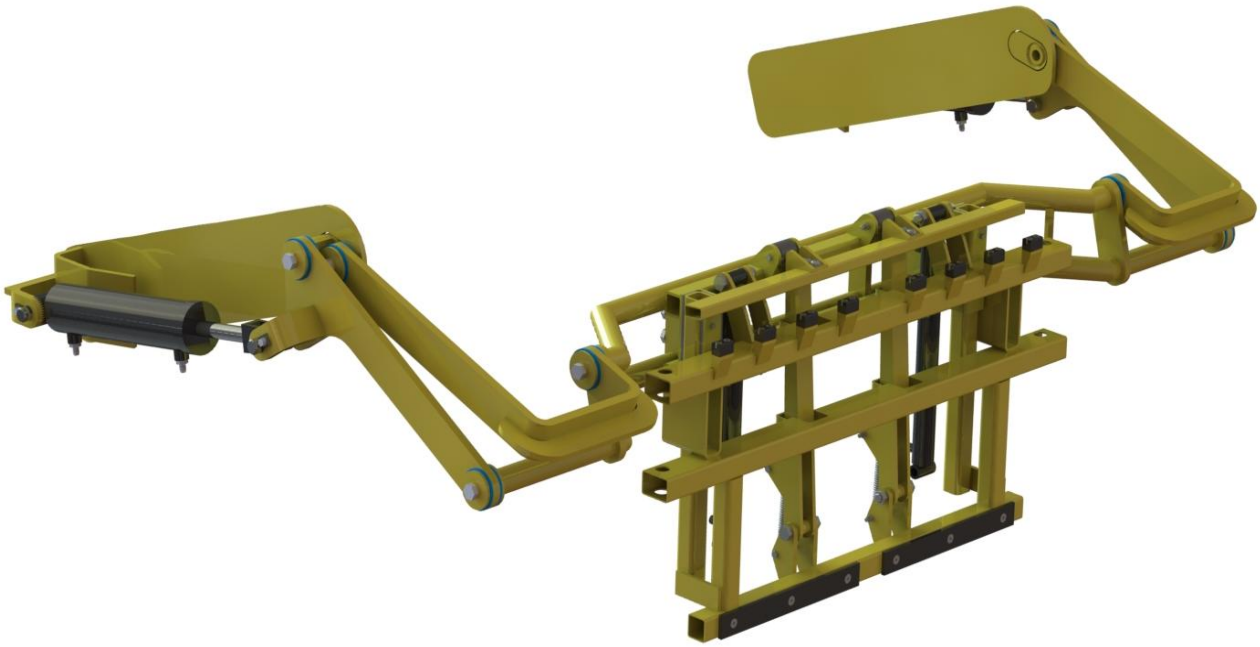
Installation & Operational Manual

Model D6540

Hydraulic Cart Lifter



D6540 Lifter Specifications

Cart Compatibility	D6540	ANSI Type C, European Style Carts From 80 to 1100 Litters
	D6540 + Hooks	ANSI Type C, European Style Carts From 80 to 1100 Litters Plus ANSI Type B, US two bar carts from 35 Gal. to 96 Gal.
	D6540 + Arms	ANSI Type C, European Style Carts From 80 to 1100 Litters and additional gripping on trunnions style carts.
	D6540 + Hooks + Arms	ANSI Type C, European Style Carts From 80 to 1100 Litters and additional gripping on trunnions style carts. Plus ANSI Type B, US two bar carts from 35 Gal. to 96 Gal.
	D6540 +Bumpers	ANSI Type C, European Style Carts From 80 to 1100 Litters. Plus up to 4yds commercial containers with the assistance of truck's latch and ears.
Typical Mounting Application		Rearloader
Tipper-Bar Compatible?		No.
Flow Rate Requirement		6-8 gpm
Cycle Time		8-12 seconds (up and down)
Recommended Pressure Setting*		1,900 psi at the pressure relief valve
Maximum System Pressure		3,000 psi
Weight Capacity**		2000 lbs
Dump Angle		45 to 50 degrees from the horizon
Approximate Unit Weight (not counting packaging)		800 lbs
Hydraulic Package		Tap-In kits are sold separately
Warranty		1-year ***

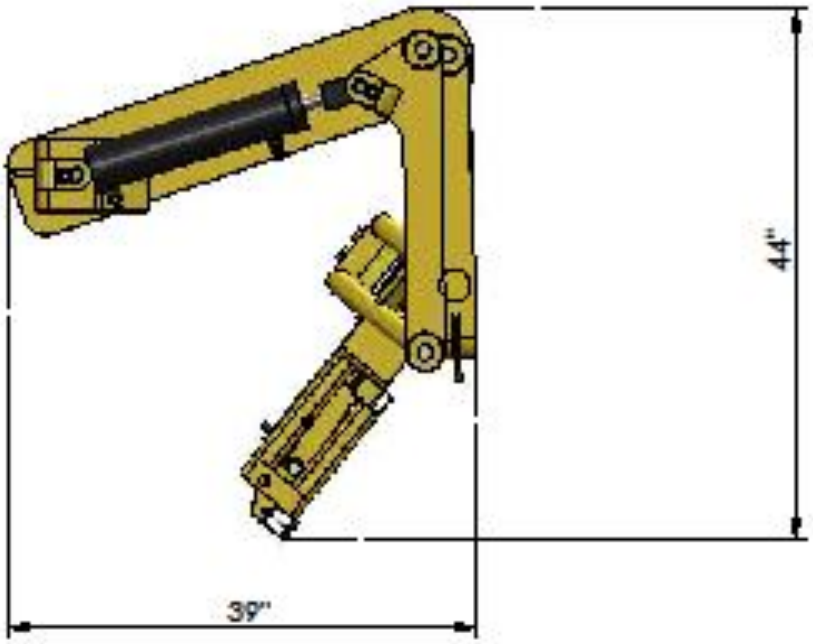
Perkins regularly makes product improvements. Specifications are subject to change without notice.

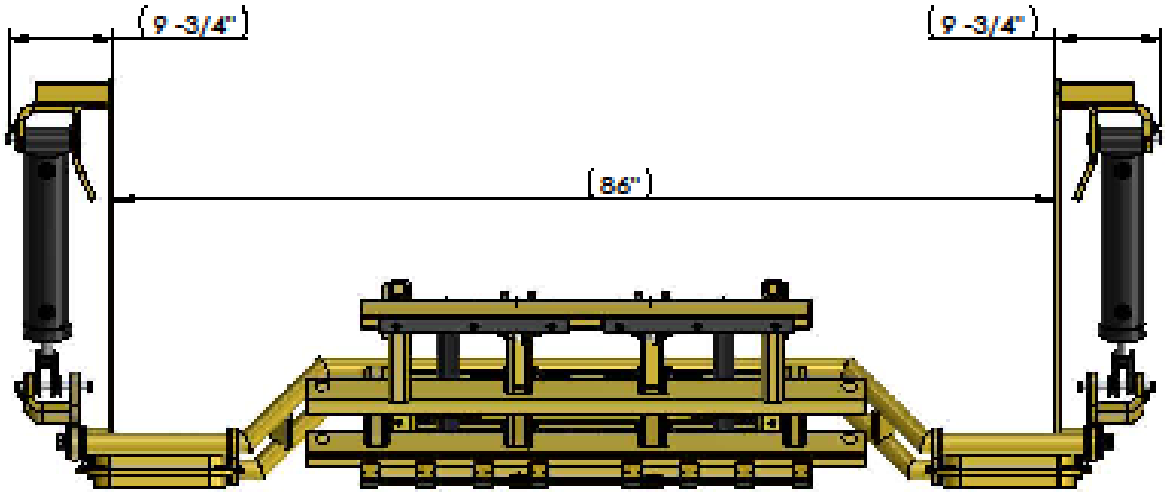
* Actual pressure required to lift a load can vary.

** 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 enclosed in this manual for full details of coverage

Overall Dimensions





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

Glossary of Terms

Cart Types

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

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

ANSI Type C, 4 wheel Carts (550 Litter to 1100 Litter) Height to ground varies with size of cart

ANSI Type C, 4 wheel Carts (550 Litter to 1100 Litter) With Trunnion

Rear loader commercial containers ranged from 1-1/2"Yrds to 4Yds capacity. (to be lifted together with truck's latches)

Key Hydraulic Components

Diverter Valve

Hand Valve

PO Check Valve

50/50 Splitter

Double Diverter 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.

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

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

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

✪ Cart lifter components are heavy. Do not lift by hand. Always use proper lifting equipment.

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

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

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

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

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

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

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

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

Mixed, Commercial & Residential

The D6540 Unit has been designed to fit rear loader trucks set to be used on mixed commercial/residential routes and with the intention to minimize modifications to the truck. Modifications that for a standard lifter installation will be obligatory in order to work properly.

Differently from regular lifter installation, the D6540 has two mounting plates versus one mounting plate used on regular lifters and different also because they are mounted to the sides versus the regular back installation.

Although the D6540 has many advantages versus regular lifters, especially because can be used for a variety of routes, it is also true that its installation is simpler but more delicate and because of the bigger parts, heavier too. Due to the delicacy of pivots concentricity, the use of specialty tools it is strongly recommended, such as the tri foot laser leveling and the precision angle finder.

Although the D6540 has been designed to minimize modifications of the truck, there will be cases where modifications will be inevitable or expected, especially on those trucks having bigger square shapes under the hoper or big light brackets. However no modifications are expected to the sill and/or to the integrity of the truck's main supports.

Installation Tips

Do not mount the lifter to a refuse body which is not already mounted to a chassis. Chassis heights can vary and this will affect the final installed height of the cart lifter.

Tack weld only until all positions and clearances are verified to work well for your application.

Always work on a smooth level surface with an empty truck.

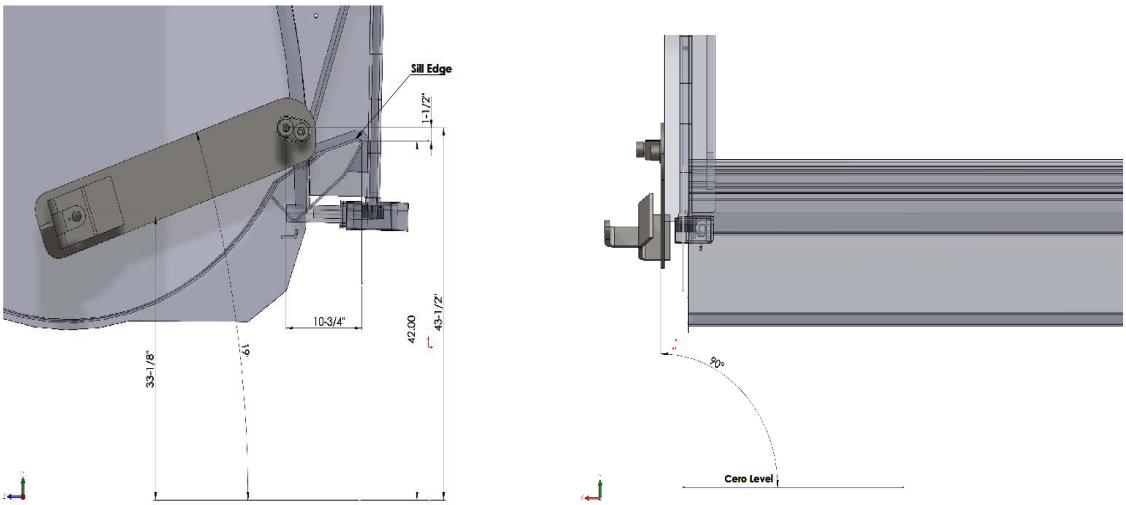
Make sure all the tires are inflated within specs of truck manufacturer, totally or partially flat tires could cause a dimensional failure and malfunction of the lifter once tires are inflated back to specs.

- Please read and apply all the safety procedures and installation tips already mentioned previously. **Remember safety first!**
- Although in real life and real routes must of the time the ground varies, it is recommended to bring the truck to cero ground level as much as possible during the installation. This way we ensure that the lifter will be in level with truck at any terrain. Please take all the necessary measures to set this up.

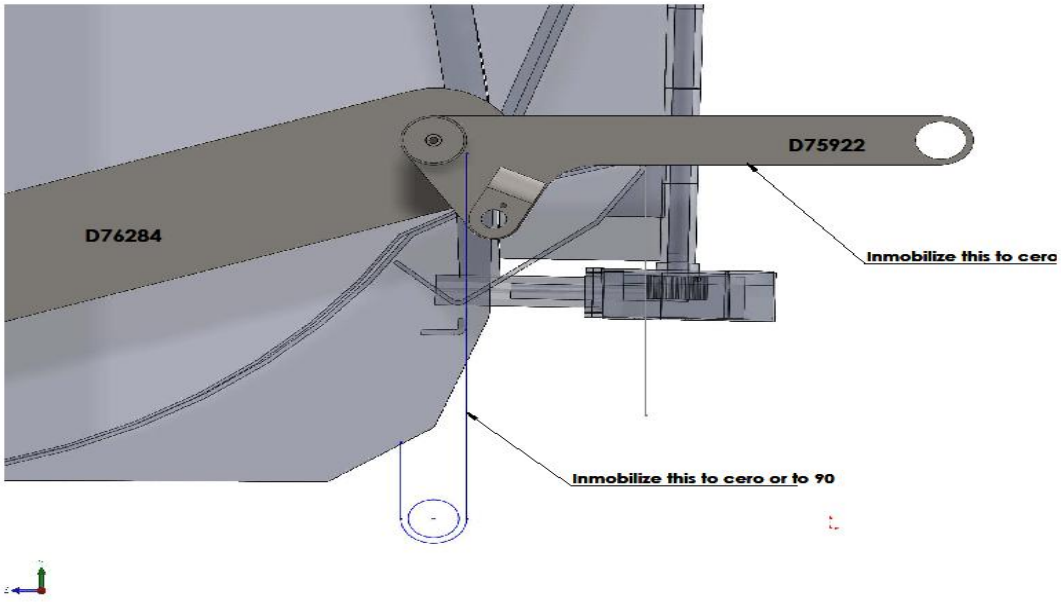
Set the truck on a level smooth surface to ensure proper installation.

- Measure the width of your truck, and with the use of reinforcement material add to the sides symmetrically to match the 86” of the D6540. Please keep in mind that this is a heavy duty unit and it will be lifting heavy contents. Please reinforce accordingly.

- With the use of lifting equipment take one of the mounting sides (D76284 or D76285) and attached to the appropriate side, following the dimensions shown at figure, tack weld it to the body. Please keep in mind that truck body may be deformed, with the use of an angle finder ensure for a proper 90 degrees angle against the plate.

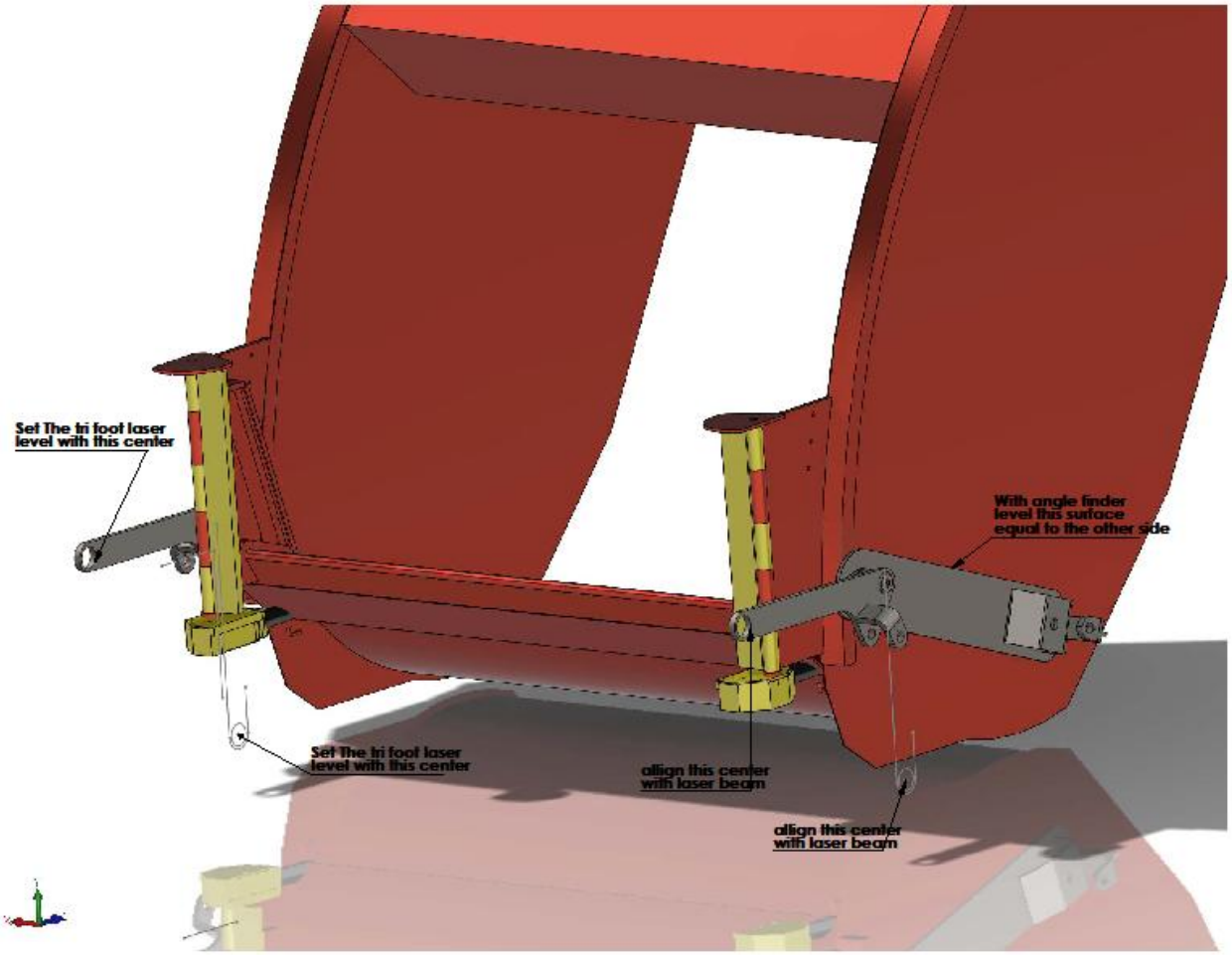


- After first mounting plate is secure in position attach the appropriate swivel arm to it (D75922 or D75923) this swivel arm needs to temporary be immobilize, with use of the angle finder again tight the swivel arm in a way that it will not move in cero or 90 degrees (whatever position is better for your individual case scenario) you can immobilize by adding an spacer between retention plate and swivel arm and tighten the nut stronger than usual.



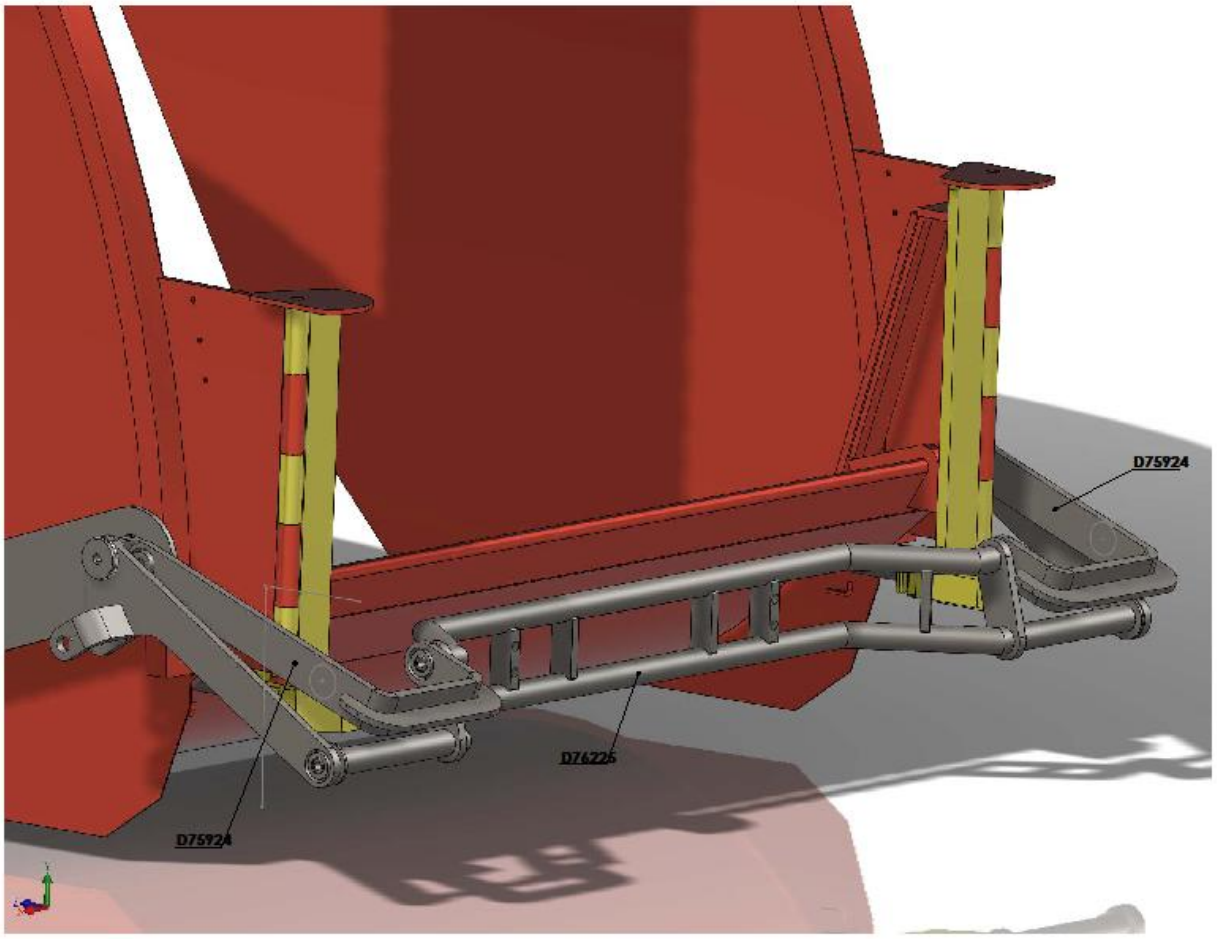
- Once first mounting and swivel arm are secure we need to <u>assemble</u> (do not weld it yet) the second mounting plate with the second swivel arm and in the same way we attach the first ones, temporarily immobilizing the swivel arm against the mounting plate with the same angle between both.

- With the use of a laser level, set this pointing from the center pivot of the already installed swivel arm to the other side of the truck's body. With the use of lifting equipment lift the already assembled mounting with the swivel arm and attach to truck making coincident the center pivot of the swivel arm with the laser beam of the lever. Keep these points coincident while with the use of an angle finder match the same angle of the first mounting with the second mounting. Tack weld to maintain positions.



- Before going to the next step with the use of tape measure, angle finder and laser level double check for alignments, measurements and angles. If any misalignment is detected remove and repeat procedures until is corrected.

- After the mounting sides had been installed correctly, with the use of lifting equipment install the idler arms (D75924) and the cross bar (D76225), make sure all the composite bushing and pads are in position and the bolts and lock washers are tightened.



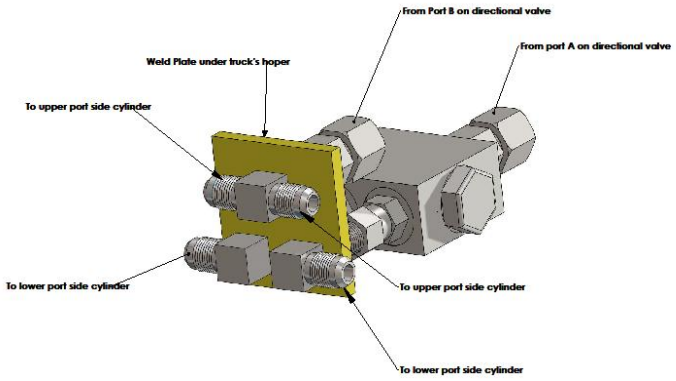
- Install the hydraulic diverter and directional valves following instructions ahead attached in this manual.

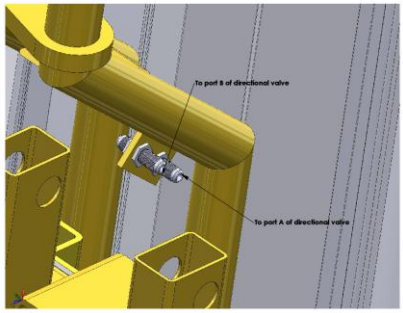
- Attach plate fittings include it with the D6540 under the hoper, making sure they are not in the way of the unit. One plate with a tee and 50/50 splitter valve meant for the side cylinders and the second plate with two bull nose fittings meant for the inside cylinders.

    - First plate will have stationary hoses (hoses will not move)

    - Second plate will have moving hoses, this plate needs to be installed in a way that allows the hoses to move without experimenting torsion, and hoses need to be secure to avoid loosens.

- Connect the hoses to directional valve, each side of the directional valve is for one set of cylinders. This could be arranged as per your individual needs and normally following logic movements, per example pull lever for up and push for down but also by reversing connection they can work backwards. For the side cylinders, from the A port on directional valve connect to the one side of the 50/50 valve and from the B port to the one side of the tee fitting, then from the 50/50 dual side connect each side to each bottom port of the side cylinders and from the tee fitting ports to each of the upper port of the side cylinders. For the inside cylinders connect port A to one fitting and port B to the second.





- With the hydraulics already installed and hoses connected and tightened it is time for testing. Our first test is to ensure proper movement of the cross bar going from all the way down to all the way up and if there not interferences of any type, please correct any interference before continue with the testing.

- After proper movement of the cross bar has been accomplish we can test that our teeth bracket is moving freely up and down, this movement will be considerable faster in comparison with the cross bar movement please keep your hands away of the machine at all times during hydraulics activation.

- Test the unit with empty bins and all the types you will be using for proper operation, secure grip and proper speed, please refer to the hydraulics adjusting within this manual to adjust the speed properly.

- Once all the adjusting had been completed and unit is running accordingly. Weld and finish the installation reinforcing with high strength material where need it. Especial care reinforcing around the pivot points and cylinder bases since the cylinder is going to be pushing and pulling many times a day with loads and stresses.

Manual Operation

Although manual operation is as simple as pulling or pushing the lever, there some important cautions that operator needs to pay attention for the proper and long lasting working of the unit. As we already mention the manual unit works with two simple levels, one for the up and down of the cross bar and one for the up and down of the gripping mechanism. The simplicity of the unit consist of the simple pulling or pushing of the levers to make the machine move for both of its functions. However is up to the end user (operator) to set up the position of the unit for all the **different stages**. We have to mention that forgiveness or abuse of the operator are not include as warranty claims. Proper training to new operators and constant reminders will ensure a long productive live to the equipment and a more safely environment to the employees. These stages are:

Traveling. Traveling long or short distances the machine must be set up in pick up position or all the way up position, this is to ensure that nothing is going to hit from the ground at the normal bouncing of the truck during traveling or if the truck crosses unleveled grounds and/or very low ground clearances.

Picking up ANSI Type C, bins from 240 litters to 1100 litters; ANSI Type B, bins with American two bar 35 Gal to 96 Gal; ANSI Type C with trunnion. When grabbing this type of bins the machine can be set up at picking up position, this gets accomplish by setting the face of the gripping mechanism perpendicular to the ground. Engage bin and pull or push (according to you settings) lever to secure grip the bin, this will raise up the bin until is clamped with upper bar, then push or pull the other lever (according to your settings) to raise up the cross bar and dump the contents into the truck's hoper, after contents had been release activate the same lever the opposite way and bring it back down stop at picking up position then activate the other lever to release the bin. **Warning! If the lifter with the bin is brought it down further than the pickup position damage to the bin will happen.**

Picking up bins ANSI Types with smaller sizes. This type of bins can be lifted setting the face of the gripping mechanism as low as the bin requires. Engage bin and pull or push (according to you settings) lever to secure grip the bin, this will raise up the bin until is clamped with upper bar, then push or pull the other lever (according to your settings) to raise up the cross bar and dump the contents into the truck's hoper, after contents had been release activate the same lever the opposite way and bring it back down stop at picking up position then activate the other lever to release the bin. **Warning! If the lifter with the bin is brought it down further than the pickup position damage to the bin will happen.**

Lifting or stay away for lifting commercial rear loader containers with trunnion. To lift or to stay out of the way for lifting this type of bins the machine needs to be set all the way down to do not interfere and to stay protected. When lifting please stay within limits which 2000 lbs. and up to 4 yds. If either of both are bigger that the spec the machine cannot be used to lift it.

Operation Instructions (operator guide lines).

Semi-Automatic Operation

The simplicity of the unit keeps the cost of the maintenance low and because there are not complicated equipment to keep maintain everything gets much easier. However once the forgiveness and mistreatment of the equipment had exceed our expectancies in cost, will be time to move forward for a semi- automated unit. This is exactly the same machine but with the incorporation of an electrical box, push buttons and sensors, all of these arranged to set the machine with the push of a button and when weather is time to pick up, travel or hide away the machine will move automatically, all of these and the addition of safe guards and sensors to protect operators and people around it integrity.

Traveling. This position is acquire automatically when operator raise the guards or when transmission is shifted to drive.

Picking up ANSI Type C, bins from 240 litters to 1100 litters; ANSI Type B, bins with American two bar 35 Gal to 96 Gal; ANSI Type C with trunnion. This position is acquire when guards are lowered or when operator push start button, once the lifter is in position and bin has been engaged cycle continues when operator push the dump button, to coming back down operator pushes down button the machine will rotates down until pick up position is acquire will release the bin and will stop automatically.

Picking up bins ANSI Types with smaller sizes. This position gets acquire when operator push simultaneously the override and start buttons, once the lifter is in position and bin engaged cycle continues when operator push the dump button, to coming back down operator pushes down button the machine will rotates down until pick up position is acquire will release the bin and will stop automatically.

Lifting or stay away for lifting commercial rear loader containers with trunnion. This position is acquire when operator activates hydraulic winch or when operator unlatches the manual latches (these two part of the truck, not part of the lifter) or when operator push button down until is fully down.

Safety guards activate the system. The lifter will not work until the guards are in place. The safety guards advice people of dangerous equipment in motion to prevent from crossing near it.

Hydraulic Oil

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

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

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

Non-Perkins Controls

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

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

Lifter Speed

The cycle time of the lifter is very important for safe operation. Perkins suggests a complete cycle time of 8-12 seconds (4-6 seconds up and 4-6 seconds down). Faster cycle times may be dangerous. Running a lifter too fast can damage the cart, or make a cart break loose off the lifter and fall, resulting in damage and/or injury.

The speed of the cart lifter is determined by the rate of oil (gpm) going to the unit. This lifter is manufacture with two main cylinders to cycle it up and down typically will need an approximation of 6 to 8 GPM to obtain recommended speed. A gauge is recommended but not needed to determine proper lifter speed. Counting the cycle time using a stop watch is adequate to determine proper flow rate. Running a lifter too fast will void the warranty.

Weight Capacity

The maximum amount of weight that can be lifted is limited by the pressure relief valve. The settings must be determined with a pressure gauge. The D6540 will requires 1950 psi to lift a 1200 lb load. Place a pressure gauge after the hand valve and run the lifter 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 Installation

(Sold Separately)

Locate the Hand Valve Assembly

A suitable location for the hand valve assembly should be found on the side of the truck. It's placement should not interfere with any existing truck components. The handle should be a comfortable distance from the ground (typically about 48" high) so that repeated ergonomics is easy to use and safe.

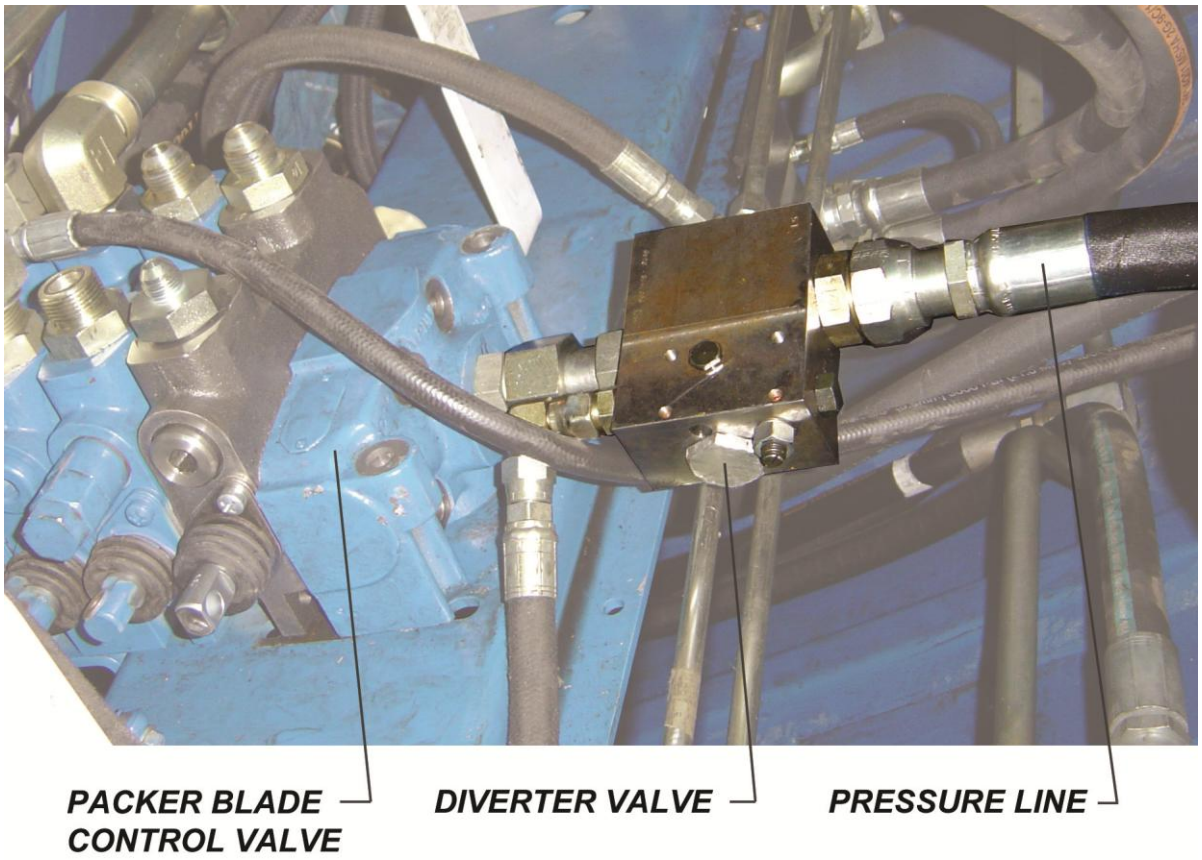
The Perkins hand valve assembly comes with a mounting bracket which may be welded directly to the side of the truck. Typically, the hand valve's handle will point to the back of the truck and the ports A & B which feed the lifter will be pointing to the ground.

This position should allow the operator holding the handle to still be within arm's reach of the cart that is being lifted. This keeps the steps back and forth to a minimum for best efficiency.

Tack-weld the valve bracket in place temporarily until all the hoses have been routed.

Note the hoses feeding the lifter are pointing straight down. The hoses leading back to the pressure supply and tank and pointing towards the front of the truck and all hoses are neatly routed for a clean look and best hose protection.

Locate and Connect the Diverter Valve



The diverter valve is designed to accept full system flow, continuously divert a portion of that flow to the lifter(s), and pass the remaining flow on to the packer control valve. The amount of flow that is diverted is adjustable, so the same valve that feeds one lifter can also be adjusted to feed two lifters.

Adding the Perkins diverter valve to your system will slow down your packer cycle by several seconds, whether you are actively using the lifters or not. However, this is usually an acceptable tradeoff, since the Perkins diverter valve doesn't generate much backpressure or heat, and it allows you to use the packer and the lifters simultaneously.

With the system off and depressurized, find the pressure line that feeds the packer valve and disconnect it. Connect this pressure line to the "IN" port of the Perkins diverter valve. Connect the "OUT" port of the diverter valve back to the packer control valve where the pressure line originally was.

The fittings to do this will vary from truck to truck. The Perkins Tap-in Kit generally gives you the required fittings, but due to the wide variety of trucks, changes made by the OEM, as well as the possibility of other aftermarket parts, especially on used trucks, the fittings you need to make these connections may not be included in your kit and will have to be purchased separately.

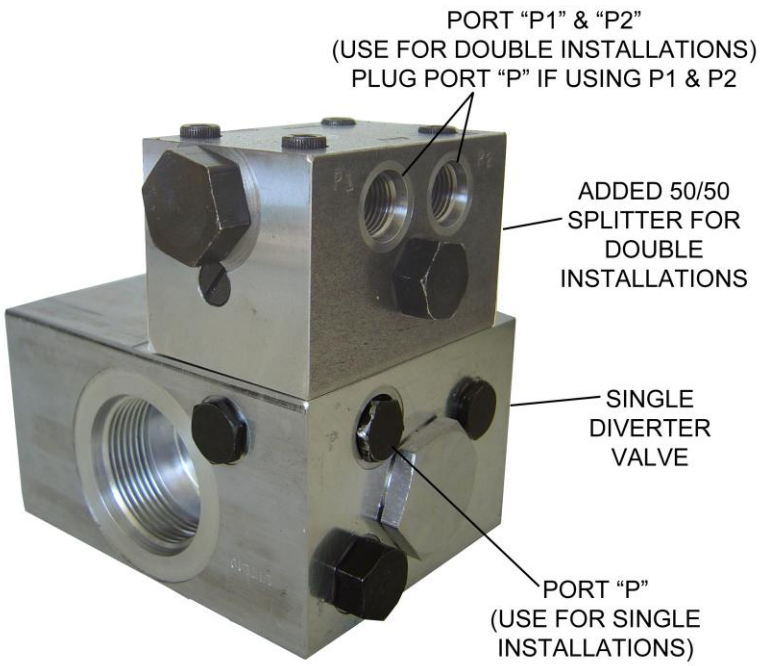
The Perkins Diverter Valve

Ordinarily, the diverter valve's port "P" will feed the lifter.

But, if you have two lifters, then you will use the Perkins Double Diverter Valve.

It's the same valve, except port "P" is plugged, and a 50/50 splitter valve is mounted on top.

In this case, ports "P1" and "P2" will feed the lifters an equal amount of flow each.



Making the Hose Connections

All the primary valves are now in place for a typical installation.

The tap-in kit would have come with 2 short hoses and 2 long hoses (single installation) or 4 short and 4 long for double installation.

Connect one short hose from the lifter's left side to the hand valve port "A".

Connect another short hose from the lifter's right side to hand valve port "B".

Note: If the handle's operation is not as desired, you may switch the hoses to reverse the handle's operation

Connect one long hose from the hand valve's "IN" port to the diverter valve's "P" port. (or if performing a dual installation, to port "P1" or "P2")

Connect the last long hose from the hand valve's "OUT" port to a tank line. *

Note: See photo of tank line connection on following page for more details.

Make sure all the hoses have been routed neatly. The hoses must be protected from rubbing or pinching.

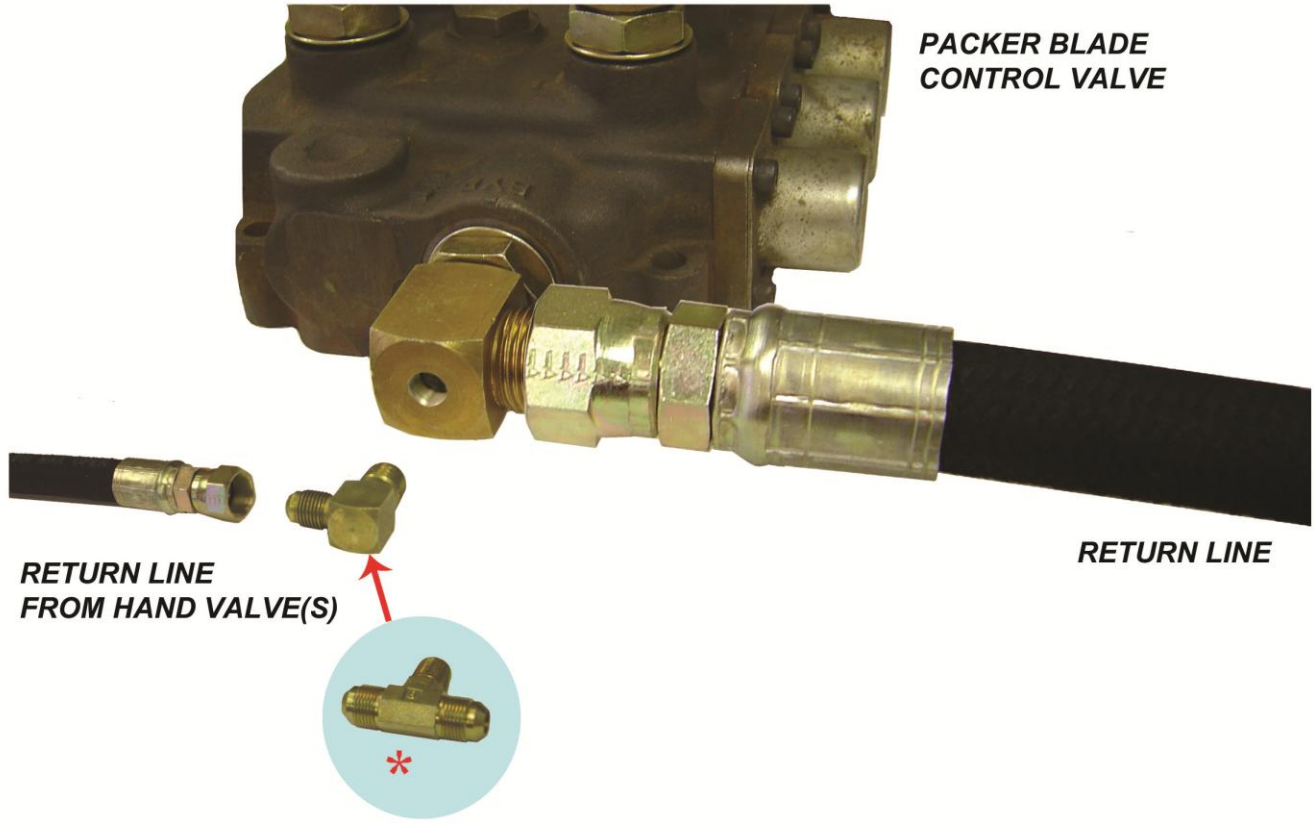
If performing a double installation, repeat this process for the second lifter.

Tapping into the Tank Line

There are two ways to run the oil back to tank. Perkins does not suggest allowing the return oil to get pushed back into the packer control valve, because this generates back pressure and heat.

Recommended Method: Locate the return line coming off the packer control valve and find a suitable large fitting as shown in the photo below. Remove this fitting and drill and tap into it to fit an adapter (or tee for a double installation) to allow the oil to flow back into the return line.

Be sure to clean the fitting of metal shavings before returning it to the system.



Alternative Method: On some trucks, it is not possible to tap into a return line fitting. It some instances, everything is hard-piped and there are no fittings to tap into. If this is the case, the return lines may be feed into the "T" port of the Perkins Diverter Valve. This tends to create some backpressure in the system, but otherwise does work.

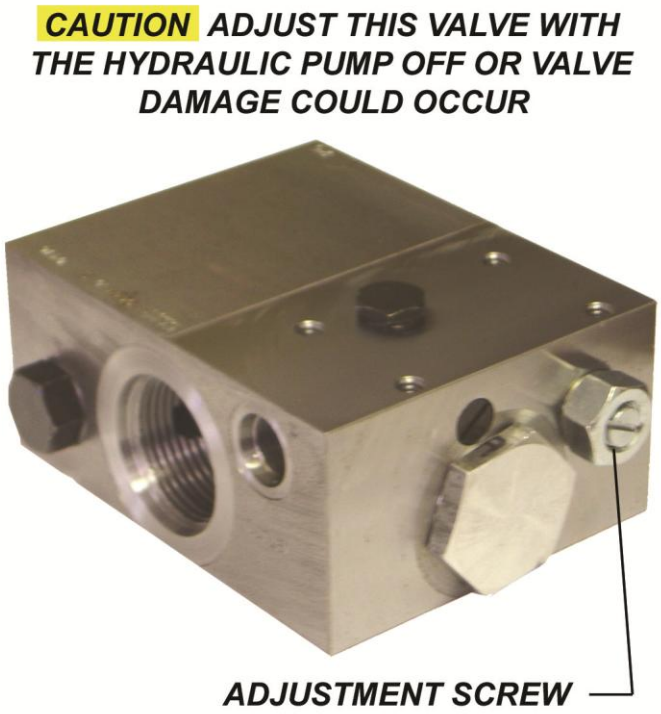
Adjusting the Speed

Single Diverter: D63237s
Double Diverter: D63411s

This valve's adjustment controls the flow going to the lifter. The flow controls the speed of the lifter.

A typical 27k rotary lifter requires 3.5 gpm to achieve a 6-8 second cycle time.

To adjust, turn off the system and loosen the locking nut. Turn the adjustment screw clockwise all the way in. This will stop flow to the lifter completely. From this position, make counter-clockwise adjustments ½ turn at a time. When the correct position is found, tighten the locking nut to hold the adjustment in place.



Replacement Parts:
D63477 – Seal Kit
D63565 – Adjustment Screw

To convert a Single Diverter to a Double:
D63236 – 50/50 Splitter (comes with mounting hardware).

Troubleshooting the Diverter Valve

This diverter valve does not affect lifting power / weight capacity!

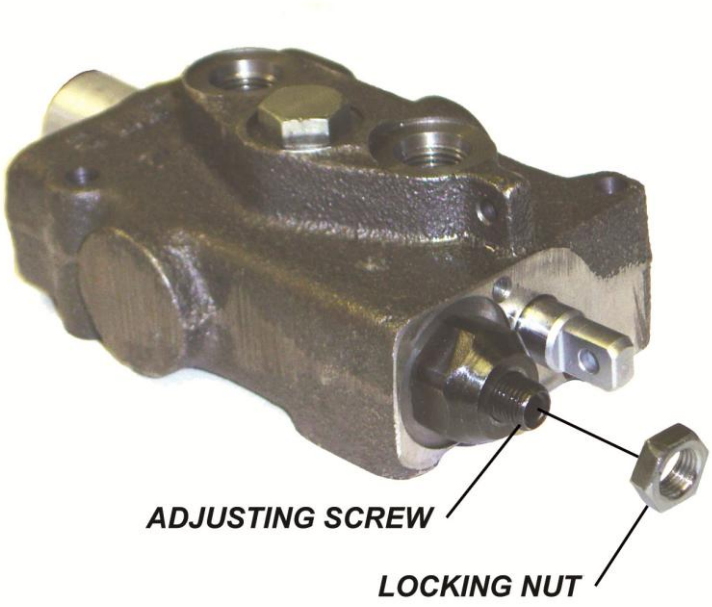
Only check this valve if your lifter stops moving, or moves to fast or too slow.

Maintaining the Diverter Valve

The valve requires no periodic maintenance.

If a problem is thought to exist in the diverter valve, turn the system off and check the cartridge by unscrewing either of the large caps from the ends and removing the cartridge. The cartridge may then be cleaned and inspected. Flush the valve out to remove any contaminants, return the cartridge and reinstall.

Adjusting the Lifting Capacity



Note: The setting for the D6540-27k is approximately 1650 psi to lift 400 lbs.

Hand Valve: D63228 (valve only)

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

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

When the pressure is correct, retighten the locking nut.

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

Troubleshooting the Hand Valve

This valve does not affect lifter speed!

Only adjust this valve if the lifter won't pick-up the desired weight, or if a chattering noise is heard.

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

Maintaining the Hand Valve

This valve requires no periodic maintenance.

If a problem is traced to the hand valve, turn the system off and remove the cartridge. Clean and inspect the cartridge. Make sure the handle returns to center on it's own. If it doesn't, it may need a spring kit.

There are usually multiple relief valves within the same system. They must be set at least 100 psi apart from each other or they will "chatter". Adjusting one valve to be set differently than another should eliminate the problem. Example: Pump relief valve 2000 psi, packer relief valve 1900 psi, lifter relief valve 1650 psi.

Maintaining the PO Check Valve

PO Check Valve: D63580

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

This valve is not adjustable.

This valve requires no periodic maintenance.

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

Maintaining the Adjustable Flow Control

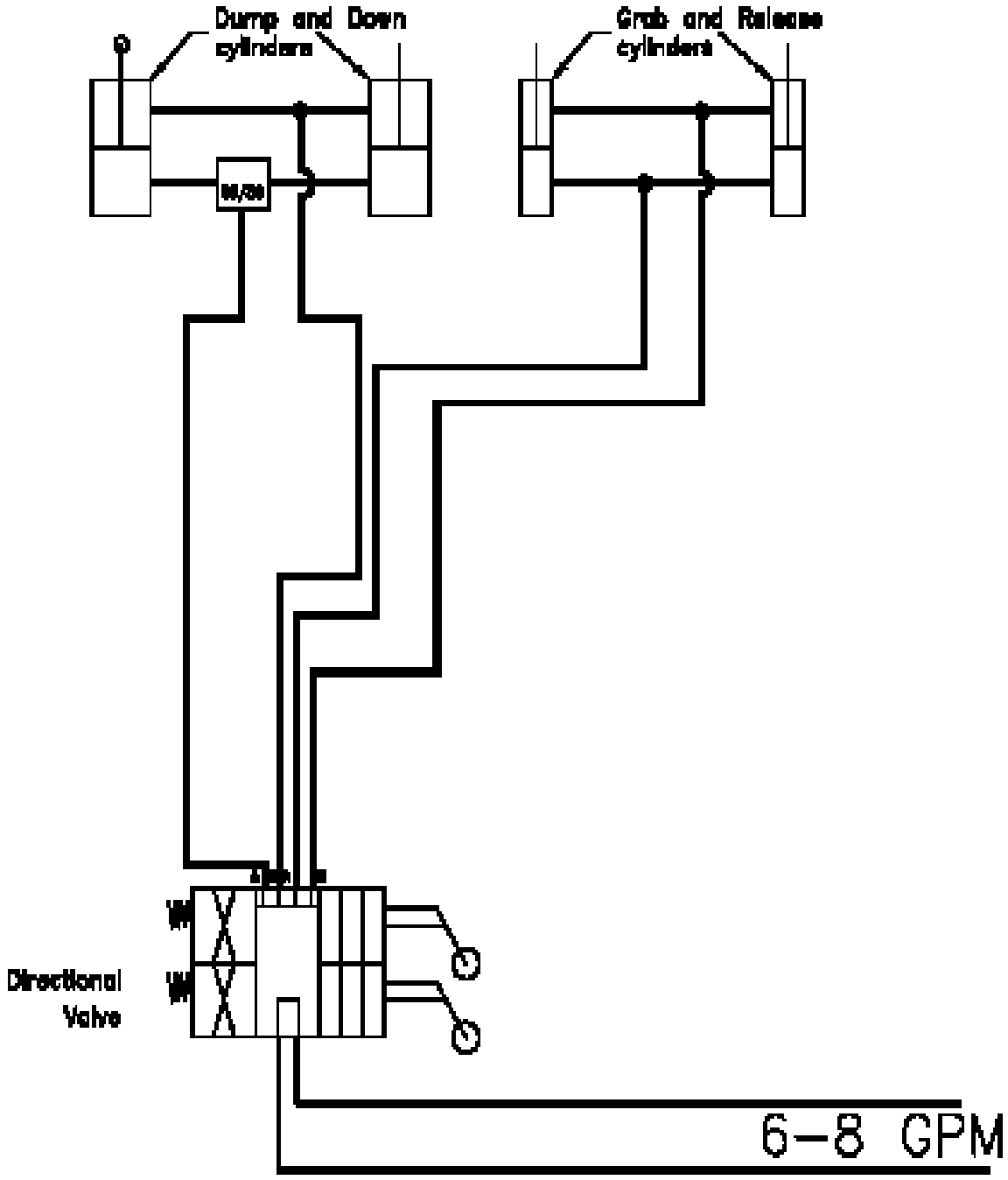
Adjustable Flow Control Valve: D63575

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

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

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

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


Dump and Down cylinders
Grab and Release cylinders
Directional Valve
6–8 GPM

Safe Operating Tips

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.

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 a commercial container, or used to crush/breakdown an item. Doing so can cause serious damage or injury and will void the warranty.

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

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

Lifters can hang very low to the ground at certain points of their lift cycle. 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 up or fully into the storage position. Lifters left hanging low risk bottoming out on the street, which will cause serious lifter damage. Damage caused by bottoming out 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.

If the lifter is installed in such a way that the lifter or cart can make contact with the packer blade, then it is critical to pay attention and make sure the lifter is not operated when the packer blade is down or coming down.

If the truck is equipped to dump commercial containers, the lifter must be stored all the way down prior to engaging the commercial container or the cart lifter may be crushed by the container. This damage is not covered by warranty.

Other Adjustments

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

Perkins uses anti-sieze 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-sieze on the splines.

Troubleshooting Guide

Lifter operation is erratic, lifter does not move smoothly

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

In rare instances, the flow may be too low. This would also be noticeable if the lifter was also very slow. Try adjusting the diverter valve to increase the flow.

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.

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

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

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

If all pressures are set properly and the hand valve works, then the cylinders 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 6-8 gpm. Adjust diverter as needed following instructions in the manual.

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

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

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

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

Lifter operates too fast

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

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

Diverter valve is leaking oil

Worn or Damaged seals within the diverter will cause external leaking. Rebuild the valve using D63477 divert valve spring kit.

Hand valve lever sticks, does not return to center

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

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

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

Hand valve is leaking oil

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

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

Unable to achieve 1950 psi at the hand valve

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

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

Unable to achieve over 1400 psi

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

Lifter 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.

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

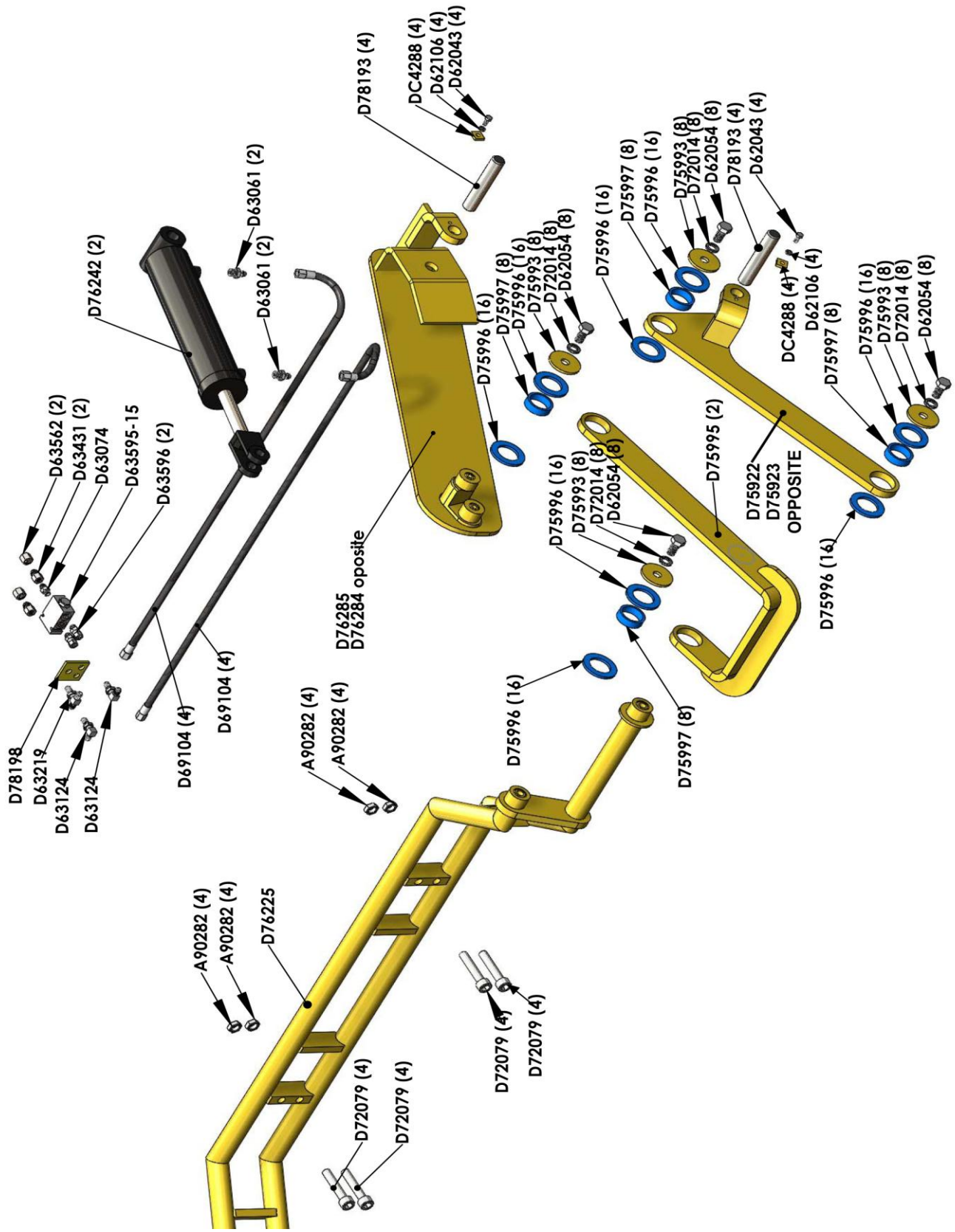
If you suspect that failure of the lifter to operate is due to a defect, please take a moment to locate the serial number of your lifter.

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.

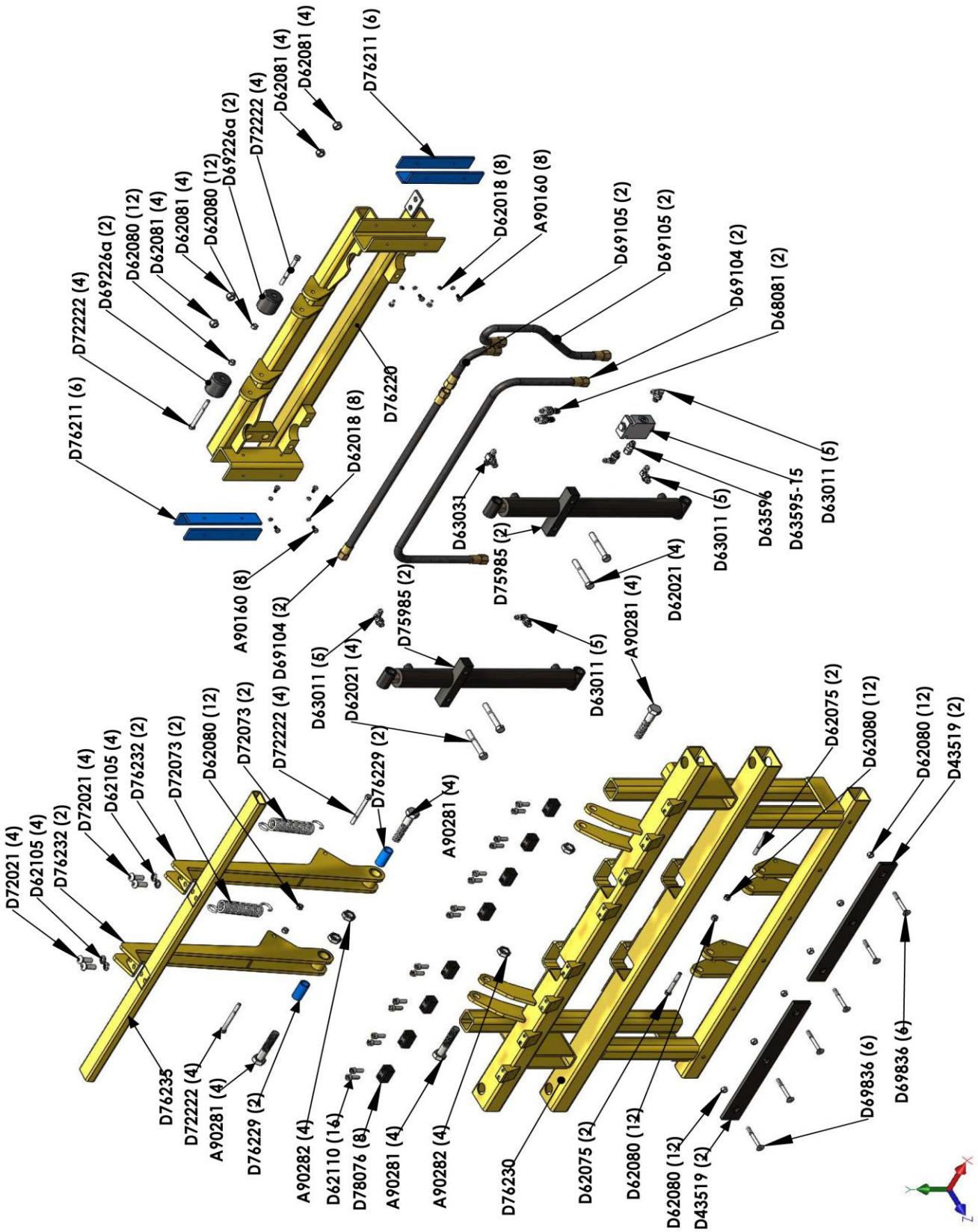
At right is an example of the serial number plate. It will be stamped with a model number and serial number.

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

Lifting Cross Bar Exploded View



Front Bracket Teeth Exploded View



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

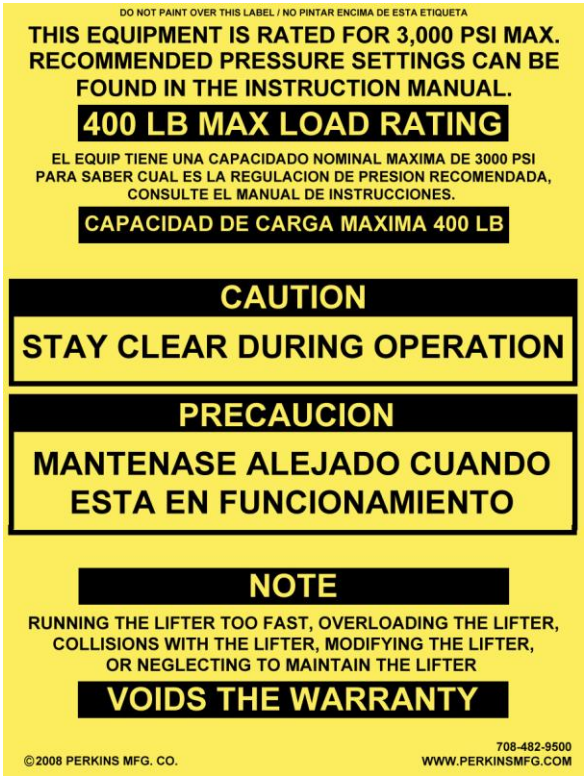
Should the cart lifter ever be re-painted, or if the labels are damaged beyond recognition, it is advised to replace the labels immediately to help keep your crew safe.

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

Large Safety Label # D62474

Small English Label # D72114

Small Spanish Label # D72115



ONE YEAR LIMITED WARRANTY

BEFORE ANY WARRANTY CAN BE ALLOWED ON ANY NEW EQUIPMENT, THE APPLICABLE REGISTRATION FORM MUST BE FILED WITH PERKINS MANUFACTURING COMPANY.

PERKINS MANUFACTURING COMPANY warrants its CYLINDER cart lifters 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. This warranty covers all CYLINDER cart lifters shipped after May 1, 2011.

This warranty is expressly limited to the repair or replacement of any component or part of any CYLINDER cart lifter unit manufactured by PERKINS which 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 improper use, substitution of parts not approved by PERKINS, modifications other than those done at the factory or as authorized in writing by the factory, 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. Periodic maintenance is required to maintain 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 time.

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

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

THE ABOVE WARRANTY SUPERCEDES AND IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITING, ANY IMPLIED WARRANTIES OF MERCHANABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE OR ANY OTHER REPRESENTATIVE OF PERKINS IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY. ANY LEGAL ACTION CONERNING THIS WARRANTY OR THE PRODUCT INVOLVED – INCLUDING, WITHOUT LIMITING, ANY ARBITRATION OR ADMINISTRATIVE PROCEEDING – SHALL BE GOVERNED BY THE LAWS OF THE STATE OF ILLINOIS, WHICH SHALL BE APPLIED AS THE CHOICE OF LAW.