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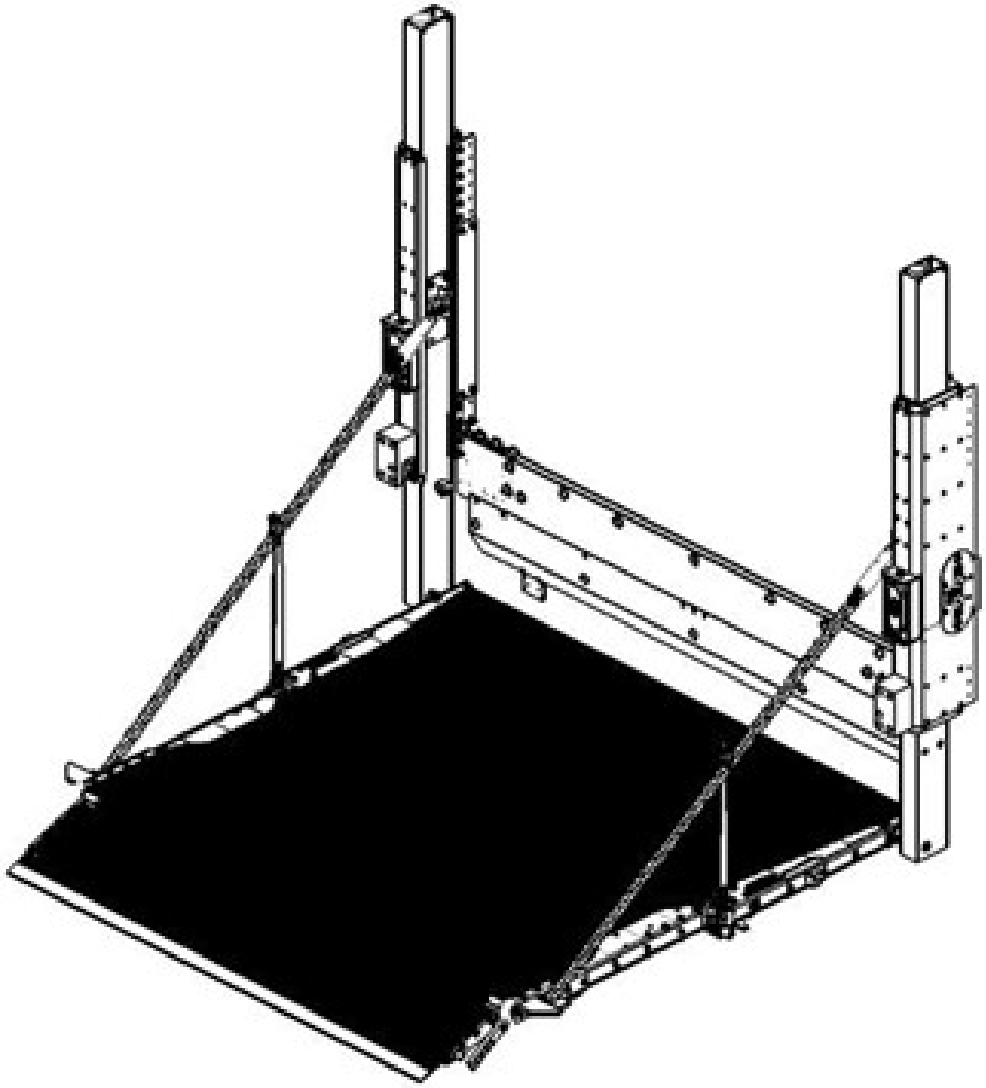
Waltco Tech Support
Phone: 330.633.9191

Tech Manual

MDV, MDVBG

2200, 3000, 4000 lbs Capacity Rail-Type Liftgate



Waltco Lift Corp.
Corporate Office United States
1777 Miller Parkway
Streetsboro, OH 44241

02/2026

Table of Contents

Introduction

Improper operation and maintenance of this liftgate could result in severe personal injury or death.

Read and understand the contents of the owner's manual and all warning and operation decals before operating and/or performing maintenance on this liftgate.

Each Waltco liftgate is manufactured to stringent quality standards for years of reliable service. To ensure maximum performance of your Waltco liftgate, always specify and use "OEM Parts" from Waltco.

This manaul does not provide provide procedures for the servicing and repair of Waltco liftgates. Service and repair should only be performed by an authorized Waltco distributor. For information on the nearest authorized Waltco distributor contact:

Waltco Lift Corp.
Corporate Office United States
1777 Miller Parkway
Streetsboro, OH 44241
P: 330.633.9191

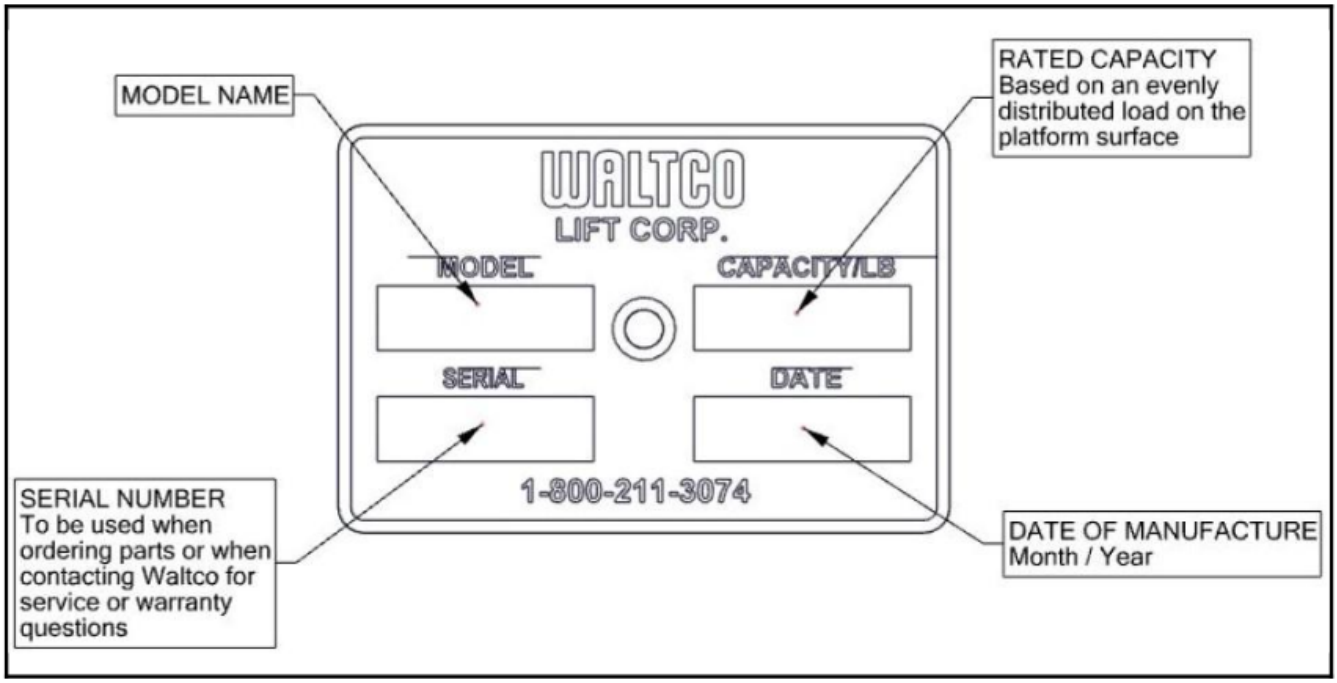
This is the safety alert symbol. This manual uses this symbol to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid personal injury or death.

The use of non-standard or makeshift parts can be extremely hazardous and result in serious injury or death.

Every vehicle that has a WALTCO liftgate must have legible WARNING AND OPERATION DECALS clearly posted on the vehicle and an OWNER'S MANUAL in the vehicle at all times as a guide for proper operation and maintenance.

Liftgate Terminology

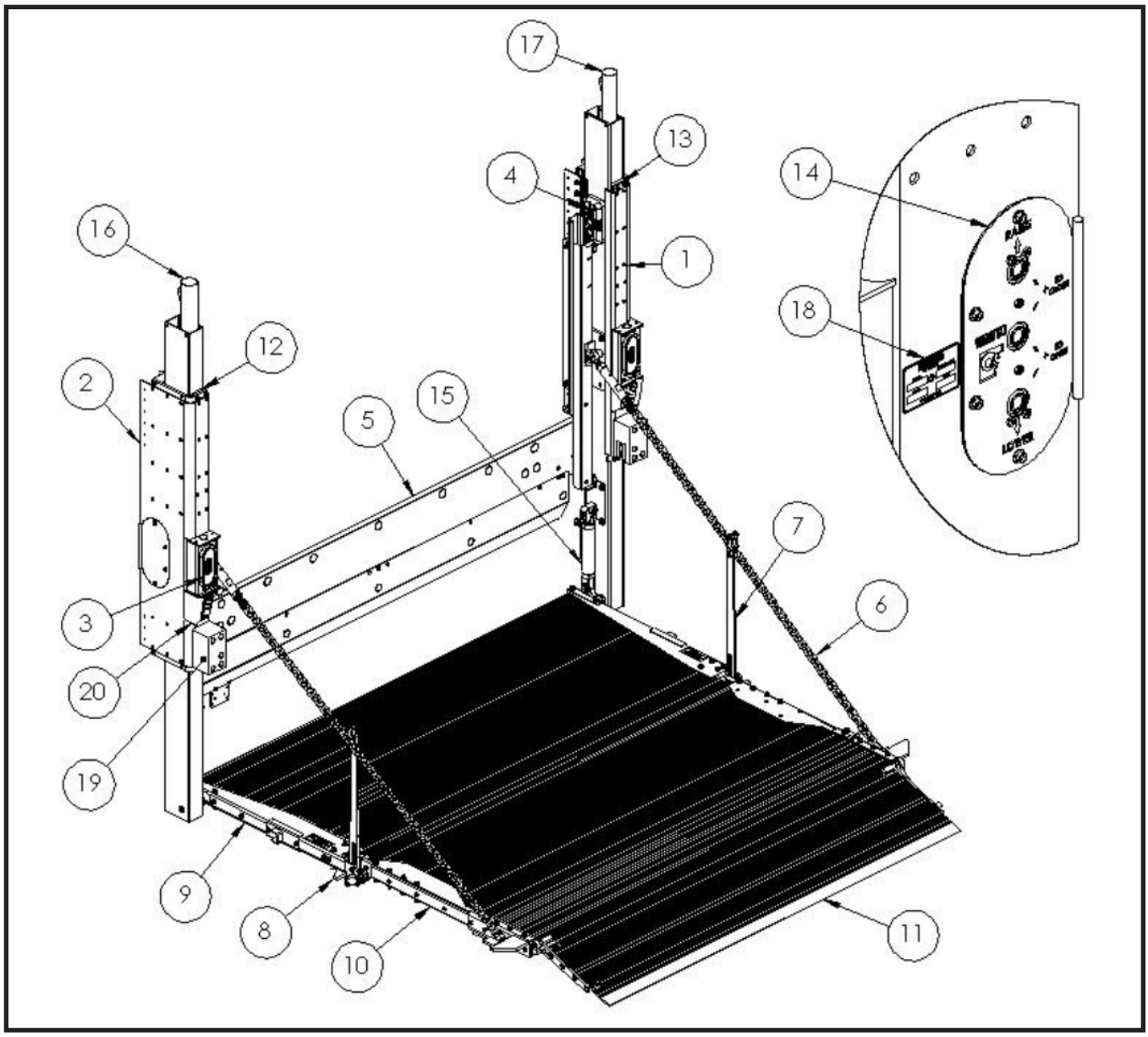
MODEL NAME	DESCRIPTION	CAPACITY
MDV-22	MDV-22 Series	2200 lbs
MDV-30	MDV-30 Series	3000 lbs
MDV-40	MDV-40 Series	4000 lbs
MDVBG-40	MDVBG-40 Series	4000 lbs



Liftgate Terminology

Liftgate Components

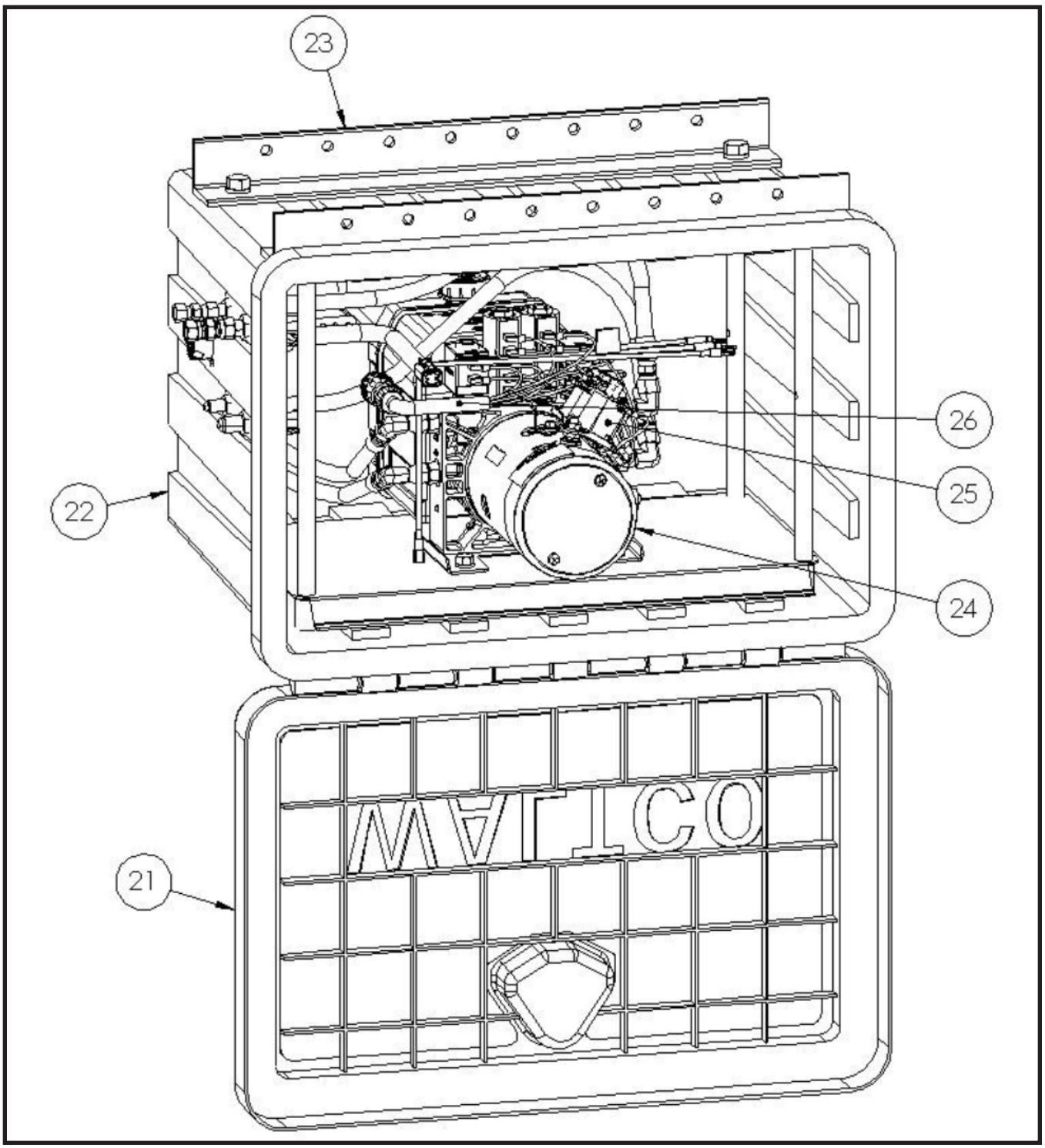
1. Curb Side Column	8. Fold Stop Latch	15. Power Open-Close Cylinder
2. Drivers Side Column	9. Deck	16. Drivers Side Lift Cylinder
3. Lights	10. Deck Extension	17. Curb Side Lift Cylinder
4. Inside Switch	11. Flip Ramp Assembly	18. Specification tag
5. Sill Extension	12. Drivers Side Runner	19. Dock Bumper
6. Support Chain	13. Curb Side Runner	20. Work Light
7. Swing Arm	14. Outside Column Switch	



Liftgate Terminology

Pump Box Components

21. Pump Box Lid	24. Pump and Motor
22. Pump Box Base	25. Motor Start Solenoid
23. Mounting Rail	26. Control Harness



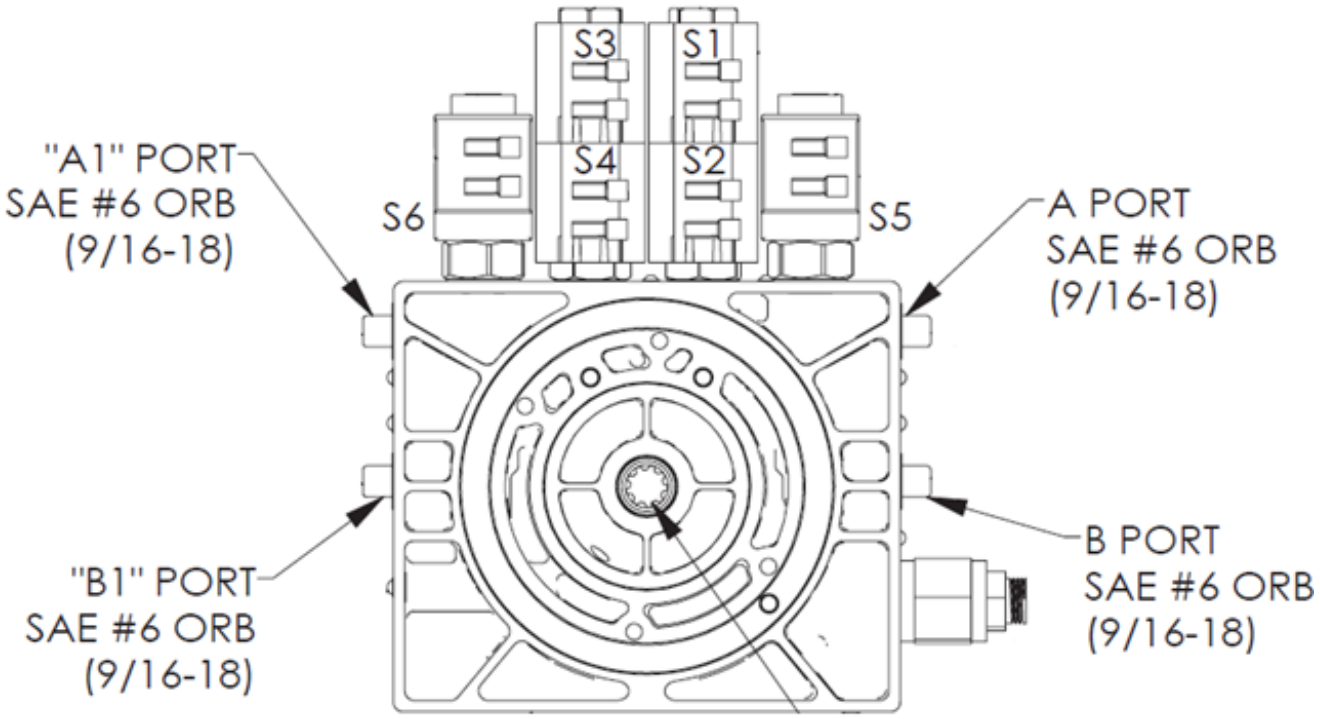
Liftgate Terminology

Bottle Gas Components

21. Pump Box Lid
22. Pump Box Base
23. Mounting Rail
24. Pump and Motor
25. Motor Start Solenoid
26. Control Harness

Power Unit

KTI Hydraulic Pump

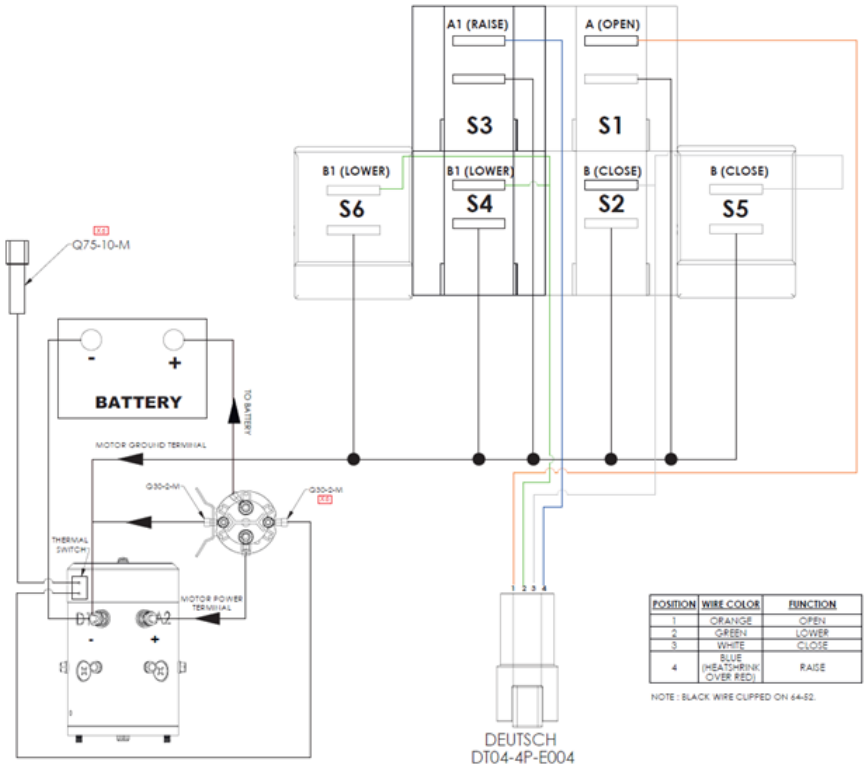


Valve Identification

S1 - Open **S3** - Raise **S5** - Close
S2 - Close **S4** - Down **S6** - Down

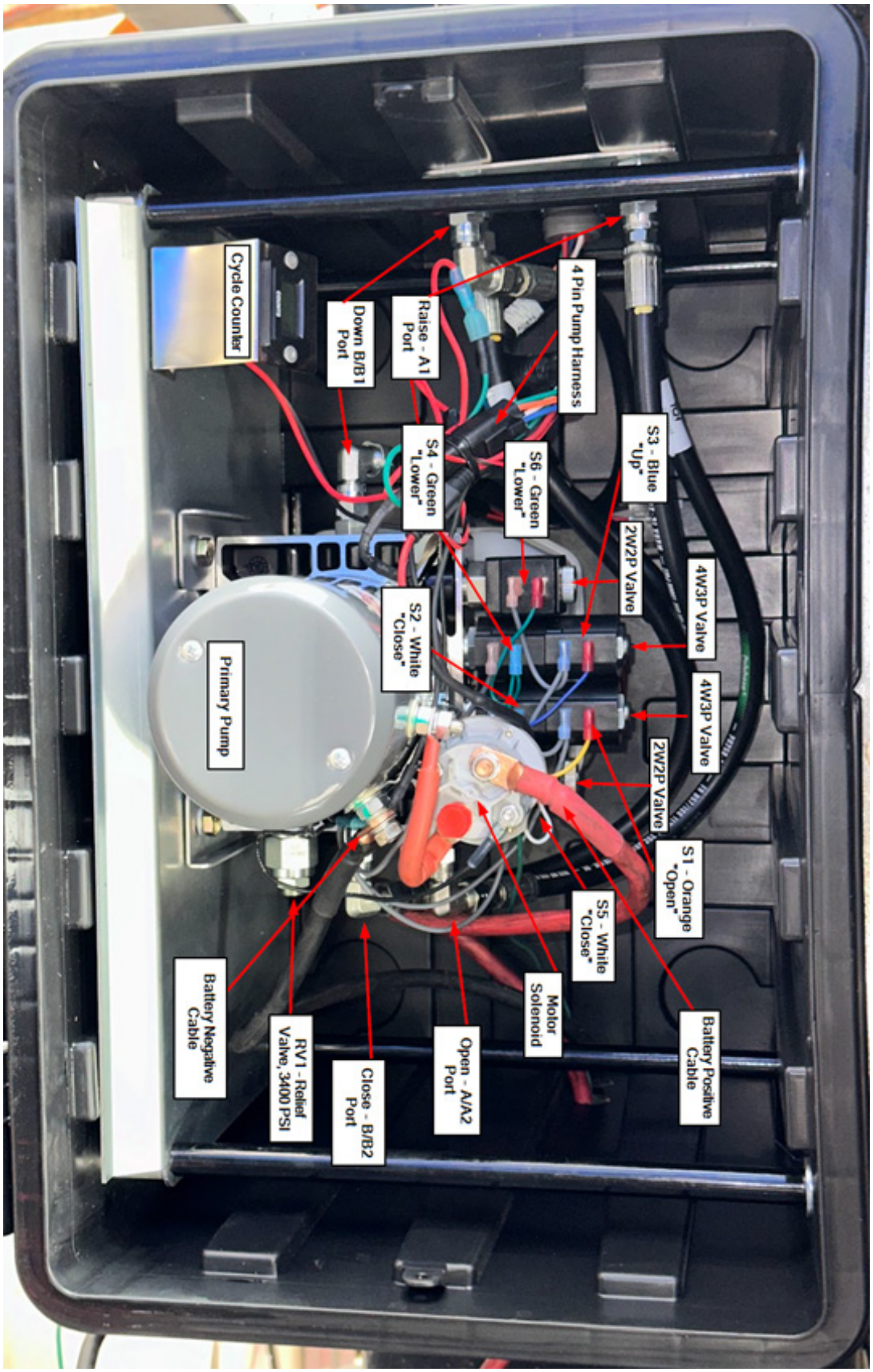
Port Identification

A1 - Riase **A** - Open
B1 - Down **B** - Close



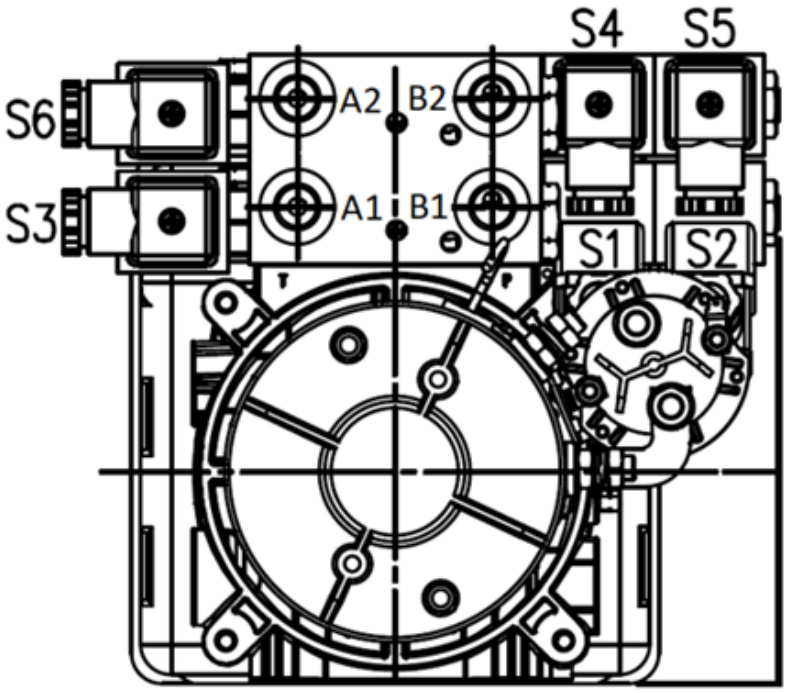
Power Unit

KTI Hydraulic Pump



Power Unit

Hydrotek Hydraulic Pump

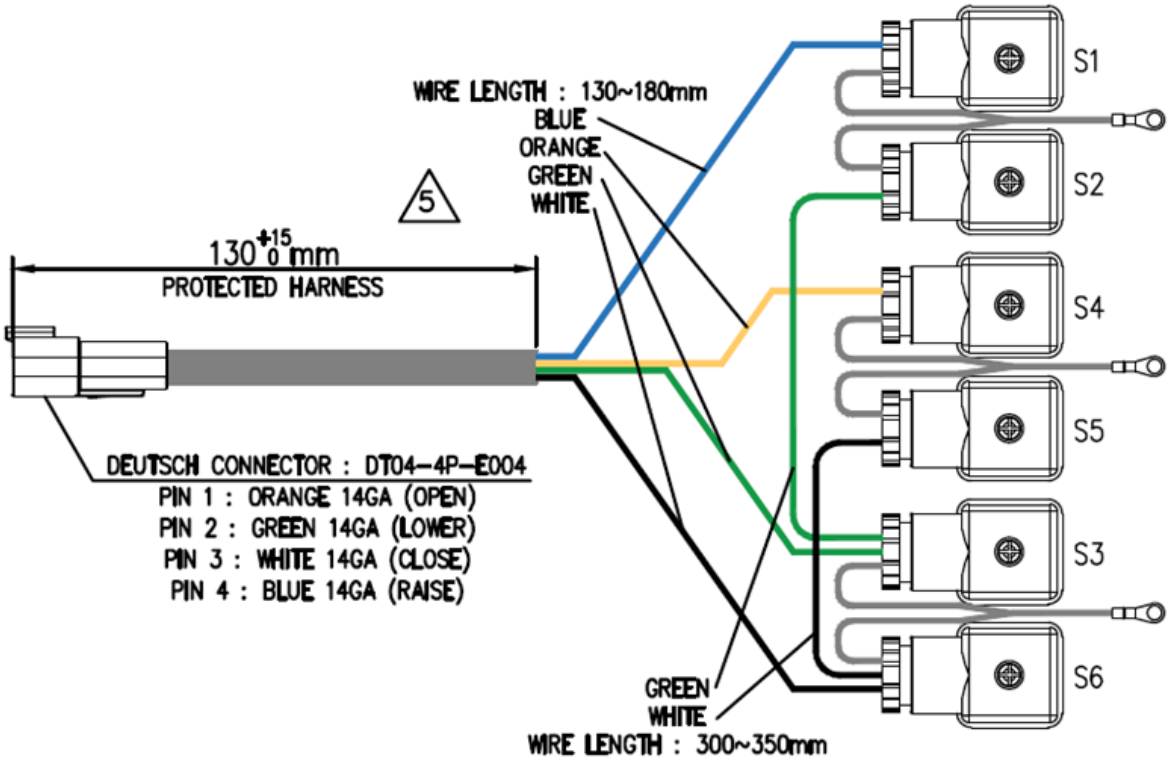


Valve Identification

S1 - Raise **S3** - Down **S5** - Close
S2 - Down **S4** - Open **S6** - Close

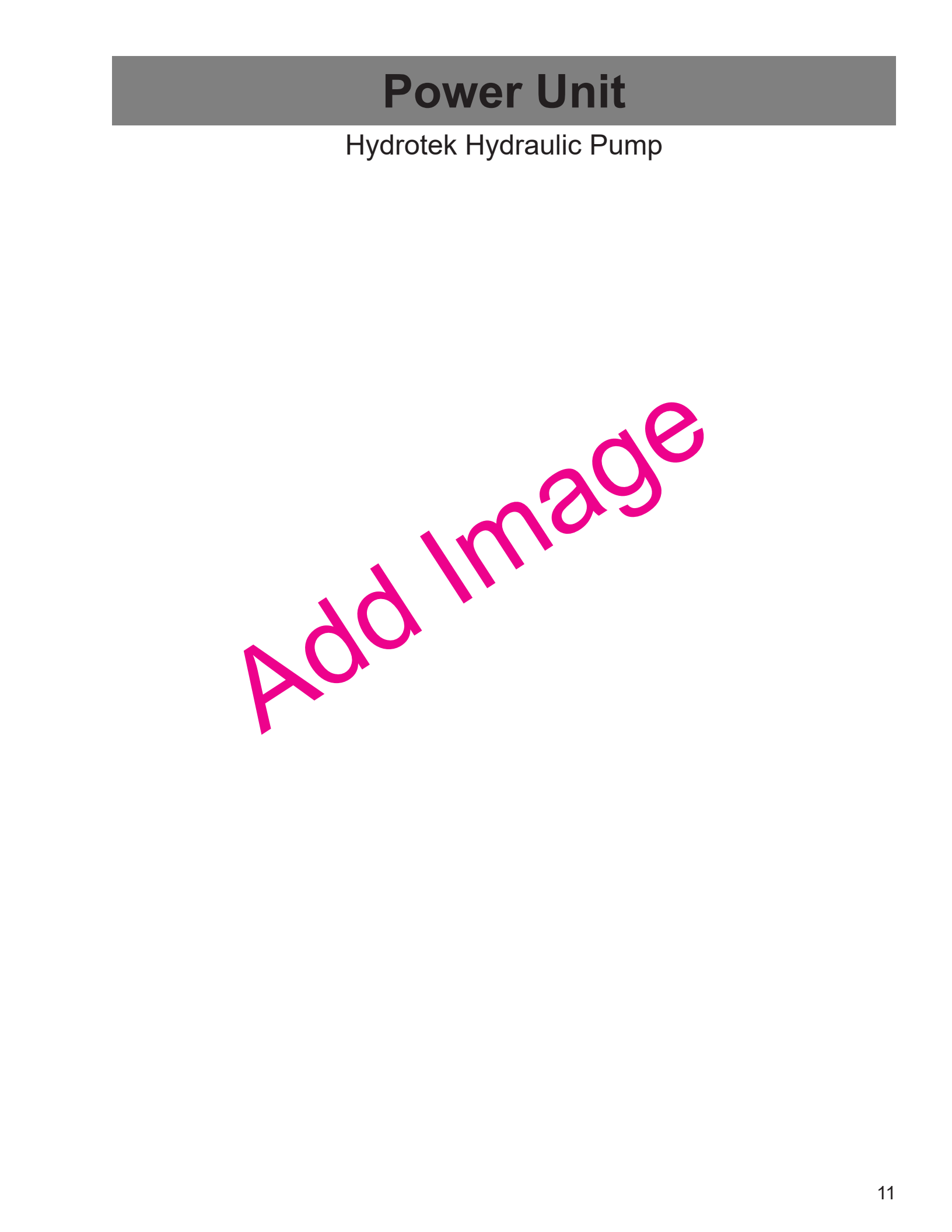
Port Identification

A1 - Riase **A2** - Open
B1 - Down **B2** - Close



Power Unit

Hydrotek Hydraulic Pump

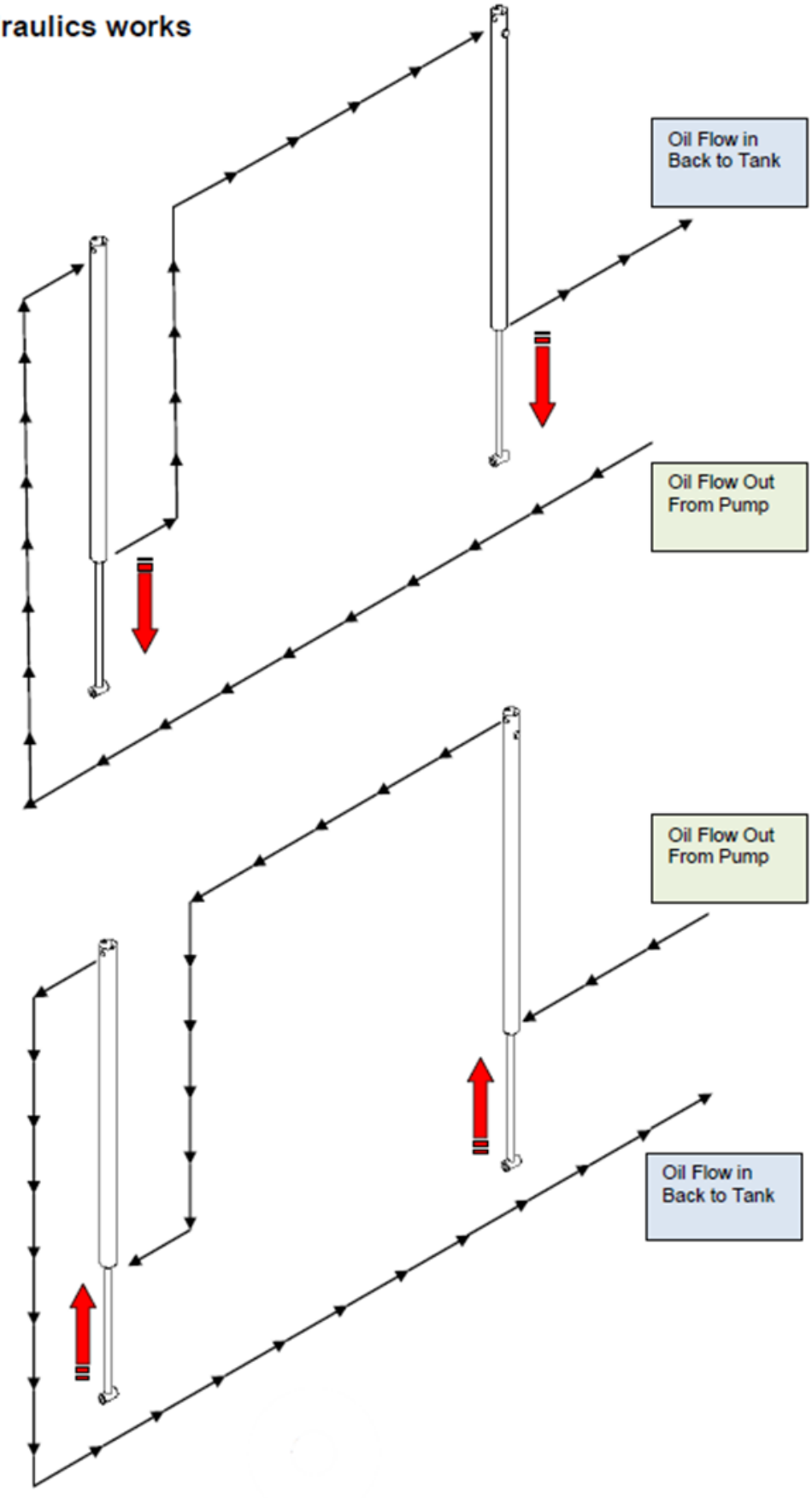


Series Hydraulic Circuit Diagram

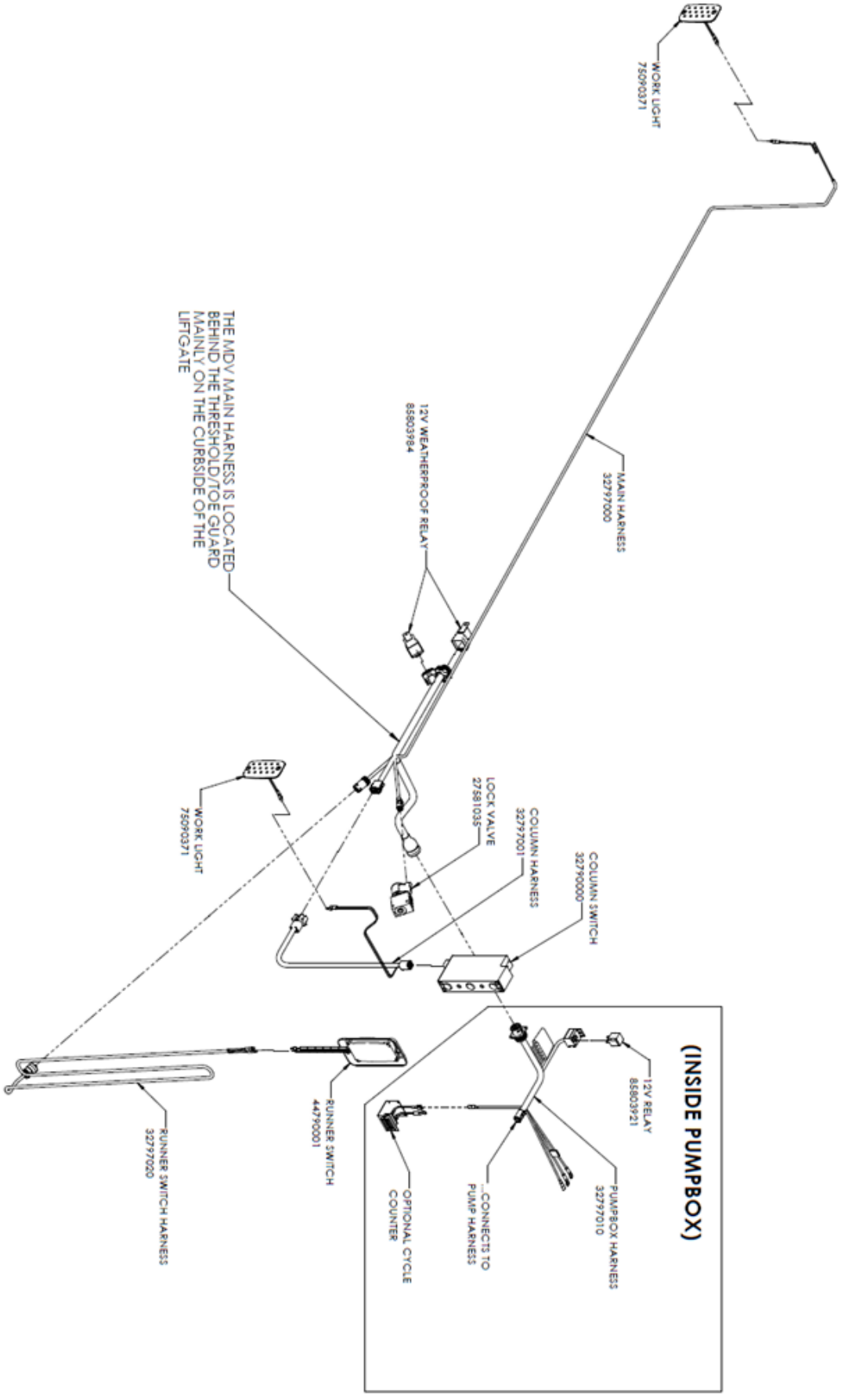
How the Series Hydraulics works

Series hydraulic circuit diagrams
Oil is pumped into one cylinder, and the oil displaced from the other end feeds the second cylinder. When platform is at floor level, the oil bypasses to the tank and the platform always self levels to the floor.

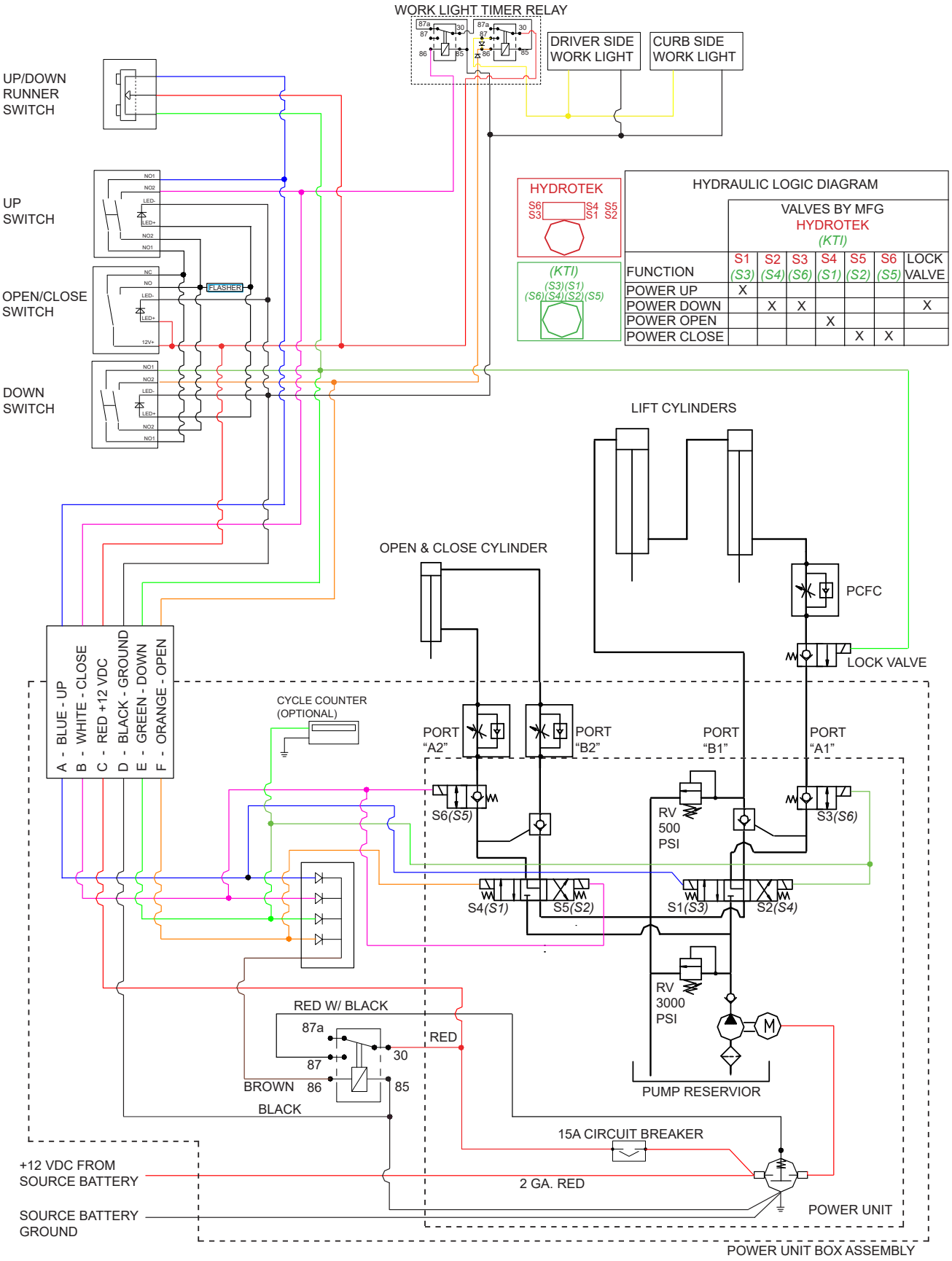
Note: Left side cylinder is larger than right side cylinder.



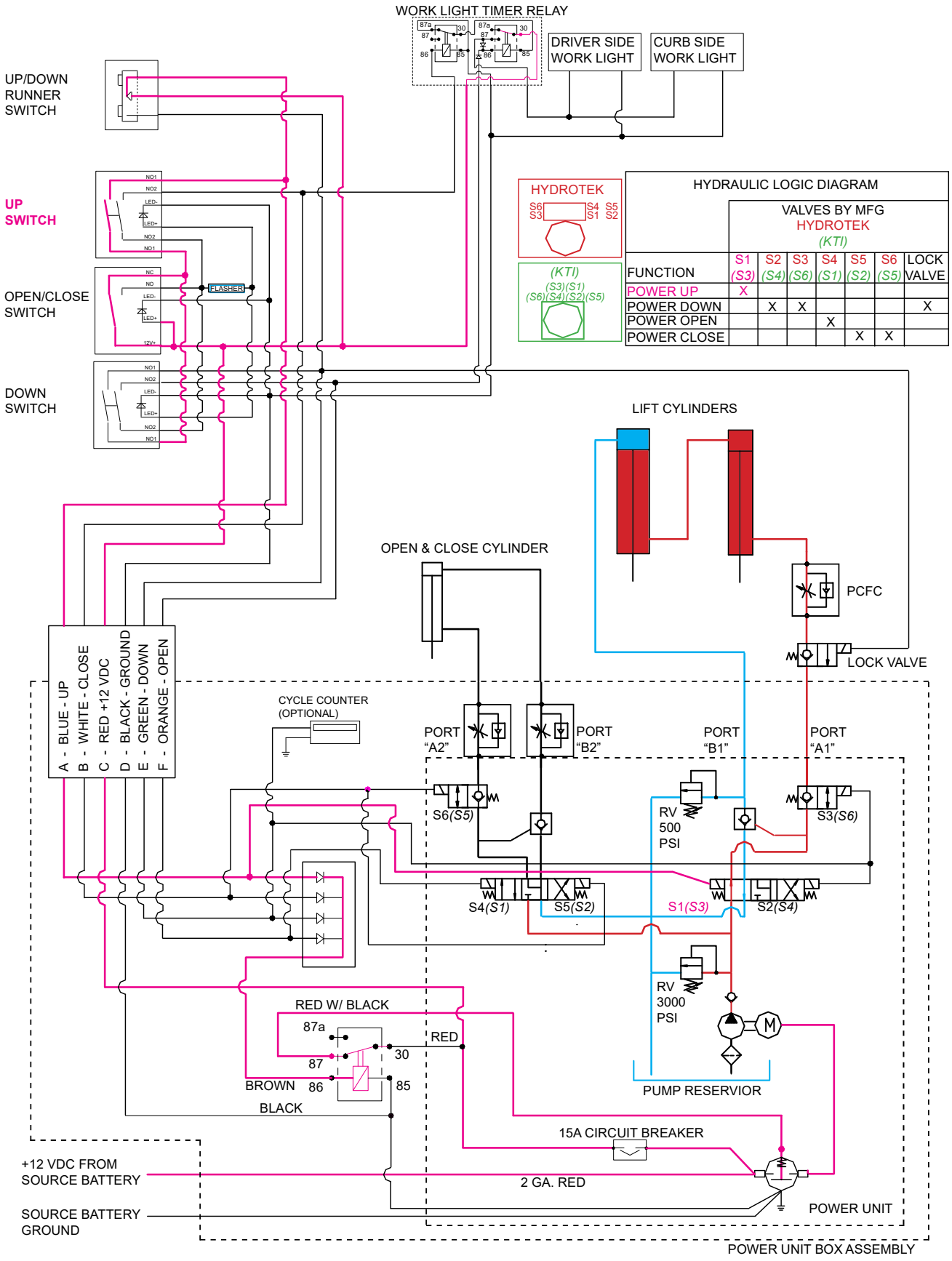
Electrical Layout Diagram



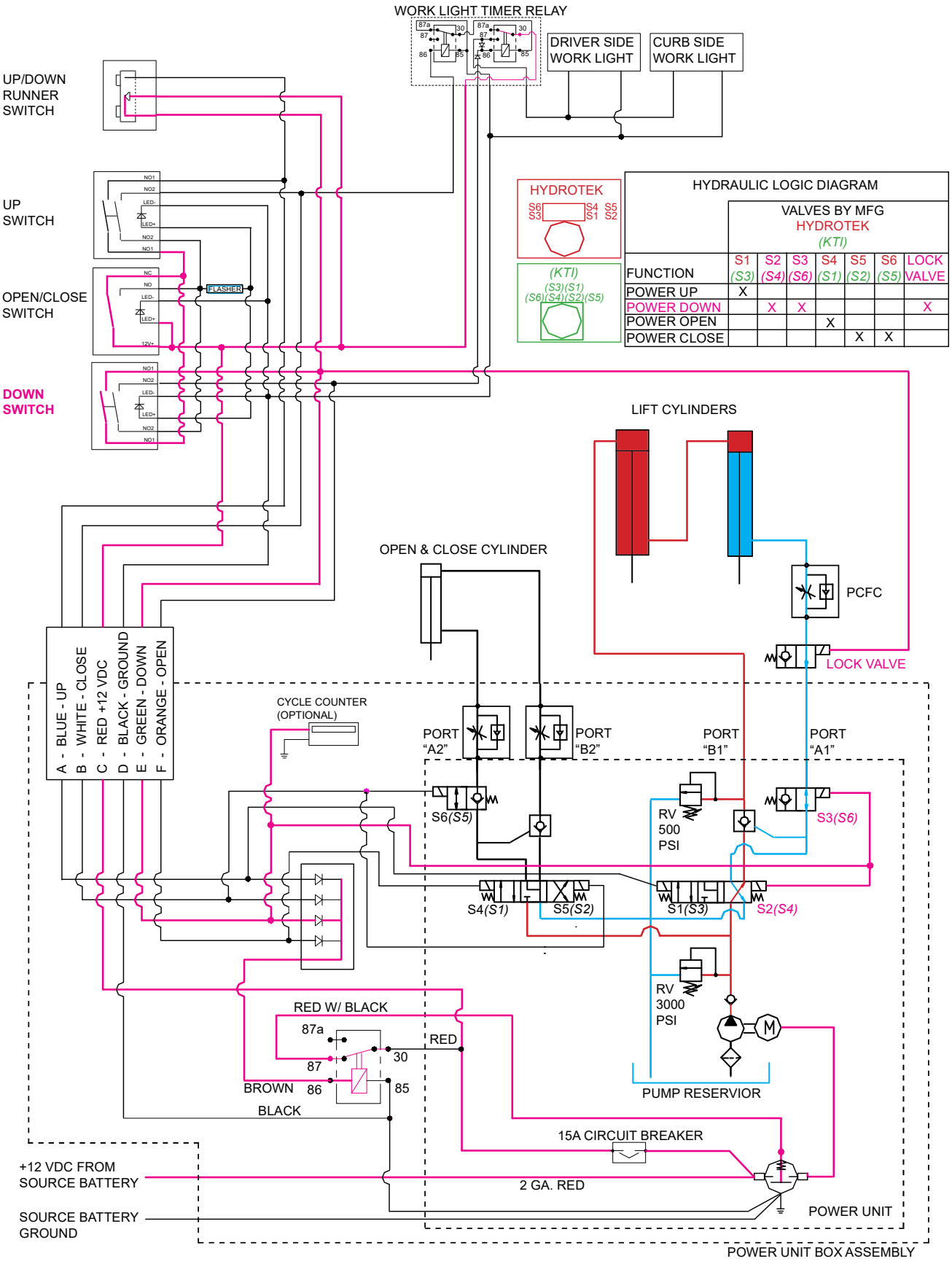
Electrical/Hydraulic Schematic



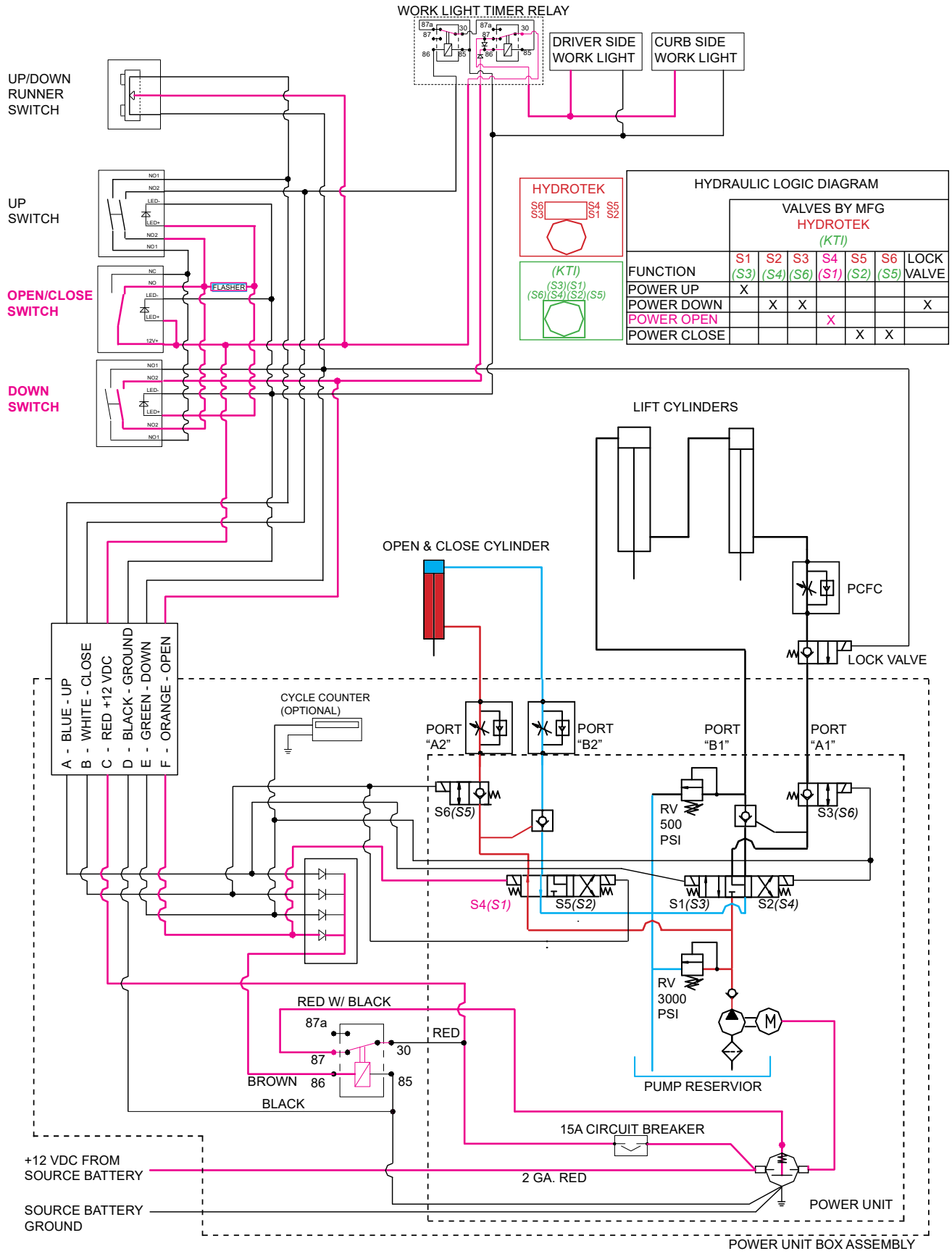
Elect/Hyd Schematic - Raise



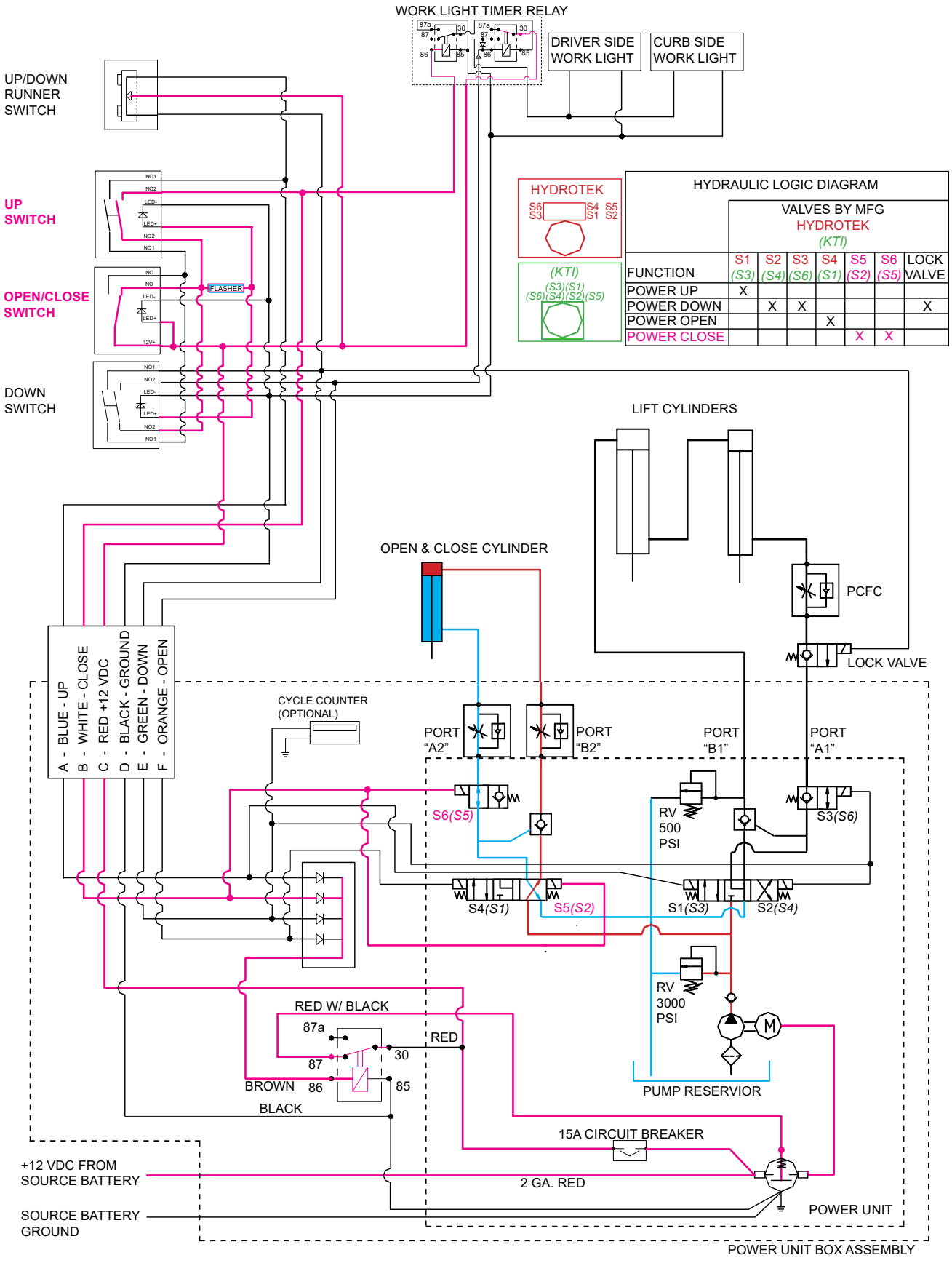
Elect/Hyd Schematic - Lower



Elect/Hyd Schematic - Open



Elect/Hyd Schematic - Close



Troubleshooting Guide

CHECKING THE OIL LEVEL IN THE RESERVOIR

Check the oil with the platform fully raised and in the open position. Oil should be within 3” below the top of the reservoir. The liftgate is shipped with Shell Tellus 15. Check the owner’s manual for additional recommended oils. Fill as required with the specified fluid in the owner’s manual. Do not overfill the reservoir.

OIL OVERFLOWS FROM THE RESERVOIR

Confirm that the operator is operating the liftgate properly. Check and inspect the oil level in the reservoir. It could be overfilled.

RECOMMENDED LIFTGATE BATTERY(S)

The recommended lift gate battery(s) should be Dual Purpose Group 31. The battery(s) should have 650-750 cold cranking amps and at least 180 minutes of reserve capacity. When replacing the liftgate battery inspect the cables and wires for corrosion.

LIFTGATE WILL NOT RAISE –

Motor Not Running (Power “ON” Confirmed)

If the motor is not running, follow the steps below in order to diagnose the issue. These steps assume that the incoming voltage at the motor solenoid stud is at least 11.5 volts with no buttons activated.

1. **Check Voltage at the Motor Solenoid (Small Stud)**
    - Measure voltage at the small stud on the motor solenoid, which activates the solenoid for “Up” and “Down” functions. It should read at least 10.5 volts when the button is pressed for either direction.
    - **If yes:** Proceed to step 2.
    - **If no:** Inspect for a broken wire or faulty switch that is not supplying voltage to the solenoid.
2. **Check Voltage at the Motor Side of the Solenoid**
    - With the “Up” or “Down” button pressed, check for voltage at the motor side of the solenoid.
    - **If yes:** Proceed to step 3.
    - **If no:** The motor solenoid may be faulty. Verify voltage on the incoming side and motor side of the solenoid. If the incoming side has voltage but the motor side does not, the solenoid needs to be replaced.
3. **Check Voltage at the Motor Stud**
    - Measure voltage at the motor stud with the “Up” or “Down” button pressed.
    - **If yes**, but the motor is still not running, the motor may be defective. Double-check your grounds and ensure the battery has at least 10.5 volts and is fully charged. If everything checks out, replace the motor.

Troubleshooting Guide

PLATFORM DOES NOT RAISE OR RAISES SLOW- MOTOR RUNS

- Check and inspect the oil level in the reservoir. Check the fluid viscosity. **See Checking the oil level in the reservoir**
- Check the battery(s) for full state of charge. Replace any batteries that cannot be fully charged.
- Check for voltage at the motor solenoid. If you have at least **10.5 volts** at the solenoid when the switch is activated and you have no power to the motor then replace the motor solenoid. Check the pump motor for battery voltage. Confirm by checking voltage on the motor post. If the motor does not run after confirming battery voltage at the terminal on the motor, replace the defective motor.
- Check for any mechanical obstructions or any mechanical damage. Look for any broken or bent parts that could interfere with normal operation. Look at the runners, columns and wear pads.
- Check voltage on **S1*(S3)*** valve while the up button is activated. Check for **10.5 volts** at the coil. Test the coil **(4.5ohms)**. Confirm that the valve is magnetizing. If the coil is working the valve may need to be replaced. If the valve is not getting voltage, check all cables and wires for shorts and poor connections.

PLATFORM WILL NOT LIFT TO FULL CAPACITY

- Check the fluid in the reservoir, fill with correct fluid. **See Checking the oil level in the reservoir**
- Check for any mechanical obstructions or any mechanical damage. Look for any broken or bent parts that could interfere with normal operation.
- Check the cables for damages, clean dirty connections and tighten any loose connections
- Check the voltage at the pump motor. The voltage should be at least **10.5 volts**.
- Determine whether or not this happens with the platform loaded or unloaded? If the gate will not lift to full height loaded,
- Check the charge of the batteries. Confirm that the lift gate has a dedicated ground. Check the battery(s) for full state of charge. Replace any batteries that cannot be fully charged.
- Check for leaking hoses and lines. Replace any leaking lines or lines.

PLATFORM DOES NOT LOWER OR LOWERS SLOW

- Check and inspect the oil level in the reservoir. Check the fluid viscosity.

  See owner's manual for substitute oils.
- Check the battery(s) for a full state of charge. Load test the liftgate battery(s). Replace any batteries that cannot be fully charged.

Troubleshooting Guide

- On a power down unit, check for voltage at the pump motor. The voltage should be at least **10.5 volts**.
- Check for mechanical binding. Check the underside of the bed extension for binding. Check for obstructions in the path of travel.
- Check voltage on **S2*(S4)*** & **S3*(S6)*** valves while the switch is activated. The voltage should be at least **10.5 volts**. Feel for a pulse on the valve. Test the coil (**4.5ohms**). Confirm that the valve is magnetizing. If the coil is good the valve may need to be replaced. If the coils are not getting power, check all cables and wires for shorts and poor connections.
- Check the pressure compensating valve. It's located on the passenger side cylinder at the top. Inspect the valve for restrictions or contaminants.

PLATFORM WILL NOT OPEN OR CLOSE

* To open press open and up, to close press close and up.

** IF MOTOR DOES NOT RUN: SEE MOTOR DOES NOT RUN*

- Check voltage on (**S4*(S1)*** for power open function / **S5*(S2)*** & **S6*(S5)*** for power close function) valves while the controls are activated. Check for **10.5 volts** at the coil. Test the coils (**4.5ohms**) Confirm that the valve is magnetizing. If coils are working the valve may need to be replaced
- If there is no voltage to the coils, check all cables and wires for shorts and poor connections.
- Check for any mechanical obstructions or any mechanical damage. Look for any broken or bent parts that could interfere with normal operation.
- Orifice in Power close cylinder is clogged or POC cylinder is bypassing
- Pilot activated check valve in power unit may be faulty. (OPENING ISSUE ONLY)

** IF THE PLATFORM WILL ONLY OPEN OR ONLY CLOSE*

- Check power on valve **S4*(S1)***, **S5*(S2)*** and **S6*(S5)*** while the up button is activated. Feel for a pulse on the valve and listen for the clicking noise. Confirm that the valve is receiving at least **10.5 volts** and magnetizing. If both coils are magnetizing, the valve may be faulty.
- If you are getting power to both coils and you have checked that the valve is working fine, the orifice built into the open and close cylinder may be blocked. The orifice is a small hole that restricts the oil flow.

  Remove cylinder and try cleaning ports. The hole in the orifice should be no larger than 1/64". A welding tip cleaner can be used to clean the hole if it is contaminated.

Troubleshooting Guide

PLATFORM OPENS OR CLOSES TOO SLOW

* Correct speed is 10s-13s open and close

1. The hydraulic cylinder that power closes and opens the platform has orifices. Platform should be lowered to the ground and the cylinder removed for inspection. The hole in the orifice should be no larger than 1/64”.

PLATFORM LEAKS DOWN

- Run platform to the top and hold the button for 30 seconds to bleed the system through before determining if there is any leakage.
- Does only one side leak down? (Wait at least 15 min, sometimes up to an hour)
    - **If Yes:** Replace cylinder on that one side where it is leaking.
    - **If both sides leak down:** Check lock valve. Lock valve may have dirt or contamination causing it to leak down. Clean the valve and reinstall. If it still leaks down replace the lock valve.

CONTROL SWITCH FUSE BLOWN

- Check the wiring for damages, clean dirty connections and tighten any loose connections
- Check and inspect for a short in switch control wire.
- Check for a defective switch.
- Check for defective coils on valves Check for 10.5 volts at the coil. Test the coils (4.5ohms) Confirm that the valve is magnetizing.
- Check and inspect the motor solenoid

THE CIRCUIT BREAKER RESETS

- Check for a direct short in power cable. Inspect for damaged or cut cable. Also check for improperly sized battery cable.
- A defective motor may draw too much current. Check amperage draw from liftgate motor. Raising an empty platform the motor should draw 80-100 amps.
- Defective circuit breaker. If the breaker is suspected it should be replaced.
- This condition can occur also if the platform overloaded (if it has a load on it) and runs for over 60 seconds.

Troubleshooting Guide

BLEEDING INSTRUCTIONS FOR THE LIFT CYLINDERS

- Stand clear of the sides and end of the platform while bleeding the hydraulic system.
- Do not place anything on the platform until the bleeding process is complete.

Step 1: Bleeding the Lift Cylinders

1. Turn on the power to the liftgate.
2. Raise the platform to bed height (the platform will stop moving automatically). Keep the switch held down for 60 seconds.
3. Rest the power unit for 2-5 minutes to allow heat to dissipate, or switch to the auxiliary pump if available.
4. Raise the platform again from bed height for another 60 seconds.
5. Check the up and down motion of the platform for smooth movement. If the liftgate moves unevenly or erratically, repeat the above steps.

Step 2: Bleeding the Power Open-Close (POC) Cylinder

1. Open the platform and lower it to the ground.
2. Locate the POC cylinder and remove the lower pin to disconnect it from the platform.
3. Fully retract the cylinder using the “open” switch.
4. Disconnect the hose from the upper fitting of the POC cylinder, and use a bucket to catch any spilled fluid.
5. Purge air from the line by holding the “close” switch until fluid runs clear from the hose.
6. Reconnect the hose to the upper cylinder fitting.
7. Fully extend the cylinder by holding the “close” switch.
8. Disconnect the hose from the lower fitting of the POC cylinder, and use a bucket to catch any spilled fluid.
9. Purge air from the lower line by holding the “open” switch until fluid runs clear.
10. Reconnect the hose to the lower cylinder fitting.
11. Extend or retract the cylinder to align the clevis with the platform, and reinstall the platform cylinder pin.
12. Raise the platform to bed height and cycle it open and closed several times. If the platform moves unevenly, repeat the bleeding steps.

Final Step: Check Hydraulic Fluid Levels

- After completing the bleeding process, check the hydraulic fluid level at the reservoir and top off as needed with **Approved Hydraulic Fluid**.

Troubleshooting Guide

PUMP MOTOR IS GETTING HOT

- This condition may be normal if the liftgate motor experiences high cycles of operation in a short period of time without cooling. The Thermal switch will reset after the motor cools down.
- Check for low voltage. The voltage should be at least **10.5 volts** at the motor solenoid.
- Check batteries are fully charged, load test batteries. Check the cables for damages, clean dirty connections and tighten any loose connections
- Thermal switch may be defective or bypassed. The Thermal sensor is set to activate at 240 F degrees.

Procedures

MDV Curbside Cylinder Replacement (Similar for DS)

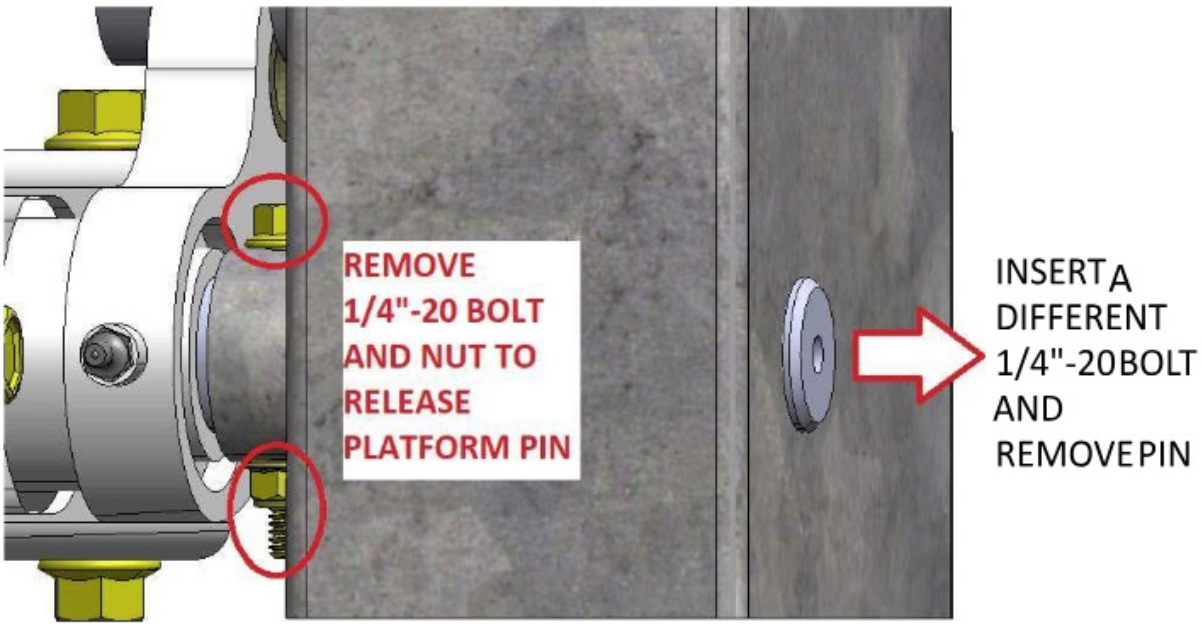
Time: ~2 hours

Tools: socket set, impact driver, wrench set, pry bar, 1/4” drive ratchet, socket set and swivel, ¼-20” x 3/4” bolt, 6” min C-Clamp, wood blocks.

Note: Move vehicle to a level location before servicing. Cylinders are NOT interchangable. Ensure you have the correct part number before proceeding.

In a level location place sawhorses or blocks under the platform and lower it onto them.

Detach the platform from the **two** platform pins by removing the bolts and nuts. On the outside of the runner, mark the pin position with a permanent marker. Use a ¼”-20 x 3/4” long bolt (not

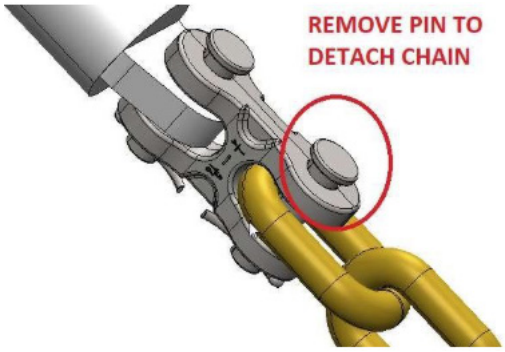


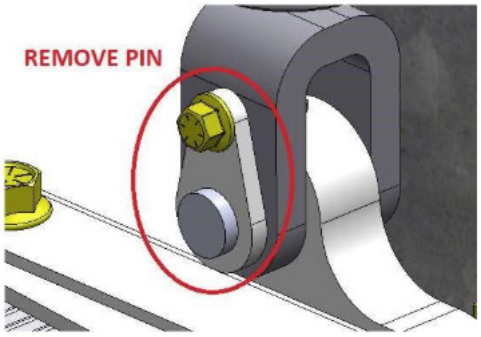
DO NOT FULLY REMOVE THE PINS FROM THE RUNNER

Procedures

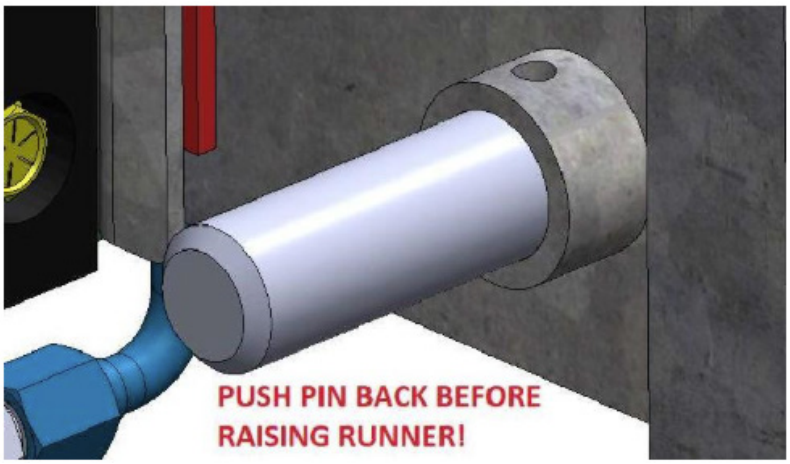
At the runner, disconnect the platform chains on from the clevis by removing the cotter pin from the clevis. Lay the chain across the platform. Complete this for both sides.

Remove the lower pin from the POC cylinder.





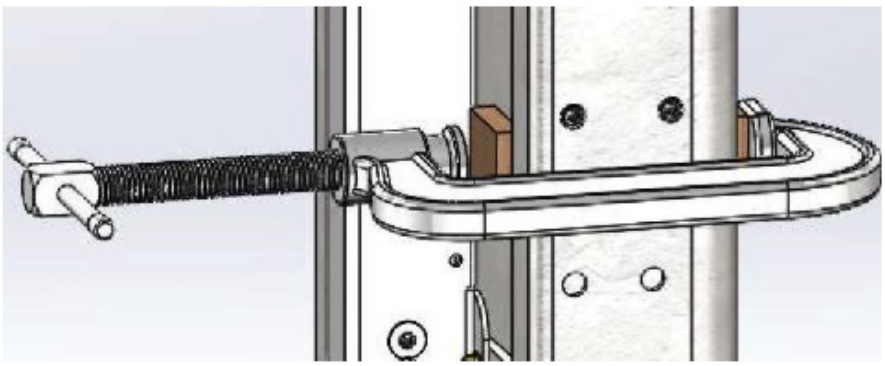
Push the Raise button to bring the runners above the platform and push the platform pins back in so thev will not strike the columns.



Raise the runners to bed height using the Raise button.

Turn off power to the liftgate.

Clamp or otherwise support the CS runner.



With the Runner secured in position, remove the CS pin from the runner. NOTE: Runner will fall if not secured when pin removed.

Procedures

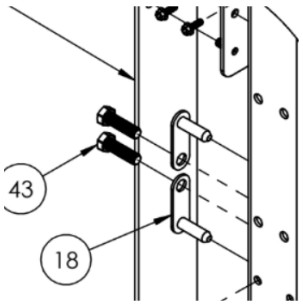
Raise the runner until you can expose the bottom cylinder fittings and the bolts holding the cylinder in the column, approximately 24”. Use a jack or pump cart or Fork lift with a chain hook to lift the runner safely.

NOTE: Runner will fall if not secured

Remove the input and output hard line on the bottom of the cylinder. *(Identify the lower and upper lines for reassembly) Cap off the fittings to prevent leakage.

Support the cylinder and remove the 3/4” bolts holding the cylinder to the column. Then remove the pins to free the cylinder.

Removed the cylinder from the assembly



Install the new cylinder to the runner and tighten the two bolts to 75 ft lbs

Reconnect the hard lines to the cylinder and torque down

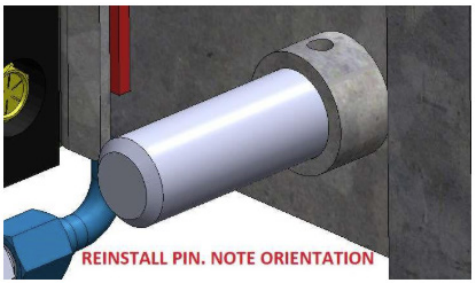
Turn on power to the liftgate.

Bleed the hydraulics by pressing Raise button for 30 seconds. Wait 5 minutes and repeat Raise for 30 seconds.

Check the fluid reservoir and top off as needed

Lower the runner to align the pin with the cylinder rod end.

Install the pin to connect the Runner to the lift cylinder. Note the orientation of the pin, with the mark made previously.



Use the Lower fucntion to lower the runners to align the pins with the platform pin holes.

Reinstall the pin locking bolt and nut from Step 2. Torque to 9 in-lbs.

Reconnect the platform chain clevises and POC cylinder.

Check liftgate for normal function. With the gate in the open position and at bed level, verify the fluid level in the reservoir tank and top off as needed.

Stow liftgate and turn off power.

Procedures

MDV POC Hose Replacement

Time: ~2 hours

Tools: Socket Set, Impact Driver, wrenches, dielectric grease, heat shrink, heat gun

Removal Procedure:

Turn on power to the liftgate.
Raise platform to access the runner switch from inside the vehicle.

At the runner switch, follow the wire to where it is covered with black heat shrink.

Remove the heat shrink but do not disconnect the switch. **Mark location of the runner harness for reinstallation on bracket.**

Lower platform to ground. Turn off power to liftgate.

Remove black bracket on the threshold.

Procedures

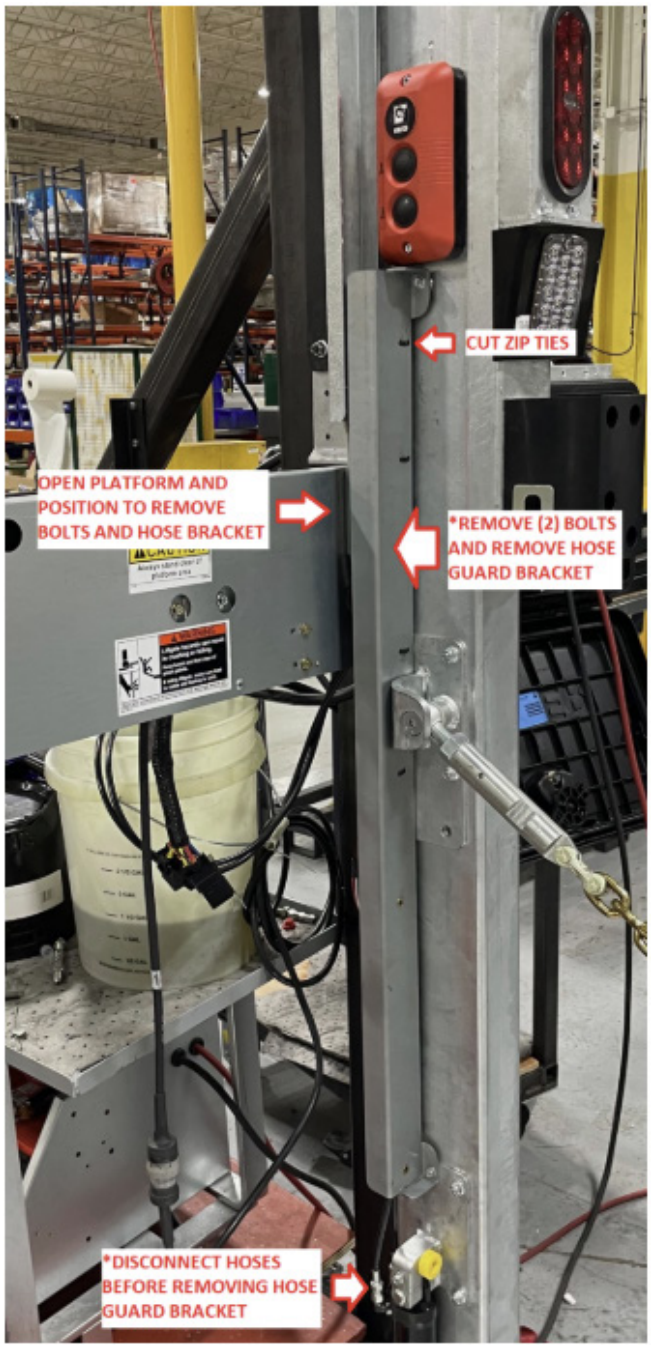
Disassemble the following:

Cut the TOP zip tie for the switch wires only. NOT the harness on the bracket.

Disconnect the hydraulic lines from the power open / close cylinder. **(Mark hose location before removing or measure length of broken hose from edge of bracket to end of fitting).**

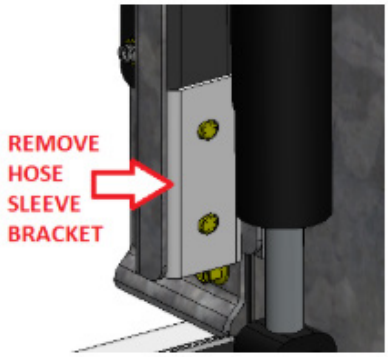
Remove (2) screws from top / bottom of hose guard bracket

Twist the bracket slightly to disconnect the runner switch from the harness (three bullet connectors)



Procedures

At the bottom of the curbside column, remove the hose sleeve bracket. **(Mark hose location before removing).**



The hose guard bracket should now be free except for the hoses and wires going through the threshold to the harness and pump box.

Loosen but do not remove the clamp bracket inside the hose guard.

Straighten out the hose sleeve by laying it inside the vehicle. Do not twist the hoses around each other.

Remove the damaged hose from the sleeve. Discard the hose assembly.

Replacement Procedure:

Starting the new hose at the pump route the proper end that will connect to the cylinder through the threshold extension grommet.

Lubricate the hose end and insert it through the hose sleeve trying to not cross the hoses.

Pull the hose to the measured dimension at the beginning. It should be equal to the other hose as well.

Check the gray harness is snug running up the bracket to prevent it from getting snagged as the runner moves.

Snug the two bolts securing the clamp to the HOSE GUARD. The hoses and wire should not be free to move inside the sleeve. Do not over tighten and crush the hoses.

Reinstall the smaller clamp on the opposite end of the hose sleeve to secure it to the column. Place the bolts through the hose sleeve with a hose on each side and the wire on one side and clamp. Install them on the column near the threshold.

Replace the hose bracket on the runner LOOSELY.

Slide the piece of heat shrink over the harness at the switch. Apply dielectric grease to the (3) switch connectors and plug them in firmly. Reconnect the gray harness to the runner switch.

Slide the heat shrink over the connectors and use a heat gun to shrink the tubing. Zip tie the runner switch harness to the bracket.

Secure the hose bracket with (2) bolts at top and bottom

Procedures

Reconnect the power open / close hoses to the cylinder with both fittings straight up.

Replace the routing clamp on the threshold and secure it with (2) bolts. Place a hose on each side of the bolts and the gray harness on one side. Hoses should be snug not to move. Do NOT over tighten.

Connect the pump end of the hose to the pump box.

Turn on power to the liftgate and run the platform up to bed level. Observe the hose bracket area for any unusual sounds or movement of wires and hoses. The hose sleeve should roll and unroll smoothly as the runner travels. Those hoses going through the threshold should be secured and out of the way of the runner movement.

Run the gate up and down several times using the runner switch to check for function.

Open and close the platform several times to bleed the cylinder and check for function.

Stow the platform and turn off power to the liftgate.

Procedures

MDV Runner Switch Harness Replacement

Time: ~45 minutes

Tools: Socket Set, Impact Driver, wrenches, dielectric grease, heat shrink, heat gun

Removal Procedure:

Turn on power to the liftgate.
Raise platform to access the runner switch from inside the vehicle.

At the runner switch, follow the wire to where it is covered with black heat shrink.

Remove the heat shrink but do not disconnect the switch. **Mark location of the runner harness for reinstallation on bracket.**

Lower platform to ground. Turn off power to liftgate.

Remove black bracket on the threshold.

Procedures

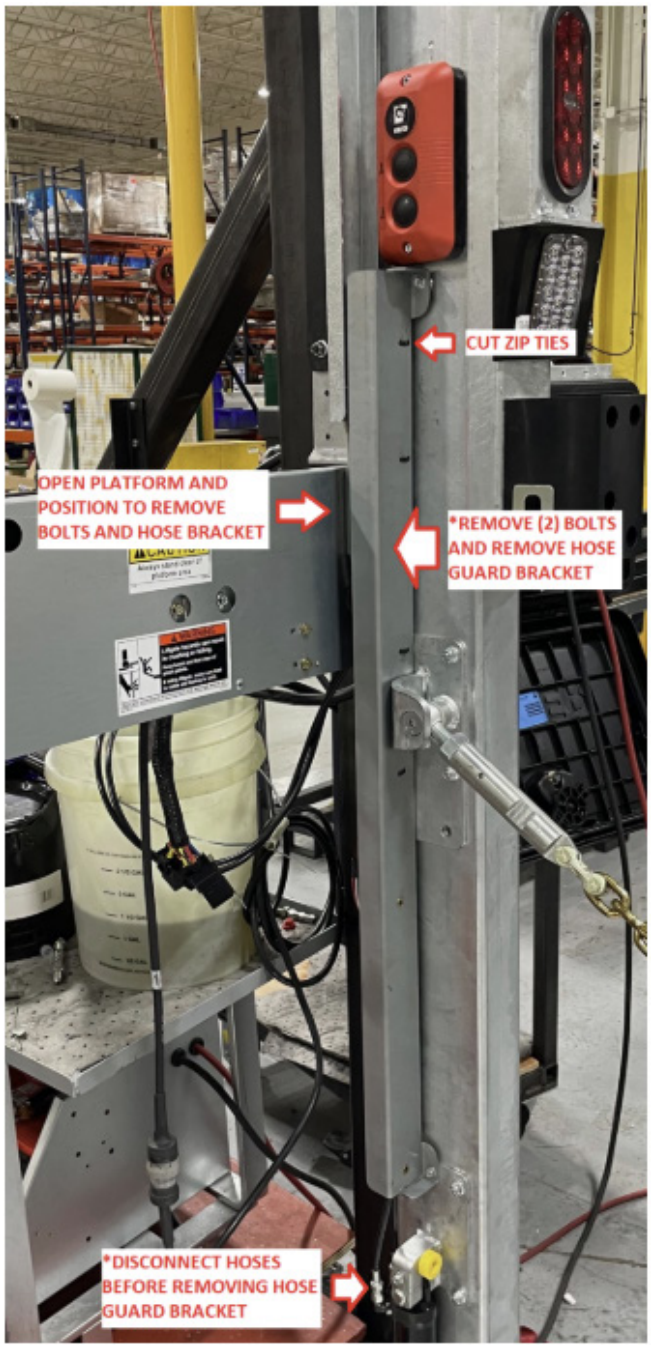
Disassemble the following:

Cut all the zip ties for the switch wire and harness.

Disconnect the hydraulic lines from the power open / close cylinder. **(Mark hose location before removing or measure length of broken hose from edge of bracket to end of fitting).**

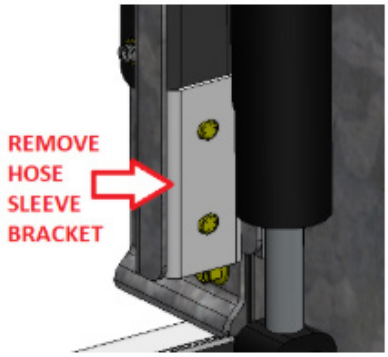
Remove (2) screws from top / bottom of hose guard bracket

Twist the bracket slightly to disconnect the runner switch from the harness (three bullet connectors)



Procedures

At the bottom of the curbside column, remove the hose sleeve bracket. **(Mark hose location before removing).**



The hose guard bracket should now be free except for the hoses and wires going through the threshold to the harness and pump box.

Loosen but do not remove the clamp bracket inside the hose guard.

Straighten out the hose sleeve by laying it inside the vehicle. Do not twist the hoses around each other.

Disconnect the Deutsch connector of the runner harness from the pump box. Cut off the Deutsch connector. Use the cut end of the bad harness to fish the new harness through the rubber hose guide.

<u>Replacement Procedure:</u>

Connect a replacement runner switch harness to the main harness and feed the free end through the threshold extension using the old harness to pull the new harness through the rubber hose guide.

Align the hoses to the marked dimension complete during disassembly.

ROUTE THE HARNESS OUT OF THE HOSE GUIDE LOOP BACK INTO THE BRACKET ALONG THE EDGE WITH ZIP TIE HOLES. Zip-tie the harness into the bracket. The wire should be as tight as possible running up the bracket to prevent it from getting snagged as the runner moves.

Snug the two bolts securing the clamp to the HOSE GUARD. The hoses and wire should not be free to move inside the sleeve. Do not over tighten and crush the hoses.

Take care to not pinch the new harness under the clamp of the hose guard.

Procedures

Reinstall the smaller clamp on the opposite end of the hose sleeve to secure it to the column. Place the bolts through the hose sleeve with a hose on each side and the wire on one side and clamp.

Replace the complete hose bracket on the runner LOOSELY.

Slide the piece of heat shrink over the harness at the switch. Apply dielectric grease to the (3) switch connectors and plug them in firmly. Reconnect the gray harness to the runner switch.

Slide the heat shrink over the connectors and use a heat gun to shrink the tubing. Zip tie the runner switch harness to the bracket.

Secure the hose bracket with (2) bolts at top and bottom.

Reconnect the power open / close cylinder hoses.

Turn on power to the liftgate and run the platform up to bed level. Observe the hose bracket area for any unusual sounds or movement of wires and hoses. The hose sleeve should roll and unroll smoothly as the runner travels.

Run the gate up and down several times using the runner switch to check for function.

Open and close the platform several times to bleed the cylinder and check for function.

Stow the platform and turn off power to the liftgate.

Procedures

MDV Outside Switch Replacement

Time: ~30 minutes

Removal Procedure:
Lower the platform and then disconnect power from the liftgate.

Remove the inside black plastic cover by unscrewing the four (4) 3/8” hex nuts.

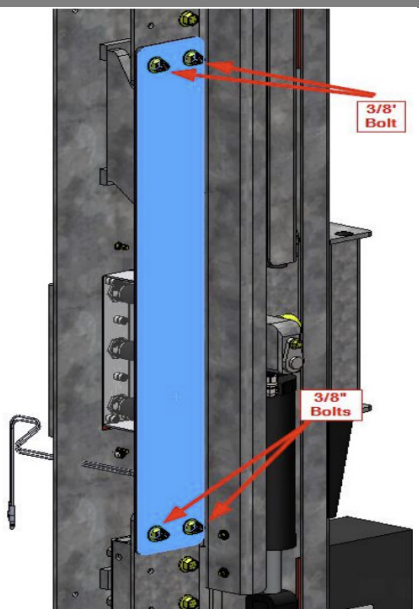
Disconnect the 6-pin Deutsch connector from the bottom of the switch assembly by pressing the lock tab and pulling down.

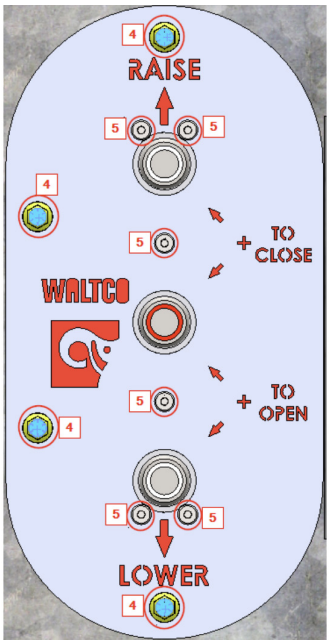
Remove the four (4) 1/4” hex bolts securing the swtich faceplate on the side of the column. Gently pull the faceplate outward to remove the switch assembly.

Remove the six (6) 1/4” Allen-drive screws to take off the faceplate and gasket from the switch assembly.

Replacement Procedure:
Install the new switch and assembly by reversing the removal steps.

Reconnect power to the liftgate and test all functions; Raise, Lower, Open, and Close.





Procedures

MDV Swing Arm Replacement Instructions

Time: ~30 minutes

Tools Needed: Socket Set, Impact Driver, Pry Bar, Saw Horses

IMPORTANT: Never position your body under the platform. Serious injury or death may result.

Removal Procedure:

Turn on the power to the liftgate.

Open the platform and raise it to bed height.

Position the sawhorses under the platform for support.

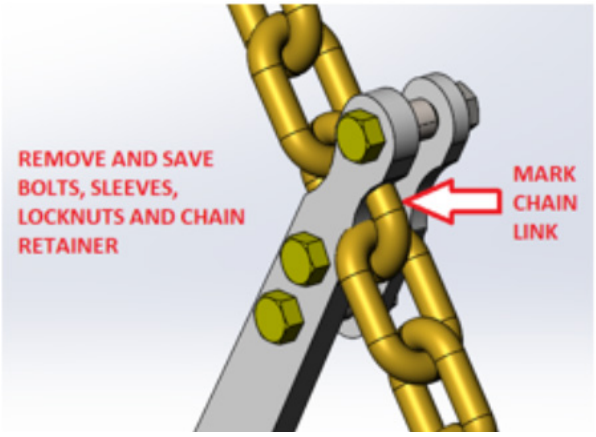
Close the platform to about 10-20 degrees, but do not close it fully.

Lower the platform until the extension rests on the sawhorses. This will create slack in the chain.

Turn off the power to the liftgate.

NOTE: The swing arm may rotate unexpectedly when disconnected. Support it to prevent injury.

Mark the chain link where the swing arm is attached using a permanent marker or paint pen before continuing.



Procedures

With the platform extension and swing arm supported, remove and save the three (3) hex bolts, sleeves, and locknuts from the chain.

Remove and save the bolt, washer, and locknut securing the platform pin.

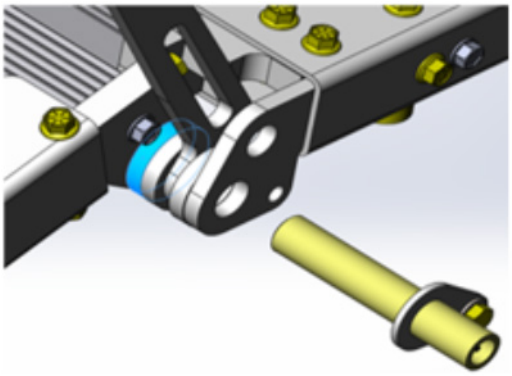
Remove the platform pin, ensuring you save the black plastic spacer.

Replacement Procedure:

Position the new swing arm and the plastic spacer on the inside as shown.

Insert the pin to reconnect the swing arm, spacer, and deck extension.

Reinstall the pin retention bolt, washer, and a new locknut. Ensure the washer is placed under the bolt head.



NOTE: Ensure the chain is attached to the marked link. If no mark was made, refer to the opposite side of the chain for correct positioning.

Turn on power to the liftgate.

Raise the platform off the sawhorses.

Open and close the platform several times to ensure proper movement. Grease the platform pins if neccessary.

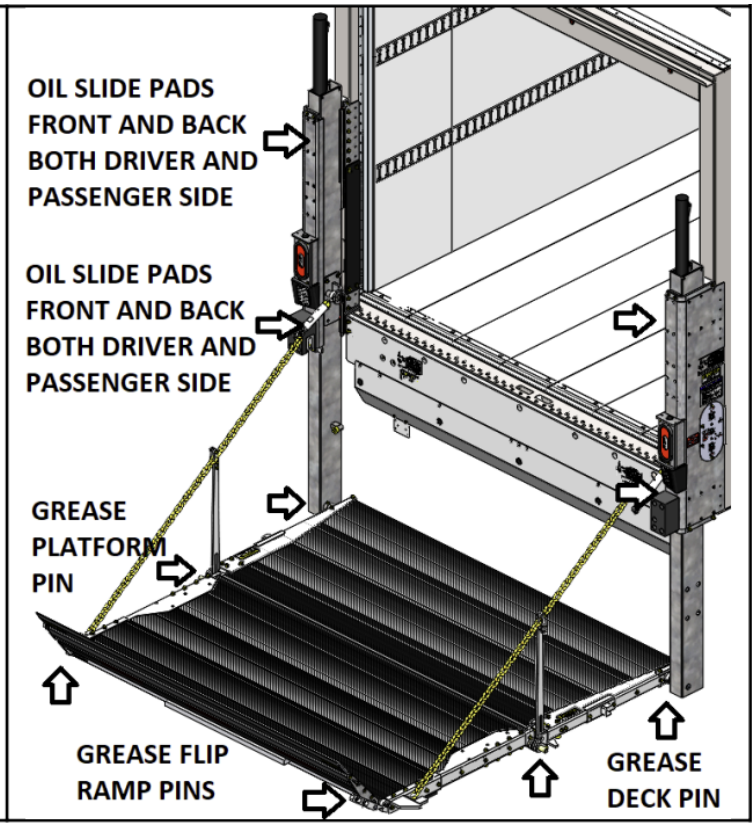
Fold and stow the platform, then turn off the power to the liftgate.

Lubrication

LUBRICATION INSTRUCTIONS

The following areas ONLY should be lubricated approximately once a month, or as outlined in the lubrication scheduled for heavier usage. If not sure of duty or cycles, always lubricate more frequently.

(For all wear pads use a low viscosity lubricant such as machine oil or equivalent. For pins with grease fittings, use grease gun and appropriate high viscosity grease)



Preventative Maintenance

Waltco recommends that the WDV / WDVBG liftgate be inspected at 6 month or 3000 cycle intervals to help assure proper function and operation of the liftgate.

Note: Photocopy the following PM Checklist to help keep track of periodic maintenance on the liftgate. Keep completed form with maintenance records.

For more detailed instructions on the following checklist items, refer to the appropriate sections in this Owner's manual.

DO NOT CONTINUE TO USE LIFTGATE IF ANY POINTS OF INSPECTION LISTED AT LEFT, OR BELOW, MAY CAUSE YOU TO THINK THE LIFTGATE IS UNSAFE. REPAIR IMMEDIATELY.

If liftgate is found to be in need of repair or adjustment not covered in this manual, contact your nearest Waltco Distributor.

WALTCO PTN-SERIES LIFTGATE

PREVENTATIVE MAINTENANCE CHECKLIST

PM Interval: 6 Months or 3000 Cycles Date:_____ Vehicle No._____

Mechanic:_____ Liftgate S/N:_____ Model:_____

Circle appropriate box below for each step:

6 Month Liftgate PM Procedures				
Inspect Liftgate columns:				
1	OK	Repair Required	Corrected	Inspect for any physical damage, twisted, bend, spreading, broken welds, top and bottom.
2	OK	Repair Required	Corrected	Inspect for loose or missing bolts or pins.
3	OK	Repair Required	Corrected	Inspect that travel ear properly engages autolatch cam.
Inspect Liftgate dock bumpers:				
4	OK	Repair Required	Corrected	Check for bent or broken areas on the column.
5	OK	Repair Required	Corrected	Inspect that dock bumpers are tight against columns and bolts are tight.
6	OK	Repair Required	Corrected	Inspect for missing or damaged slide pad.
Inspect Liftgate platform:				
7	OK	Repair Required	Corrected	Inspect for loose nuts, bolts and roll pins (Main hinge pin bolt, folding hinge bolt, roll stop and flip ramp bolts.)
8	OK	Repair Required	Corrected	**ALUMINUM PLATFORM ONLY:** Inspect that aluminum platform side plate bolts are tightened to 30 ft-lbs.
9	OK	Repair Required	Corrected	Inspect for any signs of overload damage, cracked or broken welds.
10	OK	Repair Required	Corrected	Inspect platform side chains, side chain hardware, side arm assembly, side attachment assembly for bent or missing parts.
11	OK	Repair Required	Corrected	Inspect that platform is level with the vehicle floor in the fully raised position.
12	OK	Repair Required	Corrected	Inspect folding hinges on platform and ramp for wearing. Platform should open flat with no dipping at center.
13	OK	Repair Required	Corrected	On liftgates with roll stops, inspect that roll stop opens when retainer is disengaged. Clean out roll stop hinge and lubricate with silicone spray.
Inspect Liftgate runner assembly:				
14	OK	Repair Required	Corrected	Inspect for cracked or broken welds on hinge tube.

Preventative Maintenance

15	OK	Repair Required	Corrected	Inspect that pins are secure by making sure the pin retainers are in place and the retainer bolts are not loose or missing.
16	OK	Repair Required	Corrected	Inspect wear pads for wear and bracket for missing or broken bolts.
17	OK	Repair Required	Corrected	Inspect runner for physical damage.
Inspect Hydraulic and Electrical Components:				
18	OK	Repair Required	Corrected	Inspect for hydraulic leaks on cylinders, hoses and fittings
19	OK	Repair Required	Corrected	Inspect hoses for fraying or cracking (especially where hoses enter or exit the housing cover and hose extension cover).
20	OK	Repair Required	Corrected	Inspect that closing hoses are tracking properly and secured to liftgate column.
21	OK	Repair Required	Corrected	Remove power unit enclosure cover and inspect that electrical connections are clean and secure – spray connections with dielectric coating.
22	OK	Repair Required	Corrected	Inspect that fluid level in tank is 2" from the top with platform fully raised and open.
23	OK	Repair Required	Corrected	Inspect for any visible oil leaks inside the power unit enclosure. (valves, hoses, and fittings.)
24	OK	Repair Required	Corrected	Inspect power unit to make sure mounting is secure.
25	OK	Repair Required	Corrected	Inspect that master disconnect switch works properly and battery connection are secure. Spray terminals with dielectric coating.
26	OK	Repair Required	Corrected	Inspect circuit breaker for visual damage and ensure both motor and charge line circuit breakers are engaged. Spray terminals with dielectric coating.
27	OK	Repair Required	Corrected	Inspect that battery connections including grounds are secure and clean. Spray terminals and connections with dielectric coating.
28	OK	Repair Required	Corrected	Inspect entire length of battery cable (positive and ground) and exposed switch wires for chafing.
29	OK	Repair Required	Corrected	Load test batteries and perform battery maintenance as needed.
30	OK	Repair Required	Corrected	Inspect that battery hold downs are in place and properly tightened.
31	OK	Repair Required	Corrected	Inspect toggle switches for damage to 1/2 rubber boot.
32	OK	Repair Required	Corrected	Toggle to (optional) backup pump-motor and run liftgate through five complete up/down, open/close cycles to verify proper operation of backup system. Alarm should sound when running on backup motor.
Final Inspection:				
33	OK	Repair Required	Corrected	Run gate through two entire cycles with platform open to make sure there is no unusual noise.
34	OK	Repair Required	Corrected	Inspect that raising and lower speeds with empty platform are within 15-22 seconds (Based on a 50" bed height.)
35	OK	Repair Required	Corrected	Run gate through one cycle of the power open and close operation.
36	OK	Repair Required	Corrected	Inspect that opening and closing speeds are within 6-9 seconds.
37	OK	Repair Required	Corrected	Run gate up to stored position, make sure platform lock works properly.
38	OK	Repair Required	Corrected	Inspect that all decals are in legible and in the correct location.
39	OK	Repair Required	Corrected	Check operation of cycle counter
Annual Inspection/PM Procedure				***(Includes items 1-36 in Quarterly Inspection/PM procedure)***
40	OK	Repair Required	Corrected	Inspect platform hinge block/tube bushing (removal of platform required).
41	OK	Repair Required	Corrected	Inspect lift cylinder clevis bolts (remove platform, raise runner until clevis exposed)
41	OK	Repair Required	Corrected	Change hydraulic fluid.

Preventative Maintenance

Check that all bolts, fasteners and pins are tight and secure:

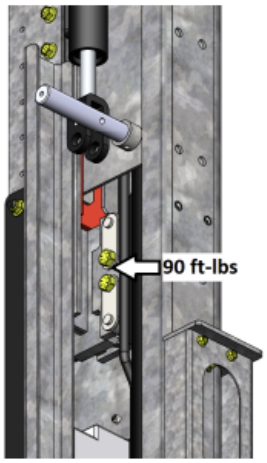
1. All Lift Cylinder Pin bolts torqued to 90 ft-lbs

2. Power Open-Close Cylinder Pin bolts torqued to 122 in-lbs.

3. Inspect Linkage bolts and Clevis on platform and support chains and tighten as needed.

4. Platform Hinge Pin Bolts, 1 each Driver and Passenger Side

1



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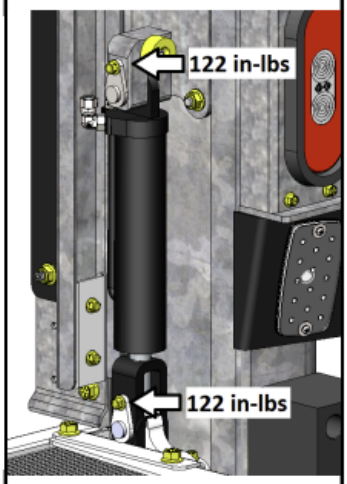

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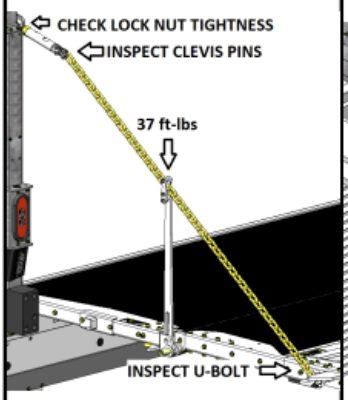

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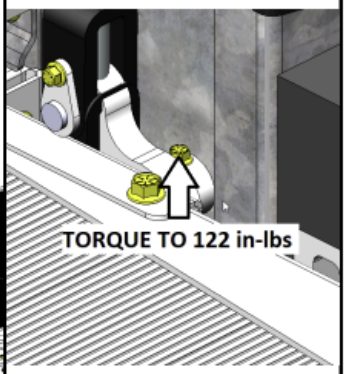
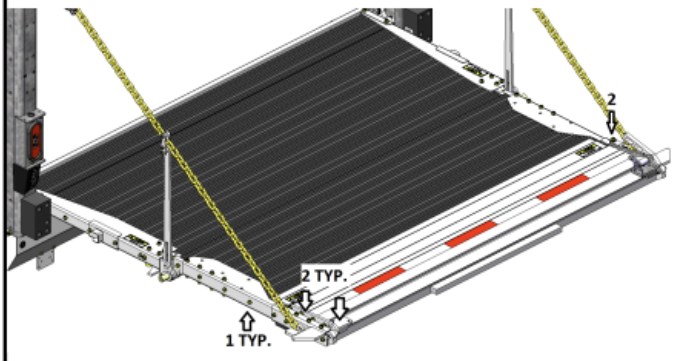


If liftgate has Aluminum Platform, check additional bolts, fasteners and pins are tight and secure:

1. All Platform Side Rail bolts (to have Torque of 30 ft-lbs).

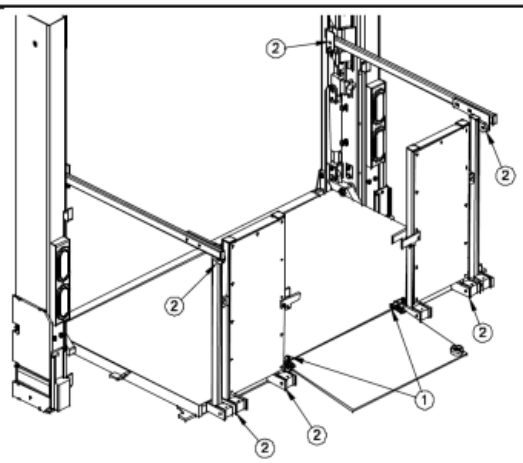
2. All Ramp attachment bolts.



Preventative Maintenance

If liftgate is WDVBG, check additional bolts, fasteners and pins are tight and secure:

1. Platform Ramp Hinge Pins and Hinge Plates.
2. All Guard Railing Pivot points.

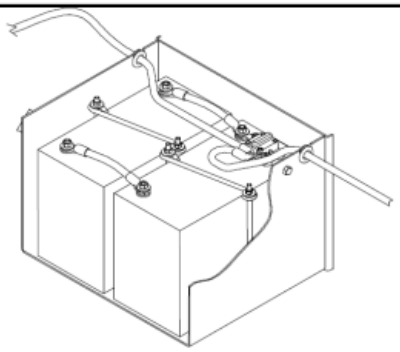


CHECK BATTERIES

Check electrolyte level of batteries (if applicable).

Check that all wiring and battery cable connections are tight and free of corrosion.

Run a load test on the batteries and replace defective ones.

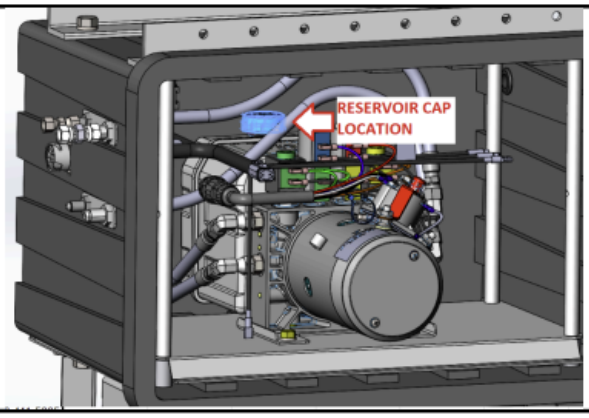


CHECK OIL LEVEL

Open platform and raise to to bed height. Check that hydraulic reservoir is filled to within 2" from the top.

A transfer pump or funnel with a hose can be used to reach the reservoir opening.

NOTICE: Do **NOT** fill reservior to top. Oil may overflow into pump box during operation.



Preventative Maintenance

WALTCO

Purchase in 1 gallon containers from Waltco
Parts Hotline 1-800-411-5685 www.waltco.com

Hydraulic Fluid Chart	
Temp Range ^{0}F	**Waltco Fluid Part #s and Acceptable Fluids**
0^0 to 120^0	**Waltco Biodegradable LiftLube Part # 85803860**
	Shell Tellus S2 VX 32
	Chevron Rando HDZ 32
-20^0 to 90^0	**Waltco Biodegradable LiftLube Arctic Part # 85803866**
	Waltco All Season Hyd Oil Part # 85803867
	Shell Tellus S2 VX 15
	Mobil DTE 10 Excel 15
	Chevron Rando HDZ 15

7/16 80101494

Fill reservoir

- Fill with recommended fluid or equivalent.
- Fill the reservoir to within 2" from the top. (Oil level instructions above)
- Fluids are available from the Waltco Parts Dept. 1-800-411-5685 www.waltco.com

Note:

Do not use the following fluids:

- **Brake Fluid**
- **Power Steering Fluid**
- **Automatic Transmission Fluid (ATF)**
- **Motor Oil**

LUBRICATION INSTRUCTIONS

Please refer to Chapter 6 of the Manual for Lubrication Instructions.

ANNUAL INSPECTION

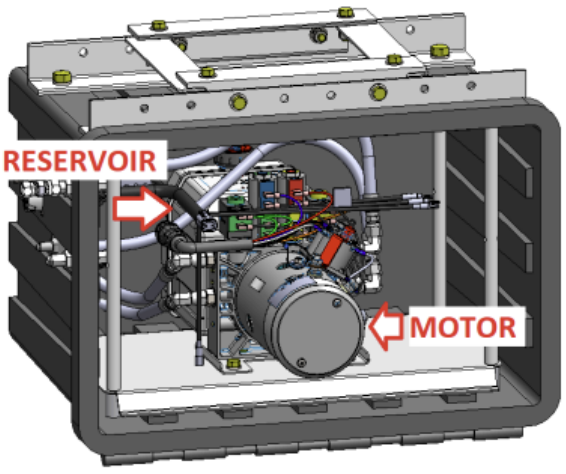
Perform procedures outlined in semi-annual inspection.

Inspect pump motor:

- Disconnect battery cables.
- Remove motor end cover.
- Clean residue from inside motor housing.
- Apply several drops of light weight machine oil to armature shaft bearing in motor end cover and reassemble motor end cover.

To replace Hydraulic Fluid:

- Open platform and lower to ground.
- Drain oil from hydraulic system using drain port located on bottom of reservoir and flush entire system.
- Fill reservoir to within 2" from the top. (Oil level filling instructions on previous page).
- Bleed hydraulics and top off reservoir as needed.



Notes

How to Order Parts

Repairs should be made only by authorized mechanics using WALTCO Replacement parts.

When ordering repair or replacement parts, please include all the information asked for below. If this information is not available, a complete written description or sketch of teh required part will help WALTCO identify and deliver the needed part to you.

THE FOLLOWING INFORMATION MUYST BE INCLUDED:

1. SERIAL NUMBER - [WALTCO liftgate serial numbers can be found on the Specification Tag attached to the mount frame.]
2. MODEL NUMBER
3. CAPACITY
4. PLATFORM SIZE

THEN INCLUDE THE FOLLOWING INFORMATION:

5. PART NUMBERS
6. DESCRIPTION
7. QUANTITY REQUIRED

MAIL, E-MAIL OR PHONE YOUR REQUEST TO:

WALTCO Lift Corp
1777 Miller Parkway
Streetsboro, OH 44241
1-800-441-5685
FAX: 1-800-441-5684
EMAIL: parts@waltco.com

ALL PARTS ARE F.O.B. FROM THE SHIPPING FACTORY

PLEASE NOTE:

To assure you of continuing and effective quality control, our warranty policy permits replacement of hydraulic cylinders, valves and motor pump units when their factory seals are intact. Parts under warranty will be exchanged after careful inspection of the returned assemblies.
