M-06-10 REV. B APRIL 2008

## MAXON° MAINTENANCE MANUAL GPT

**GPT-25, GPT-3, GPT-4 & GPT-5** 



### 11921 Slauson Ave. Santa Fe Springs, CA. 90670

### **CUSTOMER SERVICE:**

### TELEPHONE (562) 464-0099 TOLL FREE (800) 227-4116 FAX: (888) 771-7713

NOTE: For latest version of all Manuals (and replacements), download the Manuals from Maxon's website at www.maxonlift.com.

### WARRANTY/ RMA POLICY & PROCEDURE

### LIFTGATE WARRANTY

Type of Warranty: Full Parts and Labor

Standard Liftgates - 2 years from ship date or 6,000 cycles Premium Liftgates - 2 years from ship date or 10,000 cycles Term of Warranty:

This warranty shall not apply unless the product is installed, operated and maintained in accordance with MAXON Lift's specifications as set forth in MAXON Lift's Installation, Operation and Maintenance manuals. This warranty does not cover normal wear, maintenance or adjustments, damage or malfunction caused by improper handling, installation, abuse, misuse, negligence, or carelessness of operation. In addition, this warranty does not cover equipment that has had unauthorized modifications or alterations made to the product.

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 Schedule. (Copy of the Flat Rate is available at www.maxonlift.com.)

All warranty repairs must be performed by an authorized MAXON warranty facility. For any repairs that may exceed \$500, including parts and labor, MAXON's Technical Service Department must be notified and an "Authorization Number" obtained.

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

- 1. Liftgate Model Number and Serial Number
- 2. The End User must be referenced on the claim
- 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)
- Person contacted at MAXON if applicable
- 8. Claim must show detailed information i.e. Labor rate and hours of work performed

Warranty claims can also be placed online at www.maxonlift.com. Online claims will be given priority processing.

All claims for warranty will be denied if paperwork has not been received or claim submitted via Maxon website for processing by MAXON's Warranty Department within 30 days of repair date

All components may be subject to return for inspection, prior to the claim being processed. MAXON products may not be returned without prior written approval from MAXON's Technical Service Department. Returns must be accompanied by a copy of the original invoice or reference with original invoice number and are subject to a credit deduction to cover handling charges and any necessary reconditioning costs. **Unauthorized returns will be** refused and will become the responsibility of the returnee.

Any goods being returned to MAXON Lift must be pre-approved for return, and have the R.M.A. number written on the outside of the package in plain view, and returned freight prepaid. All returns are subject to a 15% handling charge if not accompanied by a detailed packing list. Returned parts are subject to no credit and returned back to the customer. Defective parts requested for return must be returned within 30 days of the claim date for consideration to:

### MAXON Lift Corp. 10321 Greenleaf Ave., Santa Fe Springs, CA 90670 Attn: RMA#\_\_

MAXON's warranty policy does not include the reimbursement for travel time, towing, vehicle rental, service calls, oil, batteries or loss of income due to downtime. Fabrication or use of non Maxon 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.

All Liftgates returned are subject to inspection and a 15% restocking fee. Any returned Liftgates or components that have been installed or not returned in new condition will be subject to an additional reworking charge, which will be based upon the labor and material cost required to return the Liftgate or component to new condition.

### PURCHASE PART WARRANTY

Term of Warranty: 1 Year from Date of Purchase.

Type of Warranty: Part replacement only. MAXON will guarantee all returned genuine MAXON replacement parts upon receipt and inspection of parts and original invoice.

All warranty replacements parts will be sent out via ground freight. If a rush shipment is requested, all freight charges will be billed to the requesting

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Comply with the following WARNINGS and SAFETY INSTRUCTIONS while maintaining Liftgates. See Operation Manual for operating safety requirements.

### **A WARNING**

- Do not stand, or allow obstructions, under the platform when lowering the Liftgate. **Be sure your** feet are clear of the Liftgate.
- Keep fingers, hands, arms, legs, and feet clear of moving Liftgate parts (and platform edges) when operating the Liftgate.
- Correctly stow platform when not in use. Extended platforms could create a hazard for people and vehicles passing by.
- Disconnect Liftgate power cable from battery before repairing or servicing Liftgate.
- If it is necessary to stand on the platform while maintaining the Liftgate, keep your feet and any objects clear of the inboard edge of the platform. Your feet or objects on the platform can become trapped between the platform and the Liftgate extension plate.
- Recommended practices for welding on steel parts are contained in the current AWS (American Welding Society) D1.1 Structural Welding Code - Steel. Damage to Liftgate and/or vehicle, and personal injury could result from welds that are done incorrectly.
- Recommended practices for welding on aluminum parts are contained in the current AWS
   (American Welding Society) D2.1 Structural Welding Code Aluminum. Damage to Liftgate
   and/or vehicle, and personal injury could result from welds that are done incorrectly.

### **SAFETY INSTRUCTIONS**

- Read and understand the instructions in this Maintenance Manual before performing maintenance on the Liftgate.
- Before operating the Liftgate, read and understand the operating instructions in **Operation Manual**.
- Comply with all **WARNING** and instruction decals attached to the Liftgate.
- Keep decals clean and legible. If decals are illegible or missing, replace them. Free replacement decals are available from **Maxon Customer Service**.
- Consider the safety and location of bystanders and location of nearby objects when operating the Liftgate. Stand to one side of the platform while operating the Liftgate
- Do not allow untrained persons to operate the Liftgate.
- Wear appropriate safety equipment such as protective eyeglasses, faceshield and clothing while
  performing maintenance on the Liftgate and handling the battery. Debris from drilling and contact
  with battery acid may injure unprotected eyes and skin.
- Be careful working by an automotive type battery. Make sure the work area is well ventilated and there are no flames or sparks near the battery. Never lay objects on the battery that can short the terminals together. If battery acid gets in your eyes, immediately seek first aid. If acid gets on your skin, immediately wash it off with soap and water.

- If an emergency situation arises (vehicle or Liftgate) while operating the Liftgate, release the control switch to stop the Liftgate.
- A correctly installed Liftgate operates smoothly and reasonably quiet. The only noticeable noise during operation comes from the power unit while the platform is raised. Listen for scraping, grating and binding noises and correct the problem before continuing to operate Liftgate.
- Use only **Maxon Authorized Parts** for replacement parts. Provide Liftgate model and serial number information with your parts order. Order replacement parts from:

MAXON LIFT CORP. Customer Service 11921 Slauson Ave., Santa Fe Springs, CA 90670

Online: www.maxonlift.com

Express Parts Ordering: Phone (800) 227-4116 ext. 4345

**Email: Ask your Customer Service representative** 



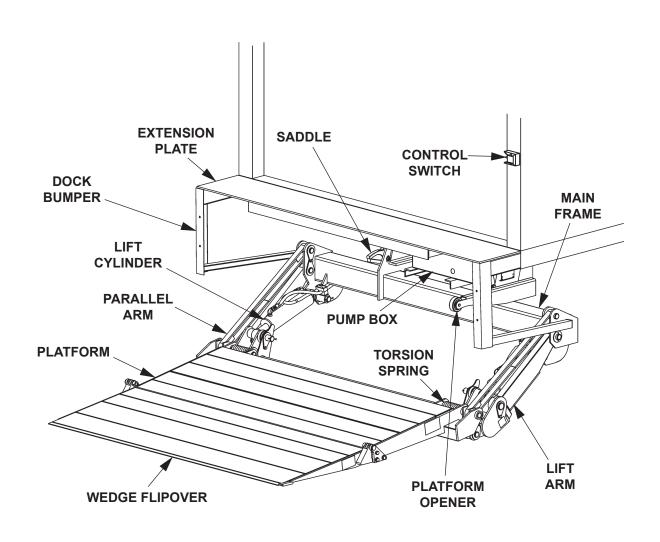


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### FAX (888) 771-7713 (800) 227-4116 Santa Fe Springs, Ave. Slauson 11921

### LIFTGATE TERMINOLOGY



### PERIODIC MAINTENANCE PERIODIC MAINTENANCE CHECKS

### **A WARNING**

Never operate the Liftgate if parts are loose or missing.

**NOTE:** Make sure vehicle is parked on level ground while performing the maintenance checks.

### Quarterly or 1250 Cycles (whichever occurs first)

Check the hydraulic fluid level in the pump reservoir. Refer to the **CHECKING HYDRAULIC FLUID** procedure in the **PERIODIC MAINTENANCE** section.

If hydraulic fluid appears contaminated, refer to the **CHANGING HYDRAULIC FLUID** procedure in the **PERIODIC MAINTENANCE** section.

Keep track of the grade of hydraulic fluid in the pump reservoir and never mix two different grades of fluid.

Check all hoses and fittings for chafing and fluid leaks. Tighten loose fittings or replace parts as required.

Check electrical wiring for chafing and make sure wiring connections are tight and free of corrosion. Use dielectric grease to protect electrical connections.

Check that all **WARNING and instruction decals** are in place. Also, make sure decals are legible, clean and undamaged.

Check that all bolts, nuts, and roll pins are in place. Make sure roll pins protrude evenly from both sides of hinge pin collar. Replace fasteners and roll pins if necessary.

### CAUTION

Damaged cylinder seals and contaminated hydraulic fluid can result from painting the polished portion of the cylinder rod. To prevent damage, protect the exposed polished portion of the cylinder rod while painting.

Check for rust and oily surfaces on Liftgate. If there is rust or oil on Liftgate, clean it off. Touch up the paint where bare metal is showing. MAXON recommends using the aluminum primer touchup paint kit, P/N 908119-01.

### Semi-annually or 2500 Cycles (whichever occurs first)

Visually check the platform hinge pins for excessive wear and broken welds. See **PARTS BREAKDOWN** section for replacement parts. Also, do the **Quarterly or 1250 Cycles** maintenance checks.

### PERIODIC MAINTENANCE CHECKLIST

NOTE: Make sure vehicle is parked on level ground while performing maintenance checks.

Quarterly or 1250 Cycles (whichever occurs first)

| Qı | uarterly or 1250 Cycles (whichever occurs first)                                                                                                                                                                                                                         |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Check the level and condition of the hydraulic fluid.                                                                                                                                                                                                                    |
|    | Visually check all hoses and fittings for chafing and fluid leaks. Tighten loose fittings or replace parts as required.                                                                                                                                                  |
|    | Check electrical wiring for chafing and make sure wiring connections are tight and free of corrosion. Use dielectric grease to protect electrical connections.                                                                                                           |
|    | Check that all <b>WARNING and instruction decals</b> are in place. Also, make sure decals are legible, clean, and undamaged.                                                                                                                                             |
|    | Check that all bolts, nuts, and roll pins are in place. Make sure roll pins protrude evenly from both sides of hinge pin collar. Replace fasteners and roll pins if necessary.                                                                                           |
|    | Check for rust and oily surfaces on Liftgate. If there is rust or oil on Liftgate or if the Liftgate is dirty, clean it off. Touch up the paint where bare metal is showing. Refer to the paint system <b>CAUTION</b> and recommended touchup kit on the preceding page. |
| Se | emi-annually or 2500 Cycles (whichever occurs first)                                                                                                                                                                                                                     |
|    | Visually check the platform hinge pins for excessive wear and broken welds.                                                                                                                                                                                              |
|    | Do the Quarterly or 1250 Cycles Checks on this checklist.                                                                                                                                                                                                                |

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### PERIODIC MAINTENANCE **CHECK HYDRAULIC FLUID**

### **CAUTION**

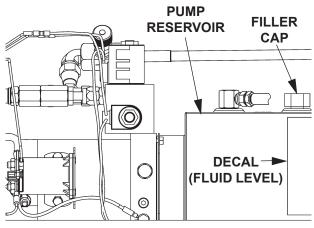
Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination.

**NOTE:** Use correct grade of hydraulic fluid for your location.

+50 to +120 Degrees F - Grade ISO 32 Below + 70 Degrees F - Grade ISO 15 or MIL-H-5606

See TABLES 12-1 & 12-2 for recommended brands.

1. Remove the filler cap (FIG. 12-1).



CHECKING HYDRAULIC FLUID LEVEL FIG. 12-1

| PUI<br>RESEF |                 | FILLER<br>CAP |
|--------------|-----------------|---------------|
|              |                 |               |
|              | DEC<br>(FLUID L | AL →          |

2. Check the hydraulic fluid level in the pump reservoir (FIG. 12-1). If fluid is below FILL LEVEL shown on decal on the pump reservoir (FIG. 12-1), add fluid to the FILL LEVEL.

| NOTE: | If the hydraulic fluid in the           |
|-------|-----------------------------------------|
|       | reservoir is contaminated, do           |
|       | the CHANGING HYDRAULIC                  |
|       | <b>FLUID</b> procedure in this section. |

3. Reinstall the filler cap (FIG. 12-1).

| ISO 32 HYDRAULIC OIL  |                                      |  |  |
|-----------------------|--------------------------------------|--|--|
| RECOMMENDED<br>BRANDS | PART NUMBER                          |  |  |
| AMSOIL                | AWH-05                               |  |  |
| CHEVRON               | HIPERSYN 32                          |  |  |
| KENDALL               | GOLDEN MV                            |  |  |
| SHELL                 | TELLUS T-32                          |  |  |
| EXXON                 | UNIVIS N-32                          |  |  |
| MOBIL                 | DTE-13M, DTE-24,<br>HYDRAULIC OIL-13 |  |  |

**TABLE 12-1** 

| ISO 15 OR MIL-H-5606 HYDRAULIC OIL |                   |  |
|------------------------------------|-------------------|--|
| RECOMMENDED<br>BRANDS              | PART NUMBER       |  |
| AMSOIL                             | AWF-05            |  |
| CHEVRON                            | FLUID A, AW-MV-15 |  |
| KENDALL                            | GLACIAL BLU       |  |
| SHELL                              | TELLUS T-15       |  |
| EXXON                              | UNIVIS HVI-13     |  |
| MOBIL                              | DTE-11M           |  |
| ROSEMEAD                           | THS FLUID 17111   |  |

**TABLE 12-2** 

### CHANGING HYDRAULIC FLUID

### **CAUTION**

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination.

**NOTE:** Use correct grade of hydraulic fluid for your location.

+50 to +120 Degrees F - Grade ISO 32 Below + 70 Degrees F - Grade ISO 15 or MIL-H-5606

See TABLES 12-1 & 12-2 for recommended brands.

**NOTE:** To prevent spills, drain used hydraulic fluid through a funnel into waste fluid container.

- 1. Place empty 5 gallon bucket under drain plug.
- Open and raise platform to vehicle bed height. Remove the drain plug (FIG. 13-1). Drain hydraulic fluid.
- Disconnect the white wire (FIG. 13-2) from motor solenoid. Lower the platform while draining the remaining hydraulic fluid from system. Reinstall drain plug. Reconnect the white wire to motor solenoid.
- 4. Remove filler cap (FIG. 13-2) and refill reservoir to the level shown on decal.

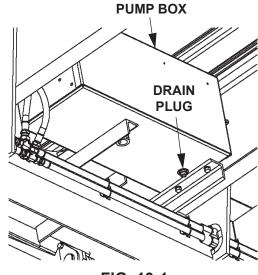
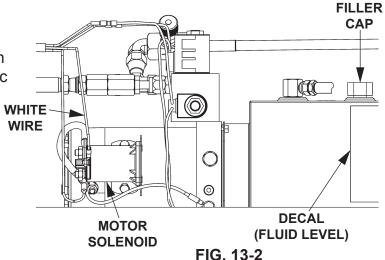


FIG. 13-1

- 5. Raise platform to vehicle bed height. Check hydraulic fluid again and, if needed, add more hydraulic fluid (FIG. 13-2).
- 6. Reinstall filler cap (FIG. 13-2).



### PERIODIC MAINTENANCE REPLACING PLATFORM TORSION SPRING

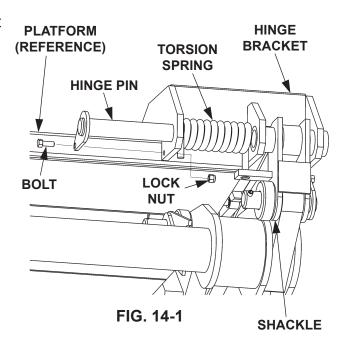
**NOTE:** The following procedure shows how to replace torsion spring on RH side of platform. Use this procedure for replacing torsion spring on the LH side.

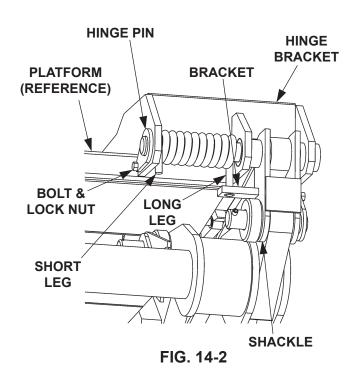
- 1. Manually fold flipover onto platform.
- 2. Raise platform to a convenient work height to gain access and release tension on the torsion spring.

### **A** CAUTION

To prevent injury and equipment damage, make sure there is no tension on torsion spring before removing hinge pin.

- 3. Unbolt hinge pin from hinge bracket (FIG. 14-1). Remove bolt and lock nut. Drive the hinge pin inboard toward the shackle with a hammer and pin punch, just enough to free the torsion spring (FIG. 14-1). Remove spring from shackle.
- 4. Install the torsion spring as shown in FIG. 14-2. Make sure the long leg of the spring is inserted in the bracket located on shackle (FIG. 14-2). Make sure the short end of the spring is visible and resting against the edge of the hinge bracket (FIG. 14-2).
- 5. Drive the hinge pin into correct position (FIG. 13-2) through the hinge bracket with a hammer and pin punch. Line up the bolt hole in the hinge pin with the hole in the hinge bracket. Bolt the hinge pin to hinge bracket with bolt and lock nut (FIG. 13-2).
- Operate the Liftgate to make sure it operates correctly.





### PLATFORM ADJUSTMENT

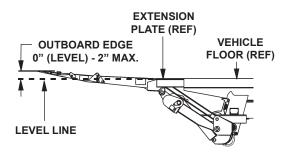
**NOTE:** Before doing the following procedure, make sure vehicle is parked on level ground.

- With the platform and flipover unfolded, raise platform to bed level (FIG. 15-1). Measure how much the outboard edge of platform rises above bed level (FIG. 15-1). The outboard edge must be level or a maximum of 2" above bed level (FIG. 15-1). If indication is correct, Liftgate is installed correctly and no adjustment is needed. If the outboard edge is below bed level, do instructions 2, 3, and 6. If outboard edge is higher than 2", do instructions 4 through 6.
- 2. Compare measurement "A" (FIG. 15-2) with the distances and shims in TABLE 15-1. For example: If measurement "A" (FIG. 15-2) is 1" below level and you want to raise outboard edge of platform 1" above level, use 1/8" shim to raise 2" (TABLE 15-1).

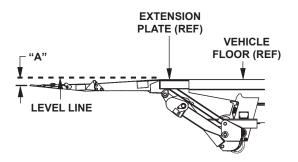
| RAISE PLATFORM<br>EDGE (OUTBOARD)<br>THIS DISTANCE ("A") | REQUIRED SHIM<br>THICKNESS | WELD SIZE |
|----------------------------------------------------------|----------------------------|-----------|
| 1"                                                       | 1/16"                      | 1/16"     |
| 2"                                                       | 1/8"                       | 1/8"      |
| 3"                                                       | 3/16"                      | 3/16"     |
| 4"                                                       | 1/4"                       | 1/4"      |

**TABLE 15-1** 

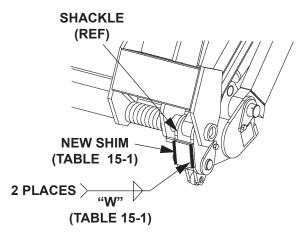
**3.** Weld shims (parts bag item) on both platform stops **(FIG. 15-3)** to raise outboard edge of platform to correct position.



PLATFORM EDGE AT OR ABOVE BED LEVEL FIG. 15-1



PLATFORM EDGE BELOW BED LEVEL FIG. 15-2



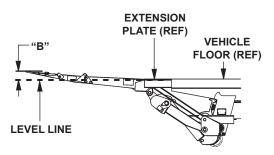
WELDING SHIMS (CURBSIDE SHOWN) FIG. 15-3

4. Compare measurement "B" (FIG. 16-1) with distances and grinding depths in TABLE 16-1. For example: If measurement "B" (FIG. 16-1) is 3" above bed level and you want to lower the outboard edge of platform to 1" above bed level, grind 1/8" from each platform stop (TABLE 16-1).

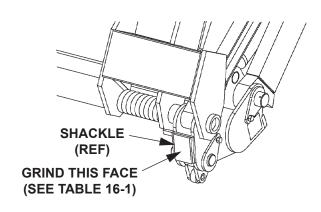
| LOWER PLATFORM     | GRIND METAL   |
|--------------------|---------------|
| EDGE (OUTBOARD)    | FROM PLATFORM |
| THIS DISTANCE("B") | STOP          |
| 1"                 | 1/16"         |
| 2"                 | 1/8"          |
| 3"                 | 3/16"         |
| 4"                 | 1/4"          |

**TABLE 16-1** 

 Grind metal from platform stops (FIG. 16-2) to lower outboard edge of platform to correct position.

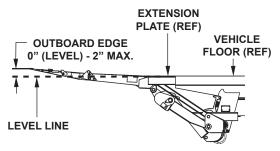


PLATFORM EDGE ABOVE BED LEVEL FIG. 16-1



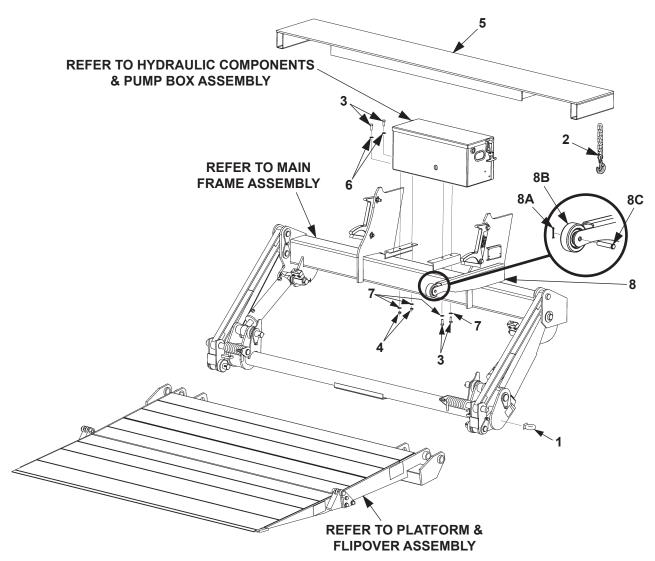
GRINDING PLATFORM STOPS (CURBSIDE SHOWN) FIG. 16-2

**6.** Lower the platform, then raise it to bed level. The outboard edge of platform should be level or up to 2" maximum above bed level (**FIG. 16-3**).



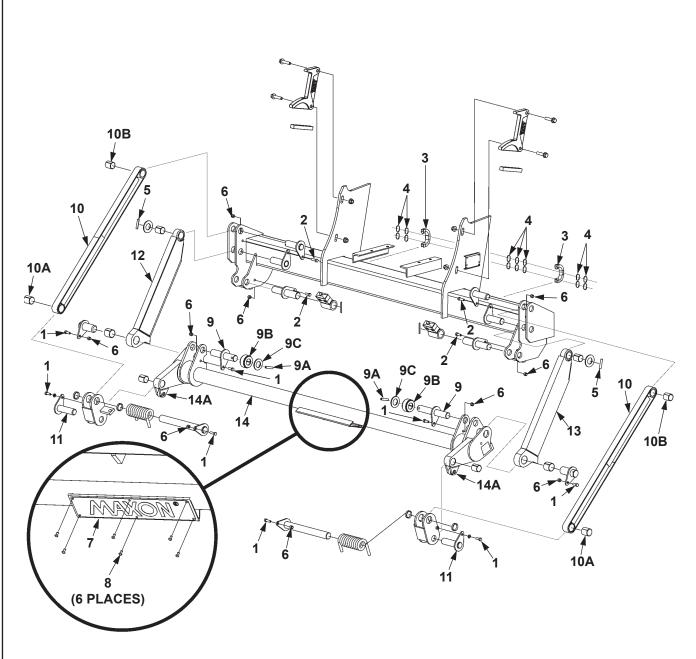
PLATFORM EDGE ABOVE BED LEVEL FIG. 16-3

### PARTS BREAKDOWN MAIN ASSEMBLY (ALUMINUM PLATFORM)



| ITEM | QTY. | PART NO.  | DESCRIPTION                                   |
|------|------|-----------|-----------------------------------------------|
| 1    | 1    | 226938    | EYE, DROP FORGED PAD, 3/4" X 1-1/2"           |
| 2    | 1    | 227700    | HOOK ASSEMBLY                                 |
| 3    | 4    | 900014-4  | CAP SCREW, HEX HEAD, 3/8"-16 X 1" LG, GRADE 8 |
| 4    | 2    | 901011-5  | NUT, HEX HEAD 3/8"-16                         |
| 5    | 1    | 226355    | EXTENSION PLATE                               |
| 6    | 2    | 902001-2  | WASHER, FLAT 3/8"                             |
| 7    | 4    | 902011-4  | WASHER, LOCK 3/8"                             |
| 8    | 1    | 265994-01 | OPENER ASSEMBLY                               |
| 8A   | 1    | 030805    | COTTER PIN, 1/8" X 1" LG                      |
| 8B   | 1    | 280082-01 | ROLLER                                        |
| 8C   | 1    | 905202-03 | PIN                                           |

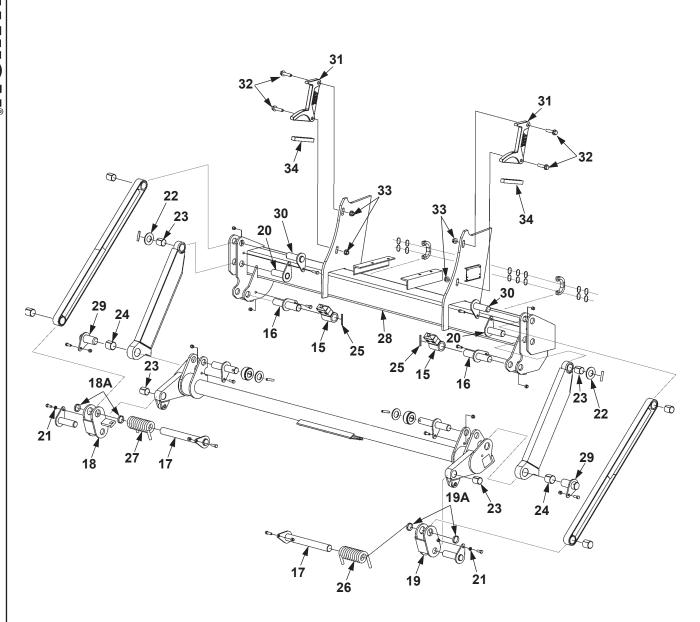
### MAIN FRAME ASSEMBLY: GPT-25 & GPT-3





| ITEM | QTY. | PART NO.  | DESCRIPTION                            |
|------|------|-----------|----------------------------------------|
| 1    | 8    | 030034    | BOLT, 3/8"-24 X 1" LG                  |
| 2    | 4    | 030035    | BOLT, 3/8"-24 X 1-1/4" LG              |
| 3    | 2    | 040103-5  | LOOM, SPLIT 1/2" X 5" LG               |
| 4    | 14   | 205780    | PLASTIC TIE, 7" LG                     |
| 5    | 2    | 221416    | ROLL PIN, 3/8" X 2" LG                 |
| 6    | 10   | 226941    | LOCK NUT, 3/8"-24                      |
| 7    | 1    | 050175    | MAXON PLATE                            |
| 8    | 6    | 207644    | RIVET, 3/16" X .40" GRIP               |
| 9    | 2    | 253085-01 | ROLLER PIN, ASSEMBLY                   |
| 9A   | 1    | 221416    | PIN, ROLL 3/8" X 2" LG                 |
| 9B   | 1    | 261793-01 | ROLLER                                 |
| 9C   | 1    | 264272    | FLAT WASHER, 1-1/4" I.D. X 2-1/4" O.D. |
| 10   | 2    | 261788-01 | PARALLELARM                            |
| 10A  | 2    | 905112-05 | BEARING, SELF LUBE 1-3/8" X 1-5/8" LG  |
| 10B  | 2    | 905114-04 | BEARING, SELF LUBE 1-1/4" X 1-1/2" LG  |
| 11   | 2    | 262280    | PIN WELDMENT                           |
| 12   | 1    | 262322-01 | LIFT ARM WELDMENT, LH                  |
| 13   | 1    | 262322-02 | LIFT ARM WELDMENT, RH                  |
| 14   | 1    | 262396    | LIFT FRAME WELDMENT                    |
| 14A  | 2    | 263473    | ROLLER, KNUCKLE DOWN                   |

### MAIN FRAME ASSEMBLY: GPT-25 & GPT-3 - Continued



| 18  | 1 | 265815-01 | SHACKLE ASSEMBLY, LH                  |
|-----|---|-----------|---------------------------------------|
| 18A | 2 | 905112-06 | BEARING, SELF LUBE, 1-3/8" X 3/8" LG  |
| 19  | 1 | 265815-02 | SHACKLE ASSEMBLY, RH                  |
| 19A | 2 | 905112-06 | BEARING, SELF LUBE, 1-3/8" X 3/8" LG  |
| 20  | 2 | 266035-01 | PIN, WELDMENT                         |
| 21  | 2 | 902011-4  | LOCK WASHER, 3/8"                     |
| 22  | 2 | 902013-20 | FLAT WASHER, 1-1/4"                   |
| 23  | 4 | 905114-04 | BEARING, SELF LUBE 1-1/4" X 1-1/2" LG |
| 24  | 2 | 905115-02 | BEARING, SELF LUBE 1-1/2" X 1-1/2" LG |
| 25  | 2 | 907026    | ROLL PIN, 3/16" X 2-1/4" LG           |
| 26  | 1 | 226363-01 | TORSION SPRING, RH, 1/2" X 5-3/4"     |
| 27  | 1 | 226363-02 | TORSION SPRING, LH, 1/2" X 5-3/4"     |
| 28  | 1 | 281561-01 | MAIN FRAME                            |
| 29  | 2 | 229657    | PIN WELDMENT                          |
| 30  | 2 | 250310    | PIN WELDMENT                          |
| 31  | 2 | 281539-01 | SADDLE                                |
| 32  | 4 | 901024-3  | HEX BOLT, 2-1/4" LG                   |
| 33  | 4 | 901023    | FLANGE LOCK NUT                       |
| 34  | 2 | 090300-12 | FLAT, 3/4" X 1" X 6" LG               |

**DESCRIPTION** 

**BUSHING WELDMENT HOSE CLAMP** 

PIN WELDMENT, 1-3/8" X 13-1/8" LG

PIN WELDMENT

**ITEM** 

15

16

17

QTY.

2

2

2

PART NO.

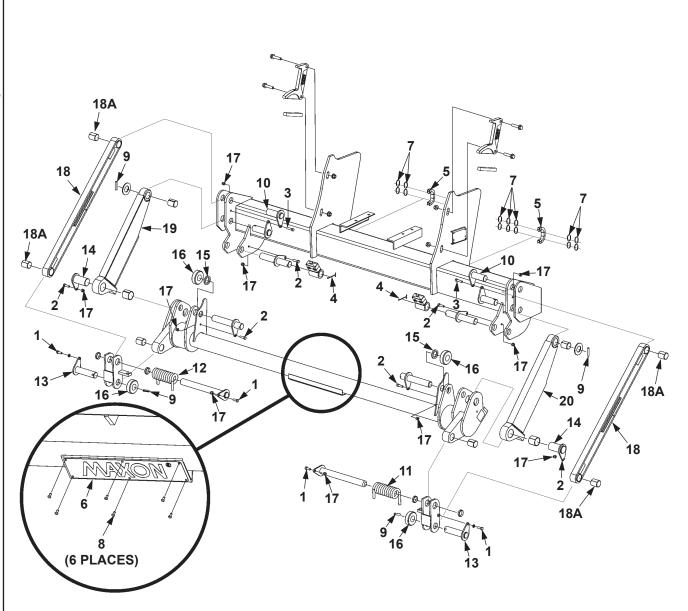
262437

262440

265807-01

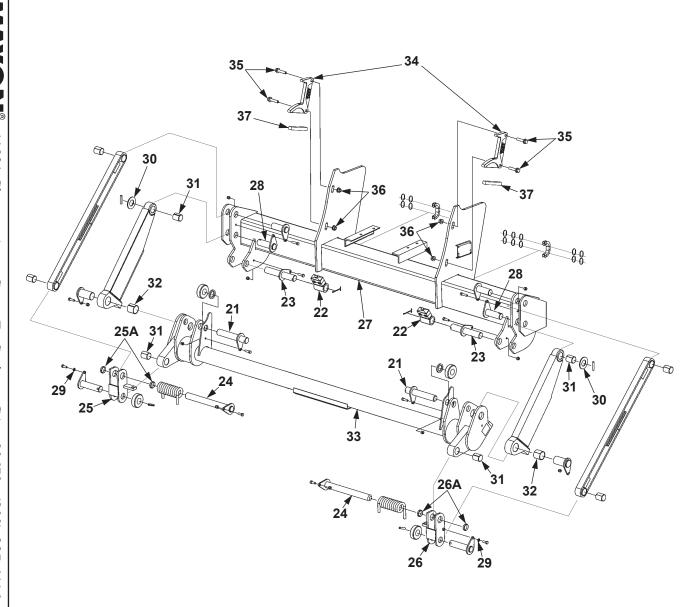


### **MAIN FRAME ASSEMBLY: GPT-4 & GPT-5**



| ITEM | QTY. | PART NO.  | DESCRIPTION                           |
|------|------|-----------|---------------------------------------|
| 1    | 4    | 030034    | BOLT, 3/8"-24 X 1" LG                 |
| 2    | 6    | 030035    | BOLT, 3/8"-24 X 1-1/4" LG             |
| 3    | 2    | 030038    | BOLT, 3/8"-24 X 1-1/2" LG             |
| 4    | 2    | 030414    | COTTER PIN, 1/8" DIA X 2-1/2" LG      |
| 5    | 2    | 040103-5  | LOOM, SPLIT 1/2 X 5" LG               |
| 6    | 1    | 050175    | MAXON PLATE                           |
| 7    | 14   | 205780    | PLASTIC TIE, 7" LG                    |
| 8    | 6    | 207644    | RIVET, 3/16" X .40" GRIP              |
| 9    | 4    | 221416    | ROLL PIN, 3/8" X 2" LG                |
| 10   | 2    | 226358    | PIN WELDMENT                          |
| 11   | 1    | 226363-01 | TORSION SPRING, RH, 1/2" X 5-3/4"     |
| 12   | 1    | 226363-02 | TORSION SPRING, LH, 1/2" X 5-3/4"     |
| 13   | 2    | 226365    | PIN WELDMENT                          |
| 14   | 2    | 226368    | PIN WELDMENT                          |
| 15   | 2    | 226372    | ROUND TUBE X 1/4" (2" X 5/16"W)       |
| 16   | 4    | 226375    | ROLLER (1" WIDE, 3-1/8" O.D.)         |
| 17   | 10   | 226941    | LOCK NUT, 3/8"-24                     |
| 18   | 2    | 261785-01 | PARALLEL ARM                          |
| 18A  | 4    | 905112-07 | BEARING, SELF LUBE 1-3/8" X 1-3/4" LG |
| 19   | 1    | 262332-01 | LIFT ARM WELDMENT, RH                 |
| 20   | 1    | 262332-02 | LIFT ARM WELDMENT, LH                 |

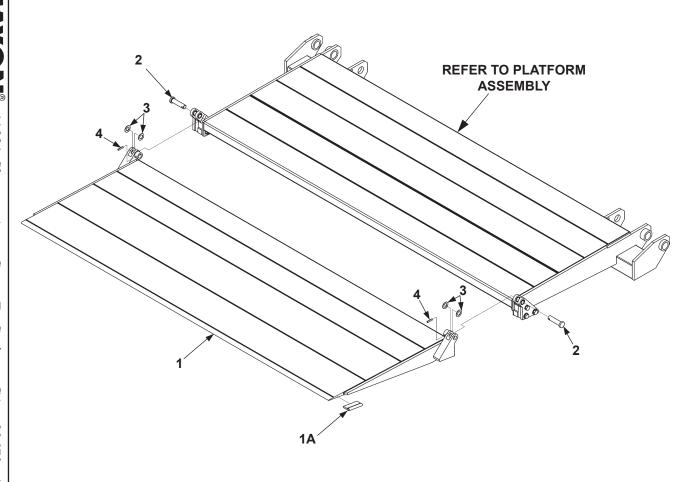
### MAIN FRAME ASSEMBLY: GPT-4 & GPT-5 - Continued



| 008      |
|----------|
| 02906    |
| CA.      |
| Springs, |
| Fe       |
| Santa    |
| Ave.     |
| Slauson  |
| 1921     |

| ITEM | QTY. | PART NO.  | DESCRIPTION                           |
|------|------|-----------|---------------------------------------|
| 21   | 2    | 262435    | PIN WELDMENT                          |
| 22   | 2    | 262437    | BUSHING WELDMENT HOSE CLAMP           |
| 23   | 2    | 262462    | PIN WELDMENT                          |
| 24   | 2    | 265807-01 | PIN WELDMENT, 1-3/8" X 13-1/8" LG     |
| 25   | 1    | 265813-01 | SHACKLE ASSEMBLY, LH                  |
| 25A  | 2    | 905112-06 | BEARING SELF LUBE 1-3/8" X 3/8" LG    |
| 26   | 1    | 265813-02 | SHACKLE ASSEMBLY, RH                  |
| 26A  | 2    | 905112-06 | BEARING SELF LUBE 1-3/8" X 3/8" LG    |
| 27   | 1    | 281562-01 | MAIN FRAME                            |
| 28   | 2    | 266033-01 | PIN WELDMENT                          |
| 29   | 2    | 902011-4  | LOCK WASHER, 3/8"                     |
| 30   | 2    | 902013-21 | FLAT WASHER, 1-3/8"                   |
| 31   | 4    | 905112-07 | BEARING, SELF LUBE 1-3/8" X 1-3/4" LG |
| 32   | 2    | 905113-03 | BEARING, SELF LUBE 1-3/4" X 1-3/4" LG |
| 33   | 1    | 262397    | LIFT FRAME WELDMENT                   |
| 34   | 2    | 281539-01 | SADDLE, LOW PROFILE HINGE             |
| 35   | 4    | 901024-3  | HEX BOLT, 1/2"-13 X 2-1/4" LG         |
| 36   | 4    | 901023    | FLANGE LOCK NUT, 1/2"-13              |
| 37   | 2    | 090300-12 | FLAT, 3/4" X 1" X 6" LG.              |

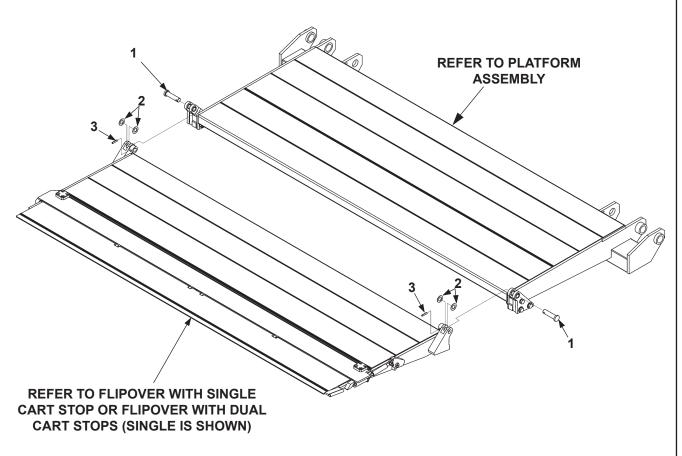
### PLATFORM & FLIPOVER ASSEMBLY (ALUMINUM)



| ITEM | QTY. | PART NO.  | DESCRIPTION                                 |
|------|------|-----------|---------------------------------------------|
| 1    | 1    | 281512-01 | FLIPOVER WELDMENT, 30"                      |
| 1A   | 1    | 265819-01 | HANDLE WELDMENT                             |
| 2    | 2    | 263602    | HINGE PIN WELDMENT                          |
| 3    | 4    | 902020-1  | FLAT WASHER, NYLON, 3/4" I.D., 1-5/16" O.D. |
| 4    | 2    | 905033-2  | ROLL PIN, 1/4" X 1-1/4" LG                  |

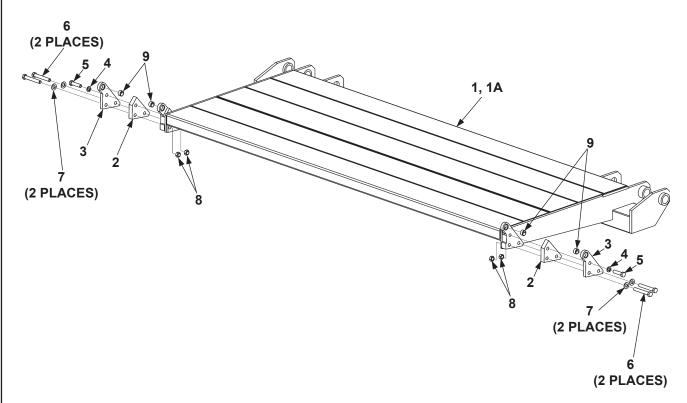
# (800) 227-4116

### PLATFORM & FLIPOVER ASSEMBLY WITH CART STOPS (ALUMINUM)



| ITEM | QTY. | PART NO. | DESCRIPTION                                 |
|------|------|----------|---------------------------------------------|
| 1    | 2    | 263602   | HINGE PIN WELDMENT                          |
| 2    | 4    | 902020-1 | FLAT WASHER, NYLON, 3/4" I.D., 1-5/16" O.D. |
| 3    | 2    | 905033-2 | ROLL PIN, 1/4" X 1-1/4" LG                  |

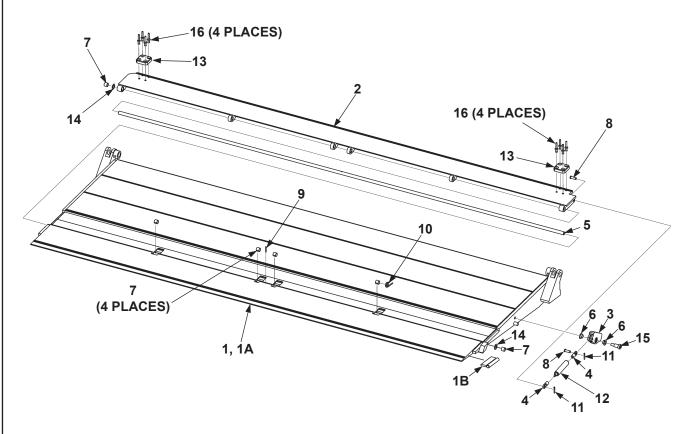
### **PLATFORM ASSEMBLY (ALUMINUM)**



| ITEM | QTY. | PART NO.  | DESCRIPTION                    |
|------|------|-----------|--------------------------------|
| 1    | 1    | 281510-01 | PLATFORM ASSEMBLY, 30"         |
| 1A   | 1    | 281508-01 | PLATFORM WELDMENT, 30"         |
| 2    | 2    | 263608    | HINGE BRACKET, INSIDE          |
| 3    | 2    | 263609    | HINGE BRACKET, OUTSIDE         |
| 4    | 2    | 902011-6  | LOCK WASHER, 1/2"              |
| 5    | 2    | 900033-9  | CAP SCREW, 1/2"-20 X 2" LG     |
| 6    | 4    | 900035-10 | CAP SCREW, 1/2"-13 X 3-1/2" LG |
| 7    | 4    | 902013-13 | FLAT WASHER, 1/2"              |
| 8    | 2    | 040066    | LOCK NUT, 1/2"-13              |
| 9    | 4    | 260917-04 | SELF LUBE BEARING, 1/2" LG     |

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### FLIPOVER WITH SINGLE CART STOP (ALUMINUM)



| 1B | 1 | 265819-01 | HANDLE WELDMENT                    |
|----|---|-----------|------------------------------------|
| 2  | 1 | 262508-02 | SINGLE CART STOP RAMP WELDMENT     |
| 3  | 1 | 262481-02 | OPENING AND CLOSING ARM, RH        |
| 4  | 2 | 262515    | METAL EYELET END FITING            |
| 5  | 1 | 262513-01 | PIN, 80-5/8" LG                    |
| 6  | 2 | 905122-02 | SELF LUBE BEARING, 1/2" X 5/16" LG |
| 7  | 6 | 253542    | SELF LUBE BEARING, 1/2" X 1/2" LG  |
| 8  | 2 | 905135    | CLEVIS PIN, 5/16" X 7/8" LG        |
| 9  | 1 | 030406    | ROLL PIN, 1/8" X 1" LG             |
| 10 | 1 | 262536    | TORSION SPRING                     |
| 11 | 2 | 030805    | COTTER PIN, 1/8" X 1" LG           |
| 12 | 1 | 262514    | GAS SPRING, 90 LBS                 |
| 13 | 2 | 281536-01 | STOP BLOCK                         |
| 14 | 2 | 902022    | WASHER, 1/2"                       |
| 15 | 1 | 900047    | SHOULDER SCREW,1/2" X 3/4" LG      |
| 16 | 8 | 903705-02 | RIVET, BLIND, 1/4" X 5/8" LG       |

**DESCRIPTION** 

FLIPOVER ASSEMBLY SINGLE CART STOP 30"

FLIPOVER WELDMENT, SINGLE CART STOP

QTY.

1

1

**ITEM** 

1

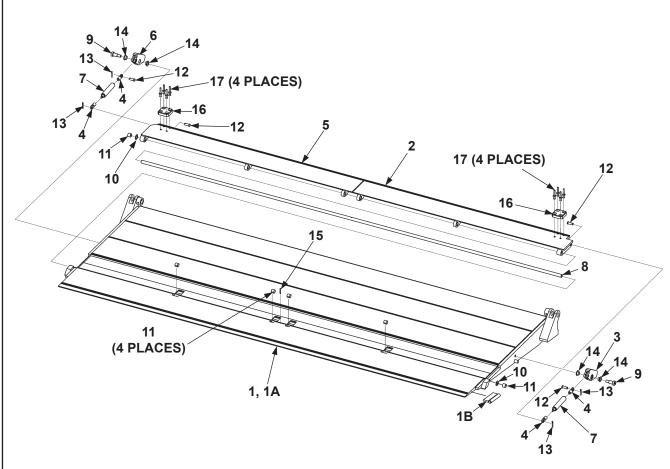
**1A** 

PART NO.

281533-01

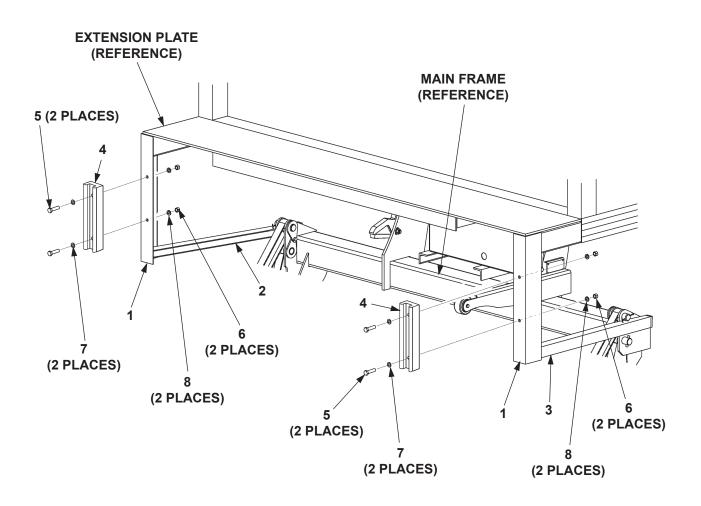
281513-01

### FLIPOVER WITH DUAL CART STOPS (ALUMINUM)



| ITEM | QTY. | PART NO.  | DESCRIPTION                          |
|------|------|-----------|--------------------------------------|
| 1    | 1    | 281532-01 | FLIPOVER ASSEMBLY DUAL CART STOP 30" |
| 1A   | 1    | 281513-02 | FLIPOVER WELDMENT, DUAL CART STOP    |
| 1B   | 1    | 265819-01 | HANDLE WELDMENT                      |
| 2    | 1    | 262509-06 | DUAL CART STOP RAMP WELDMENT, RH     |
| 3    | 1    | 262481-02 | OPENING AND CLOSING ARM, RH          |
| 4    | 4    | 262515    | METAL EYELET END FITING              |
| 5    | 1    | 262509-05 | DUAL CART STOP RAMP WELDMENT, LH     |
| 6    | 1    | 262481-01 | OPENING AND CLOSING ARM, LH          |
| 7    | 2    | 262514    | GAS SPRING, 90 LBS                   |
| 8    | 1    | 262513-01 | PIN, 80-5/8" LG.                     |
| 9    | 2    | 900047    | SHOULDER SCREW, 1/2" X 3/4" LG       |
| 10   | 2    | 902022    | WASHER, 1/2"                         |
| 11   | 6    | 253542    | SELF LUBE BEARING, 1/2" X 1/2" LG    |
| 12   | 4    | 905135    | CLEVIS PIN, 5/16" X 7/8" LG.         |
| 13   | 4    | 030805    | COTTER PIN, 1/8" X 1" LG.            |
| 14   | 4    | 905122-02 | SELF LUBE BEARING, 1/2" X 5/16" LG   |
| 15   | 1    | 030406    | ROLL PIN, 1/8" X 1" LG               |
| 16   | 2    | 281536-01 | STOP BLOCK                           |
| 17   | 8    | 903705-02 | RIVET, BLIND,1/4" X 5/8" LG          |

### **DOCK BUMPER**



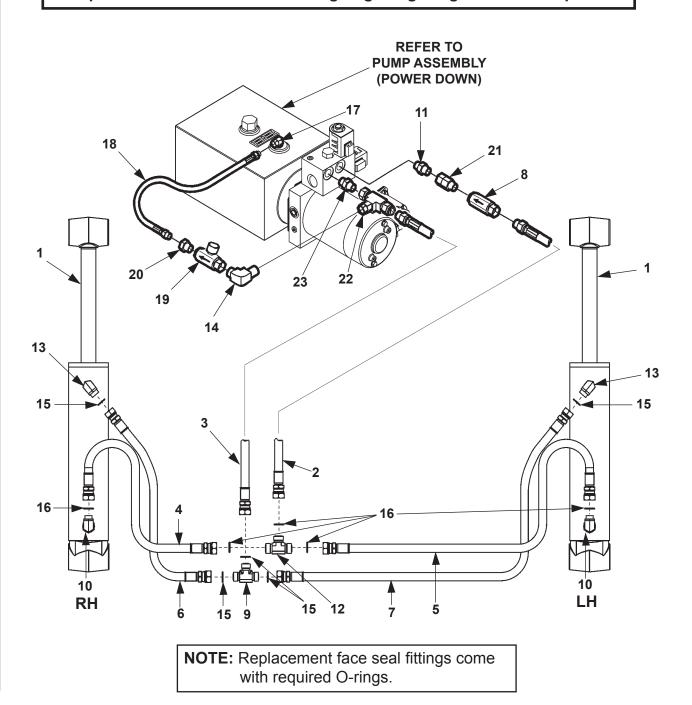
| ITEM | QTY. | PART NO.  | DESCRIPTION                    |
|------|------|-----------|--------------------------------|
| 1    | 2    | 226856    | DOCK BUMPER ANGLE X 23-1/2" LG |
| 2    | 1    | 266019-03 | BRACE ANGLE L/H                |
| 3    | 1    | 266019-04 | BRACE ANGLE R/H                |
| 4    | 2    | 222988    | BUMPER                         |
| 5    | 4    | 900033-5  | CAP SCREW, 1/2"-20 X 2" LG     |
| 6    | 4    | 901011-10 | NUT, 1/2"                      |
| 7    | 4    | 902000-14 | FLAT WASHER, 1/2"              |
| 8    | 4    | 902011-6  | LOCK WASHER, 1/2"              |

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### **HYDRAULIC COMPONENTS - POWER DOWN**

### **CAUTION**

If the Liftgate is equipped with a bumper (ICC-type), replacement hydraulic hoses must be routed with sufficient clearance from the bumper. The clearance prevents the hoses from rubbing or getting caught on the bumper.



| ITEM | QTY. | PART NO.  | DESCRIPTION                                         |  |  |
|------|------|-----------|-----------------------------------------------------|--|--|
|      |      | 266037-01 | CYLINDER, 2-3/4" DIA. x 10" STROKE (GPT-25 & GPT-3) |  |  |
| 1    | 2    | 266038-01 | CYLINDER, 3" DIA. x 10" STROKE (GPT-4)              |  |  |
|      |      | 266039-01 | CYLINDER, 3-1/2" DIA. x 10" STROKE (GPT-5)          |  |  |
| 2    | 1    | 265846-01 | HOSE ASSY, 3/8"HP SAE#8F,#6M, 21" LG                |  |  |
| 3    | 1    | 265863-01 | HOSE ASSY, 3/8"HP SAE#6- #8 F-F, 26" LG             |  |  |
| 4    | 1    | 265888-01 | HOSE ASSY, 3/8"HP SAE#8 F-F, 57" LG                 |  |  |
| 5    | 1    | 265888-02 | HOSE ASSY, 3/8"HP SAE#8 F-F, 83" LG                 |  |  |
| 6    | 1    | 265889-01 | HOSE ASSY, 3/8"HP SAE#6 F-F, 55" LG                 |  |  |
| 7    | 1    | 265889-02 | HOSE ASSY, 3/8"HP SAE#6 F-F, 77" LG                 |  |  |
| 8    | 1    | 906709-01 | VALVE, FLOW REGULATOR #6 SAE, 4 GPM                 |  |  |
| 9    | 1    | 905150    | TEE, UNION, 3/8" FACE SEAL MALE, 6-JLO              |  |  |
| 10   | 2    | 906704-01 | ELBOW, STRAIGHT THR. #8 FACE SEAL O-RING M-M        |  |  |
| 11   | 1    | 906771-01 | CONNECTOR, STRAIGHT, #6 - #8, M-M, O-RING F/S       |  |  |
| 12   | 1    | 906706-01 | TEE, UNION SAE#8 F/S M-M                            |  |  |
| 13   | 2    | 906707-01 | ELBOW, STRAIGHT THD. #6 FACE SEAL O-RING M-M        |  |  |
| 14   | 1    | 906770-01 | ELBOW, MALE PIPE, #8 O-RING FACE SEAL-NPTF          |  |  |
| 15   | 5    | 906712-02 | O-RING #6 (3/8" FACE SEAL TUBE-END)                 |  |  |
| 16   | 5    | 906712-03 | O-RING #8 (1/2" FACE SEAL TUBE-END)                 |  |  |
| 17   | 1    | 050207    | FITTING, SWIVEL ELBOW                               |  |  |
| 18   | 1    | 226948-09 | HOSE ASSY, 1/4" HP X 18-1/2" LG., M-M 1/4" NPTF     |  |  |
| 19   | 1    | 260490    | NEEDLE VALVE, F-F 3/8" NPTF                         |  |  |
| 20   | 1    | 800183    | BUSHING, 3/8"-1/4"                                  |  |  |
| 21   | 1    | 906751-01 | FITTING, STRAIGHT O-RING, SAE#6 M (WITH SWIVEL)     |  |  |
| 22   | 1    | 906769-01 | BRANCH TEE, SWIVEL NUT, SAE#8 M-M/F                 |  |  |
| 23   | 1    | 906772-01 | CONNECTOR, STR. SWIVEL, #8, M-F, O-RING FACE SEAL   |  |  |

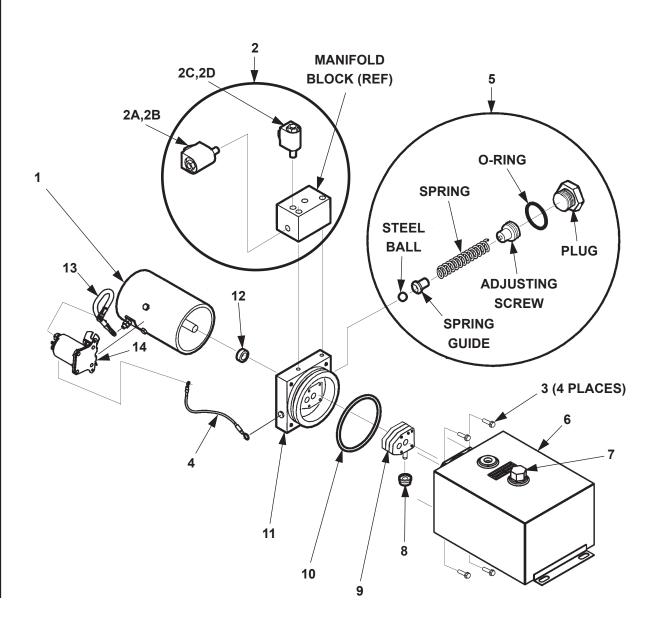
#### **PUMP ASSEMBLY - POWER DOWN**

# **CAUTION**

Do not over-tighten the terminal nuts on starter solenoid. For the load terminals, torque nuts to 40 lbs.-in. max. Torque the nuts on #10-32 control terminals 15-20 lbs.-in.

## **CAUTION**

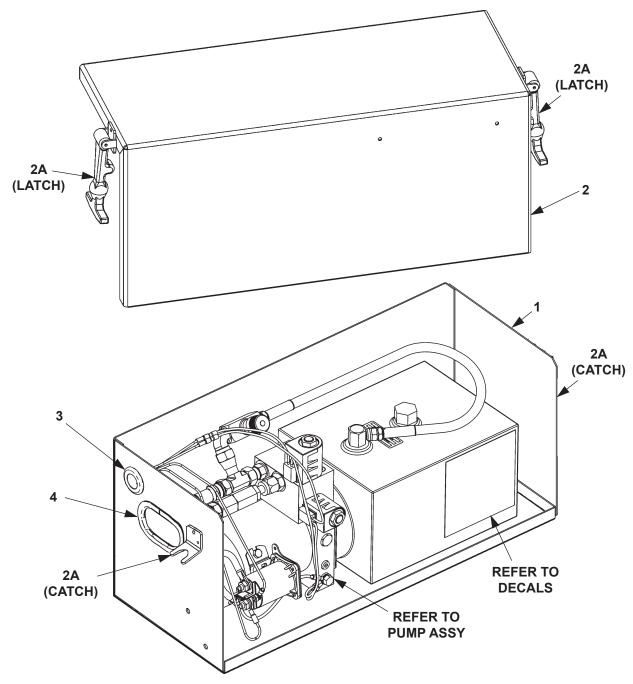
To prevent damage when installing 2-way valves, torque valve cartridge nut to 30 lbs.-in. max.



| (800              |
|-------------------|
| 02906             |
| CA.               |
| Santa Fe Springs, |
| Fe                |
| Santa             |
| Ave.              |
| Slauson           |
| 11921             |

| ITEM | QTY. | PART NO.  | DESCRIPTION                                  |  |
|------|------|-----------|----------------------------------------------|--|
| REF  | 1    | 262256    | PUMP ASSEMBLY, POWER DOWN                    |  |
| 1    | 1    | 250093    | MOTOR, HEAVY DUTY, 12 VDC                    |  |
| 2    | 1    | 260275    | MANIFOLD BLOCK ASSEMBLY                      |  |
| 2A   | 1    | 260276    | VALVE, 4-WAY SOLENOID                        |  |
| 2B   | 1    | 226595    | O-RING KIT, 4-WAY VALVE (NOT SHOWN)          |  |
| 2C   | 1    | 253353    | VALVE, 2-WAY SOLENOID                        |  |
| 2D   | 1    | 226594    | O-RING KIT, 2-WAY VALVE (NOT SHOWN)          |  |
| 3    | 4    | 229202    | CAP SCREW, HEX HEAD, WASHER HEAD (NOT SHOWN) |  |
| 4    | 1    | 268026-01 | WIRE ASSEMBLY, 18GA                          |  |
| 5    | 1    | 260229    | RELIEF VALVE KIT                             |  |
| 6    | 1    | 260263    | RESERVOIR, 2.5 GAL.                          |  |
| 7    | 1    | 229193    | FILLER/BREATHER CAP                          |  |
| 8    | 1    | 260250    | FILTER                                       |  |
| 9    | 1    | 290003    | 3-PIECE GEAR PUMP                            |  |
| 10   | 1    | 251884    | O-RING                                       |  |
| 11   | 1    | REF. ONLY | DRIVE PLATE ASSY, 5"                         |  |
| 12   | 1    | 260261    | OIL SEAL                                     |  |
| 13   | 1    | 280404    | CABLE ASSEMBLY                               |  |
| 14   | 1    | 268030-01 | SWITCH, SOLENOID (12 VDC)                    |  |

## **PUMP BOX ASSEMBLY - POWER DOWN**



| ITEM | QTY. | PART NO.  | DESCRIPTION                            |  |  |  |
|------|------|-----------|----------------------------------------|--|--|--|
| REF  | 1    | 260157    | PUMP BOX ASSEMBLY                      |  |  |  |
| 1    | 1    | 260156    | PUMP BOX WELDMENT                      |  |  |  |
| 2    | 1    | 229383    | PUMP BOX COVER                         |  |  |  |
| 2A   | 2    | 215139    | CATCH & FASTENER                       |  |  |  |
| 3    | 1    | 251097    | RUBBER GROMMET, 7/8" I.D., 1-5/8" O.D. |  |  |  |
| 4    | 1    | 093209-10 | EDGE TRIM, 8-1/2" LG.                  |  |  |  |

#### **CONTROL SWITCH AND POWER CABLE**

**NOTE:** Use switch to raise and lower Liftgate to make sure switch operates as shown on the decal.

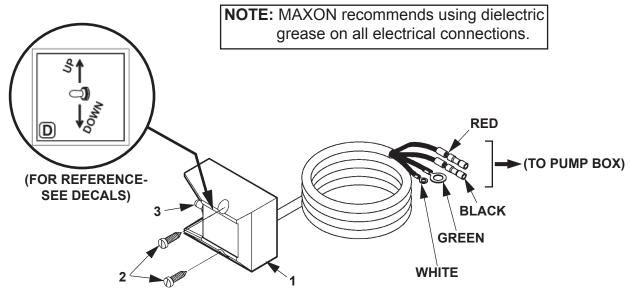
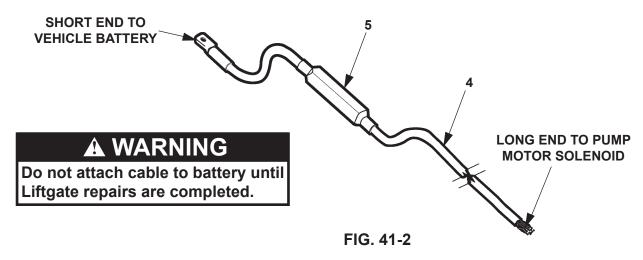


FIG. 41-1

| ITEM | QTY. | PART NO.  | DESCRIPTION                                     |  |  |
|------|------|-----------|-------------------------------------------------|--|--|
| 1    | 1    | 264951-01 | SWITCH & CABLE ASSEMBLY                         |  |  |
| 2    | 2    | 900057-5  | SCREW, SELF-TAPPING #10-24 X 1" LG.             |  |  |
| 3    | 1    | 905206    | SWITCH BOOT SEAL                                |  |  |
| 4    | 1    | 264422    | CABLE ASSEMBLY, 200 AMPS, 38' LG.               |  |  |
| 5    | 1    | 264687    | KIT, MEGAFUSE (200 AMP FUSE & HEATSHRINK TUBING |  |  |

**TABLE 41-1** 



#### **DECALS**

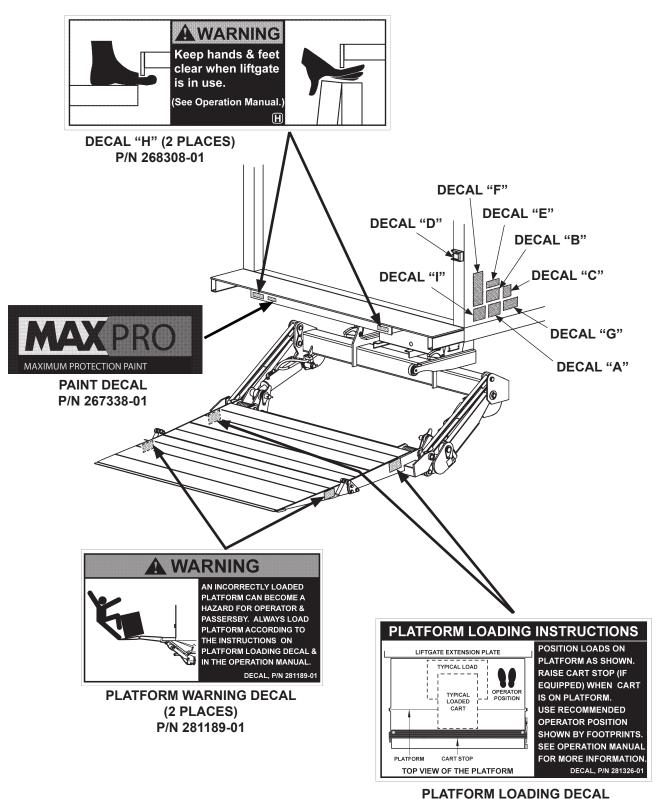


FIG. 42-1

(2 PLACES) P/N 281326-01

#### SAFETY INSTRUCTIONS

Read all decals and operation manual before operating liftgate

- Do not use liftgate unless you have been properly instructed and have read, and are familiar with, the operating instructions.
- Be certain vehicle is properly and securely braked before using the
- Always inspect this liftgate for maintenance or damage before using it. Do not use liftgate if it shows any sign of damage or improper maintenance.
- Make certain the area in which the platform will open and close is clear before opening or closing the platform.
- Make certain platform area, including the area in which loads may fall from platform, is clear before and at all times during operation of liftgate.

WARNING Read this information carefully. Improper operation of this Liftgate can result in serious personal injury. If you do not have a copy of the operating instructions, please obtain them from your employer, distributor, or lessor before you attempt to operate Liftgate.

If there are signs of improper maintenance, damage to vital parts, or slippery platform surface, do not use the Liftgate until these problems have been corrected.

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 its 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.

If you are using a pallet jack, be sure it can be maneuvered safely.

Do not operate a forklift on the platform.

This liftgate is intended for loading and unloading of cargo only. Do not use this liftgate for anything but its intended use.

#### Liftgate hazards can result in crushing or falling. Keep hands and feet clear of pinch points. If riding liftgate, make sure load is stable and footing is solid. Read and understand all instructions and WARNINGS before use.

**A** WARNING









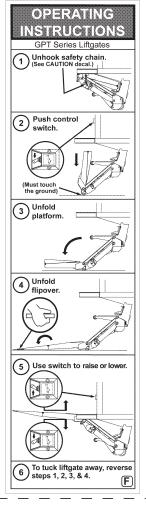
Make certain chain is hooked to pad eye when platform is

stowed.



WHEN THE LOAD IS CENTERED ON THE LOAD CARRYING PLATFORM

(See TABLE 43-1)

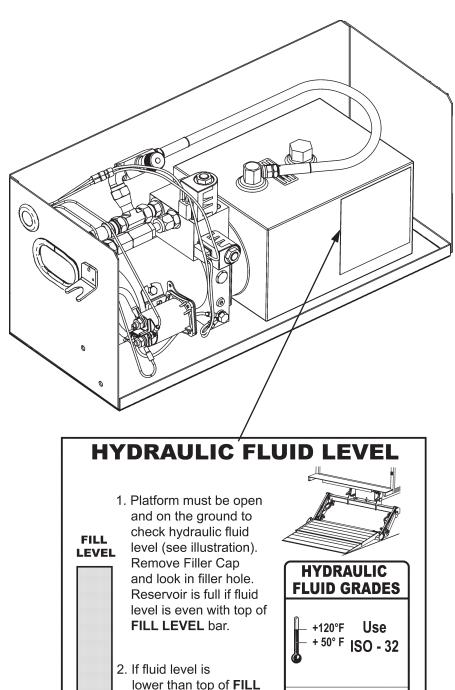


#### **DECAL SHEET** FIG. 43-1

|        | 1               |             |
|--------|-----------------|-------------|
| MODEL  | DECAL SHEET P/N | DECAL "B"   |
| GPT-25 | 268308-01       | 2500 POUNDS |
| GPT-3  | 268308-02       | 3000 POUNDS |
| GPT-4  | 268308-03       | 4000 POUNDS |
| GPT-5  | 268308-04       | 5000 POUNDS |

**DECAL SHEET TABLE 43-1** 

**DECALS - Continued** 



FLUID LEVEL DECAL P/N 265330-03

+ 70° F & Below

Use ISO - 15 or

MIL - H - 5606

P/N 265330-03

FIG. 44-1

**LEVEL** bar, add hydraulic fluid (see

SPECS). Fill until fluid

Re-install Filler Cap.

level is even with top of **FILL LEVEL** bar.

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# SYSTEM DIAGRAMS **HYDRAULIC SCHEMATIC - POWER DOWN**

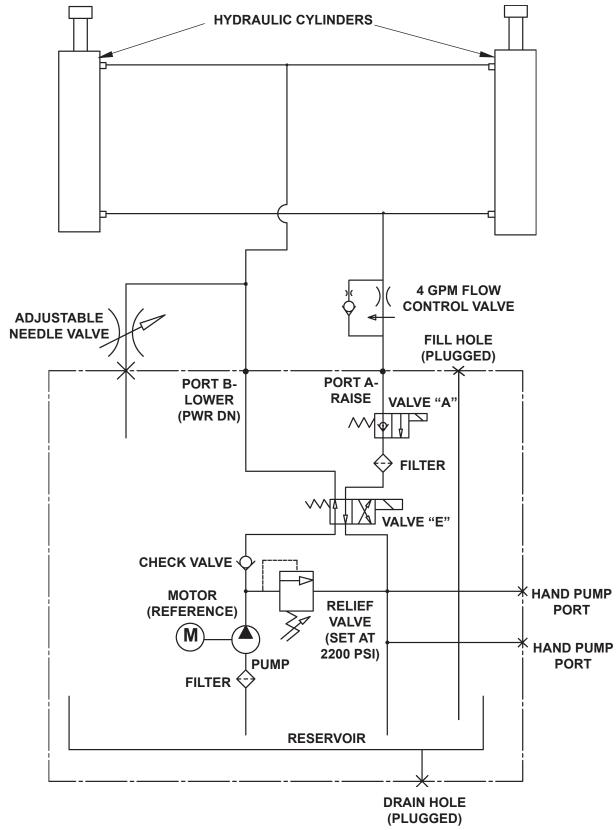
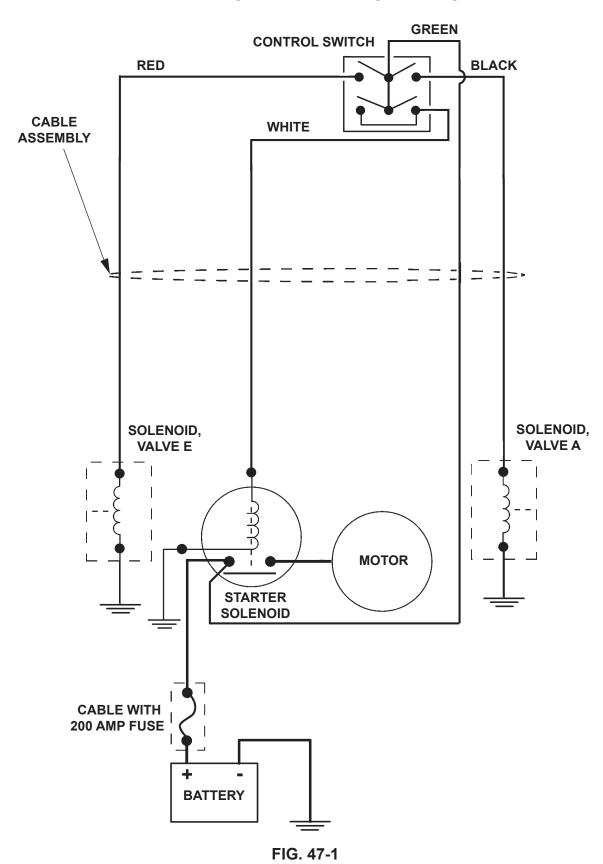


FIG. 46-1

#### **ELECTRICAL SCHEMATIC - POWER DOWN**



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# **TROUBLESHOOTING**

#### PLATFORM WILL NOT RAISE

 Connect voltmeter between motor solenoid terminal "B" and ground wires connection on pump (FIG. 48-1). Verify that battery power is getting to "B". Recharge the battery if voltmeter indicates less than 12.6 volts dc.

## CAUTION

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

- Do the CHECK HYDRAULIC FLUID procedure in this manual. If necessary add hydraulic fluid.
- 3. Touch a jumper wire to terminals "B" & "D" (FIG. 48-1). If motor runs check switch, the switch connections, and white wire. Check and correct wiring connections or replace the switch.
- 4. Touch heavy jumper cables to terminals "A" & "B" (FIG. 48-1).
  - a. If motor runs, replace the motor solenoid.
  - b. If motor does not run, repair or replace the pump motor.

**NOTE:** In most cases, you can avoid having to manually bleed hydraulic system by correctly positioning Liftgate platform before disconnecting any lifting cylinder high pressure hydraulic lines. The following procedure can save time and prevent accidental fluid spills and hazards.

- 5. Check for structural damage and replace worn parts.
- 6. Check filter in the pump reservoir. Replace filter if necessary.
- Check if pump relief valve is dirty. Clean if necessary or replace worn out parts.

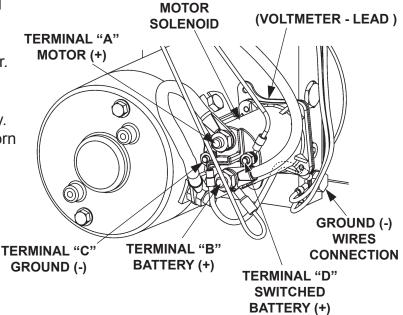
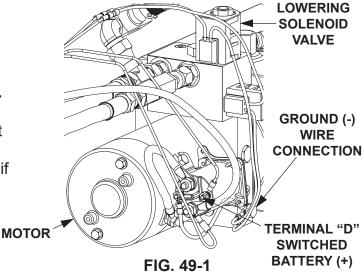


FIG. 48-1

#### PLATFORM RAISES BUT LEAKS DOWN

Check if lowering solenoid valve is constantly energized. Connect voltmeter negative (-) lead to ground (-) wires connection on pump and positive (+) lead to terminal "D" (FIG. 49-1). If voltmeter reads battery voltage (+12.6 volts dc minimum) without pushing the toggle switch, the control circuit is operating incorrectly. Check if toggle switch, wiring or coil are faulty.

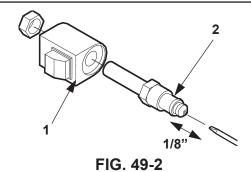


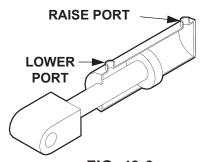
## CAUTION

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

**NOTE:** In most cases, you can avoid having to manually bleed hydraulic system by correctly positioning Liftgate platform before disconnecting any lifting cylinder high pressure hydraulic lines. The following procedure can save time and prevent accidental fluid spills and hazards.

- Check the valve stem by removing the coil assembly (Item 1, FIG. 49-2). With platform on ground, unscrew the valve stem (Item 2, FIG. 49-2) from the pump. Push on the plunger that is located inside the valve stem by inserting a small screwdriver blade in the end. If the plunger does not move freely (approximately 1/8"), replace the valve stem. When reinstalling valve stem, torque hex nut to 30 in-lbs.
- 3. Check the hydraulic cylinder. With the platform on the ground, remove the hydraulic line from the lower port of the cylinder (FIG. 49-3). Raise the platform even with the bed. Allow pump motor to run two seconds more while you watch for hydraulic fluid at the lower port. A few drops of hydraulic fluid escaping the port is normal; however, if it streams out, piston seals are worn. Replace seals.







#### PLATFORM RAISES PARTIALLY AND STOPS

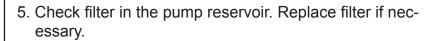
## **CAUTION**

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

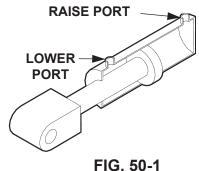
- 1. Lower the opened platform to the ground. Do the **CHECK HYDRAULIC FLUID** procedure in this manual. If necessary, add hydraulic fluid.
- 2. Use voltmeter to verify the battery voltage is 12.6 volts or more.
- 3. Check for structural damage and poor lubrication. Replace worn parts.

**NOTE:** In most cases, you can avoid having to manually bleed hydraulic system by correctly positioning Liftgate platform before disconnecting any lifting cylinder high pressure hydraulic lines. The following procedure can save time and prevent accidental fluid spills and hazards.

4. Check the hydraulic cylinder. With the platform on the ground, remove line from the lower port of the cylinder (FIG. 50-1). Allow pump motor to run two seconds more while you watch for hydraulic fluid at the lower port. A few drops of hydraulic fluid escaping the port is normal; however, if it streams out, piston seals are worn. Replace seals.



6. Check if pump relief valve is dirty. Clean if necessary or replace worn out parts.



#### LIFTGATE WILL NOT LIFT RATED CAPACITY

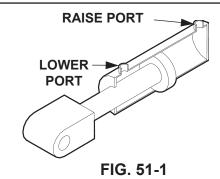
- 1. Use voltmeter to verify the battery voltage is 12.6 volts or more under load from pump motor.
- 2. Check for structural damage or lack of lubrication. Replace worn parts.

## **CAUTION**

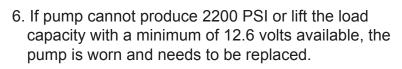
Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

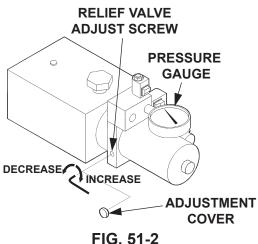
**NOTE:** In most cases, you can avoid having to manually bleed hydraulic system by correctly positioning Liftgate platform before disconnecting any lifting cylinder high pressure hydraulic lines. The following procedure can save time and prevent accidental fluid spills and hazards.

3. 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 2200 PSI (FIG. 51-2). Remove guage and reinstall pressure hose.



- 4. Check if pump relief valve is dirty. Clean if necessary or replace worn out parts.
- 5. Check the hydraulic cylinder. With the platform on the ground, remove the hydraulic line from the lower port of the cylinder (FIG. 51-1). Raise the platform even with the bed. Allow pump motor to run two seconds more while you watch for hydraulic fluid at the lower port. A few drops of hydraulic fluid escaping the port is normal; however, if it streams out, piston seals are worn. Replace seals.





#### PLATFORM RAISES SLOWLY

 Connect voltmeter between motor solenoid terminal "B" and ground (-) wires connection on pump (FIG. 52-1). Verify that battery power is getting to "B". Recharge the battery if voltmeter indicates less than 12.6 volts dc.

# CAUTION

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

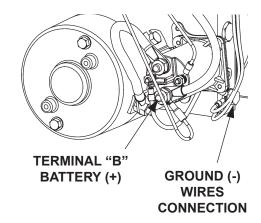


FIG. 52-1

2. Check the hydraulic cylinder. With the platform on the ground, remove the hydraulic line from the lower port of the cylinder (FIG. 52-2). Raise the platform even with the bed. Allow pump motor to run two seconds more while you watch for hydraulic fluid at the lower port. A few drops of hydraulic fluid escaping the port is normal; however, if it streams out, piston seals are worn. Replace seals.

**NOTE:** In most cases, you can avoid having to manually bleed hydraulic system by correctly positioning Liftgate platform before disconnecting any lifting cylinder high pressure hydraulic lines. The following procedure can save time and prevent accidental fluid spills and hazards.

3. Check and clean flow control valve (FIG. 52-3). When installing flow control valve, make sure arrow on valve is oriented as shown in FIG. 52-3.

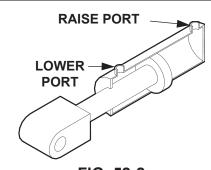


FIG. 52-2

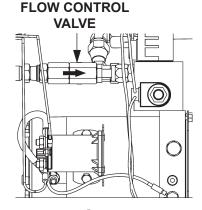
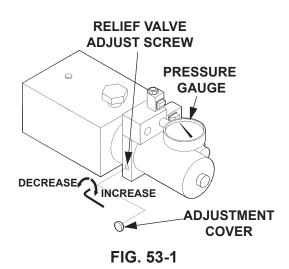


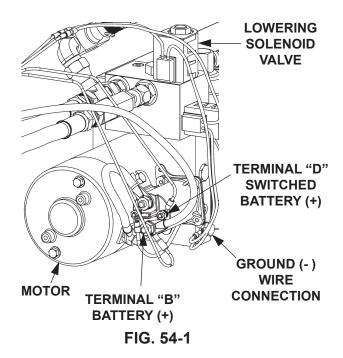
FIG. 52-3

- 4. Verify the pump motor is grounded to vehicle frame.
- 5. Check for leaking hoses and fittings. Tighten or replace as required.
- 6. Check for structural damage and poor lubrication. Replace worn parts.
- 7. Check the filter in the pump reservoir. Replace if necessary.
- 8. 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 control switch in the **UP** position. Adjust the relief valve on the side of the pump until the gauge shows 2200 PSI (**FIG. 53-1**). Remove guage and reinstall pressure hose.



## PLATFORM WILL NOT LOWER, LOWERS TOO SLOWLY OR TOO QUICKLY

- Connect voltmeter between motor solenoid terminal "B" and ground wires connection on pump (FIG. 54-1). Verify that battery power is getting to "B". Recharge the battery if voltmeter indicates less than 12.6 volts dc.
- 2. Check for structural damage or poor lubrication. Replace worn parts.
- 3. Check if lowering solenoid valve is getting power. Connect voltmeter between ground (-) wires connection on pump and terminal "B" (FIG. 54-1). Push control switch to DOWN position to energize lowering solenoid. If voltmeter reads battery voltage (+12.6 volts dc minimum), control circuit is operating correctly (replace lowering solenoid). If voltmeter reads 0 volts, check if toggle switch and wiring are faulty.

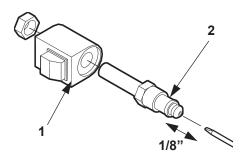


# **CAUTION**

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

**NOTE:** In most cases, you can avoid having to manually bleed hydraulic system by correctly positioning Liftgate platform before disconnecting any lifting cylinder high pressure hydraulic lines. The following procedure can save time and prevent accidental fluid spills and hazards.

4. Check the valve stem by removing the coil assembly (Item 1, FIG. 54-2). With platform supported, unscrew the valve stem (Item 2, FIG. 54-2) from the pump. Push on the plunger located inside the valve stem by inserting a small screwdriver blade in the end. If the plunger does not move freely (approximately 1/8") replace the valve stem.



5. Check if filtering screen on solenoid valve is plugged. Clean carefully if required.

FIG. 54-2

- Check and clean flow control valve (FIG. 55-1) in the high pressure hydraulic line connected to pump.
- 7. Check if flow control valve (FIG. 55-1) is pointing to the direction of restricted fluid flow (back toward pump). If required, remove flow control valve and install it correctly (FIG. 55-1).

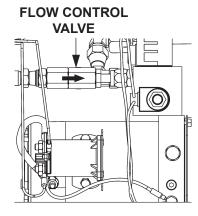
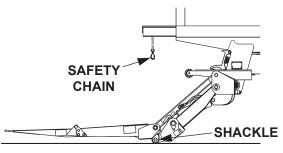


FIG. 55-1

#### PLATFORM WON'T TILT DOWN TO THE GROUND

**NOTE:** If the Liftgate is not damaged, the adjustable flow control valve on power unit may need to be adjusted as follows.

1. Unhook safety chain. Lower the platform until shackles touch the ground (FIG. 56-1).

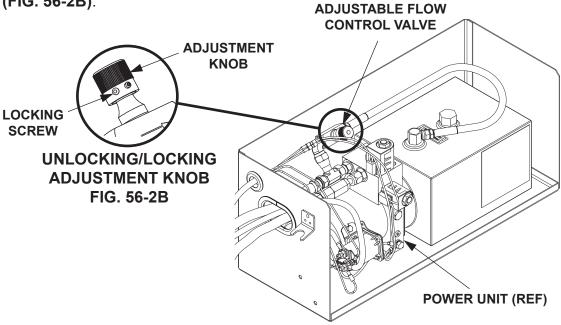


SHACKLES TOUCHING THE GROUND FIG. 56-1

# **CAUTION**

To prevent damage to adjustable flow control valve, loosen locking screw before turning knob.

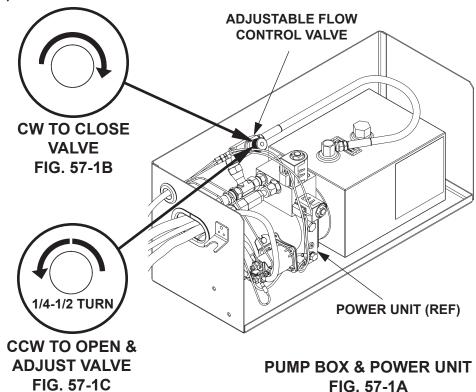
2. Open the pump box (FIG. 56-2A) to access the adjustment knob on the adjustable flow control valve (FIG. 56-2B).



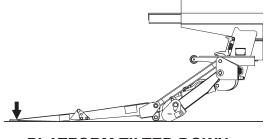
PUMP BOX & POWER UNIT FIG. 56-2A

3. Loosen locking screw on the flow control valve adjustment knob (FIG. 56-2B).

First, close the adjustable flow control valve (FIG. 57-1A) by turning adjustment knob full clockwise (CW) (FIG. 57-1B).



- 5. Next, open the flow control valve a little by turning the adjustment knob 1/4 to 1/2 turn counter-clockwise (CCW) (FIG. 57-1C).
- 6. Push the control switch to **DOWN** position. Verify that platform tilts down to the ground **(FIG. 57-2)**.



7. Tighten locking screw on the flow control valve adjustment knob (FIG. 48-2B).

