

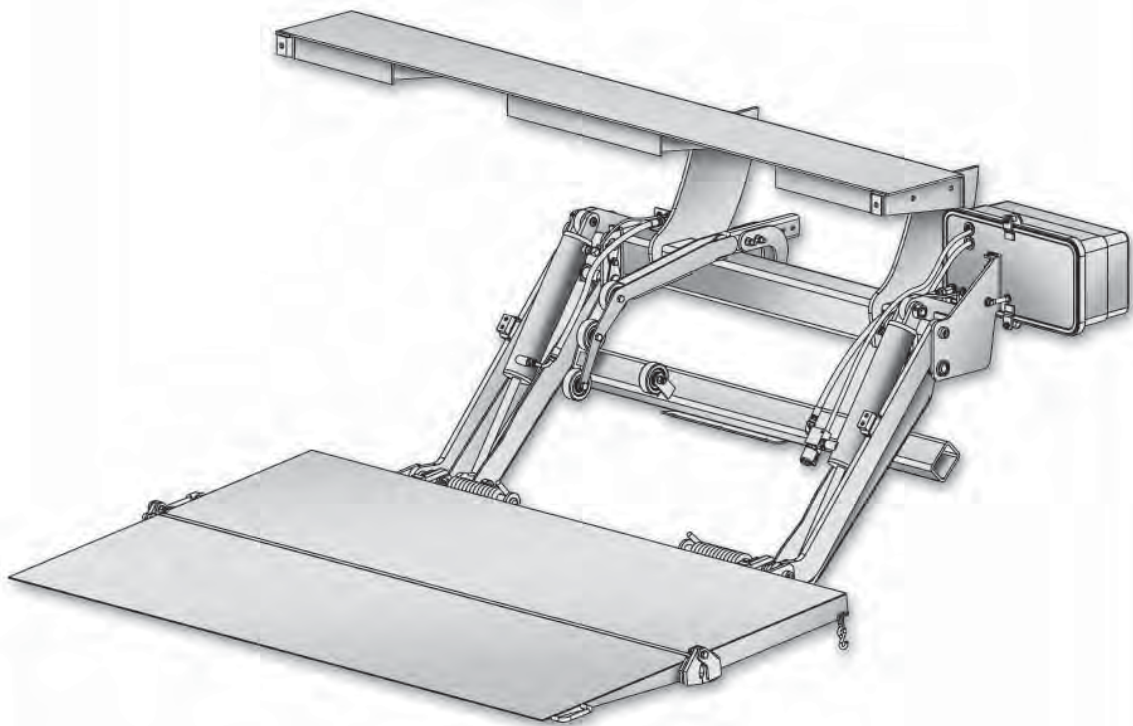
M-11-08
REV. B
SEPTEMBER 2012

MAXON[®]

TE-33

MAINTENANCE MANUAL

TE-33HB, TE-33LB & TEWR-33HB



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.

TABLE OF CONTENTS

WARNINGS	6
SAFETY INSTRUCTIONS	7
LIFTGATE TERMINOLOGY	9
PERIODIC MAINTENANCE	10
PERIODIC MAINTENANCE CHECKS.....	10
PERIODIC MAINTENANCE CHECKLIST.....	11
CHECKING HYDRAULIC FLUID	14
CHANGING HYDRAULIC FLUID.....	16
REPLACING PLATFORM TORSION SPRING	18
PARTS BREAKDOWN	23
FINAL ASSEMBLY: TE-33	23
MAIN ASSEMBLY: TE-33.....	24
MAIN ASSEMBLY: TE-33.....	26
EXTENSION PLATE FOR WALK RAMP.....	28
LIFT FRAME ASSEMBLY: TE-33	30
PLATFORM ASSEMBLY & FLIPOVER ASSEMBLY	31
PUMP ASSEMBLY (GRAVITY DOWN).....	32
PUMP ASSEMBLY (POWER DOWN).....	34
HYDRAULIC COMPONENTS (GRAVITY DOWN).....	36
HYDRAULIC COMPONENTS (POWER DOWN).....	38
12 VDC POWER UNIT (GRAVITY DOWN).....	40
12 VDC POWER UNIT (POWER DOWN).....	42
CONTROL SWITCH AND POWER CABLE	45
DECALS: TE-33	46

DECALS: TEWR-33 48

SYSTEM DIAGRAMS 51

PUMP & MOTOR SOLENOID OPERATION (GRAVITY DOWN)..... 51

HYDRAULIC SCHEMATIC (GRAVITY DOWN)..... 52

ELECTRICAL SCHEMATIC (GRAVITY DOWN) 53

SYSTEM DIAGRAMS 55

PUMP & MOTOR SOLENOID OPERATION (POWER DOWN)..... 55

HYDRAULIC SYSTEM DIAGRAMS 56

HYDRAULIC SCHEMATIC (POWER DOWN) 56

ELECTRICAL SYSTEM DIAGRAMS 57

ELECTRICAL SCHEMATIC (POWER DOWN) 57

TROUBLESHOOTING 58

PLATFORM WILL NOT RAISE & MOTOR WILL NOT RUN 58

PLATFORM WILL NOT RAISE, BUT MOTOR RUNS 59

PLATFORM RAISES BUT LEAKS DOWN 60

PLATFORM RAISES PARTIALLY AND STOPS 62

LIFTGATE WILL NOT LIFT RATED CAPACITY 64

PLATFORM WILL NOT LOWER, LOWERS TOO SLOWLY, OR TOO QUICKLY 66

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

⚠ 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.
- Welding on galvanized parts gives off especially hazardous fumes. Comply with WARNING decal on the galvanized part (**FIG. 6-1**). To minimize hazard remove galvanizing from weld area, provide adequate ventilation, and wear suitable respirator.

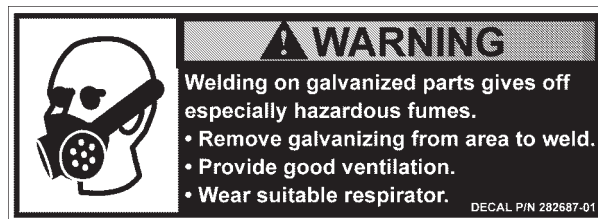


FIG. 6-1

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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

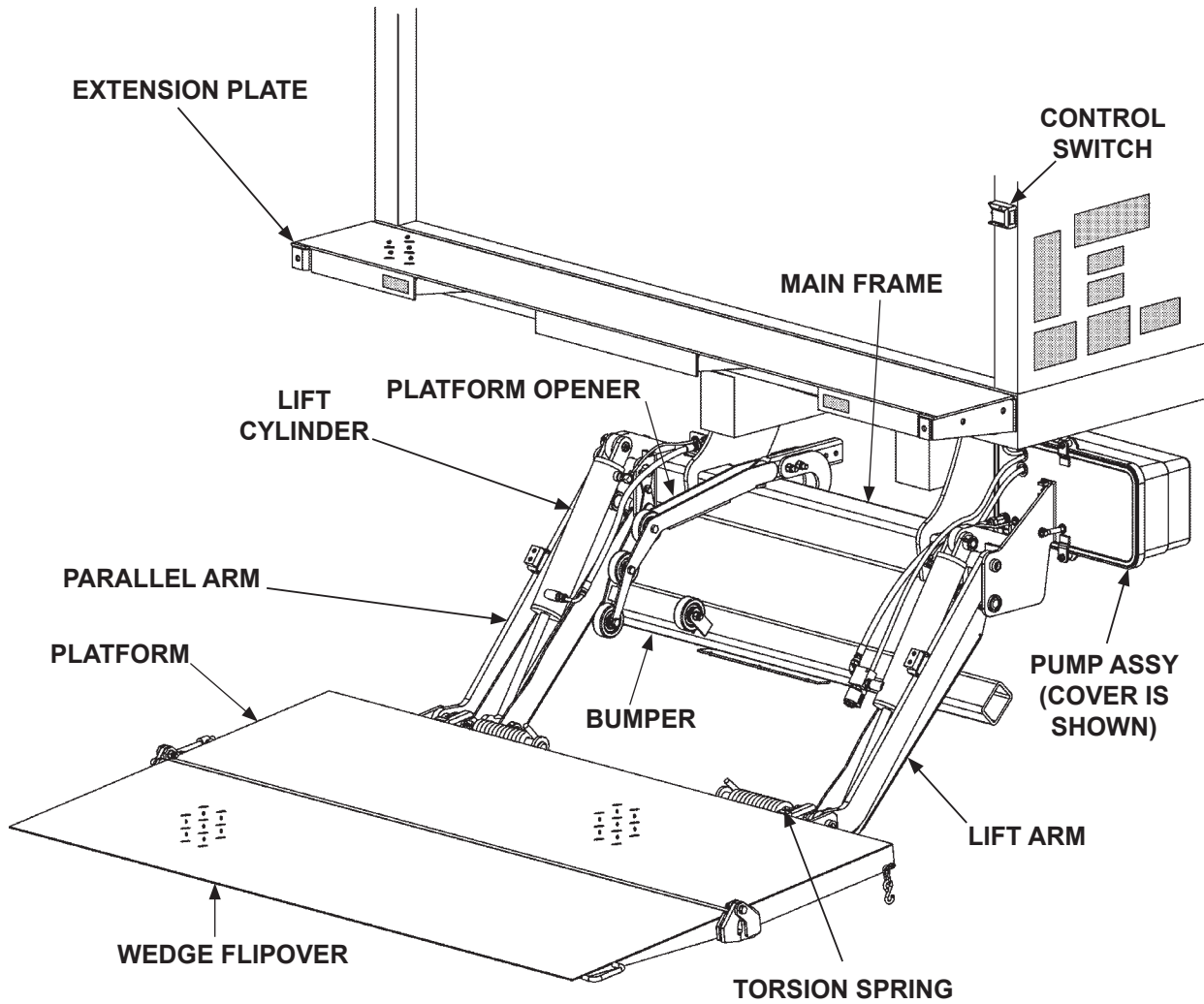
Online: www.maxonlift.com
Express Parts Ordering: Phone (800) 227-4116 ext. 4345
Email: Ask your Customer Service representative

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LIFTGATE TERMINOLOGY



PERIODIC MAINTENANCE PERIODIC MAINTENANCE CHECKS

⚠ 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.

Pump EP chassis grease in each lube fitting on the cylinders and arms until grease starts oozing from ends of the bearings. The lubrication diagram on the **PERIODIC MAINTENANCE CHECKLIST SHEET** shows where to find the lube fittings. Wipe off excess grease with a clean lint-free cloth.

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 908134-01.

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.

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PERIODIC MAINTENANCE CHECKLIST

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

Quarterly or 1250 Cycles (whichever occurs first)

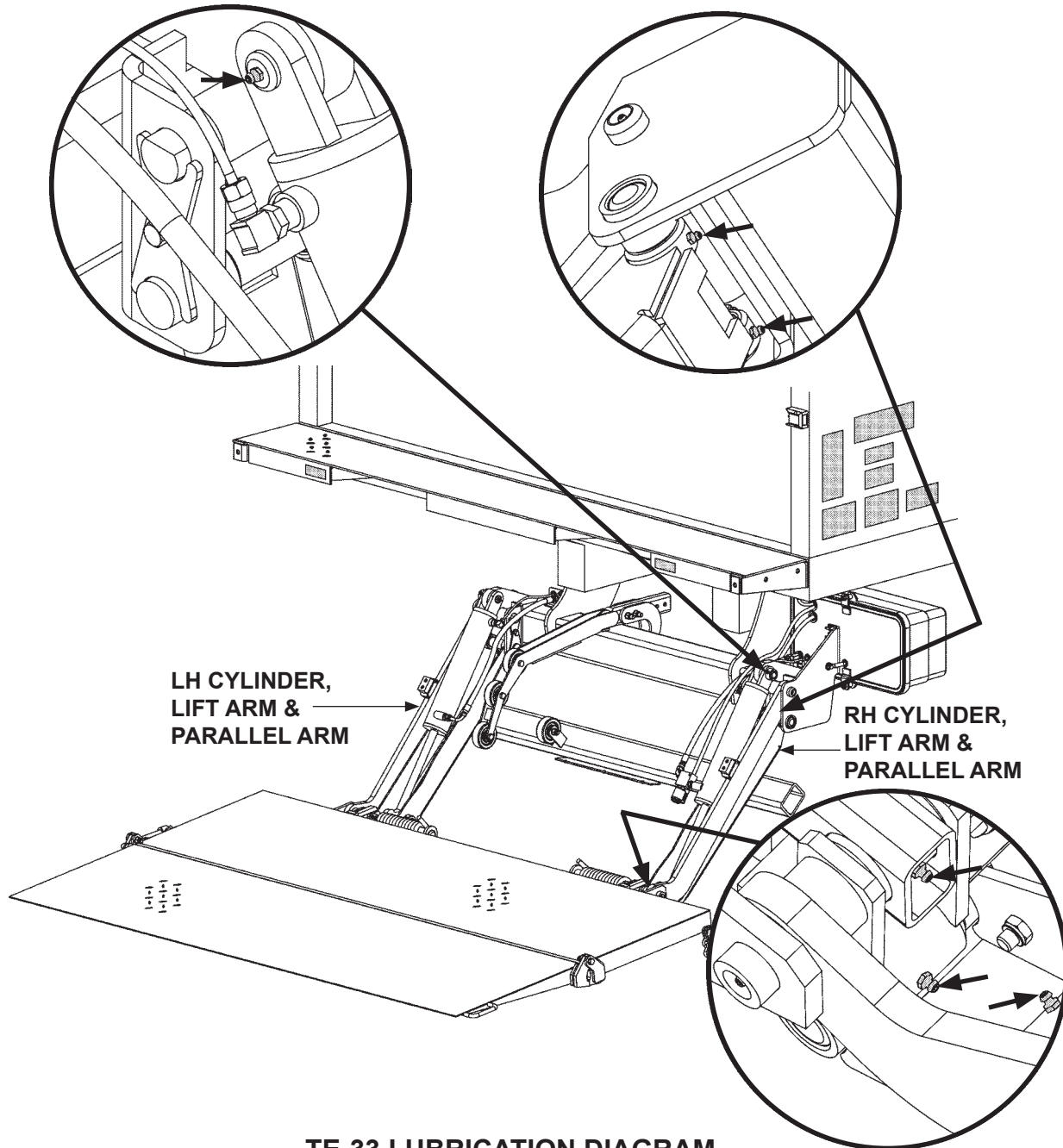
- Check the level and condition of the hydraulic fluid.
- Visually check all hoses and fittings for chafing and fluid leaks. Tighten loose fittings or replace parts as required.
- Check electrical wiring for chafing and make sure wiring connections are tight and free of corrosion. Use dielectric grease to protect electrical connections.
- Check that all **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.
- 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 **CAUTION** and recommended touchup kit on the preceding page.
- 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 on the next page. Wipe off excess grease with a clean lint-free cloth.

Semi-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.

PERIODIC MAINTENANCE CHECKLIST

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 CHECKS** and **PERIODIC MAINTENANCE CHECKLIST** for the recommended grease and maintenance interval.



**TE-33 LUBRICATION DIAGRAM
FIG. 12-1**

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PERIODIC MAINTENANCE

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: 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 15-1 & 15-2 for recommended brands.

1. Unbolt and remove pump cover (FIG. 14-1).
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. 14-2.

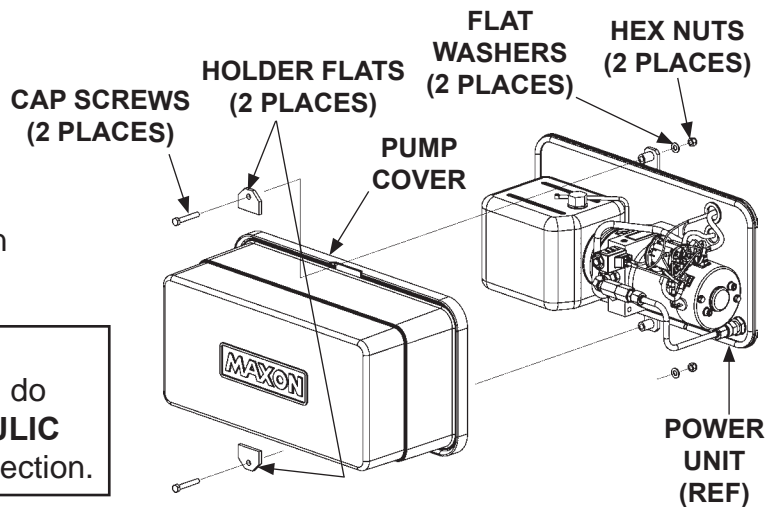
NOTE: If the hydraulic fluid in the reservoir is contaminated, do the **CHANGING HYDRAULIC FLUID** procedure in this section.

3. If needed, add fluid to the reservoir as follows. Pull out (no threads) filler cap (FIG. 14-2). Fill the reservoir with hydraulic fluid to 3" level as shown in FIG. 14-2. Reinstall filler cap (FIG. 14-2).

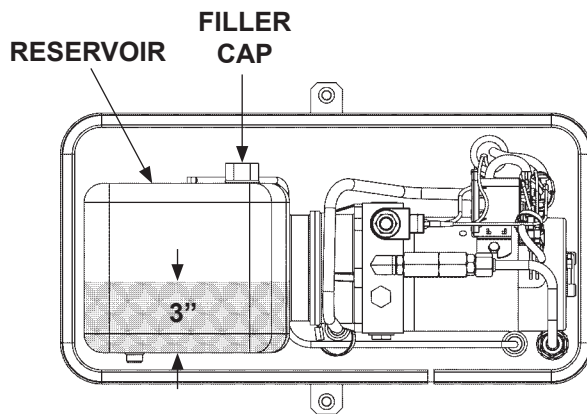
CAUTION

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.

4. Bolt on the pump cover as shown in FIG. 14-1. Torque the 5/16"-18 cover bolts from 10 to 14 lbs.-ft.



UNBOLTING / BOLTING PUMP COVER
FIG. 14-1



POWER UNIT FLUID LEVEL
FIG. 14-2

ISO 32 HYDRAULIC OIL	
RECOMMENDED BRANDS	PART NUMBER
AMSOIL	AWH-05
CHEVRON	HIPERSYN 32
KENDALL	GOLDEN MV
SHELL	TELLUS S2 V32
EXXON	UNIVIS N-32
MOBIL	DTE-13M, DTE-24, HYDRAULIC OIL-13

TABLE 15-1

ISO 15 OR MIL-H-5606 HYDRAULIC OIL	
RECOMMENDED BRANDS	PART NUMBER
AMSOIL	AWF-05
CHEVRON	FLUID A, AW-MV-15
KENDALL	GLACIAL BLU
SHELL	TELLUS S2 V15
EXXON	UNIVIS HVI-13
MOBIL	DTE-11M
MOBIL (MIL-H-5606)	AERO HFA
ROSEMEAD	THS FLUID 17111

TABLE 15-2

PERIODIC MAINTENANCE 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.

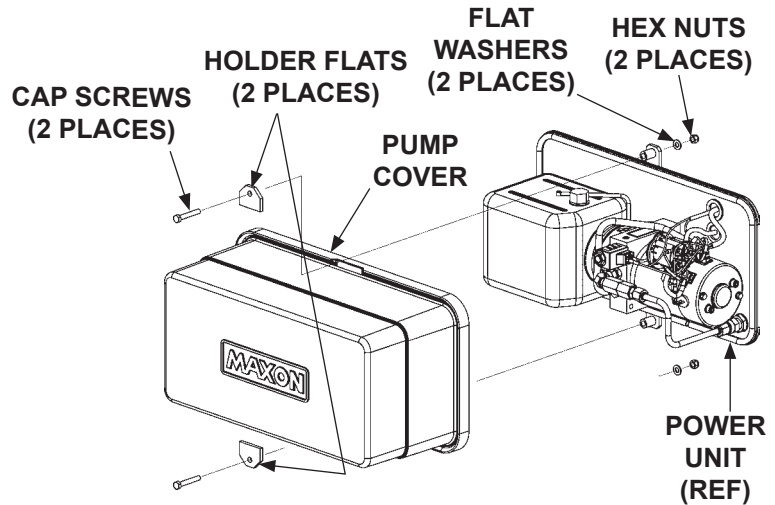
NOTE: Use correct grade of hydraulic fluid for your location.

+50 to +120 Degrees F - Grade ISO 32

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

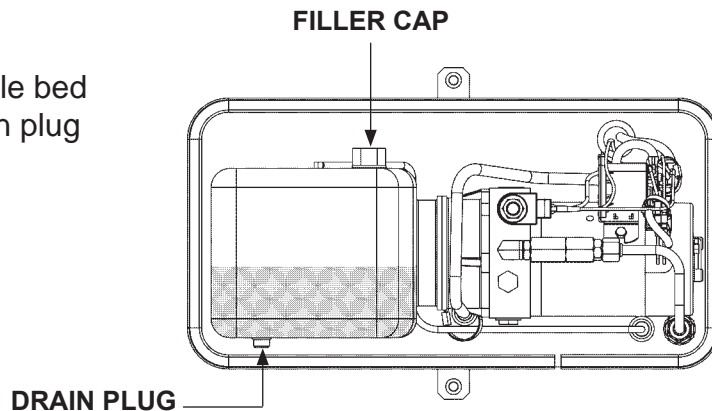
See **TABLES 15-1 & 15-2** for recommended brands.

1. Unbolt and remove pump cover (FIG. 16-1). Place empty 5 gallon bucket under drain plug (FIG. 16-2).



**UNBOLTING PUMP COVER
FIG. 16-1**

2. Open and raise platform to vehicle bed height. Pull out (no threads) drain plug (FIG. 16-2). Drain hydraulic fluid.



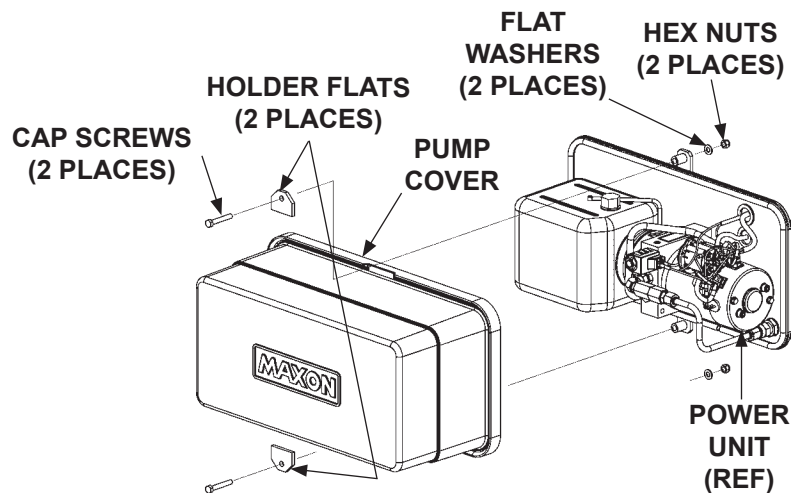
**POWER UNIT
FIG. 16-2**

3. Lower the platform all the way to the ground while draining the remaining hydraulic fluid.
4. Reinstall drain plug (FIG. 16-2).
5. Pull out (no threads) filler cap (FIG. 16-2). Add 1 gallon of hydraulic fluid to reservoir. Re-install filler cap.
6. 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.

7. Bolt on the pump cover as shown in FIG. 17-1. Torque the 5/16"-18 cover bolts from **10 to 14 lbs.-ft.**



**BOLTING ON PUMP COVER
FIG. 17-1**

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. If platform is on the ground, manually fold flipover onto platform.
2. Fold platform and flipover to rest on lift arms (FIG. 18-1).
3. Raise platform to a convenient work height to gain access (FIG. 18-1). There should not be tension on the torsion spring in this position.

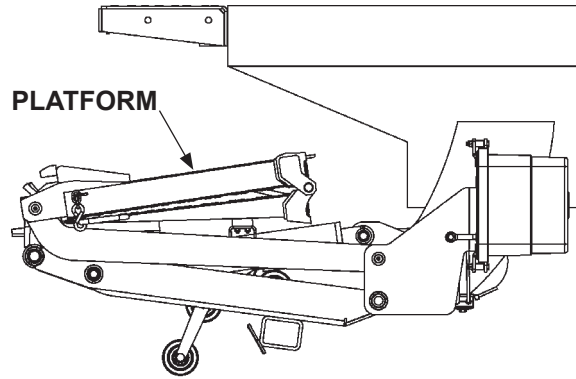
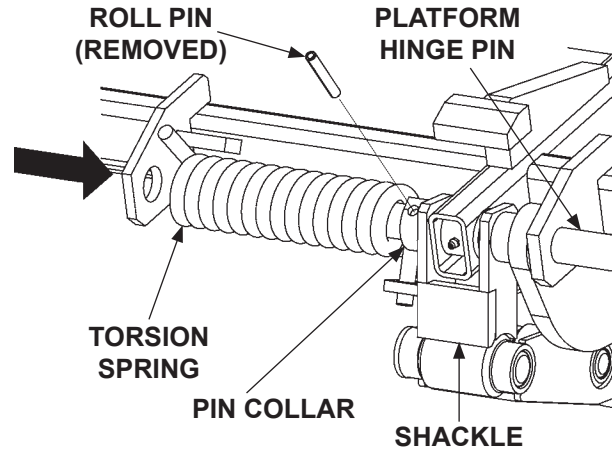


FIG. 18-1

⚠ CAUTION

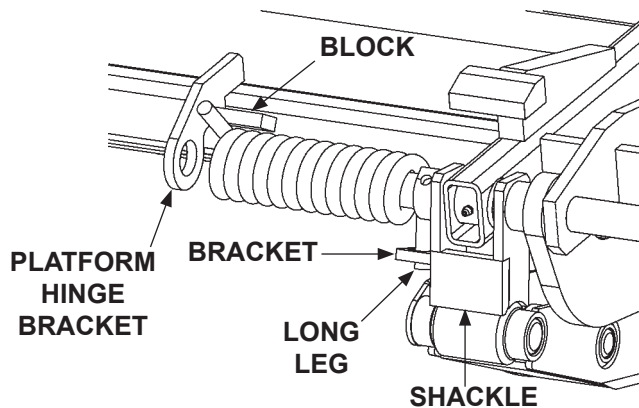
To prevent injury and equipment damage, make sure there is no tension on torsion spring before removing hinge pin.

4. Drive out the roll pin from pin collar on the platform hinge bracket. Drive the platform hinge pin outboard from the shackle just enough to free the torsion spring (FIG. 18-2). Remove torsion spring.
5. Install the new torsion spring and bushing as shown in (FIG. 18-3). Make sure the long leg of the spring is inserted in the bracket located on the shackle.



**REMOVING HINGE PIN
(RH SIDE OF PLATFORM SHOWN)**

FIG. 18-2



**INSTALLING HINGE PIN
(RH SIDE OF PLATFORM SHOWN)**

FIG. 18-3

6. Drive platform hinge pin inboard to correct position through the platform hinge bracket (**FIG. 19-1**). Line up the hole in the platform hinge pin with the hole in the pin collar. Install the roll pin until roll pin protrudes equally from both sides of the collar (**FIG. 19-1**).

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

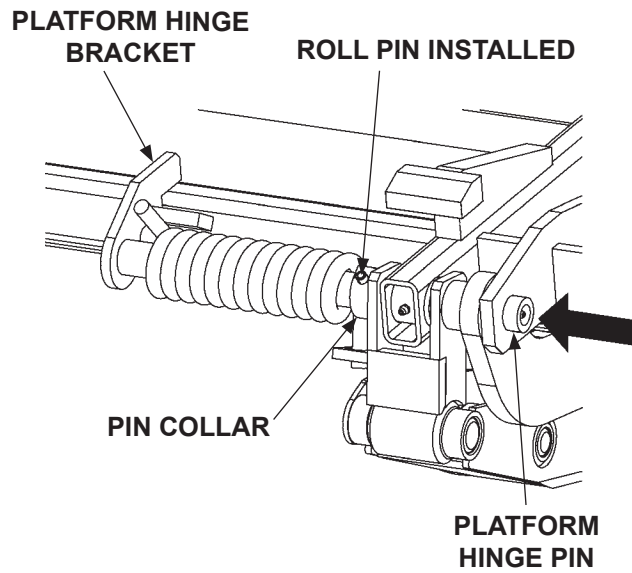


FIG. 19-1

PERIODIC MAINTENANCE PLATFORM ADJUSTMENT

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

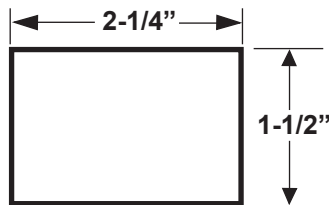
1. Make sure platform is at ground level. Unfold the platform and flipover. As the platform first touches the ground, shackles and tip of flipover must touch the ground at the same time (**FIG. 20-1**). If shackles and tip of flipover touch the ground at the same time, **RAISE** platform to bed height. Tip of flipover should be above bed level (**FIG. 20-2**). If indications are correct in both cases (**FIGS. 20-1 & 20-2**), Liftgate is installed correctly and no adjustment is needed. If indications are incorrect, continue with instruction 2.

NOTE: If tip of flipover touches first (**FIG. 20-3**), do instruction 2. If the shackle touches first (**FIG. 21-1**), skip instruction 2 and do 3.

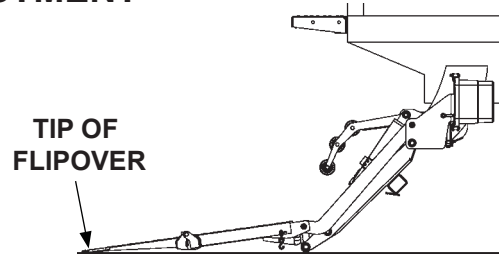
2. Make sure platform is still at ground level. If the shackle is not touching the ground, measure and compare distance "A" (**FIG. 20-3**) with **TABLE 20-1** to determine the correct shim. Make shims as needed (**FIG. 20-5**). Weld shim as shown in **FIG. 20-4**.

RAISE TIP OF FLIPOVER THIS DISTANCE "A"	REQUIRED SHIM THICKNESS	WELD SIZE "W"
7/8"	1/16"	1/16"
2"	1/8"	1/8"
3"	3/16"	3/16"
3-15/16"	1/4"	1/4"

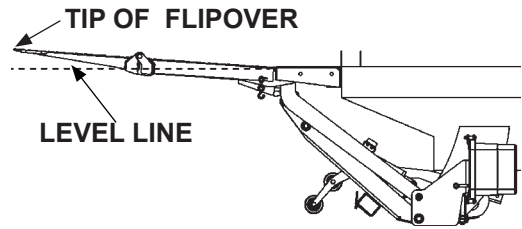
TABLE 20-1



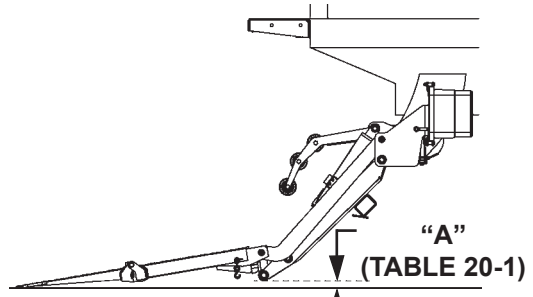
**SHIM (1/16", 1/8", 3/16", or 1/4")
MADE FROM STEEL FLAT
FIG. 20-5**



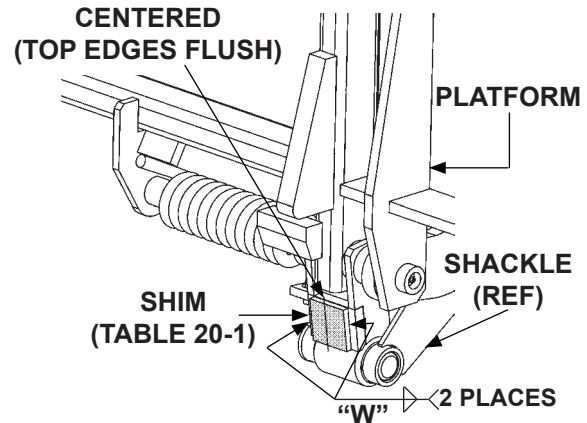
**PLATFORM & SHACKLES
TOUCH GROUND
FIG. 20-1**



**PLATFORM EDGE ABOVE
BED LEVEL
FIG. 20-2**



**SHACKLES DO NOT TOUCH
GROUND
FIG. 20-3**



**WELDING SHIMS (CURBSIDE SHOWN)
FIG. 20-4**

3. Make sure platform is still at ground level. If the tip of flipover is not touching the ground, measure and compare distance “B” (FIG. 21-1) with TABLE 21-1 to determine how much to grind from the platform stops (FIG. 21-3). Grind correct amount of metal (TABLE 21-1) from platform stop as shown in FIG. 21-3.

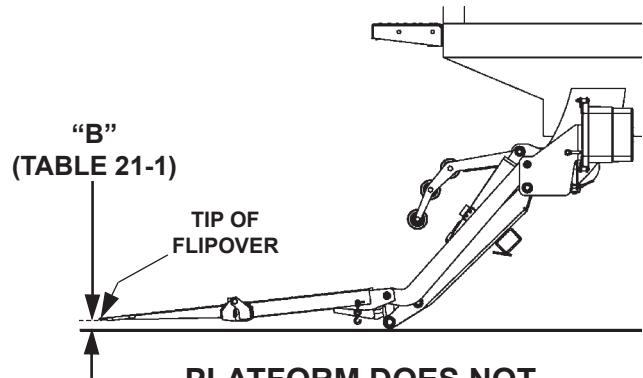
LOWER TIP OF FLIPOVER THIS DISTANCE “B”	GRIND METAL FROM PLATFORM STOP
7/8”	1/16”
2”	1/8”
3”	3/16”
3-15/16”	1/4”

TABLE 21-1

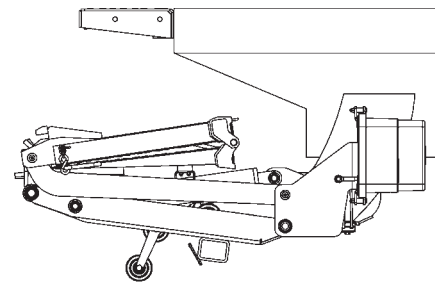
4. RAISE the platform to comfortable work height. Fold flipover and platform for access to platform stops (FIG. 21-2).

5. Grind correct amount of metal (TABLE 21-1) from platform stop as shown in FIG. 21-3.

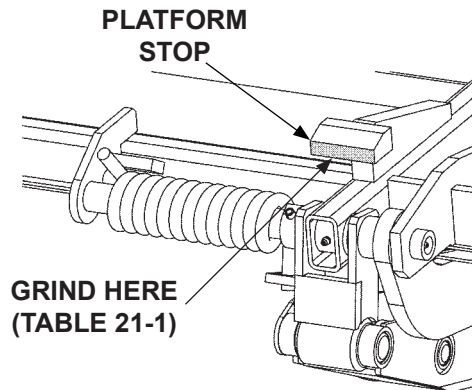
6. Unfold flipover and platform. LOWER platform to the ground. As the platform first touches the ground, the tip of flipover and shackle should touch at the same time as shown in FIG. 20-1.



PLATFORM DOES NOT TOUCH GROUND
FIG. 21-1



PLATFORM RAISED TO WORK HEIGHT
FIG. 21-2



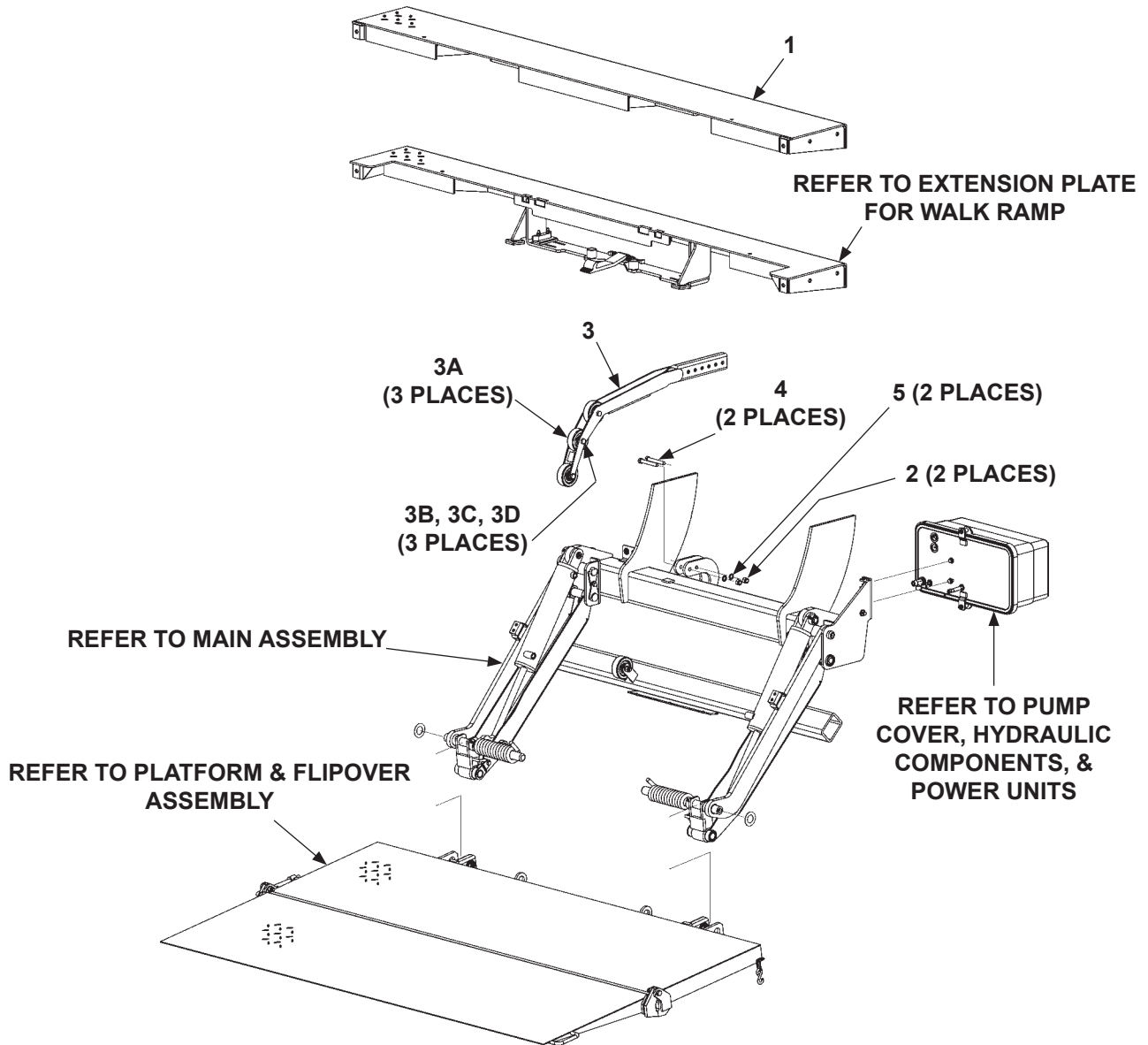
GRINDING PLATFORM STOPS
(CURBSIDE SHOWN)
FIG. 21-3

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PARTS BREAKDOWN FINAL ASSEMBLY: TE-33

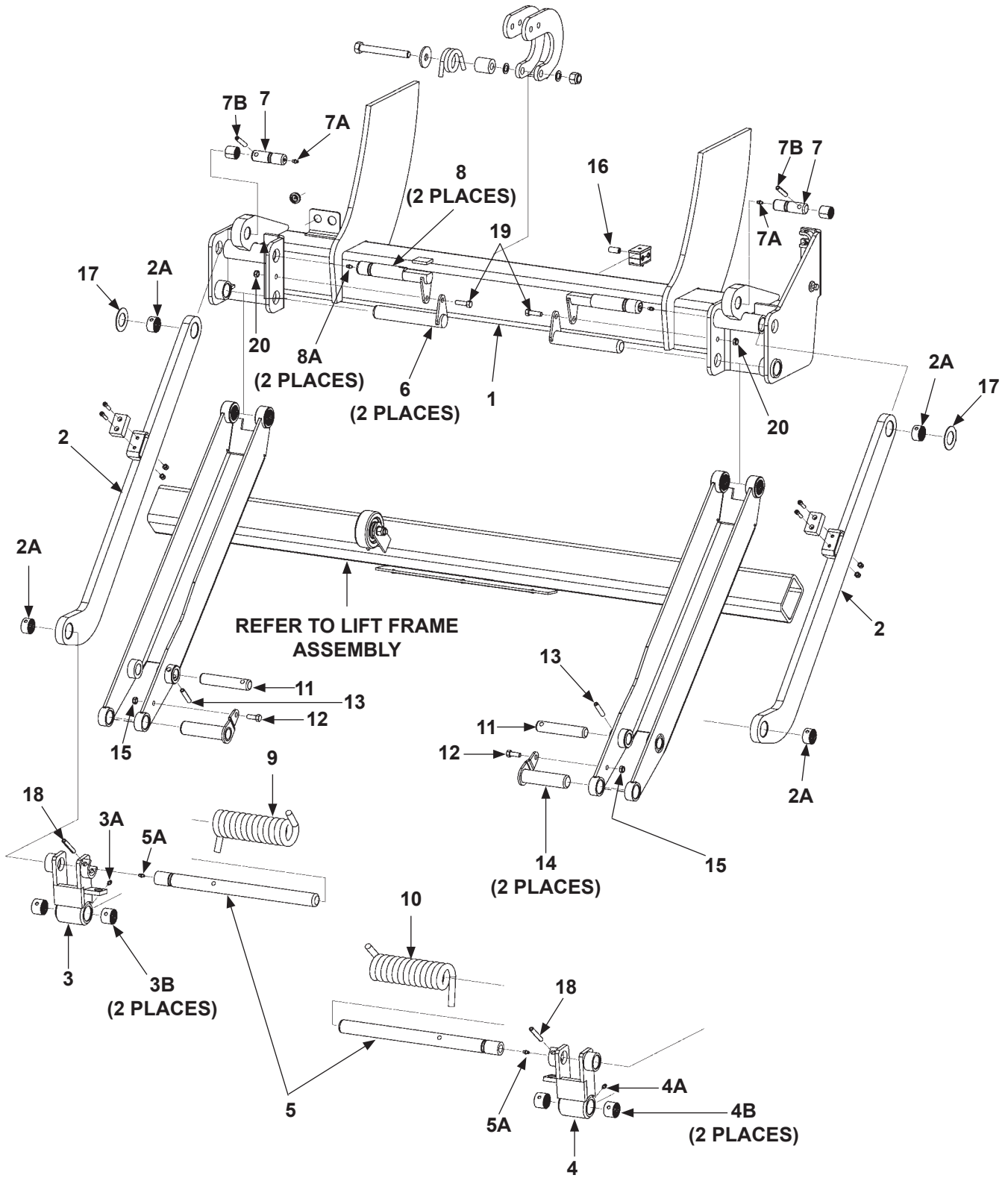


ITEM	QTY.	PART NO.	DESCRIPTION
1	1	284136-01	EXTENSION PLATE (96" LG.)
		284136-02	EXTENSION PLATE (102" LG.)
2	2	901010	LOCK NUT, 1/2"-13
3	1	269593-01	PLATFORM OPENER
3A	3	280082-01	ROLLER, OPENER, 3-1/2" DIA.
3B	3	900035-9	CAP SCREW, 1/2"-13 X 3" LG.
3C	3	901010	LOCK NUT, 1/2"-13
3D	5	902000-14	FLAT WASHER, 1/2" X 7/64"
4	2	900035-10	CAP SCREW, 1/2"-13 X 3-1/2" LG.
5	2	902000-14	FLAT WASHER, 1/2" X 7/64"

MAIN ASSEMBLY: TE-33

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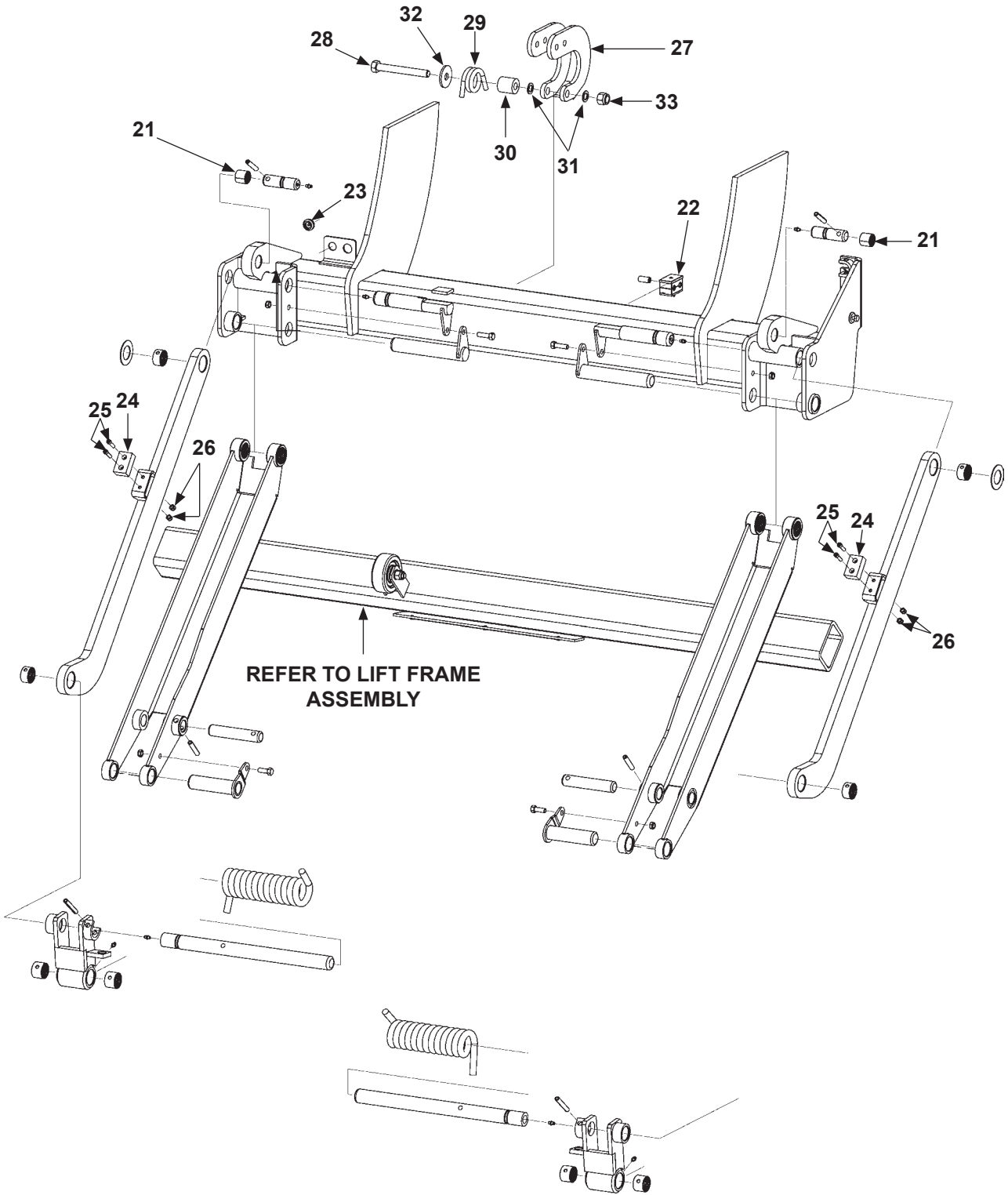


ITEM	QTY	PART NO.	DESCRIPTION
1	1	284148-01	MAIN FRAME WELDMENT, TE-33
2	2	285050-01	PARALLEL ARM ASSEMBLY
2A	4	908177-01	PRE-LUBRICATING BEARING, 1-1/4" ID X 3/4" LG.
3	1	284215-01	SHACKLE ASSEMBLY, LH
3A	1	224342	GREASE FITTING, 1/4" SELF DRILLING
3B	2	908177-02	PRE-LUBRICATING BEARING, 1-1/4" ID X 1" LG.
4	1	284215-02	SHACKLE ASSEMBLY, RH
4A	1	224342	GREASE FITTING, 1/4" SELF DRILLING
4B	2	908177-02	PRE-LUBRICATING BEARING, 1-1/4" ID X 1" LG.
5	2	284171-01	SPRING PIN ASSEMBLY
5A	2	224342	GREASE FITTING, 1/4" SELF DRILLING
6	2	284174-01	LIFT/ARM PIN ASSEMBLY
7	2	284205-01	CYLINDER PIN ASSEMBLY
7A	2	224342	GREASE FITTING, 1/4" SELF DRILLING
7B	2	221416	ROLL PIN, 3/8" X 2" LG.
8	2	284168-01	PARALLEL ARM PIN ASSEMBLY
8A	2	224342	GREASE FITTING, 1/4" SELF DRILLING
9	1	284541-01	TORSION SPRING, LH
10	1	284541-02	TORSION SPRING, RH
11	2	284207-01	CYLINDER PIN
12	2	030034	BOLT 3/8"- 24 X 1-1/4" LG., GRADE 8
13	2	904717-08	ROLL PIN, 3/8" X 2-1/2" LG.
14	2	284210-01	PIN ASSEMBLY, SHACKLE
15	2	226941	NYLON LOCK NUT, 3/8"-24 THIN
16	2	905350-10	RUBBER TUBING, 1/4" ID X 1/2" OD X 1" LG. (GD ONLY)
17	2	908189-01	FIBERGLIDE THRUST BEARING, 1-1/4" ID
18	2	904717-08	ROLL PIN, 3/8" X 2-1/2" LG.
19	2	030035	BOLT 3/8"- 24 X 1-1/4" LG., GRADE 8
20	4	226941	LOCK NUT, 3/8"- 24, NYLON

MAIN ASSEMBLY: TE-33

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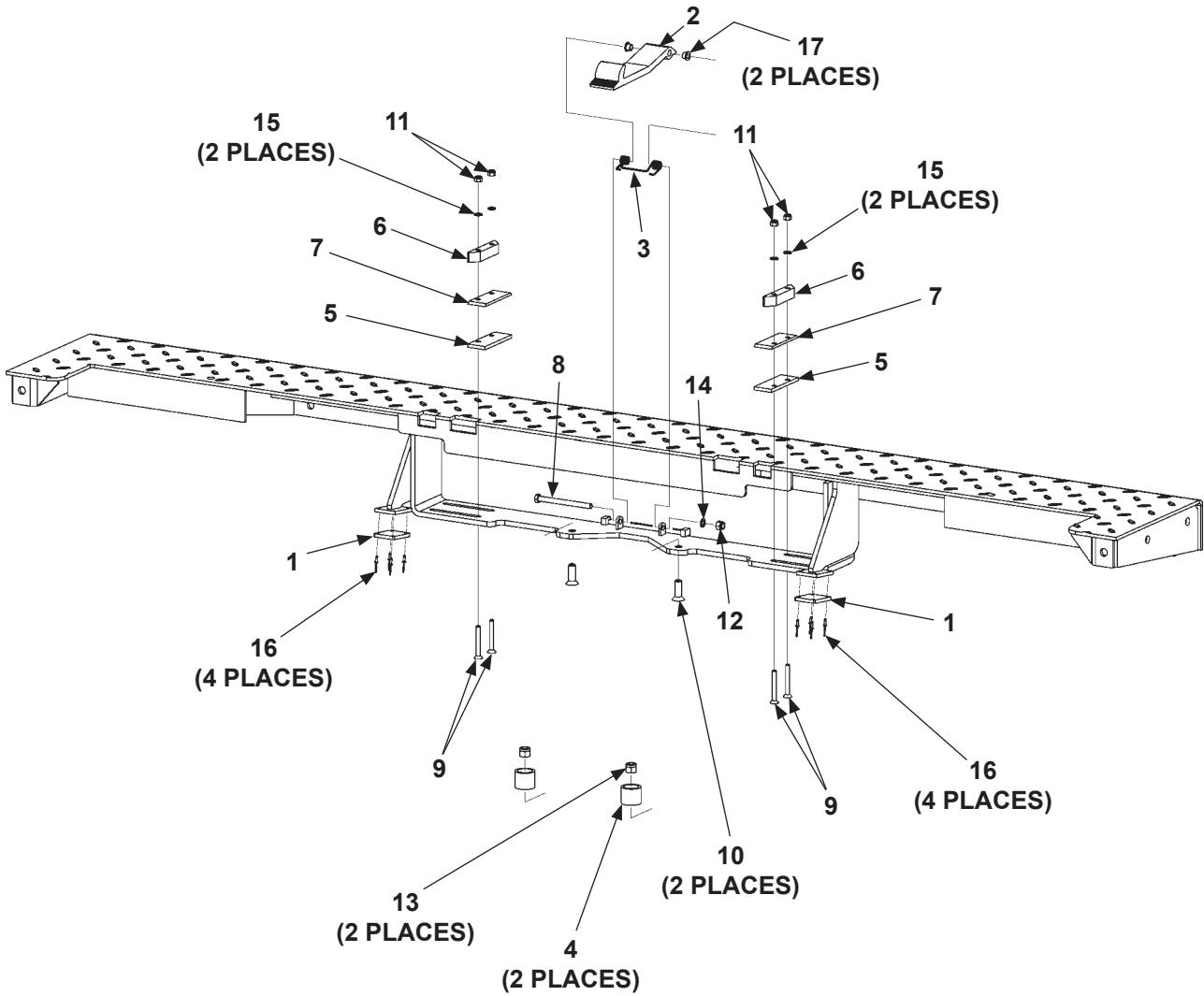
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ITEM	QTY	PART NO.	DESCRIPTION
21	2	908178-02	PRELUBE BEARING, 1" I.D. X 1" LG.
22	1	908190-01	DUAL HOSE CLAMP
23	1	281068	GROMMET, 3/16" HOLE DIA. (GRAVITY DOWN ONLY)
24	2	285058-02	PLATFORM SUPPORT PAD, NYLON
25	4	90025-1	SOCKET HEAD CAP SCREW, 1" LG.
26	4	901000	NUT, 1/4", SELF-LOCKING
27	1	285118-1	OPENER BRACKET WELDMENT
28	1	900055-16	HEX HEAD SCREW, 5" LG.
29	1	285079-01	OPENER SPRING
30	1	285123-01	OPENER SPRING BUSHING
31	2	903402-17	FLAT WASHER, 5/8" I.D. X 1" O.D.
32	1	902000-27	FLAT WASHER, 5/8" I.D. X 1-3/4" O.D.
33	1	040156	LOCK NUT, 5/8"-11, GRADE 8

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EXTENSION PLATE FOR WALK RAMP

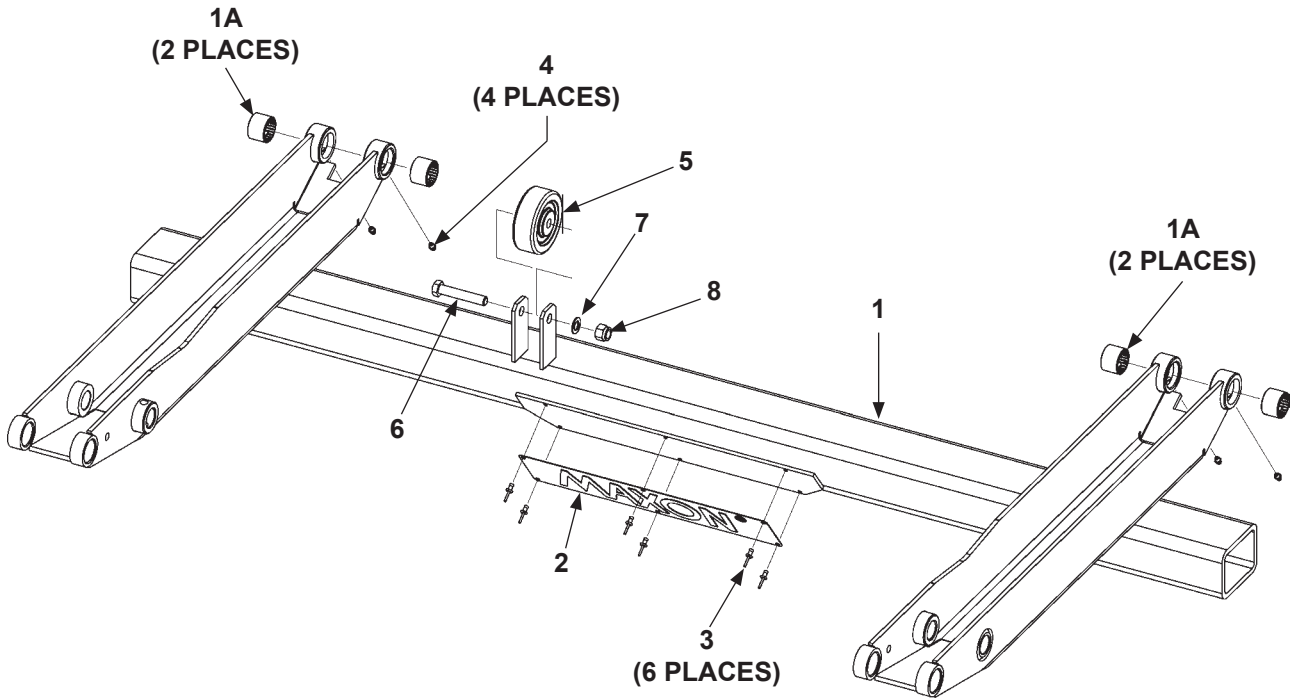


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ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	269480-01	EXTENSION PLATE (96" LG, FOR WALK RAMP)
		269480-02	EXTENSION PLATE (102" LG, FOR WALK RAMP)
1	2	269478-01	PAD, PLATFORM STOPPER
2	1	282257-01	LATCH, WALK RAMP
3	1	282258-01	SPRING, WALK RAMP LATCH
4	2	282344-01	STOPPER
5	2	282346-01	FLAT
6	2	282347-01	PAD, WALK RAMP
7	2	282348-01	FLAT, SPACER
8	1	900014-15	HEX CAP SCREW, 3/8"-16 X 4-1/2" LG, GRADE 8
9	4	900021-9	SOCKET SCREW, 5/16"-18 X 2-1/2" LG.
10	2	900745-04	SOCKET SCREW, 1/2"-13 X 1-1/2" LG.
11	4	901001	LOCK NUT, 5/16"-18, NYLON
12	1	901002	LOCK NUT, 3/8"-16, NYLON
13	2	901010	LOCK NUT, 1/2"-13, NYLON
14	1	902000-10	FLAT WASHER, 3/8" X .063" THK
15	4	902000-8	FLAT WASHER, 5/16" X .063" THK
16	8	904000-2	RIVET, BLIND, 1/8" DIA. X .515" LG.
17	2	908094-01	FLANGE BEARING, 3/8" I.D. X 3/8" LG.

LIFT FRAME ASSEMBLY: TE-33

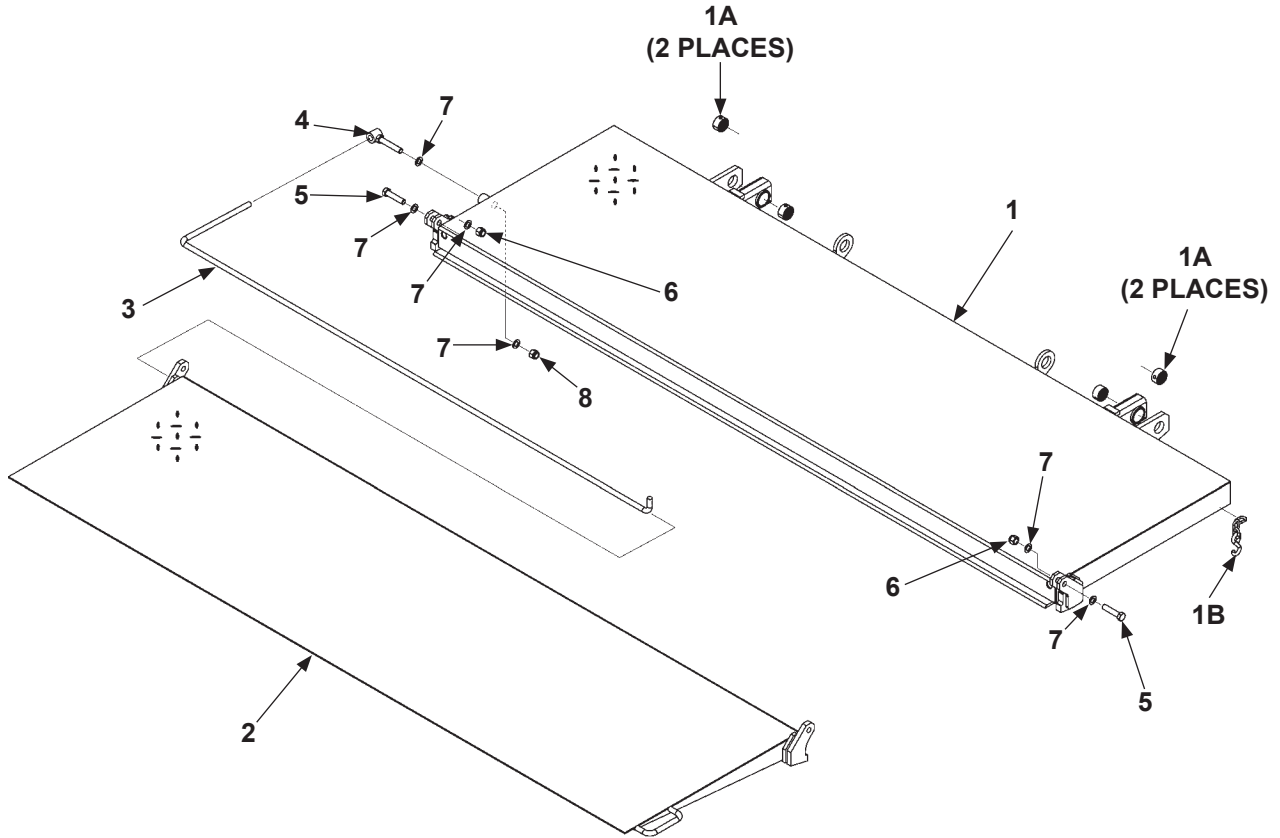


ITEM	QTY	PART NO.	DESCRIPTION
1	1	284944-01	LIFT FRAME WELDMENT
1A	4	908177-02	PRELUBE BEARING 1-1/4" I.D. X 1" LG.
2	1	050175	MAXON PLATE, HORIZONTAL, 3-1/4" X 15" LG.
3	6	207644-01	BLIND RIVET 3/16" X 7/16" DOME
4	4	224342	GREASE FITTING, 1/4" SELF DRILLING
5	1	280082-01	ROLLER, OPENER, 3-1/2" DIA.
6	1	900035-8	CAP SCREW, 1/2"-13, 2-3/4" LG.
7	1	902000-14	FLAT WASHER, 1/2" I.D., 7/8" O.D.
8	1	901010	NUT, 1/2"-13, SELF-LOCKING

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PLATFORM ASSEMBLY & FLIPOVER ASSEMBLY

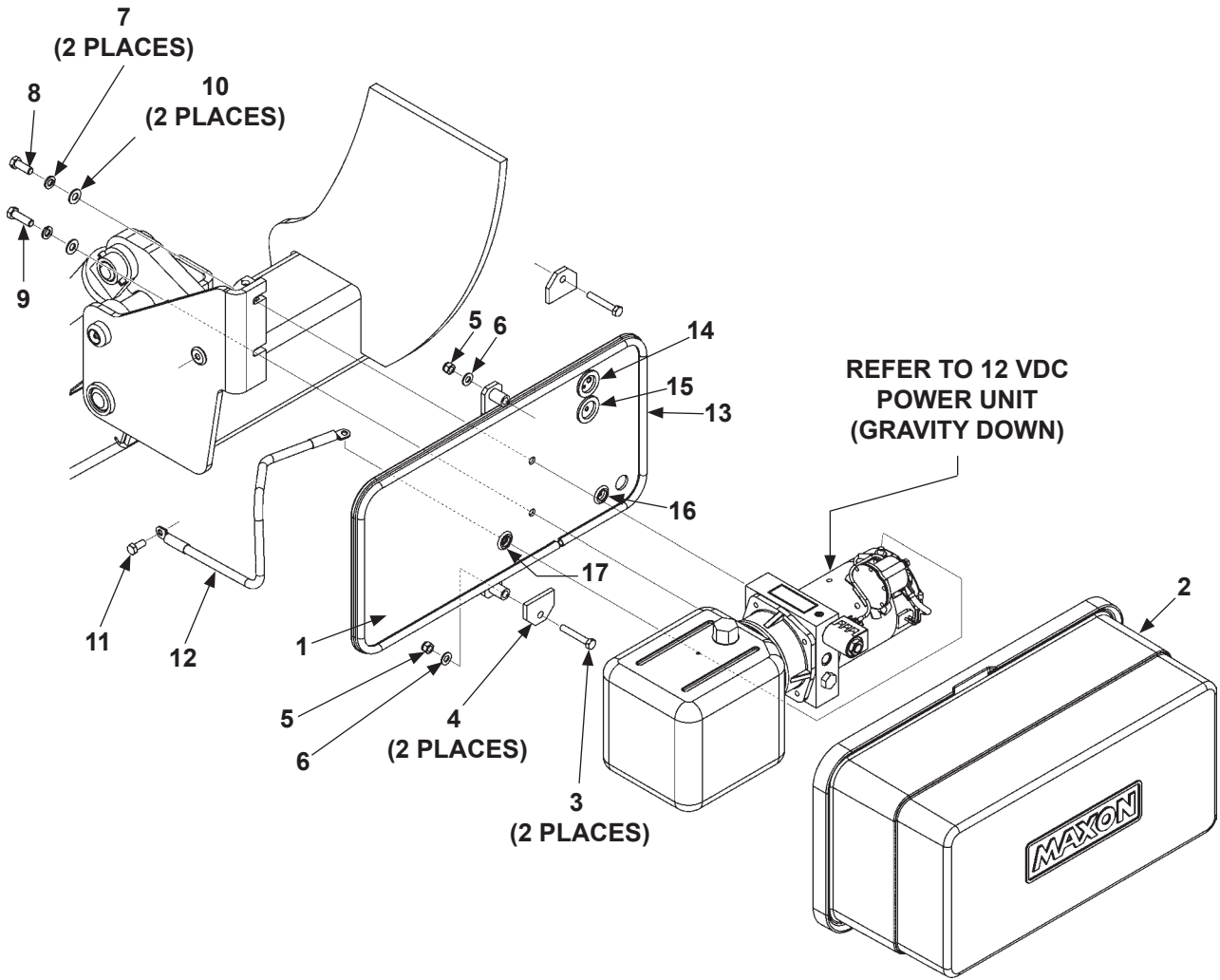


ITEM	QTY.	PART NO.	DESCRIPTION
1	1	284140-01	PLATFORM WELDMENT, 24" X 84"
		284140-02	PLATFORM WELDMENT, 26" X 84"
		284140-03	PLATFORM WELDMENT, 24" X 84" (WALK RAMP)
		284140-04	PLATFORM WELDMENT, 26" X 84" (WALK RAMP)
1A	4	908177-01	BEARING PRELUBE 1-1/4" I.D. X 3/4" LG.
1B	1	260458	"S" HOOK, SIZE 80, 1-3/4" LG.
2	1	284135-01	FLIPOVER WELDMENT, 24" X 84"
		284135-02	FLIPOVER WELDMENT, 26" X 84"
3	1	280751-01	TORSION BAR
4	1	280749-02	ANCHOR BOLT WELDMENT
5	2	900033-6	CAP SCREW, 1/2"-20 X 2-1/4" LG.
6	2	901008	NUT, 1/2"-20, NYLON
7	6	902000-14	FLAT WASHER 1/2" X 7/64"
8	1	901010	LOCK NUT, 1/2"-13, NYLON

PUMP ASSEMBLY (GRAVITY DOWN)

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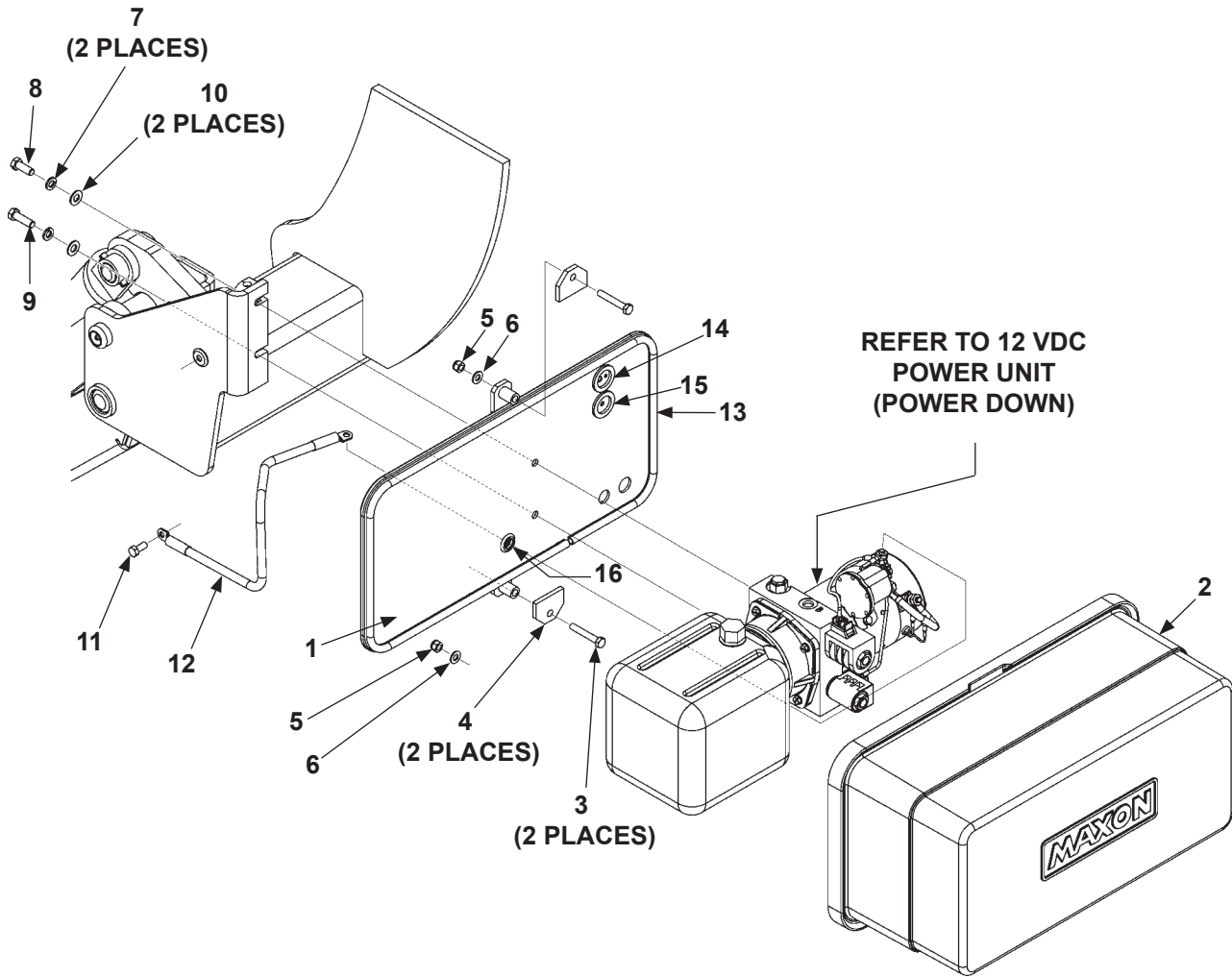
ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	269450-01	PUMP ASSEMBLY, HEAVY DUTY, GRAVITY DOWN
1	1	269447-01	PLATE, PUMP MOUNT
2	1	281038-02	HORIZONTAL PUMP COVER
3	2	900009-8	CAP SCREW, 5/16"-18 X 2" LG., GRADE 8
4	2	281062-02	FLAT HOLDER, 1-1/2" LG.
5	2	901001	LOCK NUT, 5/16"-18, NYLON
6	2	902013-10	FLAT WASHER, 5/16"
7	2	902011-4	LOCK WASHER, 3/8"
8	1	900014-4	HEX HEAD CAP SCREW, 3/8"-16 X 1" LG., GRADE 8
9	1	900014-5	HEX HEAD CAP SCREW, 3/8"-16 X 1-1/4" LG., GRADE 8
10	2	902001-2	FLAT WASHER, 3/8" X 1/16"
11	1	900009-3	HEX CAP SCREW, 5/16"-18 X 3/4" LG.
12	1	269191-03	CABLE ASSEMBLY, GROUND, 2 GUAGE X 20" LG.
13	1	093203-10	NEOPRENE BULB, TRIM SEAL, 60" LG.
14	1	266428-08	GROMMET, 1" DIA. - 3/16" & 5/16" HOLES
15	1	266428-02	GROMMET, 1" DIA. - 1/4" HOLE
16	1	281068-01	RUBBER GROMMET
17	1	281068-03	MODIFIED GROMMET

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PUMP ASSEMBLY (POWER DOWN)

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ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	285650-01	PUMP ASSEMBLY, HEAVY DUTY, POWER DOWN
1	1	285651-01	PLATE, PUMP MOUNT
2	1	281038-01	VERTICAL PUMP COVER
3	2	900009-8	CAP SCREW, 5/16"-18 X 2" LG., GRADE 8
4	2	281062-02	FLAT HOLDER, 1-1/2" LG.
5	2	901001	LOCK NUT, 5/16"-18, NYLON
6	2	902013-10	FLAT WASHER, 5/16"
7	2	902011-4	LOCK WASHER, 3/8"
8	1	900014-4	HEX HEAD CAP SCREW, 3/8"-16 X 1" LG., GRADE 8
9	1	900014-5	HEX HEAD CAP SCREW, 3/8"-16 X 1-1/4" LG., GRADE 8
10	2	902013-11	FLAT WASHER, 3/8"
11	1	900009-3	HEX CAP SCREW, 5/16"-18 X 3/4" LG.
12	1	269191-03	CABLE ASSEMBLY, GROUND, 2 GAUGE X 20" LG.
13	1	093203-10	NEOPRENE BULB, TRIM SEAL, 60" LG.
14	1	266428-08	GROMMET, 1" DIA. - 3/16" & 5/16" HOLES
15	1	266428-02	GROMMET, 1" DIA. - 1/4" HOLE
16	1	281068-03	MODIFIED GROMMET

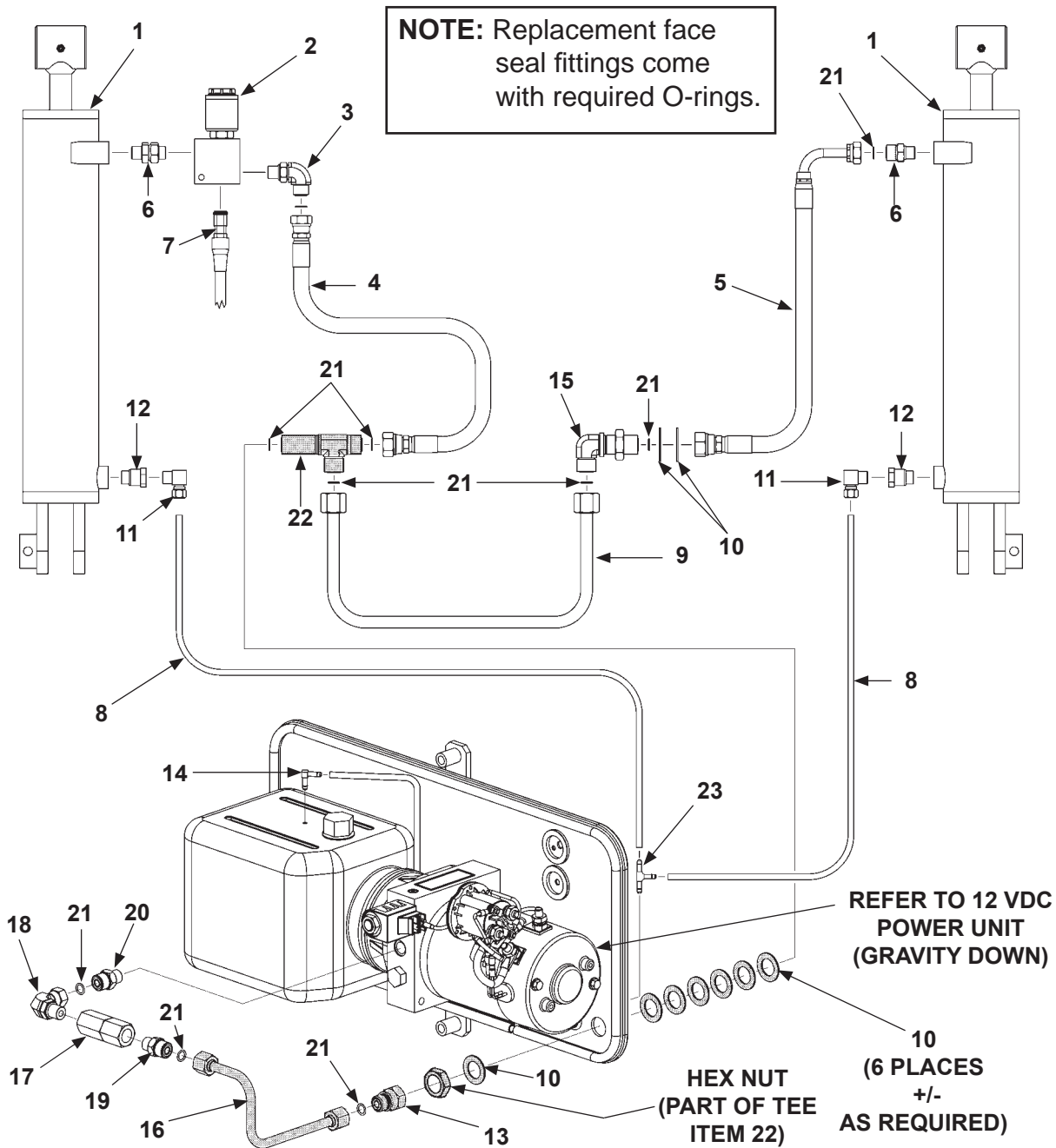
HYDRAULIC COMPONENTS (GRAVITY DOWN)

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.

NOTE: When replacing internal steel hydraulic line and bulkhead tee, ensure tee is shimmed correctly to mounting plate with **ITEM 10**.

- Fittings that connect lines to pump should be in correct position & tight.
- Steel line is installed fingertight while measuring gap between tee & mounting plate. Add correct number of shims to fill gap.
- Position and tighten the bulkhead tee and steel line fittings.



CAUTION

To prevent misalignment, strain & damage to steel hydraulic lines inside pump box, ensure bulkhead tee (ITEM 22) is shimmed correctly to mounting plate. Shimming with ITEM 10 allows correct alignment of the face seals & removes strain from internal hydraulic lines.

CAUTION

To prevent hydraulic lock from being damaged, torque replacement valve cartridge to 25 lbs.-ft. & coil nut to 4-6 lbs.-ft.

ITEM	QTY.	PART NO.	DESCRIPTION
1	2	284947-01	HYDRAULIC CYLINDER, 2.75" DIA, 12" STROKE, LH
		284947-02	HYDRAULIC CYLINDER, 2.75" DIA, 12" STROKE, RH
2	1	282999-01	HYDRAULIC LOCK VALVE ASSEMBLY
3	1	906707-01	ELBOW, 3/8" O.D., SAE #6
4	1	285027-01	HOSE ASSEMBLY, 3/8" HP, SAE #6 F & SAE #8 F
5	1	285659-01	HOSE ASSEMBLY, 3/8"HP, SAE #6 F & SAE #8 F, 25-5/8" LG.
6	1	906786-01	ADJUSTABLE UNION, STR SAE #6 M-M, O-RING,
7	1	282625-02	LOCK VALVE CABLE ASSEMBLY, 16/2 X 36"
8	1	905362-13	POLYURETHANE TUBING, 1/4" X 66" LG.
9	1	285656-01	FACE SEAL TUBE ASSEMBLY, TE-33
10	9	902028-14	FLAT WASHER, 1-7/16" O.D. X 7/8" I.D.
11	2	905142-04	BRASS FIT M ELBOW 1/4" TB X 1/4" NPT
12	2	228012	ADAPTER 9/16" - 18M - 1/4" F
13	1	906897-01	TUBE END REDUCER, ORFS #8-6
14	1	906767-01	UNION ELBOW, 1/4" TUBE O.D.
15	1	906858-01	BULKHEAD UNION ELBOW, ORFS #8
16	1	285653-01	FACE SEAL TUBE ASSEMBLY, TE-33
17	1	906709-03	FLOW VALVE REGULATOR #6 SAE, 3.0 GPM
18	1	906708-01	ELBOW, SAE #6 O-RING, M-F, SWIVEL
19	1	905173	FACE SEAL CONNECTOR #6 & O-RING #6, M-M
20	1	906744-01	BULKHEAD UNION SAE #6, FACE SEAL, M-M
21	9	906712-02	O-RING #6, 3/8" FACE SEAL, TUBE-END
22	1	906896-01	BULKHEAD RUN TEE, O-RING FACE SEAL, SAE #8
23	1	906749-01	UNION TEE, 1/4" TUBE O.D.

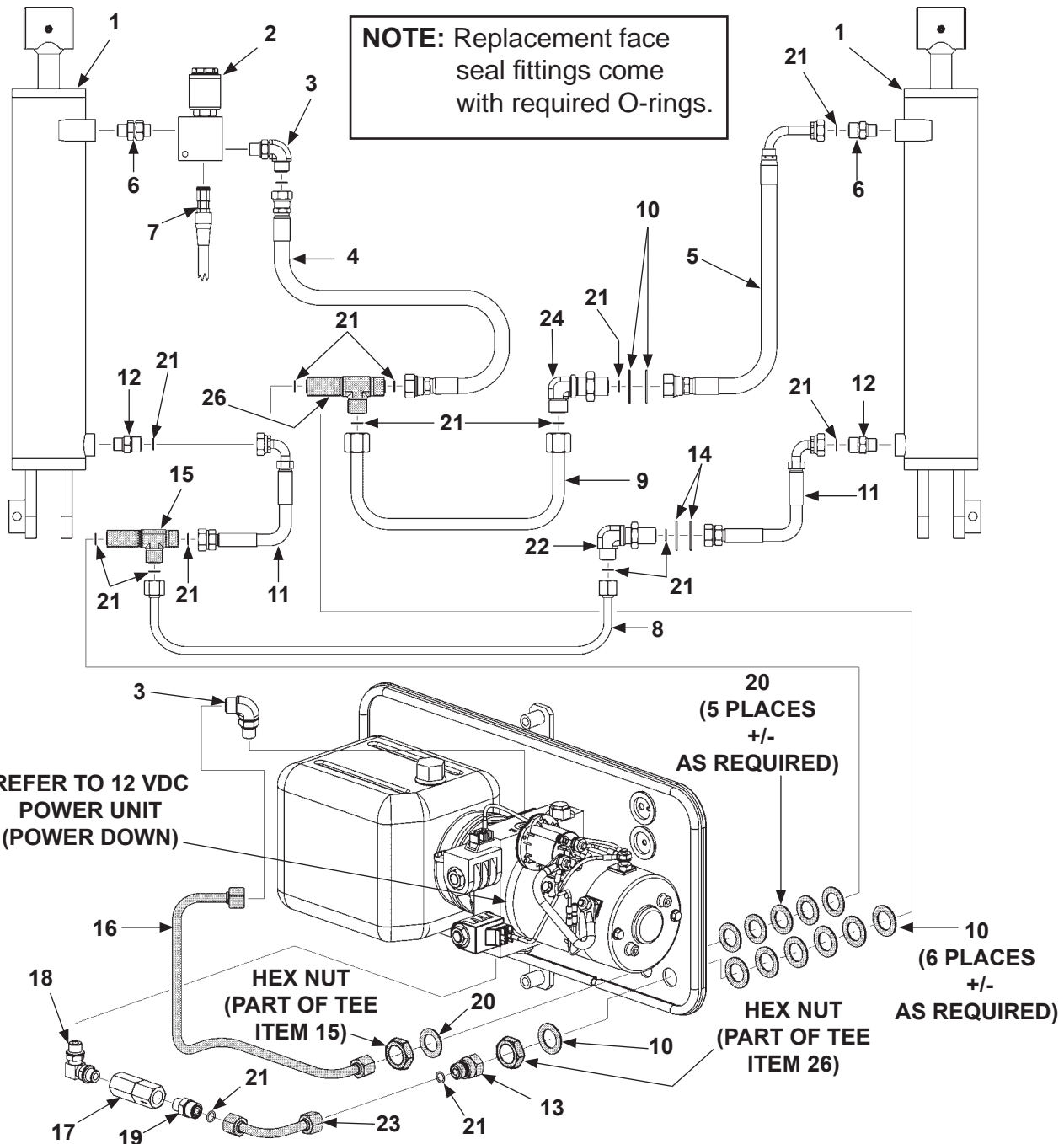
HYDRAULIC COMPONENTS (POWER DOWN)

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.

NOTE: When replacing internal steel hydraulic lines and bulkhead tees, ensure tees are shimmed correctly to mounting plate with **ITEMS 10** and **20**.

- Fittings that connect lines to pump should be in correct position & tight.
- Steel line is installed fingertight while measuring gap between tee & mounting plate. Add correct number of shims to fill gap.
- Position and tighten the bulkhead tees and steel line fittings.



CAUTION

To prevent misalignment, strain & damage to steel hydraulic lines inside pump box, ensure bulkhead tees (ITEMS 15 & 26) are shimmed correctly to mounting plate. Shimming with ITEMS 20 & 10 allows correct alignment of the face seals & removes strain from internal hydraulic lines.

CAUTION

To prevent hydraulic lock from being damaged, torque replacement valve cartridge to 25 lbs.-ft. & coil nut to 4-6 lbs.-ft.

ITEM	QTY.	PART NO.	DESCRIPTION
1	2	284947-01	HYDRAULIC CYLINDER, 2.75" DIA, 12" STROKE, LH
		284947-02	HYDRAULIC CYLINDER, 2.75" DIA, 12" STROKE, RH
2	1	282999-01	HYDRAULIC LOCK VALVE ASSEMBLY
3	2	906707-01	ELBOW, 3/8" O.D., SAE #6
4	1	285027-01	HOSE ASSEMBLY, 3/8"HP, SAE #6 F & SAE #8 F
5	1	285659-01	HOSE ASSEMBLY, 3/8"HP, SAE #6 F & SAE #8 F, 25-5/8" LG.
6	1	906786-01	ADJUSTABLE UNION, STR SAE #6 M-M,O-RING,
7	1	282625-02	LOCK VALVE CABLE ASSEMBLY, 16/2 X 36"
8	1	285655-01	FACE SEAL TUBE ASSEMBLY, TE-33
9	1	285656-01	FACE SEAL TUBE ASSEMBLY, TE-33
10	9	902028-14	FLAT WASHER, 1-7/16" O.D. X 7/8" I.D.
11	2	285027-01	HOSE ASSEMBLY, 3/8" HP, ORFS 6-8, FEM
12	2	228012	ADAPTER 9/16" - 18M -1/4" F
13	1	906897-01	TUBE END REDUCER, ORFS #8-6
14	2	902028-12	FLAT WASHER, 1-1/4" O.D. X 3/4" I.D.
15	1	906896-01	BULKHEAD RUN TEE, ORFS, SAE #8
16	1	285653-01	FACE SEAL TUBE ASSEMBLY, TE-33
17	1	906709-03	FLOW VALVE REGULATOR #6 SAE, 3.0 GPM
18	1	906708-01	NPSC ELBOW, SAE #6 O-R M-F SW
19	1	905173	FACE SEAL CONNECTOR #6 & O-RING #6, M-M
20	6	902028-12	FLAT WASHER,1-1/4" OD X 3/4" ID
21	15	906712-02	O-RING #6 (3/8" FACE SEAL, TUBE-END)
22	1	905162	BULKHEAD UNION ELBOW, F/S #6
23	1	285652-01	FACE SEAL TUBE ASSEMBLY, PDP
24	1	906858-01	BULKHEAD UNION ELBOW, O-RING FACE SEAL #8

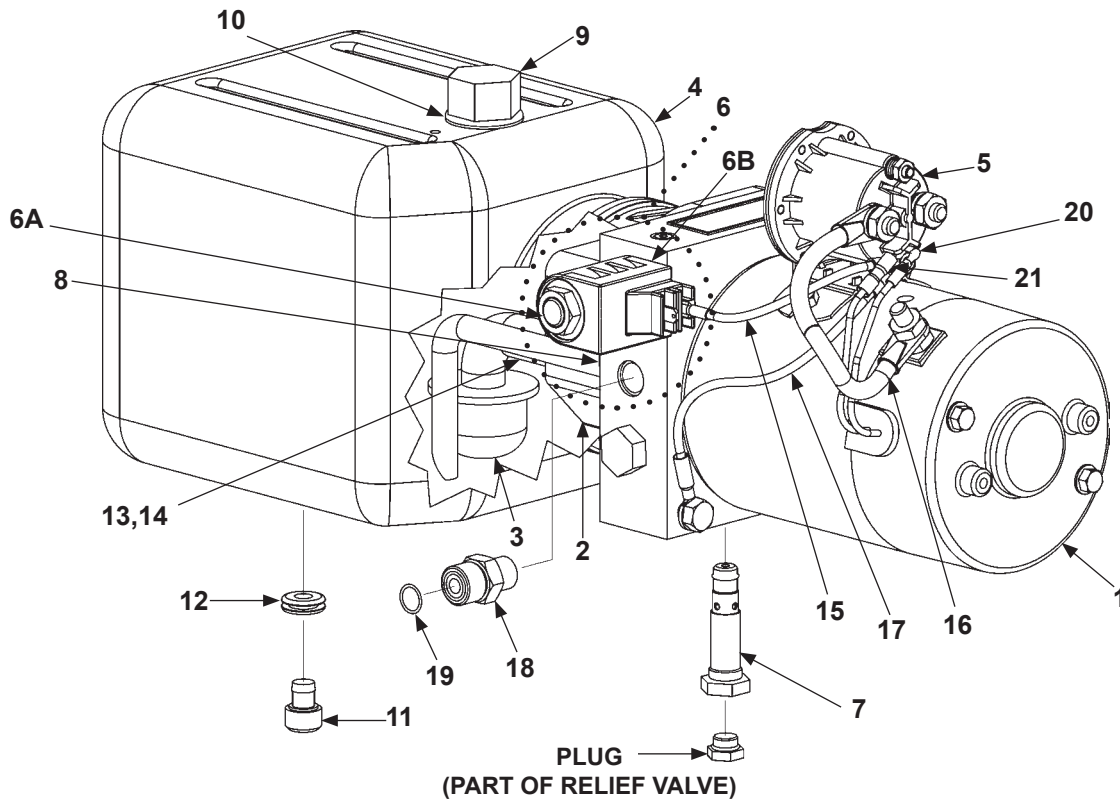
12 VDC POWER UNIT (GRAVITY DOWN)

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.



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ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	269399-01	12 VDC POWER UNIT (GRAVITY DOWN)
1	1	280374	12 VDC MOTOR
2	1	906781-01	PUMP ASSEMBLY
3	1	290034	FILTER, PUMP INLET
4	1	269444-01	RESERVOIR, 1-1/4 GAL, TE-33
5	1	284080-01	SWITCH, SOLENOID ASSEMBLY, 12 VDC
6	1	290043	VALVE ASSEMBLY, 2-WAY (DOUBLE SPADE)
6A	1	290044	VALVE CARTRIDGE (2-WAY VALVE)
6B	1	290045	COIL, DOUBLE SPADE (2-WAY VALVE)
7	1	906737-01	CARTRIDGE RELIEF VALVE
8	1	290061	SEAL, SQUARE CUT (FOR RESERVOIR)
9	1	280806-01	FILLER, BREATHER CAP
10	1	908016-01	GROMMET, RUBBER, 1/8" X 3/4" X 1"
11	1	908017-01	PLUG, DRAIN PORT
12	1	908018-01	GROMMET, RUBBER, 5/16" I.D.
13	1	260261	PUMP OIL SEAL
14	1	290020	O-RING (2-012, 70 DURO)
15	1	280416	WIRE ASSEMBLY
16	1	280404	CABLE ASSEMBLY
17	2	268027-01	WIRE ASSEMBLY, 18 GAUGE, (#10 & 5/16" RINGS)
18	1	905173	CONNECTOR, STR FACE SEAL / ORB, #6
19	1	906712-02	O-RING #6 (3/8" FACE SEAL, TUBE-END)
20	1	263345	MALE BULLET, 16 GAUGE
21	1	263346	FEMALE BULLET, 16 GAUGE

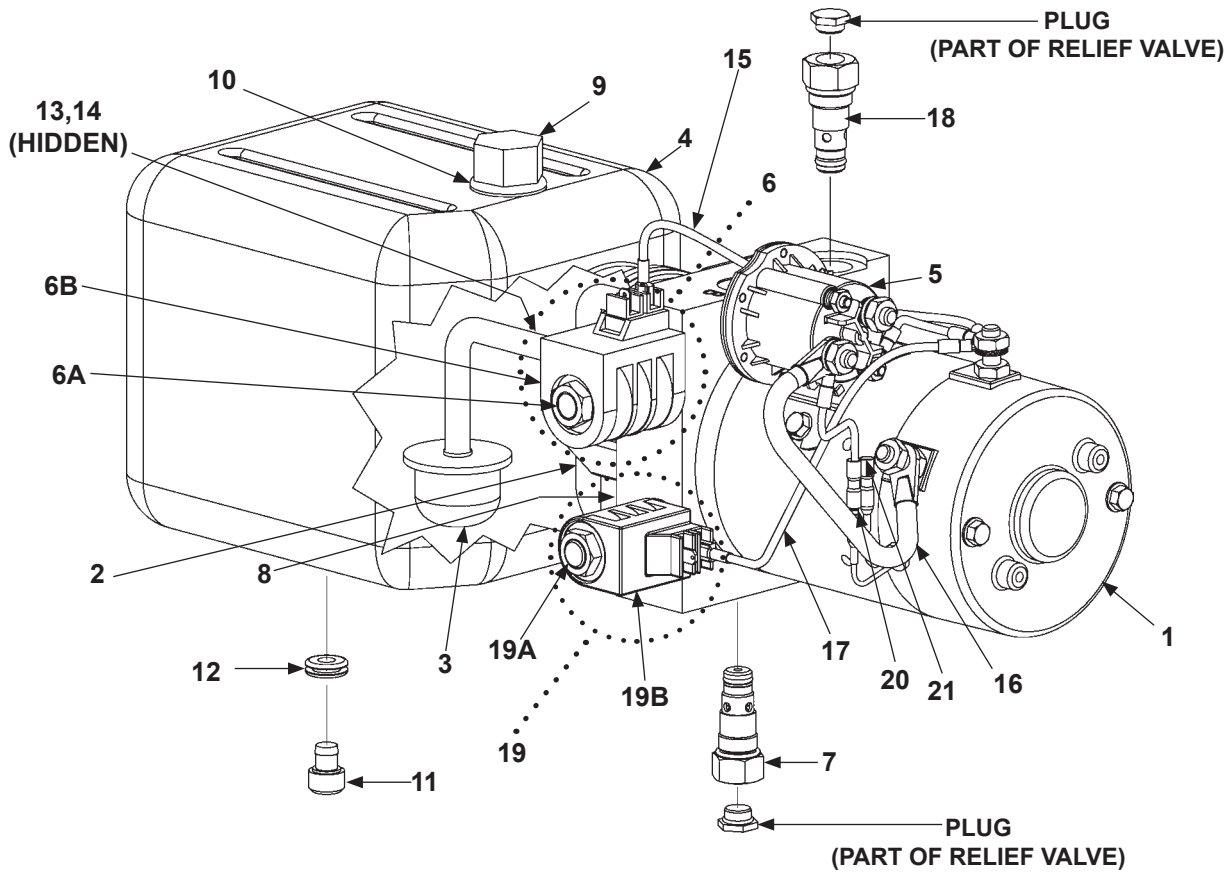
12 VDC POWER UNIT (POWER DOWN)

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.



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ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	285548-01	12 VDC POWER UNIT (POWER DOWN)
1	1	280374	12 VDC MOTOR
2	1	906781-01	PUMP ASSEMBLY
3	1	290034	FILTER, PUMP INLET
4	1	285547-01	RESERVOIR, 1-1/4 GAL, TE-33
5	1	284080-01	SWITCH, SOLENOID ASSEMBLY, 12 VDC
6	1	290046	VALVE ASSEMBLY, 4-WAY (DOUBLE SPADE)
6A	1	290047	VALVE CARTRIDGE (4-WAY VALVE)
6B	1	290048	COIL, DOUBLE SPADE (4-WAY VALVE)
7	1	906738-02	ADJUSTIBLE HIGH PRESSURE RELIEF VALVE
8	1	290061	SEAL, SQUARE CUT (FOR RESERVOIR)
9	1	280806-01	FILLER, BREATHER CAP
10	1	908016-01	GROMMET, RUBBER, 1/8" X 3/4" X 1" LG.
11	1	908017-01	PLUG, DRAIN PORT
12	1	908018-01	GROMMET, RUBBER, 5/16" I.D.
13	1	260261	OIL SEAL, PUMP
14	1	290020	O-RING (2-012, 70 DURO)
15	1	285891-01	WIRE ASSEMBLY, 5/16" RING - Q. DISCONNECT
16	1	280404	CABLE ASSEMBLY
17	2	284161-02	WIRE, 18 GAUGE
18	1	268174-01	ADJUSTIBLE RELIEF VALVE, LOW PRESSURE
19	1	290043	VALVE ASSEMBLY, (2-WAY, DOUBLE SPADE)
19A	1	906822-01	VALVE CARTRIDGE (2-WAY VALVE)
19B	1	290045	COIL, DOUBLE SPADE (2-WAY VALVE)
20	1	263345	MALE BULLET, 16 GUAGE
21	1	263346	FEMALE BULLET, 16 GUAGE

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CONTROL SWITCH AND POWER CABLE

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

NOTE: MAXON recommends using dielectric grease on all electrical connections.

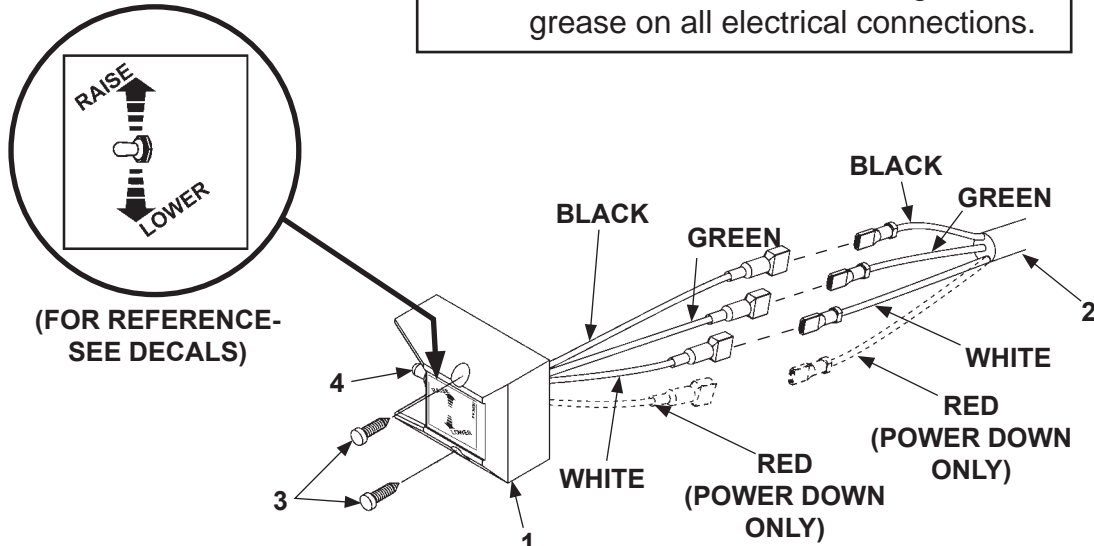
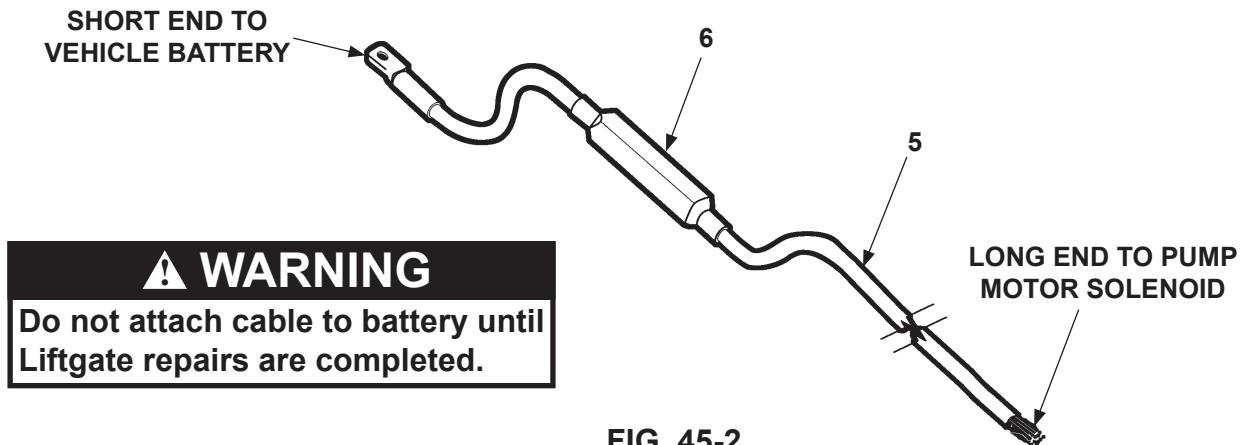


FIG. 45-1

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	267959-01	MOLDED SWITCH ASSEMBLY (GRAVITY DOWN)
		264951-04	MOLDED SWITCH ASSEMBLY (POWER DOWN)
2	1	268025-01	CABLE ASSEMBLY, 85" LG. (GRAVITY DOWN)
		268170-01	CABLE ASSEMBLY, 85" LG. (POWER DOWN)
3	2	900057-5	SCREW, SELF-TAPPING #10-24 X 1" LG.
4	1	905206	SWITCH BOOT SEAL
5	1	264422	CABLE ASSEMBLY, 175 AMPS, 38' LG.
6	1	264687	KIT, MEGAFUSE (175 AMP FUSE & HEATSHRINK TUBING)

TABLE 45-1



⚠ WARNING

Do not attach cable to battery until Liftgate repairs are completed.

FIG. 45-2

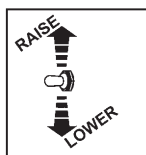
DECALS: TE-33

MAXON[®]

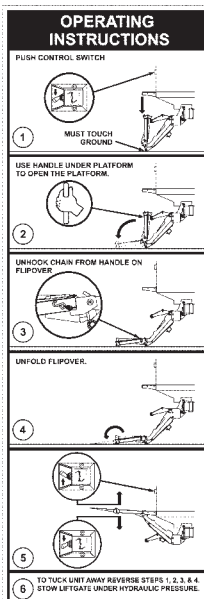
11921 Slauson Ave. Santa Fe Springs, CA. 90670 (800) 227-4116 FAX (888) 771-7713



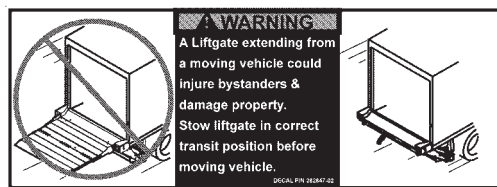
**PINCH WARNING DECAL
(2 PLACES)
P/N 265736-01**



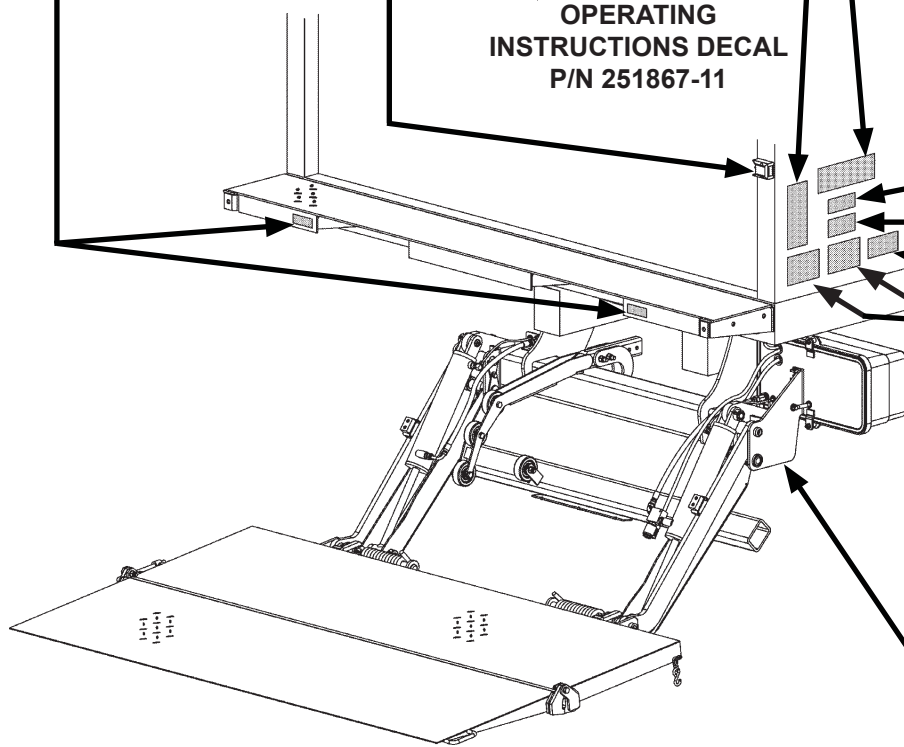
**RAISE/LOWER DECAL
P/N 264507**



**OPERATING
INSTRUCTIONS DECAL
P/N 251867-11**

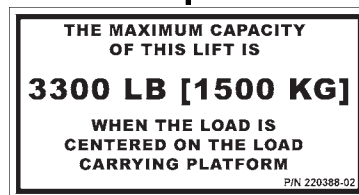


**WARNING DECAL
P/N 282847-02**



DECAL "F"

DECAL "B"
DECAL "A"
DECAL "C"



**MAXIMUM CAPACITY
P/N 220388-02**

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



**SERIAL PLATE
P/N 905246-2**

FIG. 46-1

SAFETY INSTRUCTIONS

Read all decals and operation manual before operating liftgate.

1. Do not use liftgate unless you have been properly instructed and have read, and are familiar with, the operating instructions.
2. Be certain vehicle is properly and securely braked before using the liftgate.
3. 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.
4. Do not overload
5. Make certain the area in which the platform will open and close is clear before opening or closing the platform.
6. 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.
7. This liftgate is intended for loading and unloading of cargo only. Do not use this liftgate for anything but its intended use.

(A)



WARNING

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.

P/N 282522-01 (B)

Read and understand all instructions and WARNINGS before use.

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.
- If you are using a pallet jack, be sure it can be maneuvered safely.
- Do not operate a forklift on the platform.
- 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.
- **USE GOOD COMMON SENSE.**
- If load appears to be unsafe, do not lift or lower it.

For a free copy of other manuals that pertain to this model Liftgate, please visit our website at www.maxonlift.com or call Customer Service at (800) 227-4116.

(C)

CAUTION

Always stand clear of platform area.

(F)

**DECAL SHEET
P/N 282522-01**

FIG. 47-1

DECALS: TEWR-33

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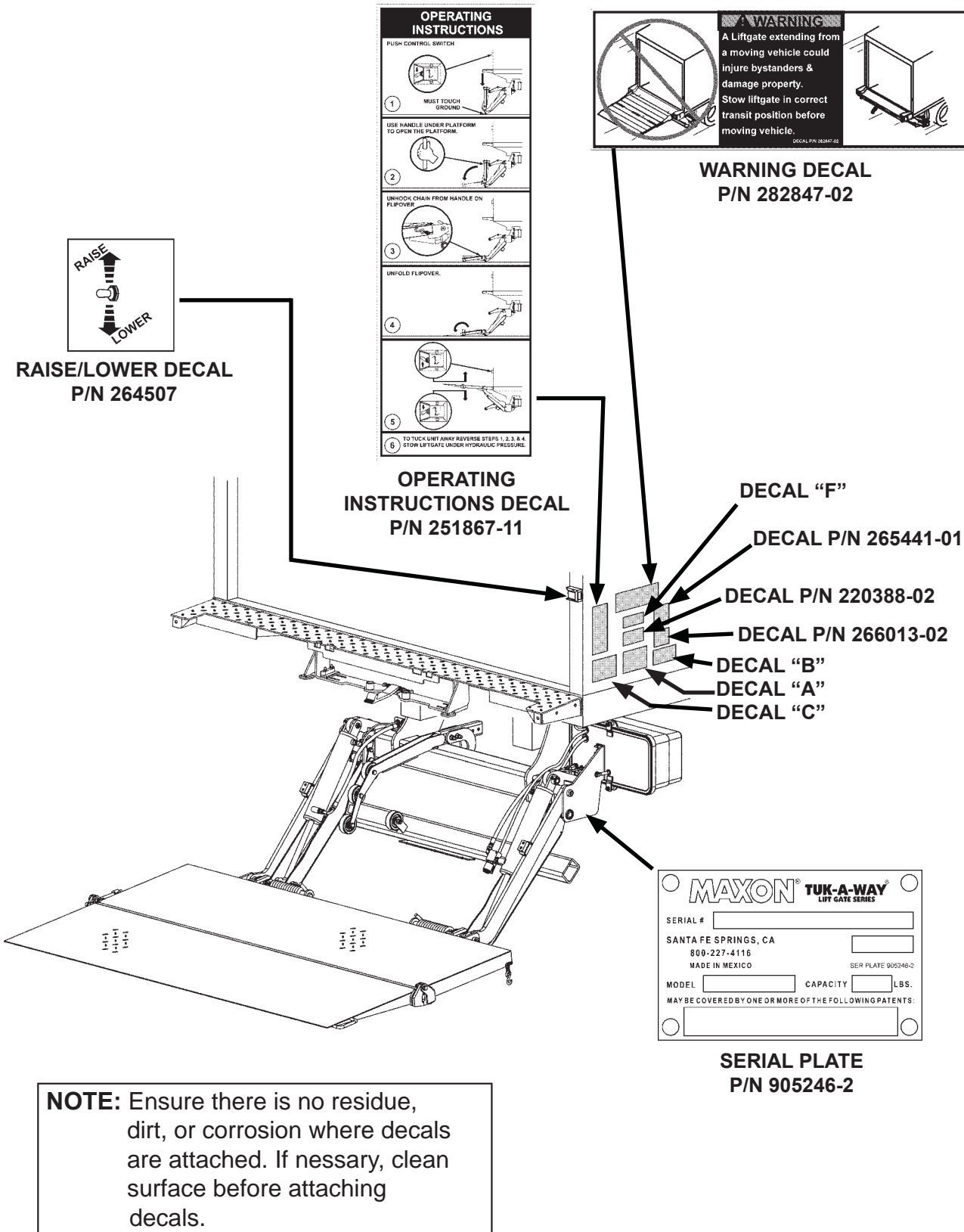


FIG. 48-1

SAFETY INSTRUCTIONS

Read all decals and operation manual before operating liftgate.

1. Do not use liftgate unless you have been properly instructed and have read, and are familiar with, the operating instructions.
2. Be certain vehicle is properly and securely braked before using the liftgate.
3. 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.
4. Do not overload
5. Make certain the area in which the platform will open and close is clear before opening or closing the platform.
6. 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.
7. This liftgate is intended for loading and unloading of cargo only. Do not use this liftgate for anything but its intended use.

(A)

WARNING

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.

P/N 282522-01 (B)

Read and understand all instructions and WARNINGS before use.

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.
- If you are using a pallet jack, be sure it can be maneuvered safely.
- Do not operate a forklift on the platform.
- 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.
- **USE GOOD COMMON SENSE.**
- If load appears to be unsafe, do not lift or lower it.

For a free copy of other manuals that pertain to this model Liftgate, please visit our website at www.maxonlift.com or call Customer Service at (800) 227-4116.

(C)

CAUTION

Always stand clear of platform area.

(E)

**DECAL SHEET
P/N 282522-01**

**THE MAXIMUM CAPACITY
OF THIS LIFT IS**

3300 LB [1500 KG]

**WHEN THE LOAD IS
CENTERED ON THE LOAD
CARRYING PLATFORM**

P/N 220388-02

**MAXIMUM CAPACITY
P/N 220388-02**

WARNING



**NEVER OPERATE LIFTGATE
WHEN WALK RAMP IS
EXTENDED.**

**ALWAYS STOW RAMP BEFORE
OPERATING LIFTGATE.**

DECAL, P/N 285441-01

**WARNING DECAL
P/N 265441-01**

NOTICE

1. READ WALK RAMP WARNING DECAL BEFORE YOU SET UP WALK RAMP.
2. TO SET UP WALK RAMP & STOW WALK RAMP, REFER TO WALK RAMP MANUFACTURER'S INSTRUCTIONS.

DECAL, P/N 266013-02

**NOTICE DECAL
P/N 266013-02**

FIG. 49-1

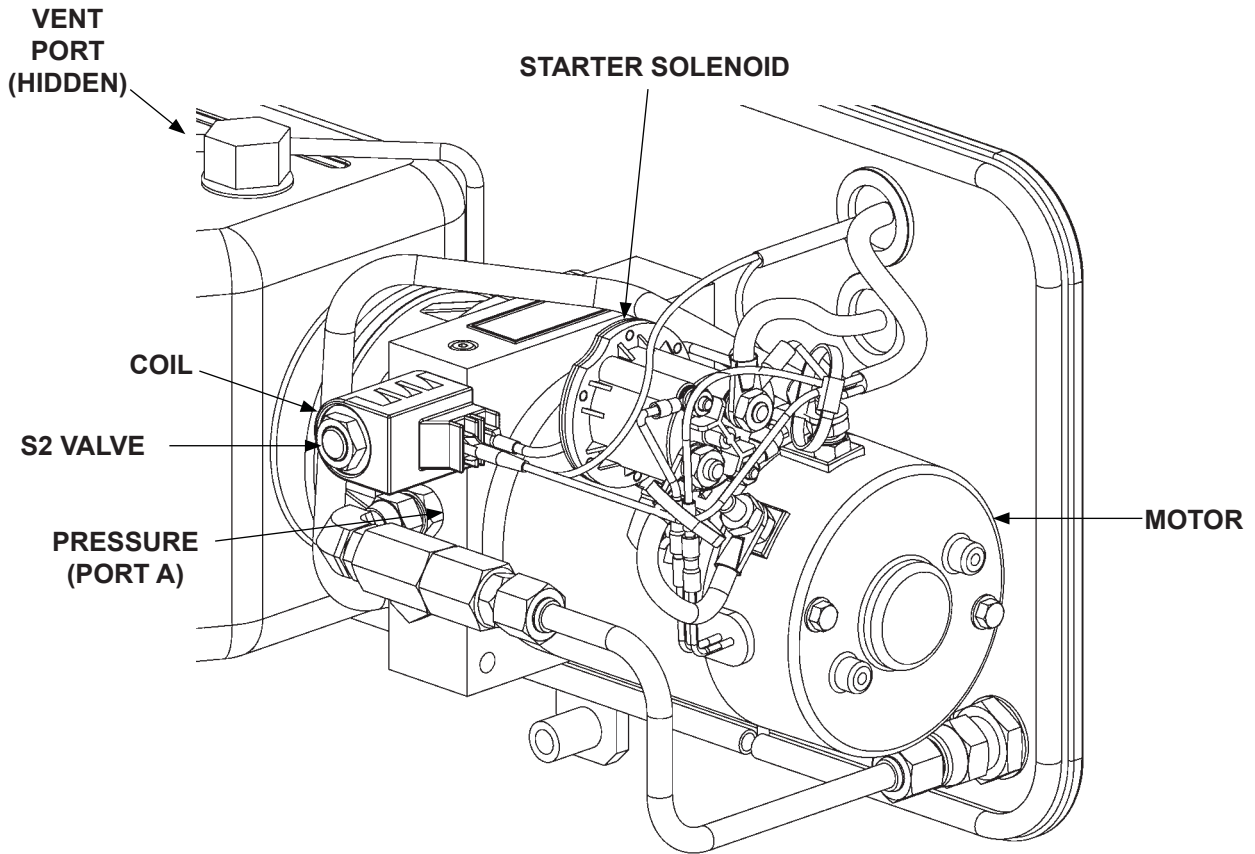
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SYSTEM DIAGRAMS

PUMP & MOTOR SOLENOID OPERATION (GRAVITY DOWN)



POWER UNIT
FIG. 51-1

POWER UNIT MOTOR & SOLENOID OPERATION				
LIFTGATE FUNCTION	PORT	SOLENOID OPERATION (✓ MEANS ENERGIZED)		
		STARTER SOL & MOTOR	S2 VALVE	LOCK VALVE (ON RH CYLINDER)
RAISE	A	✓		
LOWER			✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC				

TABLE 51-1

SYSTEM DIAGRAMS - Continued

HYDRAULIC SCHEMATIC (GRAVITY DOWN)

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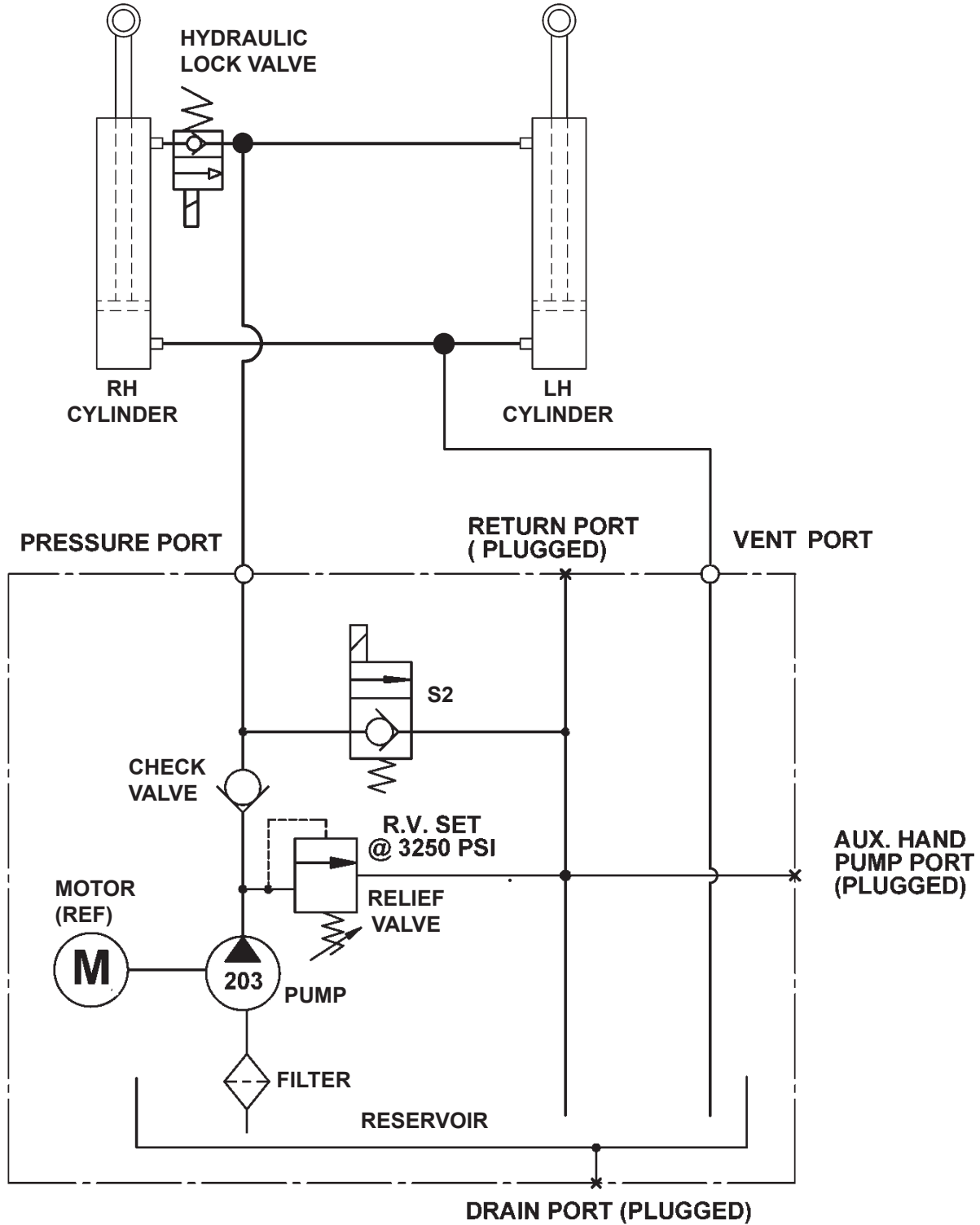


FIG. 52-1

ELECTRICAL SCHEMATIC (GRAVITY DOWN)

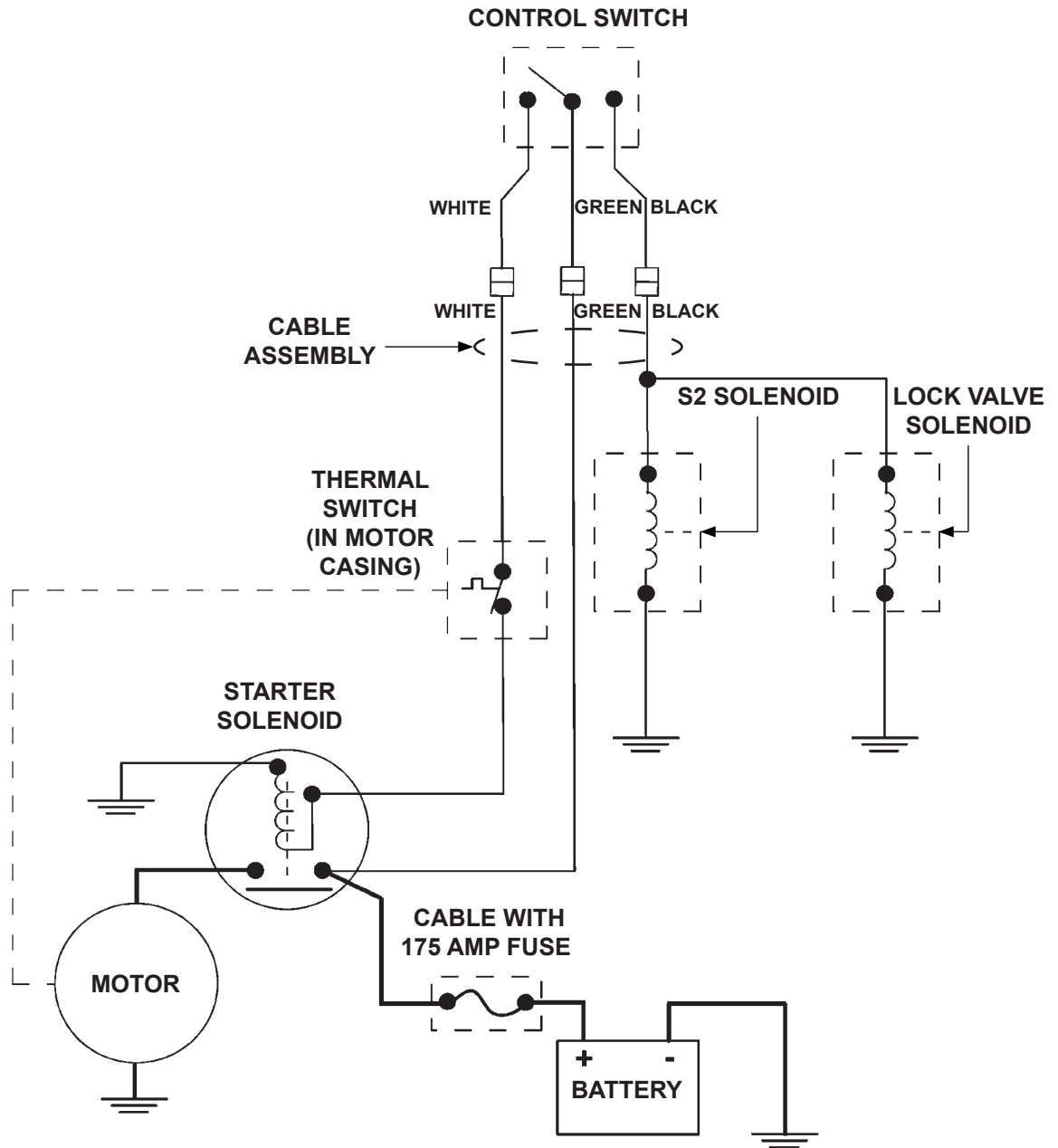


FIG. 53-1

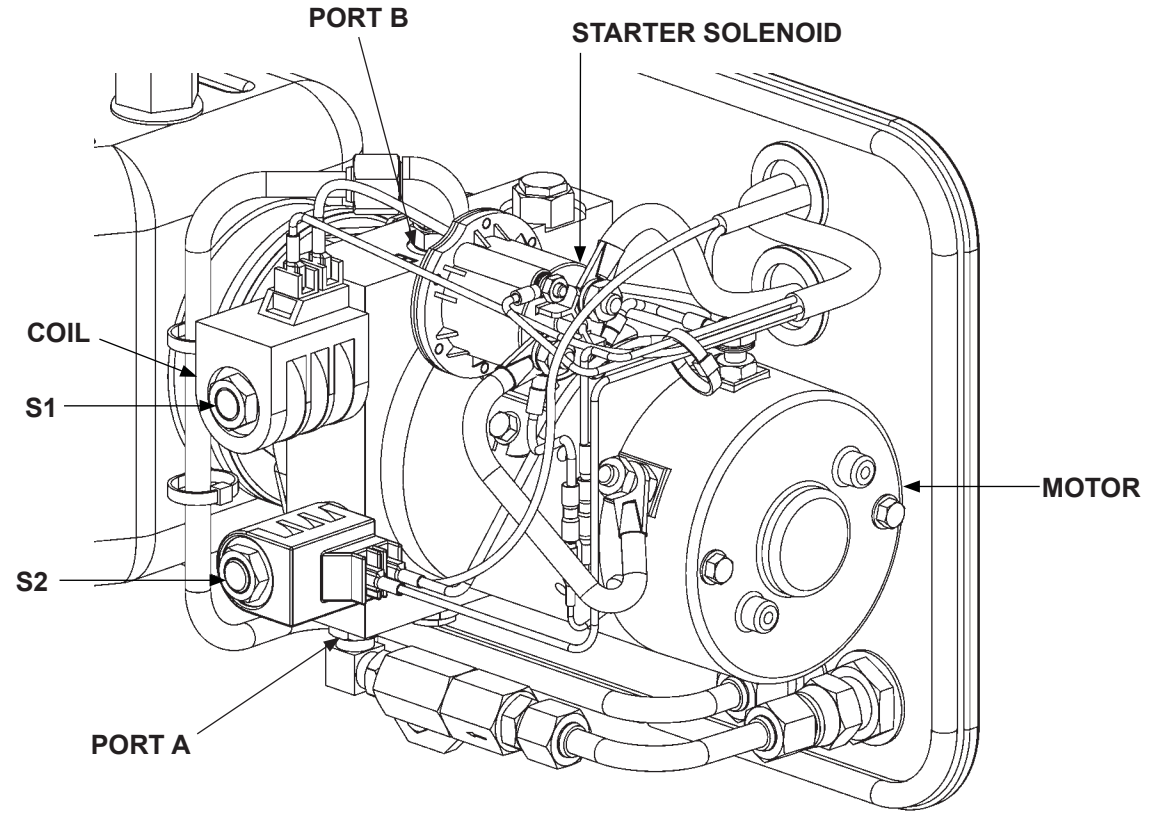
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SYSTEM DIAGRAMS

PUMP & MOTOR SOLENOID OPERATION (POWER DOWN)



POWER UNIT
FIG. 55-1

POWER UNIT MOTOR & SOLENOID OPERATION					
LIFTGATE FUNCTION	SOLENOID OPERATION (✓ MEANS ENERGIZED)				
	PORT	STARTER SOL & MOTOR	S1 VALVE	S2 VALVE	LOCK VALVE (ON RH CYLINDER)
RAISE	A	✓	✓		
LOWER	B	✓		✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC					

TABLE 55-1

HYDRAULIC SYSTEM DIAGRAMS

HYDRAULIC SCHEMATIC (POWER DOWN)

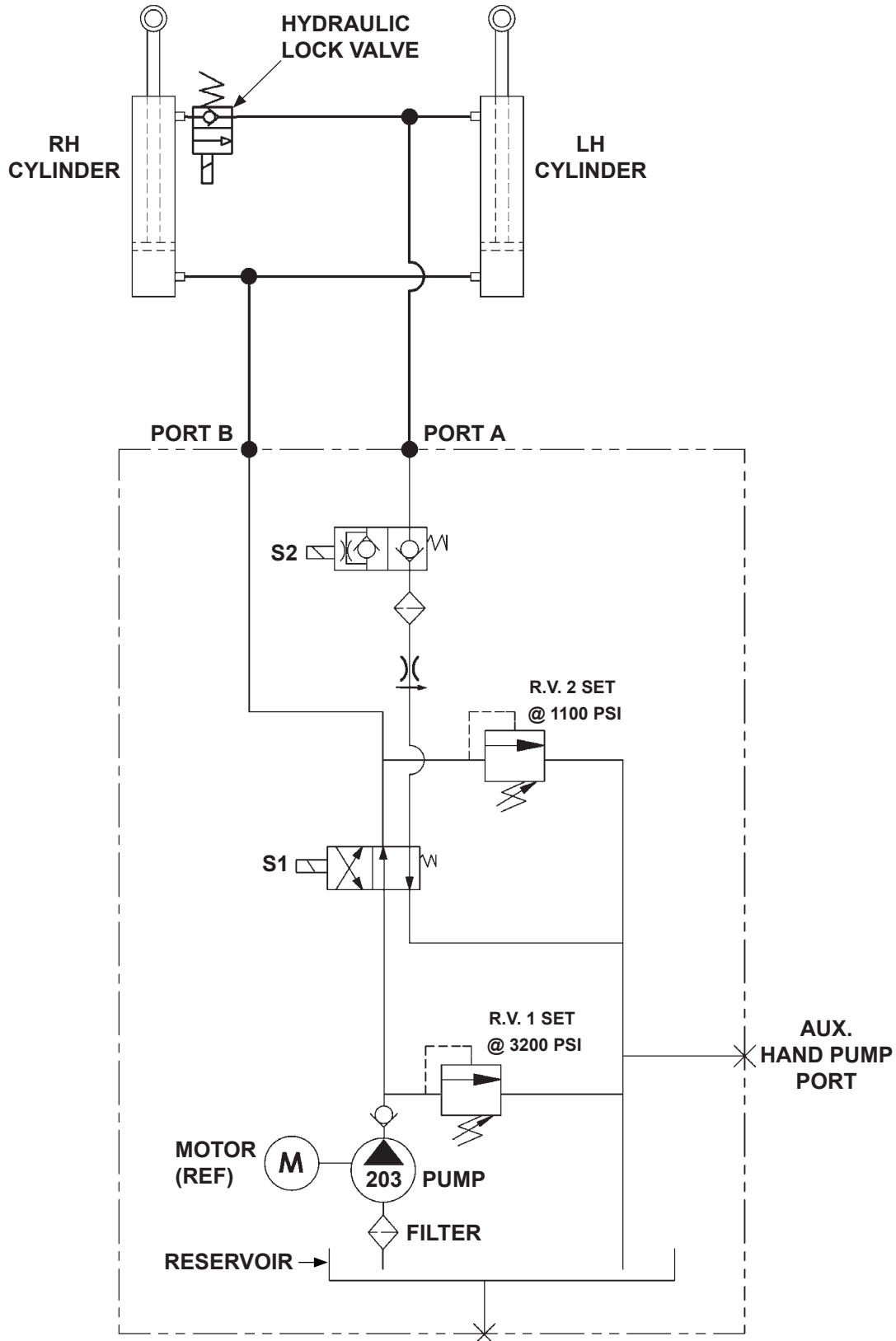


FIG. 56-1

ELECTRICAL SYSTEM DIAGRAMS

ELECTRICAL SCHEMATIC (POWER DOWN)

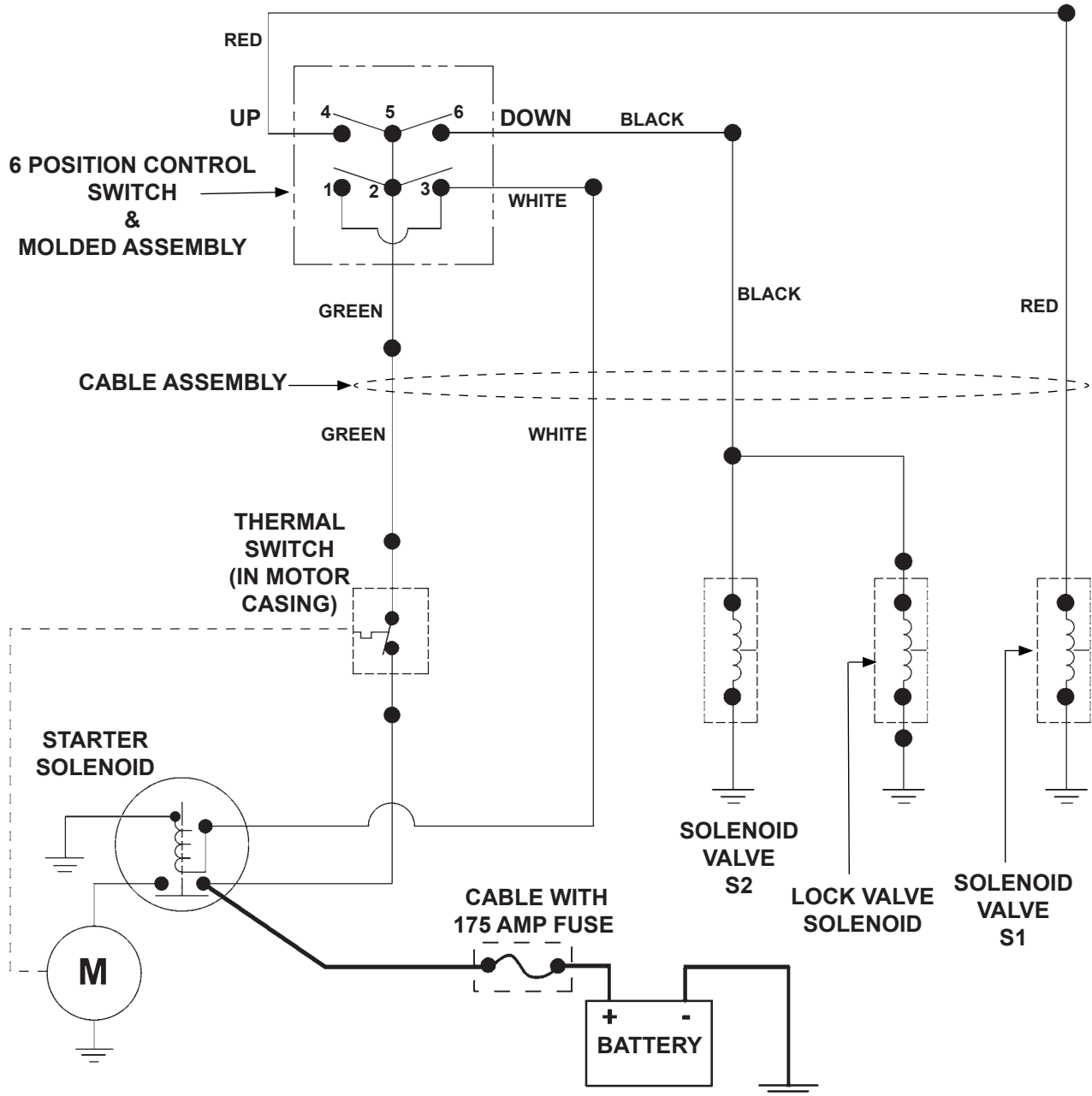
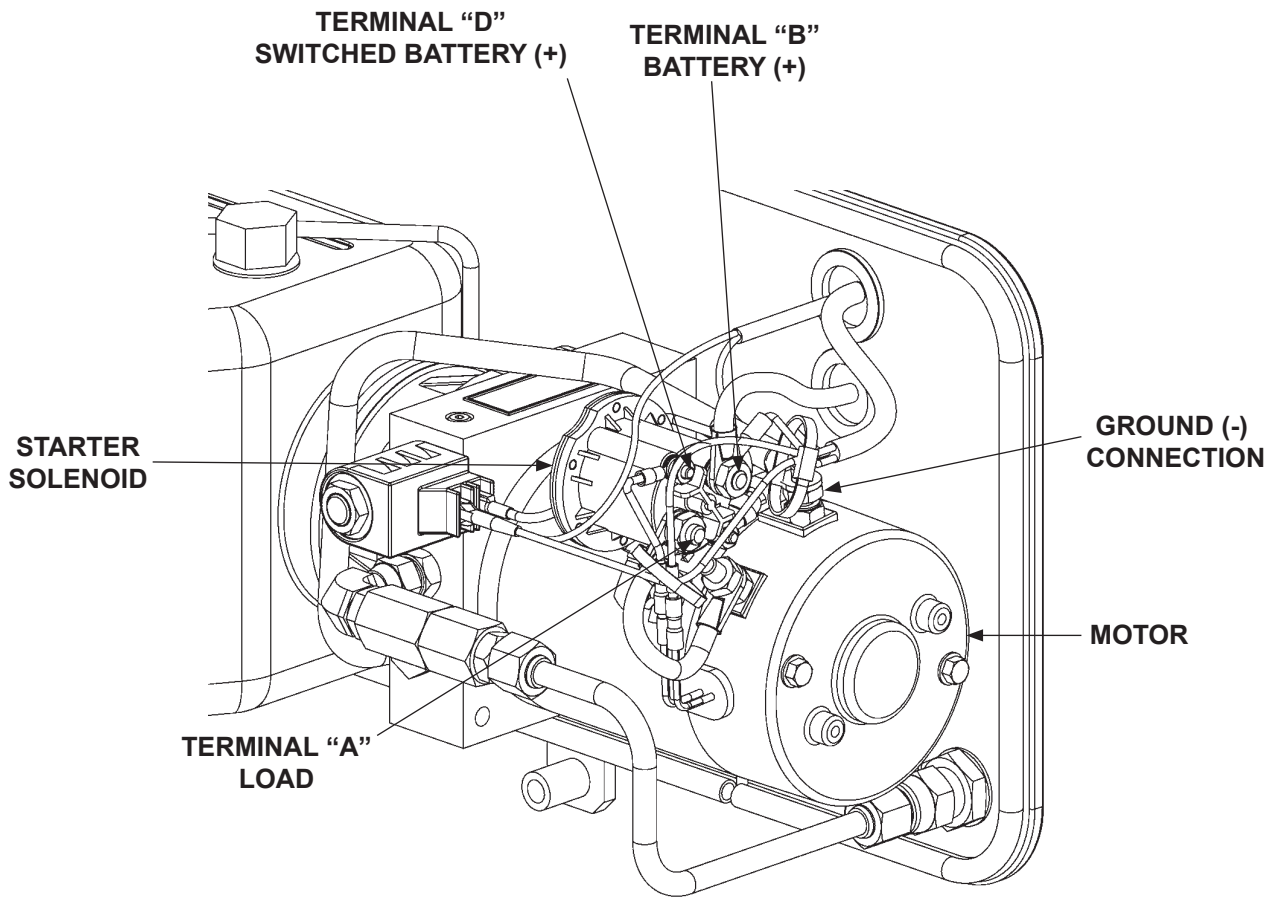


FIG. 57-1

TROUBLESHOOTING

PLATFORM WILL NOT RAISE & MOTOR WILL NOT RUN

1. Connect voltmeter between starter solenoid terminal “B” and ground wires connection on pump (FIG. 58-1). Verify that full battery voltage is at “B”. Recharge the battery if voltmeter indicates less than 12.6 volts DC.
2. Touch a jumper wire to terminals “B” & “D” (FIG. 58-1). 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. 58-1).
 - a. If motor runs, replace the starter solenoid.
 - b. If motor does not run, repair or replace the pump motor.



12 VDC POWER UNIT
(GRAVITY DOWN SHOWN)

FIG. 58-1

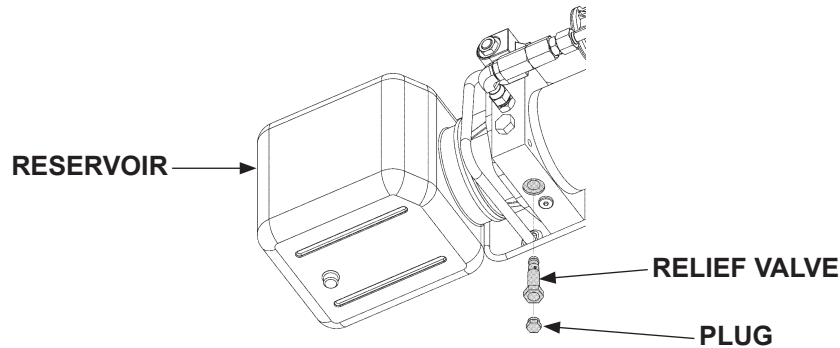
PLATFORM WILL NOT RAISE, BUT MOTOR RUNS

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

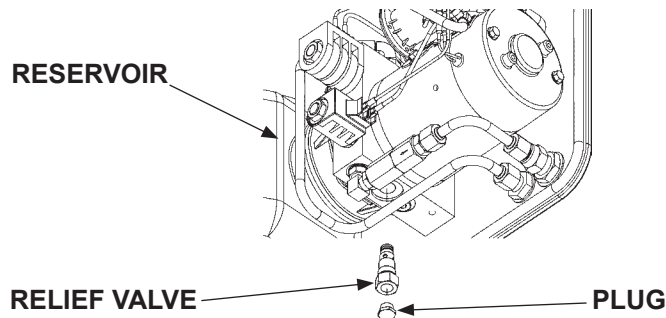
CAUTION

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 for dirty relief valve (**FIGS. 59-1 and 59-2**). Clean or replace relief valve if necessary.
4. Check pump oil filter in the reservoir (**FIGS. 59-1 and 59-2**). Clean or replace filter, if necessary.



**CHECKING THE RELIEF VALVE
(GRAVITY DOWN)
FIG. 59-1**

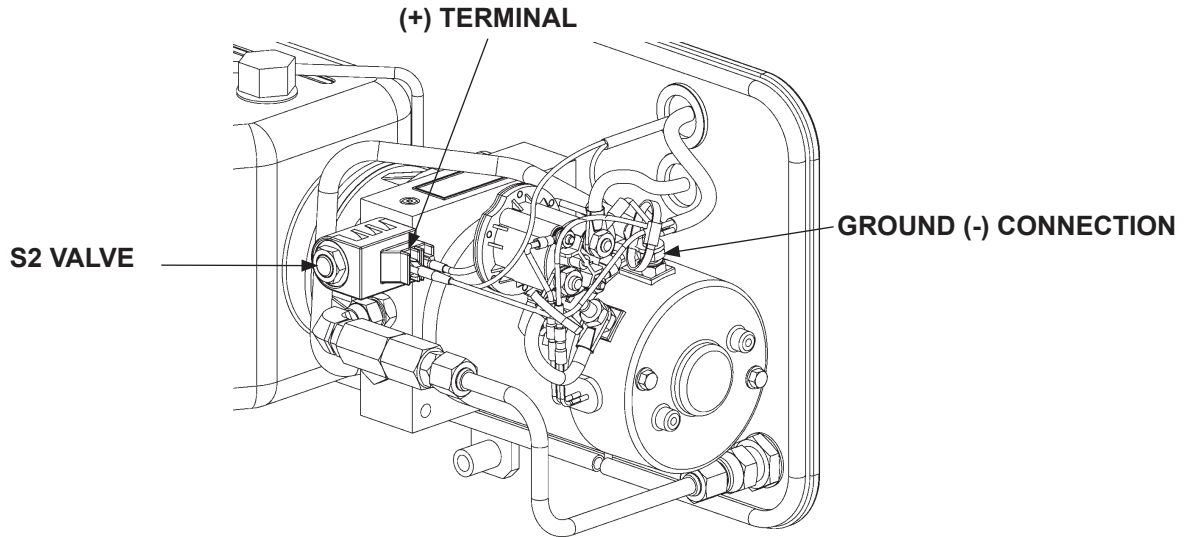


**CHECKING THE RELIEF VALVE
(POWER DOWN)
FIG. 59-2**

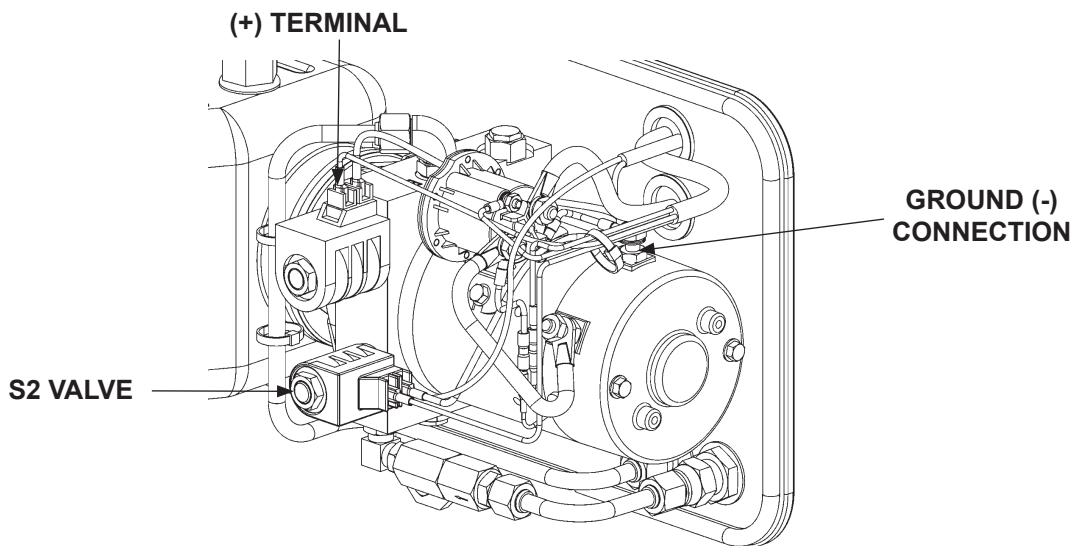
TROUBLESHOOTING

PLATFORM RAISES BUT LEAKS DOWN

1. Check if the S2 valve is constantly energized. Connect voltmeter negative (-) lead to ground (-) wires connection on pump and positive (+) lead to (+) terminal on the S2 valve (**FIGS. 60-1** and **60-2**). If voltmeter reads battery voltage, check for faulty wiring or toggle switch.



**POWER UNIT
(GRAVITY DOWN)
FIG. 60-1**

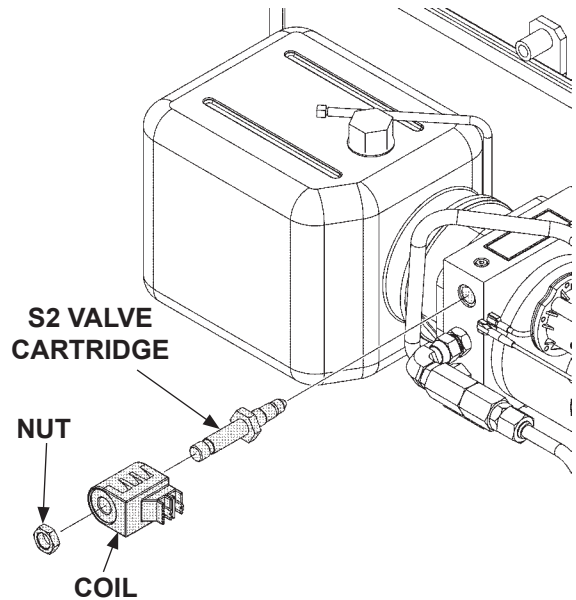


**POWER UNIT
(POWER DOWN)
FIG. 60-2**

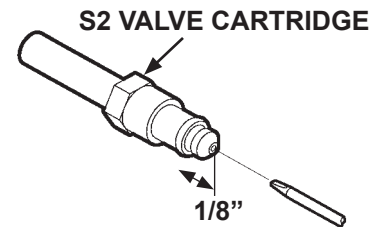
CAUTION

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.

2. Make sure platform is on the ground. Remove S2 valve (FIG. 61-1). Push on the plunger in the valve by inserting small screwdriver in the open end (FIG. 61-2). If the plunger does not move with a smooth, spring-loaded action (approximately 1/8"), replace the valve cartridge. Reinstall S2 valve. Torque valve cartridge to 30 lbs.-ft. and hex nut to 30 lbs.-in.
3. Check the hydraulic cylinder. With the platform at vehicle floor level, remove the hydraulic line from VENT PORT or LOWERING PORT on the cylinder (FIG. 61-3). Hold the control switch in the "RAISE" position for two seconds while you watch for hydraulic fluid at the VENT PORT or LOWERING PORT. A few drops of hydraulic fluid escaping the port is normal. However, if fluid streams out, piston seals are worn. Replace seals.



REMOVING S2 VALVE
(GRAVITY DOWN SHOWN)
FIG. 61-1



CHECKING S2 VALVE
FIG. 61-2

VENT PORT (GRAVITY DOWN)
LOWERING PORT (POWER DOWN)

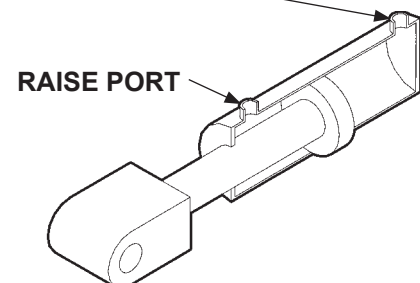
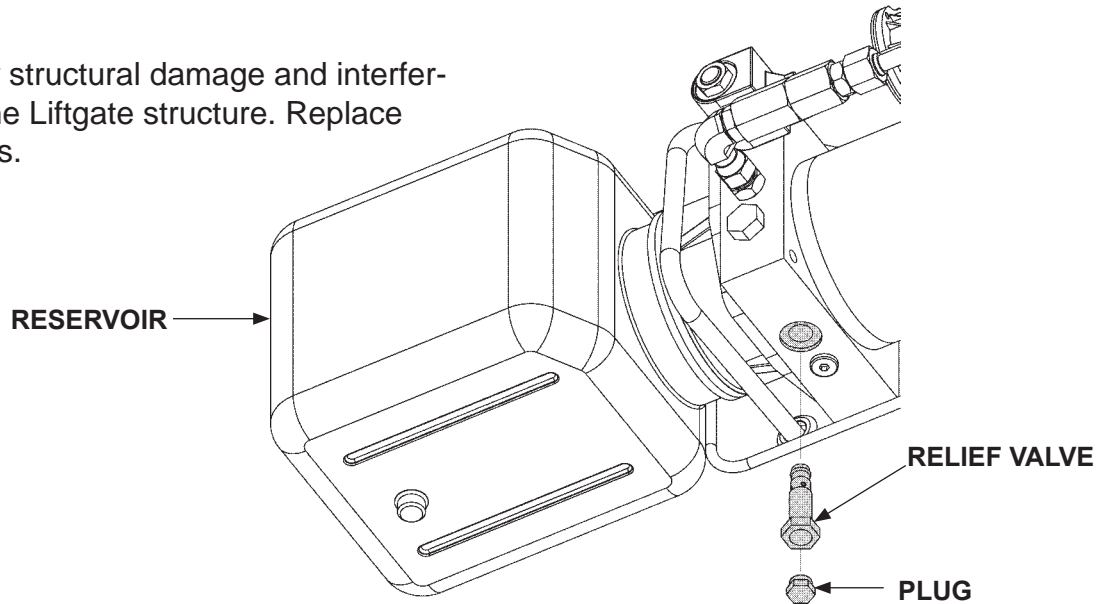


FIG. 61-3

TROUBLESHOOTING

PLATFORM RAISES PARTIALLY AND STOPS

1. Lower the opened platform to the ground. If pump makes a cavitation noise, check the oil level. Do the **CHECKING HYDRAULIC FLUID** procedure in this manual. If necessary, add hydraulic fluid.
2. Use voltmeter to verify the battery voltage is 12.6 volts DC or more under load from pump motor.
3. Check for structural damage and interference in the Liftgate structure. Replace worn parts.



**CHECKING THE RELIEF VALVE
(GRAVITY DOWN SHOWN)**

FIG. 62-1

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.

4. Check for dirty relief valve (**FIG. 62-1**). Clean or replace relief valve, if necessary.

5. Check the hydraulic cylinder. With the platform at vehicle floor level, remove the hydraulic line from the **VENT PORT** or **LOWERING PORT** on the cylinder (**FIG. 63-1**). Hold the control switch in the “**RAISE**” position for two seconds while you watch for hydraulic fluid at the **VENT PORT** or **LOWERING PORT**. A few drops of hydraulic fluid escaping the port is normal. However, if fluid streams out, piston seals are worn. Replace seals.
6. Check oil filter in the pump reservoir. Clean or replace filter, if necessary.

VENT PORT (GRAVITY DOWN)
LOWERING PORT (POWER DOWN)

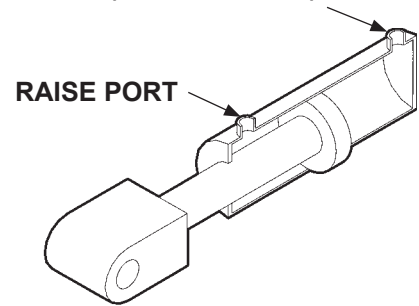


FIG. 63-1

TROUBLESHOOTING

LIFTGATE WILL NOT LIFT RATED CAPACITY

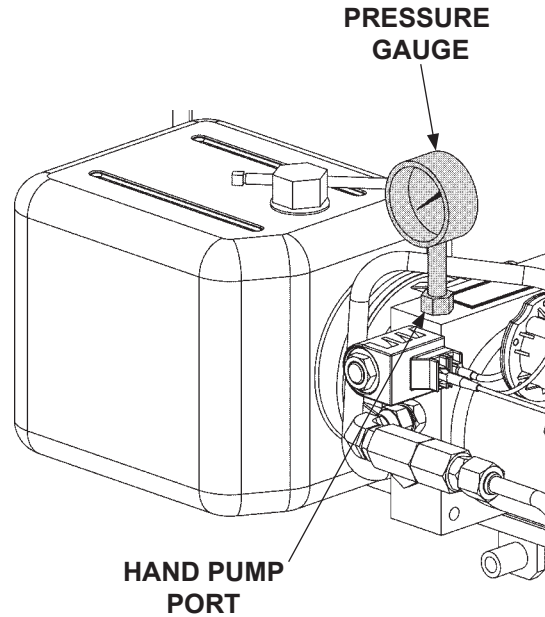
1. Use voltmeter to verify the battery voltage is 12.6 volts DC or more under load from pump motor.
2. Check for structural damage or lack of lubrication. Replace worn parts.

CAUTION

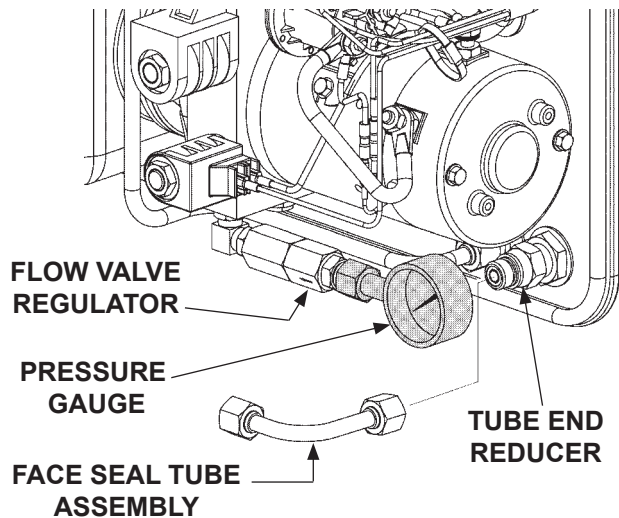
Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination during maintenance.

3. For **GRAVITY DOWN**, check the 3250 PSI relief valve as follows. With platform on the ground, remove plug from hand pump port (FIG. 64-1). Install 0-4000 PSI pressure gauge in the hand pump port (FIGS. 64-1). Remove plug for access to relief valve (FIG. 65-1). Hold the control switch in the "RAISE" position. Adjust the relief valve until the gauge reads 3250 PSI (FIG. 64-1). Remove gauge and reinstall plug in the port. Then, reinstall relief valve plug.

For **POWER DOWN**, check the 3250 PSI relief valve as follows. With platform on the ground, remove the face seal tube assembly from the flow valve regulator and tube end reducer (FIG. 64-2). Install 0-4000 PSI pressure gauge on the flow valve regulator (FIG. 64-2). Remove plug for access to relief valve (FIG. 65-1). Hold the control switch in the "RAISE" position. Adjust the relief valve until the gauge reads 3250 PSI (FIG. 64-2). Remove gauge and reinstall the face seal tube assembly.

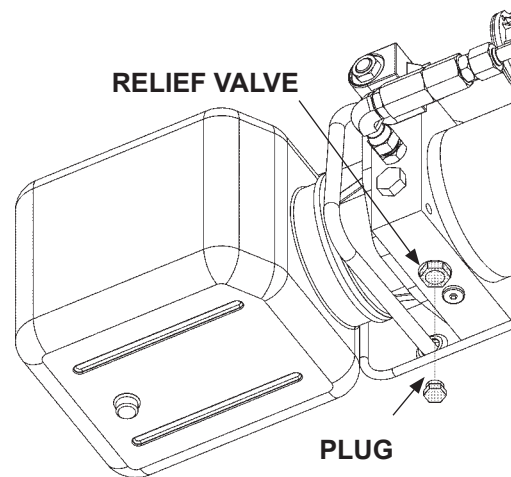


INSTALL PRESSURE GAUGE (GRAVITY DOWN)
FIG. 64-1

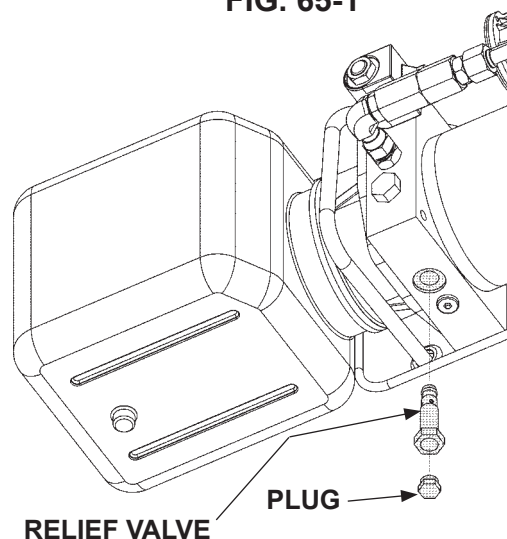


INSTALL PRESSURE GAUGE (POWER DOWN)
FIG. 64-2

4. Check if pump relief valve is dirty (**FIG. 65-2**). Clean or replace relief valve, if necessary.



**ADJUSTING RELIEF VALVE
(GRAVITY DOWN SHOWN)
FIG. 65-1**



**CHECKING RELIEF VALVE
(GRAVITY DOWN SHOWN)
FIG. 65-2**

5. Check the hydraulic cylinder. With the platform at vehicle floor level, remove the hydraulic line from the **VENT PORT** or **LOWERING PORT** on the cylinder (**FIG. 65-3**). Hold the control switch in the **"RAISE"** position for two seconds while you watch for hydraulic fluid at the **VENT PORT** or **LOWERING PORT**. A few drops of hydraulic fluid escaping the port is normal. However, if fluid streams out, piston seals are worn. Replace seals.

**VENT PORT (GRAVITY DOWN)
LOWERING PORT (POWER DOWN)**

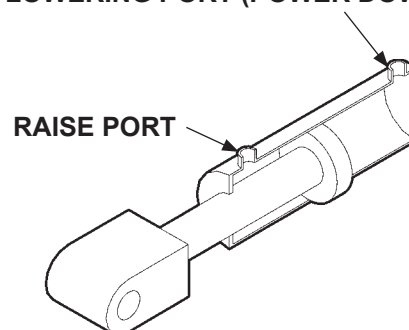


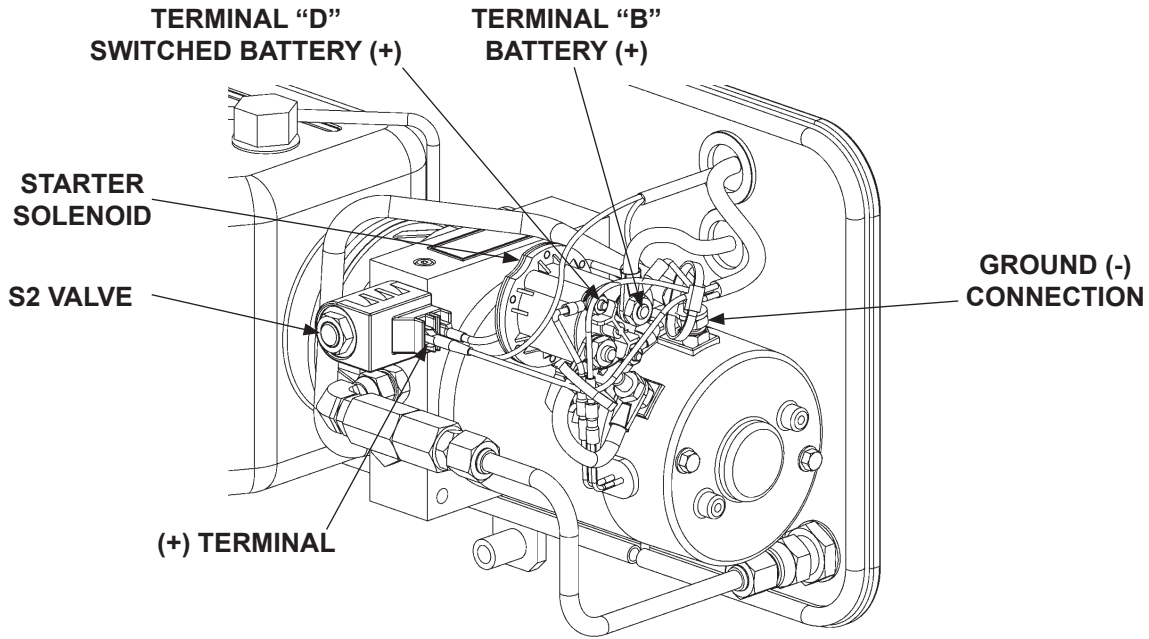
FIG. 65-3

6. If pump cannot produce 3250 PSI or lift the load capacity with a minimum of 12.6 volts DC available, the pump is worn and needs to be replaced.

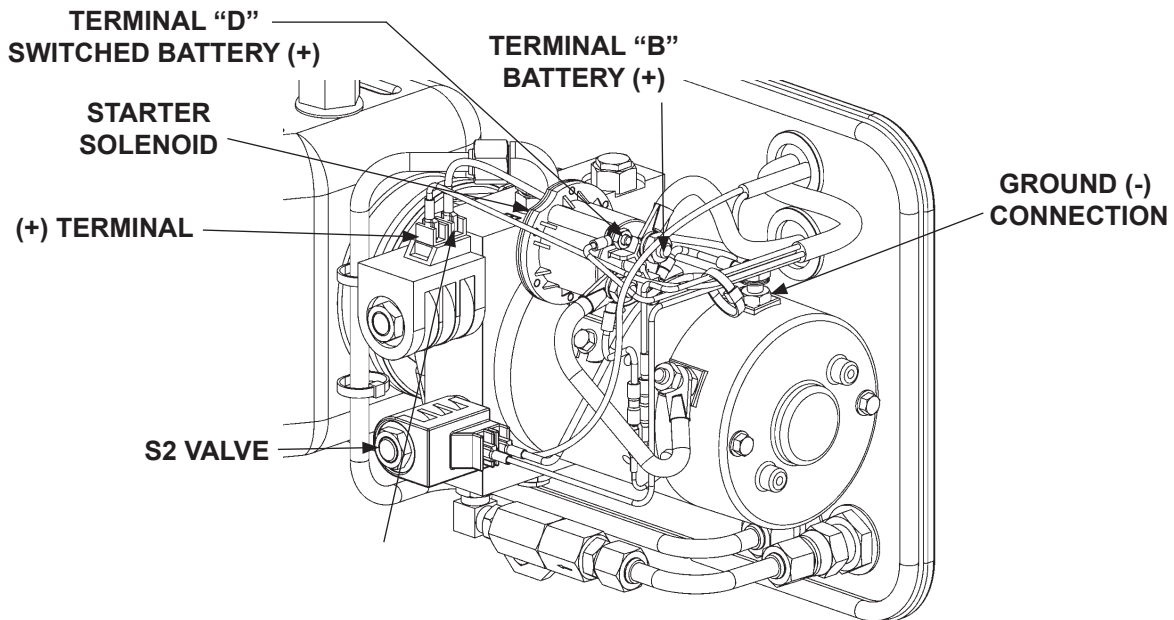
TROUBLESHOOTING

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 (FIGS. 66-1 and 62-2). Verify that full battery voltage is at "B". Recharge the battery if voltmeter indicates less than 12.6 volts DC.



POWER UNIT (GRAVITY DOWN)
FIG. 66-1



POWER UNIT (POWER DOWN)
FIG. 66-2

2. Check for structural damage or interference in Liftgate structure. Replace worn parts.
3. Check if the “D” terminal and S2 valve are getting battery voltage (**FIGS. 67-1 and 67-2**). Connect voltmeter negative (-) lead to ground (-) wires connection on pump and positive (+) lead to the “D” terminal (**FIGS. 67-1 and 67-2**). Hold control switch in the “**LOWER**” position. Then, connect voltmeter (+) lead to (+) terminal on the S2 valve (**FIGS. 67-1 and 67-2**). If voltmeter shows a much lower reading than +12.6 volts DC or a reading of 0 volts, check for faulty control switch and wiring, battery cable, ground wire connections in pump assembly, and pump motor.

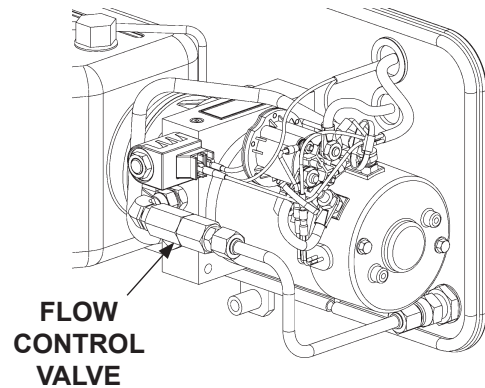
CAUTION

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.

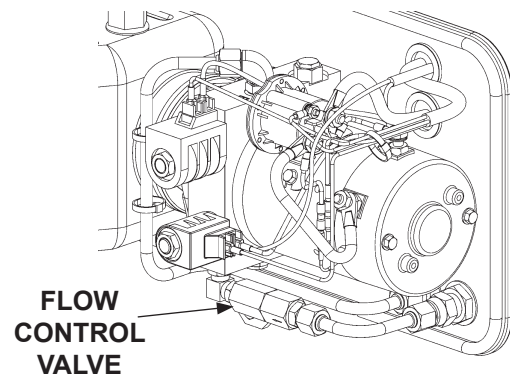
CAUTION

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

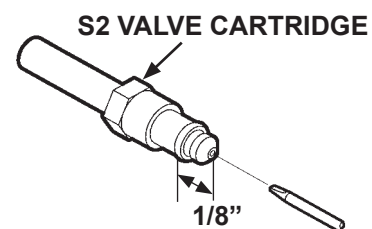
4. Make sure platform is on the ground. Check the flow control valve as follows. Remove flow control valve (**FIGS. 67-1 and 67-2**). Ensure the flow control valve operates with a smooth spring-loaded action. Check for debris inside the valve. Clean or replace the flow control valve, if necessary. Reinstall flow control valve (if good) or a replacement.
5. Check the S2 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. 67-3**). If the plunger does not move with a smooth, spring-loaded action (approximately 1/8”), replace the valve cartridge. **Reinstall S2 valve (if good) or a replacement. Torque valve cartridge to 30 lbs.-ft. and hex nut to 30 lbs.-in.**



**FLOW CONTROL VALVE
(GRAVITY DOWN)
FIG. 67-1**



**FLOW CONTROL VALVE
(POWER DOWN)
FIG. 67-2**



**CHECKING S2 VALVE
FIG. 67-3**

