

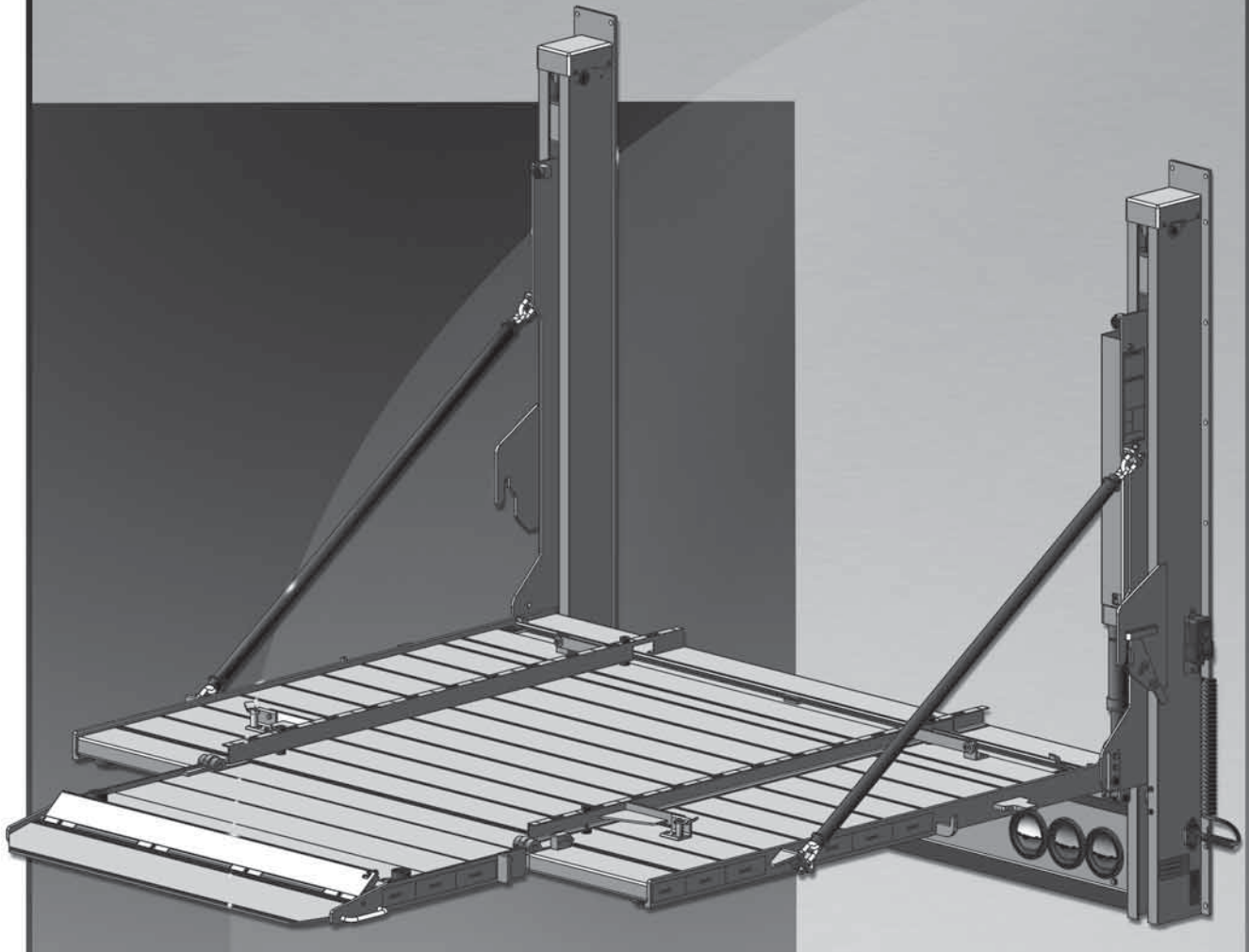
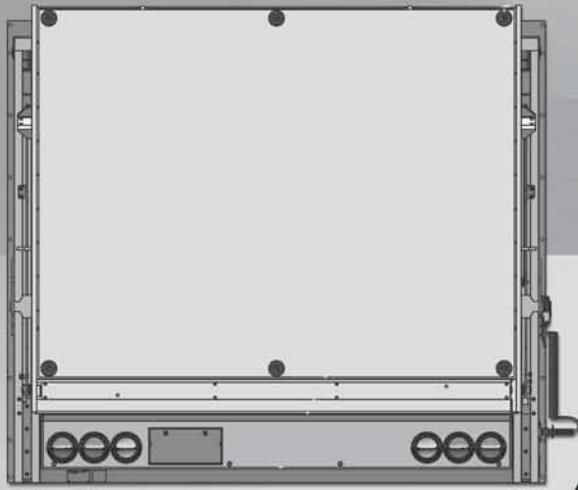
M-21-03  
SEPTEMBER 2022

# MAXON<sup>®</sup>

TOOL TRUCK

## DMD-22

### MAINTENANCE MANUAL





# MAXON<sup>®</sup>

## 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](http://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](http://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](http://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**

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

## **WARNING**

- Do not stand, or allow obstructions, under the platform when lowering the Liftgate. **Be sure your feet are clear of the Liftgate.**
- **Keep fingers, hands, arms, legs, and feet clear of moving Liftgate parts (and platform edges) when operating the Liftgate.**
- **Correctly stow platform when not in use. Extended platforms could create a hazard for people and vehicles passing by.**
- **Disconnect Liftgate power cable from battery** before repairing or servicing Liftgate.
- If it is necessary to stand on the platform while maintaining the Liftgate, keep your feet and any objects clear of the inboard edge of the platform. Your feet or objects on the platform can become trapped between the platform and the Liftgate housing cover.
- Recommended practices for welding on steel parts are contained in the current **AWS (American Welding Society) D1.1 Structural Welding Code - Steel**. Damage to Liftgate and/or vehicle, and personal injury could result from welds that are done incorrectly.
- Recommended practices for welding on aluminum parts are contained in the current **AWS (American Welding Society) D1.2 Structural Welding Code - Aluminum**. Damage to Liftgate and/or vehicle, and personal injury could result from welds that are done incorrectly.
- Recommended practices for welding galvanized steel are contained in the current **AWS (American Welding Society) D19.0 Welding Zinc-Coated Steel**. Damage to Liftgate and/or vehicle, and personal injury can result from welds that are done incorrectly.

# 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:

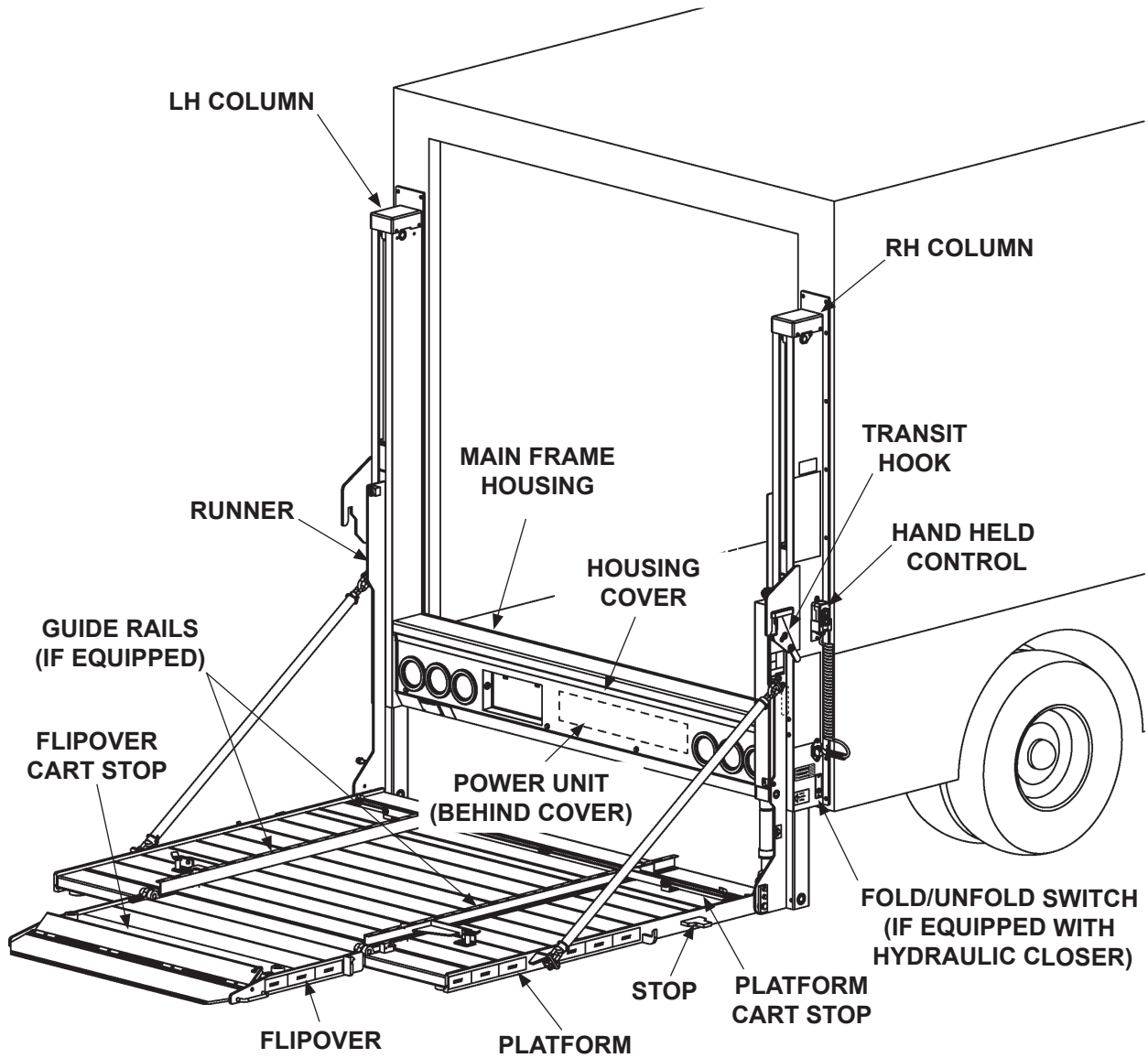
**MAXON LIFT CORP. Customer Service**  
**11921 Slauson Ave., Santa Fe Springs, CA 90670**

**Online: [www.maxonlift.com](http://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 with parts loose or missing.**

**NOTE:** Photocopy the PM CHECKLIST on the next page to help keep track of periodic maintenance on the Liftgate. Keep completed form with maintenance records.

**NOTE:** When replacing parts, refer to the Parts Portal on the Maxon website for genuine MAXON replacement parts.

### **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 on following page.
- Keep track of the grade of hydraulic fluid in the pump reservoir. Never mix two different grades of fluid.
- Check lines and fittings for chaffing and fluid leaks. Replace if necessary.
- Check electrical wiring for chaffing and make sure wiring connections are tight and free of corrosion, and coated with electrical sealant (EP-03, REV. H).
- Check that all **WARNING** and **instruction decals** are in place and legible.
- Check for loose or missing nuts, bolts, covers, roll pins, screws and pins.
- Check that guiderails and cart stops work correctly and no parts are missing.
- Check that platform latch and transit hook mechanisms work correctly and no parts are missing.

### **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 the Liftgate, clean it off. Find out if platform, guide rails, inside columns, runners, and slide pads are free of corrosion, residue, dirt and debris.

### **Annually or 5000 Cycles (whichever occurs first)**

- Visually check the entire Liftgate for excessively worn parts and broken welds, especially check the platform hinge pins for excessive wear and broken welds.
- Perform all **Quarterly Maintenance** checks.

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# PREVENTATIVE MAINTENANCE (PM) CHECKLIST

PM Interval: 3 Months

Date: \_\_\_ / \_\_\_ / \_\_\_

Equipment: \_\_\_\_\_

W/O # \_\_\_\_\_

Location: \_\_\_\_\_

Mechanic: \_\_\_\_\_

Serial # \_\_\_\_\_

Model # \_\_\_\_\_

Check Appropriate Box. "☐"

<b>MAXON Quarterly / 1250 Cycles Liftgate Preventative Maintenance (PM) Procedures</b>				
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	1	Verify if the Quarterly or Annual PM is due by checking the PM sticker on the curbside Liftgate column.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	2	Check for oil leaks at: cylinders, valves, and fittings.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	3	Check for damage: platform, column, runners and hydraulic tubes.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	4	Check for loose or missing nuts, bolts, covers, roll pins, screws and pins.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	5	Check for cracked welds at: columns, runners, platform, main housing and vehicle door frame.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	6	Check platform lowering speed: Range is 16 - 30 seconds. Check cylinder lock valves for proper operation.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	7	Check platform pins and couplers.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	8	Check platform raising speed: Range is 12-13 seconds.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	9	Check that platform unlatches, unfolds & folds smoothly & latches securely.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	10	Check switches and wiring connections on Liftgate as well as pump inside main housing. Also check ground straps.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	11	Check the gear pump for unusual noise, i.e. squealing or extreme RPM output.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	12	Checking Oil Level: gravity down with the platform unfolded and on the ground. Oil level should be as shown in Installation Manual, " <b>CHECKING HYDRAULIC FLUID</b> ". Check for contamination, change if needed.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	13	Check batteries: fully charged, load test, corrosion, cables, and hold downs.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	14	Check all charging and ground cable connections.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	15	Complete a new PM sticker and install it on the curbside column of the Liftgate. The next PM date is 3 months from the completed PM date. Indicate on the PM sticker if 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> or 4 <sup>th</sup> PM.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	16	Check that platform latch and transit hook mechanisms work correctly and no parts are missing.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	17	Check clearance between main housing & bottom plates of flipover section. Check platform and flipover for cracks, holes, and bends on the load carrying surfaces and side plates. Also, make sure retention ramps and carts stops (if equipped) are undamaged and operate smoothly.

<b>MAXON Annual / 5000 Cycles Liftgate Preventative Maintenance (PM) Procedures</b>				
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	18	Change hydraulic fluid.
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Repair required	<input type="checkbox"/> Corrected	19	Inspect wear on slide pads.

For more detailed information, refer to the Parts Portal on the Maxon website for genuine **MAXON** replacement parts.

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# PERIODIC MAINTENANCE CHECKING HYDRAULIC FLUID

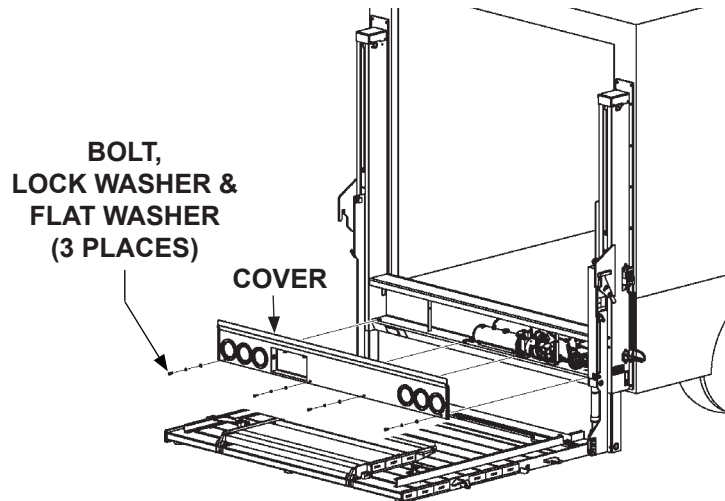
## CAUTION

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. Never mix synthetic fluids with conventional hydraulic fluids. Hydraulic system must be purged if the fluids are mixed.

**NOTE:** Liftgate is shipped with **Exxon Univas HVI-13** hydraulic fluid in the hydraulic cylinders. **Exxon Univas HVI-13** hydraulic fluid is recommended for operating temperatures of **-40 to +120° F**. Refer to decal in pump box. Under certain conditions, other brands and grades of oil may be used as substitutes for the recommended oil. Refer to **TABLE 11-1**.

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

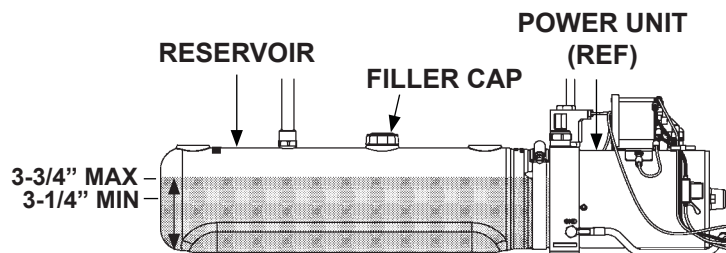
1. Unfold and lower platform to the ground (**FIG. 10-1**). Refer to **Operation Manual** for detailed operating instructions.
2. Unbolt and remove cover from main housing as shown in **FIG. 10-1**.
3. Check the hydraulic fluid level in reservoir as follows. With platform on the ground, level should be as shown in **FIG. 10-2**.
4. If needed, add fluid to the reservoir as follows. Remove filler cap (**FIG. 10-2**). Fill the reservoir with hydraulic fluid to level shown in **FIG. 10-2**. Reinstall filler cap.



**UNBOLTING/ BOLTING COVER  
(PLATFORM ON THE GROUND)  
FIG. 10-1**

## CAUTION

Main housing cover must be correctly secured to prevent it from becoming a hazard.



**POWER UNIT FLUID LEVEL  
FIG. 10-2**

5. Bolt cover in place on the main housing (**FIG. 10-1**). Torque the 5/16"-18 cover bolts from **10 to 14 lb-ft**.

ISO 15 OR MIL-H-5606 HYDRAULIC OIL	
RECOMMENDED BRANDS	PART NUMBER
CHEVRON	FLUID A, AW-MV-15
KENDALL	GLACIAL BLU
SHELL	TELLUS S2 VX 15
EXXONMOBIL	UNIVIS HVI-13
ROSEMEAD	THS FLUID 17111

**TABLE 11-1**

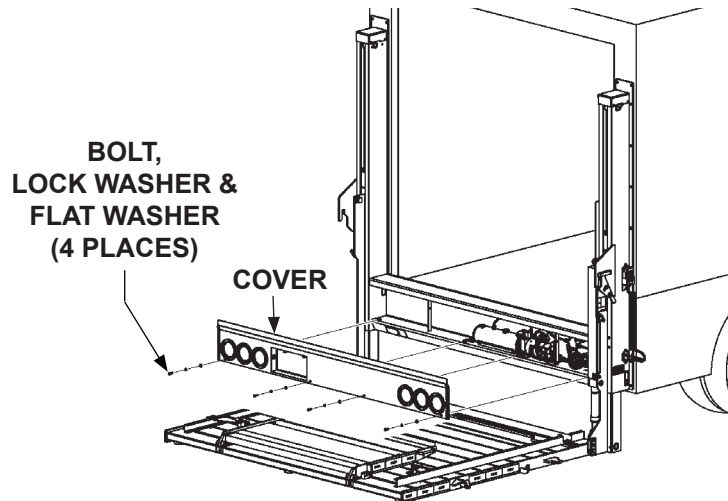
# PERIODIC MAINTENANCE CHANGING HYDRAULIC FLUID

## CAUTION

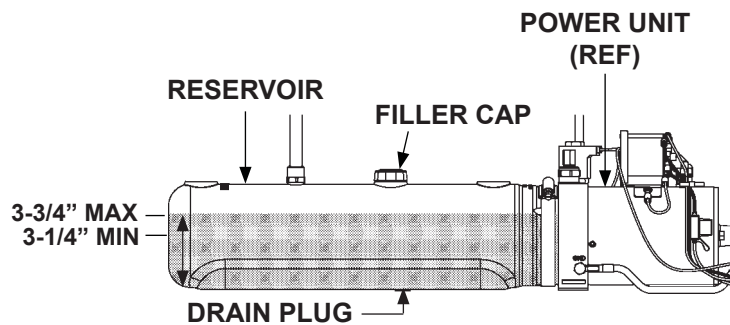
Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination. Never mix synthetic fluids with conventional hydraulic fluids. Hydraulic system must be purged if the fluids are mixed.

**NOTE:** Liftgate is shipped with **Exxon Univis HVI-13** hydraulic fluid in the hydraulic cylinders. **Exxon Univis HVI-13** hydraulic fluid is recommended for operating temperatures of **-40 to +120° F**. Refer to decal in pump box. Under certain conditions, other brands and grades of oil may be used as substitutes for the recommended oil. Refer to **TABLE 11-1**.

1. Unfold and lower platform to the ground (**FIG. 12-1**). Refer to **Operation Manual** for detailed operating instructions.
2. Unbolt and remove cover from main housing as shown in **FIG. 12-1**.
3. Remove drain plug (**FIG. 12-2**). Then, drain hydraulic fluid from reservoir. Reinstall drain plug (**FIG. 12-2**).
4. Remove filler cap (**FIG. 12-2**). Then, add new **Univis HVI-13** hydraulic fluid to level shown in **FIG. 12-2**. Reinstall filler cap.

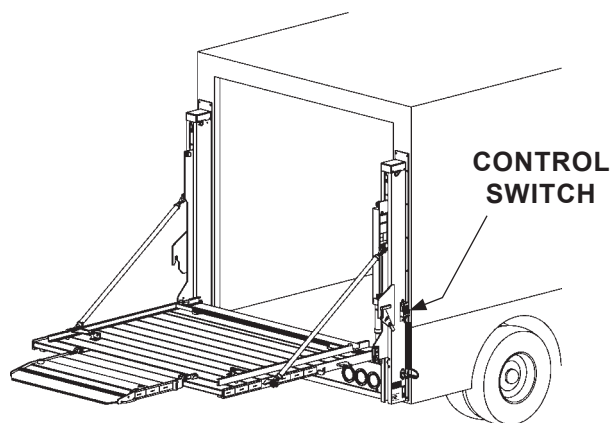


**UNBOLTING COVER  
(PLATFORM ON THE GROUND)  
FIG. 12-1**

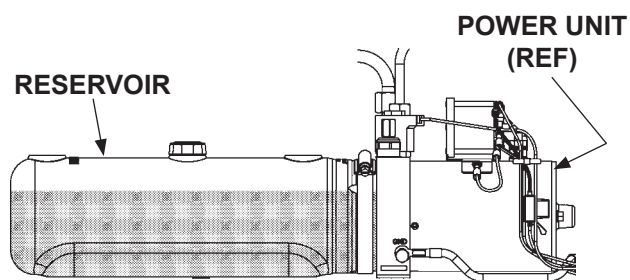


**POWER UNIT FLUID LEVEL  
(MANUAL CLOSE POWER UNIT SHOWN)  
FIG. 12-2**

5. Raise platform to bed height (**FIG. 13-1**). Continue to hold control switch **RAISE** button for 30 - 60 seconds to circulate hydraulic fluid through slave cylinder and reservoir (**FIG. 13-2**). Release control switch **RAISE** button.



**PLATFORM AT BED HEIGHT**  
**FIG. 13-1**



**POWER UNIT**  
**FIG. 13-2**

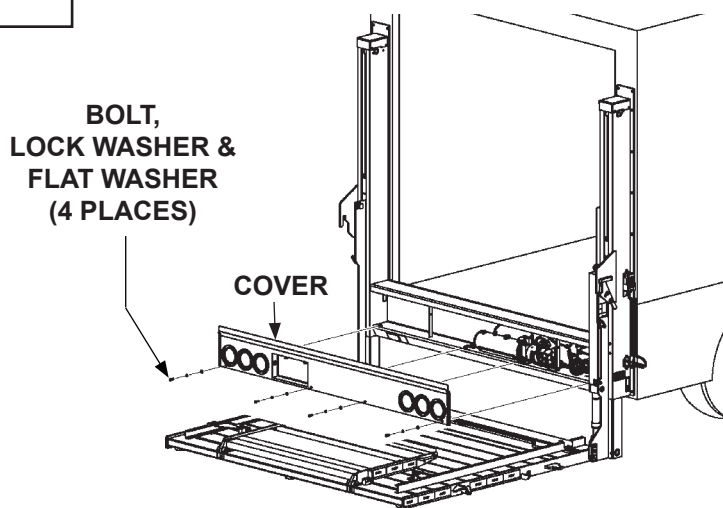
**NOTE:** One cycle of draining, filling, and circulating hydraulic fluid should be enough to fill the system with new hydraulic fluid.

6. Lower platform to the ground (**FIG. 13-3**).

### **CAUTION**

Main housing cover must be correctly secured to prevent it from becoming a hazard.

7. Bolt cover on the main housing as shown in **FIG. 13-3**. Torque the 5/16"-18 cover bolts from 10 to 14 lb-ft.



**BOLTING ON COVER**  
**FIG. 13-3**

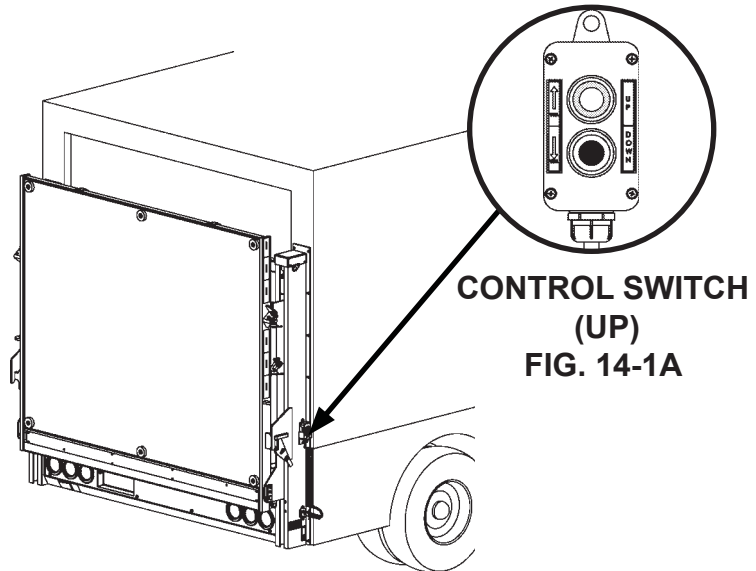
## PERIODIC MAINTENANCE PRESSURIZING HYDRAULIC SYSTEM

### **!** CAUTION

Operating Liftgate, under certain conditions, with air in system could result in damage to lift and load as well as personal injury. If lines are opened & closed or replaced, and if power unit or cylinders are replaced, pressurize hydraulic system before operating Liftgate with a passenger or load.

**NOTE:** When pump pressurizes fluid in hydraulic system, air is bled into reservoir through slave cylinder return line.

To pressurize lifting cylinders, remove handheld control from holder (FIGS. 14-1 and 14-1A). Press **UP** button for 10-15 seconds (FIG. 14-1A). Then, release the button.



**USING CONTROL SWITCH TO PRESSURIZE  
HYDRAULIC SYSTEM  
FIG. 14-1**

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## TORSION BAR ADJUSTMENT

**NOTE:** Platform with hydraulic closer uses RH torsion bar to assist with opening (unfolding) platform, and LH torsion bar to assist with closing (folding) platform. Refer to **TABLE 15-1**.

TORSION BAR ADJUSTMENT	
OBSERVATIONS	CORRECTIVE ACTION
PLATFORM OPENS FULLY WITH LITTLE OR NO RESISTANCE OR FALLS OPEN,	INCREASE TENSION OF RH TORSION BAR
PLATFORM IS DIFFICULT TO CLOSE OR WILL NOT CLOSE	INCREASE TENSION OF LH TORSION BAR

**TABLE 15-1**

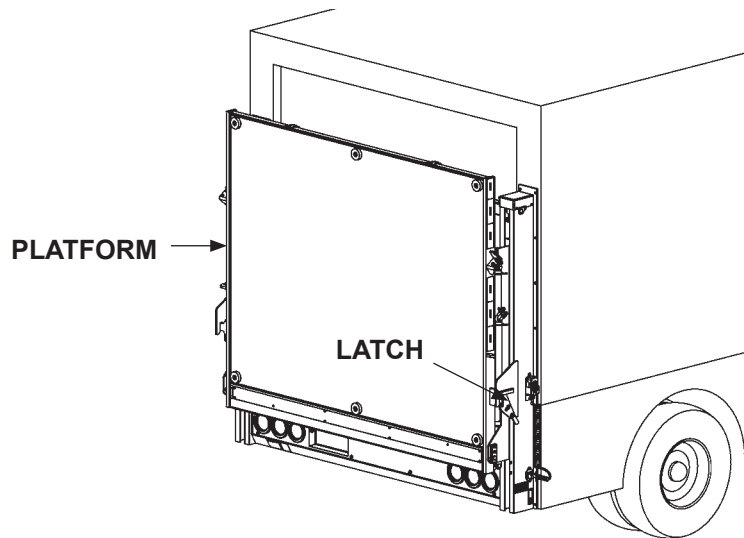
# PERIODIC MAINTENANCE

## TORSION BAR ADJUSTMENT - Continued

### WARNING

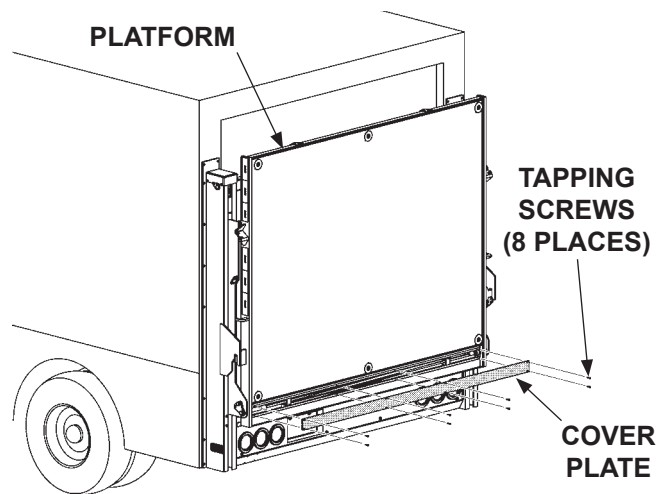
Ensure platform is latched securely in stowed position to release most tension from torsion bar(s) and keep platform from suddenly unfolding. Injury could result from unbolting the torsion bar(s) under tension. When all tension is released from torsion bar(s), platform can unfold suddenly. Any person in the path of opening platform could be injured.

1. Stow platform (**FIG. 16-1**). Refer to **Operation Manual** for detailed operating instructions.



**PLATFORM IN STOWED POSITION**  
**FIG. 16-1**

2. Unbolt and remove torsion bar cover from platform (**FIG. 16-2**).



**REMOVING TORSION BAR COVER**  
**FIG. 16-2**

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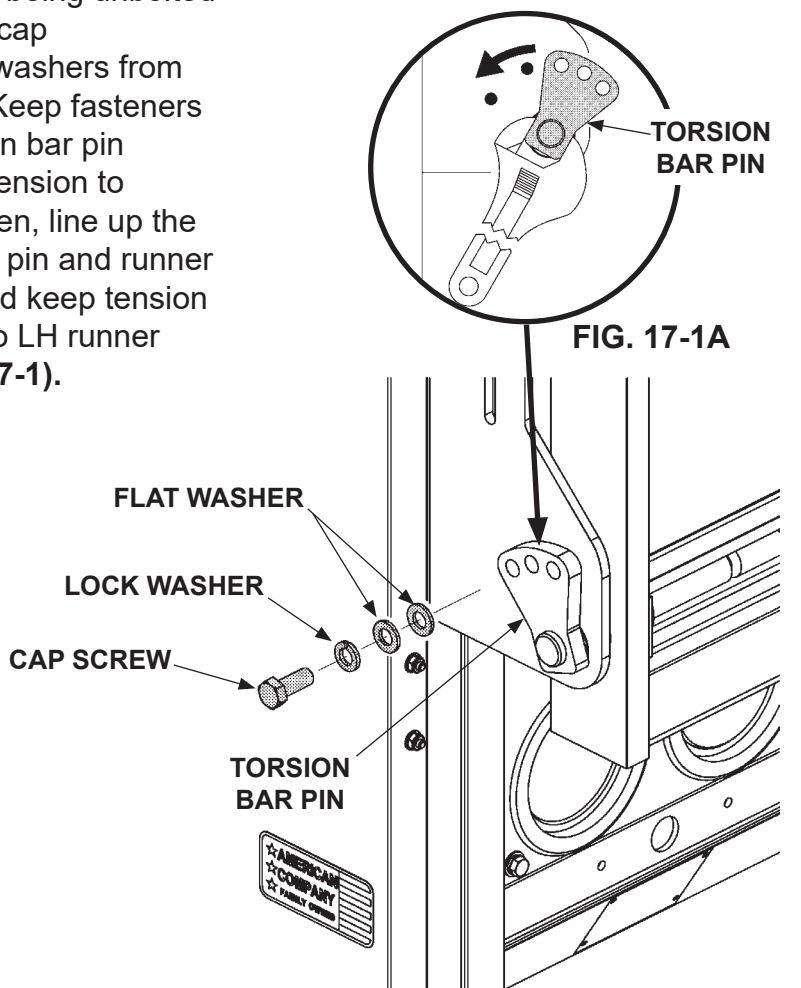


## WARNING

Platform can unfold suddenly with no tension on torsion bar. Stay out of the path of unfolding platform when adjusting the torsion bar. Get second person to help unlatch platform.

### ADJUST LH TORSION BAR

1. On the LH runner hold torsion bar pin with a large wrench or gripping pliers to prevent pin from rotating while pin is being unbolted (**FIG. 17-1A**). Next, remove cap screw, lock washer and flat washers from torsion bar pin (**FIG. 17-1**). Keep fasteners to reinstall. Rotate the torsion bar pin counter-clockwise to apply tension to torsion bar (**FIG. 17-1A**). Then, line up the nearest holes on torsion bar pin and runner to bolt pin in that position and keep tension on the torsion bar. Bolt pin to LH runner and tighten securely (**FIG. 17-1**).



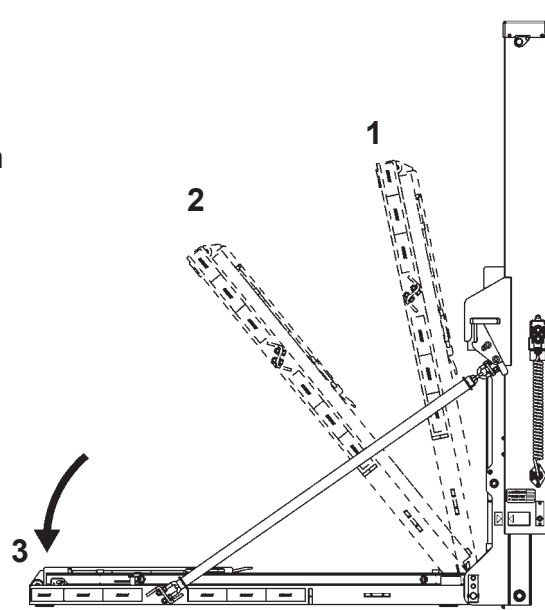
UNBOLTING PIN FOR LH TORSION BAR  
FIG. 17-1

# PERIODIC MAINTENANCE

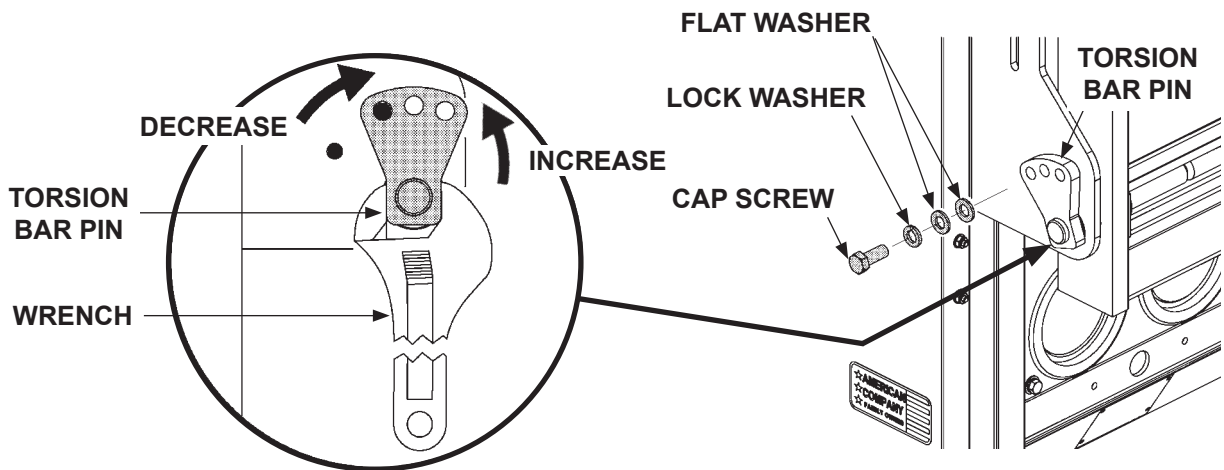
## TORSION BAR ADJUSTMENT - Continued

2. Lower the platform (**FIG. 19-1**). Refer to **Operation Manual** for detailed operating instructions.

3. Platform should open as shown in **FIG. 18-1**, **position 1**. Pull platform to unfold. Observe if platform starts to fold, stays partially unfolded, or starts to fall open with no restraint. Platform should unfold slowly when released (**FIG. 18-1**, **position 2**). To increase tension on the LH torsion bar, rotate torsion bar pin counter-clockwise until tension increases in LH torsion bar (**FIG. 18-2A**). Once the platform is unfolded, it should lay flat (**FIG. 18-1**, **position 3**). If platform does not lay flat, decrease tension by removing cap screw, lock washer and flat washers from LH torsion bar pin (**FIG. 18-2**). Rotate torsion bar pin clockwise one hole position (**FIG. 18-2A**). Replace cap screw, lock washer and flat washers (**FIG. 18-2**) and tighten.



**UNFOLDING PLATFORM**  
**FIG. 18-1**



**FIG. 18-2A**

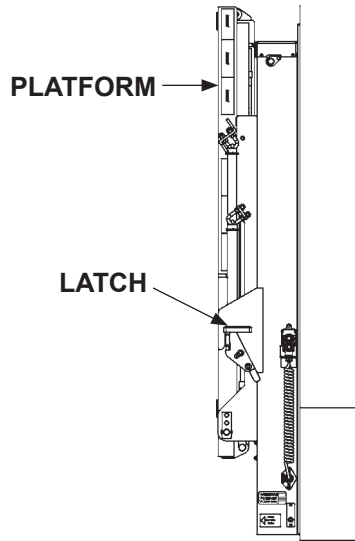
**ADJUSTING TENSION**  
**FIG. 18-2**

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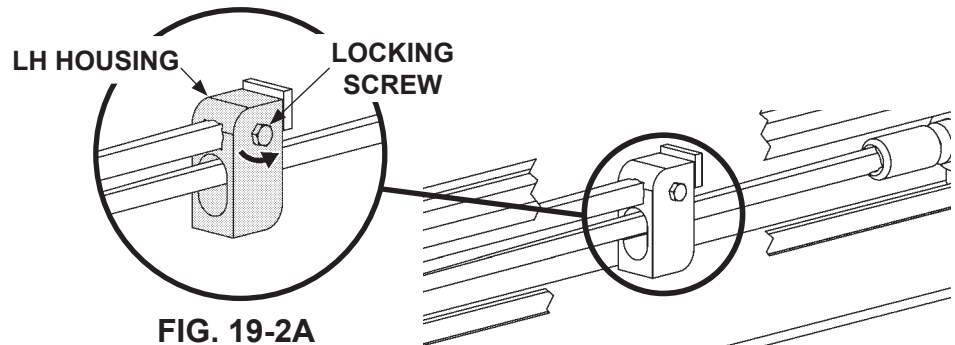
**NOTE:** Tension can be increased (or decreased) with more precision by changing the position of the LH torsion bar housing.

4. Stow platform (**FIG. 19-1**). Refer to **Operation Manual** for detailed operating instructions.



**PLATFORM IN STOWED POSITION**  
**FIG. 19-1**

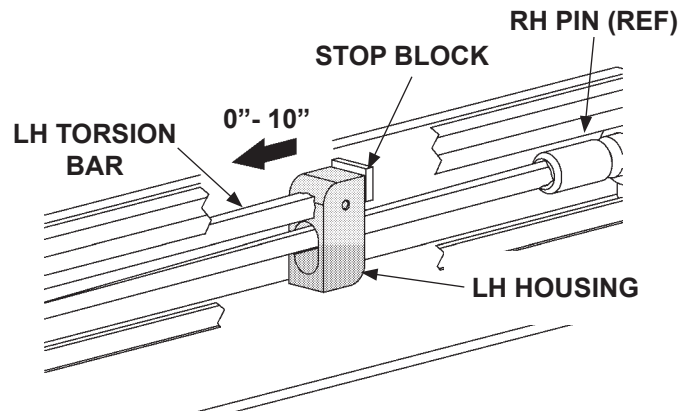
5. To adjust tension on the LH torsion bar, loosen locking screw on housing for LH torsion bar (**FIGS. 19-2 and 19-2A**).



**FIG. 19-2A**

**FIG. 19-2**

6. Increase tension by sliding LH housing inboard toward LH side of vehicle (**FIG. 19-3**). The range of adjustment is 0" to 10" to the left of stop block (**FIG. 19-3**).

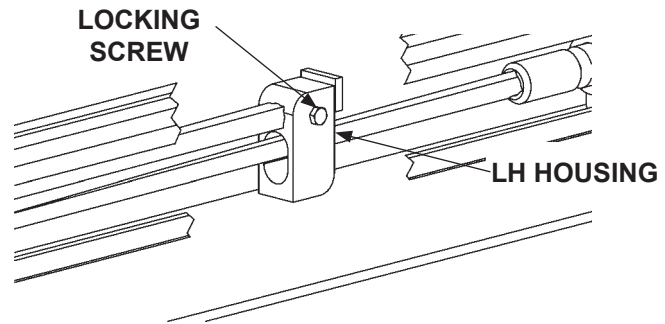


**INCREASING TENSION ON LH TORSION BAR**  
**FIG. 19-3**

## PERIODIC MAINTENANCE

### TORSION BAR ADJUSTMENT - Continued

7. Tighten locking screw securely to hold LH torsion bar housing in position (**FIG. 20-1**).



**FIG. 20-1**

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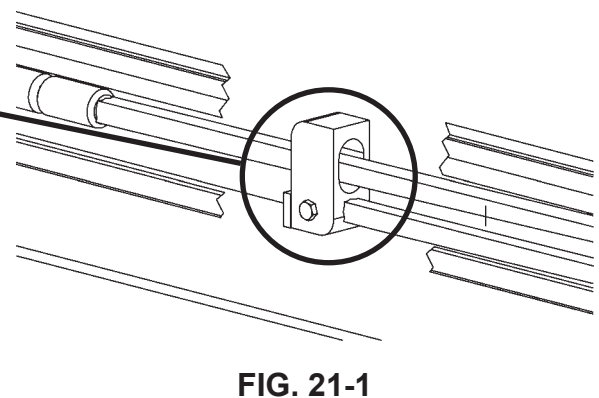
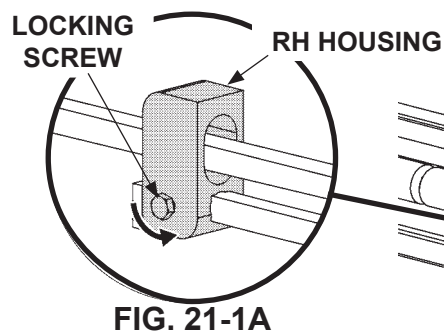
## **! WARNING**

Platform can unfold suddenly with no tension on torsion bar. Stay out of the path of unfolding platform when adjusting the torsion bar. Get second person to help unlatch platform.

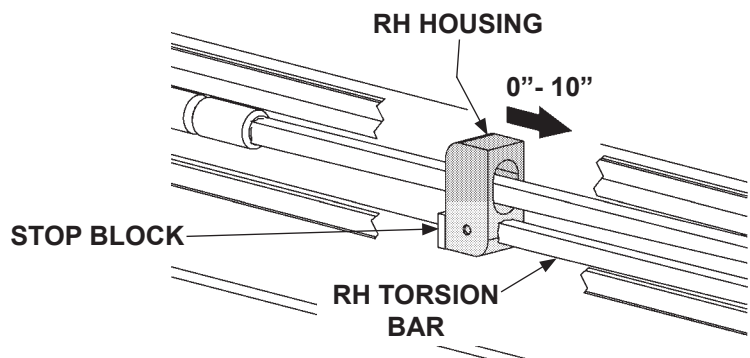
**NOTE:** Tension can be increased (or decreased) with more precision by changing the position of the RH torsion bar housing.

### **ADJUST RH TORSION BAR**

1. To adjust tension on the RH torsion bar, loosen locking screw on housing for RH torsion bar (**FIGS. 21-1 and 21-1A**)



2. Increase tension by sliding RH housing inboard toward RH side of vehicle (**FIG. 21-2**). The range of adjustment is 0" to 10" to the right of stop block (**FIG. 21-2**).

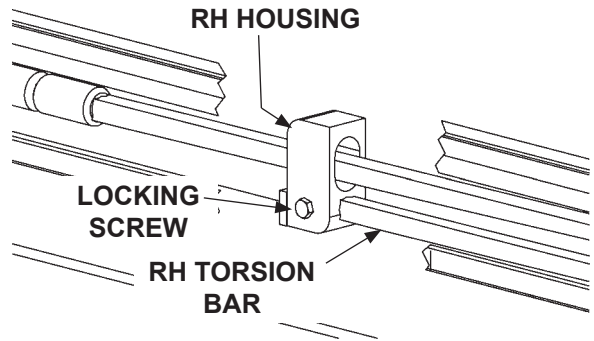


**INCREASING RH TORSION BAR TENSION**  
**FIG. 21-2**

# PERIODIC MAINTENANCE

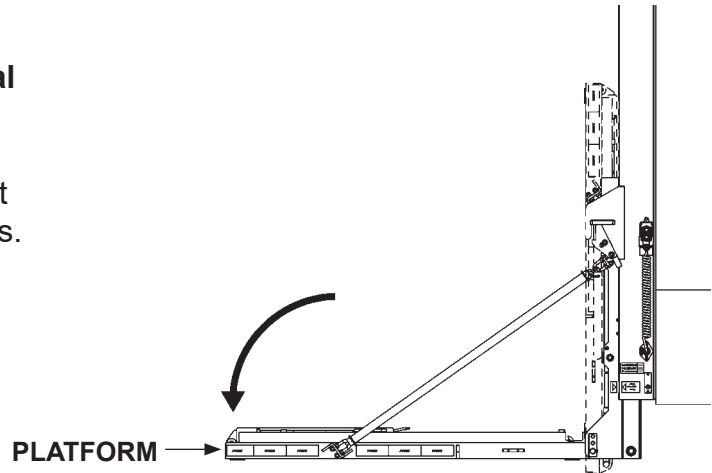
## TORSION BAR ADJUSTMENT - Continued

3. Tighten locking screw securely to hold RH torsion bar housing in position (**FIG. 22-1**).

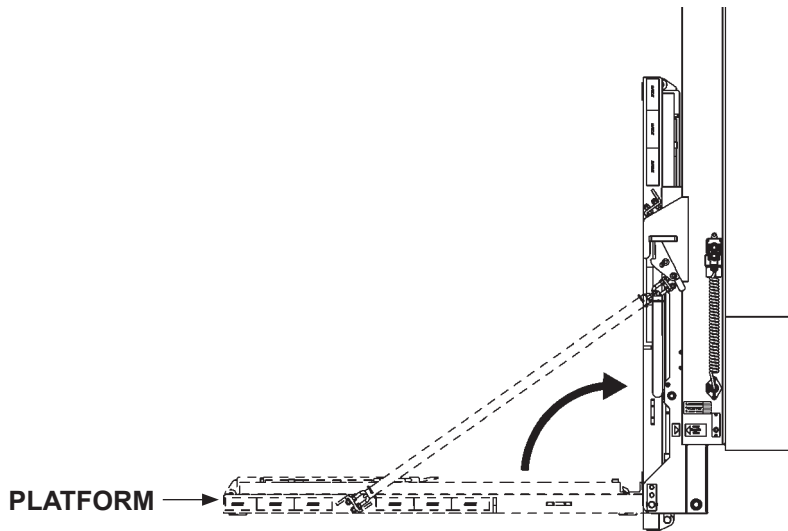


**FIG. 22-1**

4. Unfold and fold platform (**FIGS. 22-2 and 22-3**). Refer to **Operation Manual** for detailed operating instructions. Ensure platform unfolds and folds correctly. If needed, repeat adjustment procedures for LH and RH torsion bars.



**UNFOLDING PLATFORM**  
**FIG. 22-2**

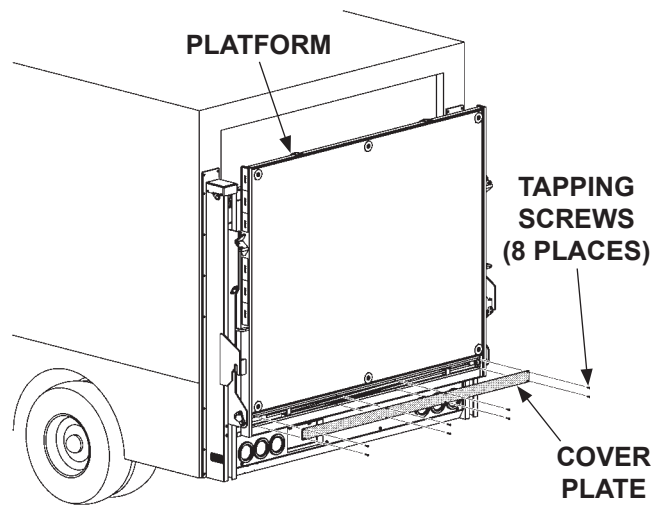


**FOLDING PLATFORM**  
**FIG. 22-3**

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5. Reattach torsion bar cover plate (FIG. 23-1).



**REATTACH TORSION BAR COVER PLATE  
FIG. 23-1**

6. Platform can be stowed or returned to operation after adjustment.

# PERIODIC MAINTENANCE

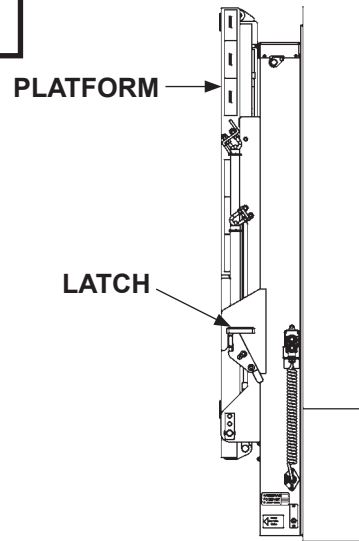
## TORSION BAR REPLACEMENT

### WARNING

Ensure platform is latched securely in stowed position to release most tension from torsion bar(s) and keep platform from suddenly unfolding. Injury could result from unbolting the torsion bar(s) under tension. When all tension is released from torsion bar(s), platform can unfold suddenly. Any person in the path of opening platform could be injured.

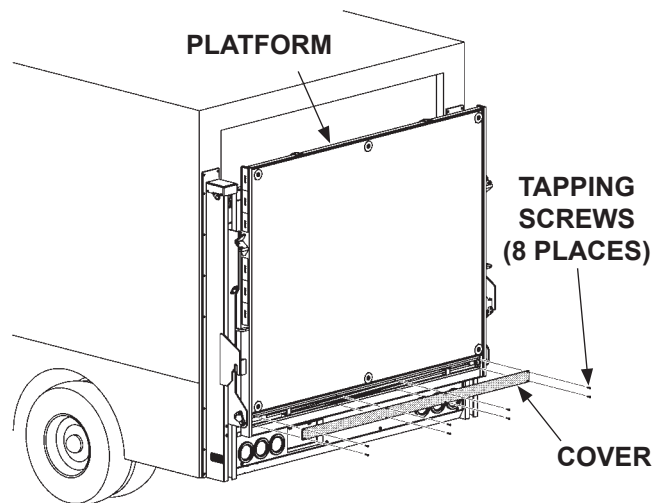
### REPLACE LH TORSION BAR

1. Stow platform (**FIG. 24-1**). Refer to **Operation Manual** for detailed operating instructions.



**FIG. 24-1**

2. Remove torsion bar cover from platform (**FIG. 24-2**).



**REMOVING TORSION BAR COVER**  
**FIG. 24-2**

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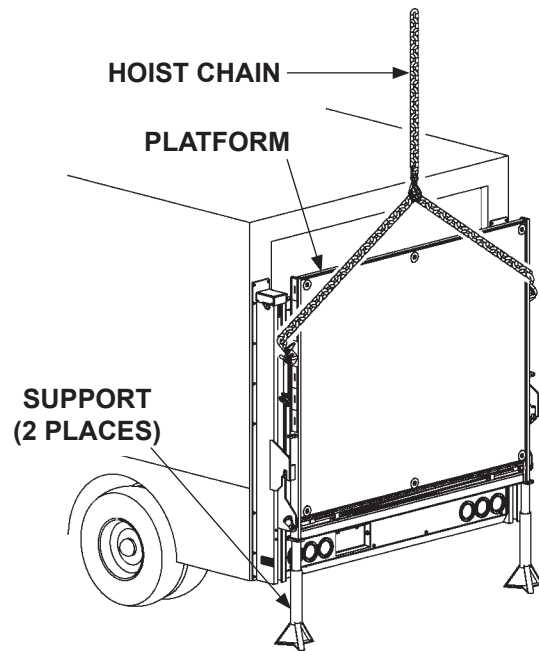
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## **! WARNING**

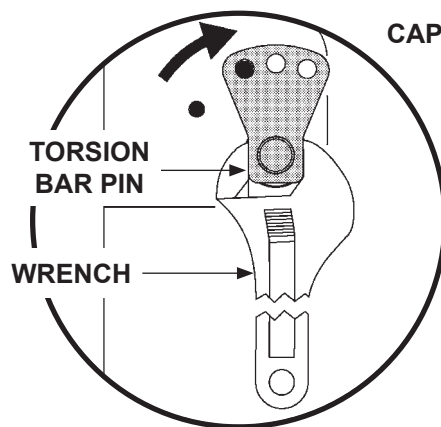
**Platform can unfold suddenly with no tension on torsion bar. Stay out of the path of unfolding platform when adjusting the torsion bar. Get second person to help unlatch platform.**

3. Support platform and flipover evenly by attaching chain hoist to the chain u-bolts on the platform, and place supports under the platform (**FIG. 25-1**).

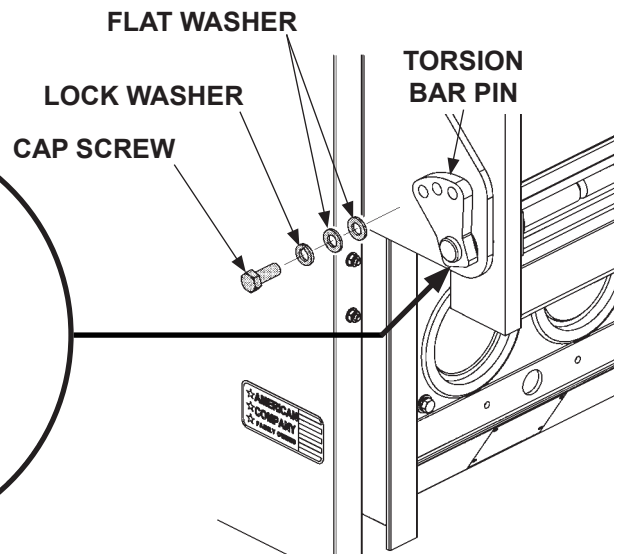


**FIG. 25-1**

4. On the LH runner, hold torsion bar pin with a large wrench or gripping pliers with clockwise torque to prevent pin from rotating while pin is being unbolted (**FIG. 25-2A**). Remove cap screw and washers from torsion bar pin (**FIG. 25-2**). Initial torsion bar tension is removed when torsion bar pin is in position shown in **FIG. 25-2A**.



**FIG. 25-2A**



**REMOVING LH TORSION BAR  
INITIAL TENSION  
FIG. 25-2**

# PERIODIC MAINTENANCE

## TORSION BAR REPLACEMENT - Continued

5. Remove LH torsion bar pin (FIGS. 26-1 and 26-1A).

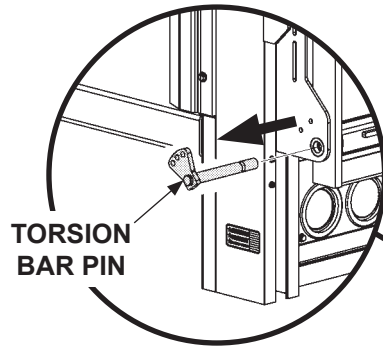
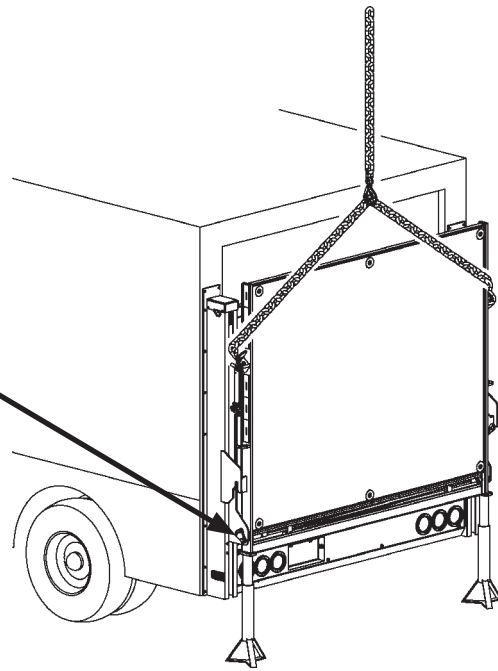


FIG. 26-1A



REMOVING LH TORSION BAR PIN  
FIG. 26-1

6. Loosen and remove locking screw from LH torsion bar housing (FIGS. 26-2 and 26-2A).

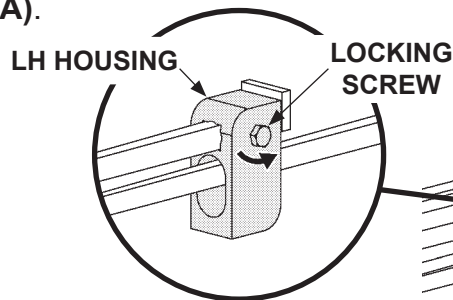


FIG. 26-2A

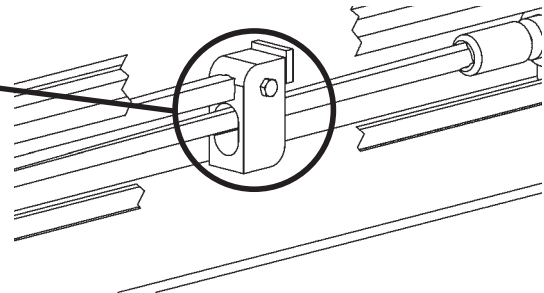
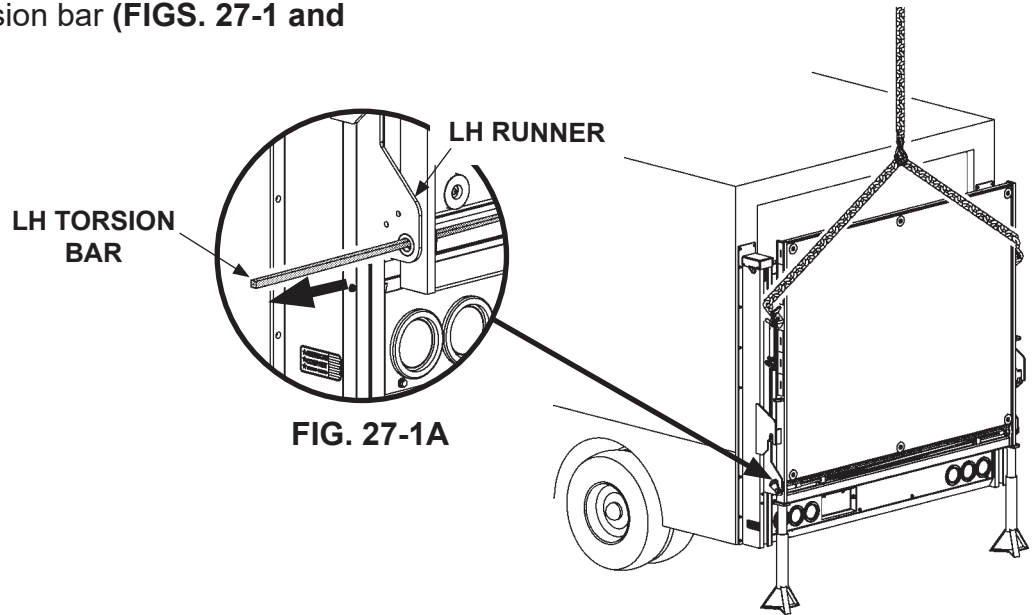


FIG. 26-2

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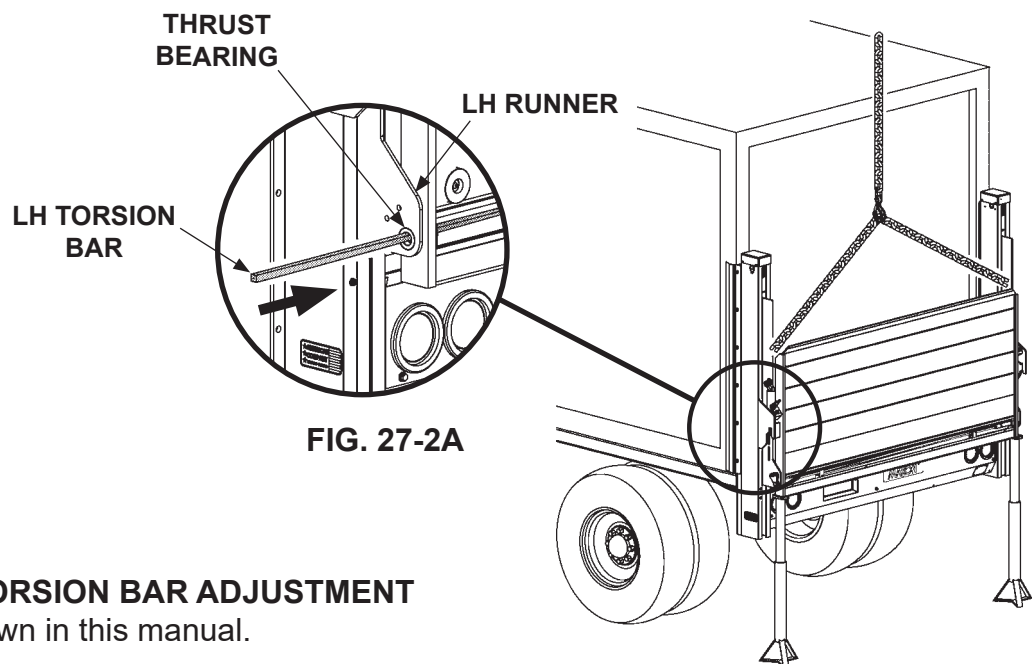
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7. Remove LH torsion bar (FIGS. 27-1 and 27-1A).



**REMOVING LH TORSION BAR  
FIG. 27-1**

8. With platform in vertical position, insert the replacement torsion bar into the LH platform and runner pin, through LH runner and thrust bearing, and engage with LH torsion bar housing (FIGS. 27-2 and 27-2A). Tighten torsion bar housing locking screw.



**REPLACING LH TORSION BAR  
FIG. 27-2**

9. Perform **LH TORSION BAR ADJUSTMENT** procedure shown in this manual.

## WARNING

Platform can unfold suddenly with no tension on torsion bar. Stay out of the path of unfolding platform when adjusting the torsion bar. Get second person to help unlatch platform.

### REPLACE RH TORSION BAR

1. Lower platform to align arrows. Refer to **Operation Manual** for detailed operating instructions. Support platform and flipover evenly by attaching chain hoist to platform chain u-bolts, and place supports under the platform (**FIG. 28-1**).

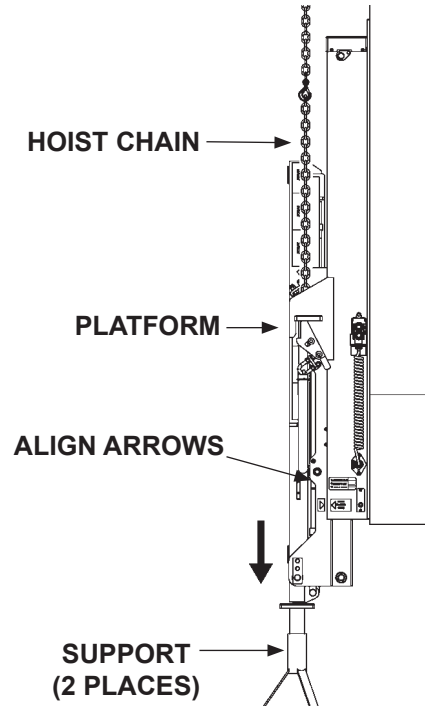


FIG. 28-1

2. Open platform approximately 30°-45° (**FIG. 28-2**). Refer to **Operation Manual** for detailed operating instructions.

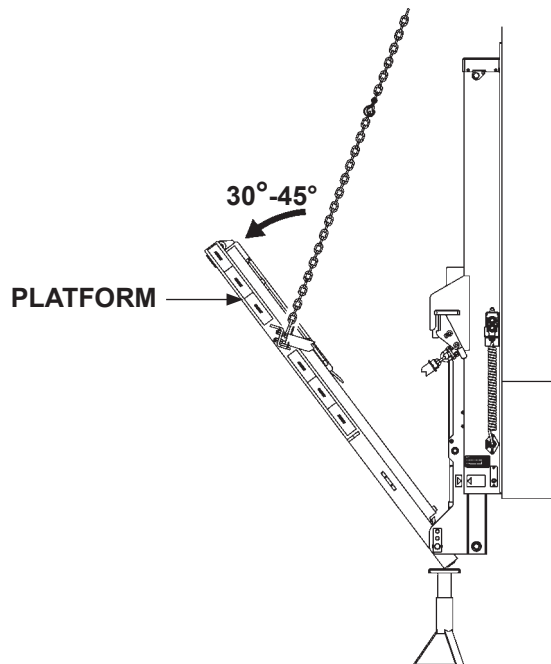


FIG. 28-2

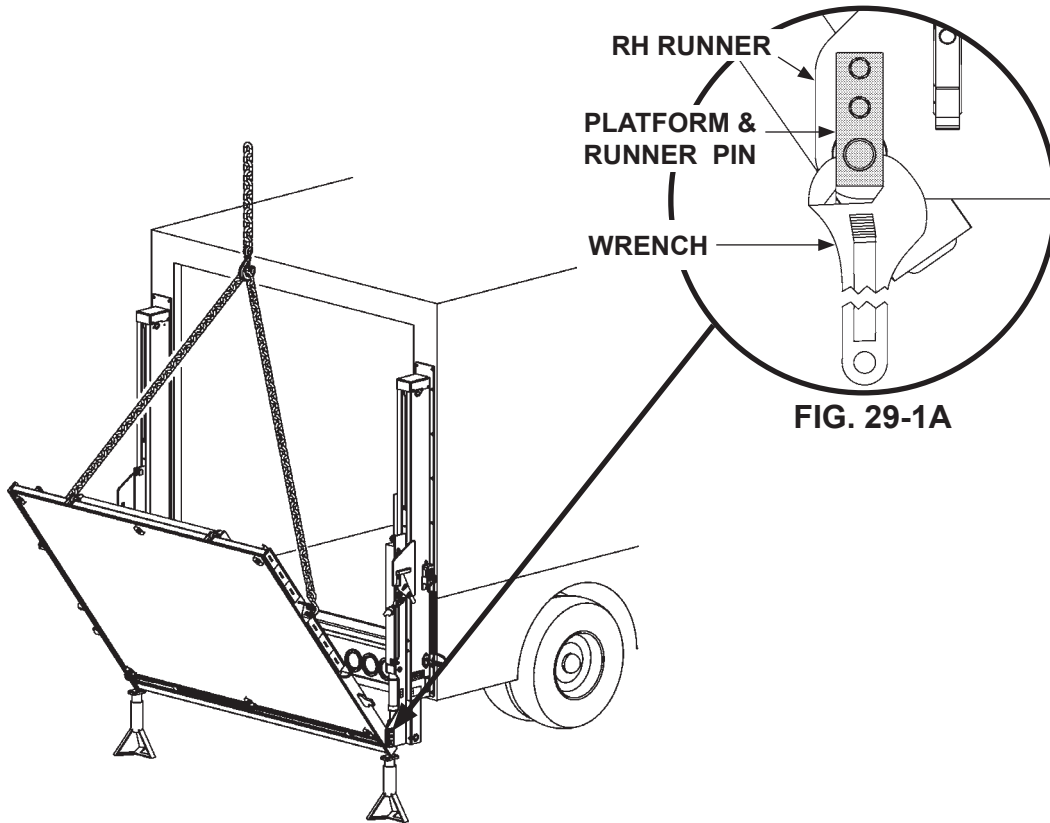
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# PERIODIC MAINTENANCE

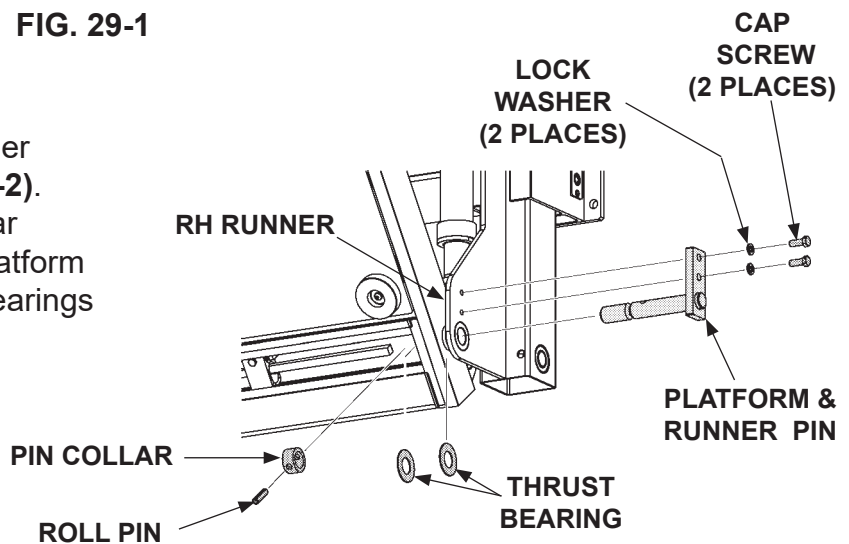
## TORSION BAR REPLACEMENT - Continued

3. On RH runner, use large wrench or gripping pliers to stabilize RH torsion bar platform and runner pin in vertical position (**FIGS. 29-1 and 29-1A**).



**FIG. 29-1**

4. Unbolt the platform and runner pin from RH runner (**FIG. 29-2**). Remove roll pin and pin collar (**FIG. 29-2**). Next, remove platform and runner pin, and thrust bearings (**FIG. 29-2**).



**FIG. 29-2**

5. Loosen locking screw on RH torsion bar housing (FIGS. 30-1 and 30-1A).

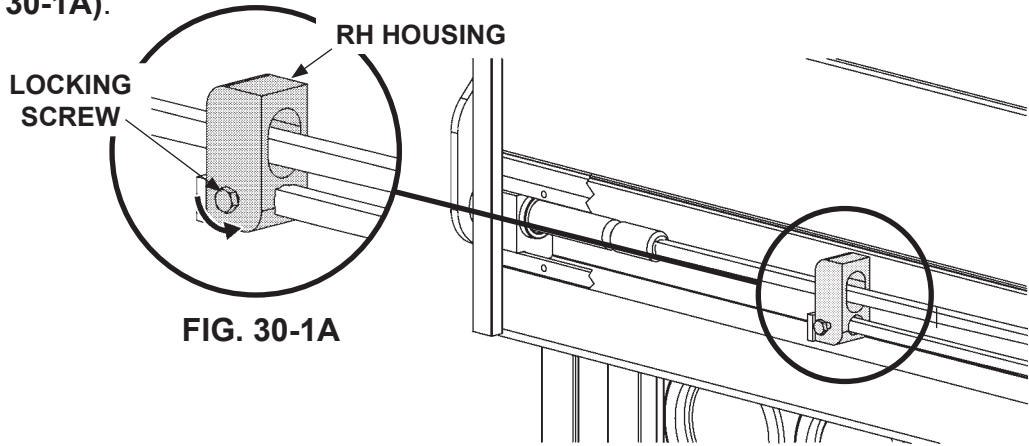


FIG. 30-1A

FIG. 30-1

6. Remove RH torsion bar (FIGS. 30-2 and 30-2A).

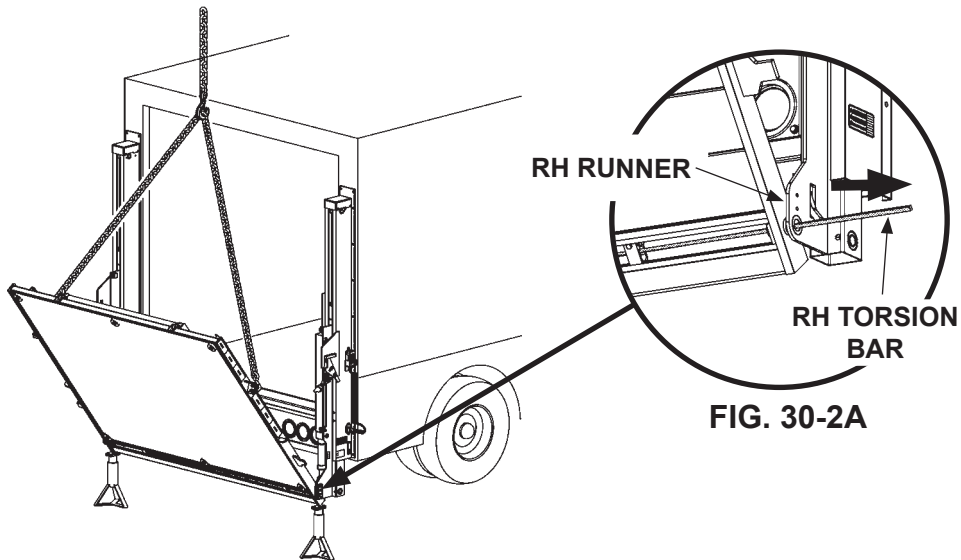


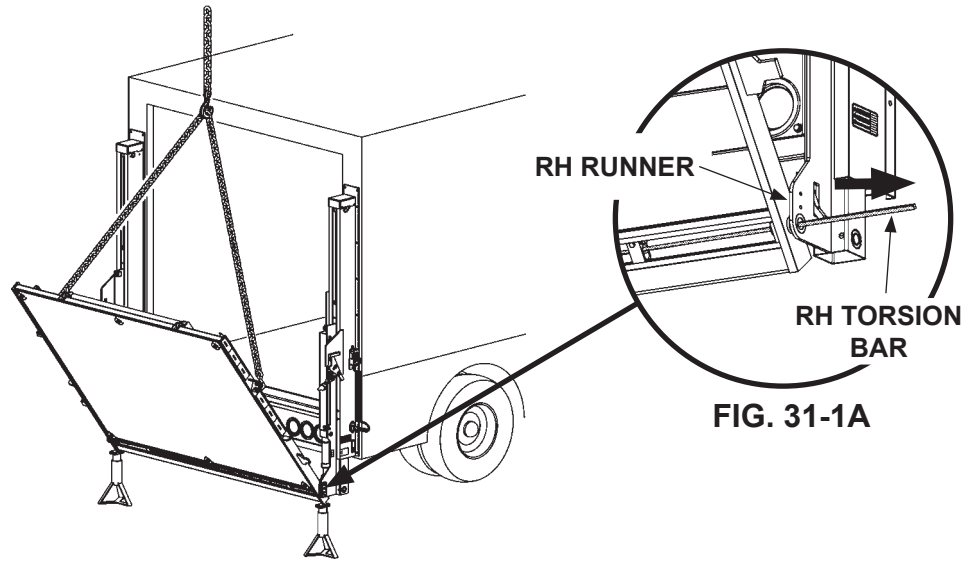
FIG. 30-2A

REMOVING RH TORSION BAR  
FIG. 30-2

# PERIODIC MAINTENANCE

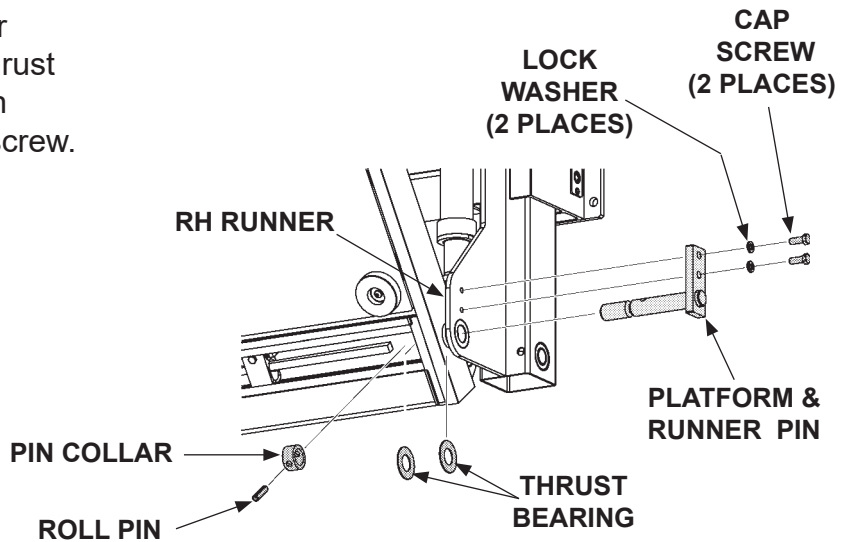
## TORSION BAR REPLACEMENT - Continued

7. Insert the replacement torsion bar through RH runner and RH torsion bar housing (FIGS. 31-1 and 32-1A).



**REPLACING RH TORSION BAR**  
**FIG. 31-1**

8. Reinstall platform and runner pin, roll pin, pin collar, and thrust bearings (FIG. 31-2). Tighten torsion bar housing locking screw.



**FIG. 31-2**

9. Perform **RH TORSION BAR ADJUSTMENT** procedure shown in this manual.

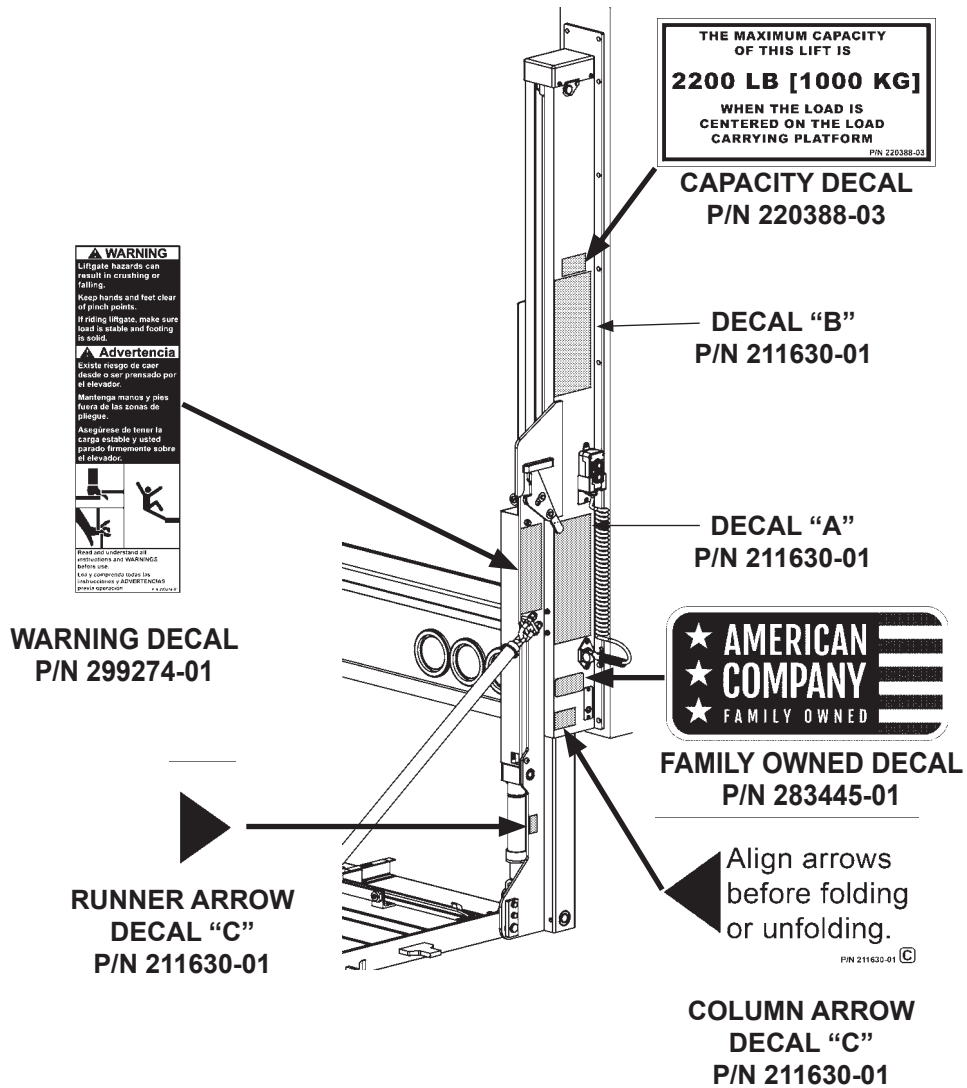
# DECALS

**NOTE:** Decals are preinstalled at factory.  
Decal location shown for reference.

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

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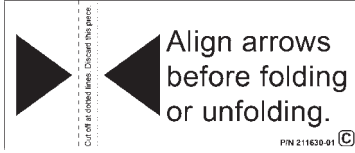




## OPERATING INSTRUCTIONS

**DMD**  
Scan this QR code to see operation manual or video.

OPERATE	STOW
<p><b>1. RAISE PLATFORM OFF TRANSIT HOOK. LOWER TO UNLOCK.</b></p> <p>1 HAND HELD CONTROL</p>	<p><b>FOLD &amp; LOCK FLIPOVER IF EQUIPPED.</b></p> <p>1</p>
<p><b>LOWER PLATFORM AT OR BELOW ARROW ALIGNMENT.</b></p> <p>2</p>	<p><b>RAISE PLATFORM AT OR BELOW ARROW ALIGNMENT.</b></p> <p>2</p>
<p><b>TO UNFOLD PLATFORM: PUSH POWER CLOSER BUTTON &amp; LOWER BUTTON AT SAME TIME.</b></p> <p>3</p>	<p><b>TO FOLD PLATFORM: PUSH POWER CLOSER BUTTON &amp; RAISE BUTTON AT SAME TIME.</b></p> <p>3</p>
<p><b>UNLOCK &amp; UNFOLD FLIPOVER.</b></p> <p>4</p>	<p><b>RAISE PLATFORM ABOVE TRANSIT HOOK.</b></p> <p>4</p>
<p><b>RAISE / LOWER PLATFORM.</b></p> <p>5</p>	<p><b>MAKE SURE TRANSIT HOOK RETURNS TO TRANSIT POSITION.</b></p> <p>5</p>



## CAUTION

### Always stand clear of platform area.

## 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.

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](http://www.maxonlift.com) or call Customer Service at (800) 227-4116.

## 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.

PIN 211630-01 A

**DECAL SHEET**  
**P/N 211630-01**

# DECALS & PLATES

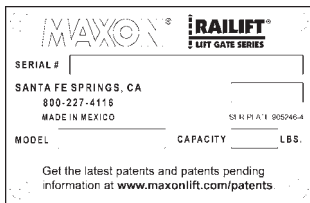
**NOTE:** Preferred decal layout is shown. Decals on the Liftgate are attached at the factory, except for the 24/7 SUPPORT decal. The 24/7 SUPPORT decal is placed at customer's or installer's preference.

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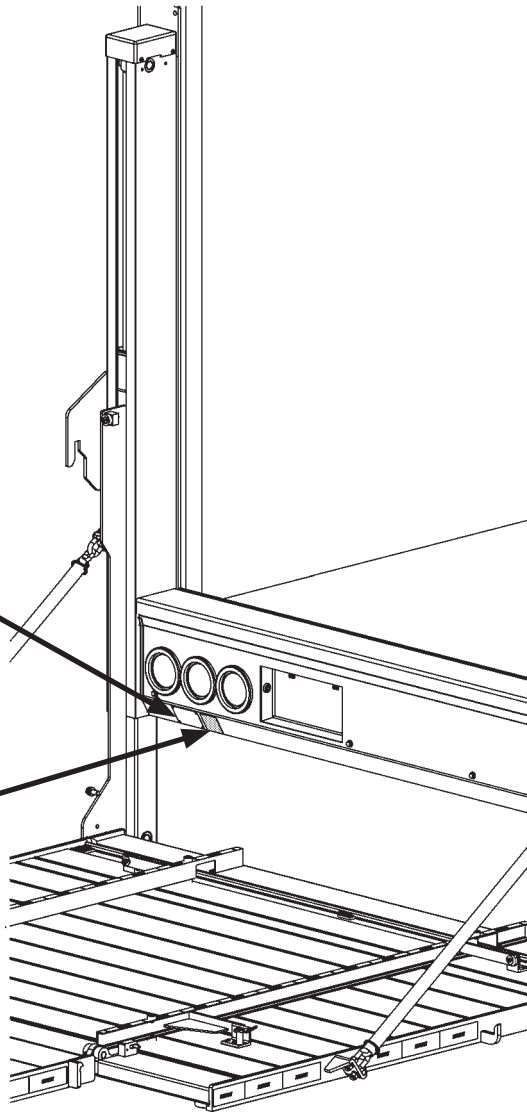
**MAXON 24/7  
SUPPORT DECAL  
P/N 298634-01**



**SERIAL PLATE  
(REF)**



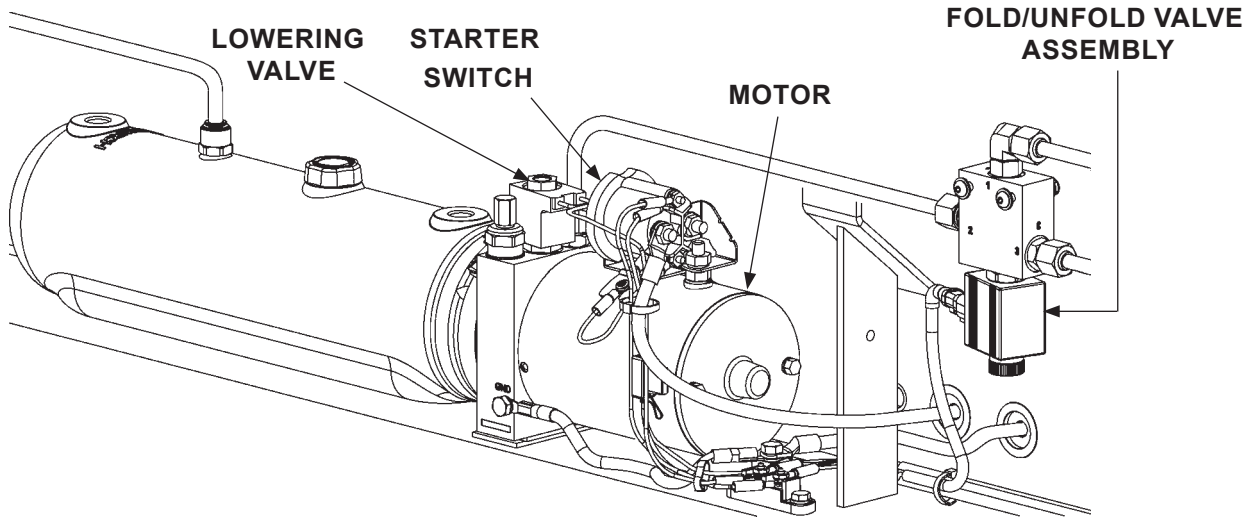
**PARTS QR CODE  
DECAL  
P/N 299143-01**



**FIG. 34-1**

# SYSTEM DIAGRAMS

## PUMP MOTOR & VALVE OPERATION



**POWER UNIT  
FIG. 35-1**

POWER UNIT MOTOR & VALVE OPERATION			
LIFTGATE FUNCTION	REMOTE VALVE OPERATION (✓ MEANS ENERGIZED)		
	MOTOR	LOWERING VALVE	FOLD/UNFOLD VALVE
RAISE	✓		
LOWER		✓	
UNFOLD		✓	✓
FOLD	✓		✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC			

**TABLE 35-1**

# SYSTEM DIAGRAMS

## HYDRAULIC SCHEMATIC

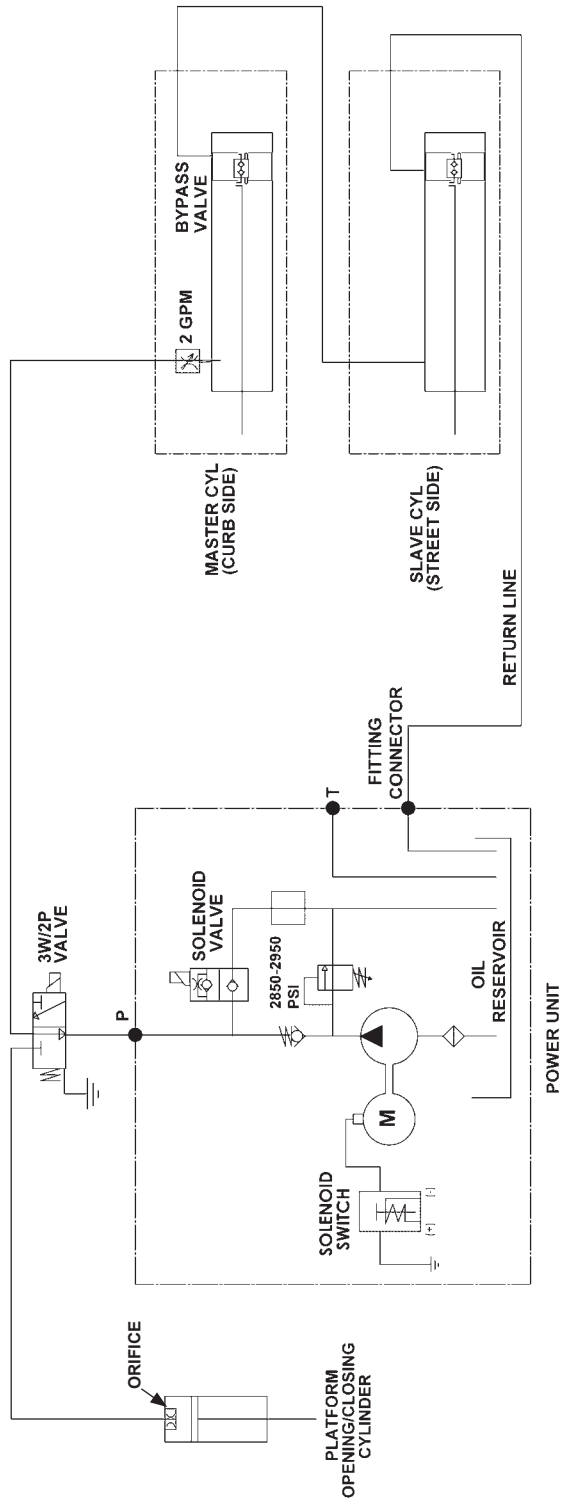


FIG. 36-1

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# ELECTRICAL SCHEMATIC

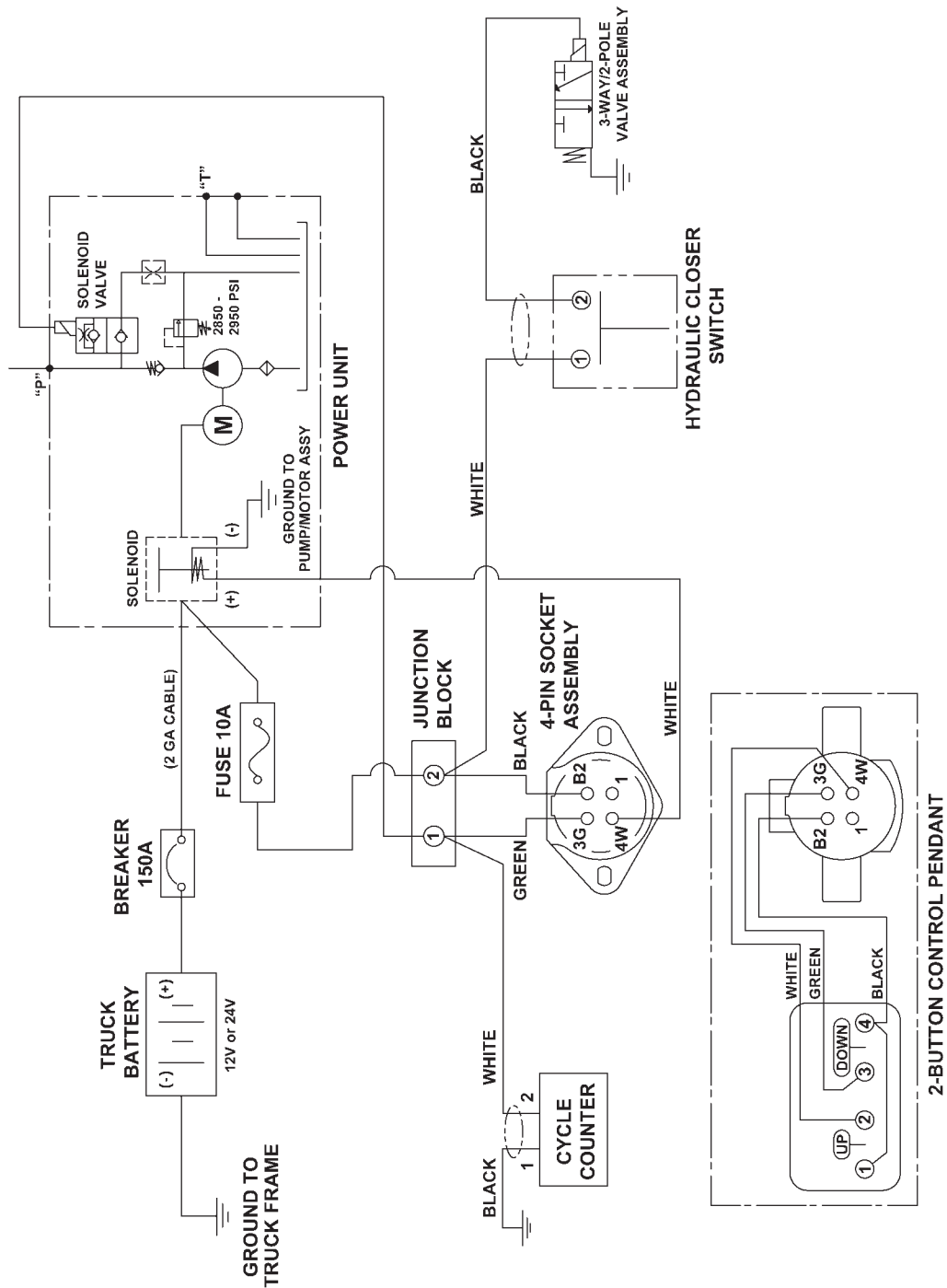


FIG. 37-1

# SYSTEM DIAGRAMS

## ELECTRICAL SCHEMATIC - ABOVE BED

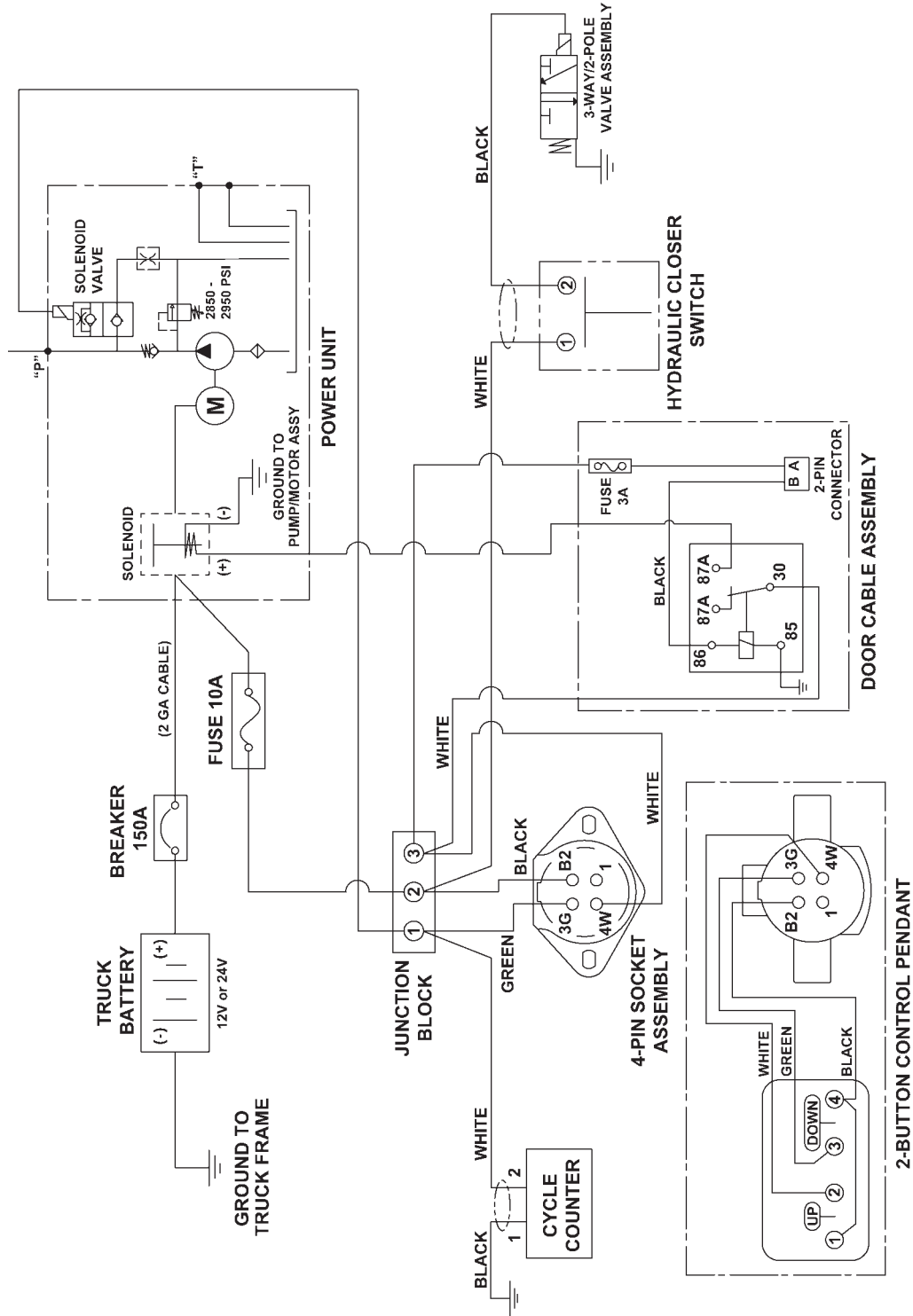


FIG. 38-1

# ELECTRICAL SCHEMATIC - JUMPER HARNESS ASSEMBLY

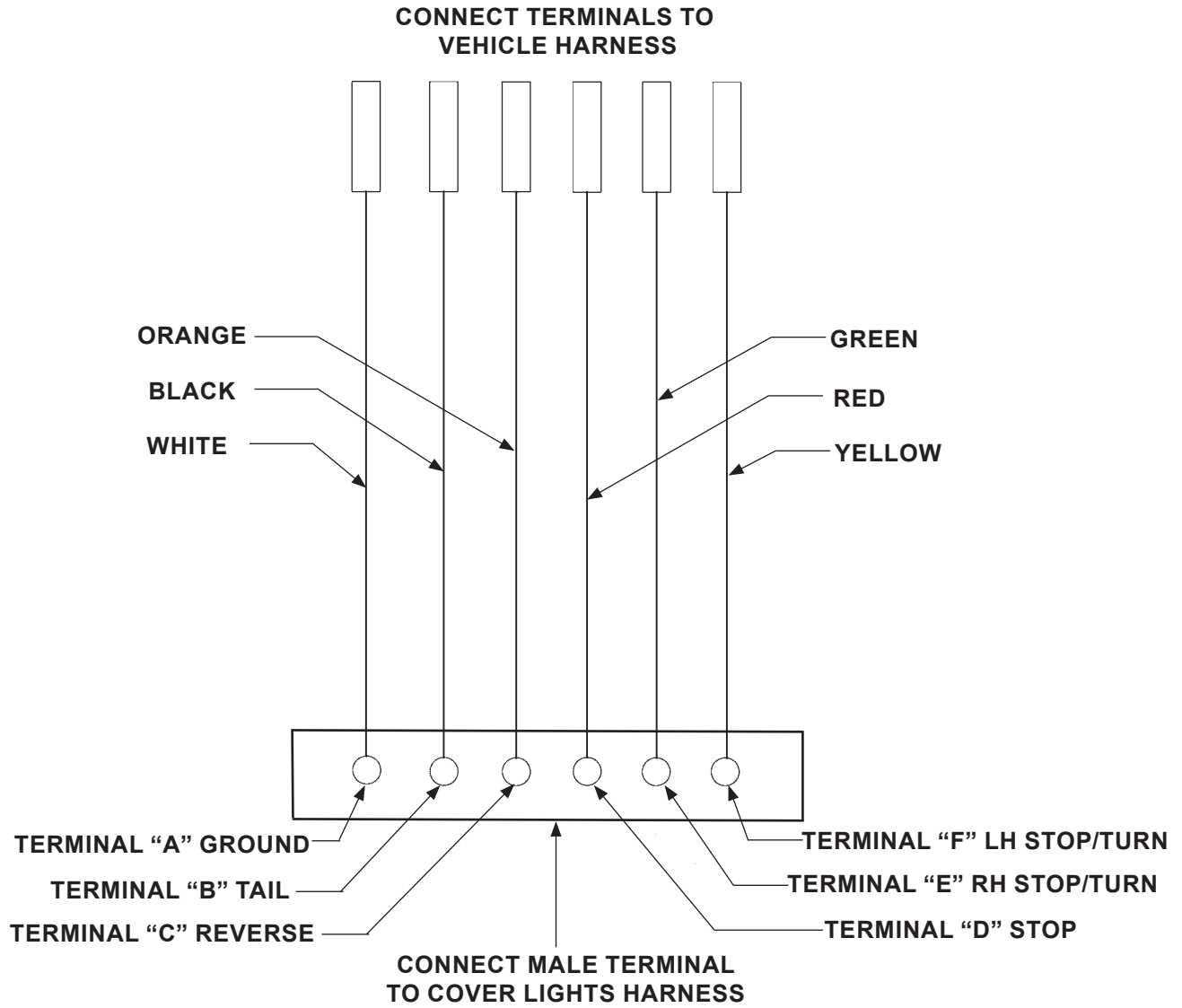


FIG. 39-1

## SYSTEM DIAGRAMS

### DMD ELECTRICAL VALUES & TORQUE SPECIFICATIONS

SOLENOID SWITCH	12V	24V
Coil resistance:	5.4Ω @70°F. ±15%	20.1Ω @70°F. ±15%
Ampere:	2.2A	1.2A
Coil terminal torque: <b>10-15 lb-in</b> max.		
Contact terminal torque: <b>30-35 lb-in</b> max.		
LOWERING VALVE		
Coil resistance:	6.6Ω @ 70°F. ±15%	26.7Ω @ 70°F. ±15%
Ampere:	1.8A	0.9A
Coil terminal torque: <b>15-45 lb-in</b> max.		
Valve cartridge torque: <b>25-30 lb-ft</b> max.		
Coil nut torque: <b>15-45 lb-in</b>		
FOLD/UNFOLD VALVE		
Coil resistance:	8.0Ω @ 70°F. ±15%	30Ω @ 70°F. ±15%
Ampere:	1.5A	0.8A
Coil terminal torque: <b>3-4.5 lb-ft</b> max.		
Valve cartridge torque: <b>18.5-22 lb-ft</b> max.		
GROUND CABLE		
Cap screw torque: <b>24 lb-ft</b> max.		
CYCLE COUNTER		
Operation voltage	7V - 30V	7V - 30V
150 AMP CIRCUIT BREAKER		
1/4"-20 nut torque: <b>50 lb-in</b> max.		

**TABLE 40-1**



# BOLT TORQUES

## CAUTION

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

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

TABLE 41-1

