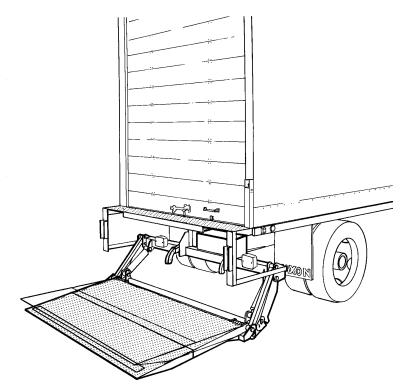
M-97-26 REV. F **APR. 2000** 

## **MAINTENANCE MANUAL**

# TUK-A-WAY

**LIFT GATE SERIES** 

## **GPT-4 LM**



11921 Slauson Avenue. Santa Fe Springs, CA. 90670 (800) 227-4116



# Santa Fe Springs, CA. 90670

#### **CUSTOMER SERVICE:**

TELEPHONE (562) 464-0099 TOLL FREE (800) 227-4116

FAX: (888) 771-7713

NOTE: Check with Customer Service for updated versions of Manuals on an annual basis.

## **WARRANTY POLICY & PROCEDURE**

#### **NEW LIFTGATE WARRANTY**

Term of Warranty: 2 Years from Date of In-Service

Type of Warranty: Full Parts and Labor

MAXON agrees to replace any components which are found to be defective during the first 2 years of service, and will reimburse for labor based on MAXON's Liftgate Warranty Flat Rate Labor Schedule. (Call MAXON Customer Service for a copy).

All claims for warranty must be received within 30 Days of the repair date, and include the following information:

- 1. Liftgate Model Number
- 2. Liftgate Serial Number
- 3. Detailed Description of Problem
- 4. Corrective Action Taken, and Date of Repair.
- 5. Parts used for Repair, Including MAXON Part Number(s).
- 6. MAXON R.M.A. # and/or Authorization # if applicable (see below).
- 7. Person contacted at MAXON if applicable.

All warranty repairs must be performed by an authorized MAXON warranty station. For major repairs, MAXON Customer Service must be notified and an "Authorization Number" obtained. Major repairs would generally be considered repairs made to the structural assembly of the liftgate and/or repairs not outlined in the MAXON Liftgate Warranty Flat Rate Schedule.

Major components (i.e. hydraulic pumps, cylinders, valves, or failed structural parts) must be returned, freight pre-paid, prior to the claim being processed. To ensure timely processing of these warranty claims, an R.M.A. (Returned Merchandise Authorization) number must be obtained from MAXON Customer Service prior to the return of any defective part. Defective Parts must be returned within 60 days of the claim date for consideration to:

#### **MAXON Lift Corp.** 16205 Distribution Way, Cerritos, CA 90703 Attn: RMA#

MAXON's warranty policy does not include the reimbursement for travel time, towing, vehicle rental, service calls, oil, batteries, defects due to misuse or abuse, or loss of income due to downtime. Fabrication of parts, which are available from MAXON, are also not covered.

MAXON's Flat Rate Labor Schedule takes into consideration the time required for diagnosis of a problem.

#### **PURCHASE PART WARRANTY**

Term of Warranty: 1 Year from Date of Purchase

Type of Warranty: Part Replacement

MAXON will guarantee all returned genuine replacement parts upon receipt and inspection of parts and invoice.

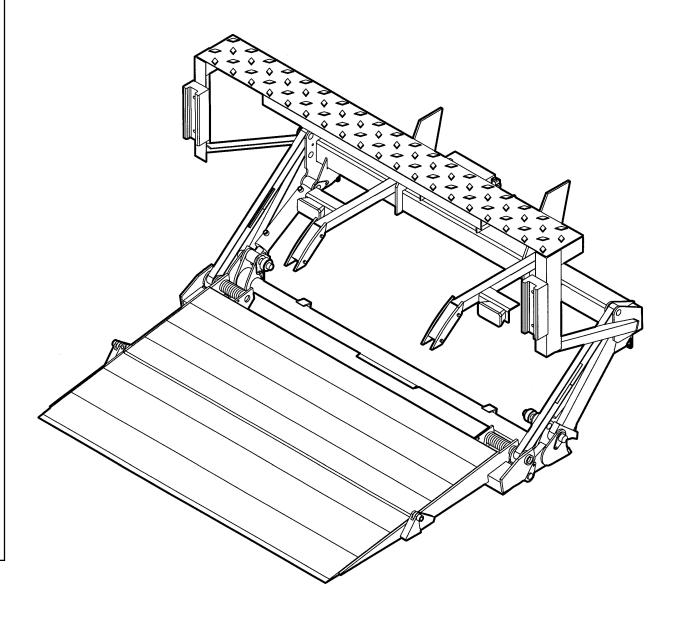
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## **INTRODUCTION**

This publication contains the information required to maintain the **GPT-4LM**. If there is any doubt regarding the suitability of these lifts being maintained on it's intended vehicle, or any portion of these instructions that you do not understand, please contact the **MAXON Customer Service Department** for consultation.

Unauthorized modification to this equipment may cause premature failure or create hazards in its use that are not foreseen at the time of installation. These kinds of changes should be discussed with our Engineering Department before being undertaken.



#### **WARNING**

- 1. Read the **Maintenance Manual** and understand it thoroughly before any maintenance of this unit is done.
- 2. Read the **YELLOW** urgent warning decal on the side of the vehicle close to the unit before operating.
- 3. If decals are dirty, clean them. If decals are defaced or missing, replace them. **Free replace-ments** are available from the manufacturer. See information at the end of the Warnings
- 4. Be aware that the safety and location of other people or objects should be considered before operation of this unit. Stand to one side of platform while operating this unit.
- 5. Do not stand under, or have any foreign object under the Platform when lowering. **Be sure** that the lowering of the Platform and/or Flipover will miss your feet!
- 6. Keep fingers, hands, arms, legs, and feet clear of moving parts when operating this unit.
- 7. If during your maintenance procedure, it becomes necessary to ride the platform, keep your feet and any foreign objects clear of the rear edge of the platform. Otherwise your feet or the foreign objects could become trapped between the edge of the platform and the vehicle bed.
- 8. Inspect all Roll Pins monthly, to insure that they are not broken. Replace if broken.
- 9. Inspect all hydraulic hoses and fittings annually. Check for cracks and deterioration, and replace if necessary.
- 10. **Disconnect battery** when replacing parts or servicing.
- 11. Do not allow children to ride, play with, or operate this unit.
- 12. In the event of an emergency while operating the unit, release the toggle switch and the unit will stop immediately.
- 13. A properly installed Lift should operate smoothly and the only noise during the operation of this unit should be from the Pump Unit during the raising of the Platform. Any scraping, grating or audible indications of rough operation will need investigating. The cause will need resolving before any further deterioration of performance occurs.
- 14. Use only **Maxon Authorized Parts** for replacement. Replacement parts should be ordered from:

MAXON LIFT CORP. Parts Department 11921 Slauson Ave., Santa Fe Springs, Ca. 90670 Phone: (800) 227-4116

#### PERIODIC MAINTENANCE CHECKLIST

## **Annually**

Visually check the complete unit for excessive wear, worn parts or broken welds. Check <u>all</u> Hinge Pins for excessive wear or broken welds. For parts replacement, see the Assembly Breakdown Drawings.

#### Six Months

Visually check the Platform Hinge Pins for excessive wear or broken welds. For parts replacement, see the Assembly Breakdown Drawings.

## Quarterly

Check the oil in the Pump Reservoir. The oil should be Grade ISO-(32) Hydraulic Fluid. \*See below for Cold Weather operation.

Check Hoses and Fittings for scuffing and leaks. Replace if necessary.

Check the electrical wiring for worn insulation, and the terminals for corrosion and secure fit.

Check all bolts for tightness.

Check that all Warning Decals are in place and readable.

Check that all roll pins are properly installed. Replace if necessary.

Inspect the Hook & Chain Assembly for proper operation.

#### \* COLD WEATHER OPERATION

#### **OIL SPECIFICATIONS:**

Grade ISO-(32) Gravity, API - 29.5 Degrees Pour Point, F- (-54 Degrees)

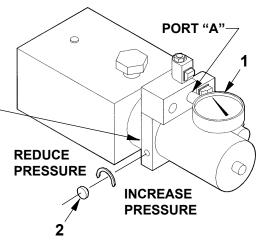
#### VISCOSITY:

@ 40 Degrees C - 31.2 cSt
 @100 Degrees C - 6.2 cSt
 VISCOSITY INDEX - 154 VI
 Flash Point, F - 325 Degrees

#### PUMP PRESSURE ADJUST SETTING

Lower the Platform to the ground to relieve any pressure on the hoses. Remove the existing hose and swivel assembly from Port "A" (3/8" NPT). Install a **0-3000 PSI Gauge** (Item 1), to port "A".

Remove the Valve Cap (Item 2), from the Pump Block (Item 3). Use the "Power Up" switch on the Curb side of the vehicle, to actuate the motor and check the gauge reading. Adjust the relief valve to a pressure setting of **2750 PSI**.



### FIGURE 1

Activate the "Power Up/Gravity Down" Switch several times to verify that the pressure shown on the gauge will remain at the proper setting. (Ref. Figure 1)

#### **WARNING!**

Setting the pressure higher than recommended could cause damage to lift components.

If the unit does not maintain the pressure reading, it may be necessary to remove and inspect the relief valve components (Ref. Fig. 2).

Check for *nicks* or *cuts* on the Spring (Item 4), and Ball (Item 5). Replace any damaged parts before reassembling the unit.

Upon reassembly, you will have to seat the Ball by inserting a 3/16" diameter rod through the Spring and tapping the Ball against the seat with a hammer.

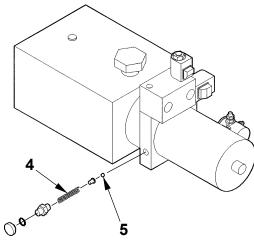
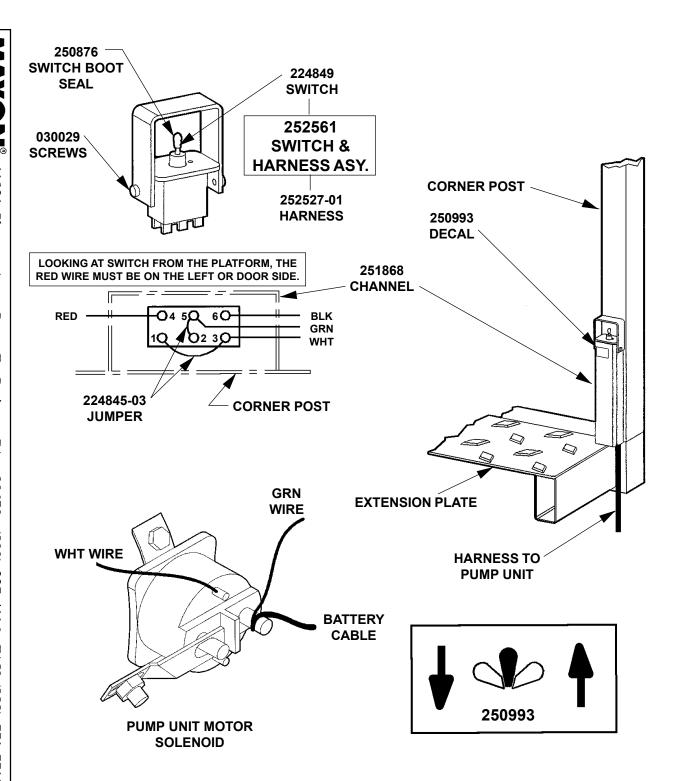
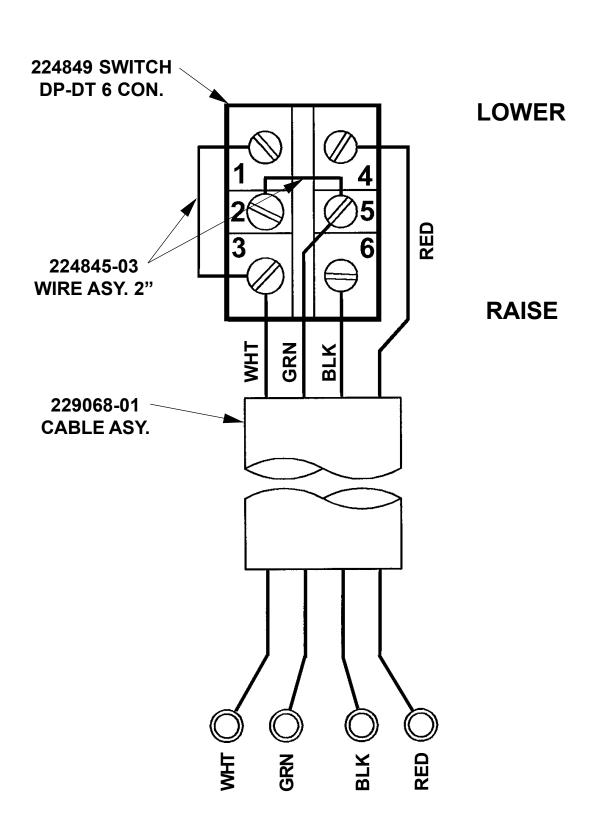


FIGURE 2

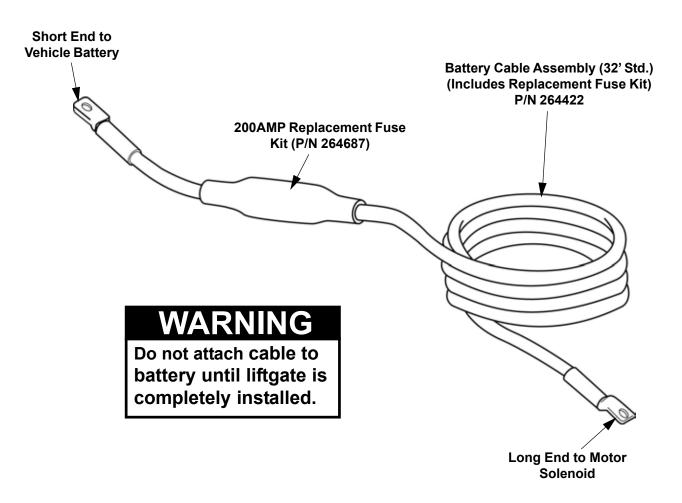
## **CONTROL SWITCH, POWER DOWN**



## HARNESS & SWITCH ASSY.

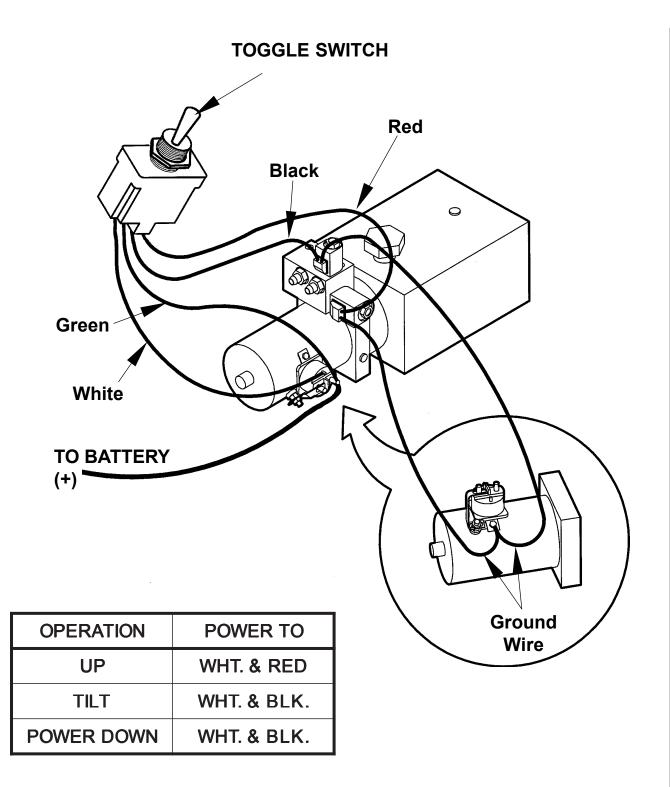


## **FUSED POWER CABLE**

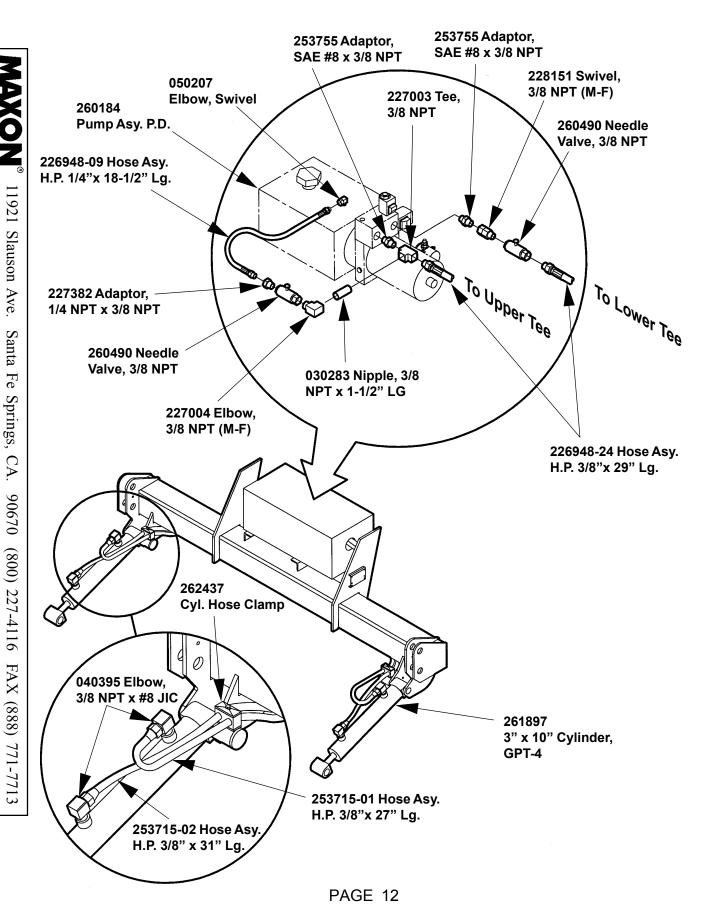


ADDITIONAL AVAILIABLE BATTERY CABLE KITS			
	PART NUMBER		
40' CABLE ASSEMBLY	264848	Cable Assembly	
10' EXTENSION CABLE ASSEMBLY	264849	Extension Cable Assembly	

## **WIRE CONNECTIONS**

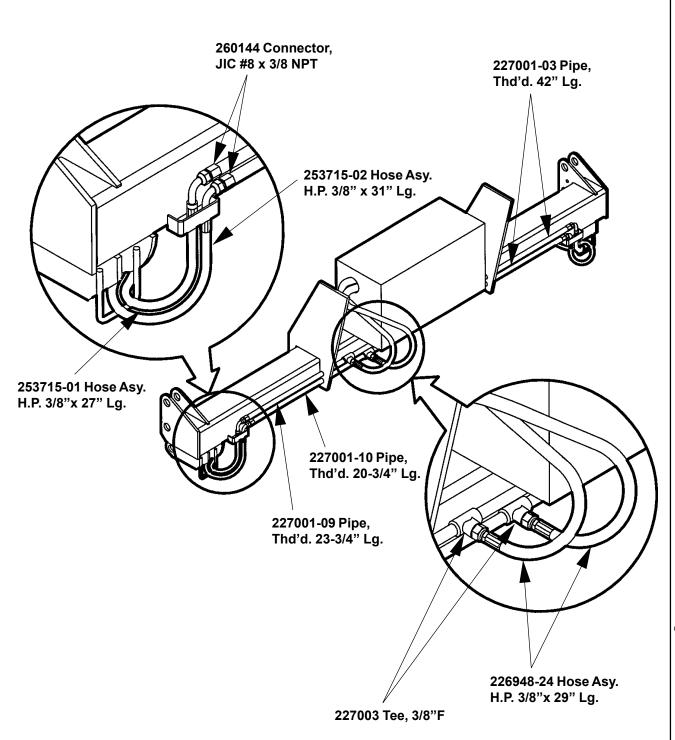


## **HYD. HOSE ROUTING, POWER DOWN**



# FAX (888) 771-7713 (800) 227-4116 02906 CA. Santa Fe Springs, Slauson Ave.

## **HYD. HOSE ROUTING, POWER DOWN**



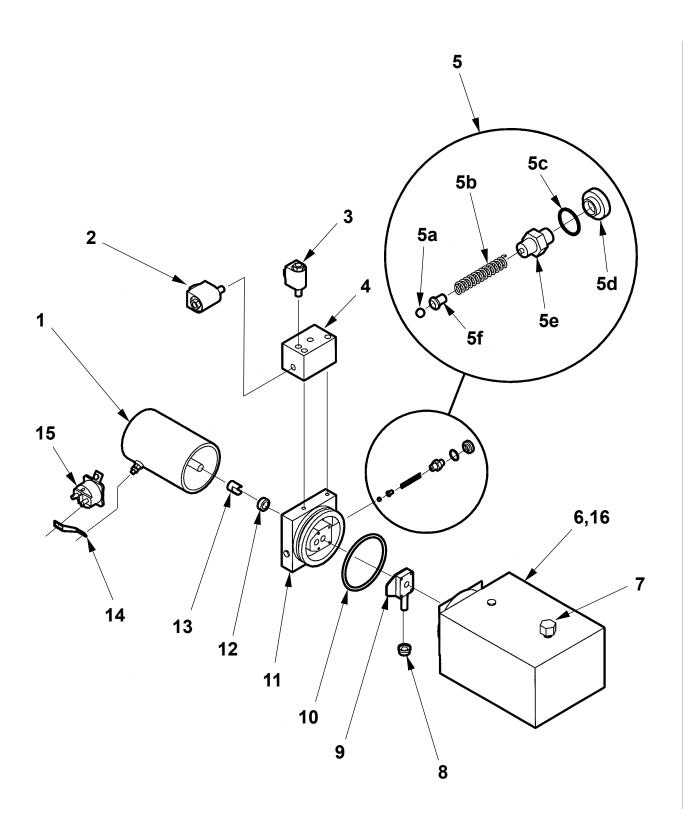
## 262256 PUMP, POWER DOWN

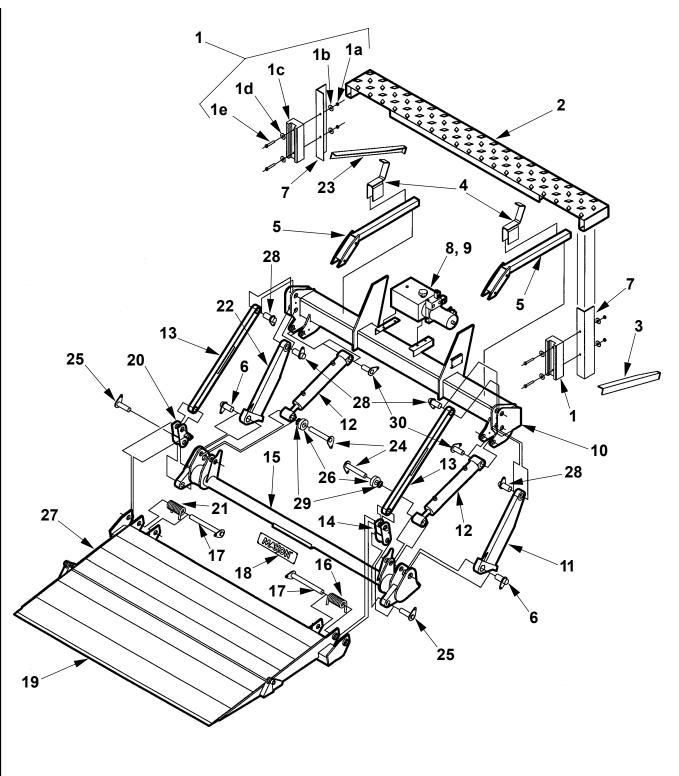
ľ	TEM	QTY.	PART NO.	DESCRIPTION	
	1	1	250093	HEAVY DUTY MOTOR, 12 VDC	
	2	1	260276	VALVE, SOLENOID 4-WAY	
	*2a	1	226595	O-RING KIT, 4-WAY VALVE	
	3	1	253353	VALVE, SOLENOID 2-WAY	
	*3a	1	226594	O-RING KIT, 2-WAY VALVE	
	4	1	1 260275 MANIFOLD BLOCK ASSEMBLY		
5 1 260229 RELIEF VALVE KIT		RELIEF VALVE KIT			
	5a	1	260230	STEEL BALL	
	5b	1	260231	SPRING	
	5c	1	260235	O-RING	
	5d 1		260234	VALVE CAP	
		1	260232	ADJUSTING SCREW	
		260233	SPRING GUIDE		
	6	1	261106	RESERVOIR, 2.5 GAL. W/.75 BREATHER	
	7	1	260847	FILLER/BREATHER CAP	
	8	1	260250	FILTER	
	9 1 260236 PUMP ASSEMBLY		PUMP ASSEMBLY		
	10 1 251884 O-RING		O-RING		
	11	1 260274 DRIVEPLATE ASSEMBLY, 5"		DRIVEPLATE ASSEMBLY, 5"	
	12	1	260261	OIL SEAL	
	13	1	229200	COUPLING	
	14	1	262966	BUS BAR	
	15	1	262939	SOLENOID SWITCH	
	*16 4 229202 CAPSCREW, HEX HD. WASHER		CAPSCREW, HEX HD. WASHER		

\*NOT SHOWN

# (800) 227-4116 FAX (888) 771-7713 02906 CA. Santa Fe Springs, 11921 Slauson Ave.

## 262256 PUMP, POWER DOWN





## **GPT-4LM ASSEMBLY**

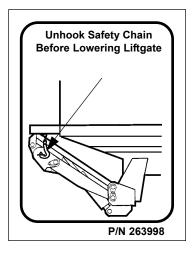
ITEM	QTY.	PART NUMBER	DESCRIPTION	
1	2	203410	KIT, RUBBER DOCK BUMPER	
1a	4	030323	NUT, HEX, 1/2-20 UNF	
1b	4	030567	LOCKWASHER, 1/2"	
1c	2	222988	RUBER BUMPER PAD	
1d 4		030566	FLATWASHER, 1/2"	
1e	4	030083	BOLT, 1/2-20 UNF x 2" LONG	
2	1	226355	EXTENSION PLATE WELDMENT	
3	1	227784-02	BUMPER SUPPORT WELDMENT	
4	2	262490	SADDLE ASSEMBLY	
5	2	261806-01	PLATFORM OPENER	
6	2	226368	PIN, LOW ARM	
7	2	226856	DOCK BUMPER ANGLE	
8	1	262256	PUMP ASSEMBLY	
9	1	260157	PUMP BOX ASSEMBLY	
10	1	262429	MAINFRAME WELDMENT	
11	1	262332-01	LIFT ARM WELDMENT R.H.	
12	2	261897	CYLINDER, 3" x 10" (GPT-4)	
13	2	261785-01	PARALLEL ARM WELDMENT	
14	1	261802-02	SHACKLE WELDMENT RH	
15	1	262397	LIFTFRAME WELDMENT	
16	1	226363-01	TORSION SPRING RH	
17	17 2 226364		PIN, SPRING	
18	18 1 050175		NAMEPLATE	
40	_	262356-01	FLIPOVER WELDMENT 24"	
19	1	262356-02	FLIPOVER WELDMENT 30"	
20	1	261802-01	SHACKLE WELDMENT LH	
21	1	226363-02	TORSION SPRING LH	
22	22 1 262332-02 LIFT ARM WELDMENT		LIFT ARM WELDMENT LH	
23	23 1 227784-01		BUMPER SUPPORT WELDMENT	
24	2	262435	PIN WELDMENT, CYL. 1.375 DIA.	
25	2	226365	PIN, SHACKLE	
26	26 2 226375 ROLLER x 1"		ROLLER x 1"	
27	1	262338-01	PLATFORM WELDMENT 24"	
		262338-02	PLATFORM WELDMENT 30"	
28	4	226358	PIN WELDMENT	
29	2	226372	ROUND TUBE x 1/4"	
30	2	2 262462 PIN WELDMENT, CYL. 1.375 DIA		

FAX (888) 771-7713

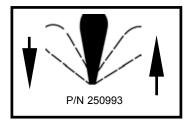
## **DECALS, GPT SERIES**



These Decals are located on the rear corner post of the vehicle, at the control position. They should be read completely and understood before operating the Lift Gate. They should also be kept clean and readable at all times. If any decal should become detatched from the vehicle, or defaced, it must be replaced. Free replacements are available from: MAXON Lift Corp., Parts Dept.



THE MAXIMUM CAPACITY
OF THIS LIFT IS
4000 LBS.
WHEN THE LOAD IS
CENTERED ON THE LOAD
CARRYING PLATFORM
P/N 220389

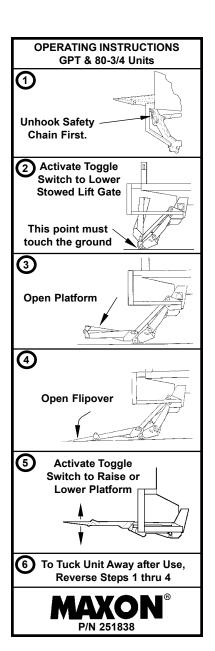




## WARNING READ CAREFULLY



- Improper operation of this Lift can result in serious personal injury. Do not operate unless you have been properly instructed and have read, and are familiar with the operating instructions. If you do not have a copy of the instructions, please obtain them from your employer, distributor, or lessor, before you attempt to operate Lift.
- Be certain that the vehicle is properly and securely braked before using the Lift.
- Always inspect this Lift for maintenance or damage before using it. If there are signs of improper maintenance, damage to vital parts, or slippery Platform surface, do not use the Lift until these problems have been corrected.
- Do not overload the Lift. The load limit is based on evenly distributed cargo over the entire Platform surface. If you are using a pallet jack, be sure it can be maneuvered safely. Do not operate a forklift on the Platform or travel with the platform in an open position at any time.
- Load should be placed in a stable position close to the edge of the Platform nearest the truck. The heaviest portion of the load should never be placed beyond the center of the Platform away from the truck.
- Never allow yourself, a helper, or bystander to stand in a position
  where a falling load could land on either of you. Also do not allow any
  part of yours or your helper's body to be placed under, within, or
  around any portion of the moving liftgate, or it's mechanisms, or in a
  position that would trap them between the platform and the ground or
  truck when the liftgate is operated.
- If a helper is riding the Platform with you, make sure you are both doing so safely and that you are not in danger of coming in contact with any moving or potentially moving obstacles. USE GOOD COMMON SENSE. If load appears to be unsafe, do not lift or lower it.
   MAXON LIFT CORP. PART NO. 264081



# MAXON

# KIT, LOW VOLTAGE SWITCH (LVTS) INSTALLATION INSTRUCTION P/N 264754



Low Voltage Switch P/N 905197



Red Wire Assembly P/N 264546



White Extension Wire Assembly P/N 264755

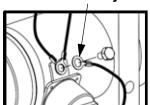


Black Cable Assembly P/N 25096-05



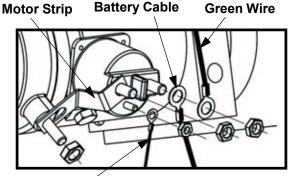
Butt Splice P/N 263347





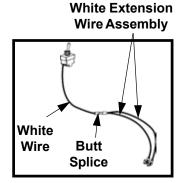
 Disconnect liftgate power cable from battery. Install Red Wire Assembly Terminal Ring to ground bolt.

**Ground Post** 



**White Wire** 

2. Remove Three nuts, ring terminals, and Motor Strip from motor solenoid post. Discard Motor Strip.



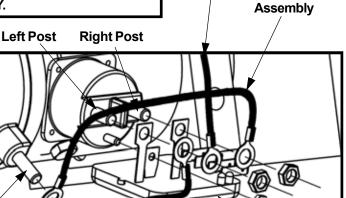
3. Cut Terminal Ring off of White Wire. Using Butt Splice, connect White Wire to two White Extension Wire Assemblies. Crimp and heat shrink Butt Splice on both ends.



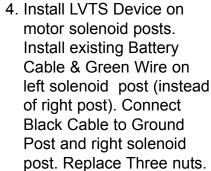
DISCONNECT GROUND CABLE FROM BATTERY TERMINAL PRIOR TO WORKING ON MOTOR PUMP ASSEMBLY.

Green Wire from toggle switch

**Black Cable** 



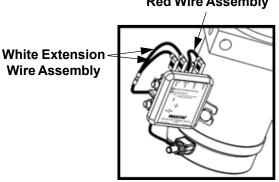
Battery Cable



Low Voltage Switch

## KIT, LOW VOLTAGE SWITCH (LVTS) INSTALLATION INSTRUCTION P/N 264754

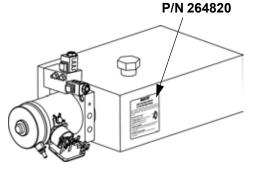
**Red Wire Assembly** 



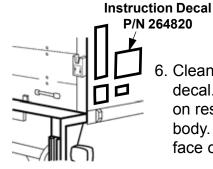
5. Connect White Wire Extension Assembly to "TD IN & SW IN" on Low Voltage Device. Connect **Red Wire Assembly Terminal** Clips to "GND" on Low Voltage Device. Reconnect power cable to battery. Reconnect ground cable to battery.

#### **DECAL INSTRUCTION**

## **Instruction Decal**



**Suggested Decal** Location



6. Clean surface before applying decal. Install Instruction decals on reservoir and side of truck body. Install switch decal on face of switch.

## MAXON

#### LOW VOLTAGE SWITCH (LVTS) INSTRUCTIONS

## **VOLTAGE LIGHT (Green)**

BLINKING RAPIDLY-Gate will shut down shortly BLINKING SLOWLY-Gate shut down

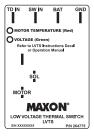
MANUAL OVERRIDE
Rapidly toggle lift switch to the up position and back to the cen
5 times to override shut down mode. This allows gate to operat
additional cycle. additional cycle.

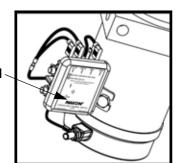
BATTERY VOLTAGE RESET

When hattery is above 13 volts. Start truck engineers.

charge battery.





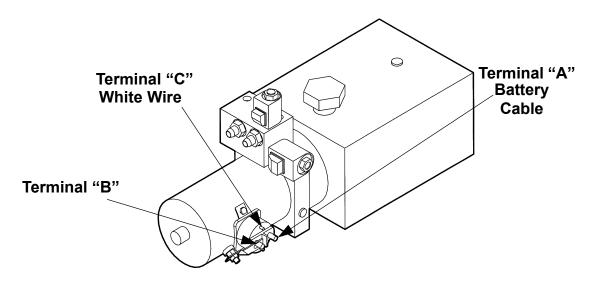


Note: Read and completely understand decals before operating the unit. Keep decals clean and readable at all times. Replace damaged decals.

## **TROUBLESHOOTING**

#### PLATFORM WILL NOT RAISE

- **1.** Verify that power is being supplied to the Solenoid Terminal "A". Recharge the battery if less than 12 volts.
- 2. Fill Reservoir to the middle with the recommended hydraulic fluid.
- **3.** Touch a jumper wire to terminals "A" & "C". If motor runs, check Switch, Switch connections, and White wire. Correct the connections or replace the Switch.
- **4.** Touch heavy jumper cables to terminals "A" & "B".
  - a. If motor runs, replace the motor solenoid.
  - b. If motor does <u>not</u> run, repair or replace the pump motor.
- **5.** Check for structural damage. Replace worn parts.
- **6.** Check filter in the pump Reservoir. Replace if necessary.
- **7.** Check for a broken motor-to-pump coupler. Replace if necessary. A worn pump is extremely noisy, and needs replacement.
- **8.** If equipped with a Low Voltage Thermal Switch (LVTS), system could shut down if the motor temperature or battery voltage level reach an unacceptable level. Read decal P/N 264776 located near the switch to determine what steps need to be taken to correct the problem.



## PLATFORM RAISES BUT LEAKS DOWN

**1.** Check Solenoid Valves for electrical shorts by holding a screwdriver approximately 1/4" from the top nut of the Solenoid. (**See Fig. 1**). The solenoid should <u>not</u> draw the screwdriver to the nut with a magnetic force, unless the toggle switch is actuated. The Coil can be replaced by removing the Nut and Wires.

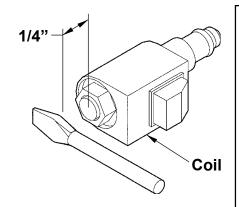


FIGURE 1

2. Check the Valve Stem by removing the Coil Assembly, (Item 1, Fig. 2). Unscrew the Valve Stem, (Item 2, Fig. 2), from the Pump. Push on the plunger that is located inside the Valve Stem by inserting a paper clip in the end. If the Plunger does not move freely approximately 1/8", replace the Valve Stem.

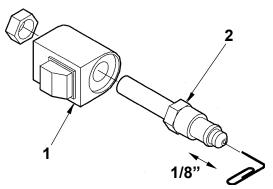


FIGURE 2

**3.** Check the Hydraulic Cylinder. With the Platform on the ground, remove the Breather Plug or Vent Line from the Vent Port of the Cylinder. Raise the Platform to be level with the bed. If hydraulic fluid streams from the Vent Port, the Piston Seals are worn. Replace the Seals. (See Fig. 3).

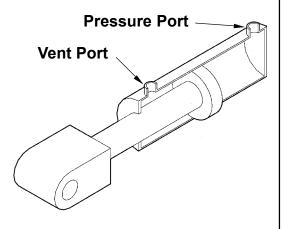


FIGURE 3

#### PLATFORM RAISES PARTIALLY AND STOPS

- **1.** Lower the opened Platform to the ground. Fill the Reservoir to the middle with the recommended Hydraulic Fluid.
- **2.** Verify that the Battery shows 12 volts or better under load from pump motor. The use of a voltage load tester is recommended.
- 3. Check for Structural damage, or lack of lubrication. Replace worn parts.
- **4.** Check Filter in the Pump Reservoir. Replace if necessary.
- **5.** Check for a broken motor-to-pump coupler. Replace if necessary. A worn pump is extremely noisy, and needs replacement.
- **6.** If equipped with a Low Voltage Thermal Switch (LVTS), system could shut down if the motor temperature or battery voltage level reach an unacceptable level. Read decal P/N 264776 located near the switch to determine what steps need to be taken to correct the problem.

## LIFTGATE WILL NOT LIFT RATED CAPACITY

- **1.** Verify that the Battery shows 12 volts or better under load from pump motor. The use of a voltage load tester is recommended.
- 2. Check for Structural damage or lack of lubrication. Replace worn parts.
- **3.** Check the Hydraulic Cylinder. Remove the Power Down Hose from the cylinder. Raise the Platform. If hydraulic fluid streams from the Power Down Port, the Piston Seals are worn. Replace the Seals.
- **4.** With Platform on the ground, remove the pressure hose and fitting from the Pump and replace it with a 0-3000 PSI Pressure Gauge. Hold the switch in the "UP" position.

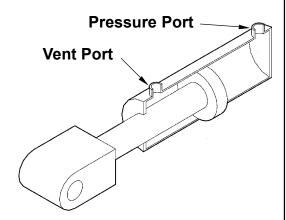


FIGURE 1

Adjust the Relief Valve on the side of the Pump until the gauge shows 2800 to 3000 PSI . (See Fig. 2)

**5.** If Pump cannot produce 2800-3000 PSI with a minimum of 12 Volts available, the Pump is worn and needs to be replaced.

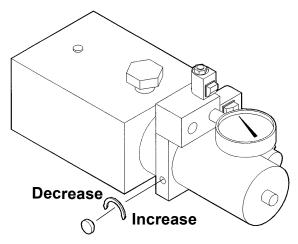
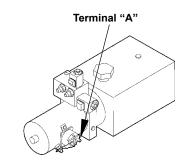


FIGURE 2

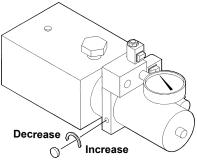
#### PLATFORM RAISES SLOWLY

- **1.** Verify that power is being supplied to Terminal "A". Recharge the battery if less than 12 Volts registers on the Voltage Tester. (See Fig. 1)
- **2.** Lower the opened Platform to the ground. Fill the Pump Reservoir to the middle with the recommended hydraulic fluid.



- **3.** Verify the Pump Motor is grounded to the vehicle frame.
- **4.** Check for leaking hoses and fittings. Tighten or replace as required.
- **5.** Check for structural damage or lack of lubrication. Replace worn parts.

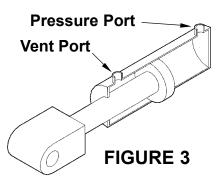
FIGURE 1

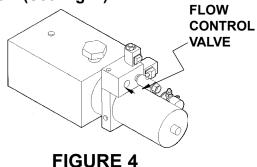


**6.** Check the Filter in the Pump Reservoir. Replace if necessary.

FIGURE 2

- 7. With Platform on the ground, remove the pressure hose and fitting from the Pump and replace it with a 0-3000 PSI Pressure Gauge. Hold the switch in the "UP" position. Adjust the Relief Valve on the side of the Pump until the gauge shows 2800 to 3000 PSI. (See Fig. 2)
- 8. With the Platform on the ground, remove breather plug or vent line from vent port of cylinder. Raise the Platform to bed level. If hydraulic fluid streams from the Vent Port, the Piston Seals are worn. (See Fig. 3) Replace the Seals.
- **9.** Check the Flow Control Valve. The arrow on the valve shows the direction of flow that is restricted, and Must point back to the Reservoir. (See Fig. 4)

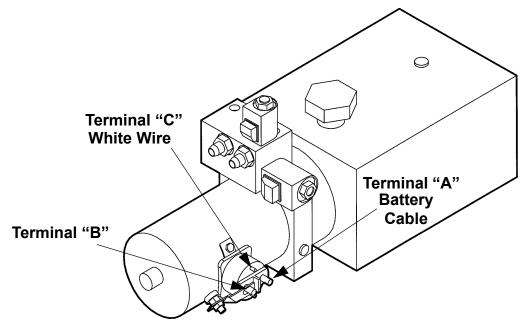




#### PUMP WILL NOT OPERATE

- 1. Verify that power is being supplied to the Solenoid Terminal "A" (Ref. Fig. 1). Recharge the battery if less than 12 volts.
- **2.** Touch a jumper wire to terminals "A" & "C" (Ref. Fig. 1). If motor runs, check Switch, Switch connections, and White wire. Correct the connections or replace the Switch.
- 3. Touch heavy jumper cables to terminals "A" & "B" (Ref. Fig. 1).
  - a. If motor runs, replace the motor solenoid.
  - b. If motor does <u>not</u> run, repair or replace the pump motor.
- **4.** Check for a broken Pump Shaft or motor-to-pump coupler. Replace if necessary. A worn pump is extremely noisy, and needs replacement.
- **5.** If equipped with a Low Voltage Thermal Switch (LVTS), system could shut down if the motor temperature or battery voltage level reach an unacceptable level. Read decal P/N 264776 located near the switch to determine what steps need to be taken to correct the problem.

(Tractor/Trailer Vehicles) Check electrical connections to Tractor.



## FIGURE 1

### PLATFORM LOWERS TOO FAST OR TOO SLOW

**1.** Check the Flow Control Valve. The Arrow on the valve shows the direction of flow that is restricted and <u>must</u> point back to the Reservoir. (See Fig. 1)

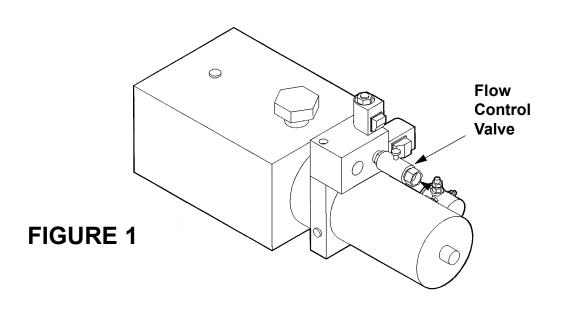
## 2. Too Fast:

The Flow Control Valve could be closed. To increase the flow through the valve, turn the knob in a counter-clockwise direction. (See Fig. 1)

## 3. Too Slow:

The Flow Control Valve could be fully open. To slow the flow, turn the knob in a clockwise direction to restrict the flow through the valve. (See Fig. 1)

- **4.** Check for structural damage or lack of lubrication. Replace worn parts.
- **5.** Check the Filter in the Pump Reservoir. Replace if necessary. A worn Pump is extremely noisy, and needs replacement.



#### PLATFORM WILL NOT LOWER

- 1. Verify that power is being supplied to the Solenoid Terminal "A" (Ref. Fig. 1). Recharge the battery if less than 12 volts.
- **2.** Check for structural damage or lack of lubrication. Replace worn parts.
- **3.** Check Solenoid Valve for power by holding a screwdriver approximately 1/4"

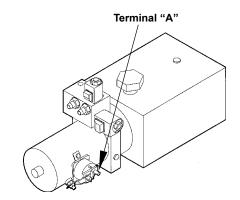


FIGURE 1

from the top nut of the Solenoid. Energize the unit. (See Fig. 2). A good solenoid will draw the screwdriver to the nut by a magnetic force. The Coil can be replaced by removing the Nut and Wires.

- **4.** Check the Valve Stem by removing the Coil Assembly, (Item 1, Fig. 3). Unscrew the Valve Stem, (Item 2, Fig. 3), from the Pump. Push on the plunger that is located inside the Valve Stem by inserting a paper clip in the end. If the Plunger does not move freely approximately 1/8", replace the Valve Stem.
- **5.** If equipped with a Low Voltage Thermal Switch (LVTS), system could shut down if the motor temperature or battery voltage level reach an unacceptable level. Read decal P/N 264776 located near the switch to determine what steps need to be taken to correct the problem.

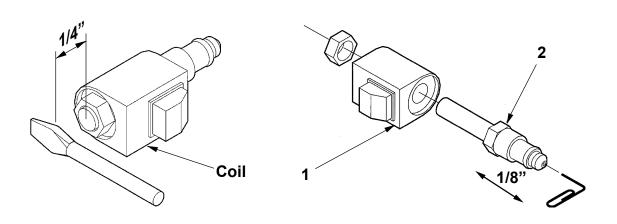


FIGURE 2

FIGURE 3

## LIQUID SEALANT APPLICATION

#### NOTE:

## **Apply Sealant to NPT threads only!**

- 1. Clean all threads with a soft brush and a suitable cleaning solvent.
- 2. Dry threads thoroughly with compressed air or shop towel.
- 3. Apply the Liquid Sealant (Compound PLS 2), to the external threads of the Male Connector.
- 4. Assemble the fitting and torque it to the prescribed value.
- 5. Check for leakage. If leakage exists, remove the fitting and return to Step # 1.
- 6. If fitting is loosened or removed, return to Step # 1.

