

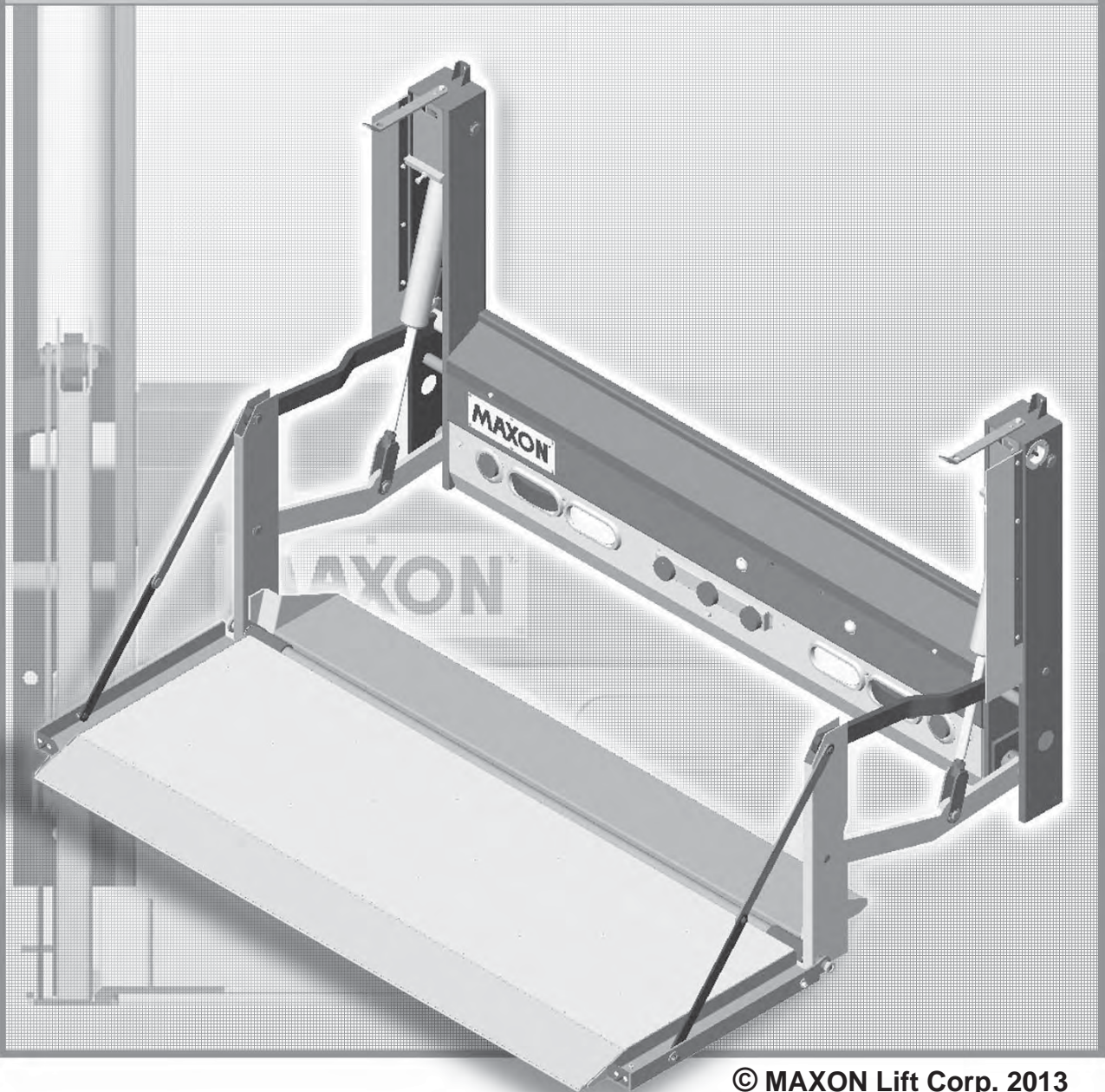
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JANUARY 2013

MAXON®

MIGHTY MAX

CONVENTIONAL LIFT MM-1650

OPERATION & MAINTENANCE MANUAL



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OPERATION

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⚠ WARNING

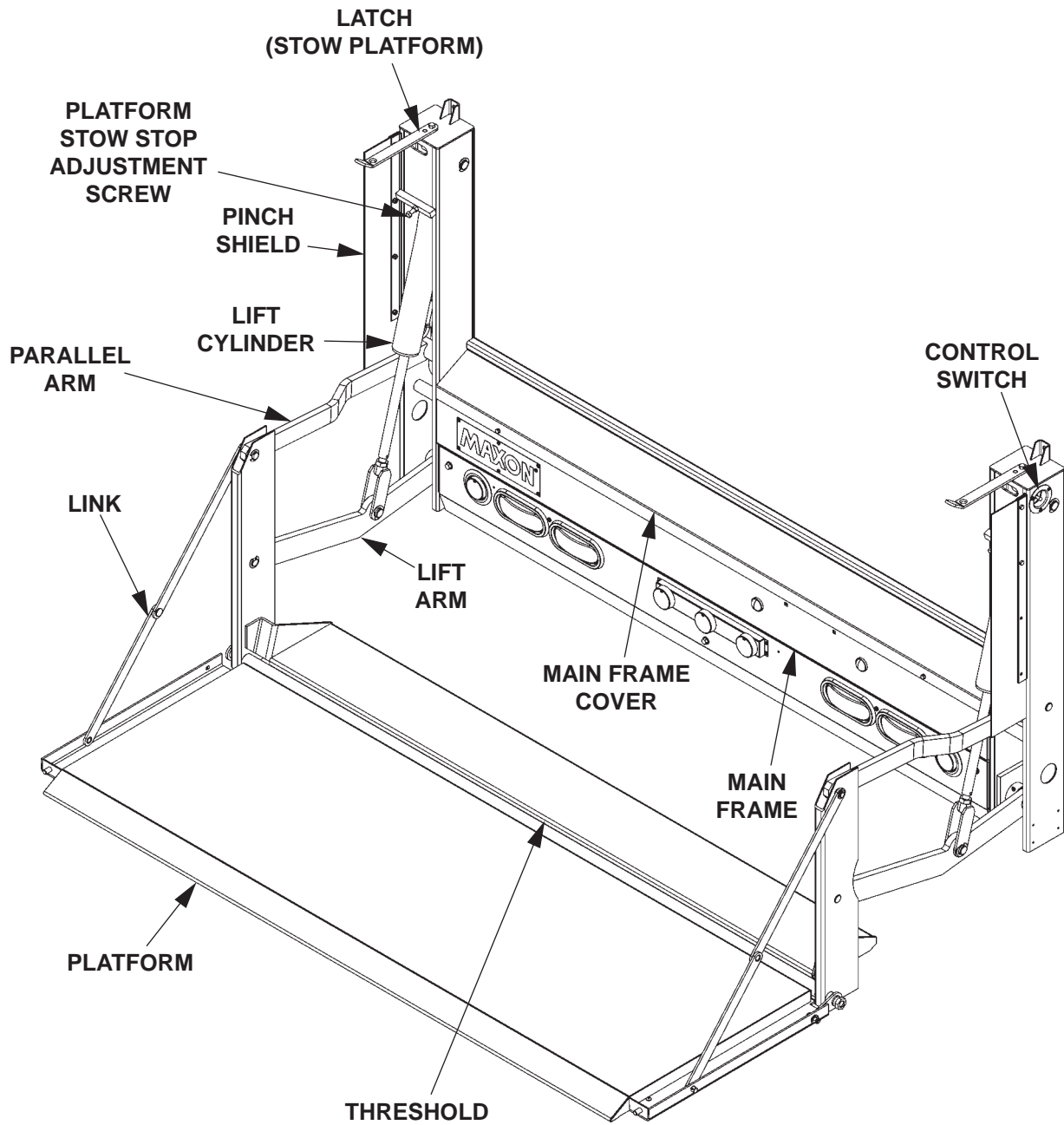
1. Incorrect operation of this Liftgate can result in serious personal injury. Comply with WARNINGS and Liftgate operating instructions in this manual. Do not allow untrained persons to operate the Liftgate. If you need to replace an **Operation Manual**, additional copies are available from:

**MAXON Lift Corp.
11921 Slauson Ave
Santa Fe Springs, CA 90670
(800) 227-4116**

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

2. Do not exceed rated load capacity of the Liftgates which is **1650 lbs. for model MM-1650**.
3. Do not allow any part of your 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 floor of truck body (or between platform and the ground) when Liftgate is operated.
4. Consider the safety and location of bystanders and location of nearby objects when operating the Liftgate. Stand to one side of platform while operating the Liftgate. Be certain that the area the Liftgate will move through during operation is clear of all obstacles.
5. Comply with all attached instruction decals and warning decals.
6. Keep decals clean and legible. If decals are defaced or missing, have them replaced. **Get free replacement decals from Maxon.**
7. **Never drive a forklift on the Liftgate platform.**
8. Do not move vehicle unless Liftgate is correctly stowed.
9. **Correctly stow platform when not in use. Extended platforms could create a hazard for people and vehicles passing by.**
10. A correctly installed Liftgate will operate smoothly and reasonably quiet. The only noticeable noise, during Liftgate operation, is from the Pump Unit while the Platform is raised. Listen for scraping, grating and binding noises and have the problem corrected before continuing to operate the Liftgate.
11. Above all, **USE GOOD COMMON SENSE** when operating this Liftgate.
12. Never use a cell phone while operating the Liftgate.

LIFTGATE TERMINOLOGY



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RECOMMENDED DAILY OPERATION CHECKS

NOTE: Before you check the Liftgate, park Vehicle on flat ground and set the parking brake.

NOTE: If any of the following operation checks reveal a need to service or repair Liftgate, do not operate the Liftgate until a qualified mechanic services or repairs the Liftgate.

Before operating the Liftgate, the operator should do the following:

- Make sure vehicle battery is fully charged and battery terminal connections are clean and tight.
- Visually check that pump cover plate is bolted on securely and undamaged. Look for hydraulic fluid leaking from the pump enclosure.
- Visually check that control switch is in place and undamaged
- Visually check that all decals are in place (see **DECALS** pages). Also make sure decals are readable, clean, and undamaged.
- Visually check both latches, that secure the platform in stowed position, are in place, undamaged, & secure platform.

Use the operation instructions in this manual to lower the Liftgate to the ground.

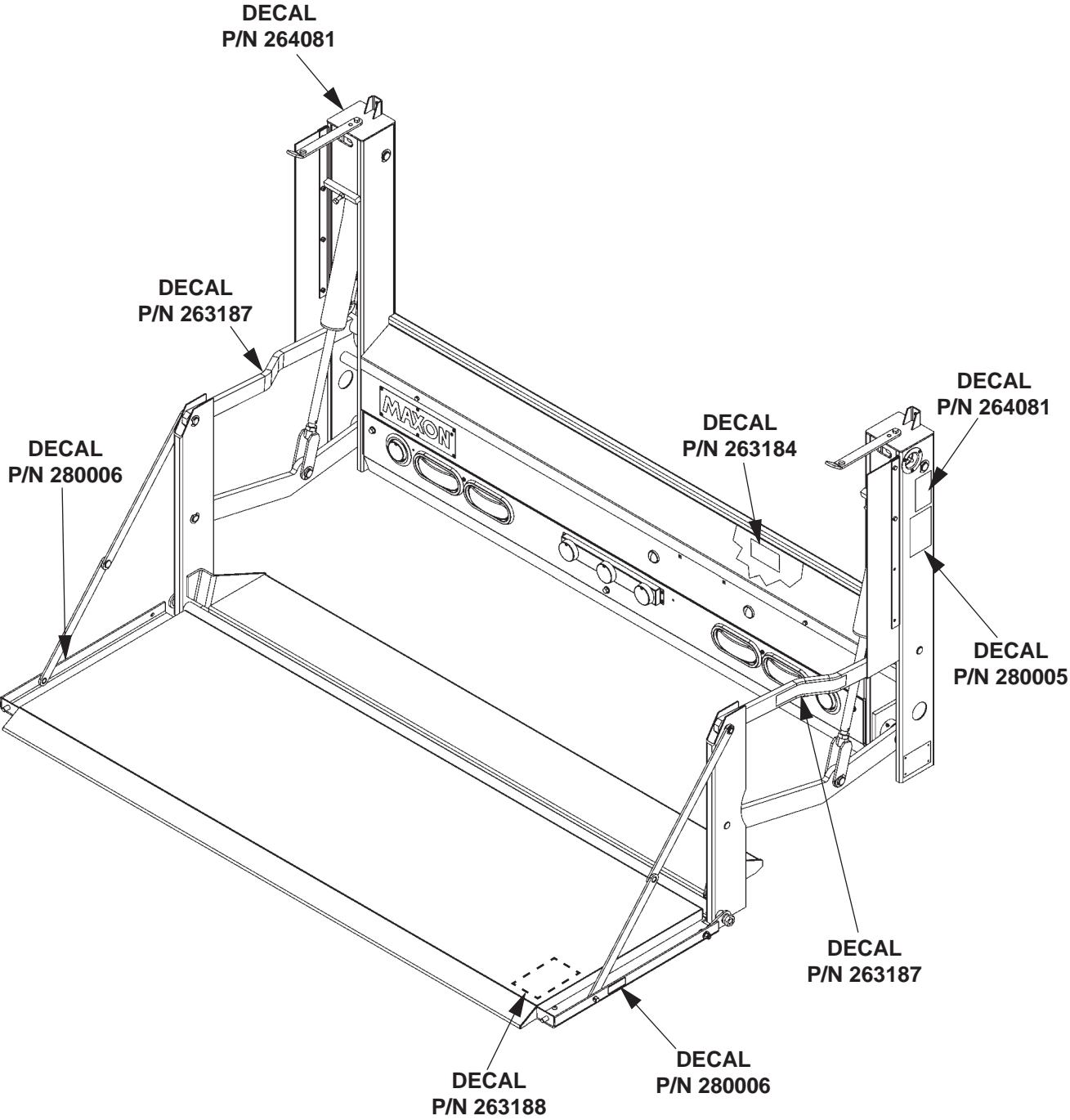
- Check main frame, lift arms, and parallel arms for cracks and bends.
- Make sure main frame, lift arms, and parallel arms are clean (no oil, debris, or corrosion).
- Check the hydraulic cylinder for leaking seals and hose connections. Make sure hoses are not cracking, chafing, and leaking fluid.
- Check the platform for cracks, holes, and bends on the load-carrying surface and side plates.
- Make sure platform load-carrying surfaces are clean (no oil, debris, or corrosion).
- Check lights if equipped.

Use the operation instructions in this manual to operate the Liftgate through one cycle without a load on the platform. RAISE the platform to vehicle bed height. Then lower the platform to ground level.

- When lowering/raising the Liftgate, listen for unusual noises and look for a jerking motion or uneven movement on either side of the platform.

If service or repairs are not required (or if completed), use the Liftgate.

DECALS



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WARNING DECAL
P/N 263187

WARNING
Read this information carefully.

- Improper operation of this Liftgate can result in serious personal injury. If you do not have a copy of the operating instructions, please obtain them from your employer, distributor, or lessor before you attempt to operate Liftgate.
- If there are signs of improper maintenance, damage to vital parts, or slippery platform surface, do not use the Liftgate until these problems have been corrected.
- Do not 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.
- MAXON recommends that you do not ride on the platform. If you choose to ride the platform, make sure you are doing so safely and that you are not in danger of coming in contact with any moving or potentially moving obstacles. The operation manual shows where to stand if you ride on the platform.
- 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.

SAFETY INSTRUCTIONS
Read all decals and operation manual before operating liftgate.

- Do not use liftgate unless you have been properly instructed and have read, and are familiar with, the operating instructions.
- Do not move vehicle when operating liftgate. Be certain vehicle is properly and securely braked on level ground before using the liftgate.
- 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.
- Do not overload
- Make certain the area in which the platform will open and close is clear before opening or closing the platform.
- Make certain platform area, including the area in which loads may fall from platform, is clear before and at all times during operation of liftgate.
- This liftgate is intended for loading and unloading of cargo only. Do not use this liftgate for anything but its intended use.

P/N 282479-01

WARNING DECAL
P/N 282479-01

SAFETY INSTRUCTIONS
MOST LIFTGATE PROBLEMS ARE CAUSED BY FAULTY ELECTRICAL CONNECTIONS:

- MAKE SURE ALL CONNECTIONS ARE TIGHTENED.
- THE BATTERY GROUND CABLE MUST BE FASTENED TO THE CHASSIS FRAME.
- THE BATTERY GROUND CABLE MUST BE THE SAME SIZE AS THE LIFTGATE CABLE.

P/N 263184

WARNING DECAL
P/N 263184

OPERATING INSTRUCTIONS

- LIFT & ROTATE BOTH LATCHES TO RELEASE PLATFORM. THEN MANUALLY UNFOLD THE PLATFORM TO THE HORIZONTAL POSITION.
- PUSH TOGGLE SWITCH UP TO RAISE THE PLATFORM. PUSH TOGGLE SWITCH DOWN TO LOWER THE PLATFORM.

P/N 280005-02

INSTRUCTION DECAL
P/N 280005-02

WARNING
THE MAXIMUM CAPACITY OF THIS LIFT IS
1650 lbs.
WHEN LOAD IS CENTERED ON THE PLATFORM.
P/N 280006

CAPACITY DECAL
P/N 280006

WARNING

**STAND CLEAR WHEN
RELEASING PLATFORM
STORAGE LATCHES**

P/N 263188

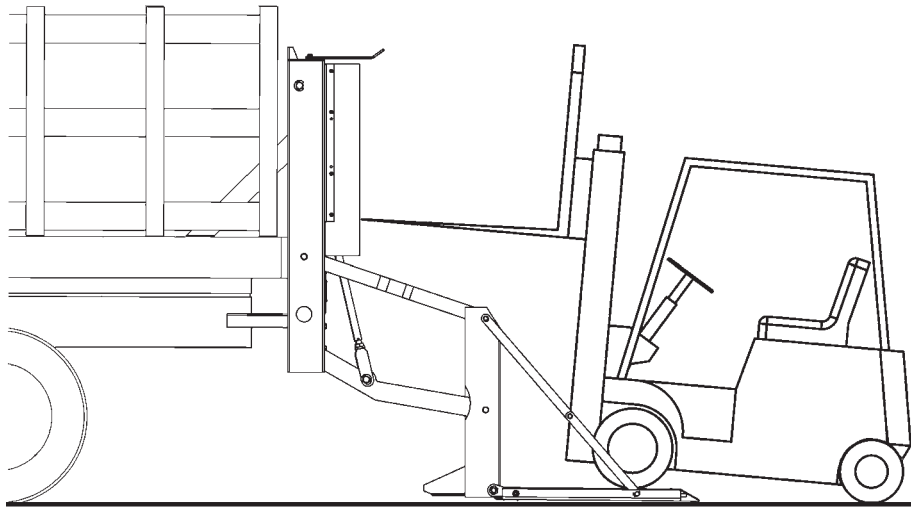
CAUTION DECAL
P/N 263188

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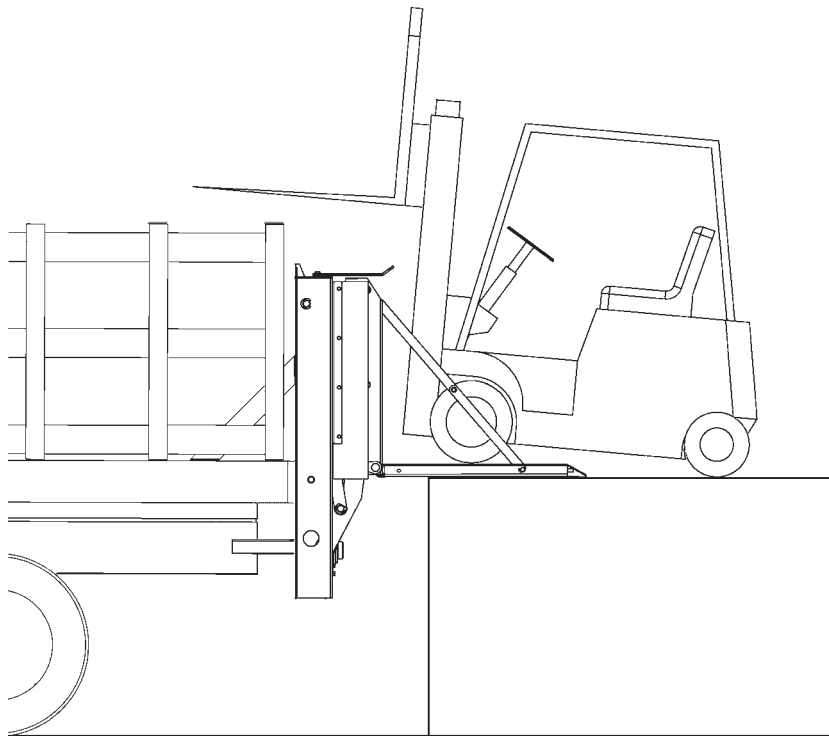
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FORKLIFT ADVISORY

⚠ WARNING
Keep Forklift OFF of Platform.



NO



NO

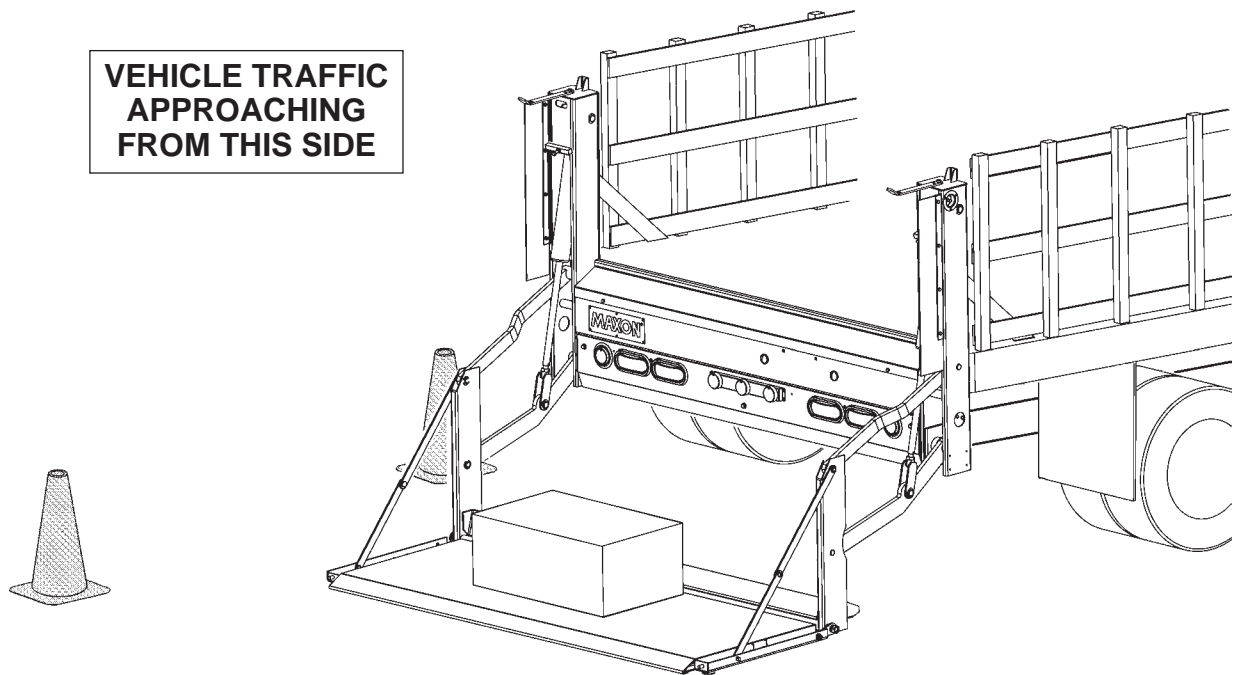
FIG. 10-1

ROADSIDE OPERATION ADVISORY

⚠ WARNING

Operating the Liftgate by the side of a busy road with vehicle traffic increases the chance of personal injury and damage to Liftgate, cargo & vehicle. Making the loading area more visible to passing traffic can help reduce the chance of injury and damage.

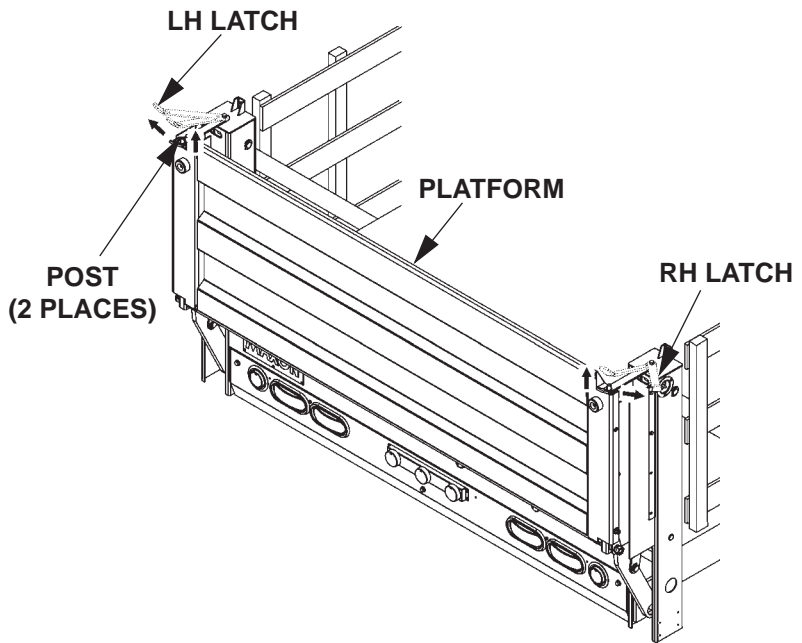
NOTE: MAXON recommends placing at least 2 traffic cones on the traffic side of the platform loading area as illustrated below. Remove cones after platform is stowed and before moving the vehicle.



**TRAFFIC CONES POSITIONED BY PLATFORM LOADING AREA
FIG. 11-1**

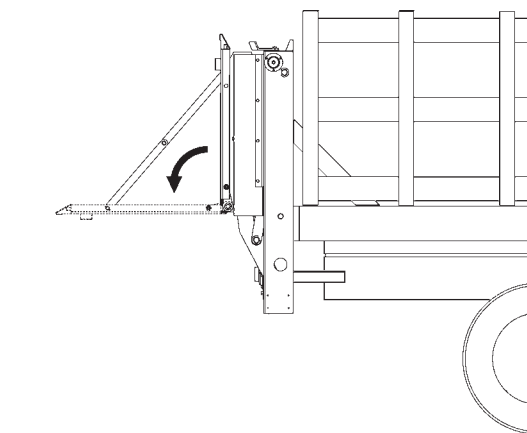
OPERATING INSTRUCTIONS

1. Push the toggle switch to the **UP** position for about a second to make sure Liftgate is under hydraulic pressure. Release the platform as follows. Standing to the RH side of platform (**FIG. 12-1**), lift RH latch upward from post and rotate away from platform (**FIG. 12-1**). Repeat for LH latch.



RELEASE PLATFORM
FIG. 12-1

2. Unfold the platform (**FIG. 12-2**).
If equipped, unfold flipover.

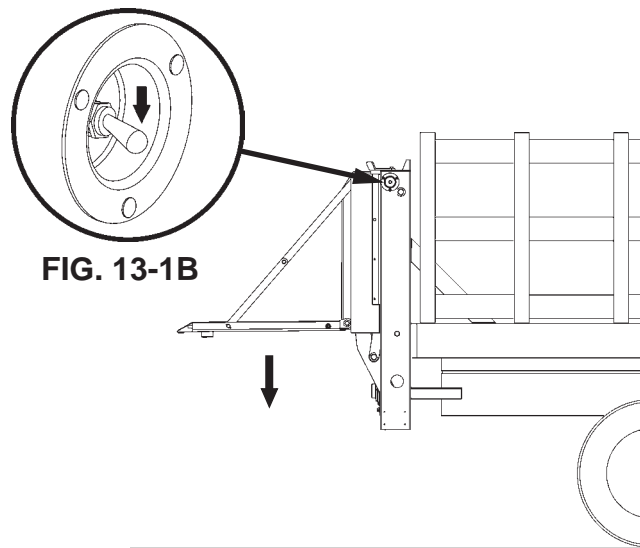


UNFOLD PLATFORM
FIG. 12-2

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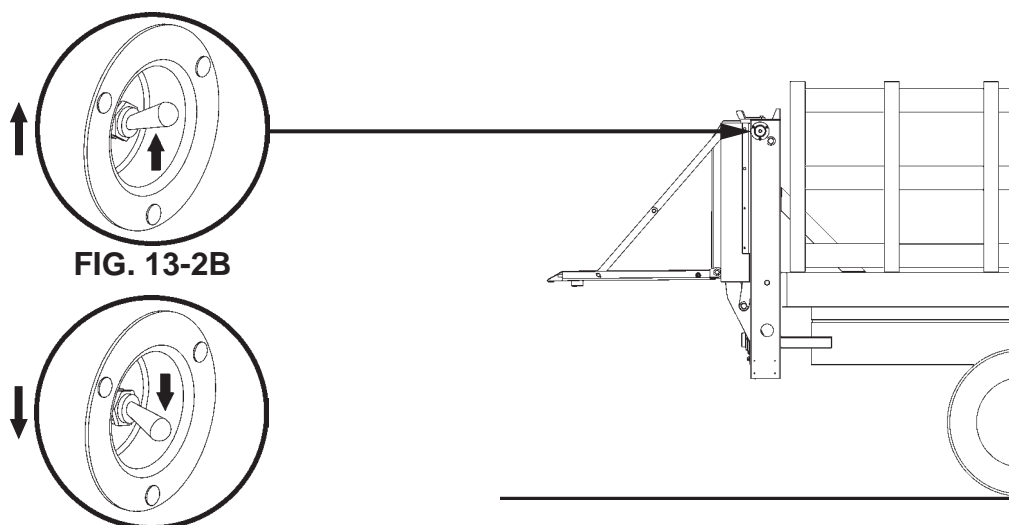
3. Standing to the side of platform (**FIG. 13-1A**), push the toggle switch to **DOWN** position as shown in **FIG. 13-1B**. Lower the platform until it touches the ground.



LOWERING PLATFORM
FIG. 13-1A

NOTE: While operating the Liftgate, you can stop the Platform immediately by releasing the Toggle Switch.

4. Raise the platform (**FIG. 13-2A**) by pushing the toggle switch to **UP** position (**FIG. 13-2B**). After platform reaches bed height, wait a second before releasing the toggle switch. To lower the platform, push the toggle switch to **DOWN** position (**FIG. 13-2C**).



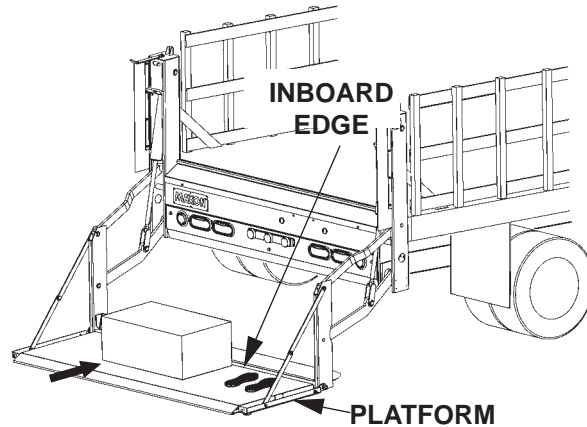
RAISING & LOWERING PLATFORM
FIG. 13-2A

OPERATION INSTRUCTIONS - Continued

WARNING

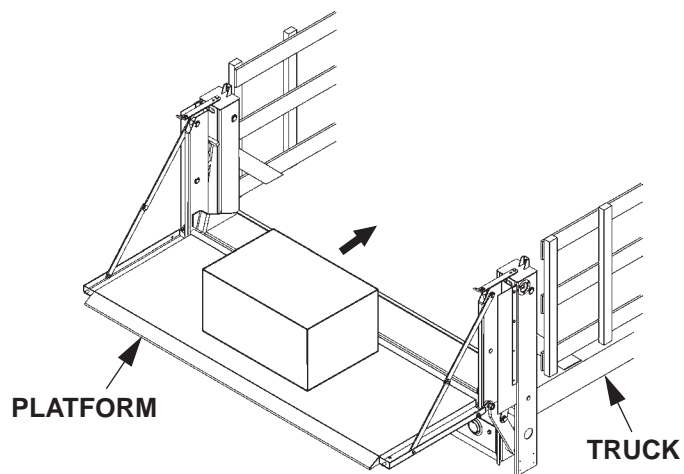
A load should never extend past the edges of the platform. Do not place unstable loads on platform and do not allow load to exceed the lifting capacity of the Liftgate. If standing on platform, do not allow your feet to extend beyond the inboard edge of the platform.

5. Load the platform at ground level as shown in **FIG. 14-1**. If standing on platform with the load, stand in the footprint area shown and comply with the **WARNING** above.



LOADING PLATFORM AT GROUND LEVEL
FIG. 14-1

6. Raise the platform to bed height. Then move the load into truck (**FIG. 14-2**).



MOVING LOAD INTO TRUCK BED
FIG. 14-2

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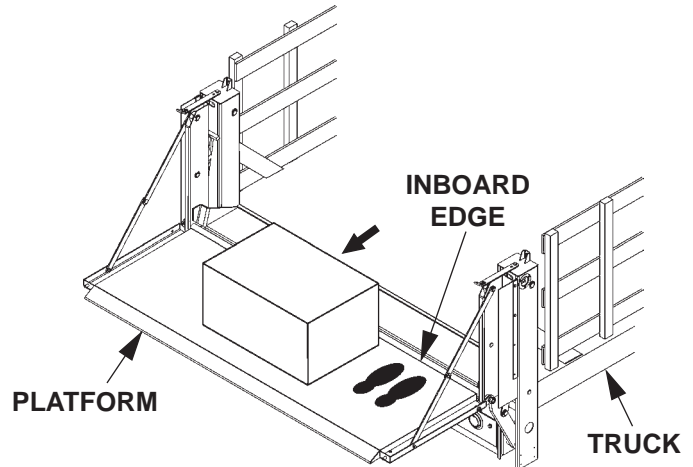
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WARNING

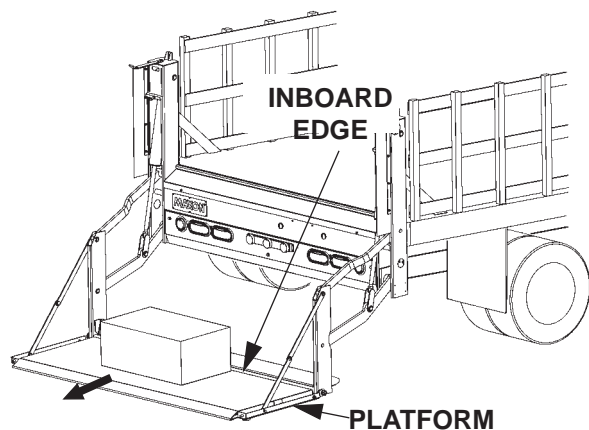
Pulling the load from Vehicle to Platform can result in a fall from Platform and serious injury. When unloading Vehicle, always push the load out on the Platform.

7. Load the platform at bed height (**FIG. 15-1**) as follows. Push the toggle switch to the **UP** position for about a second to make sure Liftgate is under hydraulic pressure. Then push load out of the vehicle to correct position on the platform. Place all loads as close as possible to the inboard edge of the platform with heaviest part toward the truck as shown in **FIG. 15-1**. If standing on platform with the load, stand in the footprint area shown and comply with the preceding **WARNING** on page 14.



LOADING PLATFORM AT BED LEVEL
FIG. 15-1

8. Lower the platform to ground level (**FIG. 15-2**). Then move the load off the platform.



PLATFORM AT GROUND LEVEL
FIG. 15-2

OPERATION INSTRUCTIONS - Continued

WARNING

Never move the vehicle unless the Liftgate is properly stowed.

9. Raise the platform (**FIG. 16-1A**) to bed height by pushing up on the toggle switch (**FIG. 16-1B**). After platform reaches bed height, wait a second before releasing the toggle switch.

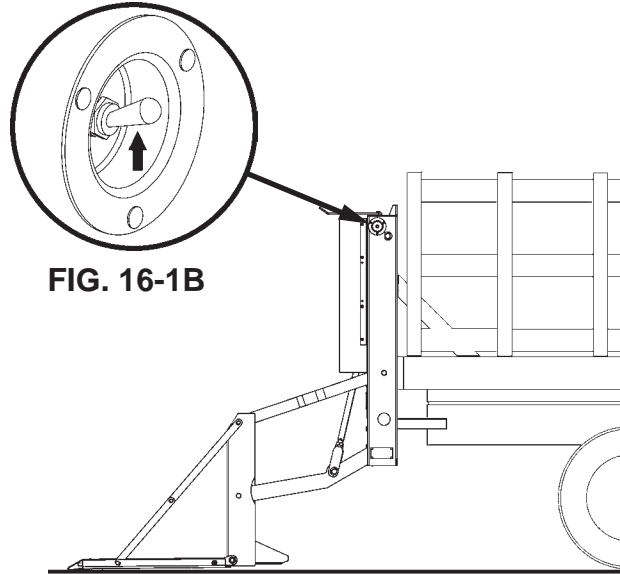
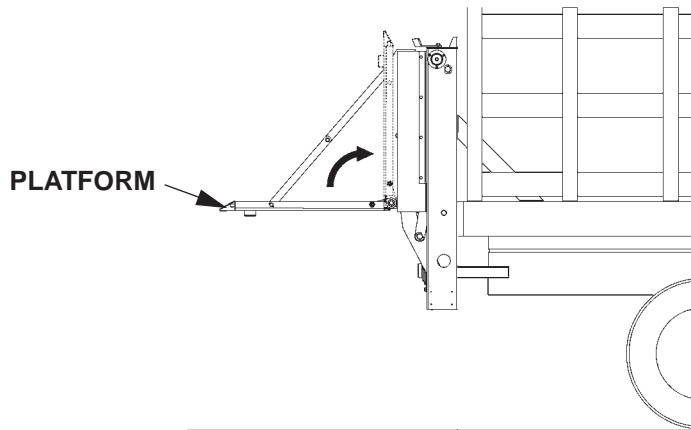


FIG. 16-1B

**RAISING PLATFORM
FIG. 16-1A**

10. Fold the platform as shown in **FIG. 16-2**.



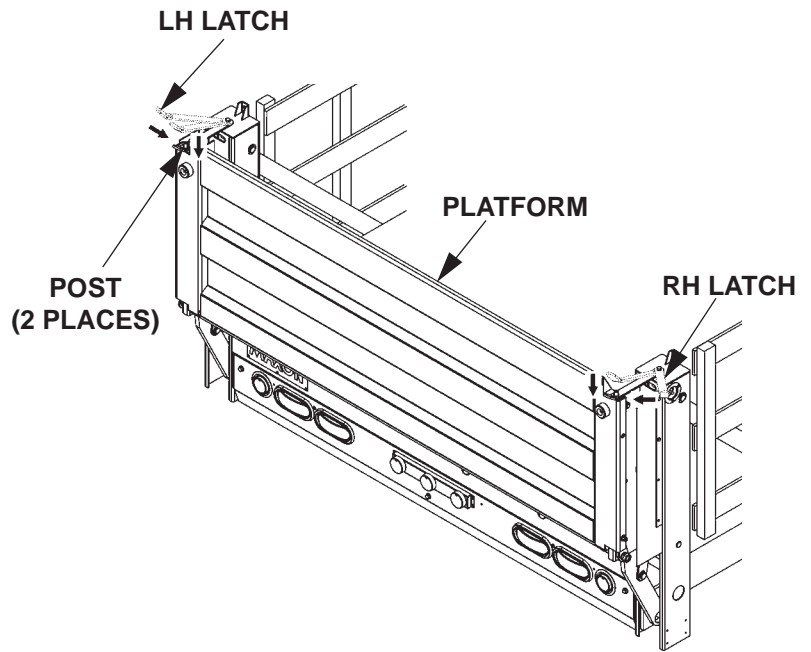
PLATFORM

**STOWING PLATFORM
FIG. 16-2**

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11. Latch the platform in stowed position as follows. Standing to the RH side of platform (FIG. 17-1), lift RH latch upward and rotate toward platform (FIG. 17-1). Lower the latch on the post to capture latch (FIG. 17-1). Repeat for LH latch.



STOWING PLATFORM
FIG. 17-1

12. Liftgate is ready for transport.

MAINTENANCE

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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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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.

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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

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. 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.

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

Check that all roll pins are in place and protrude evenly from both sides of hinge pin collar. Replace 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.

Apply grease to zerk fitting on each lifting arm. (Access the fittings when platform is on the ground.)

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, and check hydraulic lock.
- Check electrical wiring for chafing and make sure wiring connections are tight and free of corrosion.
- Check that all **WARNING and instruction decals** are in place. Also, make sure decals are readable and decals are clean and undamaged.
- Check that all roll pins are in place and protrude evenly from both sides of hinge pin collar. Replace 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.
- 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.
- Apply grease to zerk fitting on each lifting arm. (Access the fittings when platform is on the ground.)

Semi-annually or 2500 Cycles (whichever occurs first)

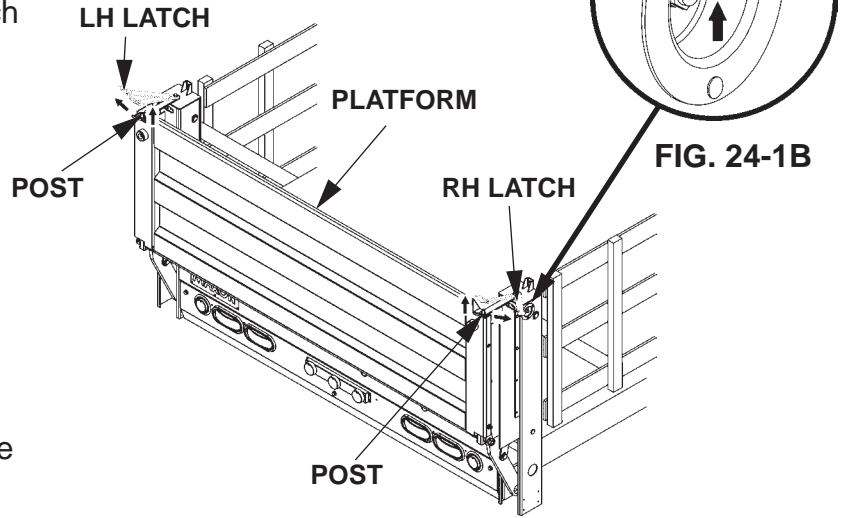
- Visually check the platform hinge pins for excessive wear and broken welds.
- Do the **Quarterly or 1250 Cycles Checks** on this Checklist.

CHECKING HYDRAULIC FLUID

WARNING

To prevent personal injury and damage to Liftgate, make sure hydraulic system is pressurized before unlatching platform.

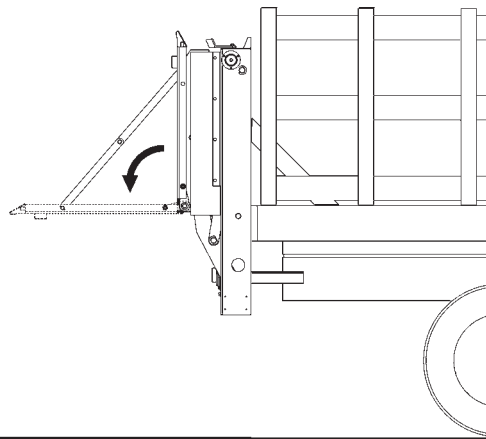
1. Pressurize hydraulic system as follows. Push toggle switch **UP** for 1 second and then release (**FIGS. 24-1A and 24-1B**).



2. Release the platform as follows. Standing to the RH side of platform (**FIG. 24-1A**), lift RH latch upward and rotate away from platform (**FIG. 24-1A**). Repeat for LH latch.

RELEASING PLATFORM
FIG. 24-1A

3. Unfold the platform (**FIG. 24-2**). If equipped, unfold flipover.

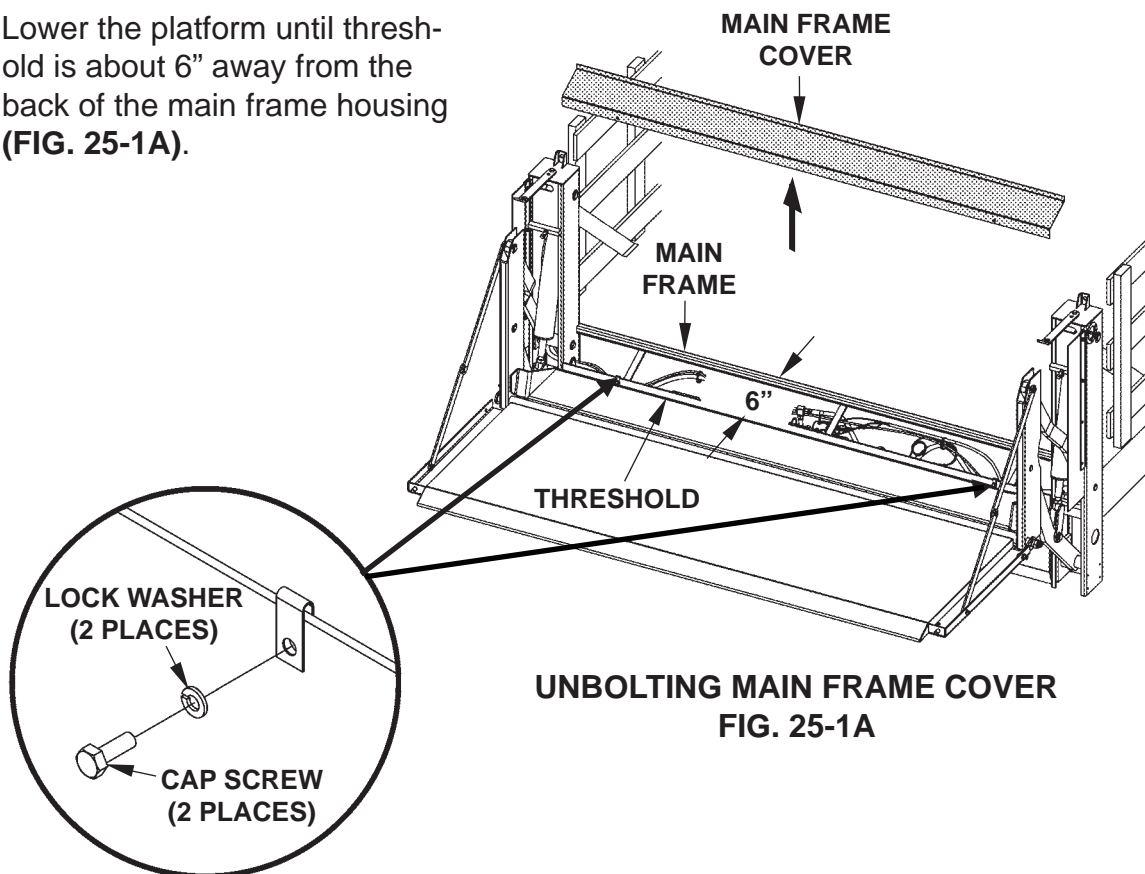


UNFOLDING PLATFORM
FIG. 24-2

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- Lower the platform until threshold is about 6" away from the back of the main frame housing (FIG. 25-1A).



**UNBOLTING MAIN FRAME COVER
FIG. 25-1A**

FIG. 25-1B

- Unbolt the main frame cover as shown in FIGS. 25-1A and 25-1B.

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

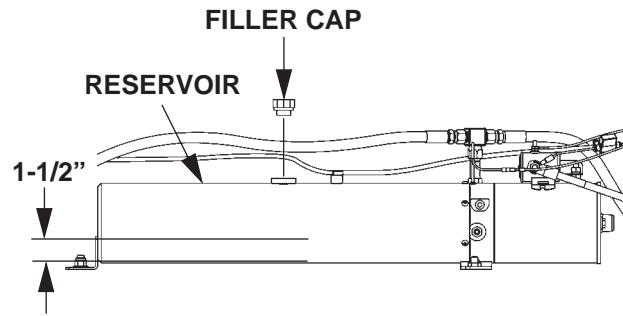
Below + 70 Degrees F - Grade ISO 15 or MIL-H-5606

See **TABLES 27-1 & 27-2** for recommended brands.

CHECKING HYDRAULIC FLUID - Continued

6. Remove filler cap (FIG. 26-1).

7. Use a clean rod as a dipstick to check the hydraulic fluid level in reservoir. Add hydraulic fluid until dipstick indicates 1-1/2" level as shown in FIG. 26-1.



CHECKING FLUID LEVEL
FIG. 26-1

8. Reinstall filler cap (FIG. 26-1).

CAUTION

Pump Cover must be correctly secured to prevent it from becoming a hazard. To secure Pump Cover, bolt it in place on the Liftgate.

9. Bolt on main frame cover (FIG. 26-2A and 26-2B).

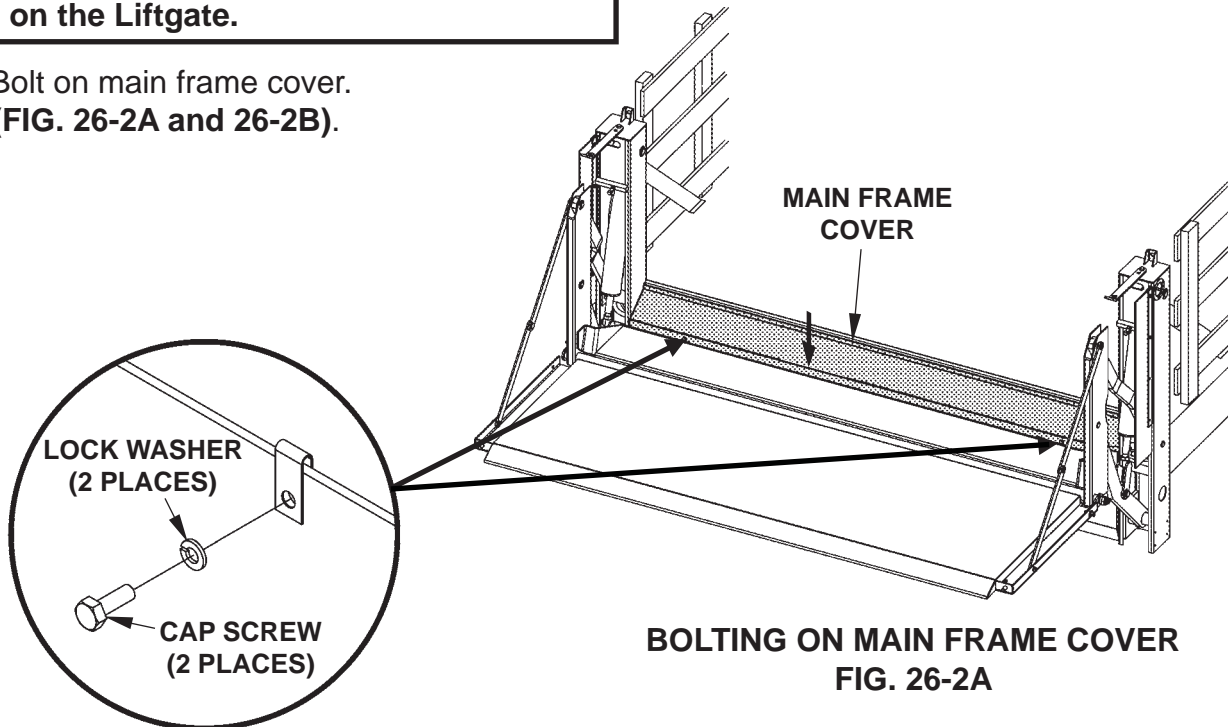


FIG. 26-2B

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

TABLE 27-1

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 T-15
EXXON	UNIVIS HVI-13
MOBIL	DTE-11M
ROSEMEAD	THS FLUID 17111

TABLE 27-2

CHANGING HYDRAULIC FLUID

CAUTION

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

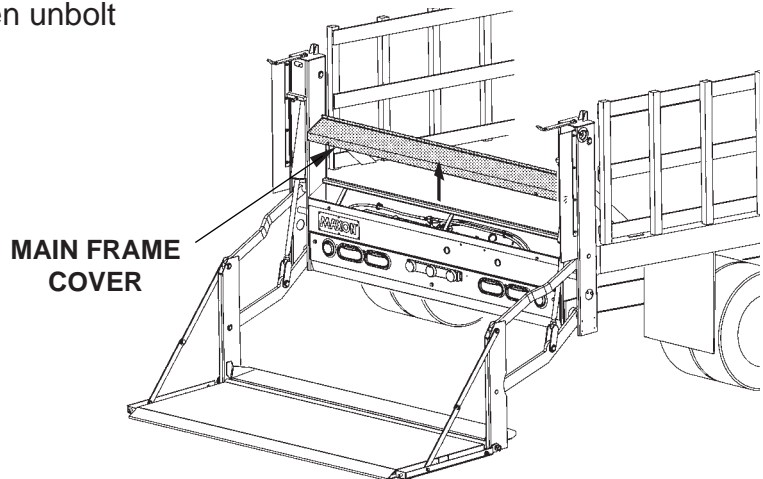
NOTE: Use correct grade of hydraulic fluid for your location.

+50 to +120 Degrees F - Grade ISO 32

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

See **TABLES 27-1 & 27-2** for recommended brands.

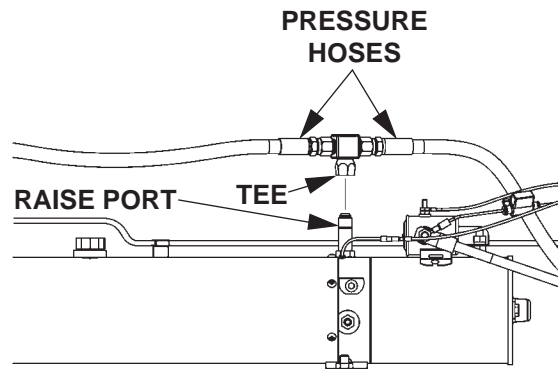
1. Lower platform to ground level. Then unbolt the main frame cover (**FIG. 28-1**).



**LIFTGATE WITH PLATFORM LOWERED
& MAIN FRAME COVER REMOVED
FIG. 28-1**

NOTE: To prevent spills, drain used hydraulic fluid into an empty 5 gallon bucket. Hold hydraulic hose in container until fluid stops flowing. If needed, get a helper.

2. Disconnect pressure hoses and tee from pump (**FIG. 28-2**).



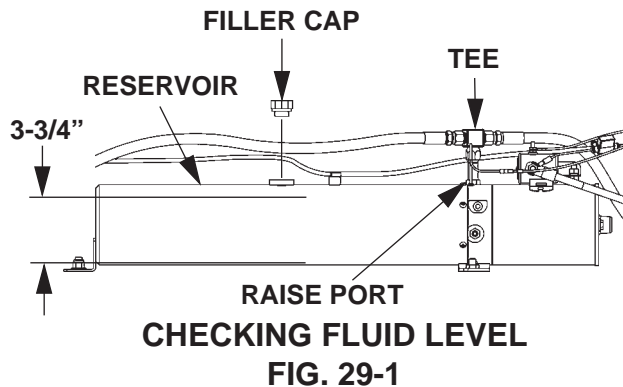
**CONNECTING/DISCONNECTING
PRESSURE LINE
FIG. 28-2**

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NOTE: If oil is contaminated, reservoir must be cleaned and system flushed out.

3. Connect a hydraulic hose with a JIC #6 female fitting on one end to the **RAISE** port on the pump (**FIG. 29-1**) and put the other end in an empty 5 gallon bucket. Push toggle switch to **UP** position until the hydraulic system starts to make cavitating sounds. Release the toggle switch.
4. When fluid stops flowing from the hydraulic hose, disconnect hose from **RAISE** port on the pump (**FIG. 29-1**). Reconnect the tee to the **RAISE** port on the pump. Tighten and torque the swivel nut on the tee to 20-22 lbs.-ft..



5. Remove filler cap (**FIG. 29-1**).
6. Fill reservoir with 3-1/2 quarts of hydraulic fluid. Then check fluid level from the filler hole using a clean rod as a dipstick. The dipstick should show a fluid level of 3-3/4" (**FIG. 29-1**). If needed, add a little more hydraulic fluid to the 3-3/4" level.
7. Reinstall filler cap (**FIG. 29-1**).

CHANGING HYDRAULIC FLUID - Continued

CAUTION

Pump Cover must be correctly secured to prevent it from becoming a hazard. To secure Pump Cover, bolt it in place on the Liftgate.

8. Bolt on main frame cover.
(FIGS. 30-1A and 30-1B).

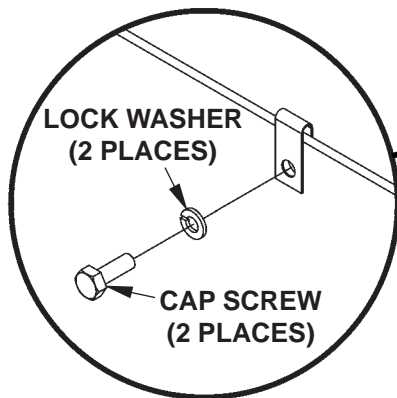
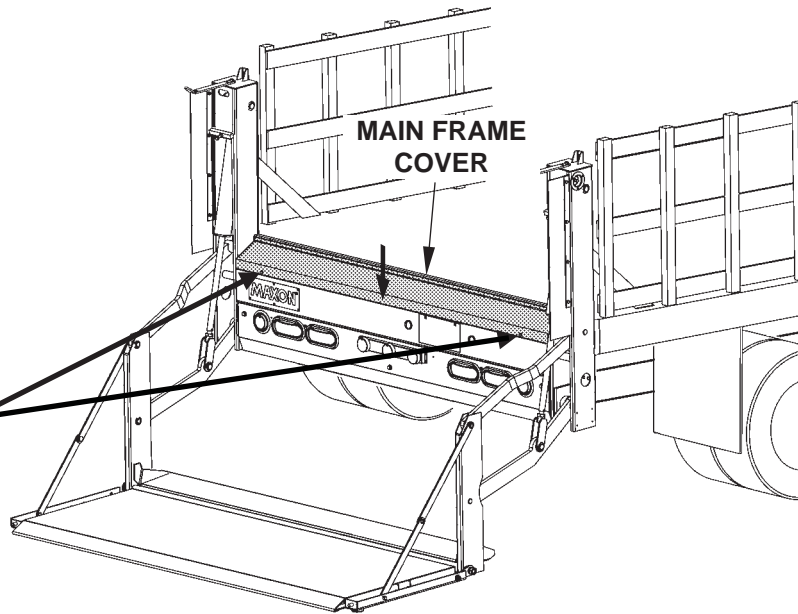


FIG. 30-1B



BOLTING ON MAIN FRAME COVER
FIG. 30-1A

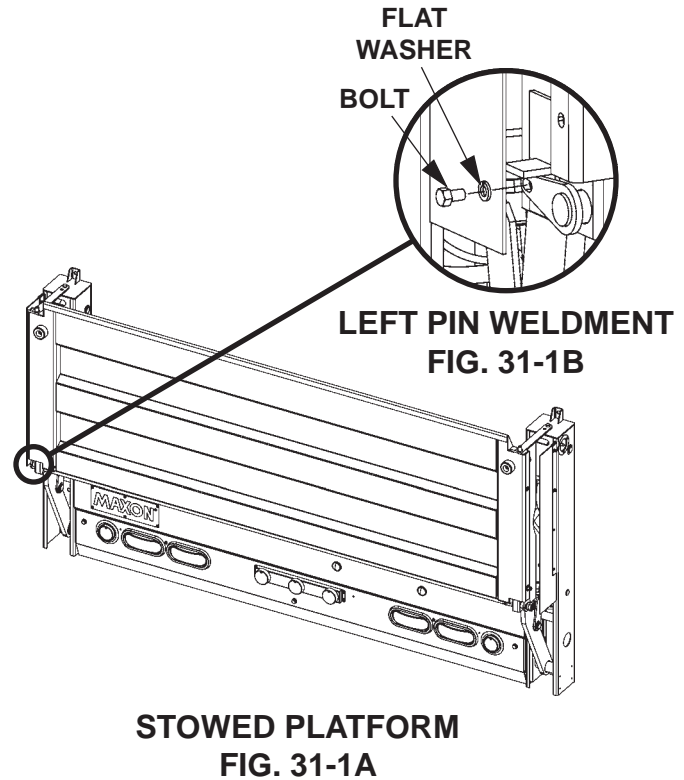
9. Raise the platform and stow.

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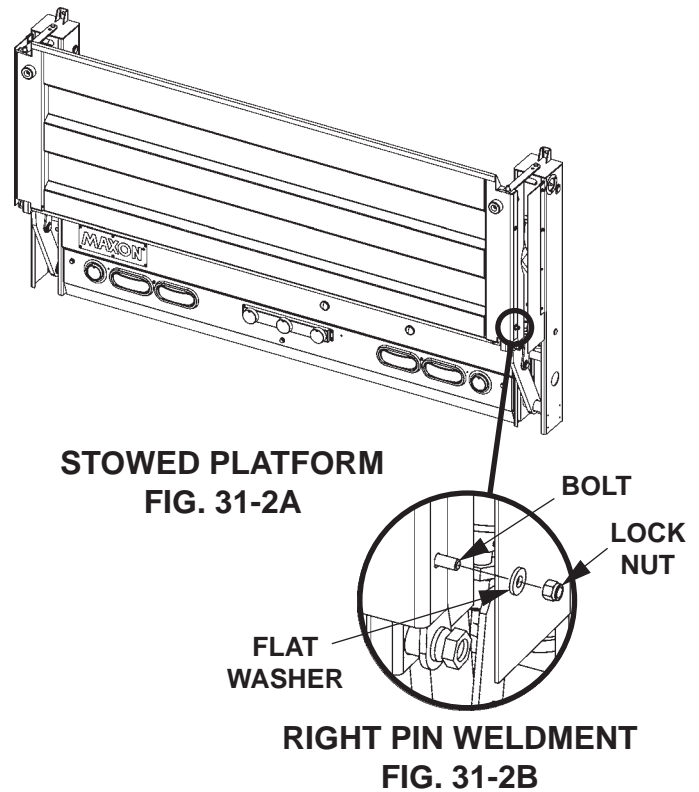
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CHANGING TORSION BAR

1. With the platform stowed, remove bolt and flat washer from the left pin weldment (**FIG. 31-1B**).



2. Remove lock nut and flat washer from the bolt on the right pin weldment (**FIG. 31-2B**).

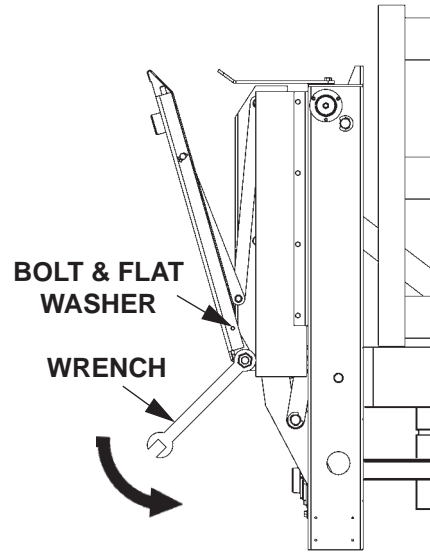


CHANGING TORSION BAR - Continued

WARNING

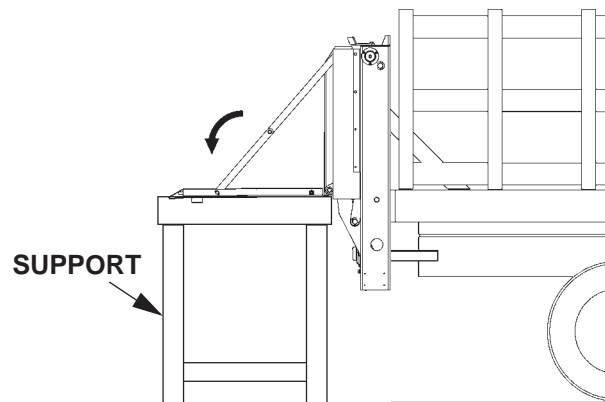
To prevent possible injury and damage to Liftgate, have another trained person hold platform in position to keep it from falling open.

3. Unfold the platform enough to remove bolt and flat washer from right pin weldment (**FIG. 32-1**). If needed, turn hex-shape part of the pin weldment counter-clockwise with a wrench to release tension on the bolt.



**UNFOLDING PLATFORM
(RH SIDE OF LIFTGATE)
FIG. 32-1**

4. Unfold and support the platform (**FIG. 32-2**).

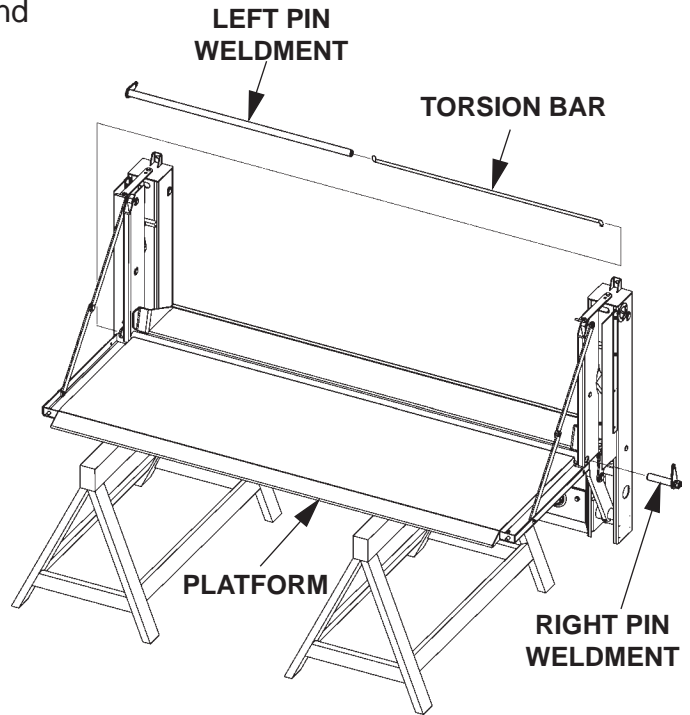


**UNFOLDING PLATFORM
(RH SIDE OF LIFTGATE)
FIG. 32-2**

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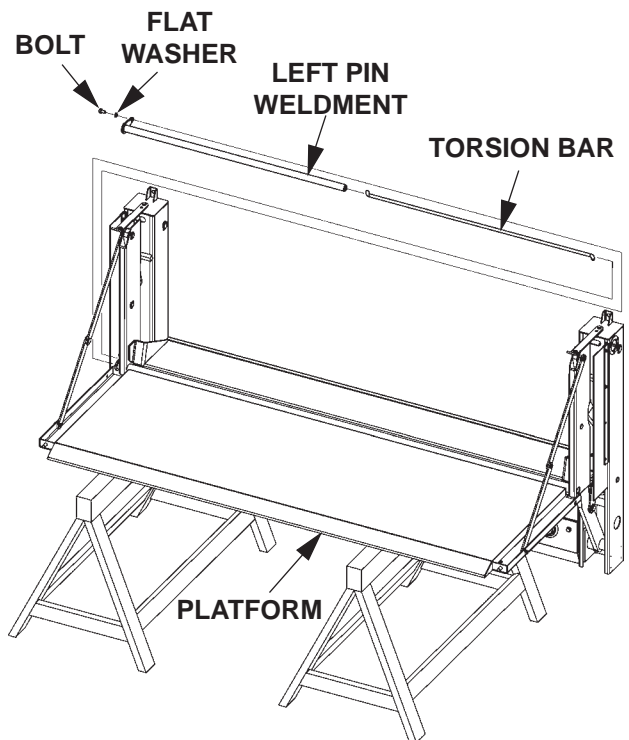
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5. Remove left pin weldment, torsion bar, and right pin weldment (**FIG. 33-1**).



REMOVING TORSION BAR
FIG. 33-1

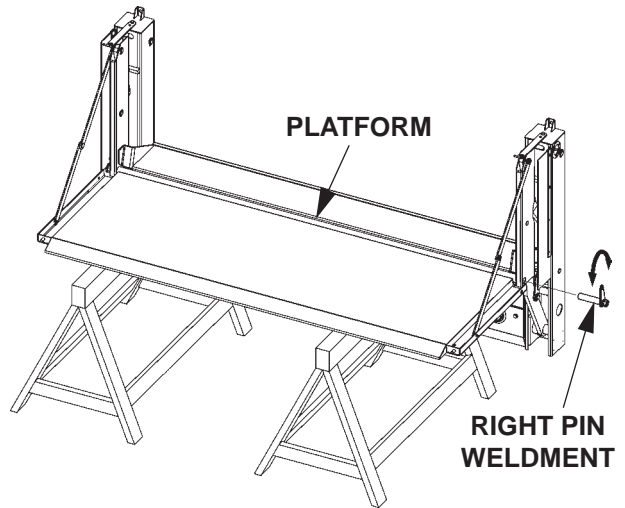
6. Attach new torsion bar to the left pin weldment (**FIG. 33-2**). Reinstall the torsion bar and left pin weldment in the platform. Bolt the left pin weldment in place (**FIG. 33-2**).



INSTALLING TORSION BAR
FIG. 33-2

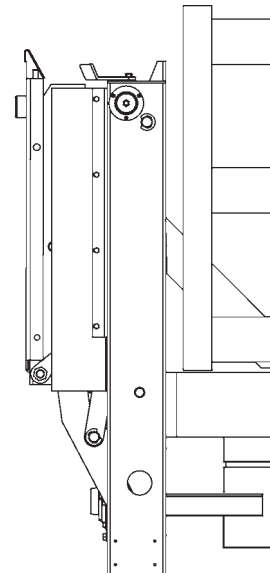
CHANGING TORSION BAR - Continued

7. Reinstall the right pin weldment (**FIG. 34-1**). Rotate the right pin weldment until torsion bar slides into slot (**FIG. 34-1**).



**REINSTALLING PIN WELDMENT
FIG. 34-1**

8. Fold the platform and remove the support (**FIG. 34-2**).

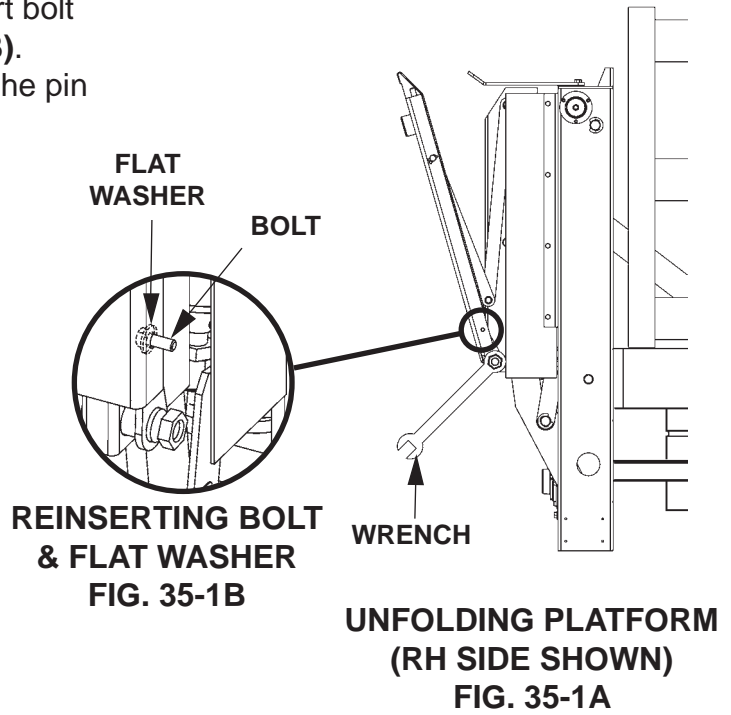


**FOLDING PLATFORM
(RH SIDE SHOWN)
FIG. 34-2**

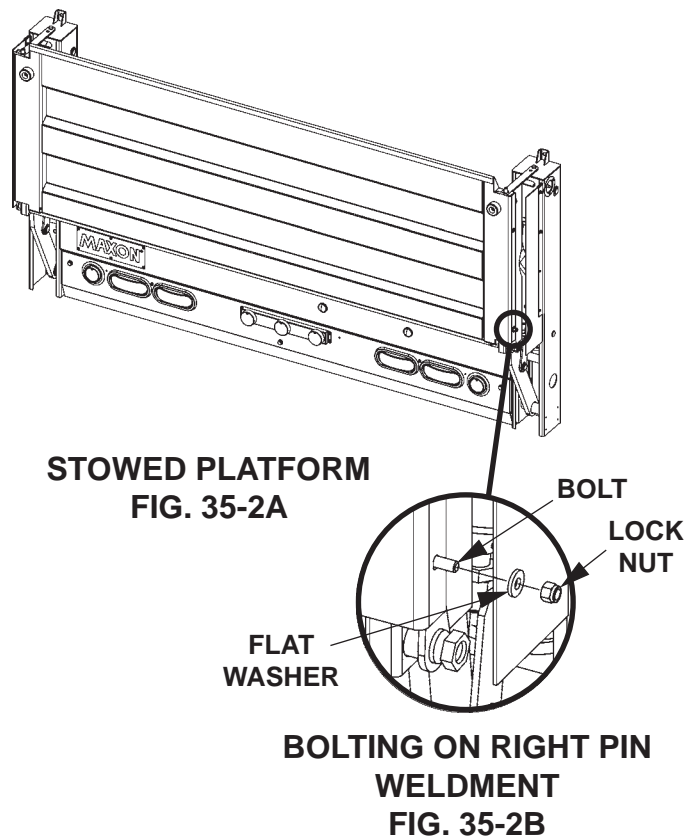
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9. Unfold the platform enough to reinsert bolt and washer (**FIGS. 35-1A and 35-1B**).
If necessary, use a wrench to rotate the pin weldment and align the holes.



10. Stow the platform (**FIG. 35-2A**).
Finish bolting on the right pin weldment (**FIG. 35-2B**).

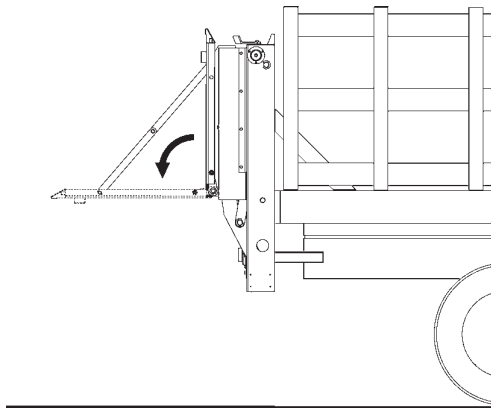


PLATFORM STOW STOP ADJUSTMENT (IF REQUIRED)

NOTE: Adjustment should be done when:

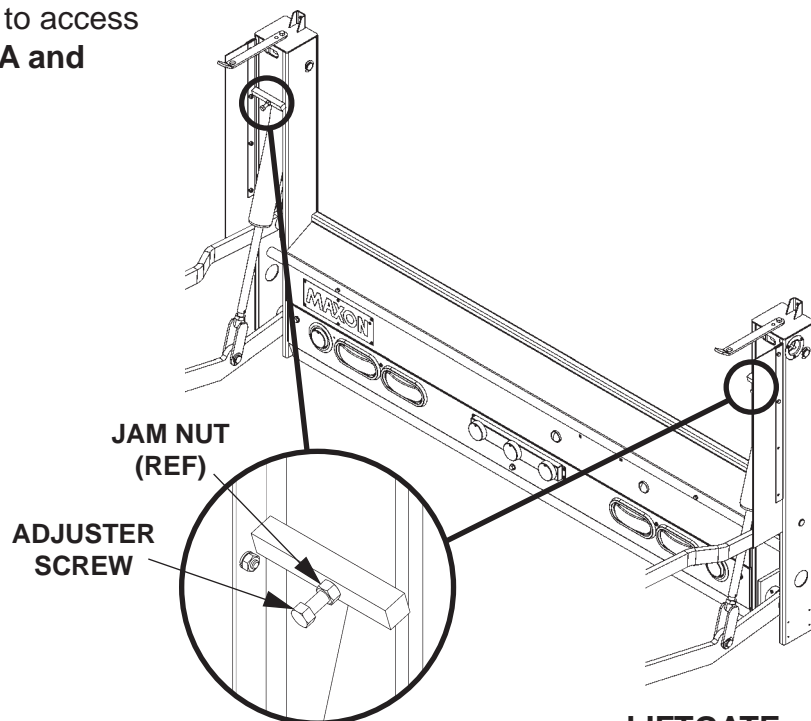
- Platform is stowed, but will not latch on LH or RH side
- Adjustment screw is replaced
- Platform and threshold are not bent

1. Unfold the platform (FIG. 36-1).



**UNFOLDING PLATFORM
(RH SIDE OF LIFTGATE)
FIG. 36-1**

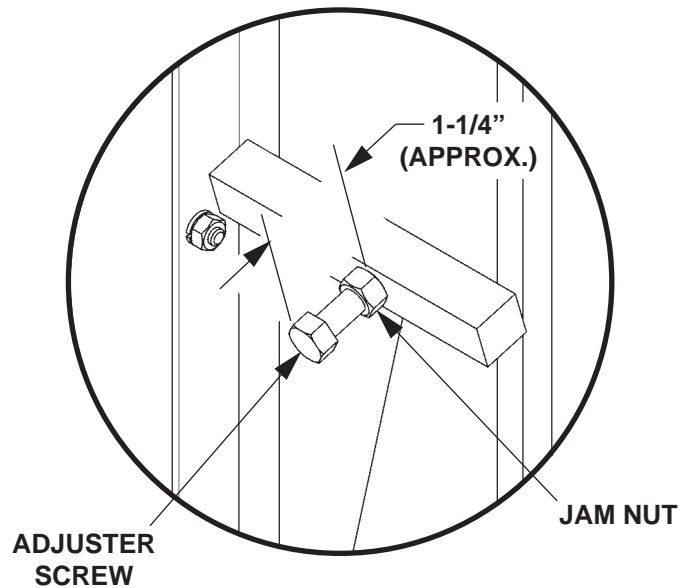
2. Lower the platform enough to access adjuster screw (FIGS. 36-2A and 36-2B).



**LIFT ARM STOP
ADJUSTER SCREW
FIG. 36-2B**

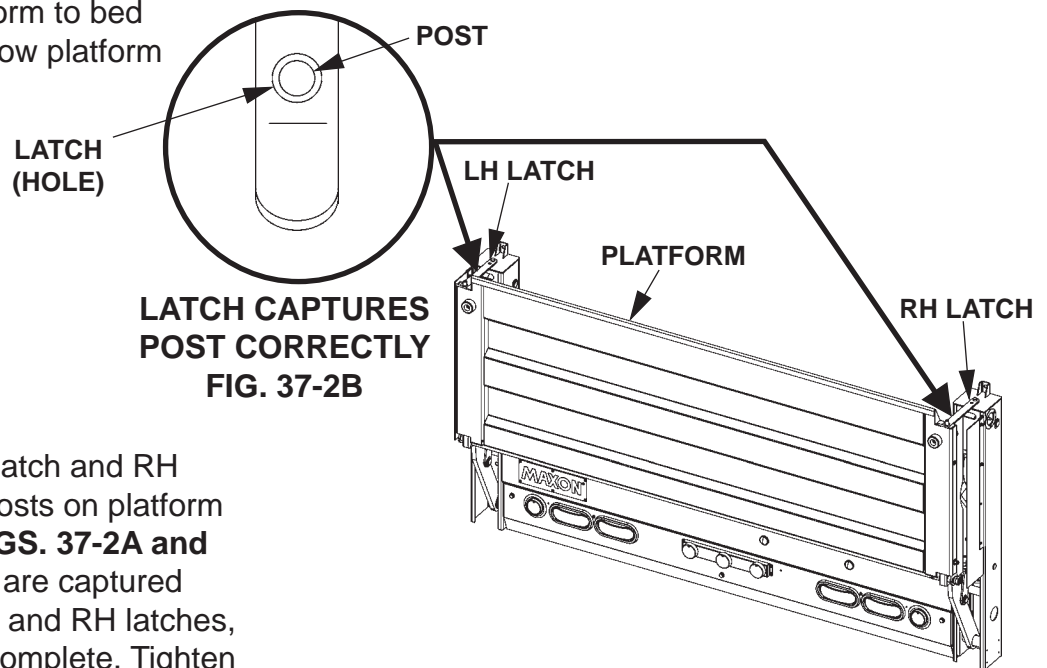
**LIFTGATE
(LH TOWER SHOWN)
FIG. 36-2A**

- Loosen jam nut. Then set the adjuster screw at approximately 1-1/4" (**FIG. 37-1**).



**SETTING ADJUSTER SCREW
FIG. 37-1**

- Raise the platform to bed height. Then stow platform (**FIG. 37-2A**).



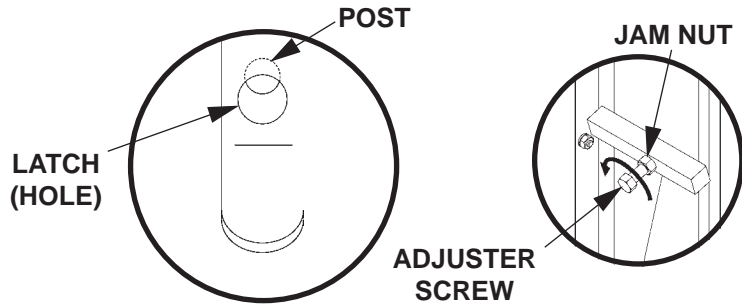
**LATCH CAPTURES
POST CORRECTLY
FIG. 37-2B**

**PLATFORM STOWED & LATCHED
FIG. 37-2A**

- Make sure LH latch and RH latch capture posts on platform as shown in **FIGS. 37-2A and 37-2B**. If posts are captured correctly by LH and RH latches, adjustment is complete. Tighten jam nut (**FIG. 37-1**) securely. If more adjustment is needed, go to step 7.

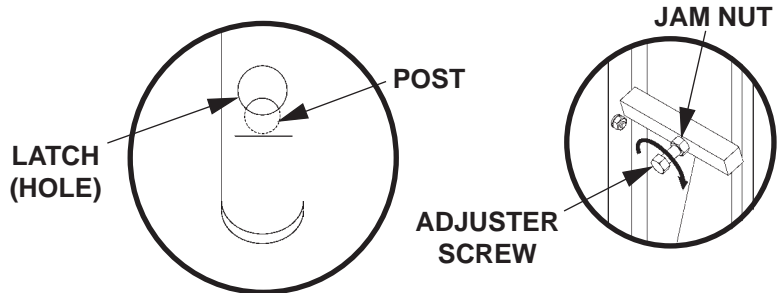
PLATFORM STOW STOP ADJUSTMENT (IF REQUIRED) - Continued

6. If the LH or RH latches are captured incorrectly **FIGS. 38-1 or 38-2**, lower the platform as shown in instruction 3 (**FIG. 35-2A**).



**TURNING SCREW CCW TO
LINE UP LATCH & POST
FIG. 38-1**

7. Turn the adjuster screw as shown in **FIGS. 38-1 or 38-2**.



**TURNING SCREW CW TO LINE
UP LATCH & POST
FIG. 38-2**

8. Repeat instructions 4 through 7 until LH & RH latches capture post correctly. Tighten jam nut when adjustment is complete.

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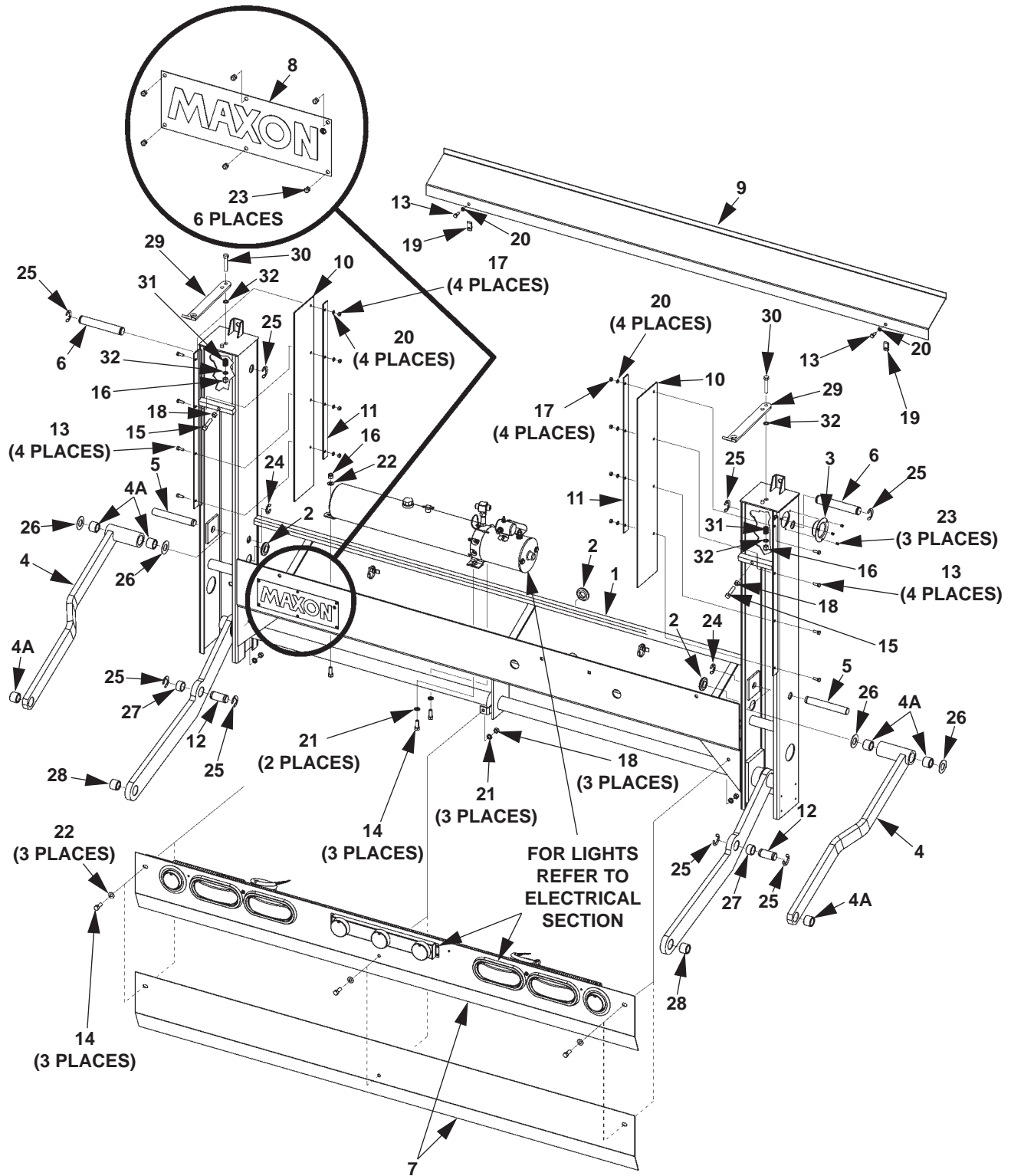
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PARTS BREAKDOWN MAIN ASSEMBLY-1

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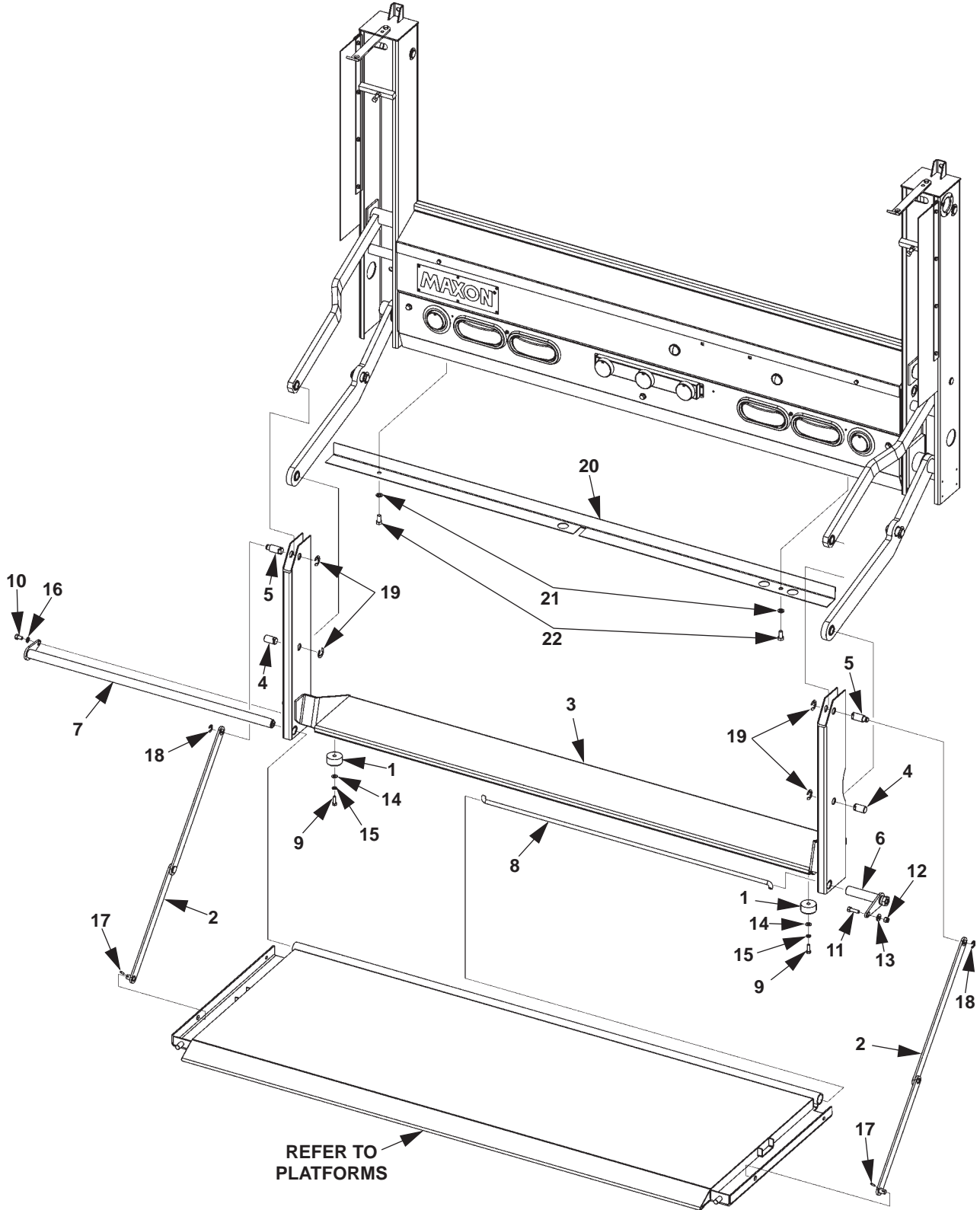


ITEM	QTY.	PART NO.	DESCRIPTION
1	1	282095-01	MAIN FRAME WELDMENT, 91" WIDE
		282095-02	MAIN FRAME WELDMENT, 86" WIDE
2	3	203216	RUBBER GROMMET, 3/32" X 3/8" X 1-3/4"
3	1	226598	PLATE, RECESSED SWITCH
4	2	263559	UPPER PARALLEL ARM ASSY
4A	3	905139-03	BEARING, 7/8" I.D. X 1" LG.
5	2	263578	PIN, 7/8" X 6-1/8" LG.
6	2	263580	PIN CYLINDER UPPER
7	1	263695-01	HOLDER (SOLID COVER), 91" WIDE
		263695-02	HOLDER (SOLID COVER), 86" WIDE
		267389-02	HOLDER, LIGHT KIT (W/HOLES), 91" WIDE
		267389-01	HOLDER, LIGHT KIT (W/HOLES), 86" WIDE
8	1	263770	MAXON NAME PLATE
9	1	264343-01	COVER, CENTRAL HOUSING 79" WIDE
		264343-02	COVER, CENTRAL HOUSING 74" WIDE
10	2	264347	WEAR STRIP, 5" X 28" LG.
11	2	264348	FLAT, 1-1/4" X 23"
12	2	264351	PIN, CYLINDER BOTTOM
13	10	900004-2	CAP SCREW, 1/4"-20 X 3/4" LG.
14	6	900014-4	CAP SCREW, 3/8"-16 X 1" LG.
15	2	900014-6	CAP SCREW, 3/8"-16 X 1-1/2" LG.
16	3	901002	LOCK NUT, 3/8"-16
17	8	901011-1	HEX NUT, 1/4"-20
18	5	901011-5	HEX NUT, 3/8"-16
19	2	901018	U-NUT, (1/4"-20)
20	10	902011-2	LOCK WASHER, 1/4"
21	5	902011-4	LOCK WASHER, 3/8"
22	4	902013-11	FLAT WASHER, 3/8"
23	9	904005-1	RIVET, 3/16"
24	2	905138-11	E RING, 7/8"
25	8	905138-13	E RING, 1"
26	4	905146-01	FIBERGLIDE THRUST BEARING
27	2	905139-02	BEARING, 1" I.D X 3/4" LG.
28	2	905139-03	BEARING, 7/8" I.D X 1" LG.
29	2	282087-01	LATCH
30	2	900014-8	CAP SCREW, 3/8"-16 X 2" LG.
31	2	262624	SPRING, COMPRESSION
32	4	902000-10	FLAT WASHER, 3/8"

MAIN ASSEMBLY-2

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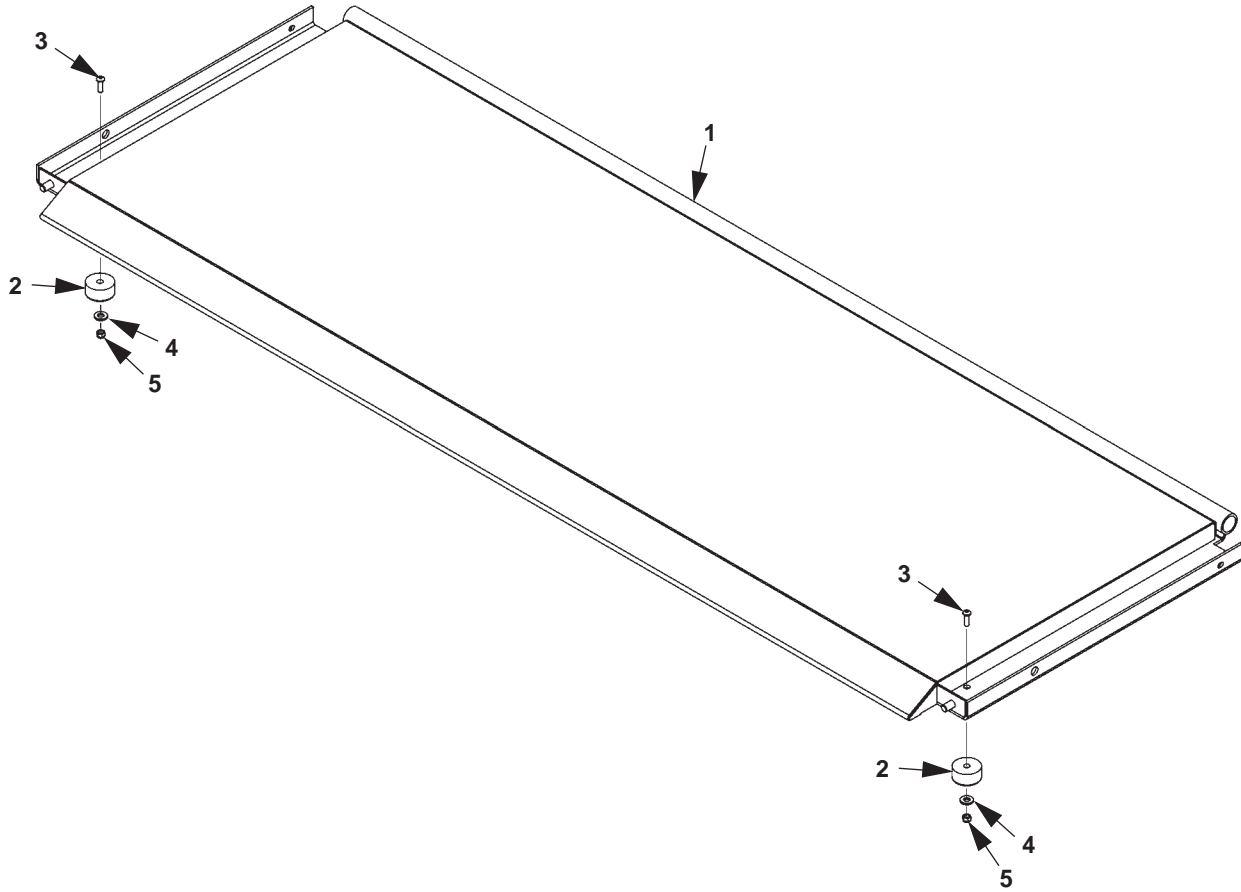


ITEM	QTY.	PART NO.	DESCRIPTION
1	2	253516	RUBBER BUMPER, 2" X 1"
2	2	263560	LINK ASSY
3	1	263571-01	PIN MOUNT ASSY, 91" WIDE
		263571-02	PIN MOUNT ASSY, 86" WIDE
4	2	263574	PIN, 7/8" X 1-9/16" LG.
5	2	263579	PIN, 7/8" X 2-7/32" LG.
6	1	264340	PIN WELDMENT
7	1	265830-01	TORSION BAR PIN WELDMENT, 42" LG.
		265830-02	TORSION BAR PIN WELDMENT, 36-1/2" LG.
8	1	265832-02	TORSION BAR, 78-1/2" LG.
		265832-03	TORSION BAR, 73" LG.
9	2	900009-2	CAP SCREW, 5/16"-18 X 1" LG.
10	1	900014-12	CAP SCREW, 3/8"-16 X 5/8" LG.
11	1	900014-4	CAP SCREW, 3/8"-16 X 1" LG.
12	1	901002	LOCK NUT, 3/8"-16
13	1	902001-1	FLAT WASHER, 3/8"
14	2	902002-1	FLAT WASHER, 5/16"
15	2	902011-3	LOCK WASHER, 5/16"
16	1	902011-4	LOCK WASHER, 3/8"
17	2	905015	ROLL PIN, 3/16" X 1" LG.
18	2	905138-08	E RING, 5/8"
19	4	905138-11	E RING, 7/8"
20	1	263692-01	ANGLE PLATE, (FOR 91" WIDE)
		263692-02	ANGLE PLATE, (FOR 86" WIDE)
21	2	902011-6	LOCK WASHER, 1/2"
22	2	900035-1	CAP SCREW, 1/2"-13 X 1" LG.

STEEL PLATFORM

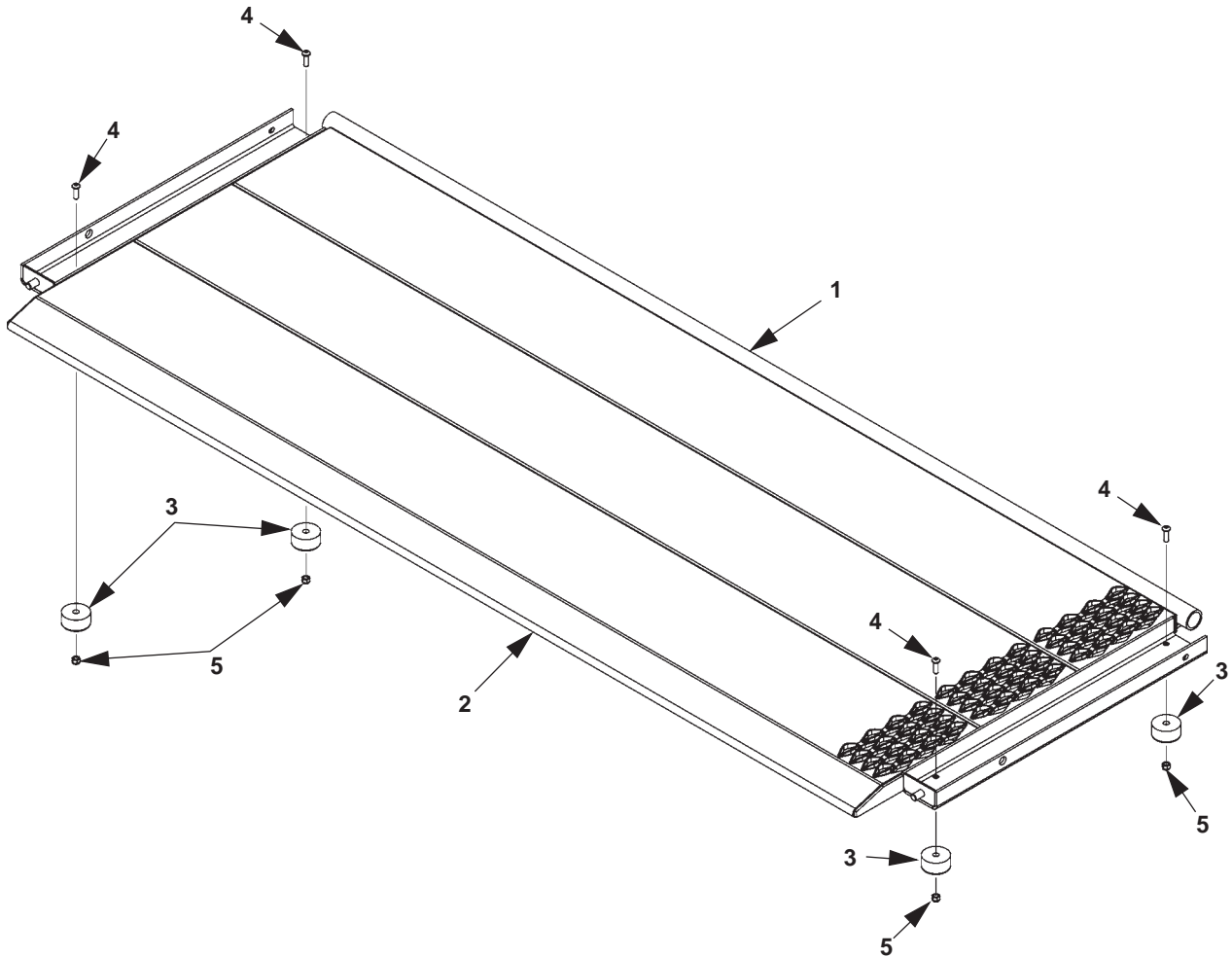
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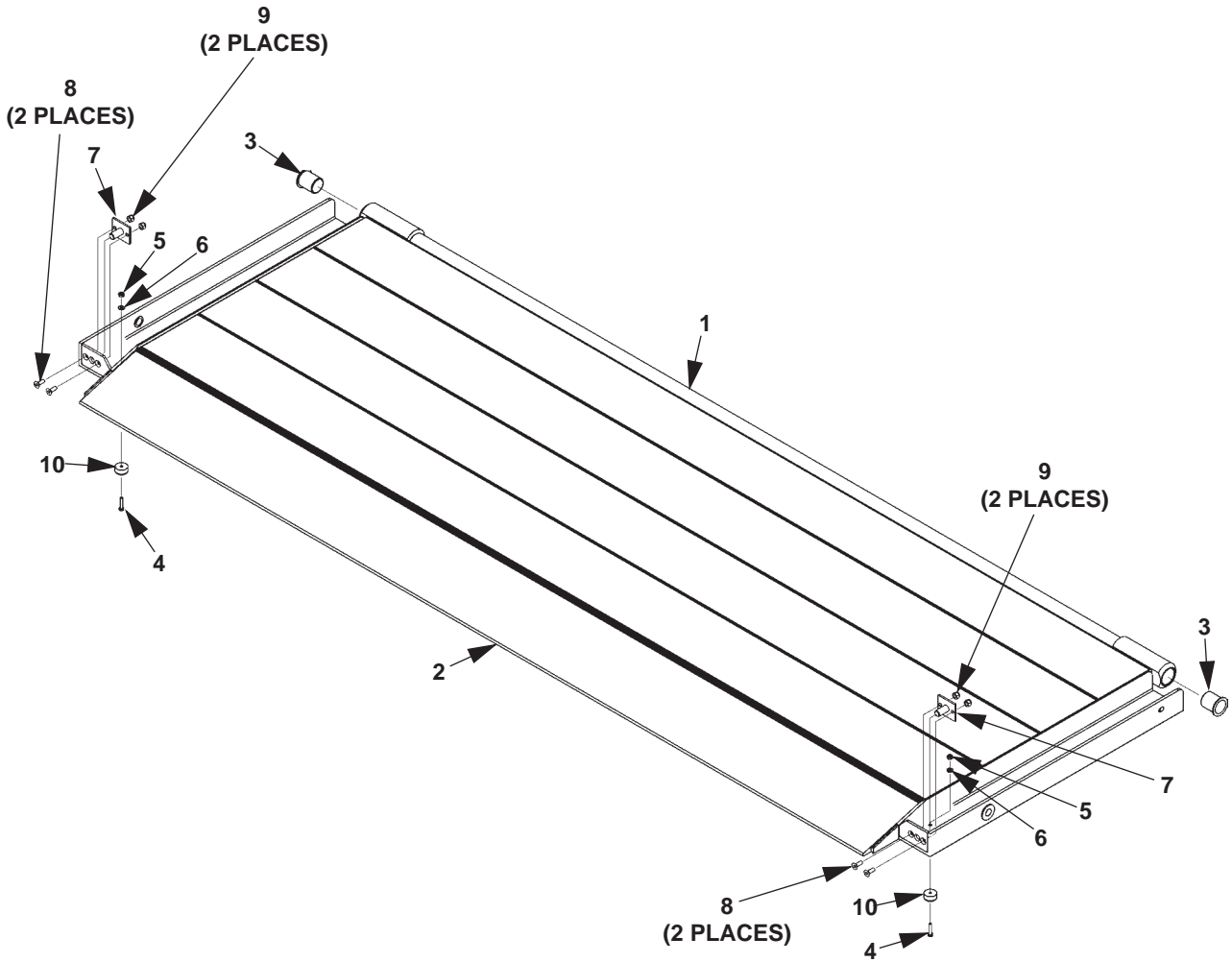
ITEM	QTY.	PART NO.	DESCRIPTION
1	REF	282102-01	PLATFORM WELDMENT, 91" WIDE
		282102-02	PLATFORM WELDMENT, 86" WIDE
2	2	253516	RUBBER BUMPER, 2" X 1"
3	2	900001-3	BUTTON SCREW, 5/16"-18 X 1" LG.
4	2	902002-1	FLAT WASHER, 5/16"
5	2	901001	LOCK NUT, 5/16"-18

SAFETY STEEL PLATFORM



ITEM	QTY.	PART NO.	DESCRIPTION
1	REF	282137-01	SAFETY STEEL PLATFORM ASSEMBLY, 91" WIDE
		282140-01	SAFETY STEEL PLATFORM ASSEMBLY, 86" WIDE
2	1	282136-01	SAFETY STEEL PLATFORM WELDMENT, 88" WIDE
		282138-01	SAFETY STEEL PLATFORM WELDMENT, 83" WIDE
3	4	253516	RUBBER BUMPER, 2" X 1"
4	4	900001-3	BUTTON SCREW, 5/16"-18 X 1" LG.
5	4	901001	LOCK NUT, 5/16"-18

ALUMINUM PLATFORM

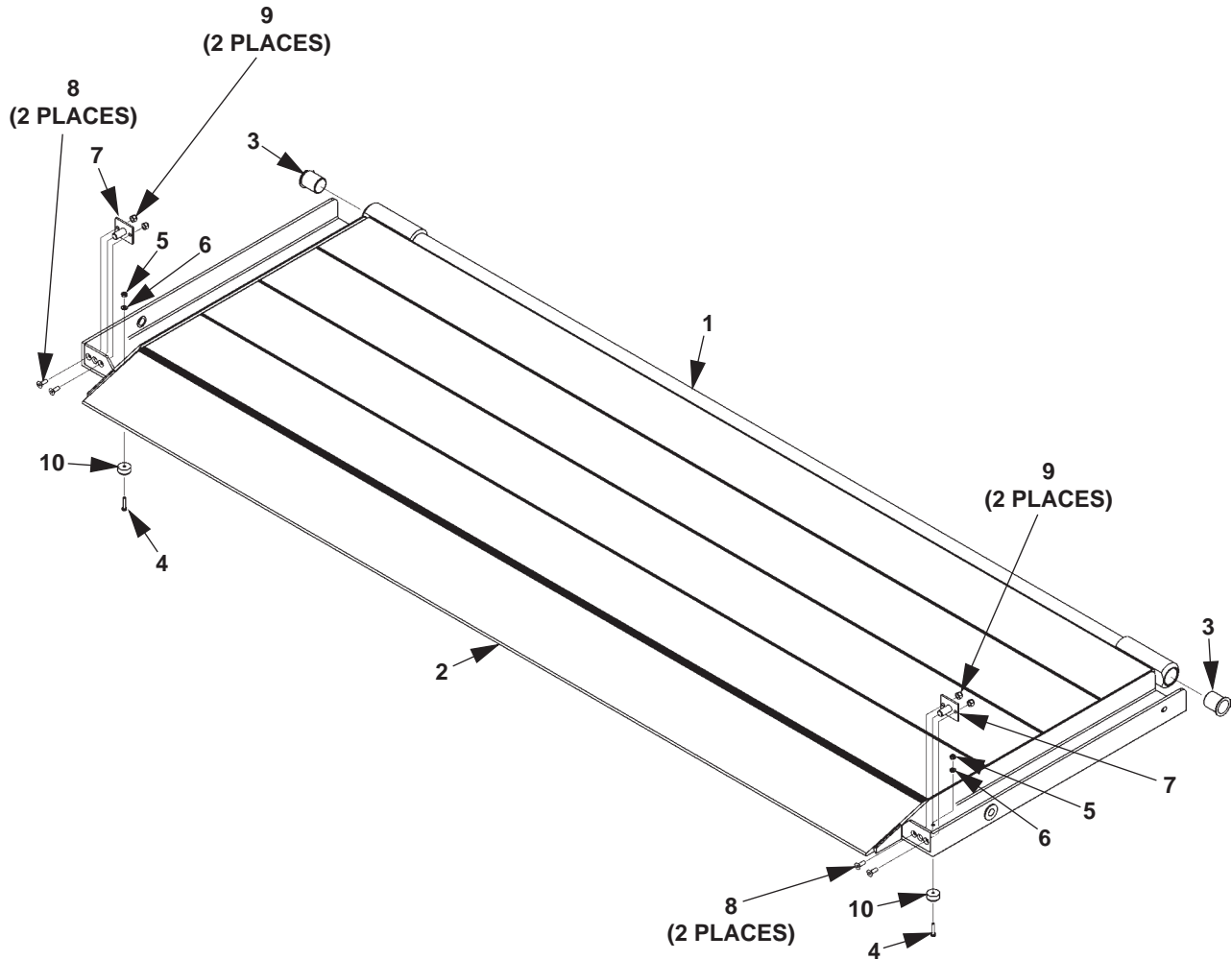


ITEM	QTY.	PART NO.	DESCRIPTION
1	REF	282130-01	PLATFORM ASSEMBLY, 91" WIDE
		282132-01	PLATFORM ASSEMBLY, 86" WIDE
2	1	282129-01	PLATFORM WELDMENT, 88" WIDE
		282131-01	PLATFORM WELDMENT, 83" WIDE
3	2	261837-12	FLANGE BUSHING
4	2	900007-7	PAN HEAD SCREW, 10-24 X 1" LG.
5	2	901003	LOCK NUT, 10-24
6	2	902000-6	FLAT WASHER, #10
7	2	282144-01	HOLDER WELDMENT
8	4	900044-4	SOCKET SCREW, 1/4"-20 X 3/4" LG.
9	4	901000	LOCK NUT, 1/4"-20
10	2	905314-04	BUMPER WITH WASHER

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ANODIZED ALUMINUM PLATFORM

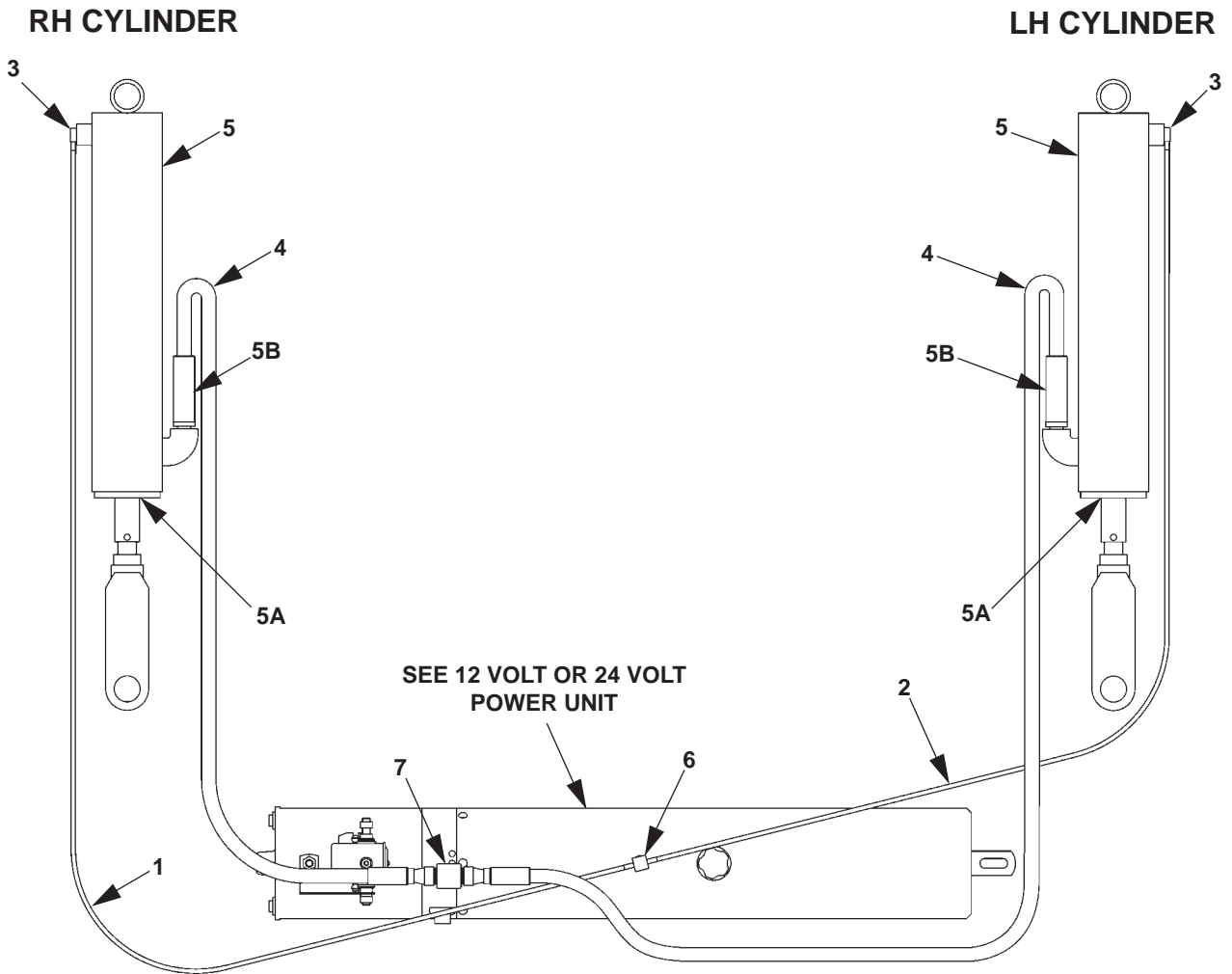


ITEM	QTY.	PART NO.	DESCRIPTION
1	REF	282097-01	PLATFORM ASSEMBLY, 91" WIDE
		282134-01	PLATFORM ASSEMBLY, 86" WIDE
2	1	282098-01	PLATFORM WELDMENT, 88" WIDE
		282133-01	PLATFORM WELDMENT, 83" WIDE
3	2	261837-12	FLANGE BUSHING
4	2	900007-7	PAN HEAD SCREW, 10-24 X 1" LG.
5	2	901003	LOCK NUT, 10-24
6	2	902000-6	FLAT WASHER, #10
7	2	282144-01	HOLDER WELDMENT
8	4	900044-4	SOCKET SCREW, 1/4"-20 X 3/4" LG.
9	4	901000	LOCK NUT, 1/4"-20
10	2	905314-04	BUMPER WITH WASHER

HYDRAULIC COMPONENTS

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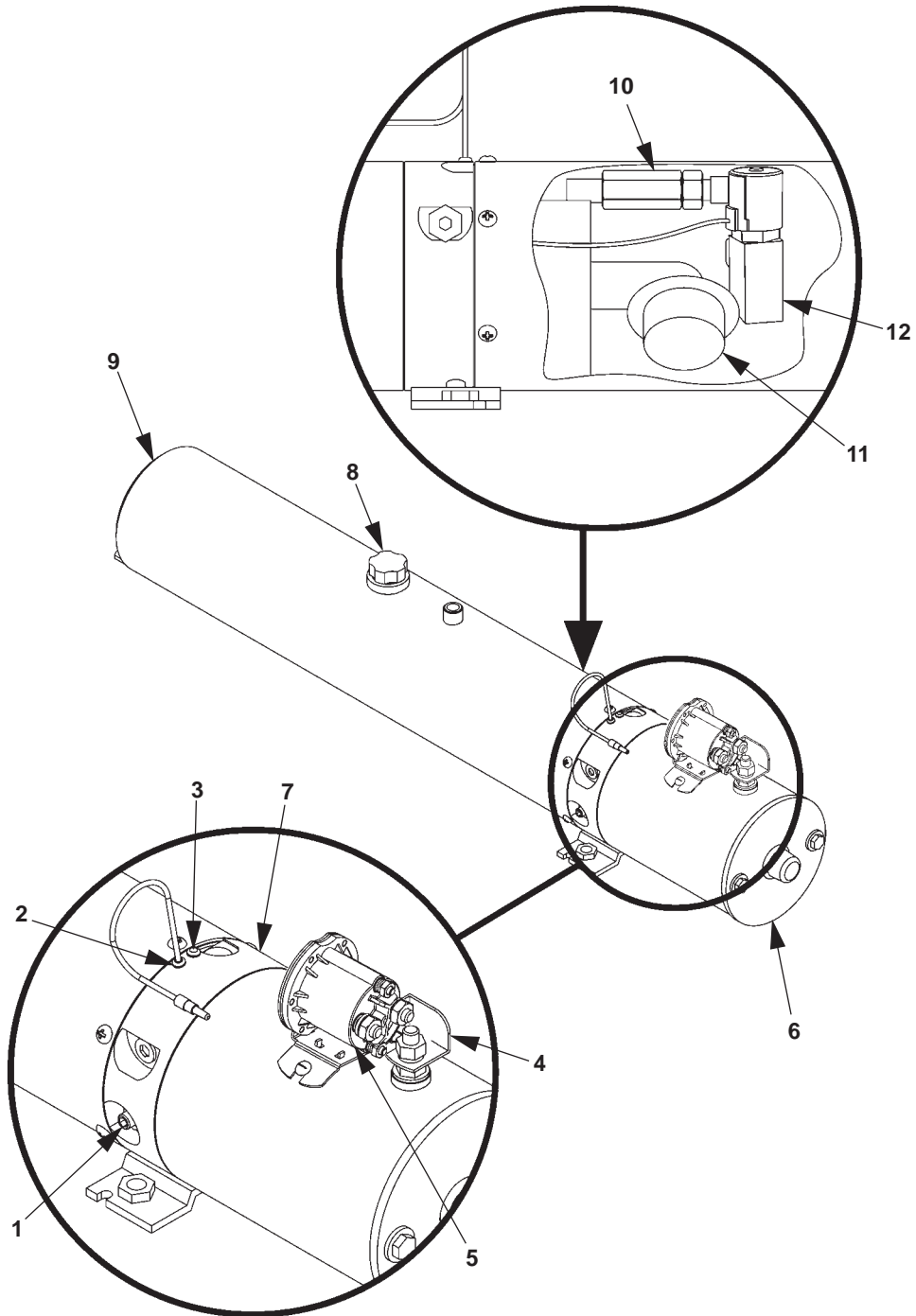
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	224370-11	HOSE, PLASTIC, 1/4" O.D. X 87" LG.
2	1	224370-13	HOSE, PLASTIC, 1/4" O.D. X 82" LG.
3	2	264349	ELBOW, 90 DEG. 1/4" NPT
4	2	264440	HOSE, 1/4" HP X 84-1/4" LG.
5	2	264442	CYLINDER ASSEMBLY
5A	1	264392	SEAL KIT
5B	1	264441	VALVE (FLOW CONTROL), 4.0 GPM
6	1	905188	BRANCH TEE, MALE, 1/8" NPT, 1/4" HOSE
7	1	905193	BRANCH TEE, SWIVEL, 3/8" M & 3/8" F

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POWER UNIT

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ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	286700-01	12 VDC POWER UNIT, STAKEBED
1	1		ADJUSTMENT RELIEF VALVE
2	1		GROMMET, STRAIN RELIEF
3	1		PLUG
4	1	286599	STRAP
5	1	284080-01	STARTER SOLENOID
6	1	280170	MOTOR
7	1	280165	PUMP ASSEMBLY
8	1	280175	PLUG
9	1	280176	RESERVOIR
10	1		FILTER ASSEMBLY
11	1		FILTER
12	1	280167	VALVE ASSEMBLY, 10V

12 VDC POWER UNIT

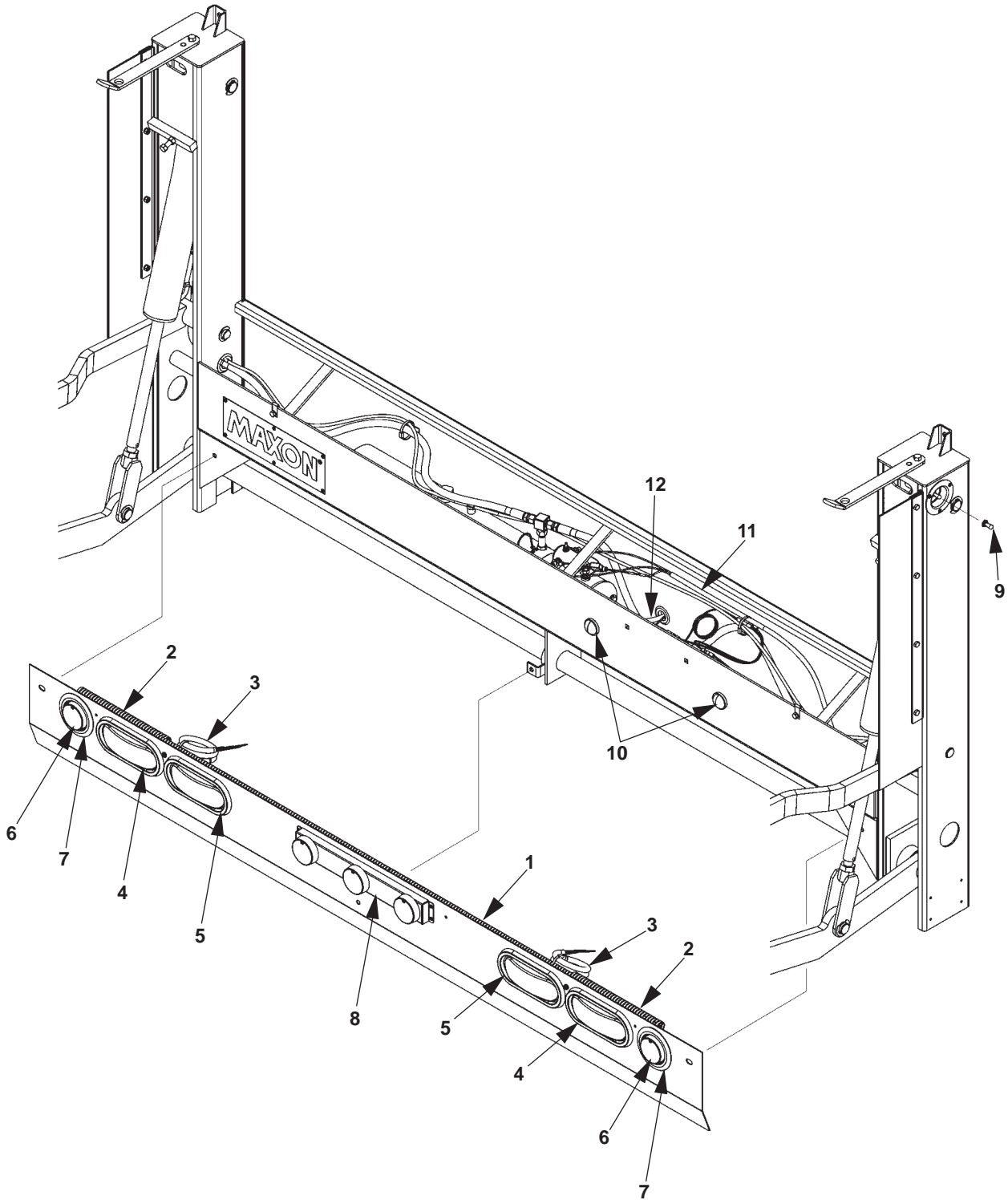
ITEM	QTY.	PART NO.	DESCRIPTION
REF	1	286700-24	24 VDC POWER UNIT, STAKEBED
1	1		
2	1		GROMMET, STRAIN RELIEF
3	1		PLUG
4	1	286599	STRAP
5	1	284080-02	STARTER SOLENOID
6	1	286600	MOTOR, 24 VOLT DC
7	1	280165	PUMP ASSEMBLY
8	1	280175	PLUG
9	1	280176	RESERVOIR
10	1		FILTER ASSEMBLY
11	1		FILTER
12	1	286753	VALVE ASSEMBLY, 18V

24 VDC POWER UNIT

ELECTRICAL COMPONENTS

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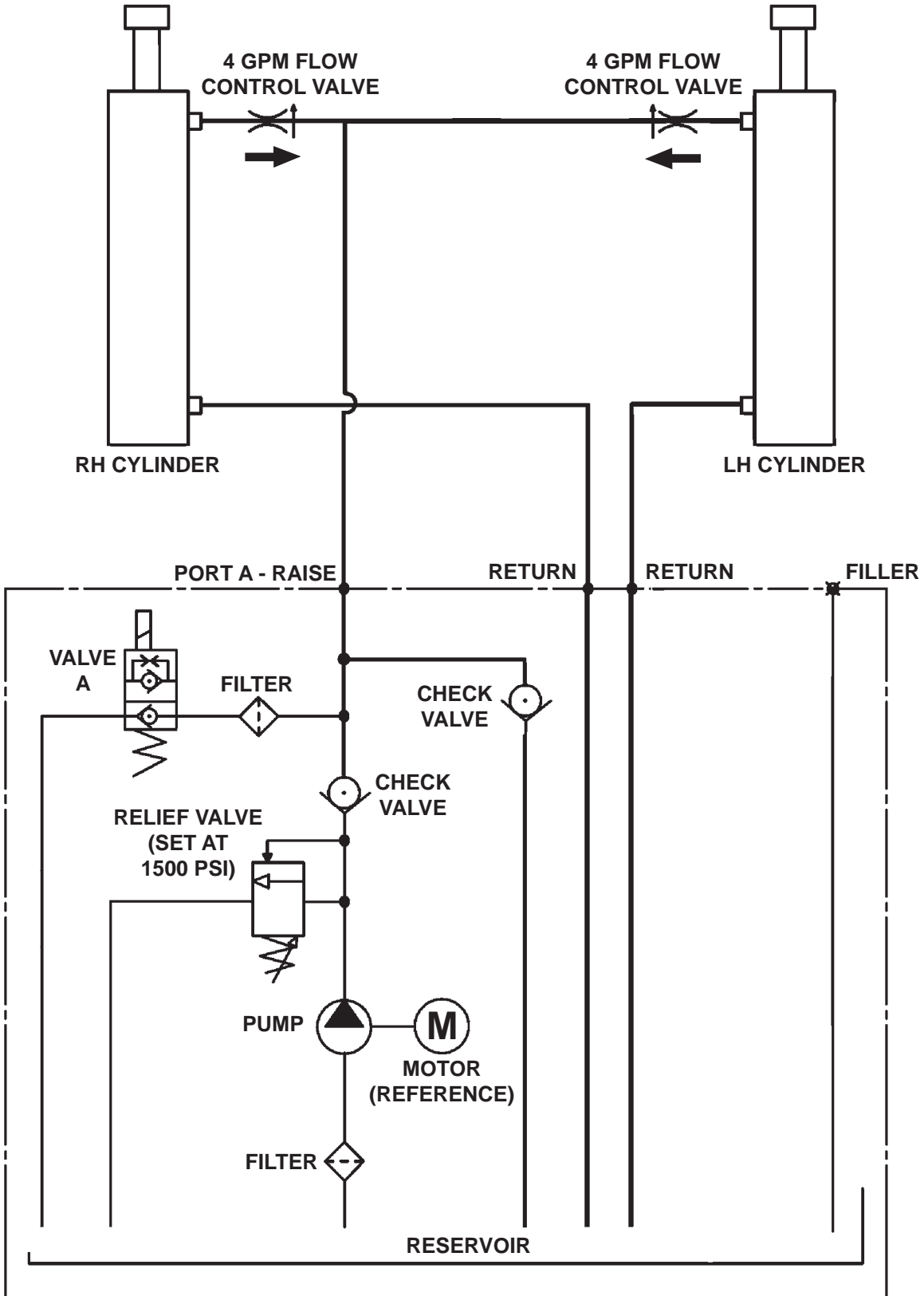
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	030972	SPLIT LOOM, BLACK, 3/8" X 24" LG.
2	2	040104	SPLIT LOOM, BLACK, 3/4" X 20" LG.
3	2	050293	LIGHT HARNESS
4	2	252532	RED LIGHT KIT
5	2	252533	CLEAR LIGHT
6	2	266199-01	SEALED LAMP, RED
7	2	266199-02	GROMMET CLOSED BACK
8	1	266200-01	LIGHT BAR, 3 LIGHTS (RED)
9	1	250876	RUBBER SEAL SWITCH BOOT
10	2	267387-01	LICENSE PLATE LIGHT
11	1	264443	ELECTRICAL CABLE & SWITCH ASSEMBLY
12	1	263551-02	CABLE ASSEMBLY, 4 GA X 29 FT LG.

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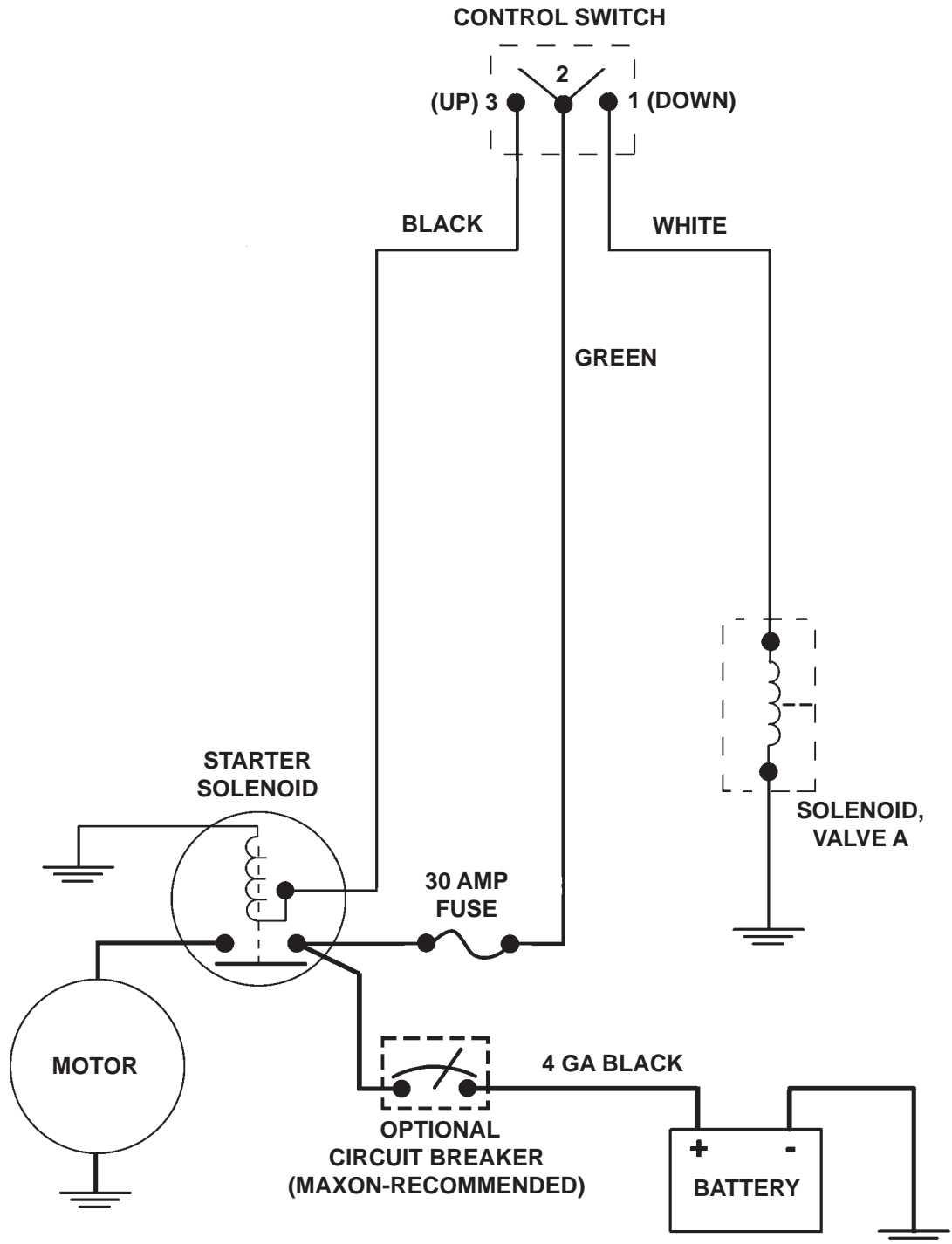
HYDRAULIC SYSTEM DIAGRAM

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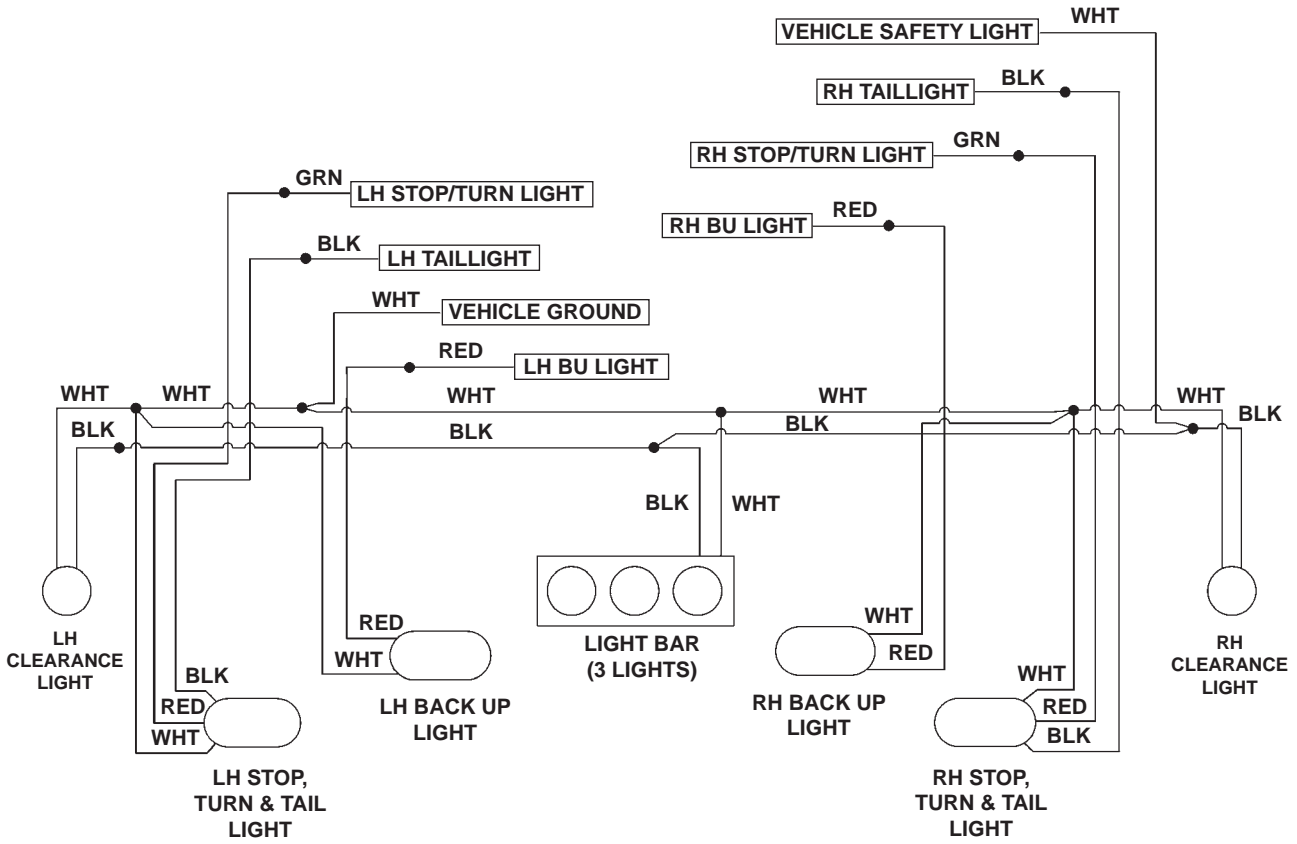
ELECTRICAL SYSTEM DIAGRAM



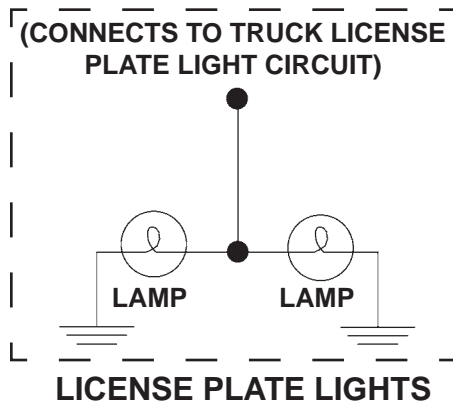
ELECTRICAL LIGHTING DIAGRAM

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VEHICLE LIGHTS ON LIFTGATE (IF EQUIPPED)



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

TABLE 57-1

