

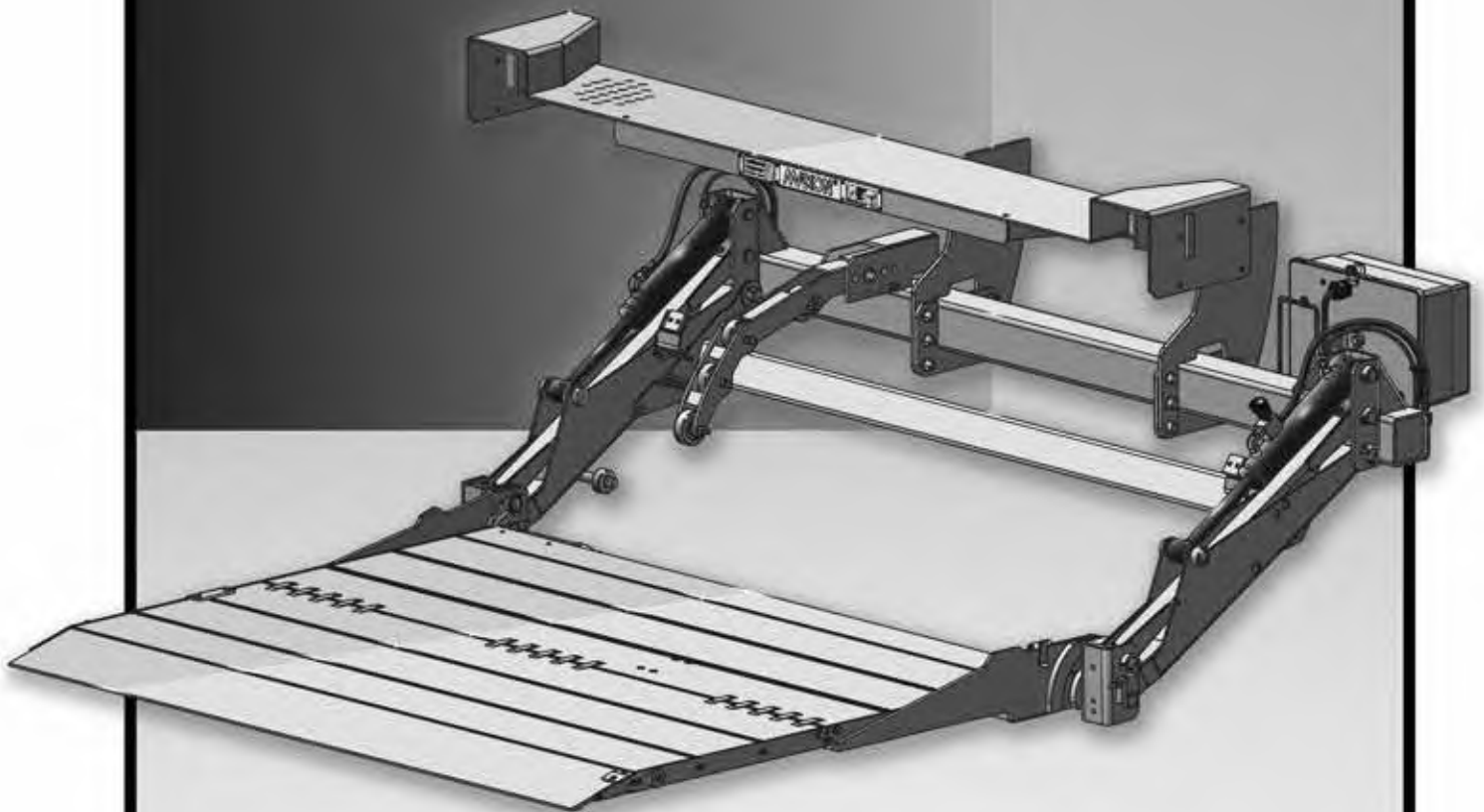
M-18-16
REV. C
JUNE 2026

MAXON[®]

GPTLR Series

MAINTENANCE MANUAL

GPTLR-25, GPTLR-33, GPTLR-44, & GPTLR-55



MAXON[®]

LIFT CORP.

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

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

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)
7. 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 party.

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SUMMARY OF CHANGES: M-18-16 REV C

PAGE	DESCRIPTION OF CHANGE
COVER	Updated REV and date of release.
12	Added grease spec for the lube task and task summaries for lubricating platform torsion springs and touching up bare metal on galvanized surfaces.
13	Added annual task to replace hydraulic fluid and do the Semi-annual tasks.
12-15	Added additional maintenance checks to the PERIODIC MAINTENANCE CHECKLIST.
18	Updated hydraulic oil tables.

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

WARNING

Installing and maintaining a liftgate can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, install and maintain liftgate in a well-ventilated area and wear **proper Personal protective equipment (PPE)**. For more information go to www.P65Warnings.ca.gov.

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) D1.2 Structural Welding Code - Aluminum**. Damage to Liftgate and/or vehicle, and personal injury could result from welds that are done incorrectly.
- Recommended practices for welding galvanized steel are contained in the current **AWS (American Welding Society) D19.0 Welding Zinc-Coated Steel**. Damage to Liftgate and/or vehicle, and personal injury can result from welds that are done incorrectly.

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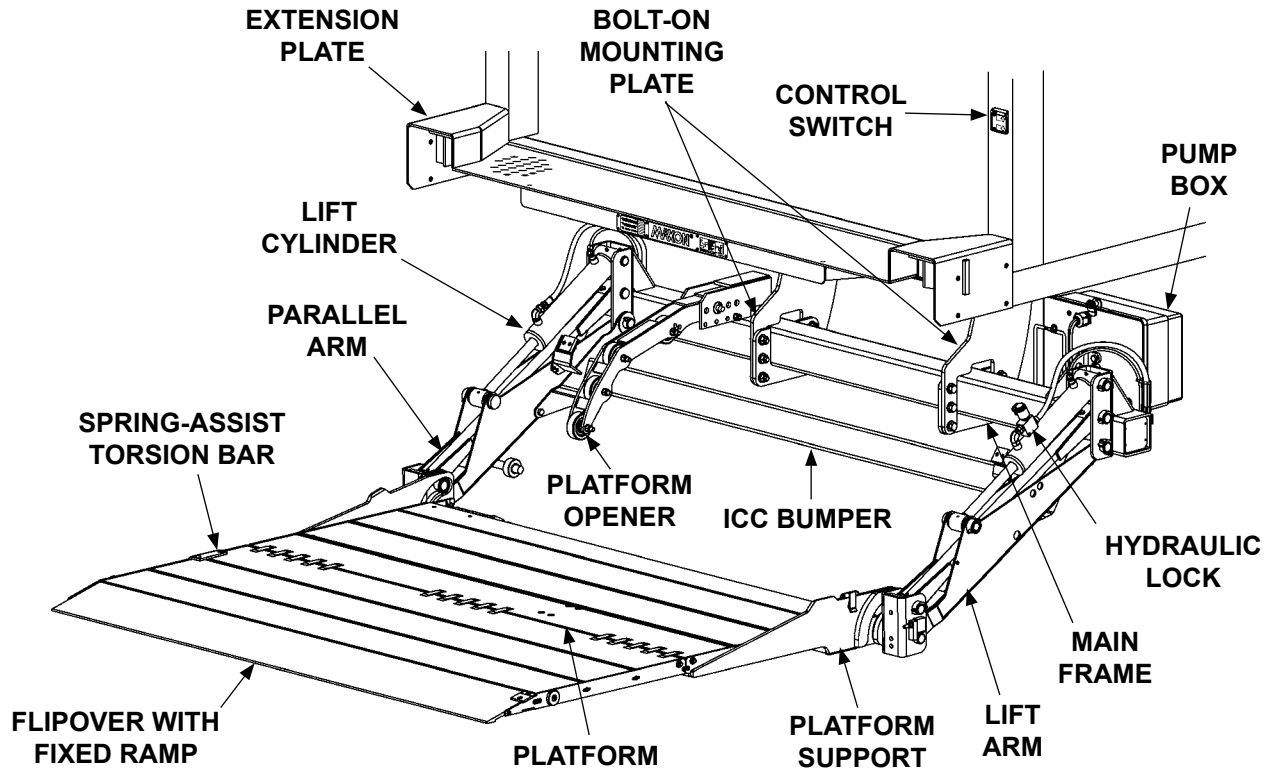
SAFETY INSTRUCTIONS

- 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

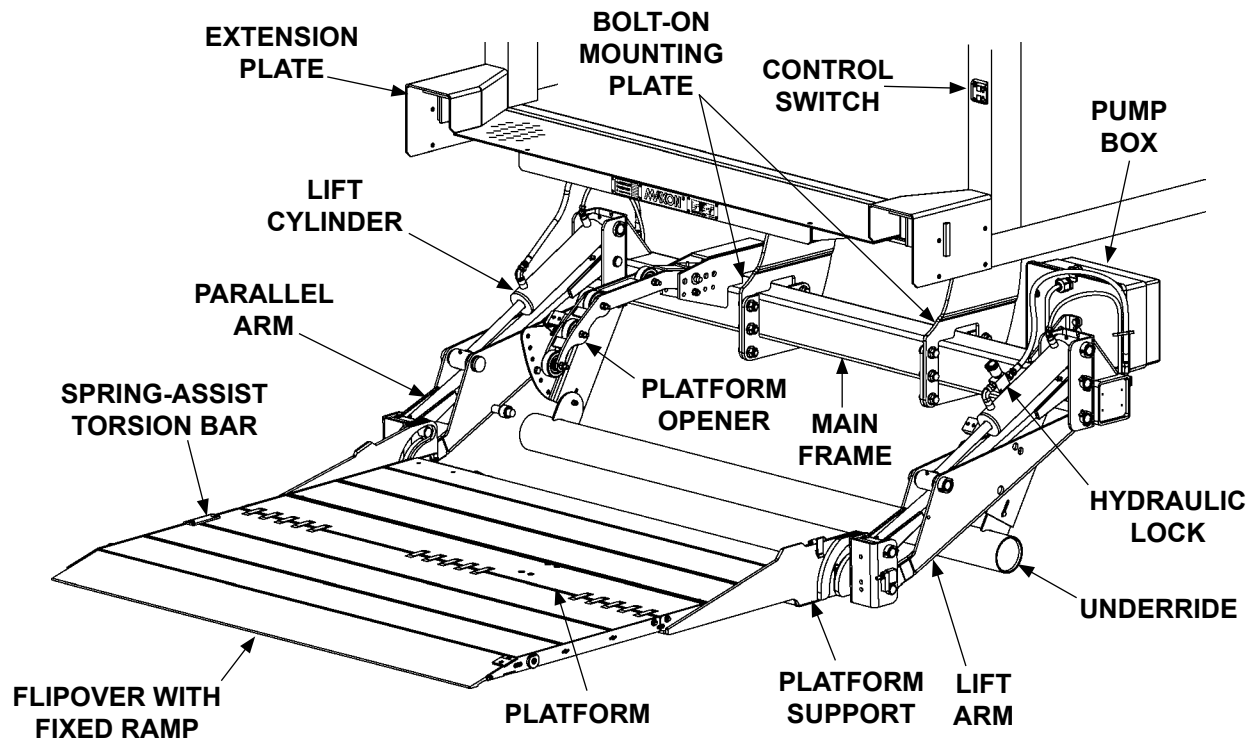
LIFTGATE TERMINOLOGY



**GPTLR 25-33
FIG. 10-1**

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GPTLR 44-55
FIG. 11-1

PERIODIC MAINTENANCE

PERIODIC MAINTENANCE CHECKLIST

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 1,250 Cycles (whichever occurs first)

- ☐ Check the level and condition of the hydraulic fluid. Refer to CHECKING HYDRAULIC FLUID procedure in this manual.
- ☐ Visually check all hoses and fittings for chafing and fluid leaks. Tighten loose fittings or replace parts as required. Make sure hydraulic lock is in place and undamaged. Replace if necessary.
- ☐ 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, nonskid stickers and safety striping** 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 both platform torsion springs to make sure there is grease between the coils. If grease is not visible in the valley between each coil, apply spray-on white lithium grease. Unfold & fold platform. If platform feels heavy while starting to fold, do **PLATFORM TORSION SPRING ADJUSTMENT** in the **PERIODIC MAINTENANCE** section of this manual.
- ☐ Pump EP chassis grease in each lube fitting on the cylinders and arms until grease starts oozing from ends of the bearings. Refer to lubrication diagram (**FIG. 13-1**). Wipe off excess grease with a clean lint-free cloth.

NOTE: EP Grease Spec: MULTI-PURPOSE EP GREASE, LITHIUM COMPLEX THICKENER, NLGI GRADE 2, BASE OIL VISCOSITY 150-220 cSt @ 40° C, MIN OPERATING TEMP -40° C.

CAUTION

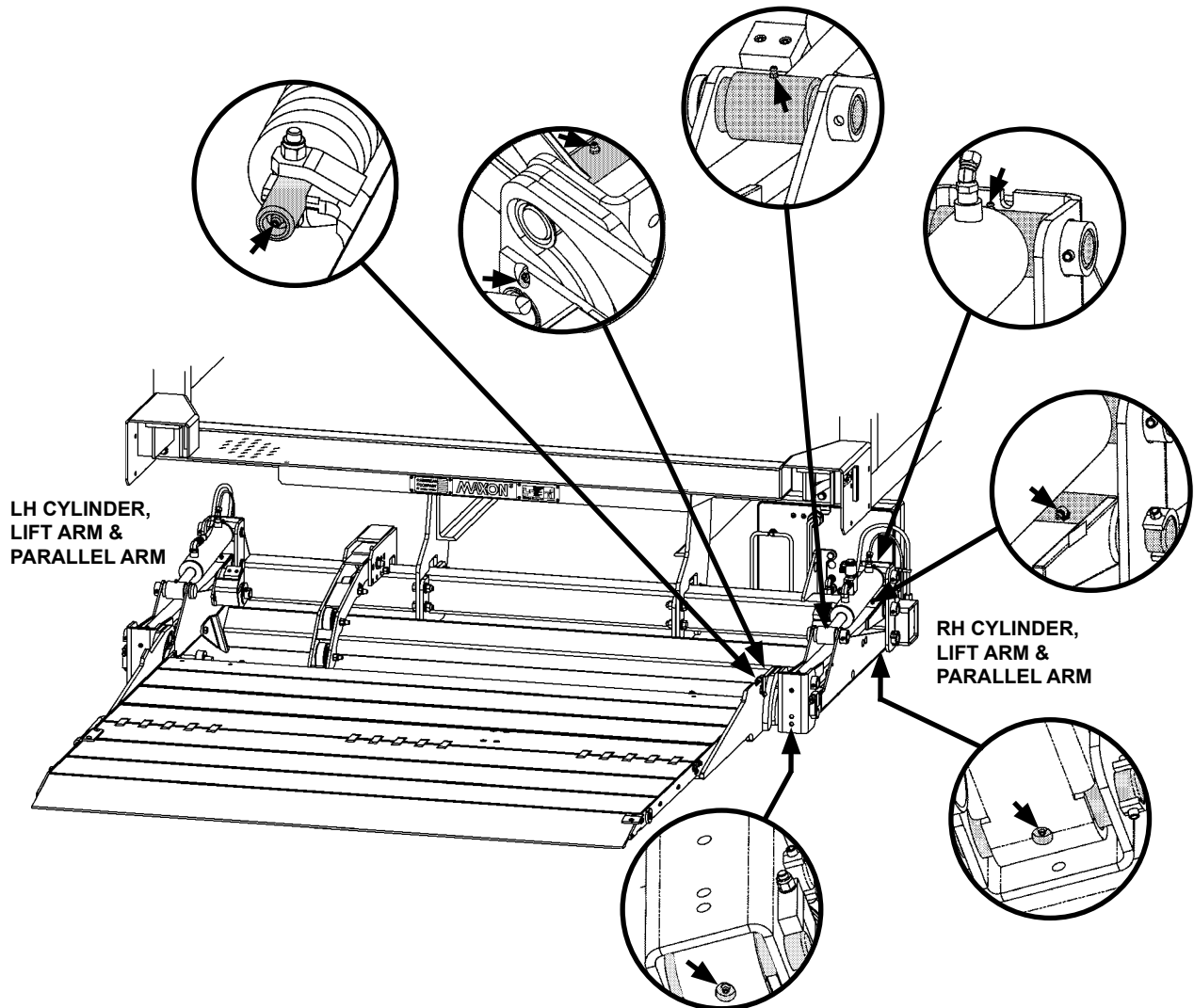
Damaged cylinder seals and contaminated hydraulic fluid can result from painting the polished portion of the cylinder rod. To prevent damage, protect the exposed polished portion of the cylinder rod while painting.

- ☐ Check for rust and oily surfaces on Liftgate. If there is rust or oil on Liftgate, or if the Liftgate is dirty, clean it off. Touch up where bare metal is showing with a cold galvanizing compound.

- Lubricate the platform torsion springs with a liberal coat of **fast-drying dry film lubricant (Molybdenum Disulfide)** rated for high-pressure, metal-on-metal applications. Make certain the torsion springs are clean before applying the lubricant.

NOTE: Lube fittings are shown for the RH cylinder, lift arm, and parallel arm. There are also lube fittings at the same places on the LH cylinder, lift arm, and parallel arm. Refer to the **PERIODIC MAINTENANCE CHECKLIST** for the recommended grease and maintenance interval.

Refer to lubrication diagram (**FIG. 13-1**) to find the lube fittings on cylinders and arms.



**GPTLR LUBRICATION DIAGRAM
FIG. 13-1**

PERIODIC MAINTENANCE - Continued

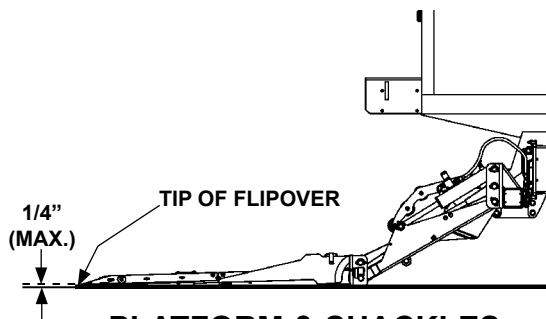
PERIODIC MAINTENANCE CHECKLIST- Continued

Semi-annually or 2,500 Cycles (whichever occurs first)

- ☐ Visually check the platform hinge pins and check for excessive wear and broken welds.
- ☐ Do the **Quarterly or 1,250 Cycles** maintenance checks on this checklist.

Annually or 5000 Cycles (whichever occurs first)

- ☐ Replace the hydraulic fluid. Refer to the CHANGING HYDRAULIC FLUID section of this manual.
- ☐ Also, do the **Semi-Annually or 2,500 Cycles** maintenance checks on this checklist.
- ☐ Visually check the entire Liftgate for excessively worn parts and broken welds, especially hinge pins. Refer to the Parts Portal on the Maxon website for genuine **MAXON** replacement parts.
- ☐ Check the platform and flipover as follows. Unfold the platform and flipover. Raise the platform to vehicle bed height and then lower it to the ground. Check if the shackles and tip of flipover touch the ground at the same time (**FIG. 14-1**). With the shackles touching, tip of a ramp-style flipover may be no more than 1/4" above the ground. A flipover equipped with retention ramp may have a maximum 2" of ground clearance at the tip of the flipover.



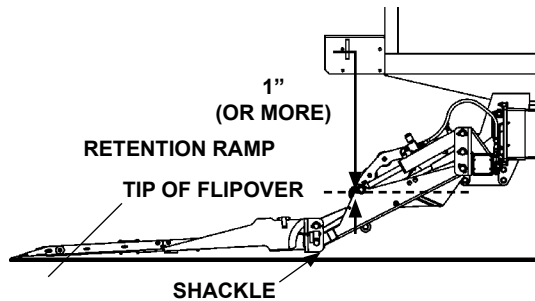
PLATFORM & SHACKLES
TOUCH GROUND

FIG. 14-1

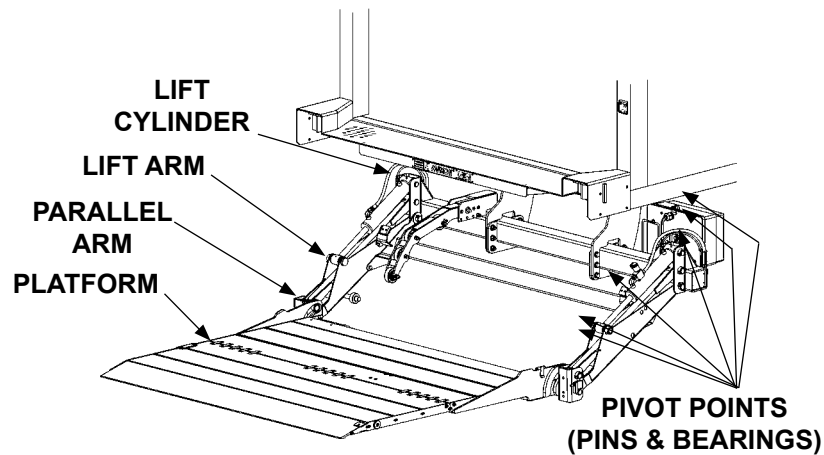
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- If the shackles are 1" or more above the ground when the tip of the flipover is touching the ground (**FIG. 15-1**), perform the **ADJUST PLATFORM** procedure in the **Installation Manual (M-18-14)**. If the adjustment does not correct the problem, check pins and bearings at the pivot points on both sides of the Liftgate (**See FIG. 15-2**).



**SHACKLES NOT TOUCHING
THE GROUND
FIG. 15-1**



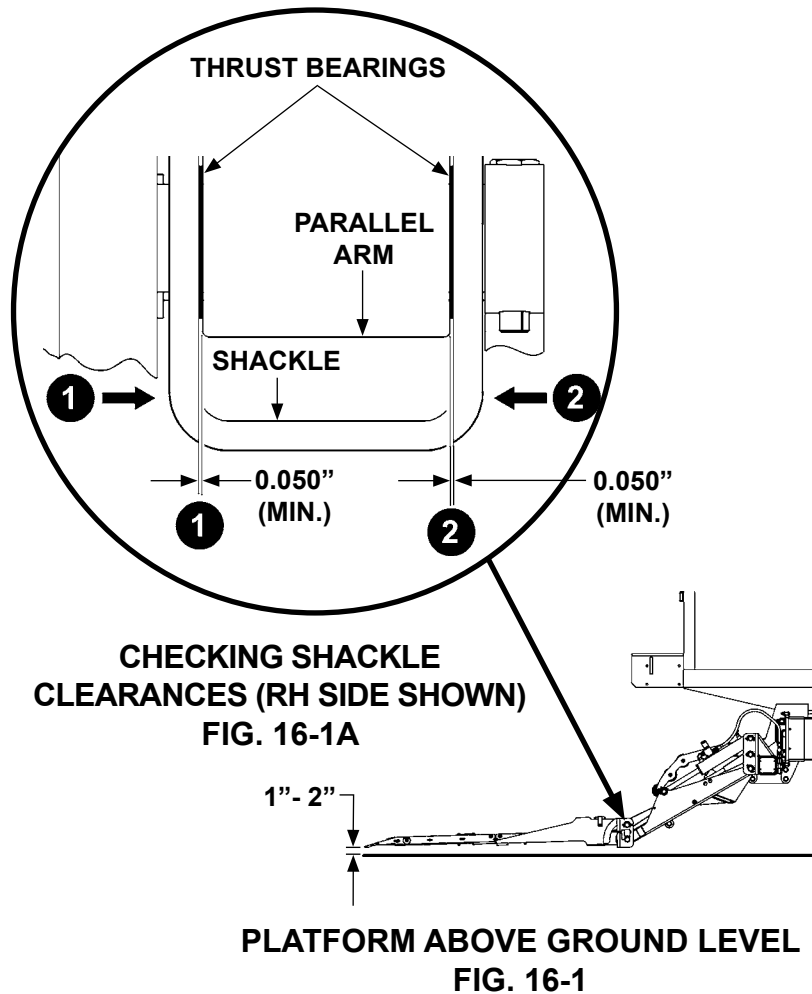
**PIVOT POINTS TO CHECK
FIG. 15-2**

- On aluminum flipovers equipped with single retention ramp, and for steel flipovers, ensure latch is in place, undamaged, and working correctly. Refer to the Parts Portal on the Maxon website for genuine **MAXON** replacement parts.

PERIODIC MAINTENANCE - Continued

PERIODIC MAINTENANCE CHECKLIST- Continued

- ☐ To prevent unnecessary wear on parallel arms, check for worn thrust bearings as follows. Position the platform 1"-2" above ground (**FIG. 16-1**). Push against the shackle (**Item 1, FIG. 16-1A**) and measure clearance (**Item 1, FIG. 16-1A**). Then, push against other side of shackle (**Item 2, FIG. 16-1A**) and measure clearance (**Item 2, FIG. 16-1A**). Repeat for LH side shackle. If clearance is less than 0.050", replace thrust bearing. Refer to the Parts Portal on the Maxon website for genuine **MAXON** replacement parts.



CHECKING 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.

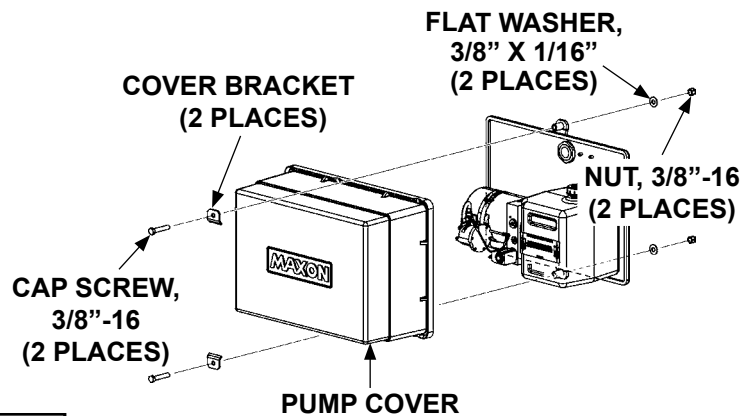
NOTE: Liftgate is shipped with **ISO 32** oil. Use correct oil for climate conditions.

+50 to +120 Degrees F - Grade ISO 32

Below + 70 Degrees F - Grade ISO 15 or MIL-H-5606

See **TABLES 18-1 & 18-2** for recommended brands of **ISO 32 & ISO 15** oils.

1. Unbolt and remove pump cover (**FIG. 17-1**).
2. Check the hydraulic fluid level in reservoir as follows. With Liftgate stowed, or platform at vehicle bed height, level should be as shown in **FIG. 17-2**.



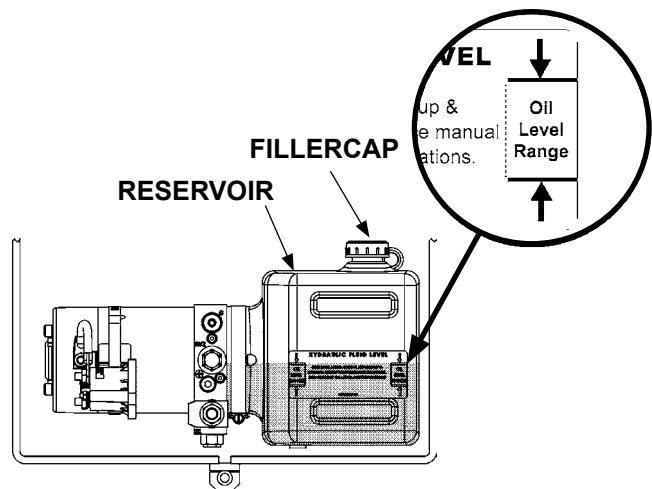
UNBOLTING/BOLTING PUMP COVER
FIG. 17-1

NOTE: If the hydraulic fluid in the reservoir is contaminated, do the **CHANGING HYDRAULIC FLUID** procedure in this section.

3. If needed, add fluid to the reservoir as follows. Remove filler cap (**FIG. 17-2**). Fill the reservoir with hydraulic fluid to level shown in **FIG. 17-2**. Reinstall filler cap (**FIG. 17-2**).

CAUTION

Pump cover must be correctly secured to prevent it from becoming a hazard. To secure pump cover, the long side of the holder flats must butt against pump cover as shown in the illustration.



POWER UNIT FLUID LEVEL
FIG. 17-2

4. Bolt on the pump cover as shown in **FIG. 17-1**. Apply anti-seize to threads of fasteners.

PERIODIC MAINTENANCE - Continued

ISO 32 HYDRAULIC OIL	
RECOMMENDED BRANDS	PART NUMBER
ROSEMEAD	ROSEMEAD MV150
EXXONMOBIL	MOBIL DTE 10 EXCEL 32
CHEVRON	CHEVRON AV MV32
U.S. PRESTIGE	PRESTIGE AW HVI 32

TABLE 18-1

ISO 15 OR MIL-H-5606 HYDRAULIC OIL	
RECOMMENDED BRANDS	PART NUMBER
EXXONMOBIL	UNIVIS HVI-13
PHILLIPS 66	ARCTIC LOW POUR

TABLE 18-2

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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: Liftgate is shipped with **ISO 32** oil. Use correct oil for climate conditions.

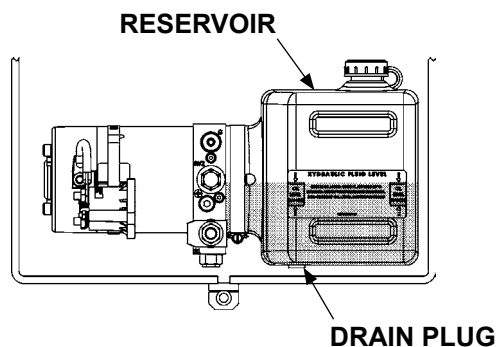
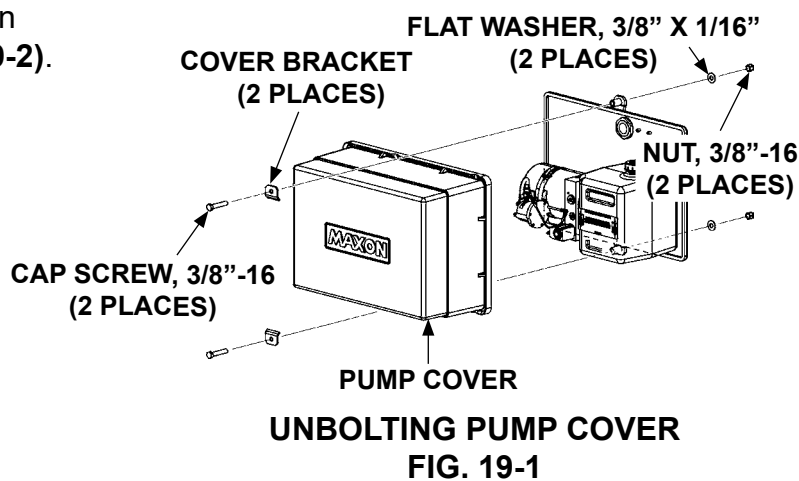
+50 to +120 Degrees F - Grade ISO 32

Below + 70 Degrees F - Grade ISO 15 or MIL-H-5606

See **TABLES 18-1 & 18-2** for recommended brands of **ISO 32 & ISO 15 OILS**.

GRAVITY DOWN & POWER DOWN LIFTGATES

Unbolt and remove pump cover
(**FIG. 19-1**). Place empty 5 gallon
bucket under drain plug (**FIG. 19-2**).

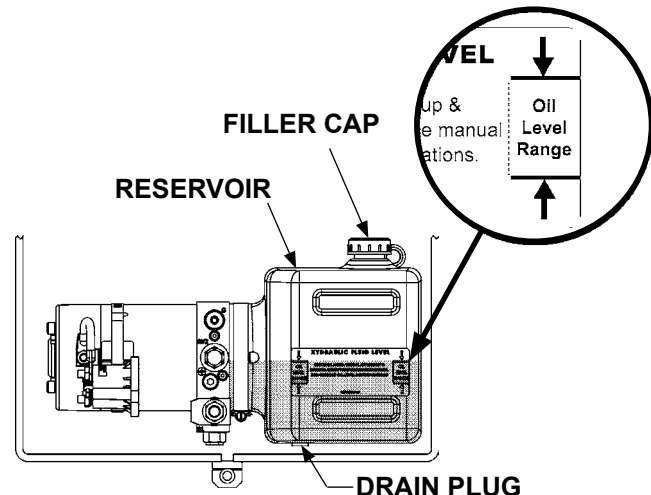


PERIODIC MAINTENANCE - Continued

CHANGING HYDRAULIC FLUID - Continued

GRAVITY DOWN LIFTGATES

1. Lower platform to ground. Remove drain plug (**FIG. 20-1**). Drain hydraulic fluid from system. Reinstall drain plug.

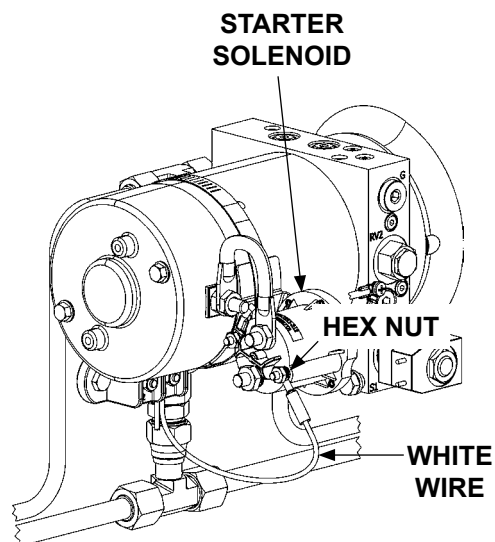


GRAVITY DOWN PUMP & MOTOR
FIG. 20-1

2. Unscrew filler cap (**FIG. 20-1**) and refill reservoir with hydraulic fluid to level shown in **FIG. 20-1**. Reinstall filler cap (**FIG. 20-1**).
3. Stow the Lift and do the **CHECKING HYDRAULIC FLUID** procedure in this section of the manual.

POWER DOWN LIFTGATES

1. Open and raise platform to vehicle bed height. Remove drain plug (**FIG. 20-1**). Drain hydraulic fluid.
2. Disconnect the white wire (**FIG. 20-2**) from starter solenoid. Lower the platform while draining the remaining hydraulic fluid from system. Reinstall drain plug. Reconnect the white wire to starter solenoid.
3. Remove filler cap (**FIG. 20-1**) and refill reservoir with hydraulic fluid to level shown in **FIG. 20-1**. Reinstall filler cap (**FIG. 20-1**).



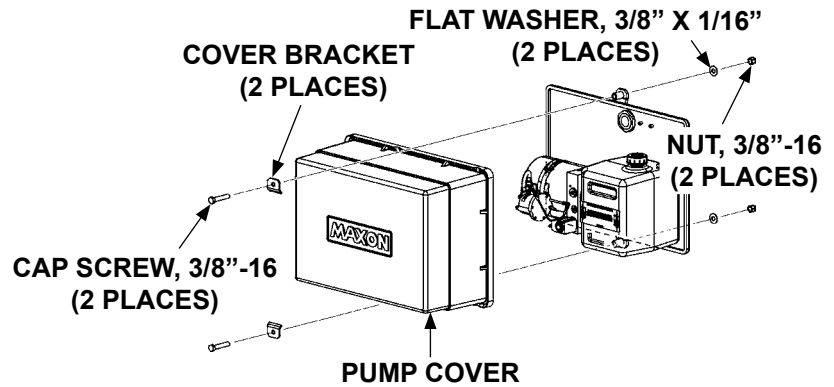
POWER DOWN PUMP
FIG. 20-2

4. Stow the Lift and do the **CHECKING HYDRAULIC FLUID** procedure in this section of the manual.

CAUTION

Pump cover must be correctly secured to prevent it from becoming a hazard. To secure pump cover, the long side of the holder flats must butt against pump cover as shown in the illustration.

Bolt on the pump cover as shown in **FIG. 21-1**. Apply anti-seize to threads of fasteners.



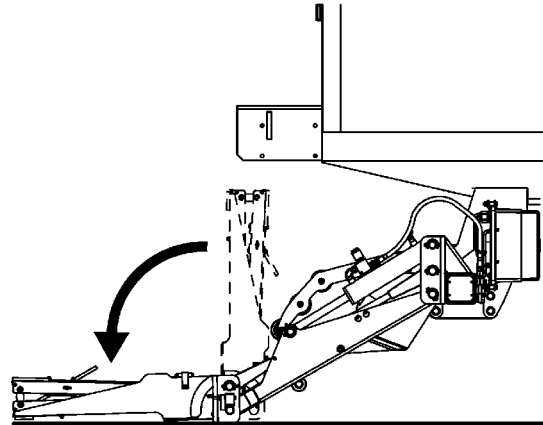
BOLTING PUMP COVER
FIG. 21-1

PERIODIC MAINTENANCE - Continued

PLATFORM TORSION SPRING ADJUSTMENT

NOTE: Perform the following adjustment if platform feels heavy as you start to fold it for stowing. If adjusted as follows, the torsion springs will reduce the amount of effort you need to start folding the platform.

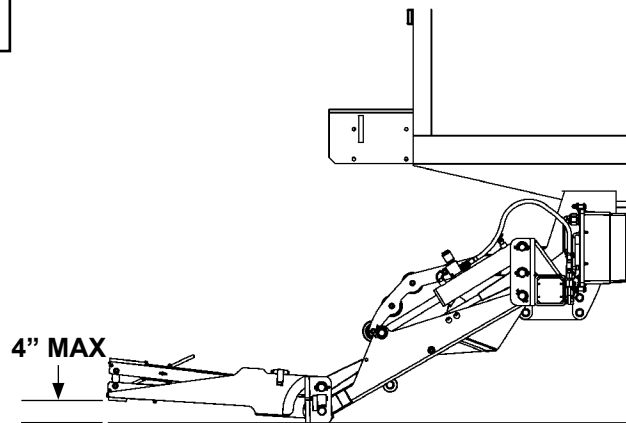
1. Make sure vehicle is parked on level ground. **LOWER** the Liftgate to the ground and unfold platform only (**FIG. 22-1**).



UNFOLDING PLATFORM
FIG. 22-1

NOTE: A properly adjusted platform will stay in position with the bottom 4" or less above the ground while flipover is being folded. If distance is more than 4", and platform can be folded and unfolded with ease, the greater distance is allowed and no adjustment is necessary. Acceptable force to fold the platform is 40 lb maximum.

2. Measure the distance between the bottom block of the platform and the ground (**FIG. 22-2**).

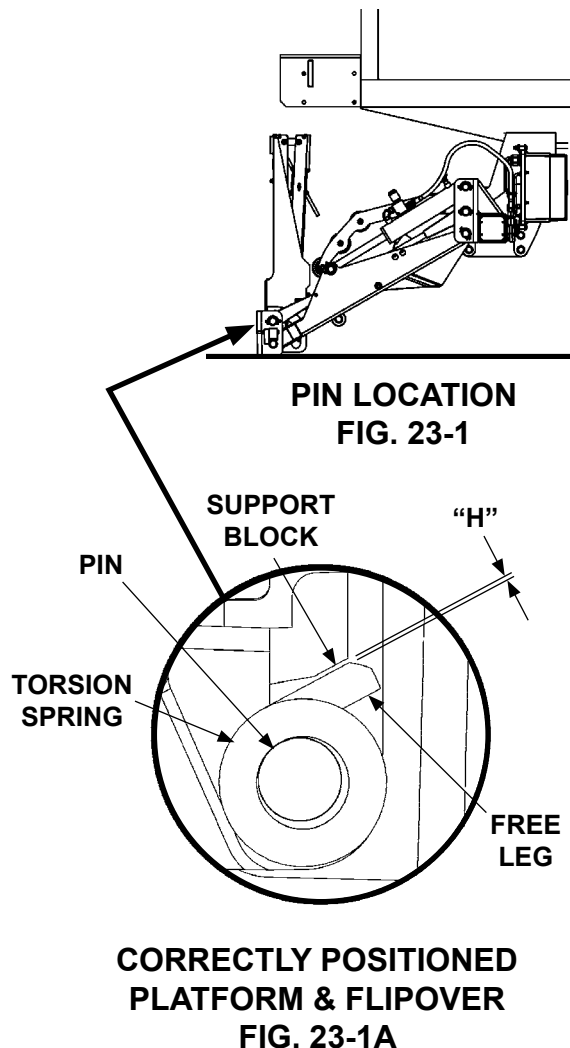


PLATFORM 4" MAX ABOVE GROUND
FIG. 22-2

⚠ WARNING

To prevent possible injury and damage to Liftgate, have another qualified person hold platform in position to keep it from falling open.

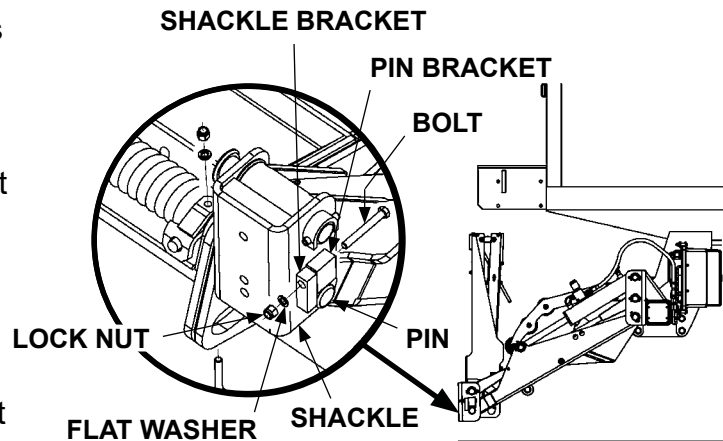
3. Position platform and flipover to 90 degrees, +2 / -0 degrees (**FIG. 23-1**). Get a second person to hold the platform in place while you take measurements.
4. On RH side of platform, position the torsion spring so it rests on pin (**FIGS. 23-1 and 23-1A**). Make sure free leg of torsion spring is parallel to chamfered surface on support block (**FIG. 23-1A**). Measure gap "H" between leg of the torsion spring and support block (**FIG. 23-1A**). Get enough 1/16" shim washers (Kit items), to equal measured gap.



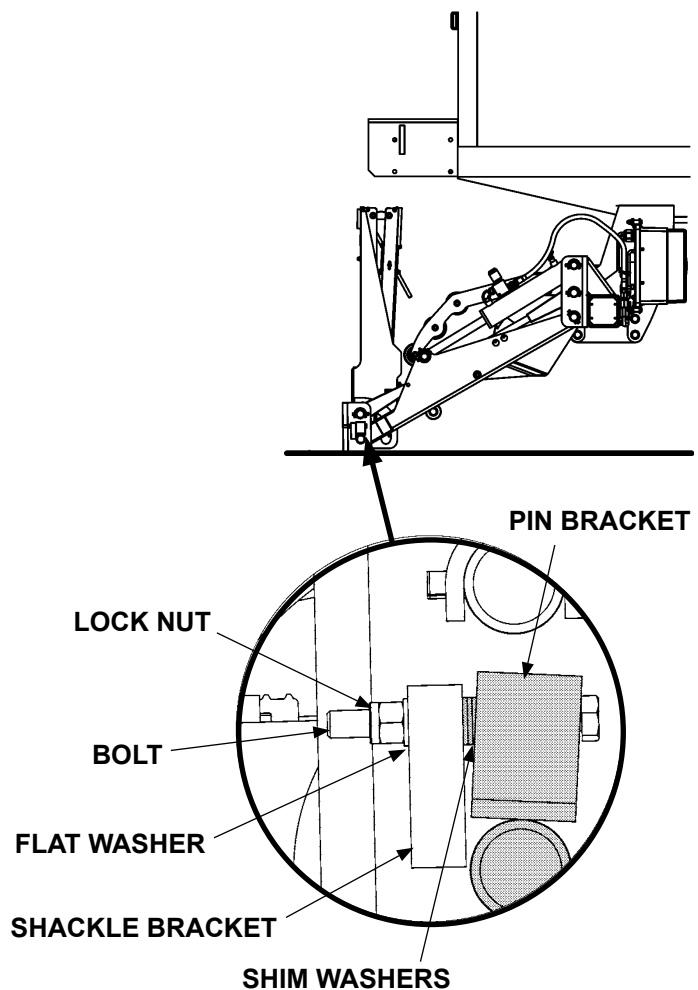
PERIODIC MAINTENANCE - Continued

PLATFORM TORSION SPRING ADJUSTMENT - Continued

5. If necessary, adjust the torsion springs to lower the platform to 4" or less above the ground. Unbolt pin bracket (FIG. 24-1). Then, rotate the pin bracket away from the shackle bracket until the free leg of the torsion spring makes contact with the new block welded to the platform support. Then, using shim washers that equal the gap "H" measured in step 14, insert the shim washers between pin bracket and shackle bracket (FIGS. 24-1 and 24-2). Bolt shim washers in place between pin bracket and shackle bracket (FIG. 24-2). Tighten bolt and lock nut.
6. Repeat steps 2, 3, 4, and 5 for the LH torsion spring.
7. Repeat step 1 to check clearance of bottom of platform above the ground.



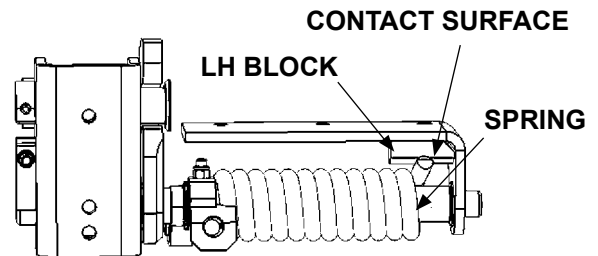
ADJUST PLATFORM
FIG. 24-1



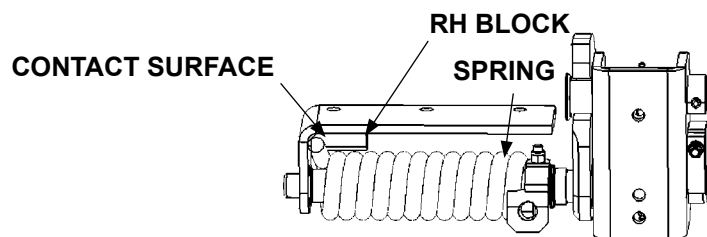
SHIMMING TORSION SPRING
FIG. 24-2

NOTE: If shimming is not possible, the spring contact surface on the new stops may be ground in small 1/16" increments to lower the platform closer to the ground.

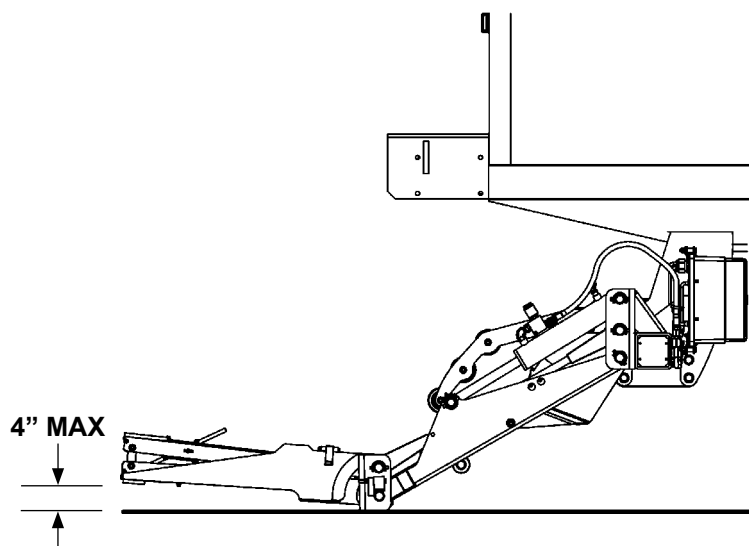
8. If shimming is not possible, grind the contact surface on the support blocks (**FIGS. 25-1 and 25-2**) in small 1/16" increments to lower the platform to 4" or less, between bottom block and the ground (**FIG. 25-3**).



GRINDING LH BLOCK
FIG. 25-1



GRINDING RH BLOCK
FIG. 25-2



PLATFORM 4" ABOVE GROUND
FIG. 25-3

PERIODIC MAINTENANCE - Continued

PLATFORM TORSION SPRING ADJUSTMENT - Continued

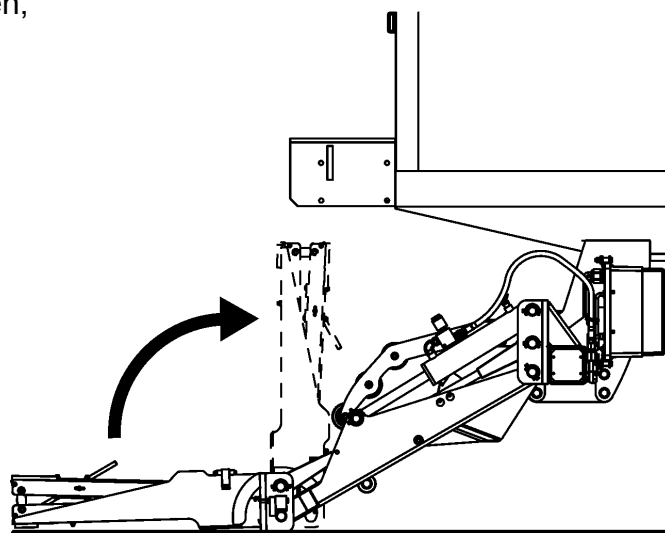
WARNING

Keep hands clear of the extension plate when folding the platform under the extension plate.

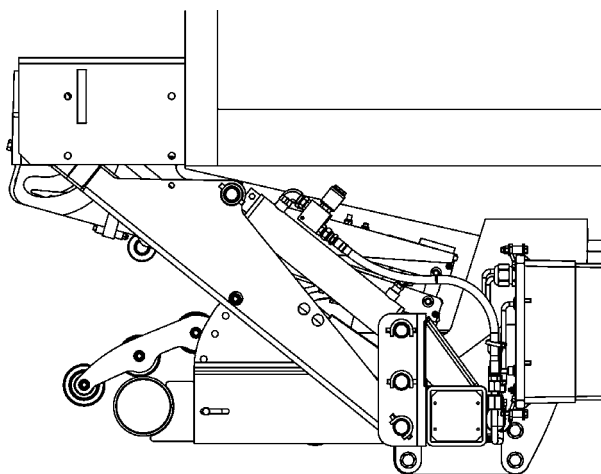
CAUTION

Stow Liftgate under hydraulic pressure.

9. Fold platform as shown in **FIG. 26-1**. Then, stow Liftgate as shown in **FIG. 26-2**. See **Operation Manual** for instructions.



FOLDING PLATFORM
FIG. 26-1



LIFTGATE STOWED
FIG. 26-2

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. Fold flipover onto platform.
2. Fold platform.
3. Raise platform to a convenient work height to gain access and release tension on the torsion spring.

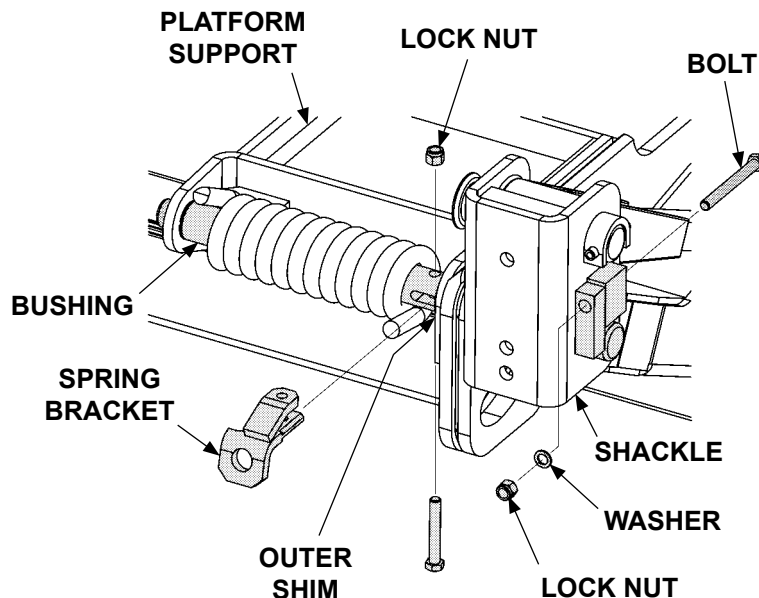


FIG. 27-1

CAUTION

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

4. Unbolt hinge pin from shackle and spring bracket (FIG. 27-1). Remove bolts, washers, and lock nuts. Drive the hinge pin out board toward the shackle just enough to free the torsion spring and bushing (FIG. 27-2). Remove the torsion spring.

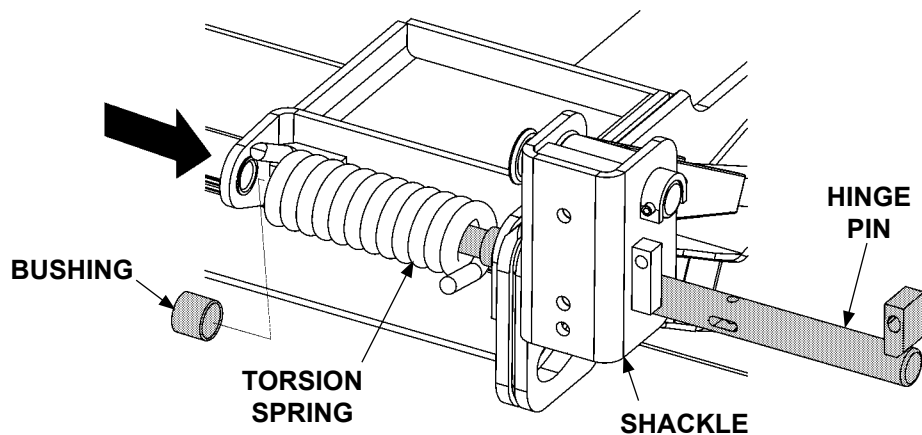


FIG. 27-2

PERIODIC MAINTENANCE - Continued

REPLACING PLATFORM TORSION SPRING - Continued

5. Install the new torsion spring and bushing as shown in **FIG. 28-1**. Make sure non-chamfered leg of the spring is inserted in the spring bracket (**FIG. 28-1**). Make sure chamfered leg of the spring is visible and resting against the platform support (**FIG. 28-1**).

6. Drive the hinge pin into correct position through the platform support as shown in **FIG. 28-1**. Line up the bolt hole in the hinge pin with the hole in the shackle and spring bracket. Bolt the hinge pin to platform support and spring bracket with bolts, washers, lock nuts (**FIG. 28-1**). Torque the 3/8"-16 spring pin bolt and 3/8"-16 spring bracket bolt **35 to 52 lb-ft**.

7. Do the **PLATFORM TORSION SPRING ADJUSTMENT** in this manual.

8. Operate the Liftgate according to instructions in **Operation Manual** to make sure it operates correctly.

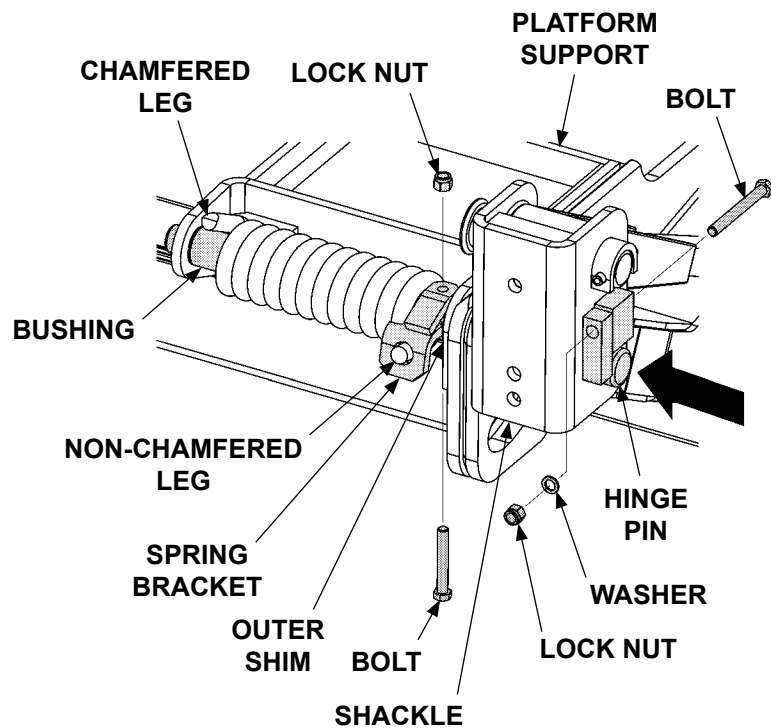


FIG. 28-1

DECALS

NOTE: Ensure there is no residue, dirt or corrosion where decals are attached. If necessary, clean surface before attaching decals.

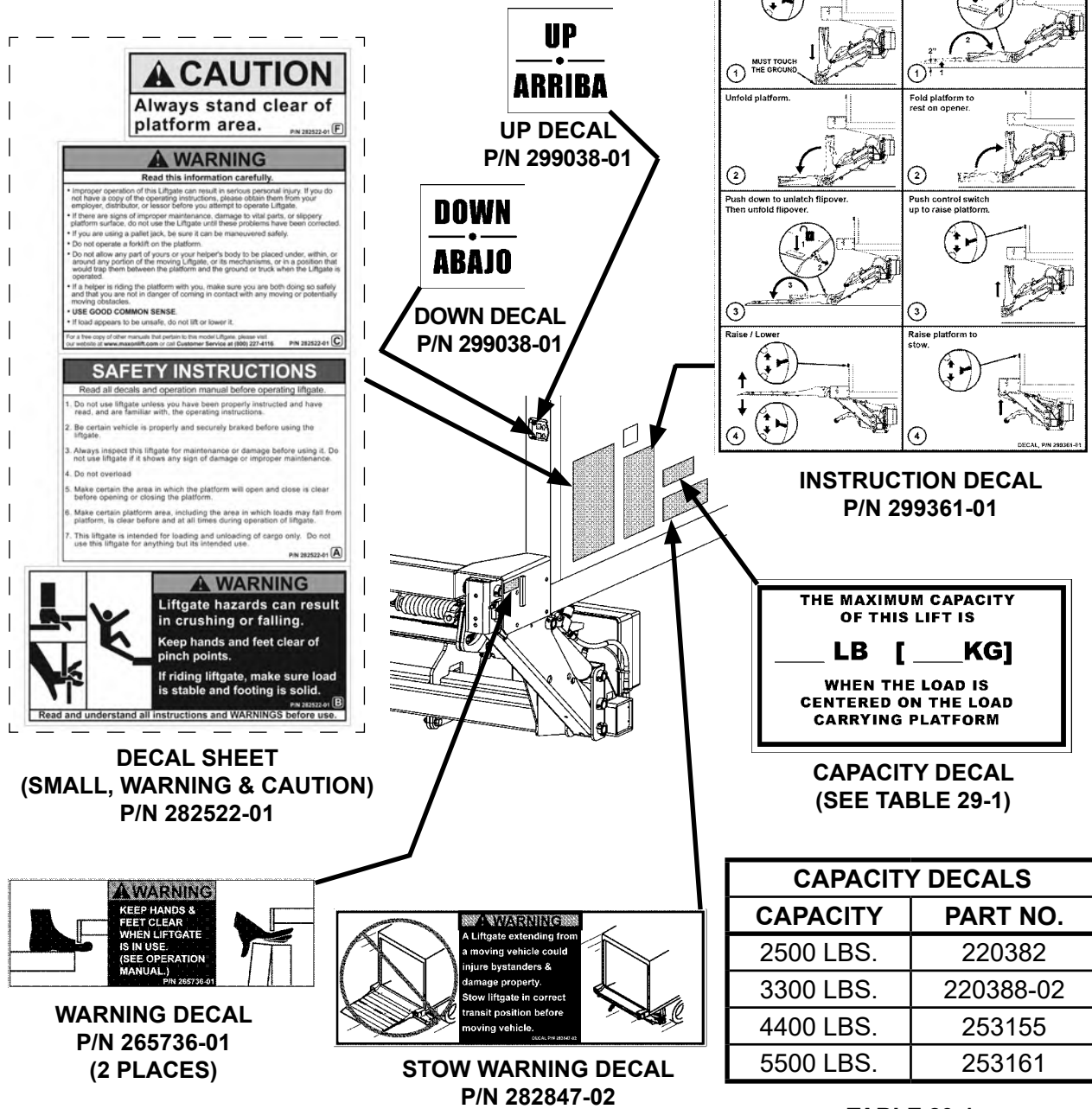


FIG. 29-1

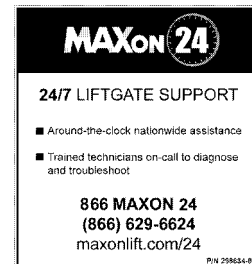
DECALS & PLATES

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WARNING DECAL
P/N 265736-03



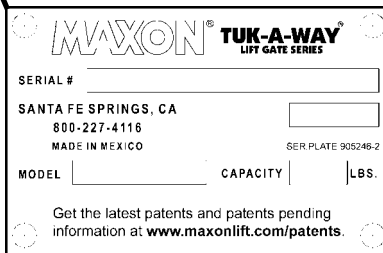
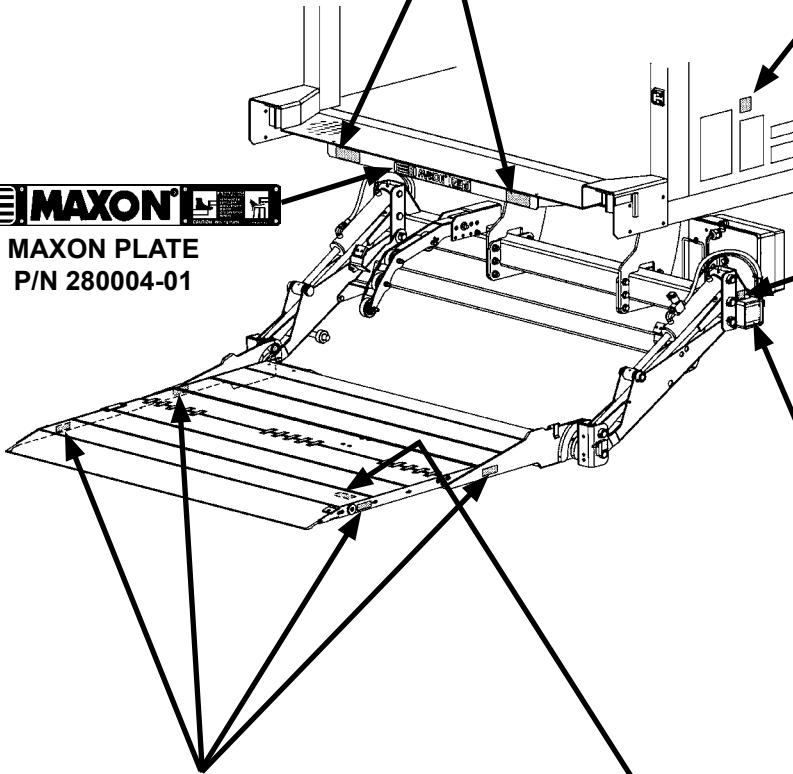
**MAXON 24/7
SUPPORT DECAL**
P/N 298634-01



MAXON PLATE
P/N 280004-01



**PARTS QR CODE
DECAL**
P/N 299348-08



SERIAL PLATE (REF)



WARNING DECAL
P/N 265736-02



**CAUTION DECAL
(FLIPOVER EQUIPPED WITH LATCH ONLY)**
P/N 267694-01

NOTE: MAXON 24/7 LIFTGATE SUPPORT service is only available in the Continental U.S.

FIG. 30-1

NONSKID & SAFETY STRIPING

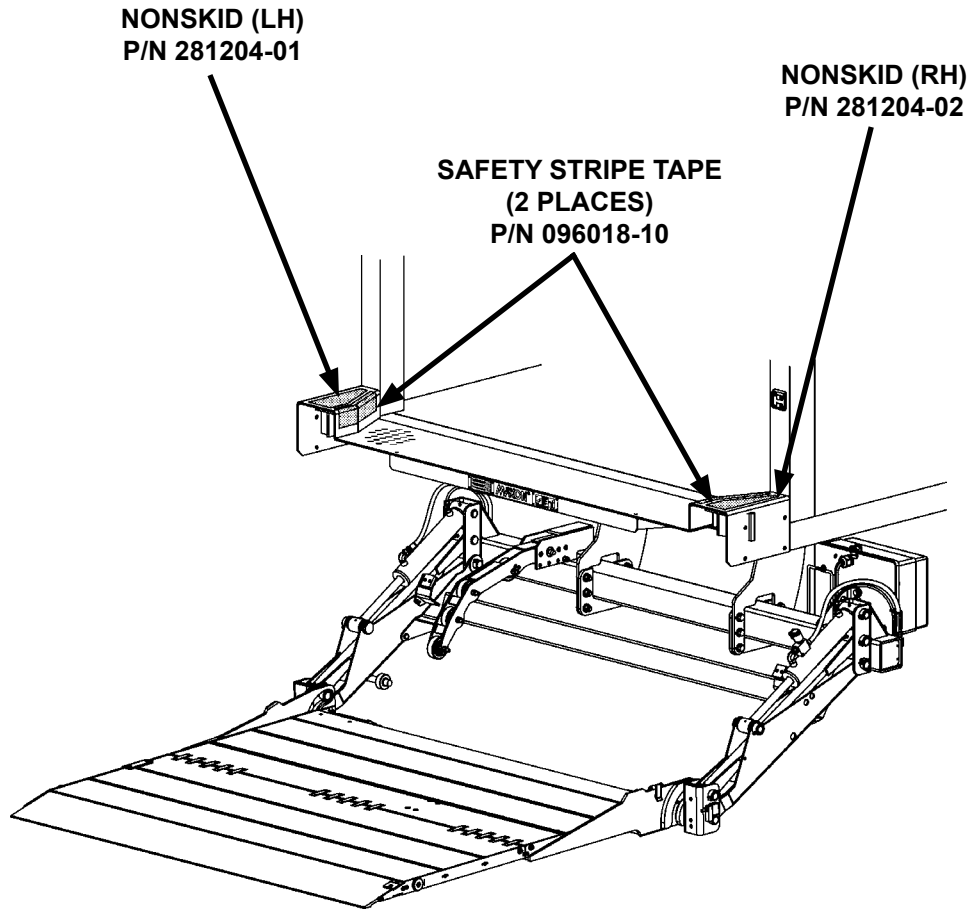
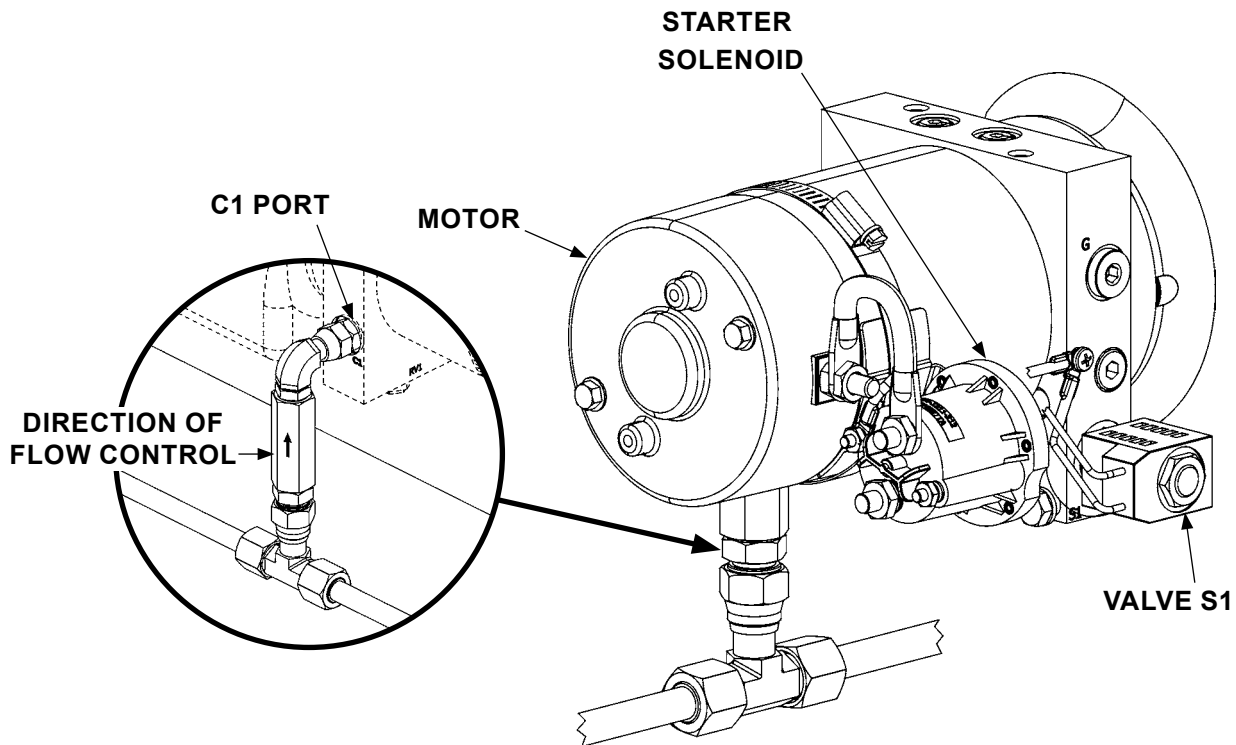


FIG. 31-1

SYSTEM DIAGRAMS

PUMP & MOTOR SOLENOID OPERATION (GRAVITY DOWN)



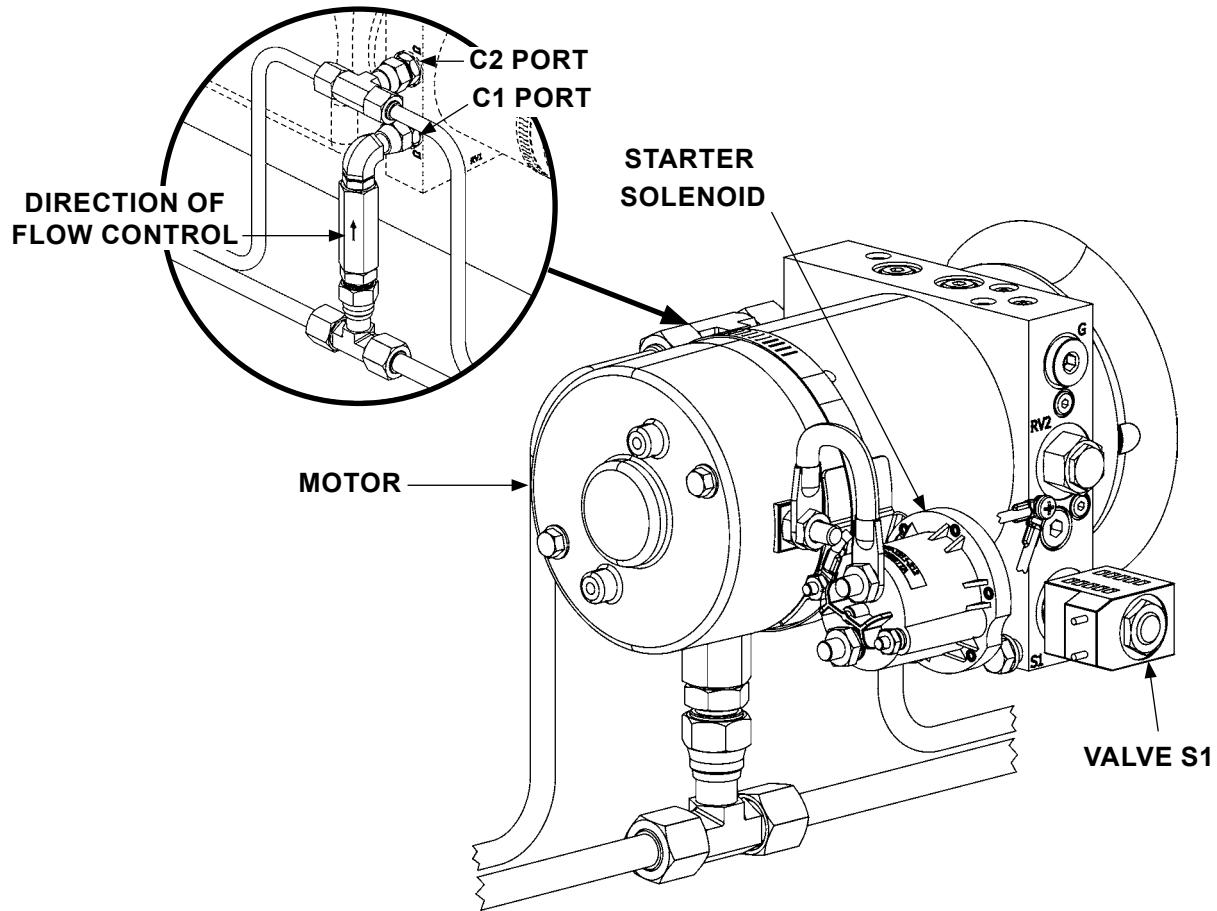
GRAVITY DOWN POWER UNIT
FIG. 32-1

POWER UNIT MOTOR & SOLENOID OPERATION				
LIFTGATE FUNCTION	PORT	SOLENOID OPERATION (✓ MEANS ENERGIZED)		
		MOTOR	VALVE S1	LOCK VALVE*
RAISE	C1	✓		
LOWER			✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC				

* Lock valve located on RH hydraulic cylinder.

TABLE 32-1

PUMP & MOTOR SOLENOID OPERATION (POWER DOWN)



POWER DOWN POWER UNIT
FIG. 33-1

POWER UNIT MOTOR & SOLENOID OPERATION					
LIFTGATE FUNCTION	PORT	SOLENOID OPERATION (✓ MEANS ENERGIZED)			
		MOTOR	VALVE S1	LH LOCK VALVE*	RH LOCK VALVE*
RAISE	C1	✓		✓	✓
LOWER	C2	✓	✓	✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC					

* Lock valves located on hydraulic cylinders.

TABLE 33-1

SYSTEM DIAGRAMS-Continued

HYDRAULIC SCHEMATIC (GRAVITY DOWN)

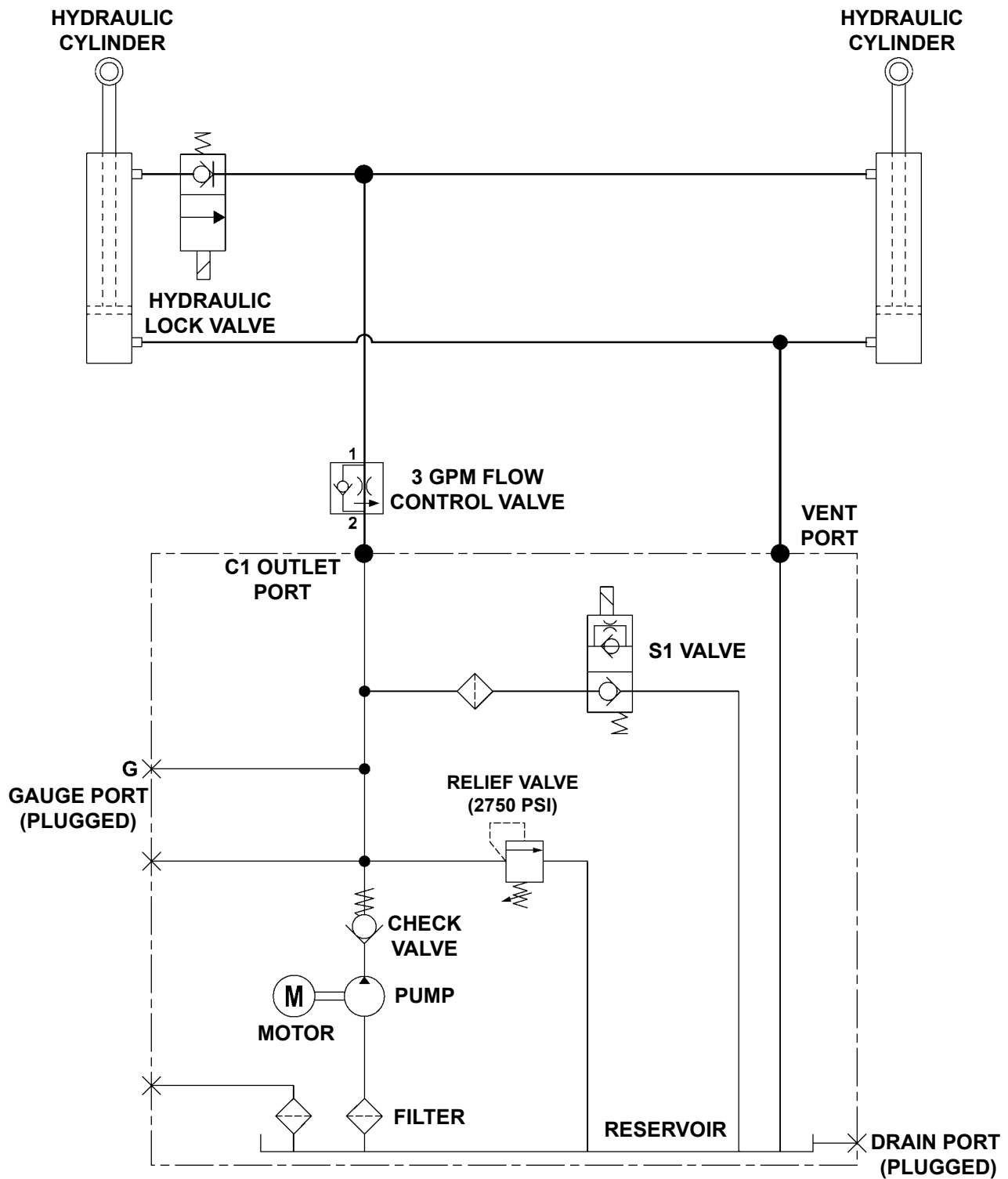


FIG. 34-1

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HYDRAULIC SCHEMATIC (POWER DOWN)

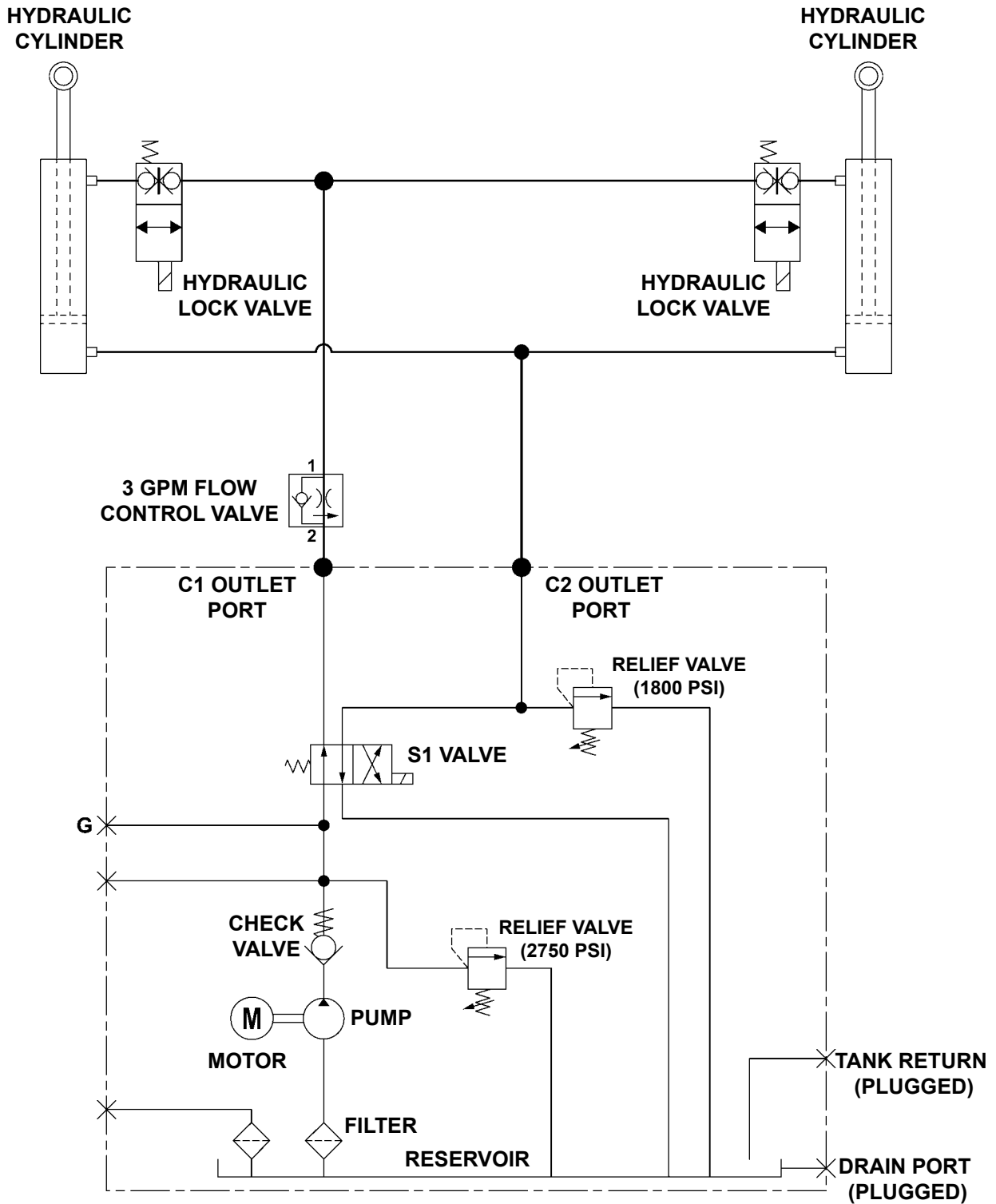


FIG. 35-1

SYSTEM DIAGRAMS - Continued **ELECTRICAL SCHEMATIC (GRAVITY DOWN)**

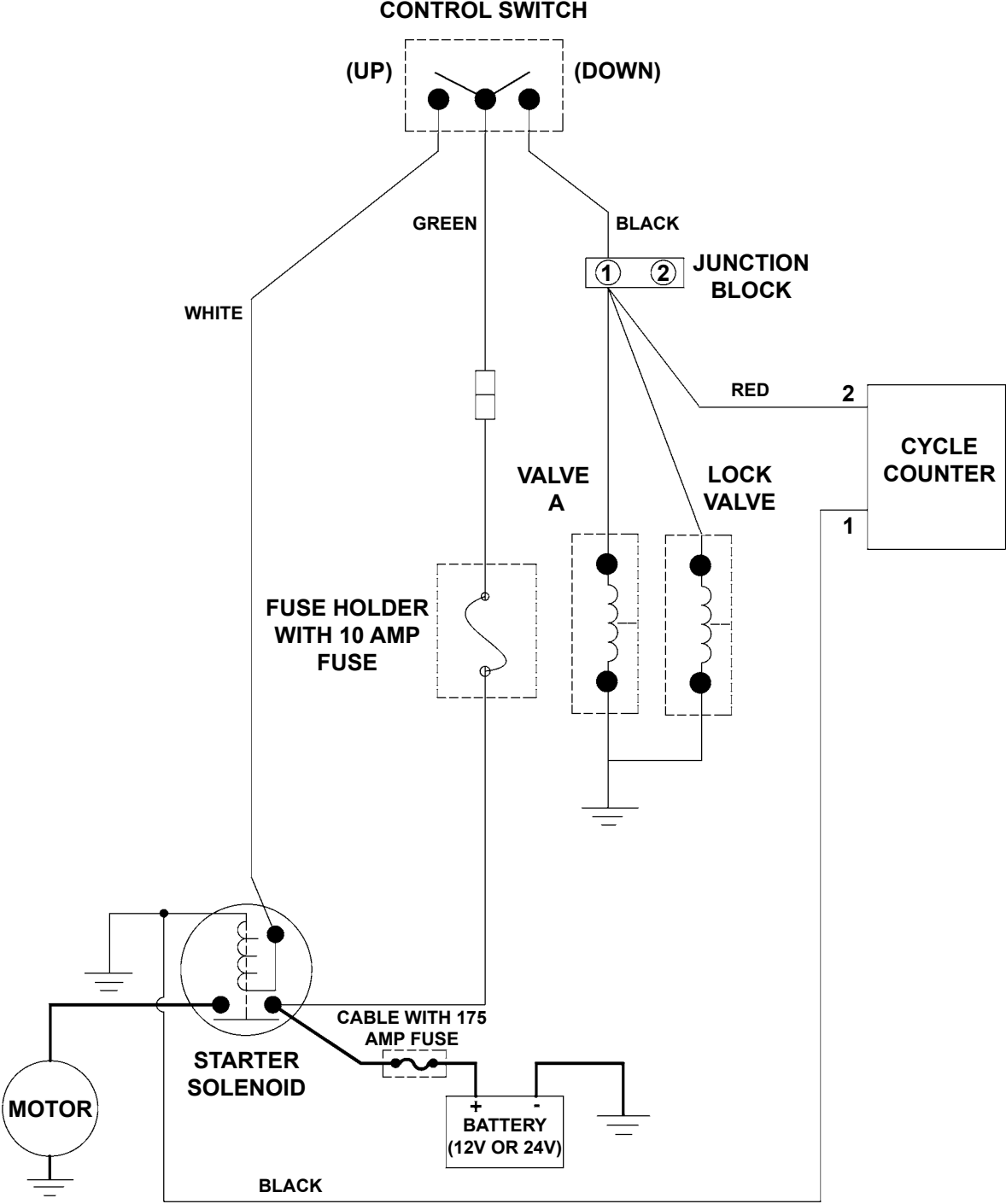


FIG. 36-1

ELECTRICAL SCHEMATIC (POWER DOWN)

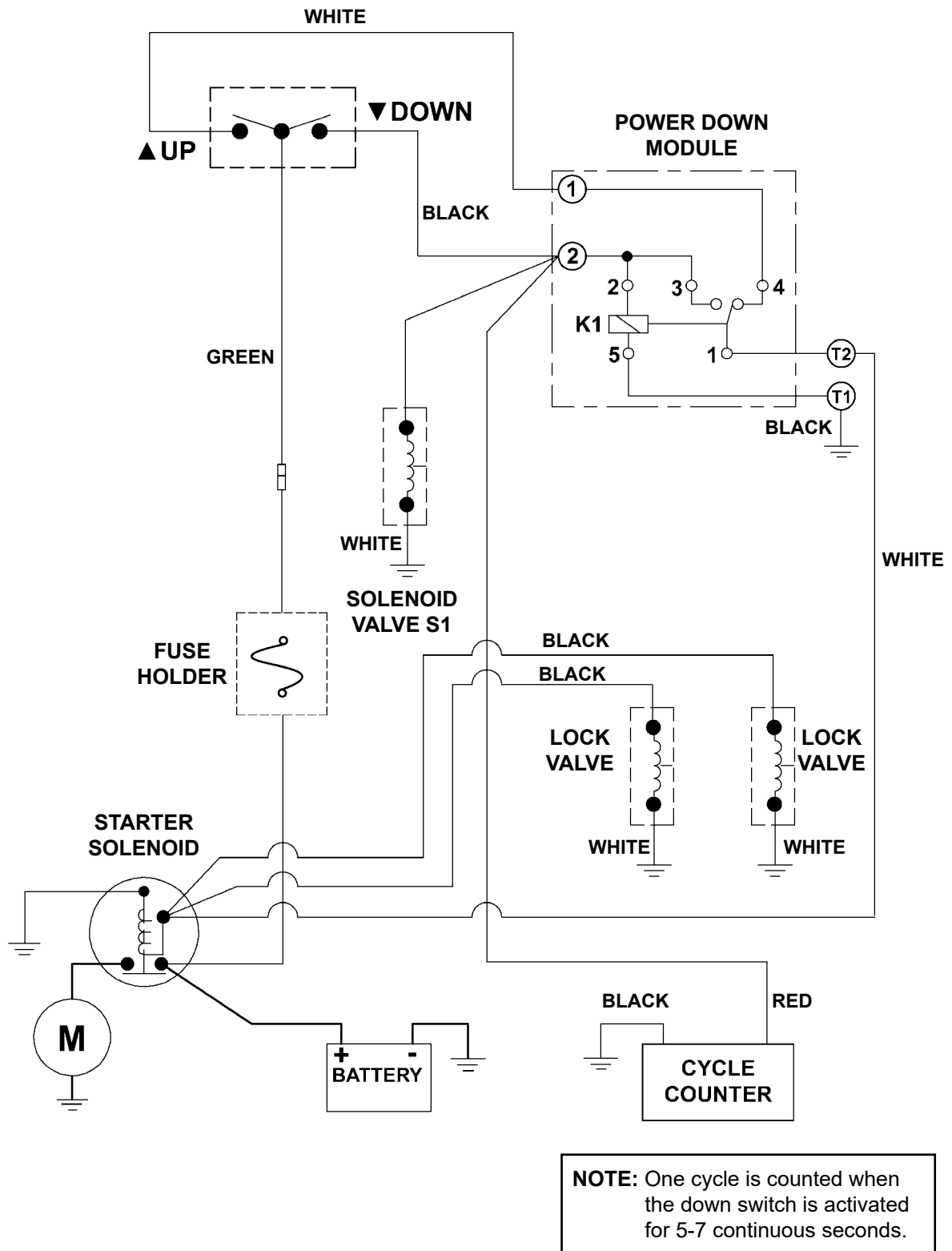


FIG. 37-1

SYSTEM DIAGRAMS-Continued

GPTLR ELECTRICAL VALUES & TORQUE SPECIFICATIONS

Solenoid Switch	12V	24V
Coil resistance:	5.4Ω @70°F. ±15%	20.1Ω @70°F. ±15%
Ampere:	2.2A	1.2A
Coil terminal torque: 10-15 lb-in max.		
Contact terminal torque: 30-35 lb-in max.		
Solenoid Valves (A, S1, & S2)		
Coil resistance:	4Ω @ 70°F. ±15%	26.7Ω @ 70°F. ±15%
Ampere:	3A @ 12V (2.5A @10V)	.9A
Coil terminal torque: 15-45 lb-in max.		
Valve cartridge torque: 25-30 lb-ft max.		
Coil nut torque: 15-45 lb-in		
Solenoid Lock Valve		
Coil resistance:	8Ω @ 70°F. ±15%	30Ω @ 70°F. ±15%
Ampere:	1.5A	0.8A
Coil nut torque: 3-4.5 lb-ft max.		
Valve cartridge torque: 18.5-22 lb-ft max.		
Digital Cycle Counter		
Input voltage	4V - 30V	4V - 30V
Ampere	<2mA	
Ground Cable		
Cap screw torque: 24 lb-ft max.		

TABLE 38-1

BOLT TORQUES

CAUTION

The torque values in the following table are provided for torquing grade 8 bolts on Liftgate mechanical parts. To prevent damage, never use the information in this table for torquing electrical or hydraulic hose connections on the pump assembly.

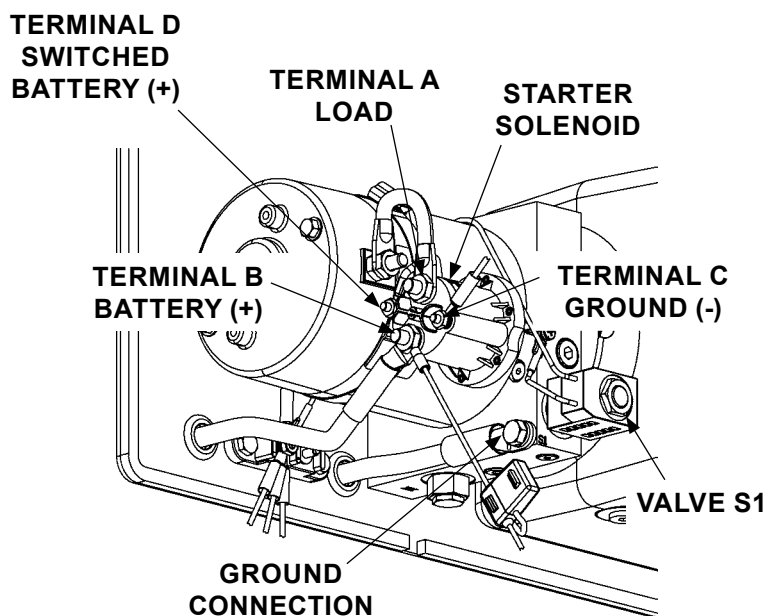
GRADE 8 BOLT TIGHTENING TORQUE	
DIAMETER & THREAD PITCH	TORQUE
1/4"-20	10-14 LB-FT
1/4"-28	11-16 LB-FT
5/16"-18	20-29 LB-FT
5/16"-24	22-33 LB-FT
3/8"-16	35-52 LB-FT
3/8"-24	40-59 LB-FT
7/16"-14	56-84 LB-FT
7/16"-20	62-93 LB-FT
1/2"-13	85-128 LB-FT
1/2"-20	96-144 LB-FT
9/16"-12	123-184 LB-FT
9/16"-18	137-206 LB-FT
5/8"-11	170-254 LB-FT
5/8"-18	192-288 LB-FT
3/4"-10	301-451 LB-FT
3/4"-18	336-504 LB-FT

TABLE 39-1

TROUBLESHOOTING

MOTOR WILL NOT RUN

1. Connect voltmeter between starter solenoid terminal **B** and ground connection on pump (**FIG. 40-1**). Verify that full battery voltage is at **B**. Recharge the batteries if voltmeter indicates less than 12.6 volts DC, or 25.2 volts DC for a 24 volt system.



GRAVITY DOWN POWER UNIT
FIG. 40-1

2. Touch a jumper wire to terminals **B & D** (**FIG. 40-1**). If motor runs, check control switch, the switch connections, and white wire. Check and correct wiring connections or replace the control switch.
3. Touch heavy jumper cables to terminals **A & B** (**FIG. 40-1**).
 - a. If motor runs, replace the starter solenoid.
 - b. If motor does not run, repair or replace the pump motor.

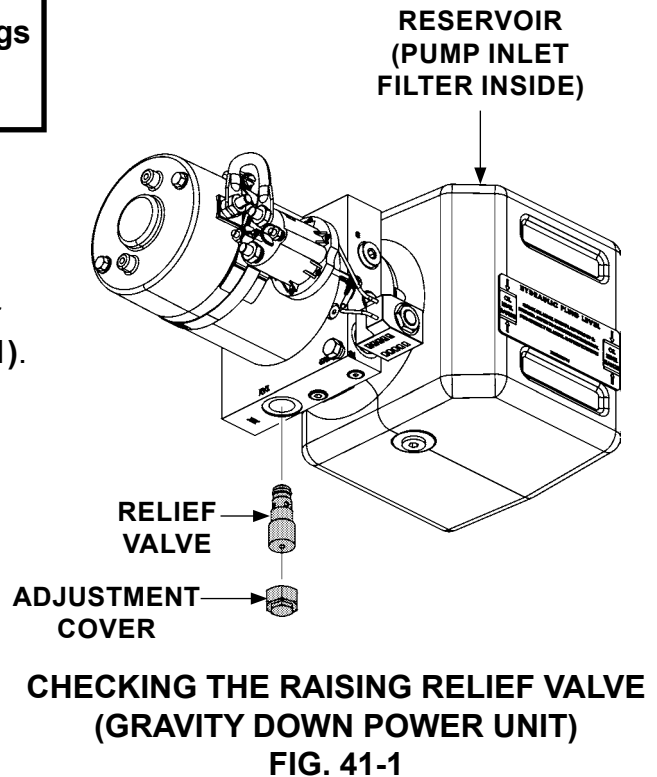
PLATFORM WILL NOT RAISE, BUT MOTOR RUNS

1. Do the **CHECKING HYDRAULIC FLUID** procedure in this manual. If necessary, add hydraulic fluid.
2. Check for structural damage and 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.

3. Check pump inlet filter in the reservoir (**FIGS. 41-1**). Clean or replace filter, if necessary.
4. Check if pump relief valve is dirty. Clean or replace relief valve, if necessary (**FIG. 41-1**).

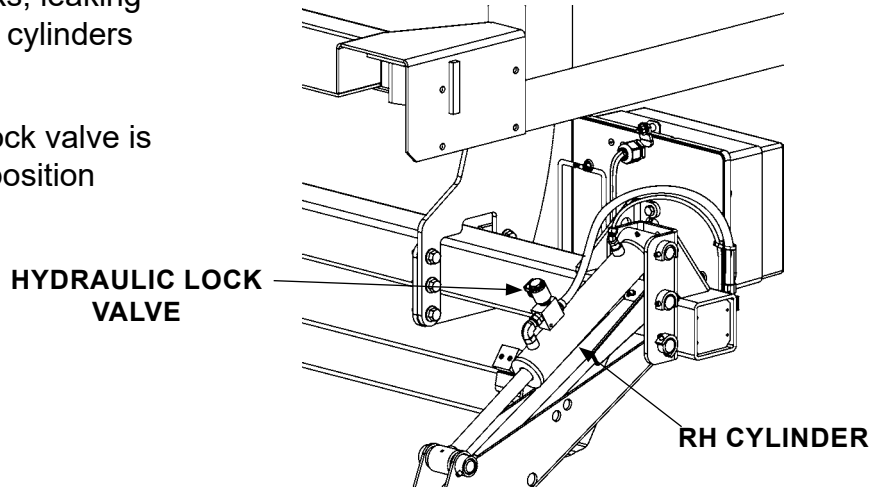


5. After replacing or reinstalling the pump relief valve, reset the valve to 2750 psi. See **Relief Valve Pressure Adjustment** in this manual.

TROUBLESHOOTING - Continued

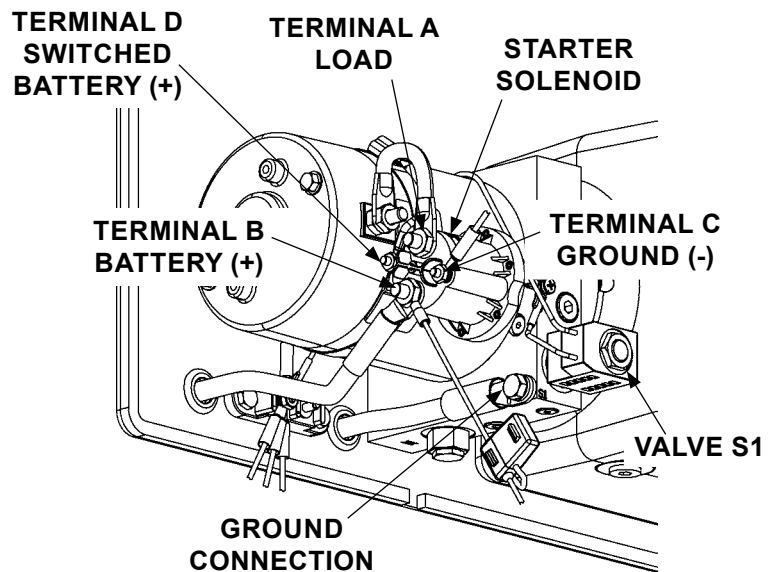
PLATFORM RAISES BUT LEAKS DOWN

1. Check for external leaks, leaking lines and fittings at the cylinders and pump assembly.
2. Check that hydraulic lock valve is not stuck in the open position (**FIG. 42-1**).



CHECKING HYDRAULIC LOCK VALVE
FIG. 42-1

3. Check if solenoid valve is constantly energized. Connect voltmeter negative (-) lead to ground (-) connection on pump and positive (+) lead to (+) terminal on valve A (**FIG. 42-2**). If voltmeter reads battery voltage, check for faulty wiring or toggle switch.



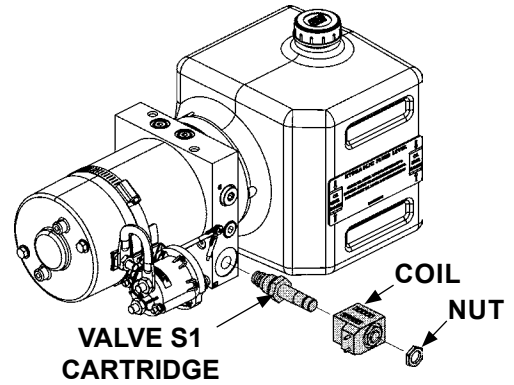
GRAVITY DOWN POWER UNIT
FIG. 42-2

CAUTION

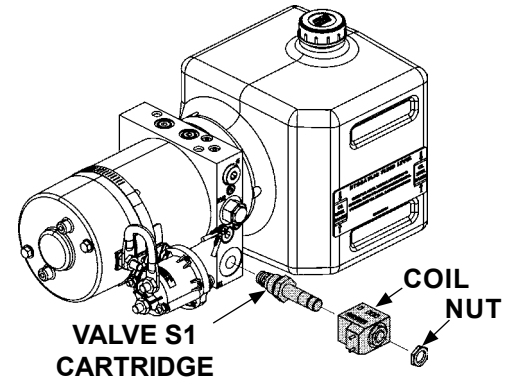
Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

4. Make sure platform is on the ground. Remove cartridge for solenoid valve S1 (**FIGS. 43-1 and 43-2**). Push on the plunger in the valve by inserting small screwdriver in the open end (**FIG. 43-3**). If the plunger does not move with a smooth, spring-loaded action (approximately 1/8"), replace the valve cartridge. **Reinstall cartridge and coil for valve S1. Torque valve cartridge to 25 - 30 lb-in and coil nut to 15 - 45 lb-in.**

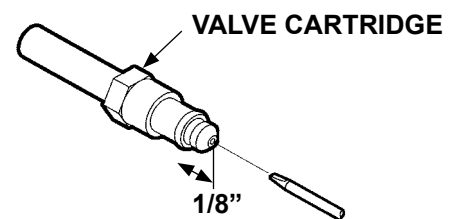
5. Check the hydraulic cylinders. With the platform at vehicle floor level, remove the line from the **LOWER** port on the cylinder (**FIG. 43-4**). Hold the control switch in the "**UP**" position for two seconds while you watch for hydraulic fluid at the **LOWER** port. A few drops of hydraulic fluid escaping the port is normal. However, if fluid streams out, piston seals are worn. Replace seals or cylinders.



**REMOVING SOLENOID VALVE
(GRAVITY DOWN POWER UNIT)**
FIG. 43-1



**REMOVING SOLENOID VALVE
(POWER DOWN POWER UNIT)**
FIG. 43-2



CHECKING SOLENOID VALVE
FIG. 43-3

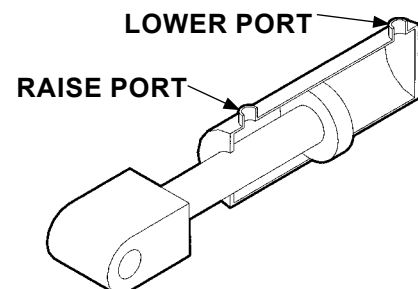
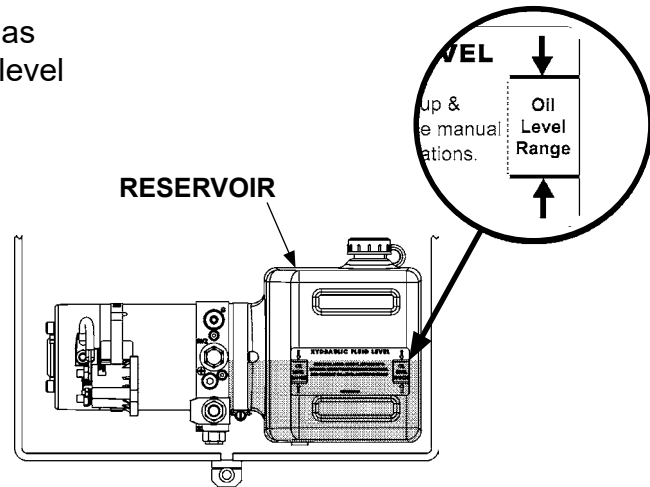


FIG. 43-4

TROUBLESHOOTING - Continued

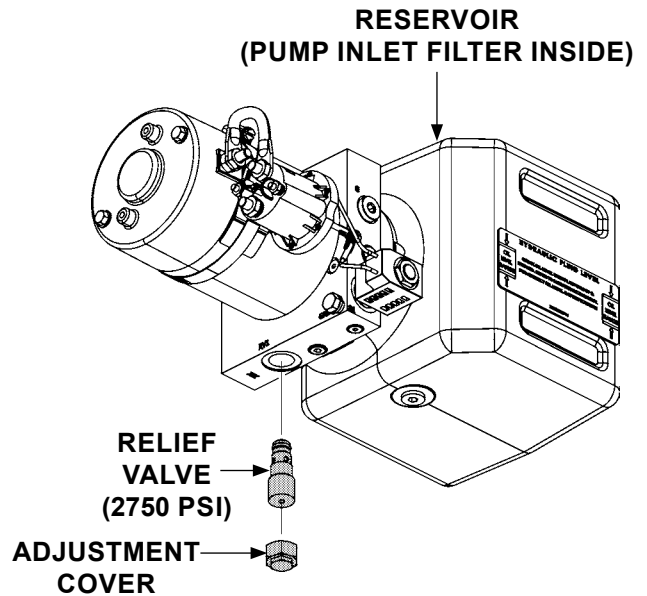
PLATFORM RAISES PARTIALLY AND STOPS

1. Lower platform to the ground. See **OPERATION MANUAL**.
2. Use voltmeter to verify the battery voltage is a minimum 10.5 volts DC, or 21 volts DC for a 24 volt system, under load from pump motor.
3. Check the hydraulic fluid level in reservoir as follows. With platform on the ground, fluid level should be as shown in **FIGS. 44-1**.



POWER UNIT FLUID LEVEL
FIG. 44-1

4. Check for structural damage and poor lubrication. Replace worn parts.
5. Check pump inlet filter in the reservoir (**FIGS. 45-1 and 45-2**). Clean or replace filter, if necessary.

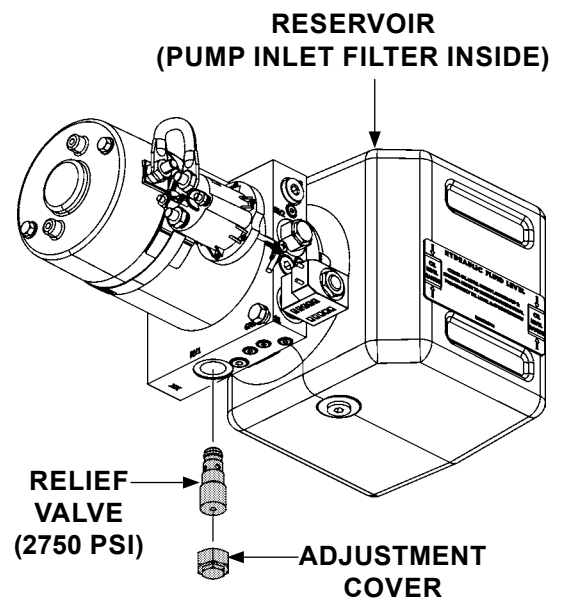


**CHECKING THE RAISING RELIEF VALVE
(GRAVITY DOWN POWER UNIT)**
FIG. 45-1

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.

6. Check for dirty relief valve (**FIGS. 45-1 and 45-2**). Clean or replace relief valve, if necessary.
7. After replacing or reinstalling the relief valve, reset the valve to factory pressure settings as shown in **FIGS. 45-1 and 45-2**. See **Relief Valve Pressure Adjustment** in this manual.



**CHECKING THE RAISING RELIEF VALVE
(POWER DOWN POWER UNIT)**
FIG. 45-2

TROUBLESHOOTING - Continued

PLATFORM RAISES PARTIALLY AND STOPS - Continued

8. Check the hydraulic cylinders. With the platform at vehicle floor level, remove the hydraulic line from the **LOWER** port on the cylinder (**FIG. 46-1**). Hold the control switch in the “**UP**” position for two seconds while you watch for hydraulic fluid at the **LOWER** port. A few drops of hydraulic fluid escaping the port is normal. However, if fluid streams out, piston seals are worn. Replace seals.

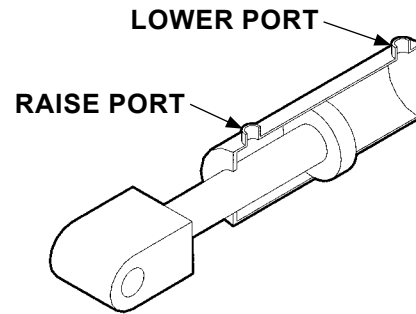


FIG. 46-1

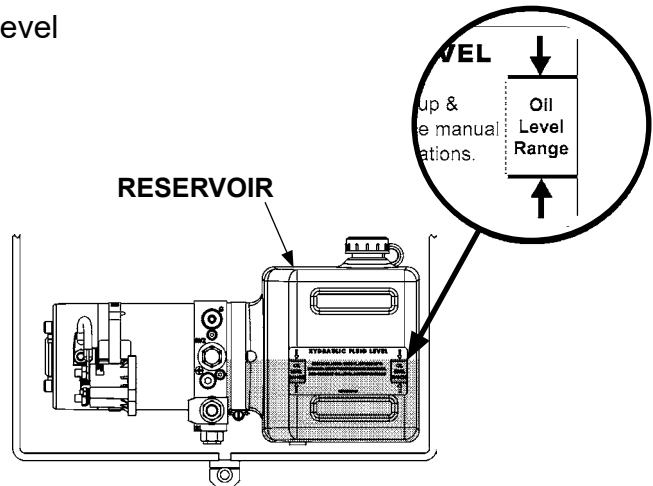
9. If pump cannot produce 2750 psi or lift the load capacity with a minimum of 12.6 volts available, or 25.2 volts DC for 24 volt system, the pump is worn and needs to be replaced.

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LIFTGATE WILL NOT LIFT RATED CAPACITY

1. Lower platform to the ground. See **OPERATION MANUAL**.
2. Use voltmeter to verify the battery voltage is a minimum 10.5 volts DC, or 21 volts DC for a 24 volt system, under load from pump motor.
3. Check the hydraulic fluid level in reservoir as follows. With platform on the ground, fluid level should be as shown in **FIGS. 47-1**.

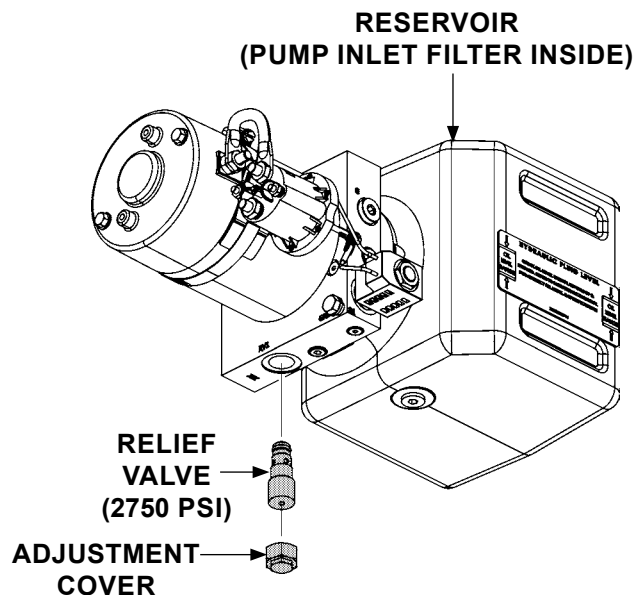


**POWER UNIT FLUID LEVEL
FIG. 47-1**

TROUBLESHOOTING - Continued

LIFTGATE WILL NOT LIFT RATED CAPACITY - Continued

4. Check for structural damage and poor lubrication. Replace worn parts.
5. Check pump inlet filter in the reservoir (FIGS. 48-1 and 48-2). Clean or replace filter, if necessary.

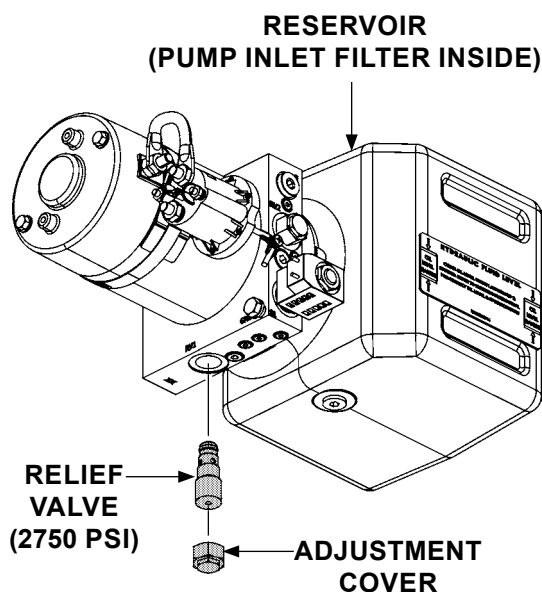


**CHECKING THE RAISING RELIEF VALVE
(GRAVITY DOWN POWER UNIT)**
FIG. 48-1

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.

6. Check for dirty relief valve (FIGS. 48-1 and 48-2). Clean or replace relief valve, if necessary.
7. After replacing or reinstalling the relief valve, reset the valve to factory pressure settings as shown in FIGS. 48-1 and 48-2. See **Relief Valve Pressure Adjustment** in this manual.



**CHECKING THE RAISING RELIEF VALVE
(POWER DOWN POWER UNIT)**
FIG. 48-2

8. Check the hydraulic cylinder. With the platform at vehicle floor level, remove the hydraulic line from the **LOWER** port on the cylinder (**FIG. 49-1**). Hold the control switch in the “**UP**” position for two seconds while you watch for hydraulic fluid at the **LOWER** port. A few drops of hydraulic fluid escaping the port is normal. However, if fluid streams out, piston seals are worn. Replace seals.

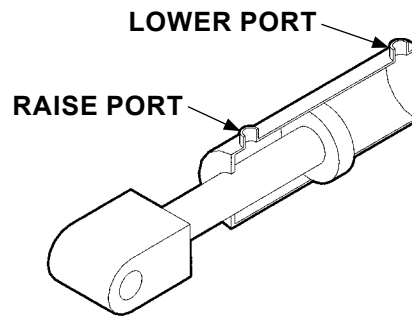


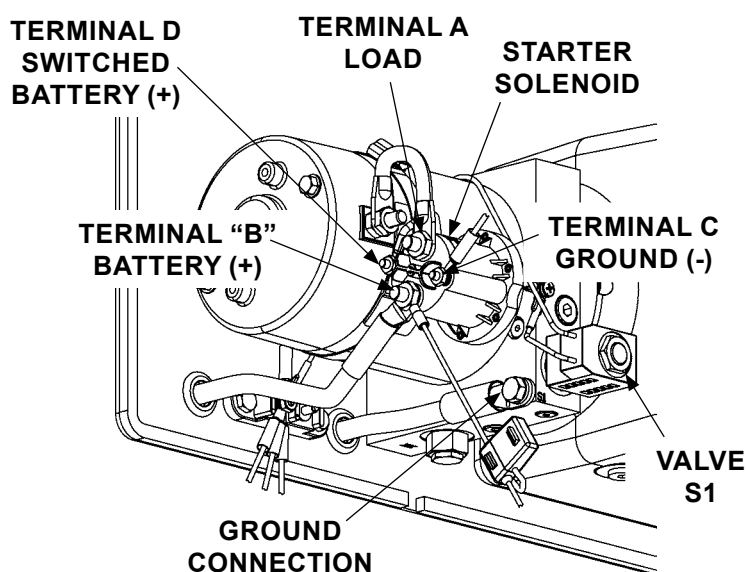
FIG. 49-1

9. If pump cannot produce 2750 psi or lift the load capacity with a minimum of 12.6 volts available, or 25.2 volts DC for 24 volt system, the pump is worn and needs to be replaced.

TROUBLESHOOTING - Continued

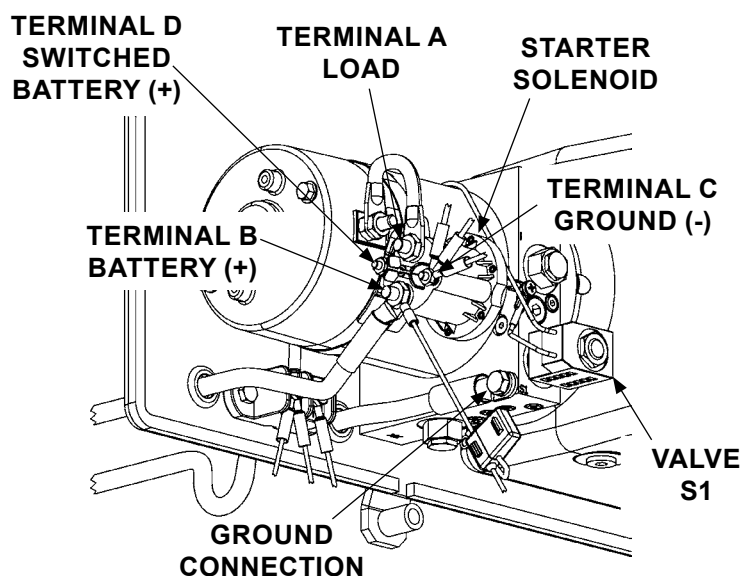
PLATFORM WILL NOT LOWER, LOWERS TOO SLOWLY, OR TOO QUICKLY

1. Connect voltmeter (+) lead to starter solenoid terminal **B** and the (-) lead to the ground wires connection on pump (**FIG. 50-1**). Verify that full battery voltage is at **B**. Recharge the battery if voltmeter indicates less than 12.6 volts DC, or 25.2 volts DC for 24 volt system.



**GRAVITY DOWN POWER UNIT
FIG. 50-1**

2. Check for structural damage or poor lubrication. Replace worn parts.
3. Check if the **D** terminal and solenoid valve **S1** are getting battery voltage (**FIG. 50-2**). Connect voltmeter negative (-) lead to ground (-) wires connection on pump and positive (+) lead to the **D** terminal (**FIG. 50-2**). Hold control switch in the "**DOWN**" position. Then, connect voltmeter (+) lead to (+) terminal on the solenoid valve **S1** (**FIG. 50-2**). If voltmeter shows a much lower reading than +12.6 volts DC, or 25.2 volts DC for 24 volt system, or a reading of 0 volts, check for faulty control switch and wiring. battery cable, ground wire connections in pump assembly, and pump motor.



**POWER DOWN POWER UNIT
FIG. 50-2**

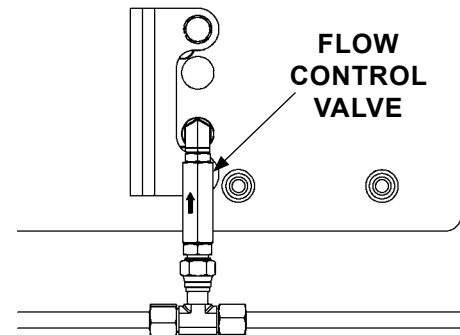
CAUTION

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.

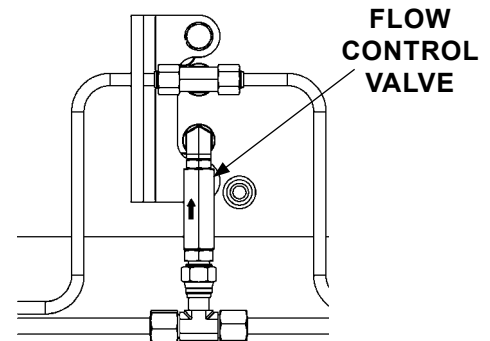
CAUTION

To prevent damage to flow control valve, do not disassemble the valve.

4. Make sure platform is on the ground. Check the flow control valve as follows. Remove flow control valve (**FIGS. 51-1 and 51-2**). Ensure the flow control valve operates with a smooth spring-loaded action. Check for debris inside the valve. Clean or replace the flow control valve, if necessary. Reinstall flow control valve (if good) or install a replacement.

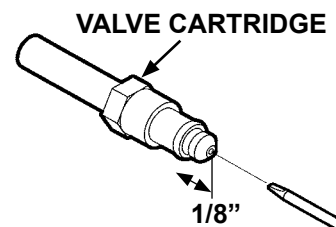


FLOW CONTROL VALVE ON BACK OF GRAVITY DOWN PUMP ASSEMBLY
FIG. 51-1



FLOW CONTROL VALVE ON BACK OF POWER DOWN PUMP ASSEMBLY
FIG. 51-2

5. Check the lowering solenoid valve as follows. Check if filtering screen is plugged. Clean carefully if required. Push on the plunger in the valve by inserting small screwdriver in the open end (**FIG. 51-3**). If the plunger does not move with a smooth, spring-loaded action (approximately 1/8"), replace the valve cartridge. **Reinstall lowering solenoid valve (if good) or install a replacement. Torque valve cartridge to 25-30 lb-ft and hex nut to 30 lb-in.**



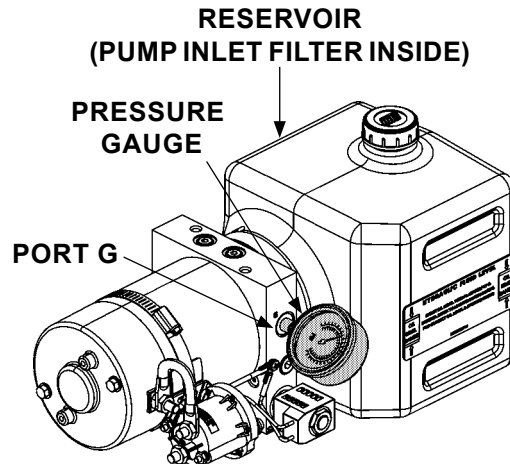
CHECKING SOLENOID VALVE
FIG. 51-3

TROUBLESHOOTING - Continued

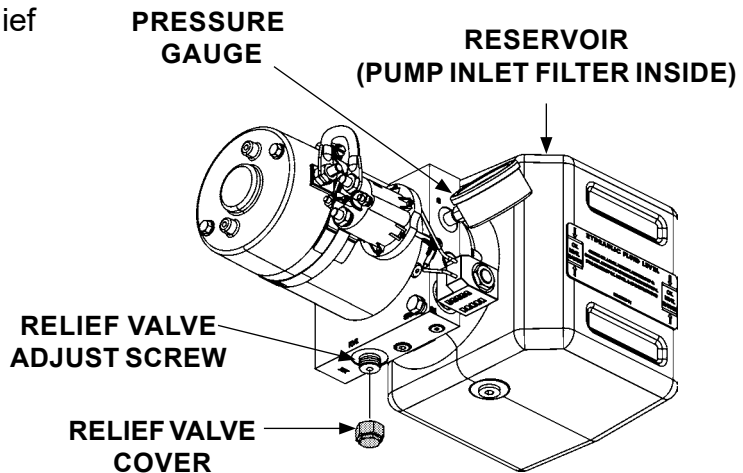
RELIEF VALVE PRESSURE ADJUSTMENT - GRAVITY DOWN

NOTE: The relief valve pressure is set at the factory; however, if a pressure check shows incorrect reading, use the following procedure to set the pressure to the correct reading.

1. Lower platform to the ground.
2. Remove plug from gauge port G (**FIG. 52-1**). Attach 0-4000 PSI pressure gauge to the gauge port (**FIG. 52-1**).
3. Remove cover for access to relief valve (**FIG. 52-2**).
4. Hold the control switch in the **UP** position. Slowly adjust the relief valve until the gauge reads 2750 PSI (**FIG. 52-2**).
5. After adjustments are complete, remove gauge (**FIG. 52-1**). Then, reinstall relief valve cover (**FIG. 52-2**).



**INSTALLING PRESSURE GAUGE
(GRAVITY DOWN POWER UNIT)
FIG. 52-1**



**ADJUSTING RAISING RELIEF VALVE
(GRAVITY DOWN POWER UNIT)
FIG. 52-2**

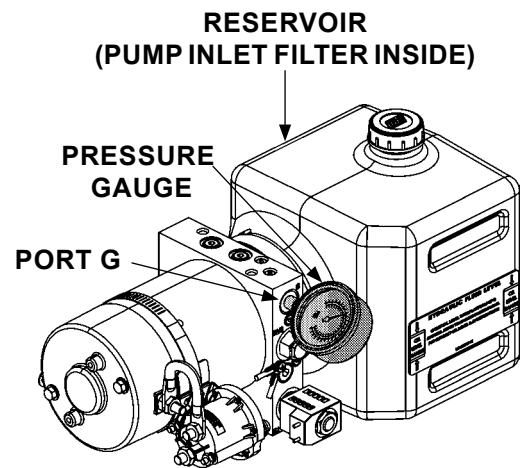
RELIEF VALVE PRESSURE ADJUSTMENT - POWER DOWN

CAUTION

Keep dirt, water and other contaminants from entering the hydraulic system. Before removing hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

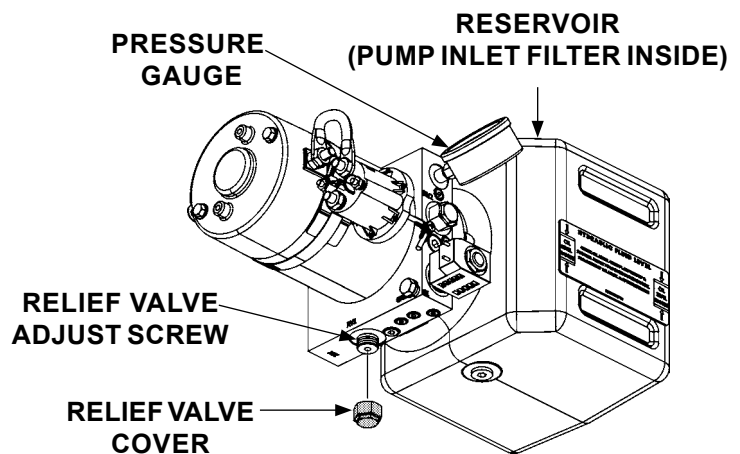
NOTE: The relief valve pressure is set at the factory; however, if a pressure check shows incorrect reading, use the following procedure to set the pressure to the correct reading.

1. Lower platform to the ground.
2. Remove plug from gauge port (**FIG. 53-1**). Attach 0-4000 PSI pressure gauge in the gauge port G (**FIG. 53-1**).
3. Remove cover for access to relief valve (**FIG. 53-2**).
4. Hold the control switch in the “UP” position. Slowly adjust the relief valve until the gauge reads 2750 PSI (**FIG. 53-2**).
5. After adjustments are complete, remove gauge (**FIG. 53-1**). Then, reinstall relief valve cover (**FIG. 53-2**).



**INSTALLING PRESSURE GAUGE
(GRAVITY DOWN POWER UNIT)**

FIG. 53-1



**ADJUSTING RAISING RELIEF VALVE
(POWER DOWN POWER UNIT)**

FIG. 53-2

TROUBLESHOOTING - Continued

CHECKING THE POWER DOWN MODULE

PLATFORM WILL NOT RAISE

1. Set control switch to **UP** position.
2. Check for battery voltage (12.6 volts DC, or 24.8 volts DC for a 24 volt system) on white wire (+) connected to Power Down Module terminal #1. If no voltage, check supply voltage to control switch.
3. Check and verify valve S1 is energized.
4. Check for battery voltage (12.6 volts DC, or 24.8 volts DC for a 24 volt system) on white wire (+) connected to solenoid switch coil positive terminal. If no voltage, check wire connection to solenoid. If connection is good, replace Power Down Module.

POWER DOWN NOT FUNCTIONING, GRAVITY DOWN ONLY, PLATFORM NOT LOWERING, OR LOWERING TOO SLOWLY

1. Set control switch to **DOWN** position.
2. Check for battery voltage on black wire (+) (12.6 volts DC, or 24.8 volts DC for a 24 volt system) connected to the Power Down Module terminal #2. If no voltage, check supply voltage to control switch.
3. Check and verify valve S2 and lock valve are energized.
4. Check for battery voltage on white wire (+) (12.6 volts DC, or 24.8 volts DC for a 24 volt system) connected to solenoid switch coil positive terminal. If no voltage, check and verify Power Down Module black wire (-) ground connection. Verify solenoid switch black ground wire (-) is secure. If connections are good, replace Power Down Module.

