Glide-Line™
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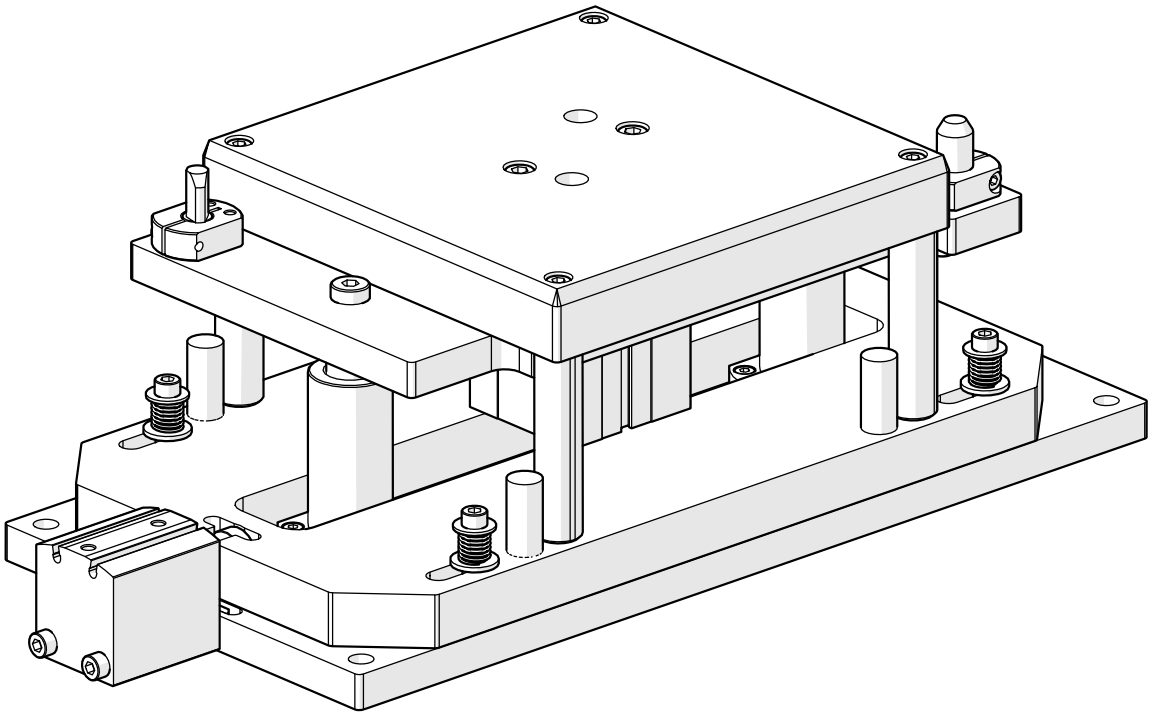
V2.0

Glide-Line™ HLLU

Installation and Maintenance Manual



V2.0

Easy. Flexible. Precise. Fast.

Throughout this manual are the following information blocks indicated in the appropriate sections by signal words as specified by ANSI Z535.4 Standard (section 4).

	Warning – This information must be followed to prevent harm to individuals or damage to equipment.
	Automatic Equipment – This equipment may start or stop automatically.
	Electrical Shock – This equipment has connection to an electrical circuit with potentially hazardous energy levels.
	Consult Manual – This manual must be completely reviewed prior to performing any service.
	Lock Out Power – All sources of energy must be controlled before servicing equipment

V2.0

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1. Introduction

1.1. Description and Technical Specifications

Glide-Line™ Heavy-Duty Lift and Locate Units (HLLU) are designed to suit multiple conveyance application demands. All HLLUs are designed to be mounted on a station.

Part Number: HLLU-(A)-(B)

A = Pallet Width Range 160mm to 400mm*

B = Pallet Length Range 160mm to 400mm*

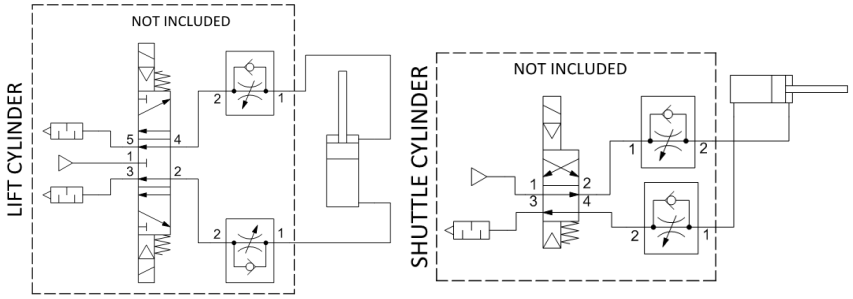
* = Pallet sizes can exceed this size, but will require additional engineering/material
= Non-evenly distributed center loads may require additional engineering/material

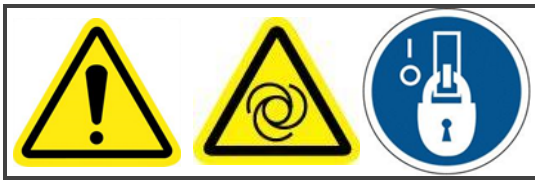
Technical Specifications

Lift range:	1.5mm (above belt)
Lift cylinder bore:	40mm
Lift capacity:	150 Lbs. @ 80 psi.
Load Absorption:	20,000 Lbs. (Starting)
Pallet length range:	160mm to 400mm in 1mm increments*
Pallet width range:	160mm to 400mm in 1mm increments*
Pneumatic Ports:	G1/8

*We at Glide-Line pride ourselves on being flexible. Please do not hesitate to contact us for customized solutions outside of the listed size range.

Recommended Pneumatic Schematic:
*Fittings and Valves not included
Threaded Ports: G1/8





Personnel working on or around this equipment must be properly trained in operation, maintenance, and lock-out/tag-out procedures.

1.2. Operating Conditions and Environment

Equipment should be in an ambient temperature room. Equipment should not be subject to high humidity or wash-down conditions. Clean-up to be done by wipe down / air blow off only.

1.3. Chemical and Corrosion Resistance

It is recommended that customers contact the factory and obtain samples of applicable modules to be exposed to conditions of the proposed application to determine resistance of material and its durability. For further information, please contact Glide-Line™ at 215-721-1900.

1.4. Unpacking

When the unit arrives, care must be taken to unpack the unit. Units will ship packaged in a box on a skid. Do NOT lift from the lift components, bushings, or locating pins.

It is important to install conveyors and devices level and straight to achieve the listed performance. A non-level installation could induce moment loading to the conveyors and devices, decreasing the expected service life or preventing proper functionality.

1.5. Included Items

List of items that should be included in the shipment (shown in Figure 1):

- HLLU

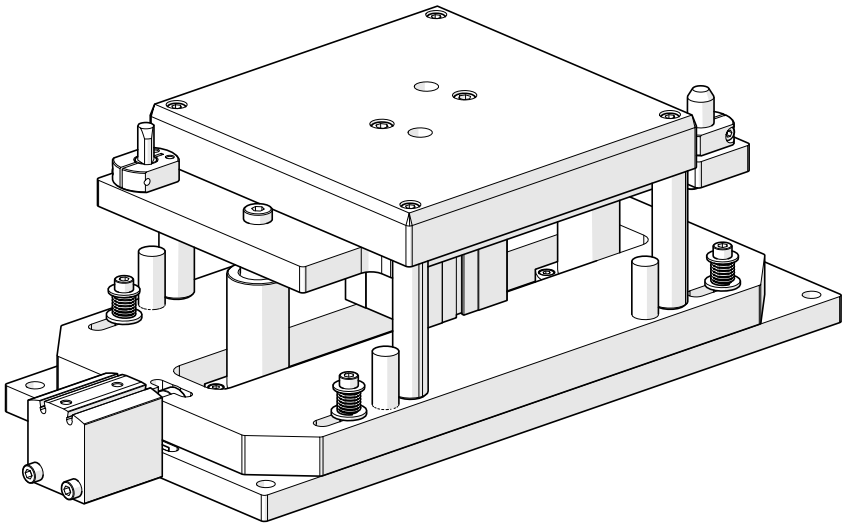


Figure 1: HLLU

1.6. Basic Order of Operations

1. Pallet is conveyed to device
2. Pallet is stopped directly over device by stop (not included)
3. Lift actuates and rises, with the top plate pins engaging the Work Piece Pallet's locating bushings
4. Shuttle Plate moves support pins into position
5. Release air from lift cylinder so support pins make contact
6. Operations completed to workpiece
7. Re-engage lift cylinder, Shuttle Plate pulls support pins out of position.
8. Lift cylinder lowers, disengaging locating pins from pallet
9. Pallet Stop drops
10. Pallet conveyed out of work area

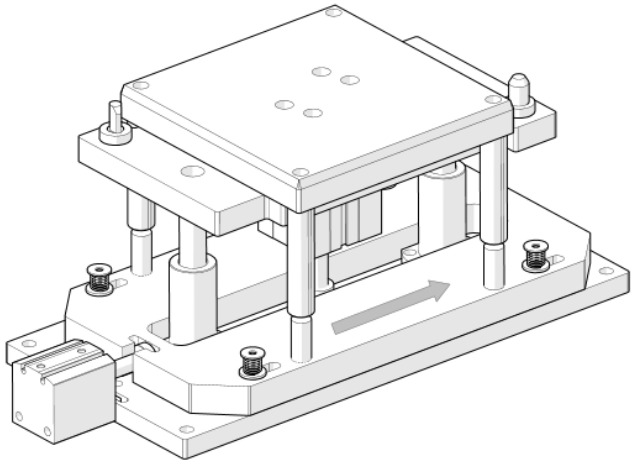


Figure 2: HLLU in lifting locked position.

2. Installation

2.1. Tools Required for Installation

List of recommended and/or required tools for installation.

- Metric Allen Key Size
  - 6

2.2. Installing Device

The HLLU is designed to be station or pedestal mounted utilizing the mounting holes labeled in Figure 2. These are M8 clearance holes.

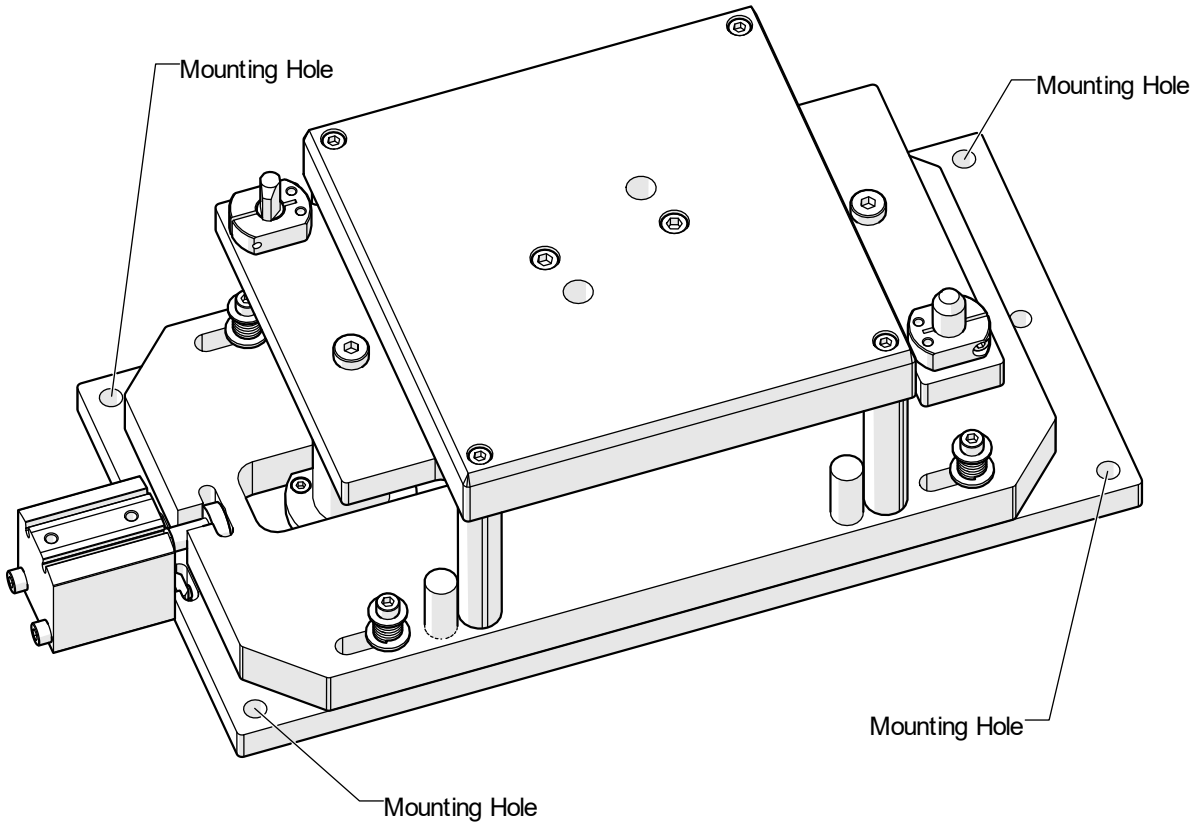


Figure 3:Mounting Holes on HLLU

3. Safety Instructions

3.1 Operation

	Due to the hazardous moving parts of the device, all personnel in the area of a device should be warned when the device is about to be activated.

Only properly trained personnel should be permitted to operate Glide-Line™ devices. Training should include emergency procedures.

Machine stopping devices should be clearly marked and easily accessible. Personnel working on or near the equipment should be trained in the location of stopping devices.

The area around machinery should be kept clear.

Devices must only handle loads they were designed to carry.

Safety and warning devices must not be tampered with in any way that could endanger personnel.

Personnel must be made aware of all potential hazards including but not limited to entanglement of items such as long hair, loose clothing or jewelry. Personnel must also be aware of any pinch points present on the device that could result in injury.

	Device should not be operated without safety guards in place. Guards should not be removed by anyone other than authorized personnel.

All safety devices, including wiring of electrical safety devices, must be designed to work in a failsafe mode to avoid hazardous conditions from occurring during a power failure.

Refer to ANSI Z244.1-1982, American National Standard for Personnel Protection – Lockout/Tagout of Energy Sources – Minimum Safety Requirements and OSHA Standard Number 29 CFR 1910.147 "The Control of Hazardous Energy (Lockout/Tagout)."

4. Maintenance

Only trained personnel should perform maintenance procedures. Company approved lock-out/tag-out procedures should be strictly adhered to. Please consult this manual before servicing.

This section will go over how to maintain the HLLU, including disassembly/reassembly for part replacement, and ensuring proper functionality of the device.

4.1. Tools Required for Maintenance

List of tools needed to replace and maintain wear items.

- Metric Allen Keys
  - 5, 6
- Blue Loctite

4.2. Loctite

Loctite should be used on the M6 SHCS securing the air cylinder to the mounting plate anytime it has been removed and reinstalled (shown in Figure 5).

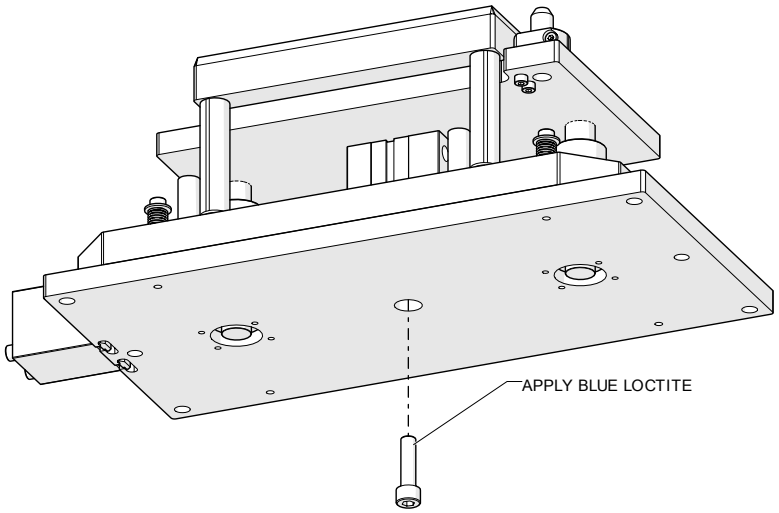


Figure 5: Tightening and Applying Loctite to M6 SHCS

4.3. Replacing Components

This section will go over replacing P-00159 and P-00265 Air Cylinder.

- Use #6 Allen key for M8
- Use #5 Allen key for M6

Step 1: Remove Top M6 X 22 SHCS as shown in Figure 6

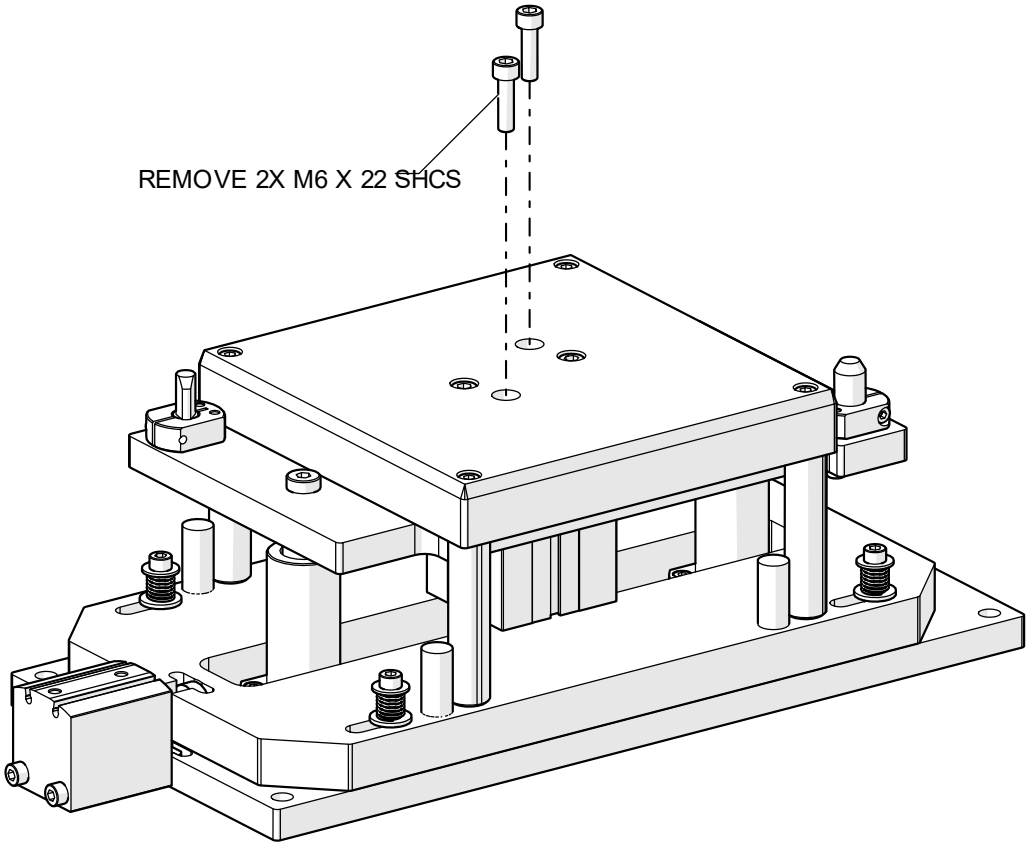


Figure 6: Removing Top M6 X 22 SHCS

Note: Remove the M6 SHCS that are more recessed. These screws secure the Anvil Plate Assembly to the lift air cylinder (P-00265).

Step 2: Remove Anvil Plate Assembly as shown in Figure 7

Once the M8 SHCS is removed, you may pull up on the top plate. This will allow access to the air cylinder. Be careful not to lose the P-00614 washer that goes between the top plate and the air cylinder rod.

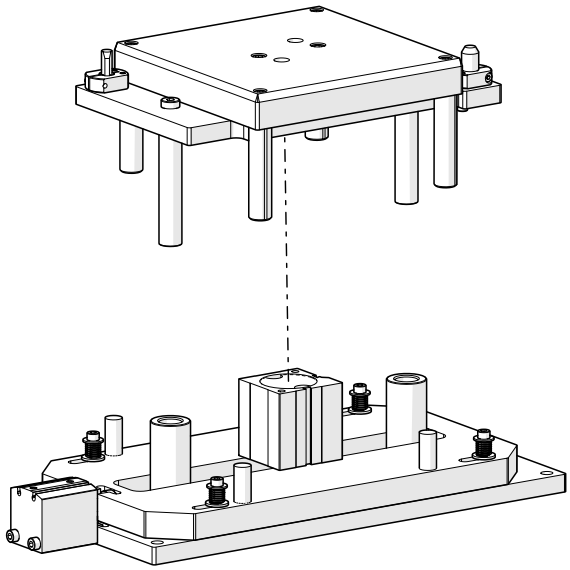


Figure 7: Removing Top Plate Assembly

Step 3: Remove Bottom M6 X 30 SHCS as shown in Figure 8

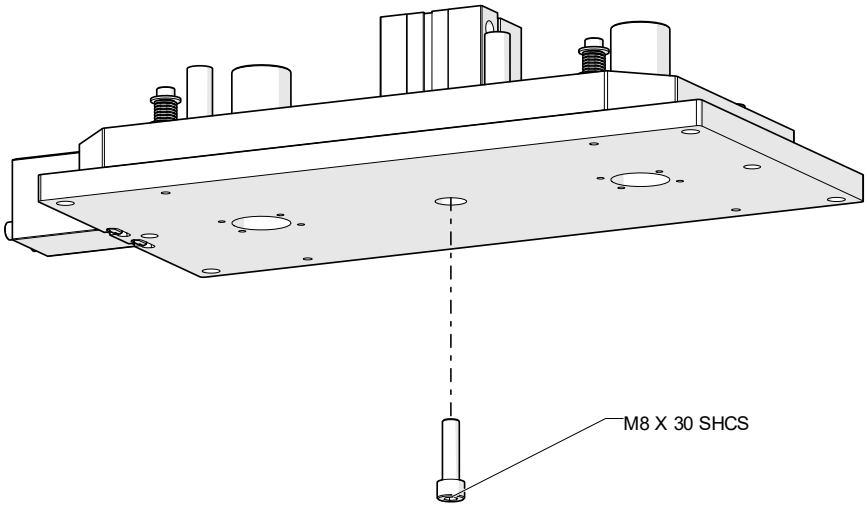


Figure 8: Removing M6 X 30 SHCS

Step 4: Remove P-00265 Air Cylinder as shown in Figure 9

P-00265 is now unsecured and can be removed.

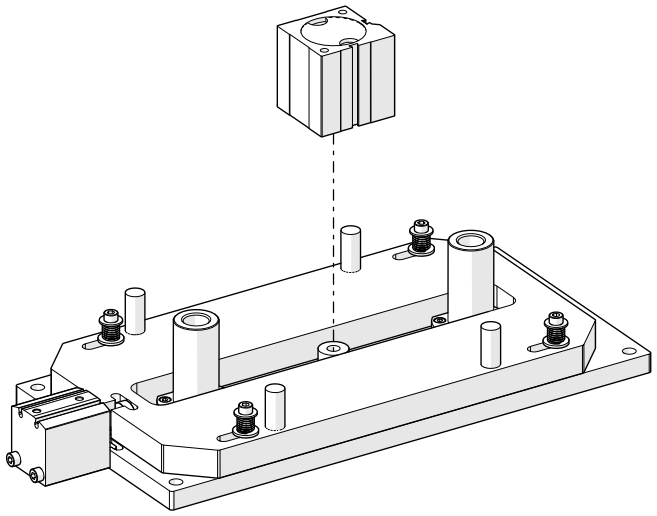


Figure 9: Removing P-00265 Air Cylinder

Make note of how the air ports are oriented. Matching the orientation of the new cylinder with the old cylinder will ensure proper fitment within your system.

Step 5: Install New P-00265 Air Cylinder as shown in Figure 10

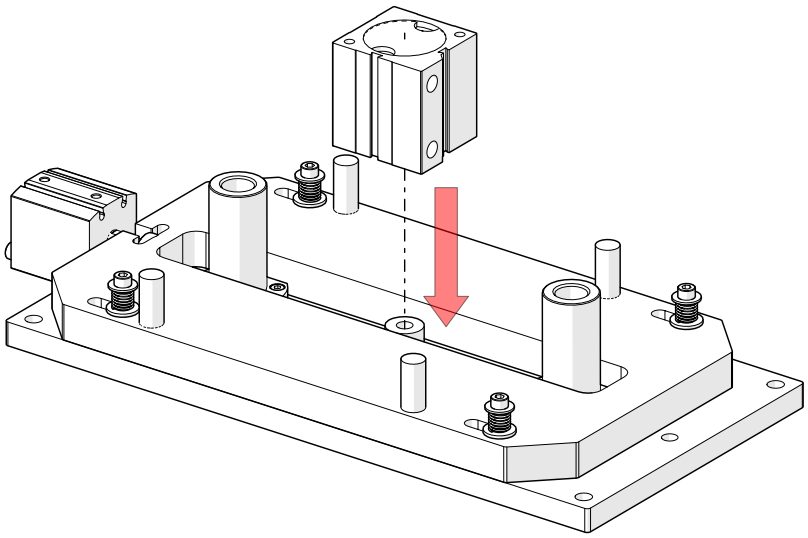


Figure 10: Reinstalling Air Cylinder Washer

Step 6: Reinstall M8 X 30 SHCS as shown in Figure 11

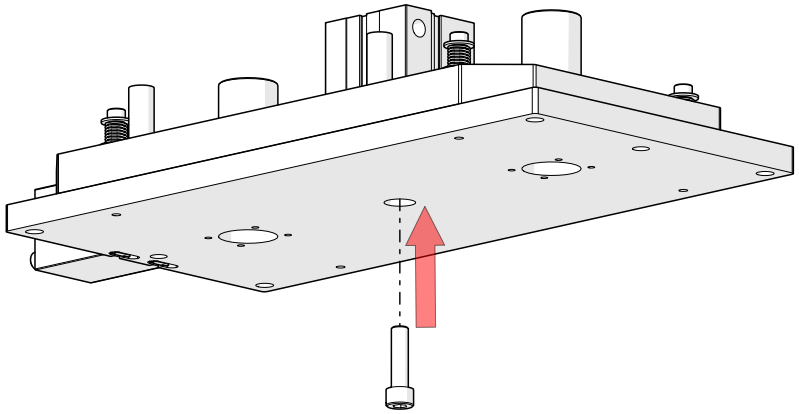


Figure 11: Reinstalling M8 X 30 SHCS

Step 7: Reinstall Top Anvil Plate Assembly as shown in Figure 12

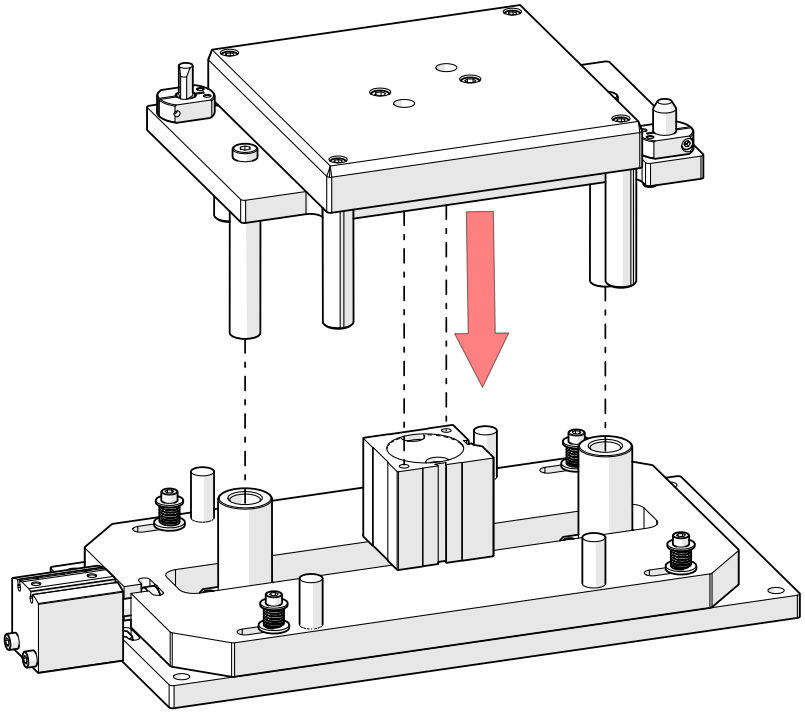


Figure 12: Reinstall Top Anvil Plate Assembly

Make sure that the guideposts are lined up with the bushings and the counterbored holes are lined up with the tapped holes in the P-00265 Air Cylinder.

Step 8: Reinstall M6 X 22 SHCS as shown in Figure 13

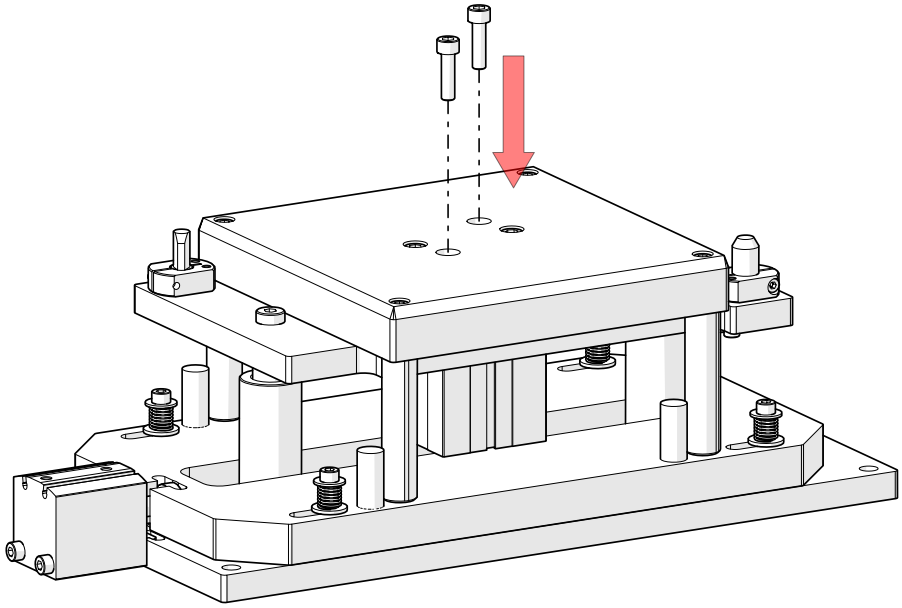


Figure 13: Reinstall M6 X 22 SHCS

**NOTE: Make sure that the HLLU is in the "retracted" position before tightening the M6 X 22 SHCS. This will ensure that everything is fully secured.

Reinstall M6 X 22 SCHS to secure the Top Anvil Plate Assembly to the P-00265 Air Cylinder. Reassembly is now complete. Check to make sure that the device operates smoothly and does not bind. Test with air to make sure the air cylinders function properly.

5. Troubleshooting

This section lists some common issues/solutions that you may come across while operating the HLLU. For more technical/specific questions, please contact Glide-Line™ at 215-721-1900.

Issue: HLLU lift plate actuates up and down too fast/abruptly.
Solution: It is recommended that meter out flow control valves are used on both ports to fine tune the rate at which the HLLU lifts and retracts. Meter out flow controls should be installed in-line and as close to the cylinder as possible.

6. How to Order Spare Parts

Spare parts may be purchased directly from Glide-Line™.

For a full list of spares for your conveyor or device as configured, please reference the serial number located near the base plate of your device and contact a Glide-Line™ representative at 215-721-1900.

The next section covers spare parts for standard configurations of the HLLU, which can be ordered directly from Glide-Line™.

Serial number location is shown in Figure 3.

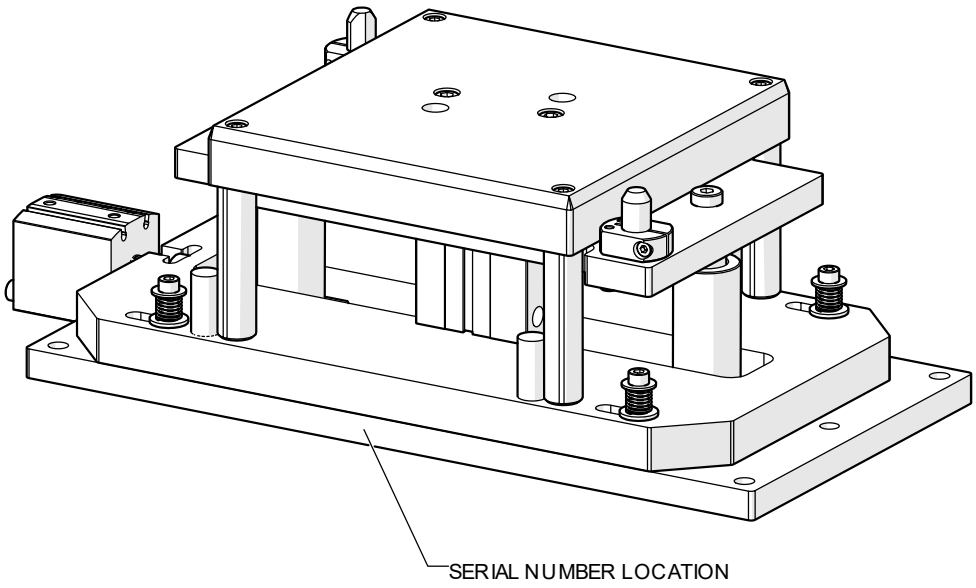


Figure 3: Serial Number Location

6.1 Spare Parts for HLLU

HLLU Spare Parts Shown in Figure 4

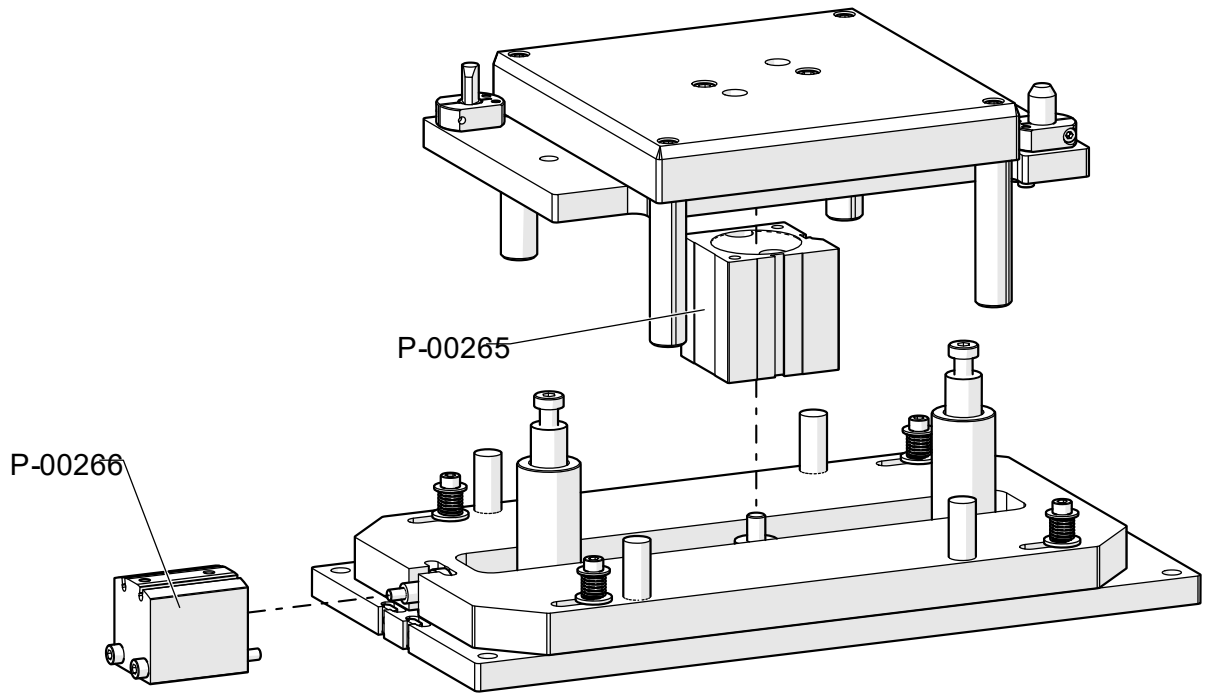


Figure 4: Spare Parts

Air Cylinders:

- P-00265 (Lift Cylinder)
- P-00266 (Push Cylinder)

7. Returns

	Under no circumstances will a component be accepted without a Glide-Line™ RMA number.

When requesting a Return Materials Authorization (RMA), please have the following information available:

- Customer's name and address
- Customer original purchase order number
- Glide-Line's™ project number or serial number
- Description of part(s) being returned
- Reason for return

To preserve the return, all returned parts must be properly packaged to prevent shipping damage. The Glide-Line™ issued RMA number must be clearly marked and visible on the exterior packaging. The Glide-Line™ issued RMA form must also be included inside the package.

Includes:

- Location, type of service and length of time in service
- Complete description of the faulty operation of the component and the circumstances of failure.
- State requested service – warranty or non-warranty
- Complete shipping instructions for return of component
- Name and telephone number of person to be contacted if there are any questions about the returned part.

If a part is damaged or lost during transit, the customer is responsible for directing a claim to the carrier. The customer is responsible for return freight.

Upon receipt of the defective component(s), Glide-Line™ will examine it for warranty defects. A credit will be issued for the replacement when and if the component is found to be defective.

Following the above procedure correctly will expedite handling of the returned component and will prevent unnecessary additional charges for inspection and testing to determine the problem with the component. For all orders and service, a written Purchase Order for repairs must be enclosed.