1
D34224	1/4 x 2.5 pull pin	1
D62001	LOCKNUT 5/8-11 Distorted Thread, Grade 8, Zinc-plated	8



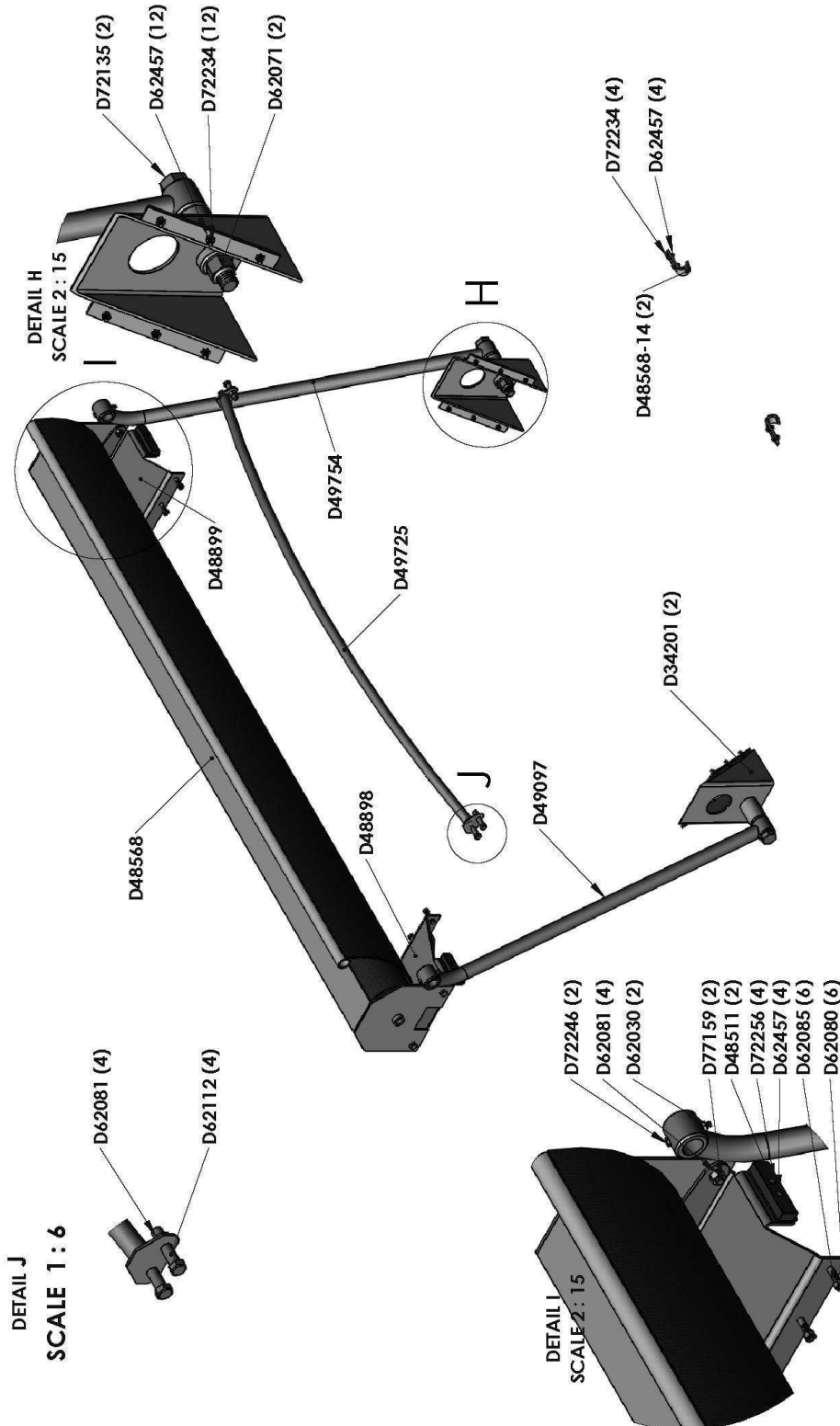
Parts list S8-H01 Cont.

Item	Description	Qty
D62008	SAE FLATWASHER 1/2 X 1.06 OD ZINC PLATED	4
D62029	SAE FLATWASHER 5/16 x .688 OD (ZINC PLATED)	1
D62053	SPLIT LOCKWASHER 5/16" ZINC PLATED	3
D62082	BOLT HHCS 1/2-13 X 1 1/2- GR8 (zinc plate)	2
D62113	BOLT HHCS 5/16-18 X 3/4 GR8, Zinc Plated	1
D72043	BOLT HHCS 1/4-20 X 1 1/4 GR8, ZINC PLATED	1
D72247	BOLT HHCS 5/16-18 X 2 GR8 ZINC PLATED	2
D78083	BOLT HHCS 5/8-11 X 2 GR8, ZINC PLATED	8
D49524	1 1/2 BEARING WELD, 4X4 HOLES	2
D49920	Universal Base Frame For Satellites REV.C	1
D48715	8YD Container Body Weld, Bed Mount Rev F	1
D49189	STREETSIDE DOOR WELDMENT - 8yd, Folded Panel Style	1
D49190	CURBSIDE DOOR WELDMENT - 8yd, Folded Panel Style	1
D48742	DOOR LATCH ROD EXTENDED 8 yd	2
D72090	SAT UNIT WARNING/LOGO LABEL PACK	1
A90877-35	HOSE ASSY #6 x 35" LONG REV A W/#6 HOSE FEMALE JIC ENDS, BOTH ENDS AEROQUIP/EATON # GH681-6	1
D48595	DOOR LATCH - SELF LOCKING	4
D62011	SPACER 1" ID X 2" OD 18GA, ZINC PLATED	8
D72852	Self-Tapping Screws, #12 X 1" LONG, 5/16 HEX DRIVE HEAD	8
D50383	RUBBER EXTENSION 16" CONVEYOR BELT WITH HARDWARE, 8 YD SAT	1
D72063	BOLT HHCS 3/4-10 X 2 GR8, ZINC PLATED	8
D72132	LOCKNUT 3/4-10, GR 8, ZINC PLATED	8
D72260	BOLT HHCS 1-8 X 10 SPECIAL, ZINC PLATED	2
D50019	Side Bushing, Plastic Spacer Disc REV A	2
D50465	Pendant Bracket Kit, bed mount	1
D49976	CYLINDER SAFETY PROP BRACE ASSEMBLY	1
D49905	Mounting Kit For Bed Mounted Satellites REV A	1



S3 Exploded Tarp Kit – D49039-3

*Sold Separately



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D49039-3 Parts List

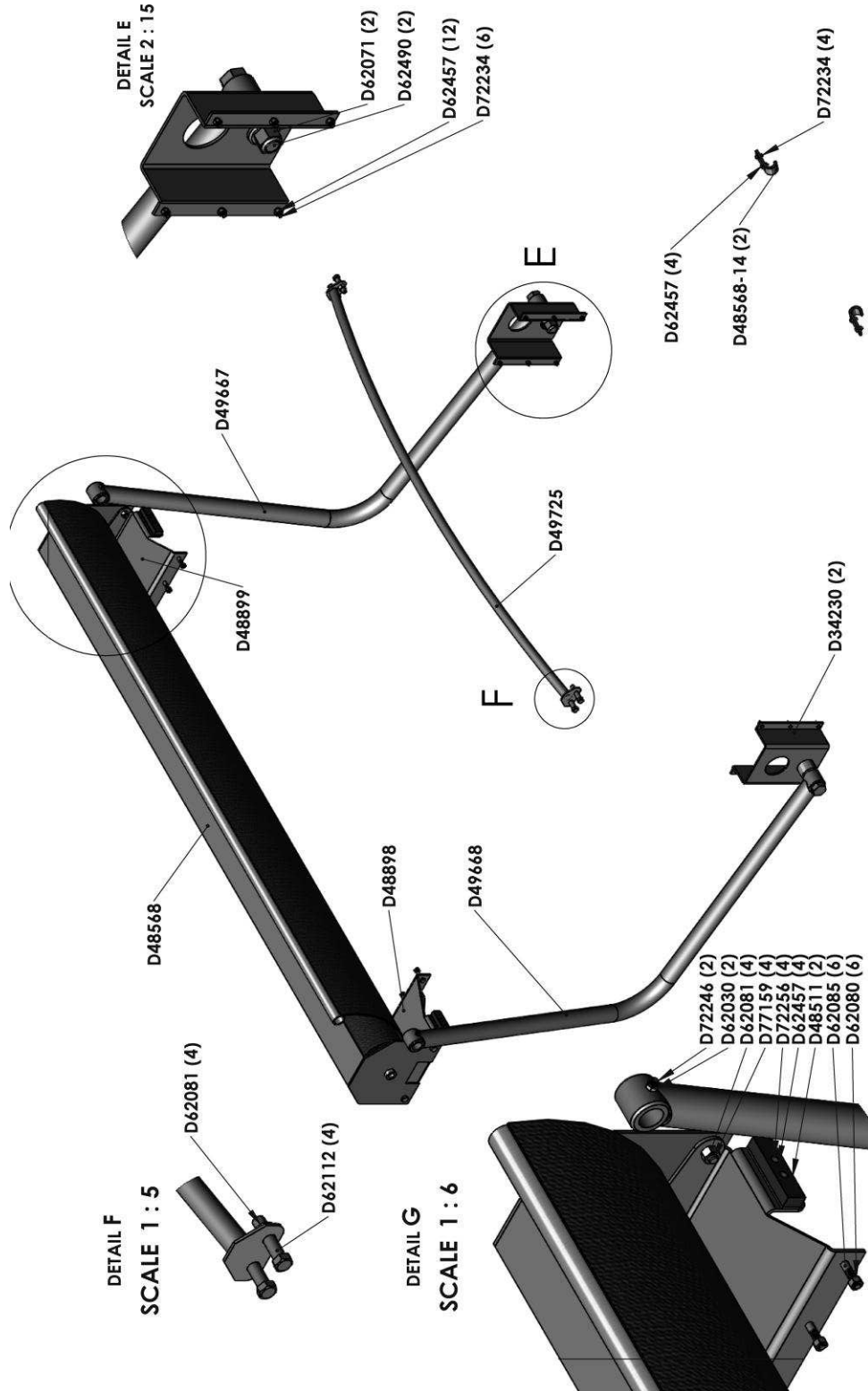
*Sold Separately

Item	Description	Qty
D48568	3&6yd Tarp Assembly Kit - Solid Vinyl (Standard)	1
D48898	LH Tarp wing weld -6yd SAT	1
D48899	RH Tarp Wing Weld -6yd SAT	1
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	6
D34201	Attachment for tarp	2
D62457	LOCKNUT 1/4-20 GR8 ZINC PLATED	20
D72234	BOLT HHCS 1/4-20 X 3/4 GRADE 8, ZINC PLATED	16
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8" high	2
D48511	RUBBER BUMPER w/ BACKING STRIP Rev B	2
D62030	LOCKNUT 5/16-18 GRADE 8 ZINC PLATED	2
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	4
D62085	BOLT HHCS 3/8-16 x 1 3/4 GR8, Zinc Plated	6
D72135	BOLT HHCS 1-8 X 7.5" GR 8, ZINC PLATED	2
D72246	BOLT HHCS 5/16-18 X 2 1/2 GR8, ZINC PLATED	2
D72256	BOLT SHCS 1/4-20 X 3/4 GR8, ZINC PLATED	4
D77159	BOLT HHCS 1/2-13 X 1, GR 8 (ZINC PLATED)	4
D48568-14	J-Hook # 12282	2
D49097	Left hand 3yd Tarp Arm Weldment - REV A	1
D49754	Right hand 3yd Tarp Arm Weldment - REV B	1



S6 Exploded Tarp Kit – D49039-2

*Sold Separately



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D49039-2 Parts List

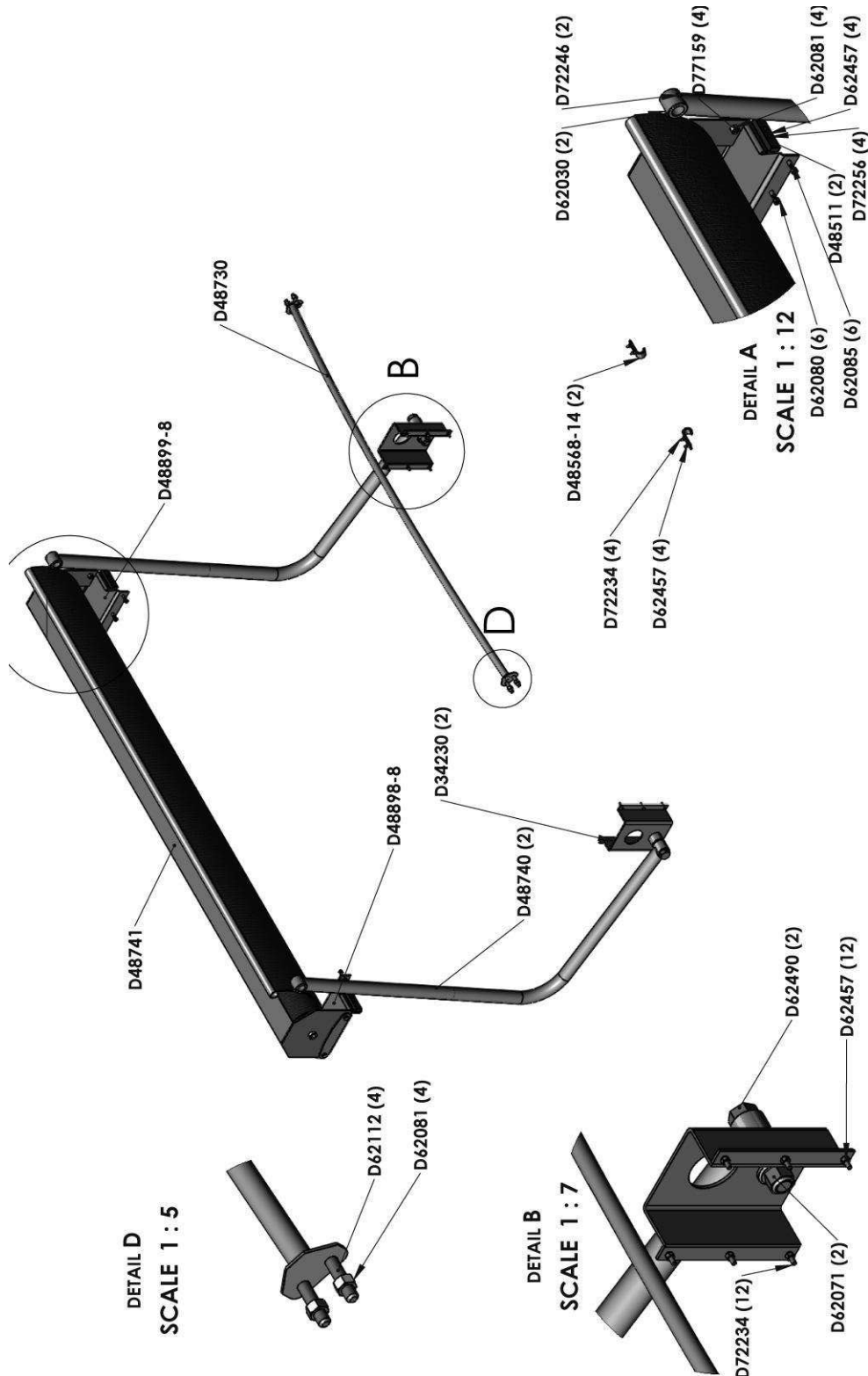
*Sold Separately

Item	Description	Qty
D48568	3&6yd Tarp Assembly Kit - Solid Vinyl (Standard)	1
D48898	LH Tarp wing weld -6yd SAT	1
D48899	RH Tarp Wing Weld -6yd SAT	1
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	6
D62457	LOCKNUT 1/4-20 GR8 ZINC PLATED	20
D72234	BOLT HHCS 1/4-20 X 3/4 GRADE 8, ZINC PLATED	16
D48668	LH TARP ARM WELD -SHORT	1
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8" high	2
D48667	RH TARP ARM WELD-SHORT	1
D48511	RUBBER BUMPER w/ BACKING STRIP Rev B	2
D62030	LOCKNUT 5/16-18 GRADE 8 ZINC PLATED	2
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	8
D62085	BOLT HHCS 3/8-16 x 1 3/4 GR8, Zinc Plated	6
D62112	BOLT HHCS 1/2-13 x 2 1/4 Gr8, Zinc Plated	4
D72246	BOLT HHCS 5/16-18 X 2 1/2 GR8, ZINC PLATED	2
D72256	BOLT SHCS 1/4-20 X 3/4 GR8, ZINC PLATED	4
D77159	BOLT HHCS 1/2-13 X 1, GR 8 (ZINC PLATED)	4
D34230	Attachment Weld for Tarps	2
D62490	BOLT HHCS 1-8 x 5" Gr8, Zinc Plated	2



S8 Exploded Tarp Kit – D49039-8

*Sold Separately



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D49039-8 Parts List

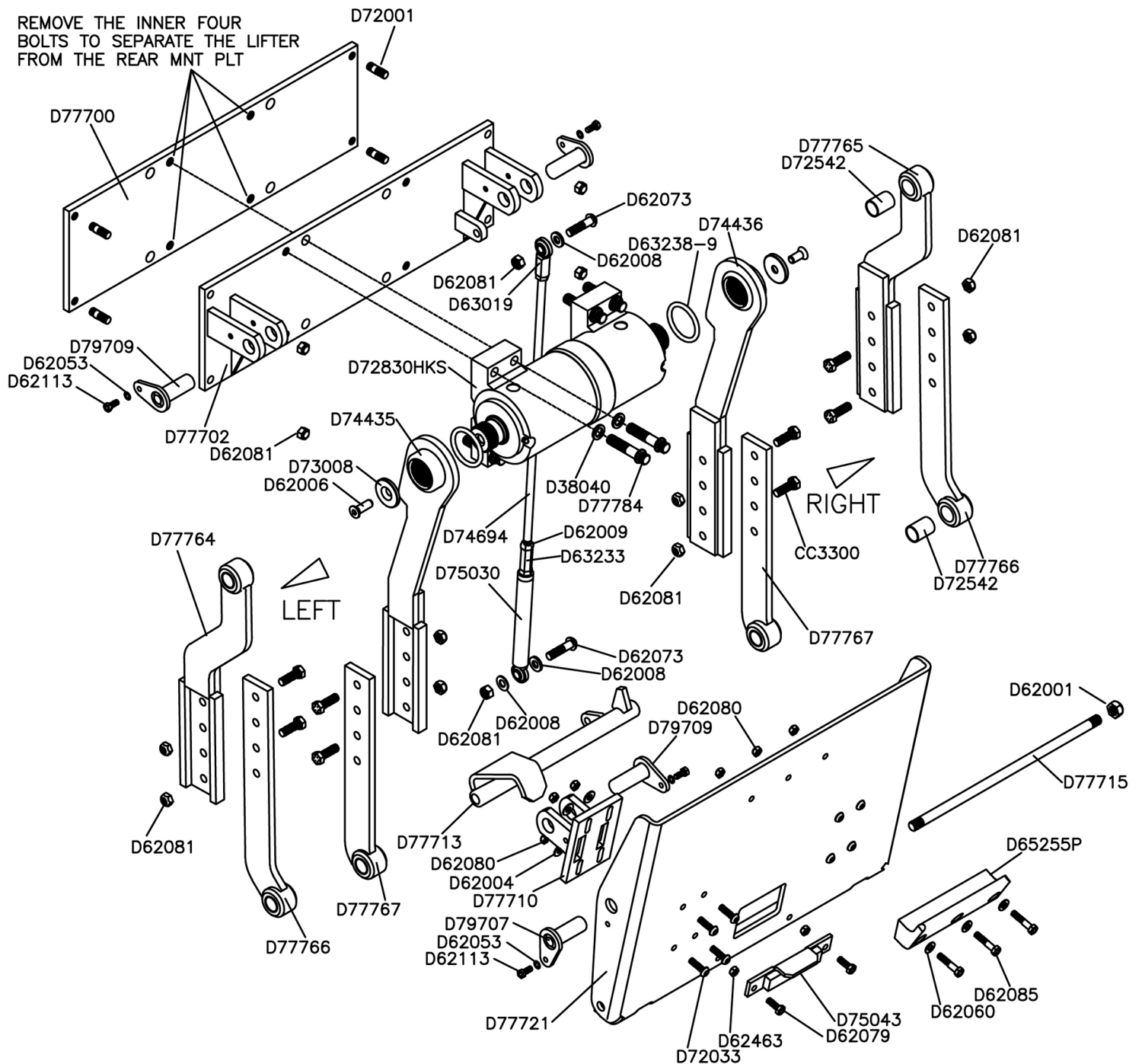
*Sold Separately

Item	Description	Qty
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	6
D62457	LOCKNUT 1/4-20 GR8 ZINC PLATED	16
D62071	LOCKNUT 1-8 - Grade 8, Zinc-plated, 7/8" high	2
D48511	RUBBER BUMPER w/ BACKING STRIP Rev B	2
D62030	LOCKNUT 5/16-18 GRADE 8 ZINC PLATED	2
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	8
D62085	BOLT HHCS 3/8-16 x 1 3/4 GR8, Zinc Plated	6
D62112	BOLT HHCS 1/2-13 x 2 1/4 Gr8, Zinc Plated	4
D72246	BOLT HHCS 5/16-18 X 2 1/2 GR8, ZINC PLATED	2
D72256	BOLT SHCS 1/4-20 X 3/4 GR8, ZINC PLATED	4
D77159	BOLT HHCS 1/2-13 X 1, GR 8 (ZINC PLATED)	4
D48898-8	LH Tarp Wind Weld - 8yd SAT	1
D48899-8	RH Tarp Wing Weld -8yd SAT	1
D48741	8 Yard 97in US Tarp Assembly - Solid Material. Includes tarp, spool, housing.	1
D48730	TARP SUPPORT WELDMENT	1
D48740	TARP ARM WELDMENT REV A	2
D34230	Attachment Weld for Tarps	2
D62490	BOLT HHCS 1-8 x 5" Gr8, Zinc Plated	2
D72234	BOLT HHCS 1/4-20 X 3/4 GRADE 8, ZINC PLATED	16



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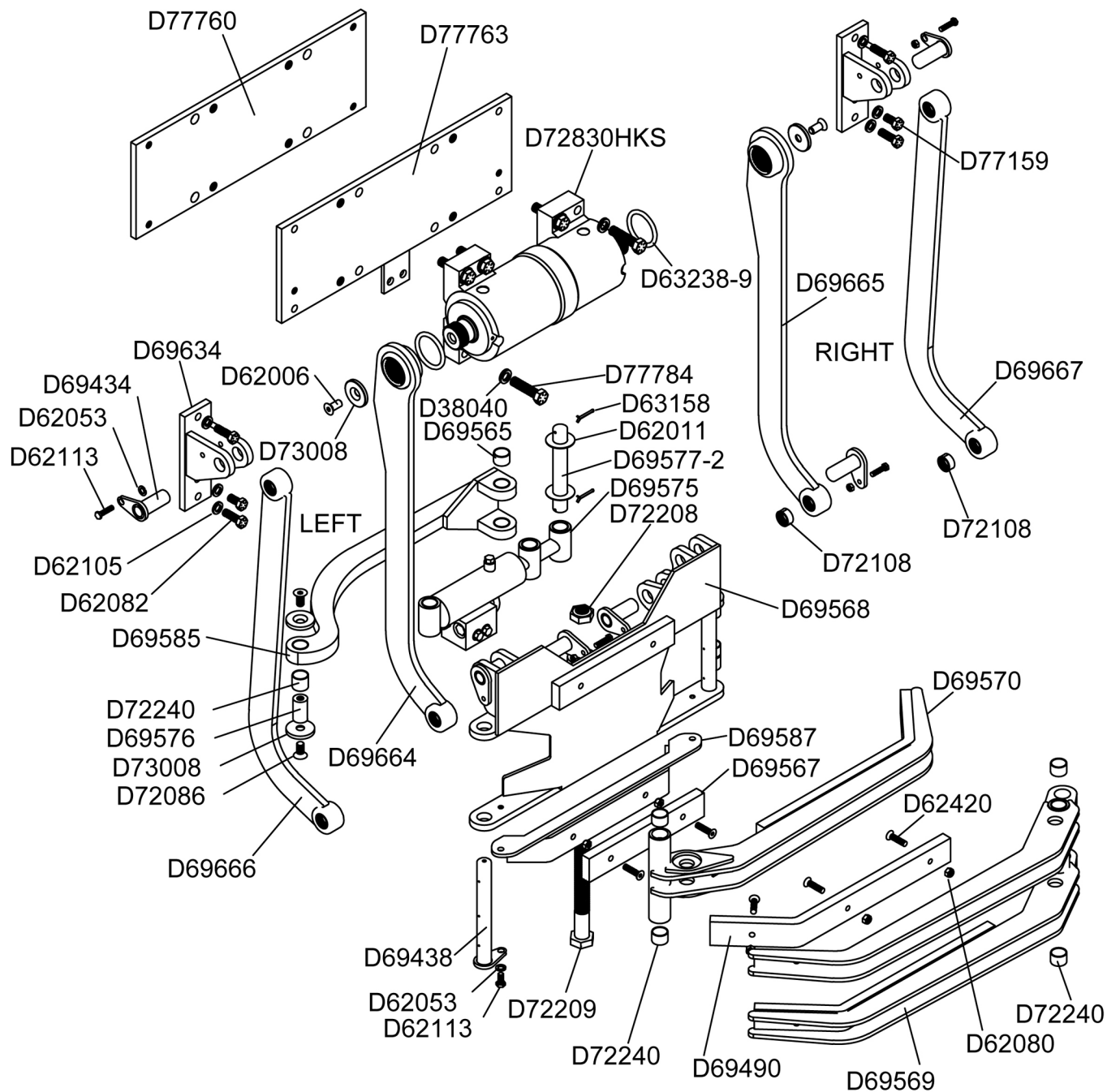


Part number	Description	Qty.
D62001	LOCKNUT 5/8-11 DISTORTED THREAD, GRADE 8, ZINC-PLATED	2
CC3300	BOLT HHCS 1/2-13 X 1 1/2 GRADE L9 L	8
D62004	USS FLATWASHER 3/8 X 1 OD ZINC PLATED	8
D62006	BOLT FHCS 1/2-13 X 1 1/4 GR8; ZINC PLATED	2
D62008	SAE FLATWASHER 1/2 X 1.06 OD ZINC PLATED	5
D62053	SPLIT LOCKWASHER 5/16" ZINC PLATED	6
D62060	SAE FLATWASHER 3/8 ID x 13/16 OD X 1/8TH ZINC PLATED	3
D62073	BOLT BHCS 1/2-13 X 2 GR8, ZINC PLATED	2
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	11
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	16
D62085	BOLT HHCS 3/8-16 x 1 3/4 GR8, ZINC PLATED	3
D62113	BOLT HHCS 5/16-18 X 3/4 GR8, ZINC PLATED	6
D62410	BOLT HHCS 5/8-11 X 1 1/2 Gr 8, ZINC PLATED	2
D62463	LOCKNUT 3/8-16 THIN, ZINC PLATED	2
D63029	PLASTIC GREASE ZERK CAP	9
D63074	ADAPTER #6MT - #6MO	1
D63238-9	EXTERNAL HUB SEAL O-RING	2
D63431	REDUCER #6FT-#8MT	1
D63491	SERIAL NUMBER PLATE	1
D63562	CAP #8 JIC	2
D63581	ELBOW 45°, #6MT - #6FT	1
D63596	ADAPTER #6MO - #6MO	1
D63663	ELBOW 45°, #6MO - #8MT	1
D65255P	PLASTIC UPPER HOOK (REV B)	1
D72001	STUD 1/2-13 X 1 3/4, ZINC PLATED (REV A)	4
D72009	DRIVE SCREW #6-3/8 PLATED	4
D72019	BOLT FHCS 5/8-11 X 1 1/4 LG, ZINC PLATED	4
D72028	90° GREASE ZERK 1/4-28	2
D72033	BOLT BHCS 3/8-16 X 1 1/4, GR 8, ZINC PLATED	8
D72113	LABEL - PERKINS LOGO, DIAMOND CUT, 4" LONG X 2 1/2" HIGH, SOLID COLOR (NOT A GRADIENT)	1
D73008	ACTUATOR FLANGE 515583 (REV E)	2
D74435	UPPER LH DRIVER ARM WELD	1
D74436	UPPER RH DRIVER ARM WELD	1
D74695	PLUNGER ASSY, W/ROD EYE X 33 1/4 LG - 57" MTG	1
D75043	ORIGINAL LOWER STOP-WELD (REV A)	1
Z102	GREASE ZERK STR. 1/4-28 515550	6
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	2
D72631	LABEL - "MADE IN THE USA"	1
D77702	FRONT MOUNTING PLATE WELDMENT	1



[illegible]

Exploded View, WD6098b-56C+



Part number	Description	Qty.
D44020	RETENSION DISC	2
D62006	BOLT FHCS 1/2-13 X 1 1/4 GR8; ZINC PLATED	2
D62053	SPLIT LOCKWASHER 5/16" ZINC PLATED	2
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	4
D62081	LOCKNUT 1/2-13 GRADE 8 ZINC PLATED	5
D62105	SPLIT LOCKWASHER 1/2" ZINC PLATED	10
D62106	SPLIT LOCKWASHER 3/8" ZINC PLATED	2
D62112	BOLT HHCS 1/2-13 x 2 1/4 GR8, ZINC PLATED	4
D62113	BOLT HHCS 5/16-18 X 3/4 GR8, ZINC PLATED	2
D62420	BOLT FHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	2
D62458	SPLIT LOCKWASHER 5/8" ZINC PLATED	4
D63029	PLASTIC GREASE ZERK CAP	11
D63124	BULKHEAD ELBOW 90°, #6MT - #6MT	2
D63238-9	EXTERNAL HUB SEAL O-RING	2
D63431	REDUCER #6FT-#8MT	2
D63562	CAP #8 JIC	2
D63581	ELBOW 45°, #6MT - #6FT	2
D63584	CAP #6 FEMALE JIC	2
D69434	SHORT PINLOCK WELD Ø1 X 2 7/16 (REV G)	6
D72028	90° GREASE ZERK 1/4-28	2
D72113	LABEL - PERKINS LOGO, DIAMOND CUT, 4" LONG X 2 1/2" HIGH, SOLID COLOR (NOT A GRADIENT)	1
Z102	GREASE ZERK STR. 1/4-28 515550	7
D63004	#6 HYDRAULIC HOSE ASSY X 48" MATCHMATE GLOBAL/EATON/AEROEQUIP #GH681-6 STANDARD #6 FEMALE SWIVEL JIC STRAIGHT ENDS WITH HOSE WRAP	2
D69664	DRIVER ARM WELD LH -CURVED 56 (REV A)	1
D69665	DRIVER ARM WELD RH -CURVED 56 (REV A)	1
D69666	IDLER ARM WELD LH - CURVED 56	1
D69667	IDLER ARM WELD RH -CURVED 56	1
D6098-G	FOLDING ARM AUTO-LIFTER - GRIPPER ARM ASSEMBLY ONLY	1
D72631	LABEL - "MADE IN THE USA"	1
D72830HKS	27K ACTUATOR, WIDE FEET, 220° ROTATION, MFG BY HKS (REV A)	1
D77760	REAR MOUNTING PLATE (REV A)	1
D77763	MOUNTING PLATE WELDMENT	1
D72589	LABEL - "CAUTION" FOR D6220-TYPE MODELS	1
D72590	LABEL - "CAUTION" FOR D6220-TYPE MODELS - SPANISH	1
D38040	NORD-LOCK LOCKWASHER 5/8" (REV A) OUTER DIA MUST BE 1.00"	8

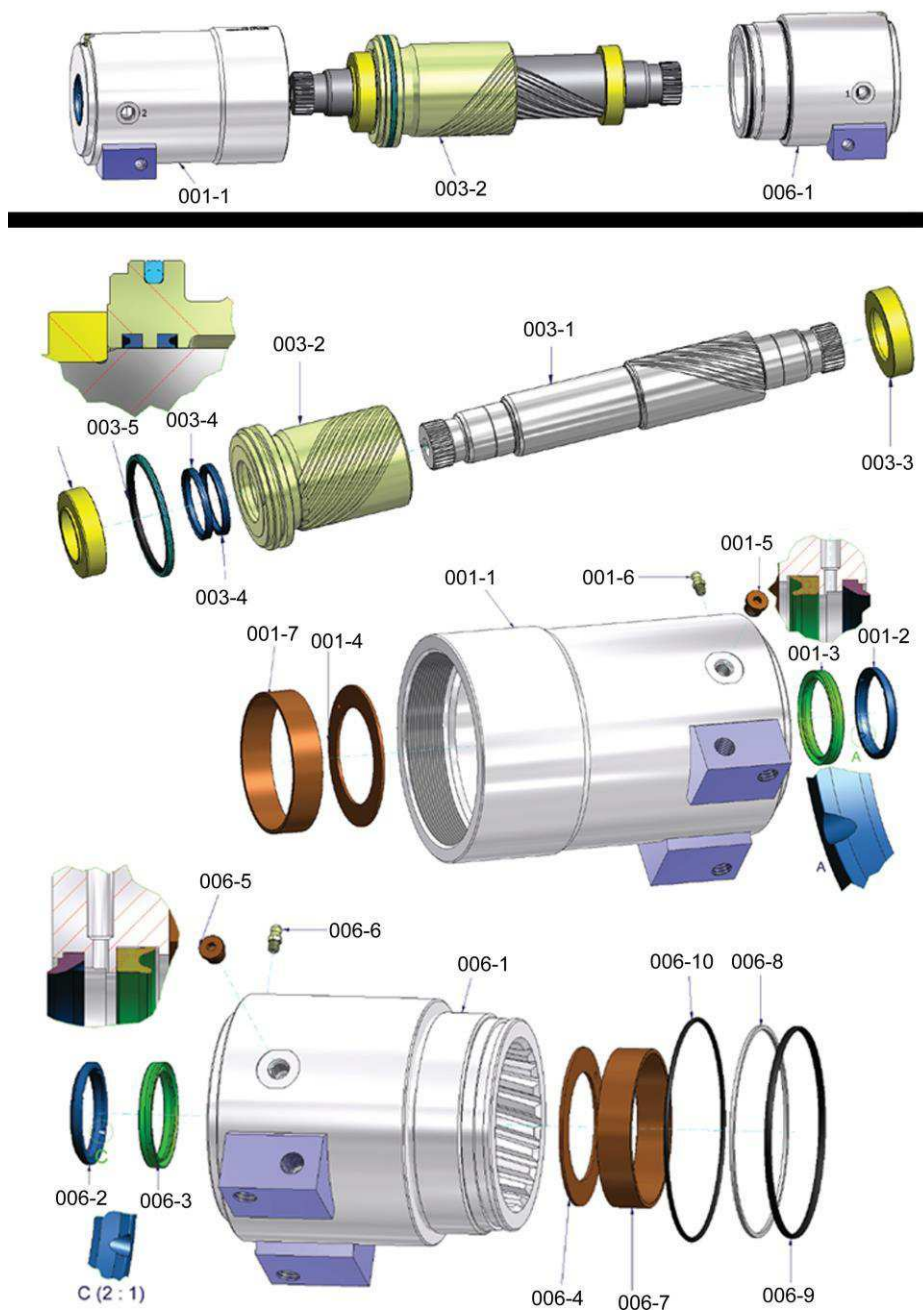


Part number	Description	Qty.
D77784	12pt FLANGE BOLT 5/8-11 x 2 3/4" LONG, ZINC PLATED (REV	8
D72163	LABEL - GREASE POINT, (REV B)	1
D72498	LABEL - WARNING HYDRAULICS (REV A)	1
D69634	IDLER LUG WELD	2
D77159	BOLT HHCS 1/2-13 X 1, GR 8 (ZINC PLATED)	2
D62082	BOLT HHCS 1/2-13 X 1 1/2- GR8 ZINC PLATED	4
D73008	ACTUATOR FLANGE 515583 (REV E)	2
D63521-KIT	RELIEF VALVE ADD-ON HOSE TAIL KIT (RELIEVES GRIPPER PRESSURE)	1
D63182	ADAPTER #6MT-#6MO 1/16 ORIFICE *MUST BE COLOR: BLACK*	1
D63074	ADAPTER #6MT - #6MO	1
D72238	BOLT HHCS 1/2-13 X 1 3/4 GR8, ZINC PLATED	4
D69568	NEW FACEPLATE WELDMENT (REV C)	1
D69569	DOUBLE RH GRIP ARM WELD	1
D69585	LINKAGE ARM WELDMENT (REV D)	1
D69575	HYDRAULIC CYLINDER ASSEMBLY W/ MANIFOLD & x2 PO CHECK CARTRIDGES 2" BORE X 3" STROKE (REV C)	1
D72209	BOLT HHCS 1-8 X 9, GR 8, ZINC PLATED	1
D69576	SHORT PIN, INTERNAL THREADS Ø1 X 1 3/4	1
D62044	BOLT FHCS 3/8-16 X 1 1/4 GR8, ZINC PLATED	9
D72086	BOLT FHCS 1/2-13 X 1, GR8, ZINC PLATED	2
D73008	ACTUATOR FLANGE 515583 (REV E)	2
D69490	RUBBER PAD (REV C)	3
D69570	SINGLE LH GRIP ARM WELD (REV A)	1
D69577-2	LONG PIN W/HOLES Ø1 X 6 13/16	1
D63158	COTTER PIN 7/64" x 2"	2
D62011	SPACER 1" ID X 2" OD 18GA, ZINC PLATED	2
D69438	PIVOT PIN WELD, ARM Ø1 X 8 7/16 515587 (REV F)	2
D72208	LOCKNUT 1-8-THIN X 1/2" HIGH, ZINC PLATED	1
D62079	BOLT HHCS 3/8-16 X 1 GR8 ZINC PLATED	4
D63201	ADAPTER #4MO - #6MT W/.063 ORIFICE *MUST BE COLOR: BLACK*	1
D69591	LOWER BUMPER ADD ON KIT	1
D69567	CENTER RUBBER STRIP (REV A)	1
D62420	BOLT FHCS 3/8-16 X 1 1/2 GR8, ZINC PLATED	4
D62080	LOCKNUT 3/8-16 GR 8 ZINC PLATED	11
D62106	SPLIT LOCKWASHER 3/8" ZINC PLATED	4
D72242	ADAPTER #4MO - #6MT	1



HKS 27k Actuator Parts Guide

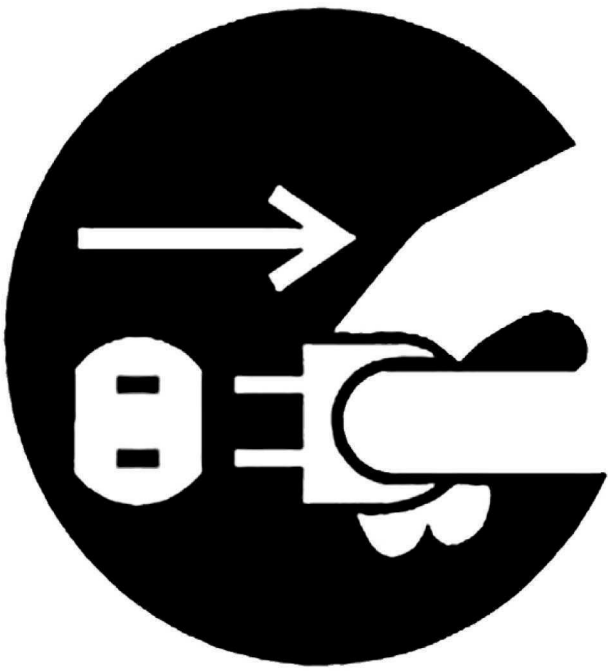
The housing pieces 001-1 & 006-1 and the piston 003-2 are not replaceable due to the need to mate the parts at the factory for the correct fit. Seals are sold only in kit form which includes all the seals for one actuator. Bearings/Wear strips are sold only in kit form, which includes all bearings and wear strips for one actuator. These actuators will be stamped with a SN# starting with #S55



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 WARNING	
	Unplug the unit when not in use. Desconecte la unidad cuando no este en uso.

Do not paint over this label. Replace if damage

D72724

Make sure to unplug pump assembly at D48584 to prevent battery drain when the vehicle is off.

⚠ ATENCIÓN NO pise ni se pare sobre esta superficie.		⚠ CAUTION Do NOT step or stand on this surface.
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Label # D72545



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⚠️ ATENCIÓN Punta Peligrosa. Mantenga las manos alejadas.		⚠️ CAUTION Pinch point hazard. Keep hands clear.
© Perkins Manufacturing Company 800-882-5292		Label # D72496

⚠️ PELIGRO Manténgase alejado del levantador. Un golpe causaría lesiones o la muerte.		⚠️ DANGER Stand clear of lift. Contact will cause injury or death.
Reorder No. D72497		

⚠️ ATENCIÓN Peligro puede ser aplastado. No se coloque debajo del contenedor cuando esté elevado.		⚠️ CAUTION Crush hazard. Do not stand below container when it is elevated.
Reorder No. D72523		

⚠️ ATENCIÓN ¡Peligro de colisión! No permita el cóntácto entré la cubeta de carga y el alza conténedor. ¡Se producirán daños!		⚠️ CAUTION Collision hazard! Do not allow bucket and cart lifter to collide. Damage will occur!
© Perkins Manufacturing Company 800-882-5292		Label # D73124



Protective Safety Labeling

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.

OSHA 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.

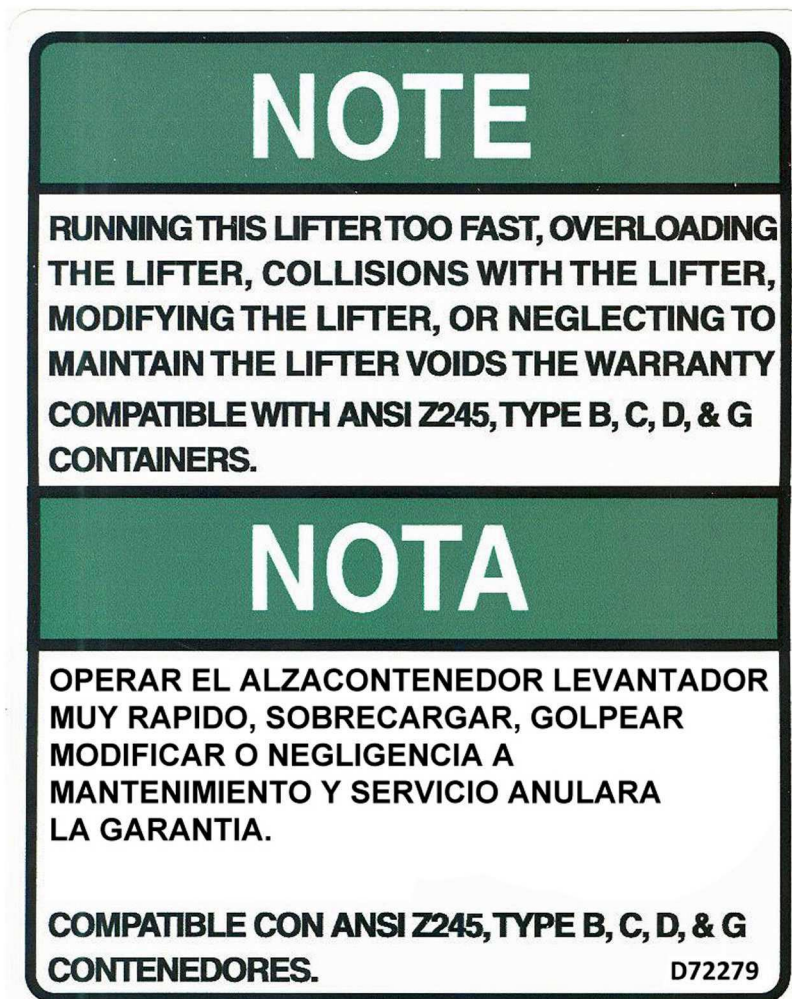


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Dress appropriately for work with pants and sleeves that are not too long or too loose. Shirts should be fitted or tucked in. Avoid wearing loose and dangling jewelry. Tie back long hair and tuck braids and ponytails behind you or into your clothing.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



! PELIGRO Peligro puede ser electrocutado. Cerciorese de la ausencia de lineas electricas antes de vaciar.		! DANGER Overhead electrocution hazard. Check for overhead power lines before dumping.
©Perkins Manufacturing Company		Label # D72494

Use caution when using the Satellite unit for overhead or low hanging power lines. When driving be mindful of overhead or low hanging power lines for danger of electrocution. When dumping look out for powerlines as to not damage power lines. Injury or damage may occur truck and/or operator if hazards are closely monitored.

NOTICE	
Maintenance Requirements	
	Read and understand manual prior to operating this equipment. Follow maintenance guidelines per the manual. Inspect machine daily prior to use and report any problems to service immediately. Failure to operate and maintain the unit within guidelines will void the warranty.
	Perkins Manufacturing Company 800-882-5292 www.perkinsmfg.com
©Clarion Safety Systems, LLC clarionsafety.com 17039	
Reorder No. D72499	



	NOTICE
	Grease all zerks on a weekly basis to maintain warranty.
	Re-grease after power washing.
	Visit www.perkinsmfg.com for important updates. Please read the manual prior to operating or adjusting this machine for important information.

Perkins Manufacturing, Company 708 482 9500 Label # D72163

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 greased. 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.

⚠ CAUTION	
	Pinch point hazard. Keep hands clear. Worker can be injured by moving parts.
	Skin injection hazard. Protect your hands & body from high pressure fluids. Relieve pressure before servicing. Do not check for leaks with your bare hands.
Compatible with ANSI Z245.60 type containers only.	
Cycle time must be 3-4 seconds up / 3-4 seconds down. Faster operation can cause damage and injury.	

Perkins Manufacturing, Company 708 482 9500 Label # D72589

⚠ ATENCIÓN	
	Punta Peligrosa. Mantenga las manos alejadas. El trabajador puede lesionarse moviendo partes.
	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.
Compatible con ANSI Z245.60 solo contenedores de tipo.	
El tiempo del ciclo debe ser 3-4 segundos arriba / 3-4 segundos abajo. Una operación más rápida puede causar daños y lesiones.	

Perkins Manufacturing, Company 708 482 9500 Label # D72590



Safety Labels

You will find these labels on your product.

Follow all safety precautions
at all times.

All users of the product must
be trained in safety procedures and
have read and understand this manual.

Safety is the number one priority.

Operators of the product are responsible
for their own safety as well as the
safety of others who may enter the
workspace where the product is
operating. Attention and awareness
while working around moving machinery
is critical to having a safe work day.

REFER TO YOUR MANUAL!

THE WARRANTY WILL BE VOIDED IF:
CYCLE TIME EXCEEDS WHAT IS
STATED IN THE MANUAL, LOADING
THE LIFTER IN EXCESS OF 400 LBS,
COLLISIONS WITH THE LIFTER,
MODIFYING THE LIFTER WITHOUT
AUTHORIZATION FROM PERKINS, OR
NEGLECTING TO MAINTAIN LIFTER.



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Label # CA1078

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800-882-5292

Revised: 01/09/26

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.



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Revised: 08/08/23
Addendum

1-YEAR LIMITED WARRANTY

SAT structural components carry a 1-year limited warranty.

PTO pumps carry a 1-year limited warranty.

6 MONTH LIMITED WARRANTY

12v hydraulic power packs carry a 6-month limited warranty.

90-DAY LIMITED WARRANTY

Backup cameras, monitors, strobe/work lights, sensors, and other electrical accessories will carry a 90-day limited warranty.

NO WARRANTY

Wear items (items made of plastic or rubber like bumpers and rollers) are excluded from the warranty.



Before claiming warranty for an issue, a customer should call our service team and perform a reasonable amount of guided troubleshooting with our service technician to rule out any simple problems / easy fixes / user error.

The majority of issues are usually resolved after a few simple double checks. The goal of troubleshooting is to get your equipment up and running as soon as possible, saving time and money.

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 OSHA 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.

**Manufacturing Company***Updated 9/18/2026***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 20% 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 reserves the right to refuse a return.

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 MERCHANTABILITY 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 APPROPRIATE, 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.