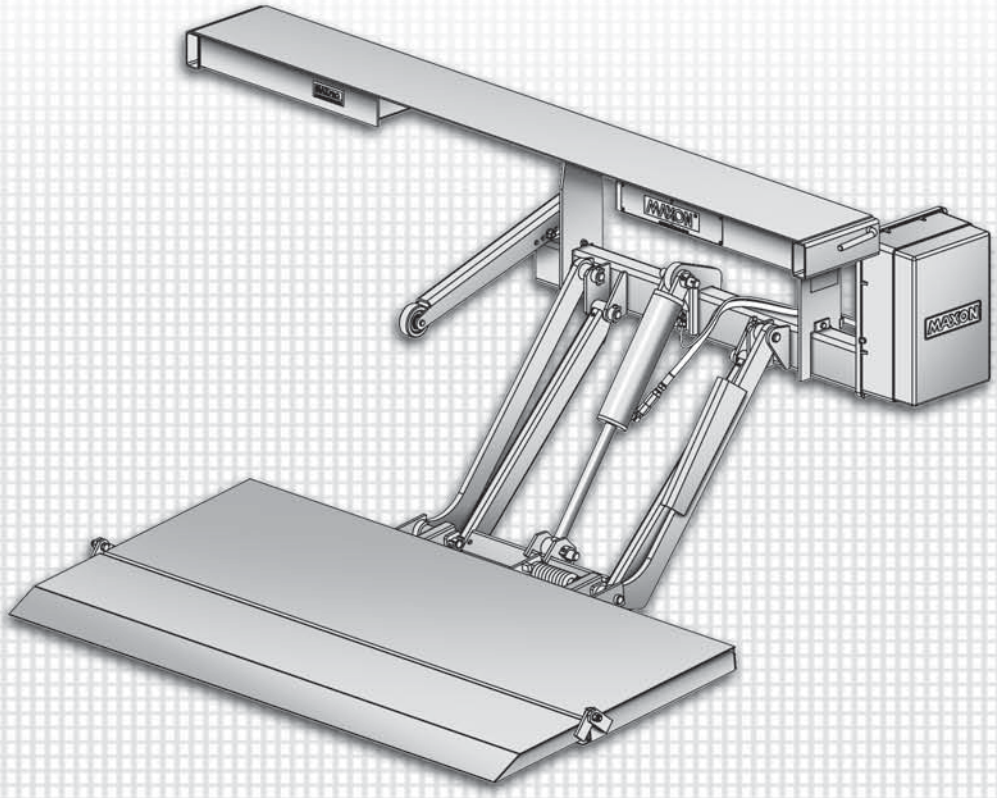
M-12-04
REV. F
SEPTEMBER 2015

# MAXON®

## INSTALLATION MANUAL

## TE-20 & 72-150

TUK-A-WAY®
LIFT GATE SERIES




To find **maintenance & parts** information for your **TE-20 & 72-150 Liftgate**, go to **www.maxonlift.com**. Click the **PRODUCTS, TUK-A-WAY and TE-20** or **72-150** buttons. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window.

# TABLE OF CONTENTS

# SUMMARY OF CHANGES: M-12-04, REVISION F

| PAGE | DESCRIPTION OF CHANGE |
|---|---|
| COVER | Updated REV and date of release. |
| 6 | Added note to installers to ensure that trucks and trailers are equipped with grab handles if needed. |
| 44 | Removed AMSOIL from the table of recommended hydraulic oil. |
| 68 | Removed LVTS options from the OPTIONS table. |
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MAXON® 11921 Slauson Ave. Santa Fe Springs, CA. 90670 (800) 227-4116 FAX (888) 771-7713

**Comply with the following WARNINGS and SAFETY INSTRUCTIONS while installing 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.**
- **Make sure vehicle battery power is disconnected** while installing Liftgate. Connect vehicle battery power to the Liftgate only when installation is complete or as required in the installation instructions.
- If it is necessary to stand on the platform while operating 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.
- Never perform unauthorized modifications on the Liftgate. Modifications may result in early failure of the Liftgate and may create hazards for Liftgate operators and maintainers.
- 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 can result from welds that are done incorrectly.
- Welding on galvanized parts gives off especially hazardous fumes. Comply with WARNING decal on the galvanized part **(FIG. 5-1)**. To minimize hazard remove galvanizing from weld area, provide adequate ventilation, and wear suitable respirator.


**FIG. 5-1**

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# SAFETY INSTRUCTIONS

- Read and understand the instructions in this **Installation Manual** before installing 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 and lowered. Listen for scraping, grating and binding noises and correct the problem before continuing to operate Liftgate.

# *NOTICE*

- Maxon Lift is responsible for the instructions to correctly install **MAXON** Liftgates on trucks or trailers only.
- Liftgate installers, not Maxon Lift, are responsible for reviewing and complying with all applicable Federal, State, and Local regulations pertaining to the trailer or truck.
- Installers of the liftgate should ensure that all trucks and trailers are equipped with grab handles as needed.

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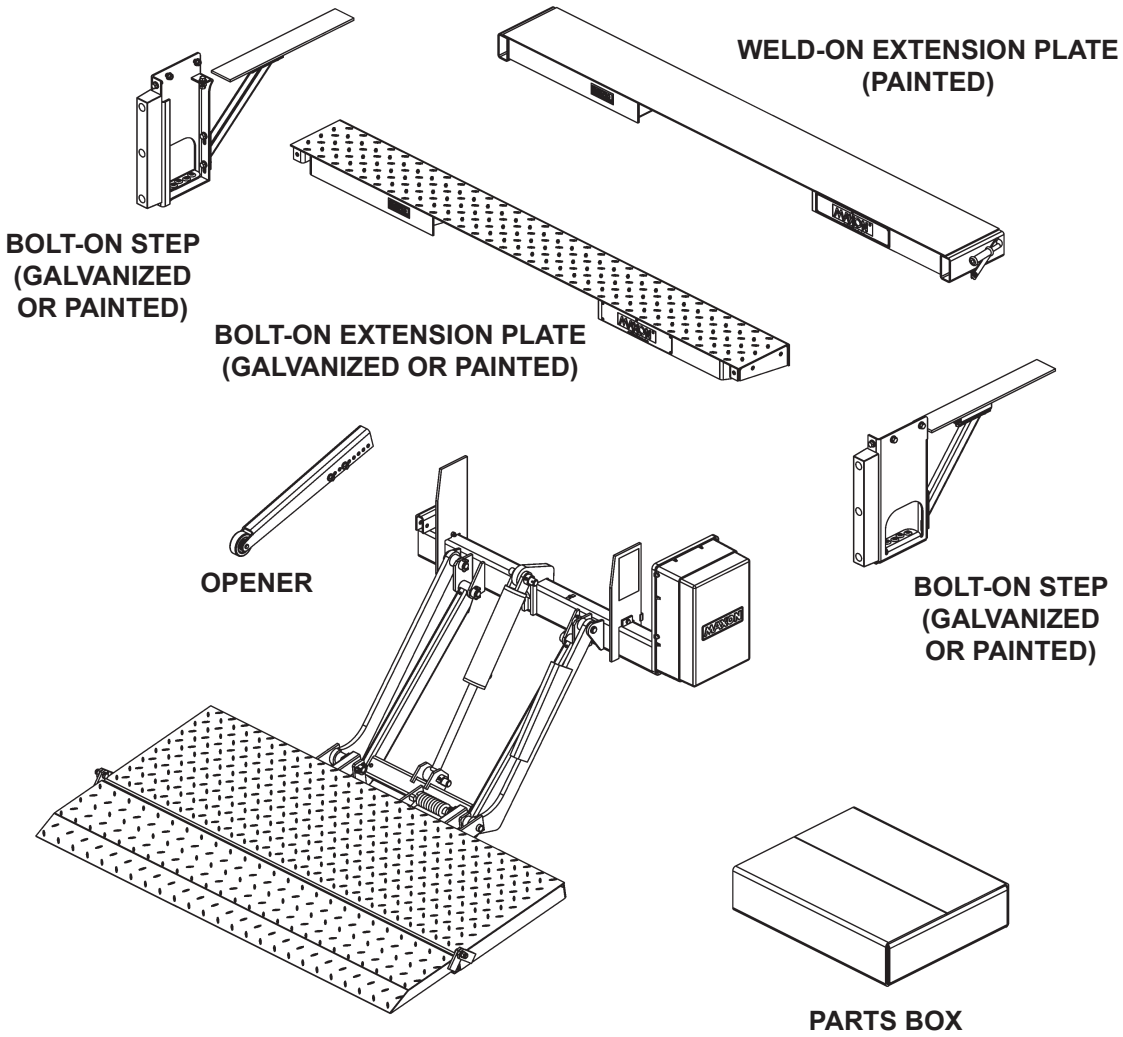
# 72-150 & TE-20 LIFTGATE COMPONENTS

## ⚠ CAUTION

**Prevent injuries and equipment damage. Before cutting the shipping straps from the Liftgate, put Liftgate on level ground that will support at least 1500 pounds. Be careful lifting and moving components (such as extension plate) after shipping straps are removed.**

**NOTE:** Make sure you have all components and parts before you start installing Liftgate. Compare parts in the part box and each kit box with packing list closed in each box. If parts and components are missing or incorrect, call:

**Maxon Customer Service**
**Call (800) 227-4116 or**
**Send e-mail to customersupport@maxonlift.com**




**72-150 & TE-20 COMPONENTS**
**FIG. 7-1**

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# PARTS BOX FOR 72-150 GRAVITY DOWN (96” WIDE, PAINTED FINISH)

**NOTE:** To find **maintenance & parts** information for your **TE-20 & 72-150 Liftgate**, go to **www.maxonlift.com**. Click the **PRODUCTS, TUK-A-WAY** and **TE-20** or **72-150** button. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window.

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|---|---|---|---|
| **REF** | 1 | 269661-01 | PARTS BOX, 72-150 GRAVITY DOWN (PAINTED) |
| **1** | 4 | 030458 | SCREW TAPPING #10 X 1/2” LG. |
| **2** | 7 | 050079 | CLIP, FRAME |
| **3** | 1 | 055011 | RUBBER HANDLE |
| **4** | 1 | 203417 | RENTAL LOCK BRACKET, 6-1/2" LG. |
| **5** | 1 | 203570 | INNER BRACKET, 1" LG. (USE WITH RENTAL LOCK) |
| **6** | 1 | 125674 | CLAMP, JIFFY #130 |
| **7** | 10 | 205780 | TIE, PLASTIC, 7" LG. |
| **8** | 8 | 206864 | TIE, PLASTIC, 12-14" LG. |
| **9** | 3 | 214663 | CLAMP, #8 RUBBER LOOM |
| **10** | 1 | 215345 | SPRING, EXTENSION, 2 1/2” LG. |
| **11** | 2 | 251333 | SHIM, 1/8" X 2" X 2" LG. |
| **12** | 1 | 264422 | CABLE ASSY, 175 AMPS, 38’ LG. |
| **13** | 1 | 269641-01 | KIT, MANUAL & DECAL 72-150 |
| **13A** | 1 | M-12-04 | MANUAL, INSTALLATION 72-150/TE-20 |
| **13B** | 1 | M-12-05 | MANUAL, OPERATION 72-150/TE-20 |
| **13C** | - | REFER TO DECAL PAGES IN THIS MANUAL | DECALS |
| **14** | 1 | 267959-01 | MOLDED SWITCH ASSY |
| **15** | 2 | 900057-5 | SCREW, SELF TAPPING, #10-24 X 1” LG. |
| **16** | 1 | 906497-02 | LUG, 2GA, COPPER |

**TABLE 8-1**

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# PARTS BOX FOR 72-150 & TE-20 GRAVITY DOWN (96” WIDE, GALVANIZED FINISH, 12 VOLT & 24 VOLT)

**NOTE:** To find **maintenance & parts** information for your **TE-20 & 72-150 Liftgate**, go to **www.maxonlift.com**. Click the **PRODUCTS, TUK-A-WAY** and **TE-20** or **72-150** button. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window.

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|---|---|---|---|
| REF | 1 | 269642-01 | PARTS BOX, 72-150 GRAVITY DOWN (GALVANIZED) |
| | | 269642-03 | PARTS BOX, TE-20 GRAVITY DOWN (GALVANIZED) |
| 1 | 4 | 030458 | SCREW TAPPING #10 X 1/2” LG. |
| 2 | 7 | 050079 | CLIP, FRAME |
| 3 | 1 | 125674 | CLAMP, JIFFY #130 |
| 4 | 10 | 205780 | TIE, PLASTIC, 7" LG. |
| 5 | 2 | 206864 | TIE, PLASTIC, 12-14" LG. |
| 6 | 3 | 214663 | CLAMP, #8 RUBBER LOOM |
| 7 | 2 | 251333 | SHIM, 1/8" X 2" X 2" LG. |
| 8 | 1 | 264422 | CABLE ASSY, 175 AMPS, 38’ LG. |
| 9 | 1 | 269641-01 | KIT, MANUAL & DECAL 72-150 |
| | | 269641-02 | KIT, MANUAL & DECAL TE-20 |
| 9A | 1 | M-12-04 | MANUAL, INSTALLATION 72-150/TE-20 |
| 9B | 1 | M-12-05 | MANUAL, OPERATION 72-150/TE-20 |
| 9C | - | REFER TO DECAL PAGES IN THIS MANUAL | DECALS |
| 10 | 1 | 267959-01 | MOLDED SWITCH ASSY |
| 11 | 2 | 900057-5 | SCREW, SELF TAPPING, #10-24 X 1” LG. |
| 12 | 1 | 906497-02 | LUG, 2GA, COPPER |

**TABLE 9-1**

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# PARTS BOX FOR 72-150 POWER DOWN (96” WIDE, PAINTED FINISH)

**NOTE:** To find **maintenance & parts** information for your **TE-20 & 72-150 Liftgate**, go to **www.maxonlift.com**. Click the **PRODUCTS, TUK-A-WAY** and **TE-20** or **72-150** button. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window.

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|---|---|---|---|
| **REF** | 1 | 269661-03 | PARTS BOX, 72-150 GRAVITY DOWN (PAINTED) |
| **1** | 4 | 030458 | SCREW TAPPING #10 X 1/2” LG. |
| **2** | 7 | 050079 | CLIP, FRAME |
| **3** | 1 | 055011 | RUBBER HANDLE |
| **4** | 1 | 203417 | RENTAL LOCK BRACKET, 6-1/2" LG. |
| **5** | 1 | 203570 | INNER BRACKET, 1" LG. (USE WITH RENTAL LOCK) |
| **6** | 1 | 125674 | CLAMP, JIFFY #130 |
| **7** | 10 | 205780 | TIE, PLASTIC, 7" LG. |
| **8** | 8 | 206864 | TIE, PLASTIC, 12-14" LG. |
| **9** | 3 | 214663 | CLAMP, #8 RUBBER LOOM |
| **10** | 1 | 215345 | SPRING, EXTENSION, 2 1/2” LG. |
| **11** | 2 | 251333 | SHIM, 1/8" X 2" X 2" LG. |
| **12** | 1 | 264422 | CABLE ASSY, 175 AMPS, 38’ LG. |
| **13** | 1 | 269641-01 | KIT, MANUAL & DECAL 72-150 |
| **13A** | 1 | M-12-04 | MANUAL, INSTALLATION 72-150/TE-20 |
| **13B** | 1 | M-12-05 | MANUAL, OPERATION 72-150/TE-20 |
| **13C** | - | REFER TO DECAL PAGES IN THIS MANUAL | DECALS |
| **14** | 1 | 264951-04 | MOLDED SWITCH & CABLE ASSEMBLY |
| **15** | 2 | 900057-5 | SCREW, SELF TAPPING, #10-24 X 1” LG. |
| **16** | 1 | 906497-02 | LUG, 2GA, COPPER |

**TABLE 10-1**

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# PARTS BOX FOR 72-150 & TE-20 POWER DOWN (96” WIDE, GALVANIZED FINISH)

**NOTE:** To find **maintenance & parts** information for your **TE-20 & 72-150 Liftgate**, go to **www.maxonlift.com**. Click the **PRODUCTS, TUK-A-WAY** and **TE-20** or **72-150** button. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window.

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|---|---|---|---|
| REF | 1 | 269642-02 | PARTS BOX, TE-20 POWER DOWN (GALVANIZED) |
| | | 269642-04 | PARTS BOX, 72-150 POWER DOWN (GALVANIZED) |
| 1 | 4 | 030458 | SCREW TAPPING, #10 X 1/2” LG. |
| 2 | 7 | 050079 | CLIP, FRAME |
| 3 | 1 | 125674 | CLAMP, JIFFY #130 |
| 4 | 10 | 205780 | TIE, PLASTIC, 7" LG. |
| 5 | 2 | 206864 | TIE, PLASTIC, 12-14" LG. |
| 6 | 3 | 214663 | CLAMP, #8 RUBBER LOOM |
| 7 | 2 | 251333 | SHIM, 1/8" X 2" X 2" LG. |
| 8 | 1 | 264422 | CABLE ASSY, 175 AMPS, 38’ LG. |
| 9 | 1 | 269641-01 | KIT, MANUAL & DECAL, 72-150 |
| | | 269641-02 | KIT, MANUAL & DECAL, TE-20 |
| 9A | 1 | M-12-04 | MANUAL, INSTALLATION 72-150/TE-20 |
| 9B | 1 | M-12-05 | MANUAL, OPERATION 72-150/TE-20 |
| 9C | - | REFER TO DECAL PAGES IN THIS MANUAL | DECALS |
| 10 | 1 | 264951-04 | MOLDED SWITCH & CABLE ASSEMBLY |
| 11 | 1 | 202406 | BRASS ELBOW 1/4” X 1/4” |
| 12 | 2 | 900057-5 | SCREW, SELF TAPPING, #10-24 X 1” LG. |
| 13 | 1 | 906497-02 | LUG, 2GA, COPPER |

**TABLE 11-1**

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# VEHICLE REQUIREMENTS

**NOTE:** The **maximum (unloaded)** operating vehicle body bed height for the 72-150 & TE-20 Liftgates equipped **with wedge flipover or ramp flipover is 54"**. **The minimum height for the 72-150 & TE-20 Liftgates equipped with wedge flipover is 44" (loaded). The minimum height for 72-150 and TE-20 Liftgates equipped with ramp flipover is 38" (loaded). Do not install this Liftgate on vehicle bodies equipped with swing open doors**.

**NOTE:** Make sure vehicle is parked on level ground while preparing vehicle and installing Liftgate.

**NOTE:** Dimensions are provided as a reference only for fitting Liftgate to vehicle body.

**NOTE:** Measure the width of the Liftgate and the width of the vehicle body before you start doing this procedure. Ensure the Liftgate is the correct width for vehicle.

The vehicle clearance dimensions and vehicle chassis cutout dimensions, for 72-150 and TE-20 Liftgates, are shown on the pages that follow. Dimensions are given for high bed and low bed installations.

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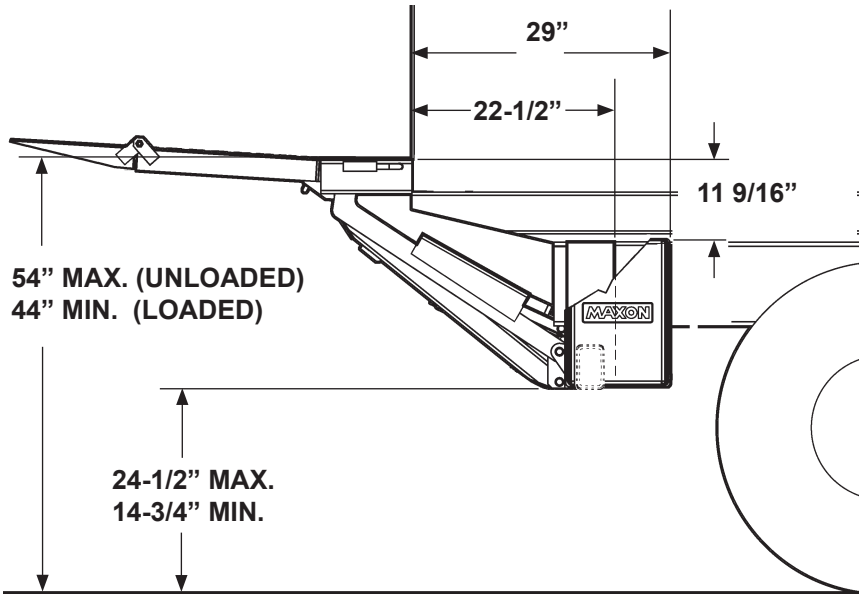
# VEHICLE REQUIREMENTS - Continued

## PLATFORM WITH WEDGE FLIPOVER




**CLEARANCES FOR TE-20 & 72-150, HIGH BED HEIGHT ONLY**
**FIG. 13-1**

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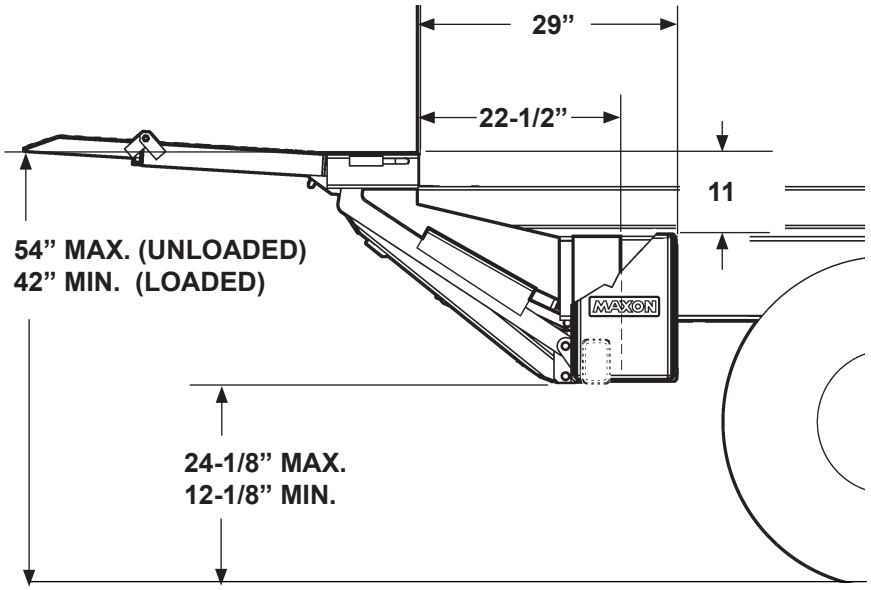
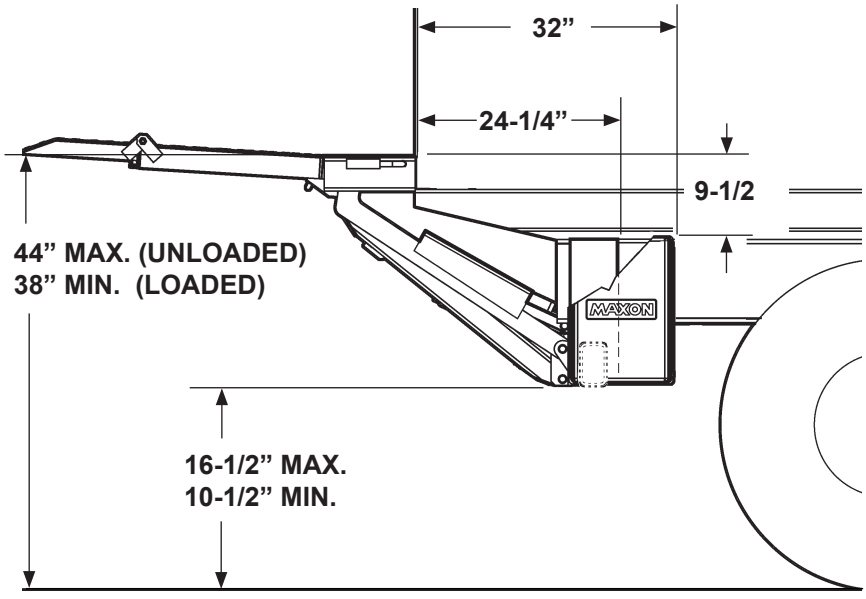
# VEHICLE REQUIREMENTS - Continued

## PLATFORM WITH RAMP FLIPOVER




**CLEARANCES FOR TE-20 & 72-150 ON HIGH BED HEIGHT**
**FIG. 14-1**




**CLEARANCES FOR TE-20 & 72-150 ON LOW BED HEIGHT**
**FIG. 14-2**

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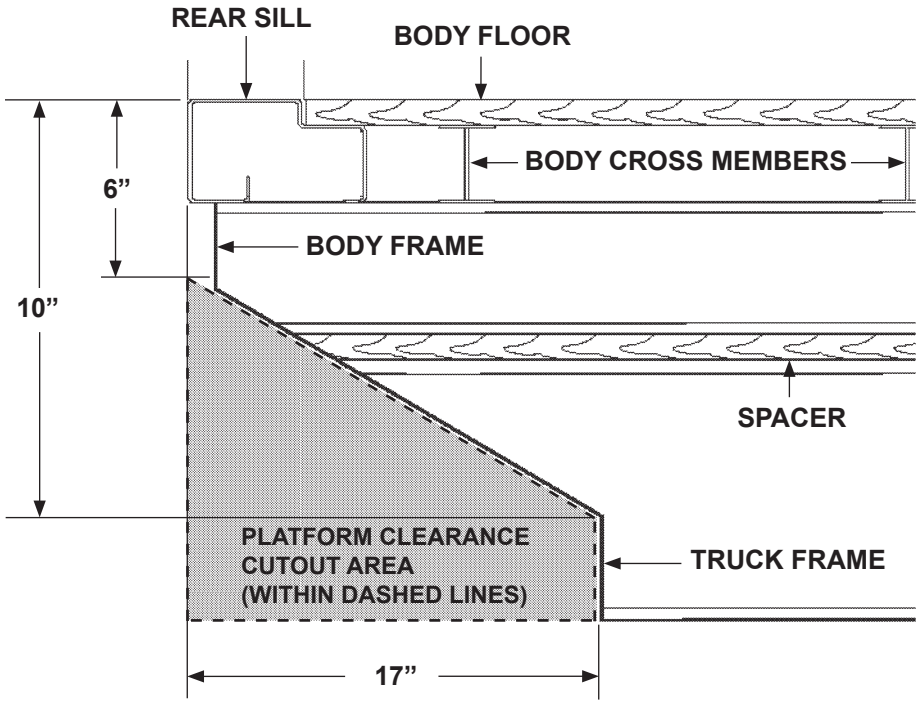
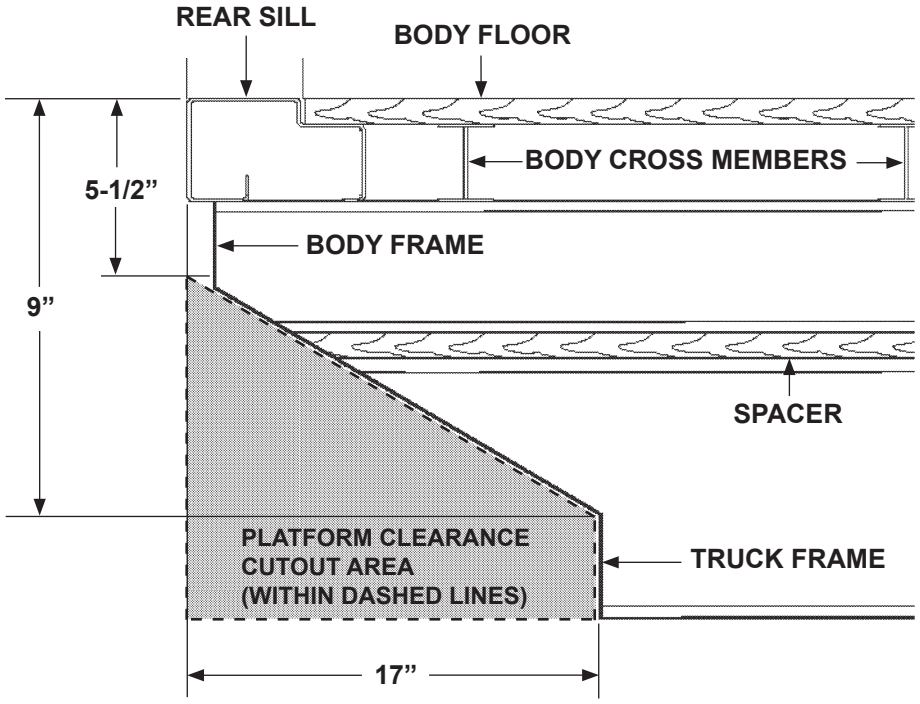
# VEHICLE REQUIREMENTS - Continued




**VEHICLE FRAME CUT FOR TE-20 & 72-150 (44” TO 54” BED HEIGHTS)**
**FIG. 15-1**




**VEHICLE FRAME CUT FOR TE-20 & 72-150 (38” TO 46” BED HEIGHTS)**
**FIG. 15-2**

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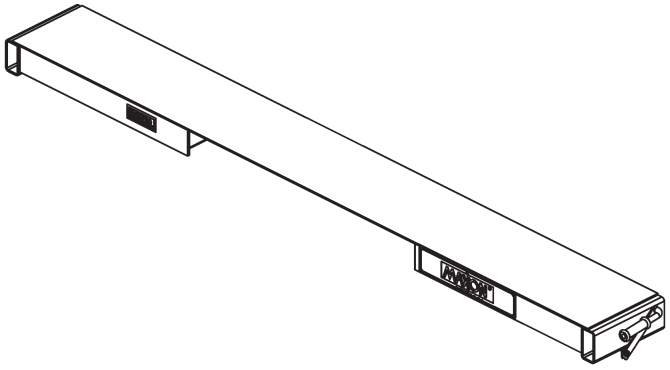
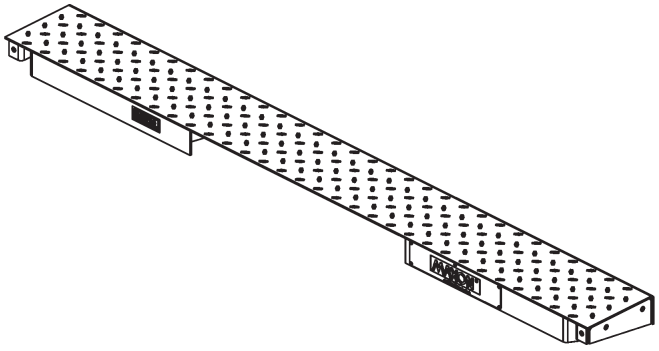
# STEP 1 - INSTALL EXTENSION PLATES

**NOTE:** TE-20 Liftgates may be equipped with two types of extensions plates. The painted extension plate **(FIG. 16-1)** does not have bolt holes and is welded on. Weld-on support straps and spacers (flats), provided with parts bags, must be used. The galvanized extension plate **(FIG. 16-2)** has bolt holes so it can be bolted to vehicle body. **GRADE 8** bolts are required. **MAXON** recommends getting the optional extension plate hardware kit listed in **OPTIONS** section. It also has holes for bolt-on installation brackets, provided with parts bags. Refer to the following instructions for installing painted extension plates or galvanized extension plates.



**PAINTED WELD-ON EXTENSION PLATE**
**FIG. 16-1**



**GALVANIZED BOLT-ON EXTENSION PLATE**
**FIG. 16-2**

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# STEP 1 - INSTALL EXTENSION PLATES - Continued

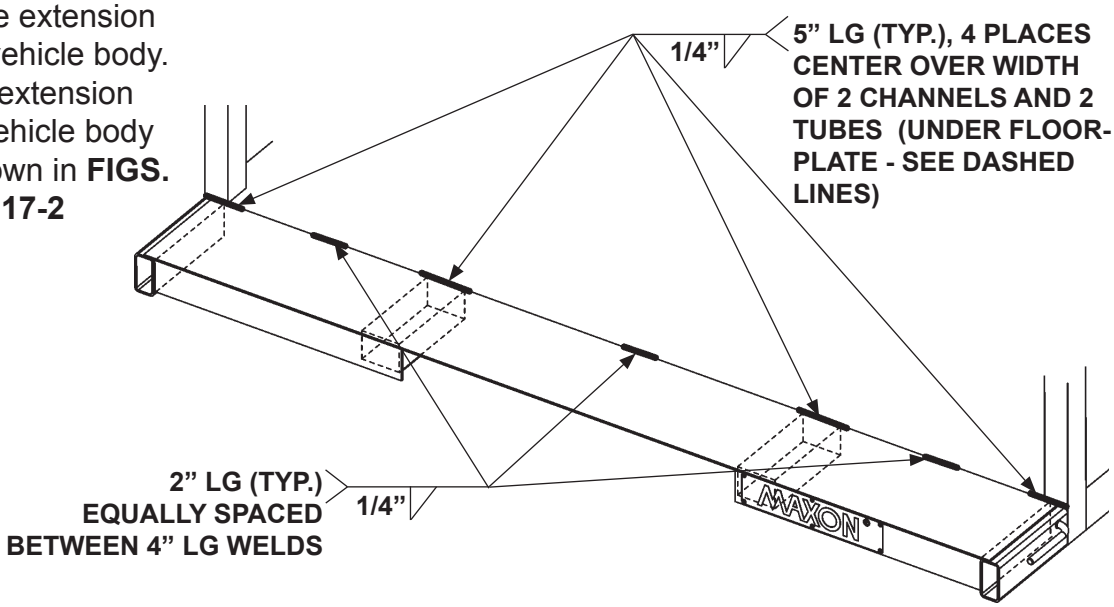
## WELD PAINTED EXTENSION PLATE TO VEHICLE

**CAUTION**

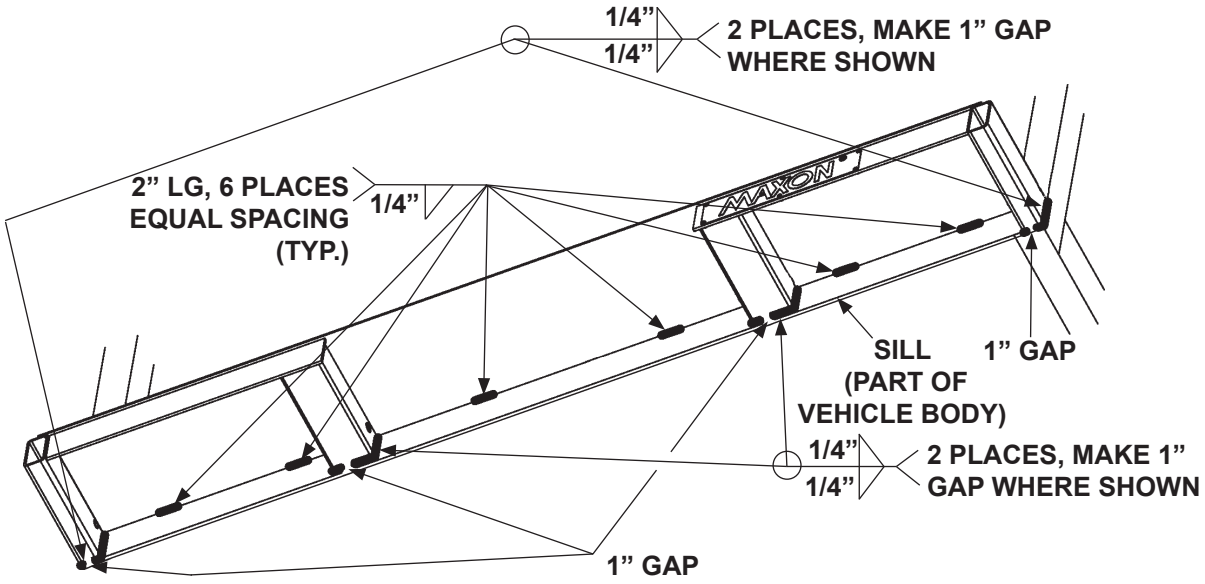
**To protect the original paint system, a 3" wide area of paint must be removed from all sides of the weld area before welding.**

**NOTE:** Before welding extension plate to vehicle body, make sure:
- Inboard edge of extension plate is flush with the top of sill on vehicle body.
- Top surface of extension plate is level with the ground.

**1.** Center the extension plate on vehicle body. Weld the extension plate to vehicle body sill as shown in **FIGS. 17-1 and 17-2**



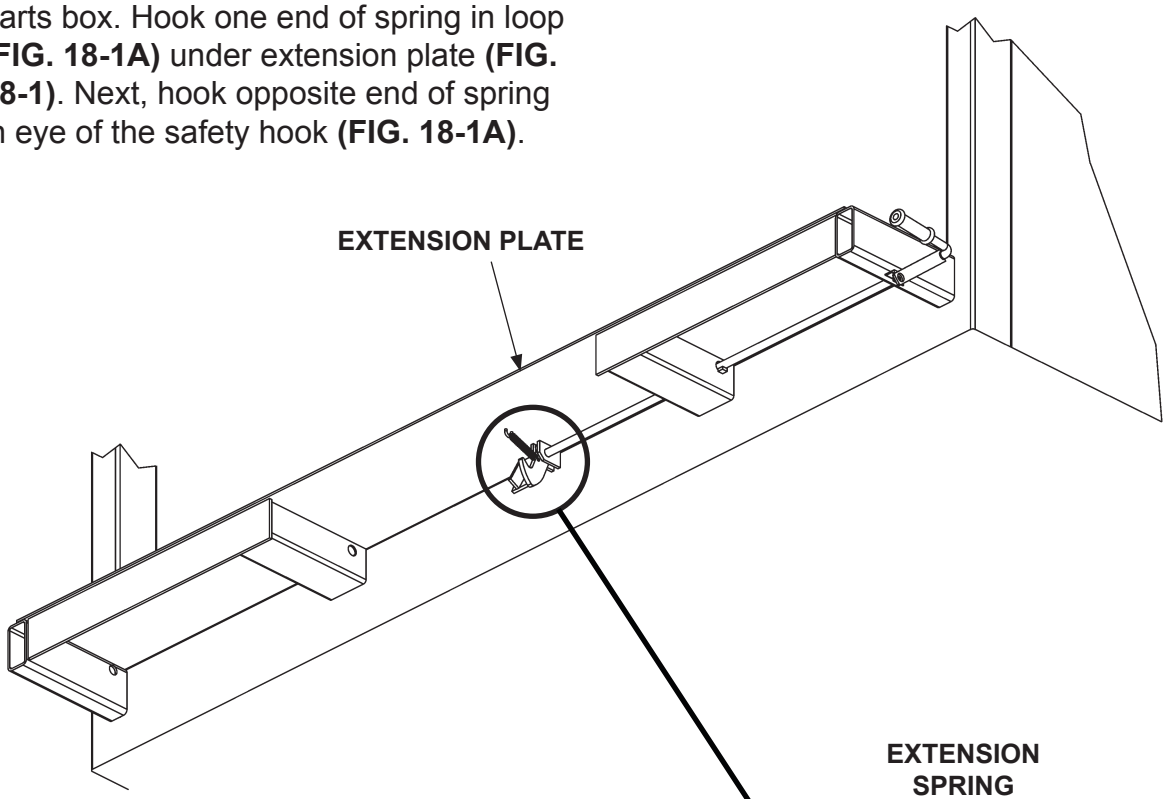

**EXTENSION PLATE WELDS - VIEWED FROM ABOVE**
**FIG. 17-1**



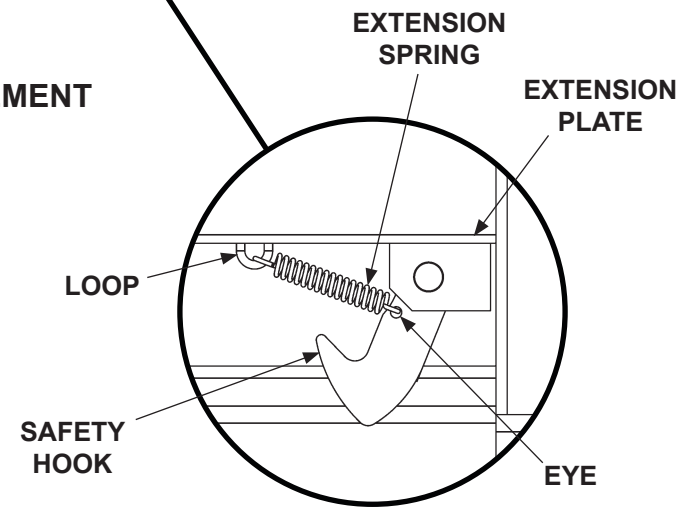

**EXTENSION PLATE WELDS - VIEWED FROM UNDERNEATH**
**FIG. 17-2**

# STEP 1 - INSTALL EXTENSION PLATES - Continued

**2.** Get extension spring **(FIG. 18-1A)** from parts box. Hook one end of spring in loop **(FIG. 18-1A)** under extension plate **(FIG. 18-1)**. Next, hook opposite end of spring in eye of the safety hook **(FIG. 18-1A)**.




**EXTENSION SPRING PLACEMENT**
**FIG. 18-1**




**HOOKING EXTENSION SPRING**
**RH SIDE VIEW**
**FIG. 18-1A**

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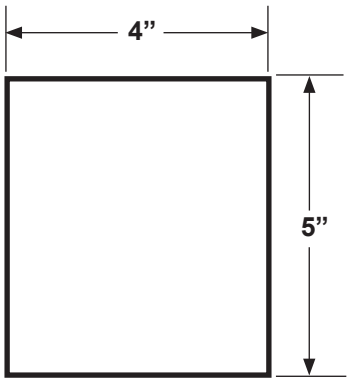
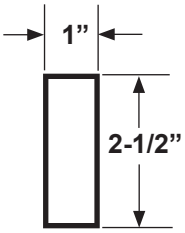
# STEP 1 - INSTALL EXTENSION PLATES - Continued

**3.** Make 2 support straps **(FIG. 19-1)** and 2 spacers **(FIG. 19-2)** to keep Liftgate in proper position. While welding Liftgate to vehicle, support straps keep platform level with extension plate and spacers keep 1/4" between platform and extension plate.




**SUPPORT STRAP**
**(3/8" X 4" STEEL FLAT)**
**FIG. 19-1**

**4.** Place 2 temporary support straps **(FIG. 19-3A)** on the extension plate as shown in **FIG. 19-3A**. Also, put 2 temporary spacers **(FIG. 19-3B)** between platform and extension plate as shown in **FIG. 19-3B**. Weld the straps and spacers to extension plate **(FIG. 19-3B)**.




**SPACER**
**(1/4" X 1" STEEL FLAT)**
**FIG. 19-2**

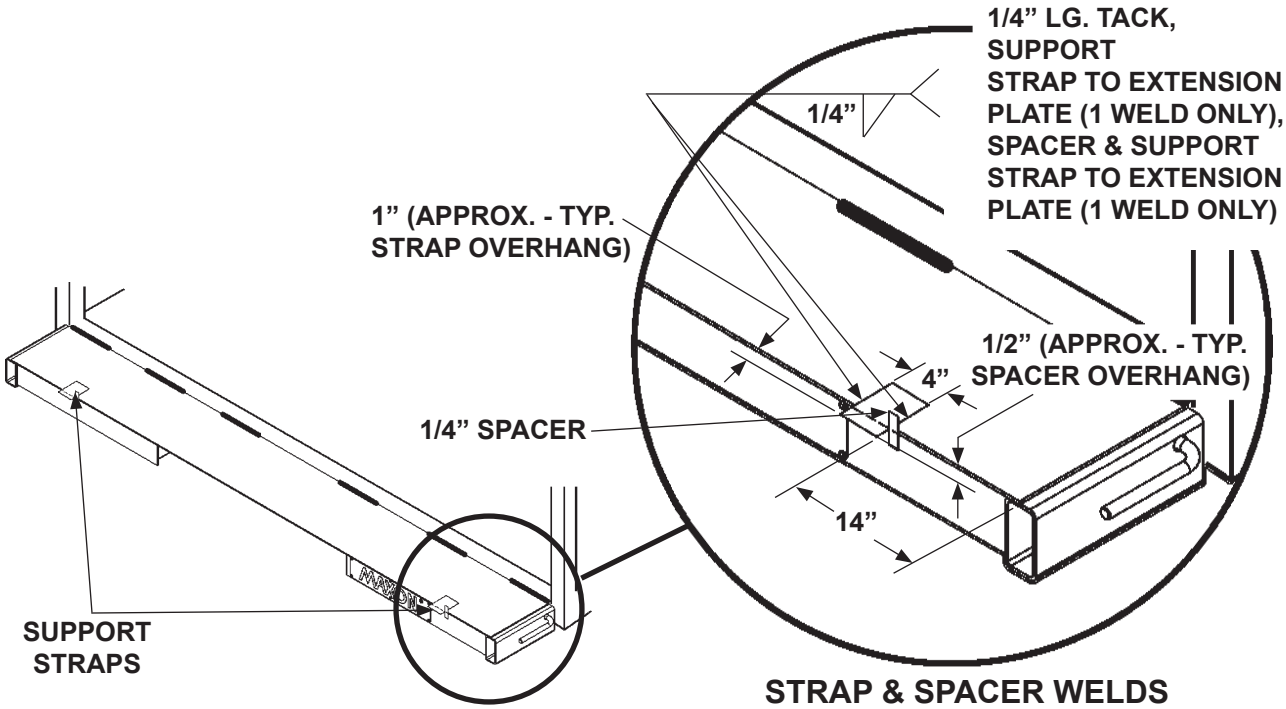



**FIG. 19-3A**

**STRAP & SPACER WELDS**
**(TYPICAL - STRAP & SPACER AT BOTH ENDS OF EXTENSION PLATE)**
**FIG. 19-3B**

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# STEP 1 - INSTALL EXTENSION PLATES - Continued

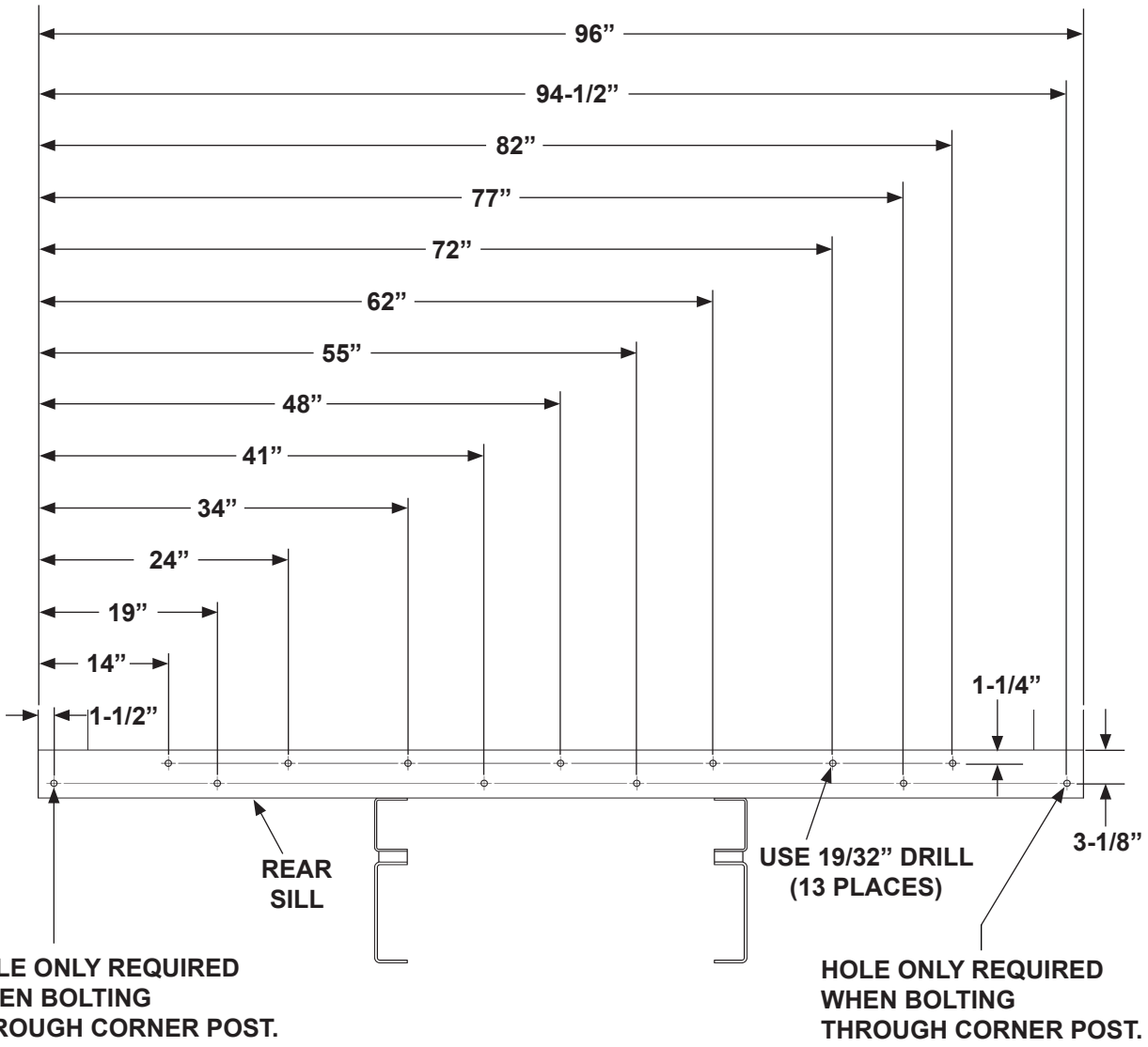
## BOLT GALVANIZED EXTENSION PLATE TO VEHICLE

**CAUTION**

**To preserve the corrosion resistance properties of the galvanized finish, MAXON recommends bolting the galvanized extension plate to vehicle.**

**NOTE:** The extension plate has bolt holes so it can be bolted to vehicle body. **Grade 8** bolts are required. **MAXON** recommends getting the optional extension plate hardware kit listed in **OPTIONS** section. Vehicle body must be drilled according to instructions. If necessary, extension plate may also be welded to vehicle body. Do the following bolting or welding instructions.

**1.** Mark and drill holes into rear sill as shown in **FIG. 20-1.**




**REAR SILL - HOLE LOCATIONS FOR 96” WIDE VEHICLE**
**FIG. 20-1**

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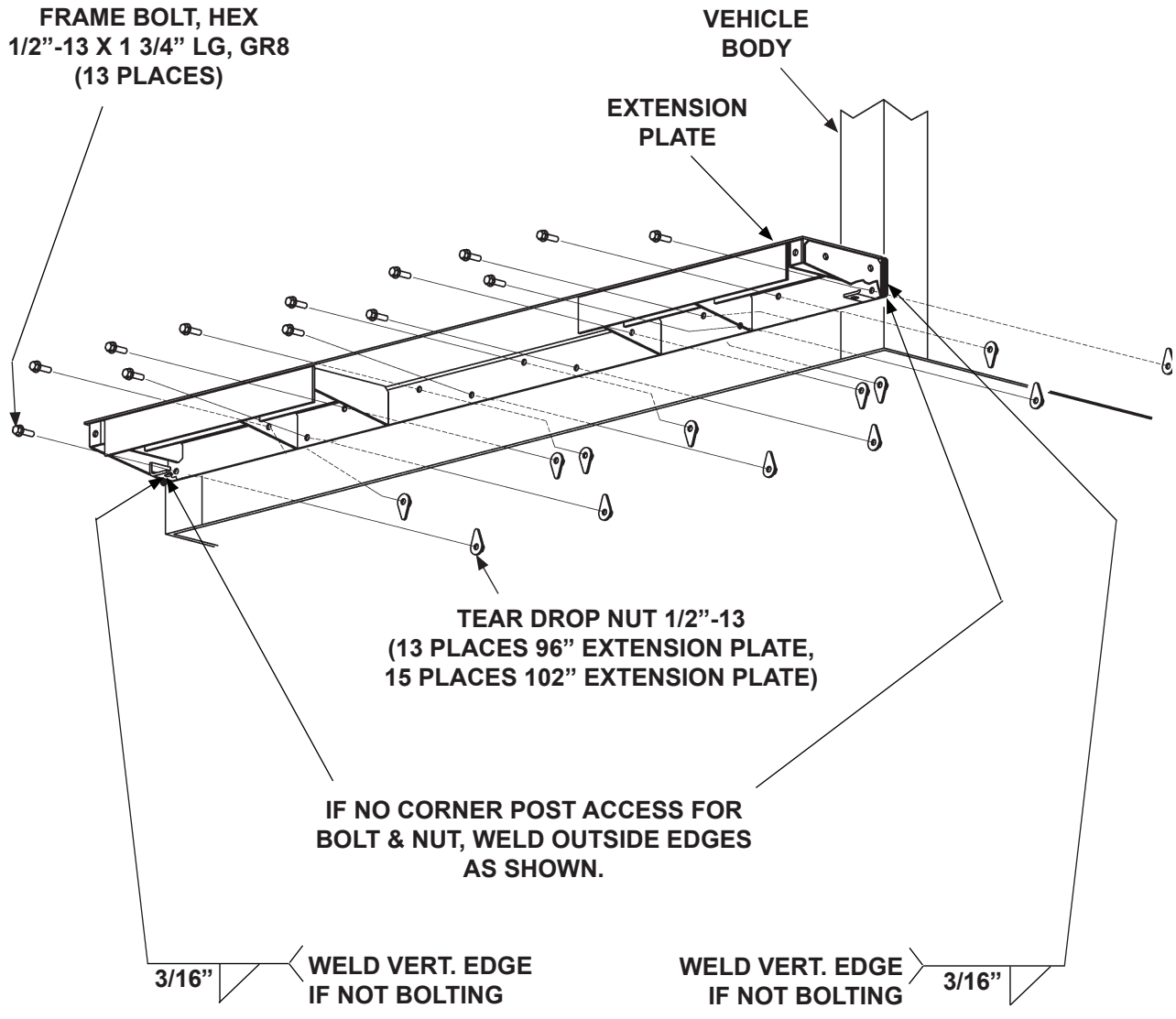
# STEP 1 - INSTALL EXTENSION PLATES - Continued

**NOTE:** Do not tighten extension plate bolts and lock nuts until:
- All the bolts and lock nuts are in place.
- Top of extension plate is flush with top of rear sill.

**2.** Bolt extension plate to vehicle as shown in **FIG. 21-1**. If necessary, reposition extension plate so top surface is flush with top surface of sill. Then, torque bolts and lock nuts to **105 lb.-ft**.




**BOLTING EXTENSION PLATE (96” WIDE EXTENSION PLATE SHOWN)**
**FIG. 21-1**

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# STEP 1 - INSTALL EXTENSION PLATES - Continued

## WELD GALVANIZED EXTENSION PLATE TO VEHICLE

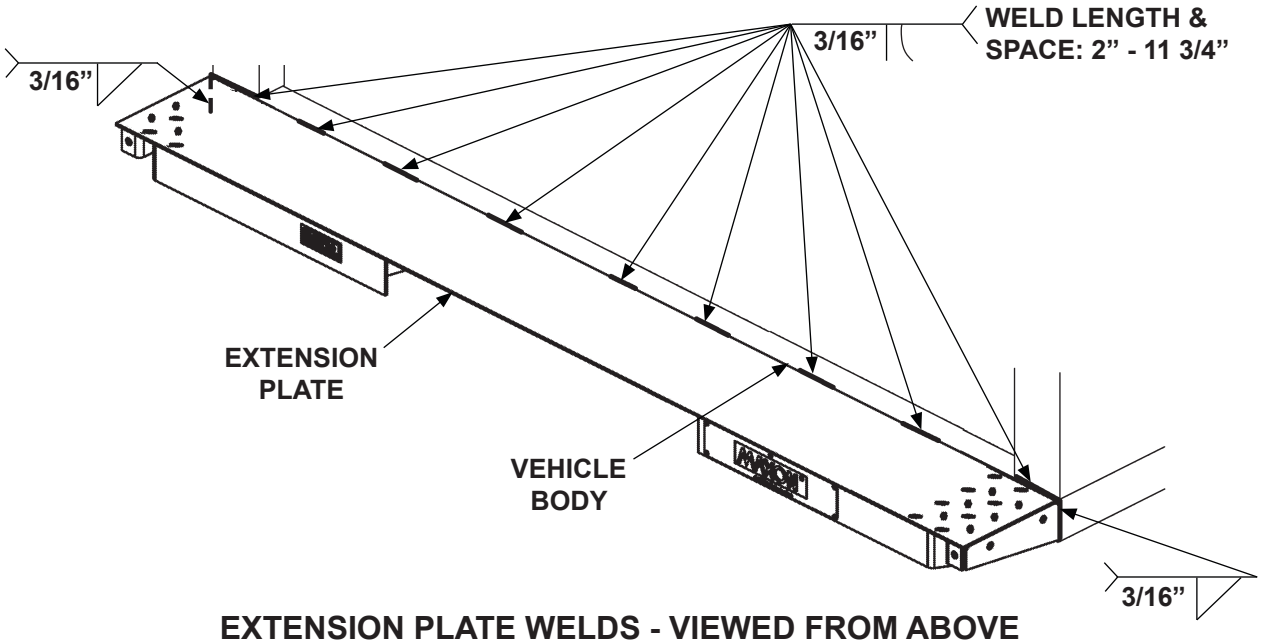
**⚠ WARNING**

**Welding on galvanized parts gives off especially hazardous fumes. To minimize hazard remove galvanizing from weld area, provide adequate ventilation, and wear suitable respirator.**

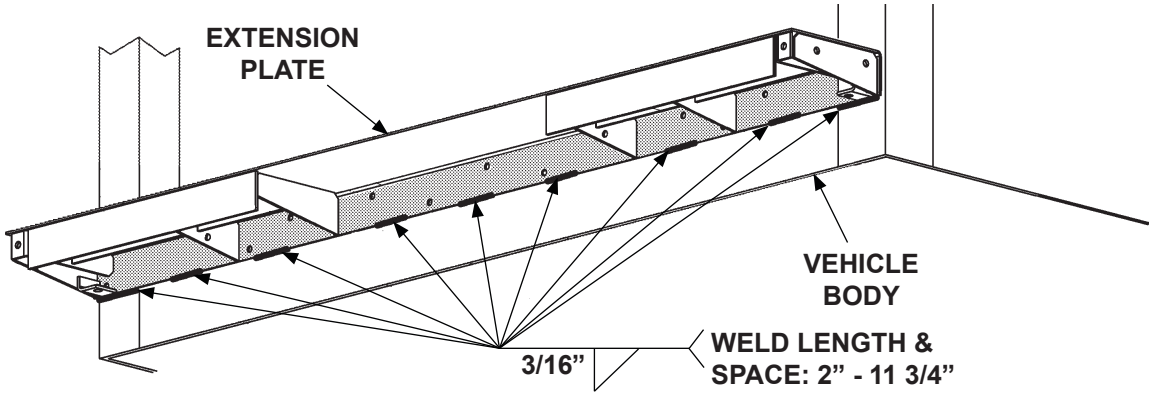
**CAUTION**

**To preserve the corrosion resistance properties of the galvanized finish, MAXON recommends bolting the galvanized extension plate to vehicle.**

Center the extension plate on vehicle body. Before welding extension plate to vehicle body, make sure top surface of extension plate is flush with floor of vehicle body. Weld the extension plate to vehicle body sill as shown in **FIGS. 22-1 and 22-2**.




**EXTENSION PLATE WELDS - VIEWED FROM ABOVE**
**FIG. 22-1**




**EXTENSION PLATE WELDS - VIEWED FROM UNDERNEATH**
**FIG. 22-2**

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# STEP 1 - INSTALL EXTENSION PLATES - Continued

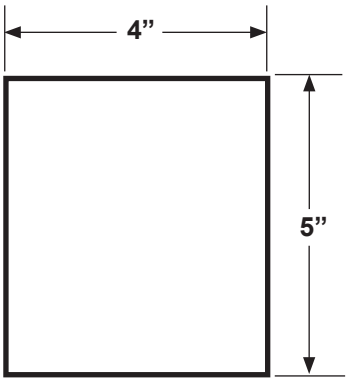
## WELD INSTALLATION BRACKETS

**⚠ WARNING**

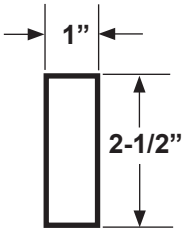
**Welding on galvanized parts gives off especially hazardous fumes. To minimize hazard remove galvanizing from weld area, provide adequate ventilation, and wear suitable respirator.**

**1.** Make 2 support straps **(FIG. 23-1)** and 2 spacers **(FIG. 23-2)** to keep Liftgate in proper position. While welding Liftgate to vehicle, support straps keep platform level with extension plate and spacers keep 1/4" between platform and extension plate.

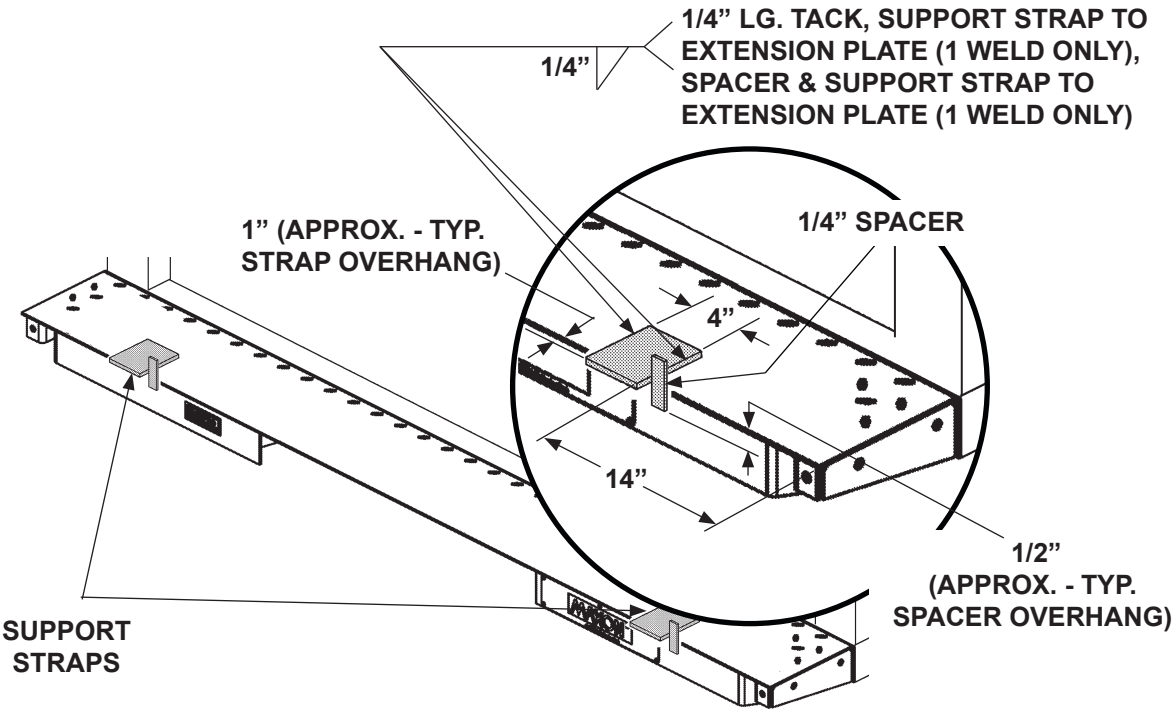
**2.** Place 2 temporary support straps **(FIG. 23-3)** on the extension plate as shown in **FIG. 23-3**. Also, put 2 temporary spacers **(FIG. 23-3)** between platform and extension plate as shown in **FIG. 23-3**. Weld the straps and spacers to extension plate **(FIG. 23-3)**.




**SUPPORT STRAP**
**(3/8" X 4" STEEL FLAT)**
**FIG. 23-1**




**SPACER**
**(1/4" X 1" STEEL FLAT)**
**FIG. 23-2**




**BOLTING ON INSTALLATION BRACKETS**
**FIG. 23-3**

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# STEP 2 - WELD LIFTGATE TO VEHICLE

## ⚠ WARNING

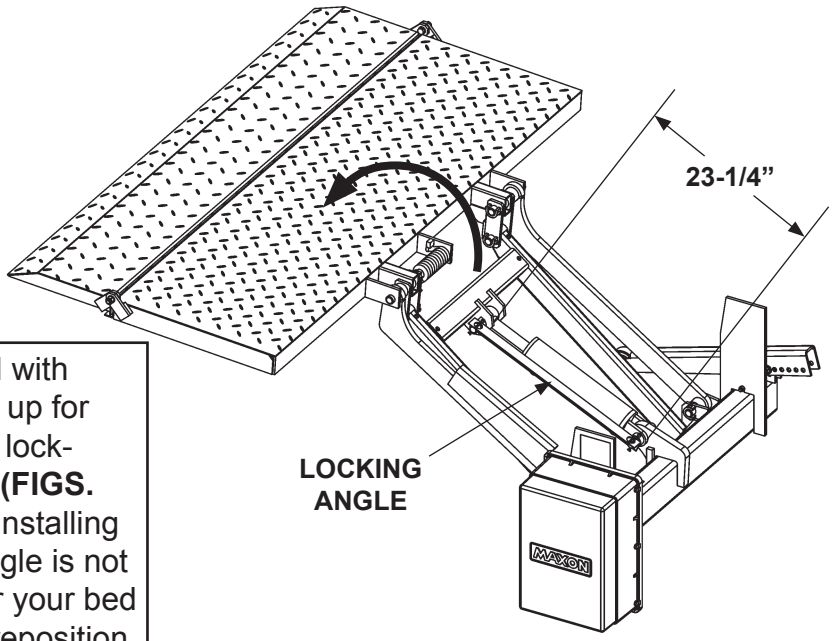
**Do not remove lock angle until instructed to do so in this manual.**

**1.** Unfold the platform as shown in **FIGS. 24-1 and 24-2**.

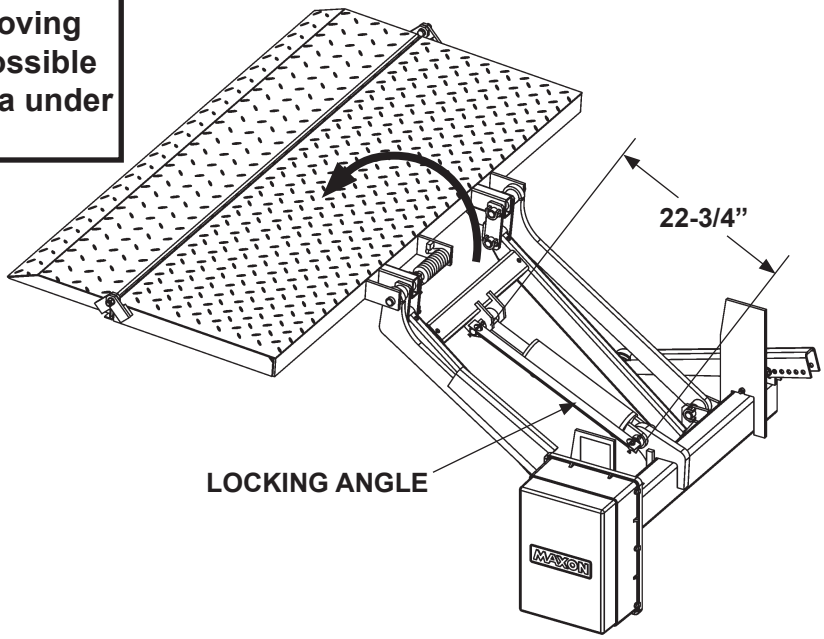
**NOTE:** Liftgates are shipped with the locking angle set up for low bed. Check your locking angle dimension **(FIGS. 24-1 & 24-2)** before installing Liftgate. If locking angle is not in correct position for your bed height, remove and reposition locking angle **(FIGS. 24-1 & 24-2)**.

## ⚠ WARNING

**Support Liftgate before removing locking angle. To prevent possible injury, never work in the area under the platform.**




**UNFOLDED PLATFORM WITH RAMP FLIPOVER (LOW BED, 38"- 46" HEIGHT)**
**FIG. 24-1**




**UNFOLDED PLATFORM WITH RAMP OR WEDGE FLIPOVER, RAMP IS SHOWN (HIGH BED, 44"- 54" HEIGHT)**
**FIG. 24-2**

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# STEP 2 - WELD LIFTGATE TO VEHICLE - Continued

## ⚠ WARNING

**To prevent injury, support Liftgate to keep it from tipping over. Stay clear of place under the platform where Liftgate could fall on you.**

## CAUTION

**To protect the original paint system if equipped, a 3" wide area of paint must be removed from all sides of the weld area before welding.**

**NOTE:** To prevent misalignment when hoisting Liftgate by the platform, each platform stop must be tack welded to shackle.

**2**. Tack weld platform stops to shackles, on LH and RH side of platform, as shown in **FIGS. 25-1A and 25-1B**.

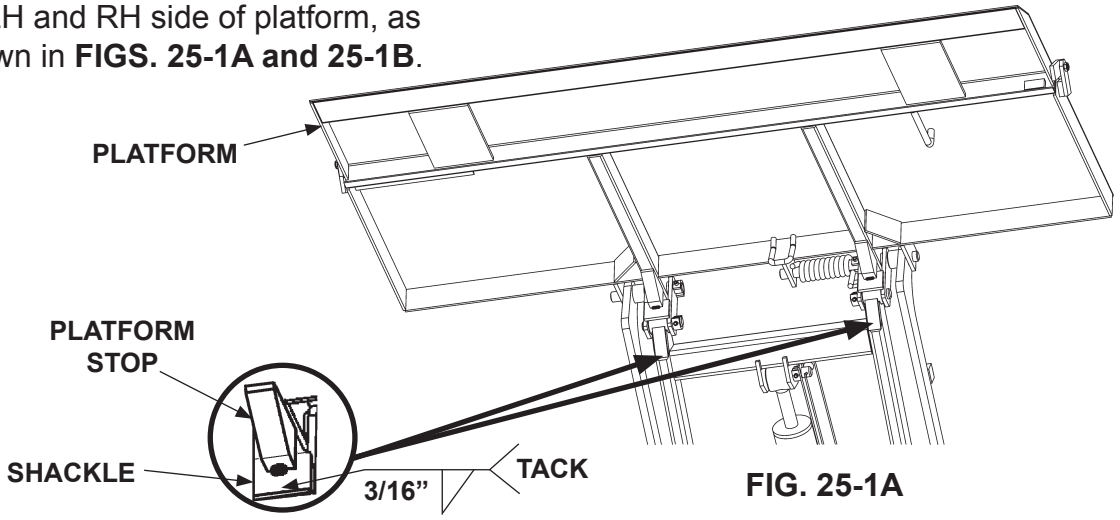


**FIG. 25-1A**

**TACK WELDING PLATFORM STOPS FIG. 25-1B**

**3**. Attach chain and hoist on each side of platform at positions shown in **FIG. 25-2**. (Place chain all around platform.) Hoist the Liftgate, and then place floor jack under main frame **(FIG. 25-2)**. Jack the Liftgate into position. Make sure vehicle floor is horizontal and pins are lined up as shown in **FIG. 25-2**.

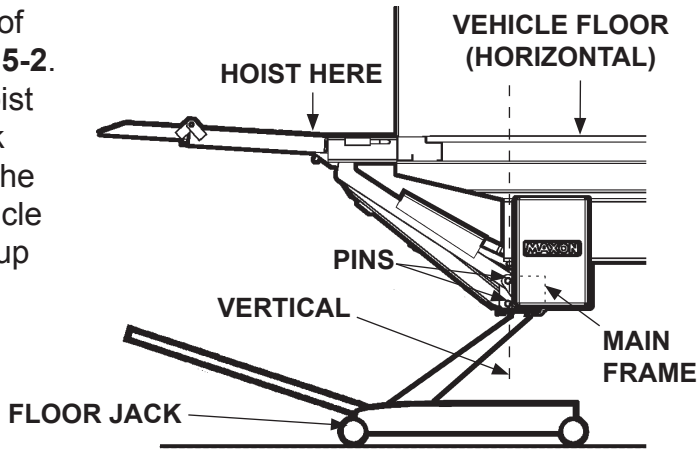


**FIG. 25-2**

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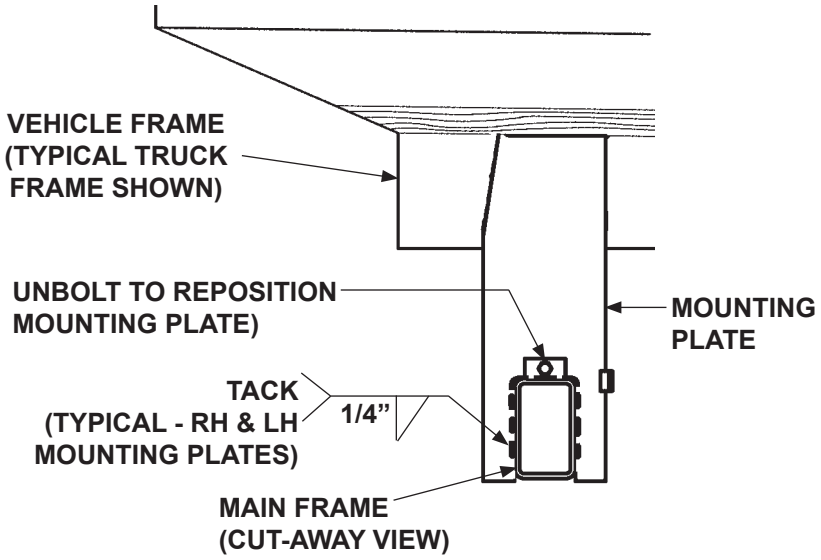
# STEP 2 - WELD LIFTGATE TO VEHICLE - Continued

## ⚠ WARNING

**Painted Liftgate is shipped from factory with mounting plates that are only tack welded to main frame. Weld as shown in illustration before operating Liftgate.**

**NOTE:** The mounting plates on the galvanized main frame are fully welded at the factory, and are suitable for vehicle with 33-3/4" frame width. Do not move the galvanized mounting plates. The following instruction only applies to painted mounting plates.

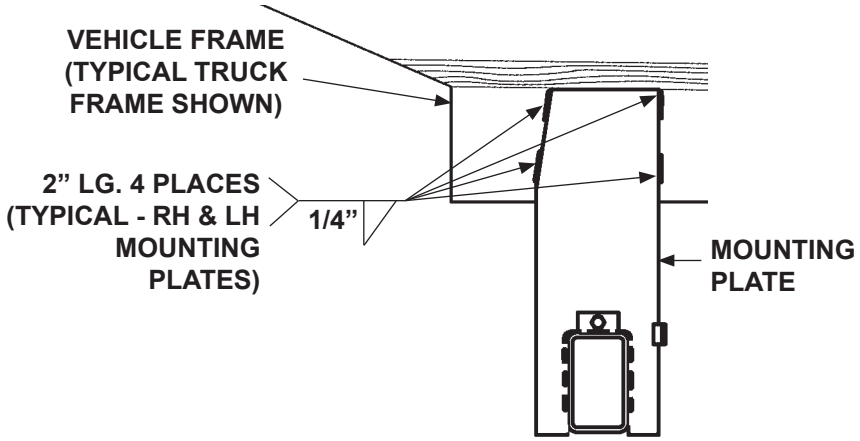
**4.** Unbolt mounting plate from main frame**.** Reposition the mounting plate against vehicle frame. Tack weld as shown in **FIG. 26-1**. Repeat for second mounting plate (reposition and tack weld).




**REPOSITIONING MOUNTING PLATE**
**(RH SIDE SHOWN)**
**FIG. 26-1**

**NOTE:** Weld both mounting plates to vehicle frame before welding mounting plates to main frame.

**5.** Clamp both mounting plates to vehicle frame. Weld the mounting plates to vehicle frame as shown in **FIG. 26-2**. Remove clamps.




**WELD TO VEHICLE FRAME AND MAIN FRAME**
**(RH SIDE SHOWN)**
**FIG. 26-2**

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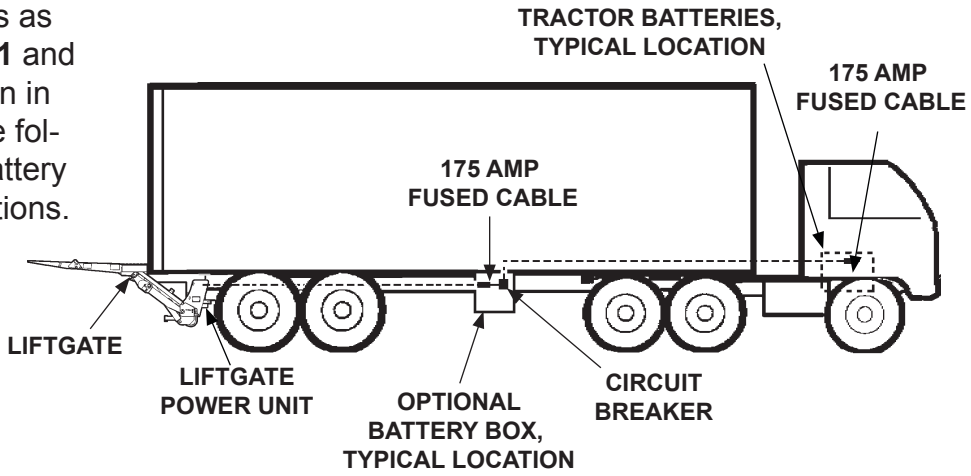
# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED)

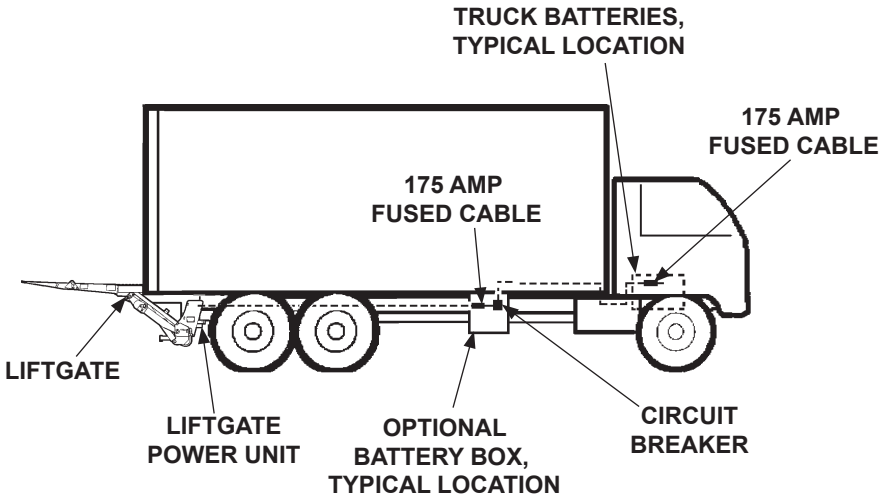
## RECOMMENDED CONFIGURATION

**NOTE:** Make sure the Liftgate power unit, and all batteries on the vehicle for the power unit, are connected correctly to a common chassis ground.

**1.** Liftgate and optional battery box are typically installed on trailers as shown in **FIG. 27-1** and on trucks as shown in **FIG. 27-2**. See the following page for battery and cable connections.




**RECOMMENDED LIFTGATE & OPTIONAL BATTERY BOX INSTALLATION ON TRAILER**
**FIG. 27-1**




**RECOMMENDED LIFTGATE & BATTERY BOX INSTALLATION ON TRUCK**
**FIG. 27-2**

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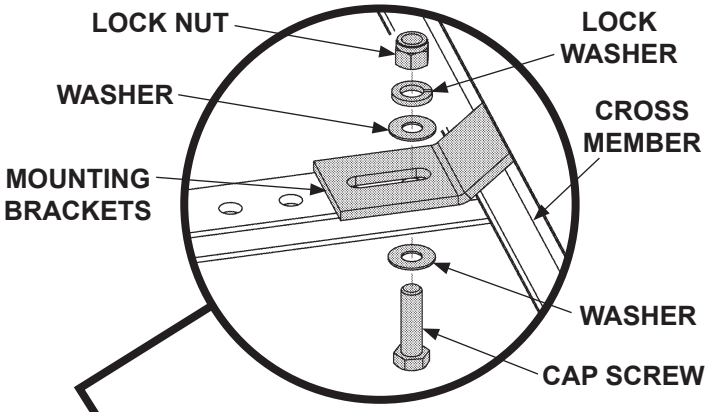
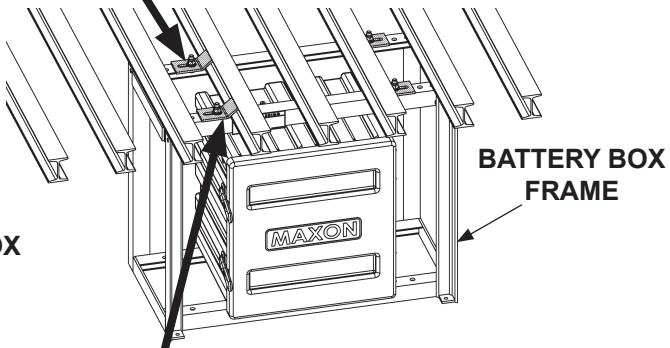
# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

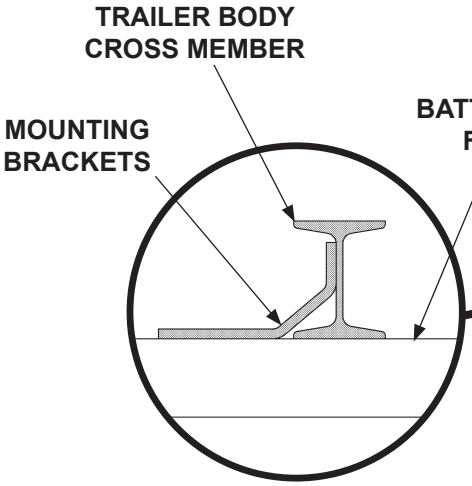
**2.** Select holes on top of battery box frame to align mounting brackets flush to cross members. Refer to **FIGS. 28-1A & 28-1B** for trailers and **FIG. 28-2** for trucks. Bolt mounting brackets to battery box frame as shown in **FIG. 28-1C**. Torque each bolt and lock nut to **85-128 lb-ft**.



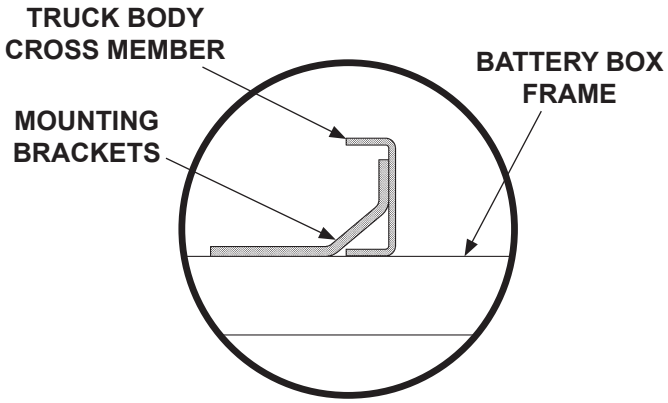

**BOLTING BRACKETS (8 PLACES) FIG. 28-1C**




**ALIGNING BATTERY BOX FRAME (TRAILER SHOWN) FIG. 28-1A**




**FLUSH BRACKETS FOR TRAILERS (8 PLACES) FIG. 28-1B**




**FLUSH BRACKETS FOR TRUCKS (8 PLACES) FIG. 28-2**

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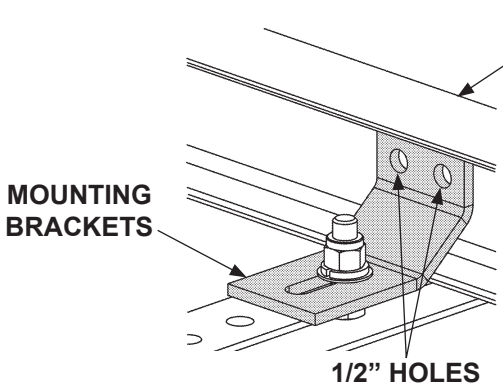
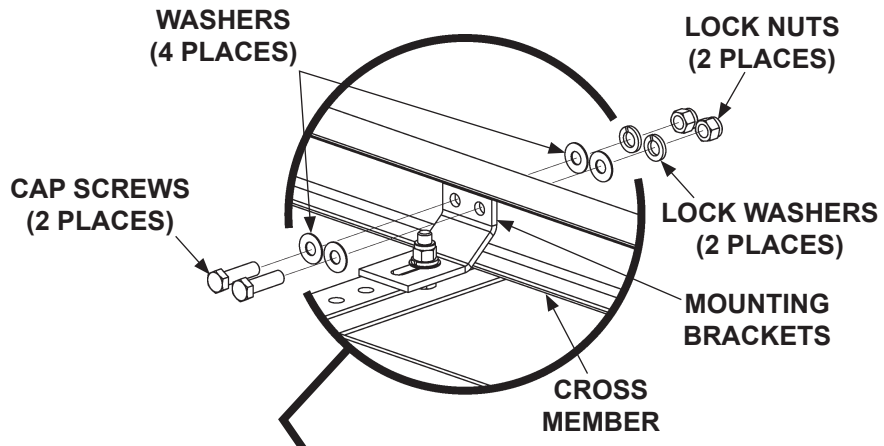
# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

**NOTE:** If welding mounting brackets to cross members, skip instruction **3**.

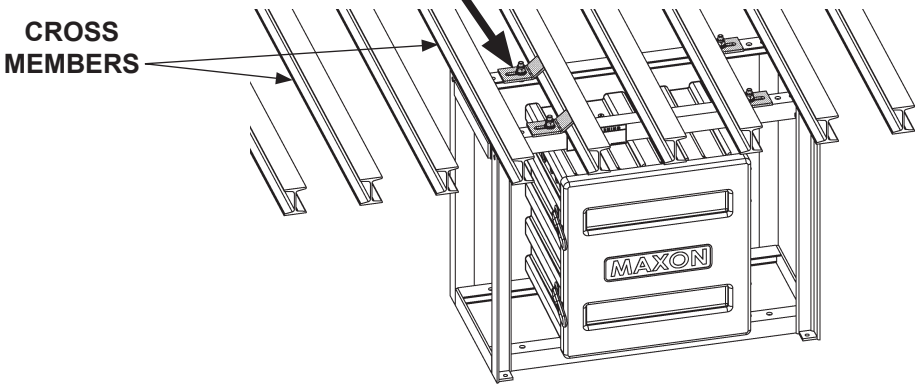
**3.** Using mounting brackets as a template mark and drill holes through cross members **(FIG. 29-1)**. Bolt mounting brackets to cross members as shown in **FIGS. 29-2A and 29-2B**. Torque bolts and lock nuts to **85-128 lb-ft**.




**MARK AND DRILL**
**FIG. 29-1**




**BOLTING BRACKETS**
**(8 PLACES)**
**FIG. 29-2B**




**BOLTING BATTERY BOX FRAME**
**FIG. 29-2A**

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# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

## ⚠ WARNING

**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 can result from welds that are done incorrectly.**

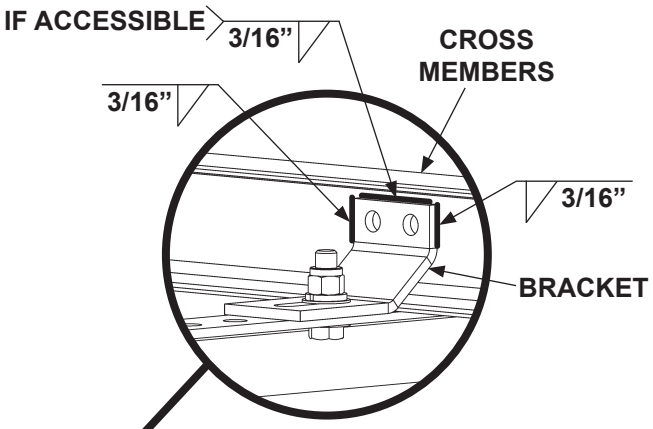
## CAUTION

**To prevent pump box components from being damaged by electric current from welding, connect welder grounding cable to the part being welded.**

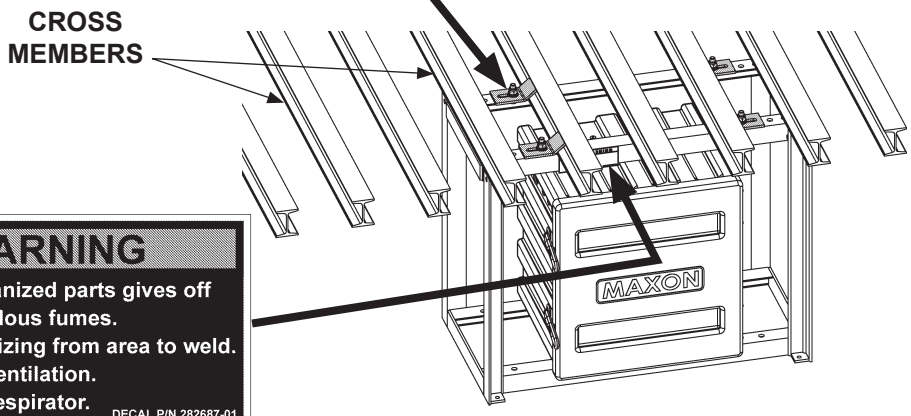
## CAUTION

**Cover pump box and optional battery box with flame-resistant covering before welding pump box frame to vehicle.**

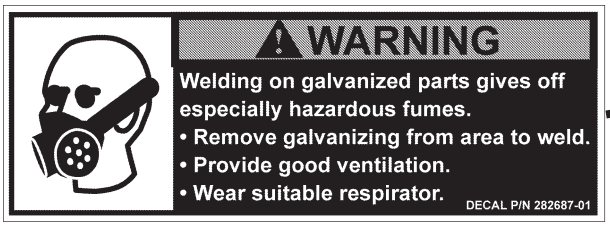
**4.** For galvanized frame, read warning decal shown in **FIGS. 30-1A and FIGS. 30-1B** before welding. Weld each bracket to cross members as shown in **FIGS. 30-1A and 30-1C**. Weld top of bracket if accessible.




**WELDING BRACKETS (8 PLACES) FIG. 30-1C**




**BOLTING PUMP & BATTERY BOX FRAME FIG. 30-1A**




**WELDING GALVANIZED, WARNING DECAL FIG. 30-1B**

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# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

## ⚠ WARNING

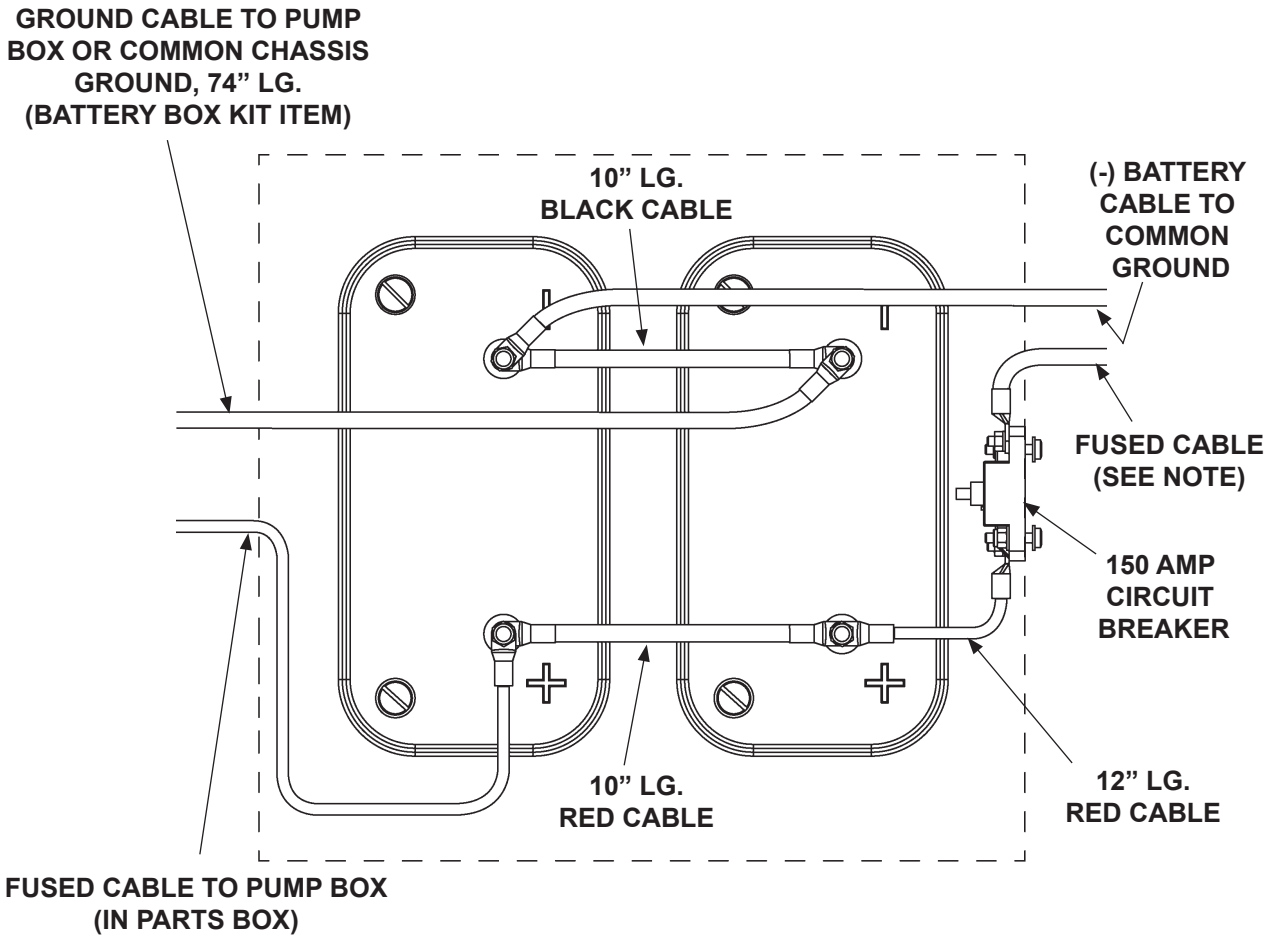
**Remove all rings, watches and jewelry before doing any electrical work**.

**NOTE:** Always connect fused end of power cable to battery positive **(+)** terminal.

**NOTE:** To connect charge lines, refer to instructions provided with each charge line kit.

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

**5.** Connect battery cables, fused cables, and ground cables for 12 volt power as shown in **FIG. 31-1** or 24 volt power as shown in **FIG. 32-1**.




**12 VOLT BATTERY CONNECTIONS FOR 12 VOLT POWER**
**FIG. 31-1**

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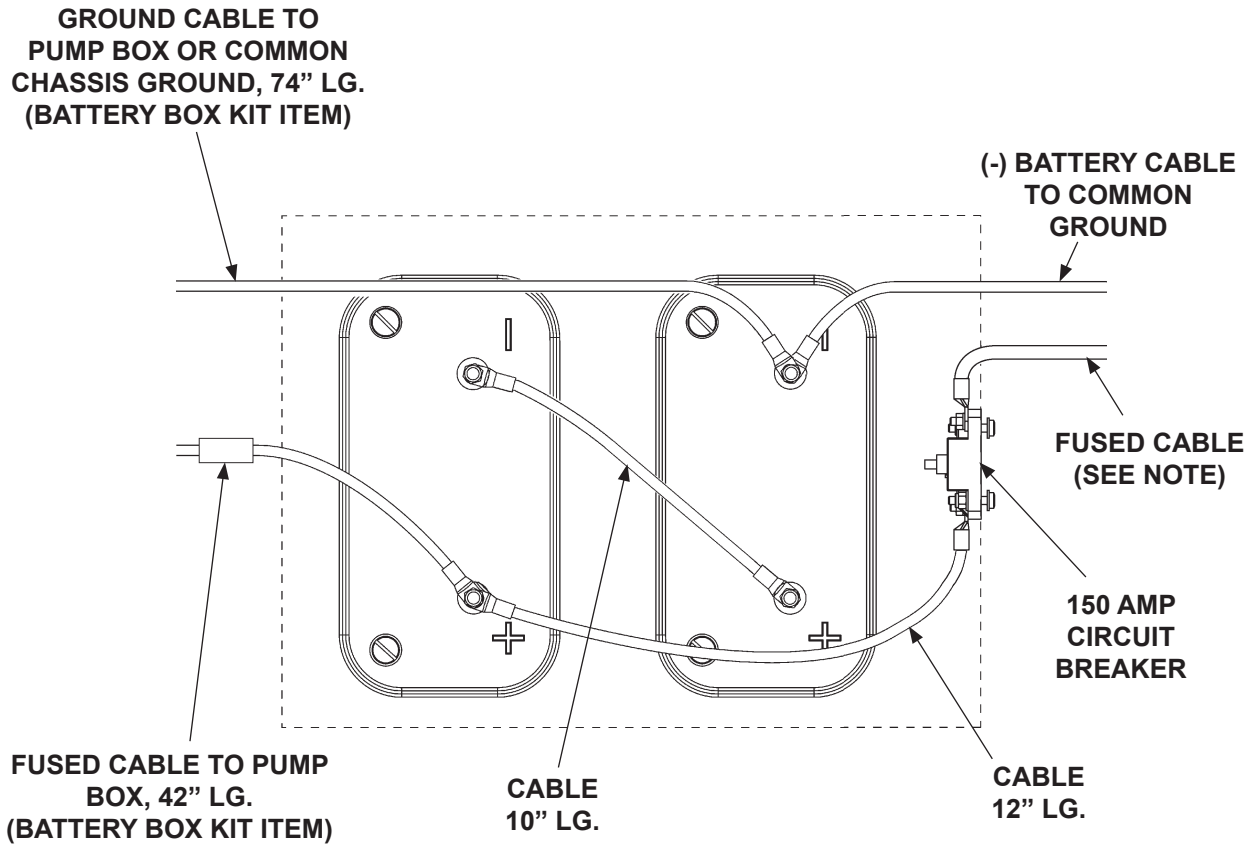
# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued




**12 VOLT BATTERY CONNECTIONS FOR 24 VOLT POWER**
**FIG. 32-1**

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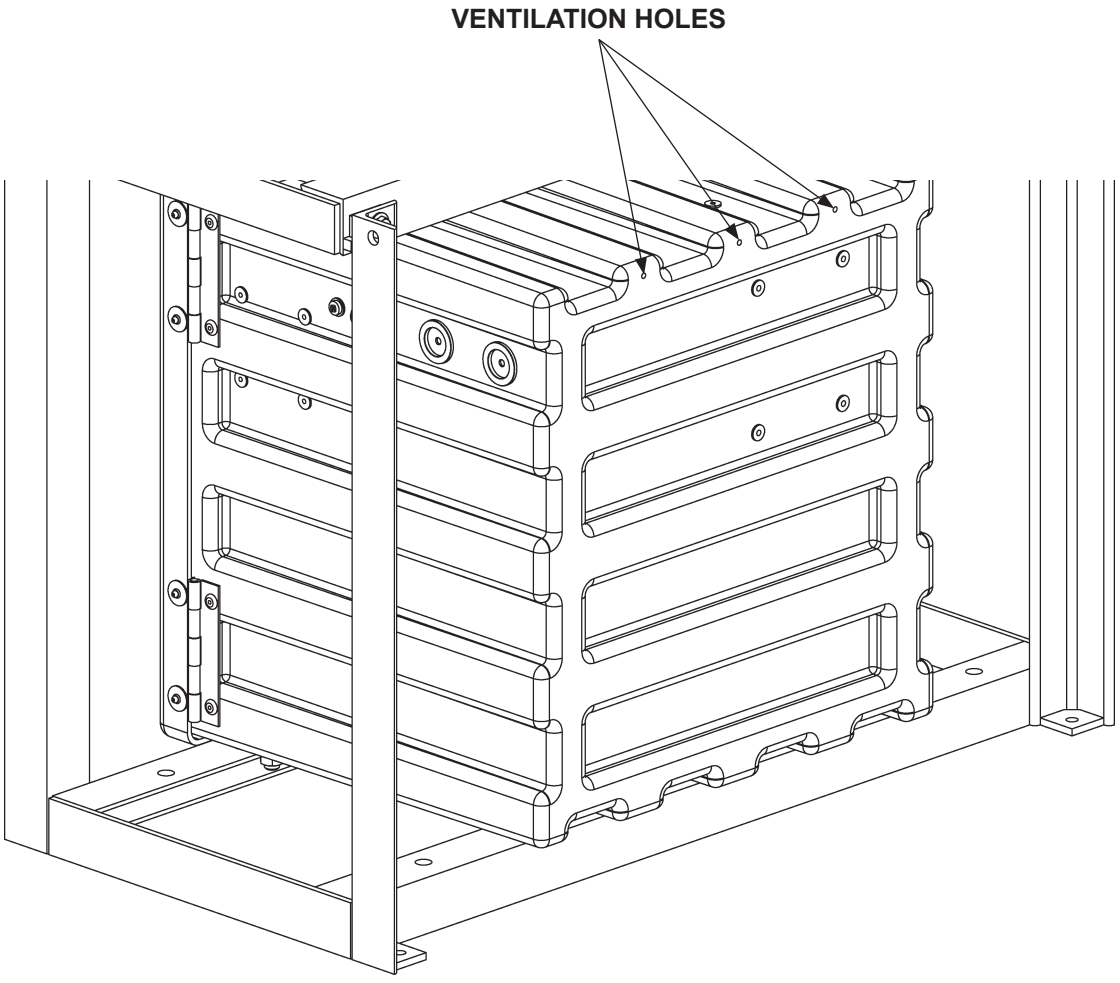
# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

## ⚠ WARNING

**Explosive hydrogen gas from charging batteries can accumulate in battery box if not vented from the box. To prevent hydrogen gas from accumulating, ensure the 3 ventilation holes in battery box are not plugged or covered.**




**BATTERY BOX ASSEMBLY (REAR VIEW SHOWN)**
**FIG. 33-1**

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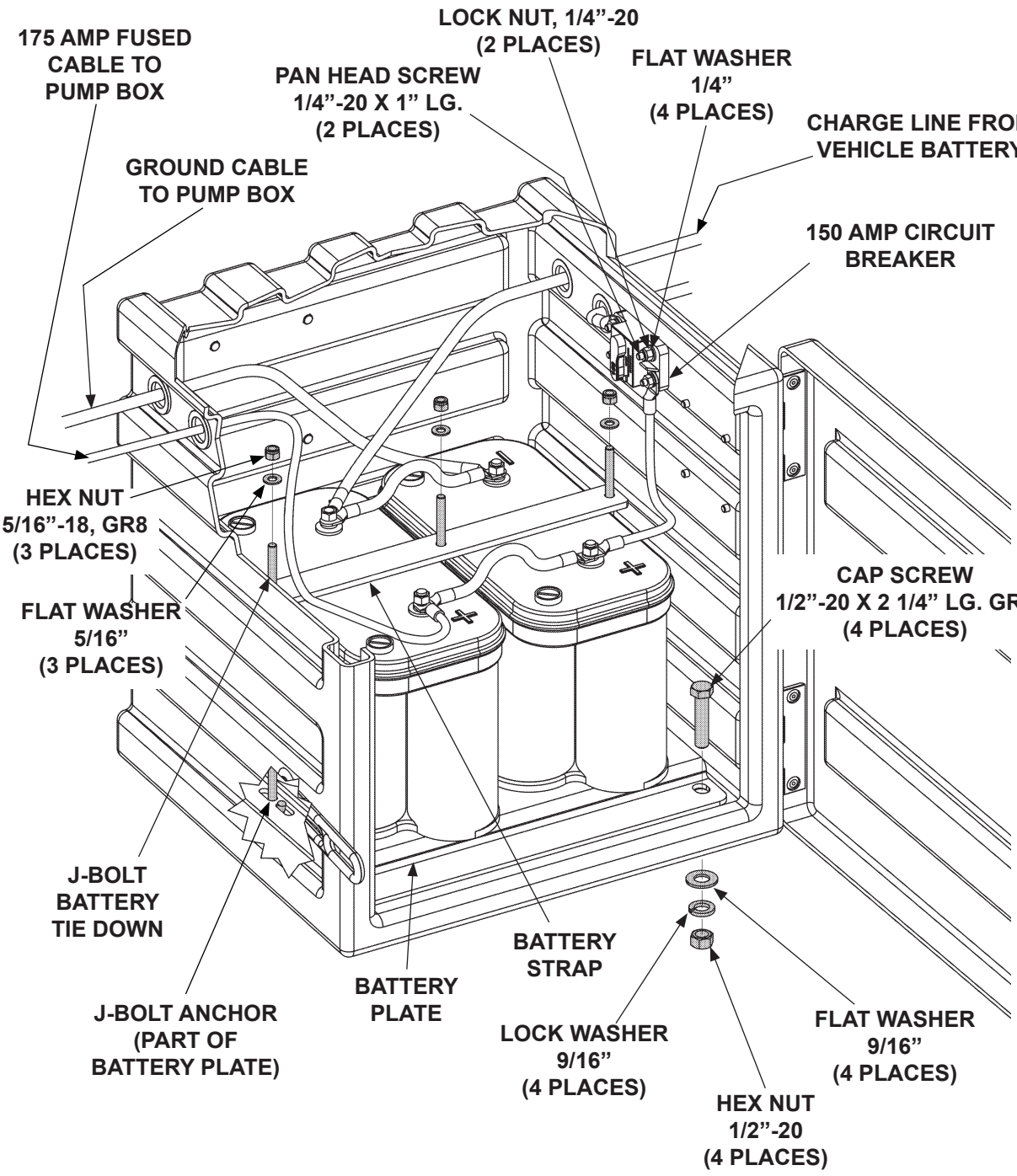
# STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued




**BATTERY BOX ASSEMBLY**
**(12 VOLT POWER CONNECTIONS SHOWN)**
**FIG. 34-1**

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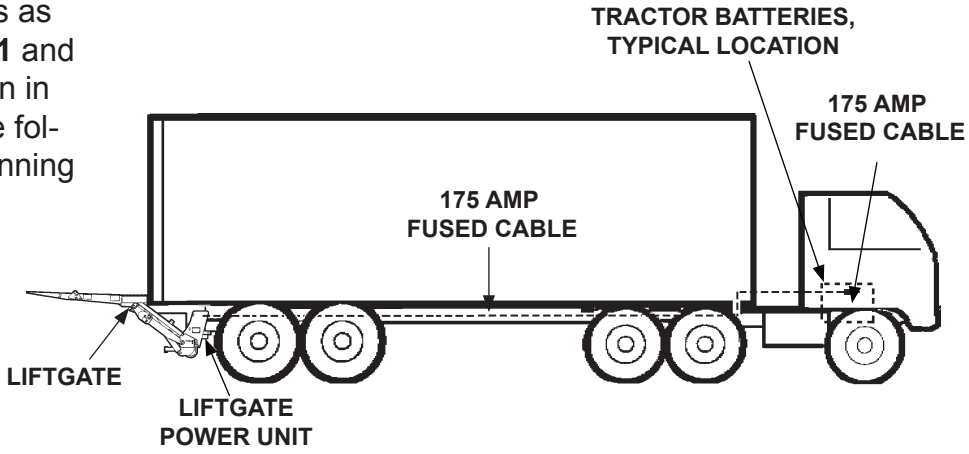
# STEP 4 - RUN POWER CABLE

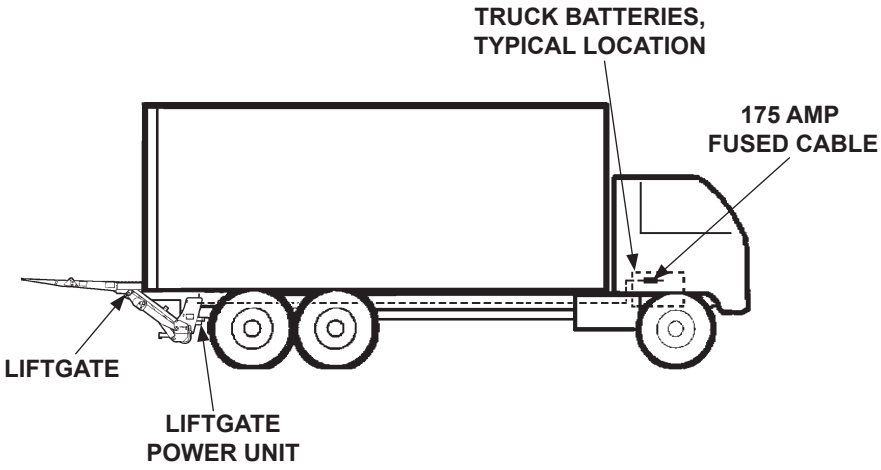
**NOTE:** Make sure the Liftgate power unit, and all batteries on the vehicle for the power unit, are connected correctly to a common chassis ground.

## RECOMMENDED CONFIGURATION

**1.** Liftgate powered from truck batteries is typically installed on trailers as shown in **FIG. 35-1** and on trucks as shown in **FIG. 35-2**. See the following page for running the battery cable.




**RECOMMENDED LIFTGATE & OPTIONAL BATTERY BOX INSTALLATION ON TRAILER**
**FIG. 35-1**




**RECOMMENDED LIFTGATE & BATTERY BOX INSTALLATION ON TRUCK**
**FIG. 35-2**

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# STEP 4 - RUN POWER CABLE - Continued

## ⚠ CAUTION

**Never route an energized wire. Make sure the vehicle battery is disconnected. Always route electrical wires clear of moving parts, brake lines, sharp edges and exhaust systems. Avoid making sharp bends in wiring. Attach securely. If drilling is necessary, first check behind the drilling surface so you do not damage any fuel lines, vent lines, brake lines or wires.**

**2.** Clip fused power cable to vehicle chassis with fuse nearest the vehicle battery, as shown in **FIG. 36-1**. Keep enough cable near the battery to reach the positive terminal without straining cable (after connection). Run cable to pump box on Liftgate.

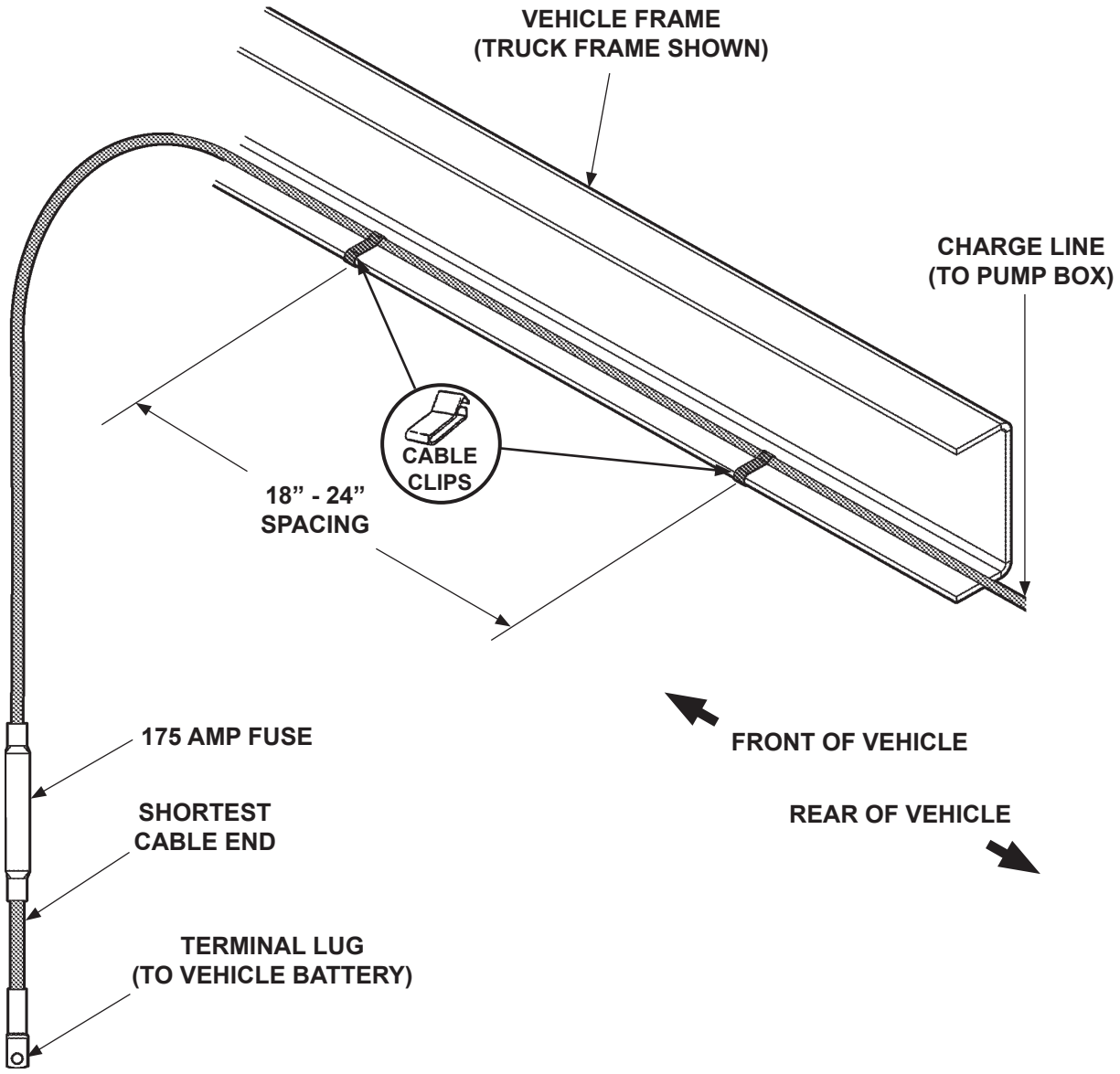


**FIG. 36-1**

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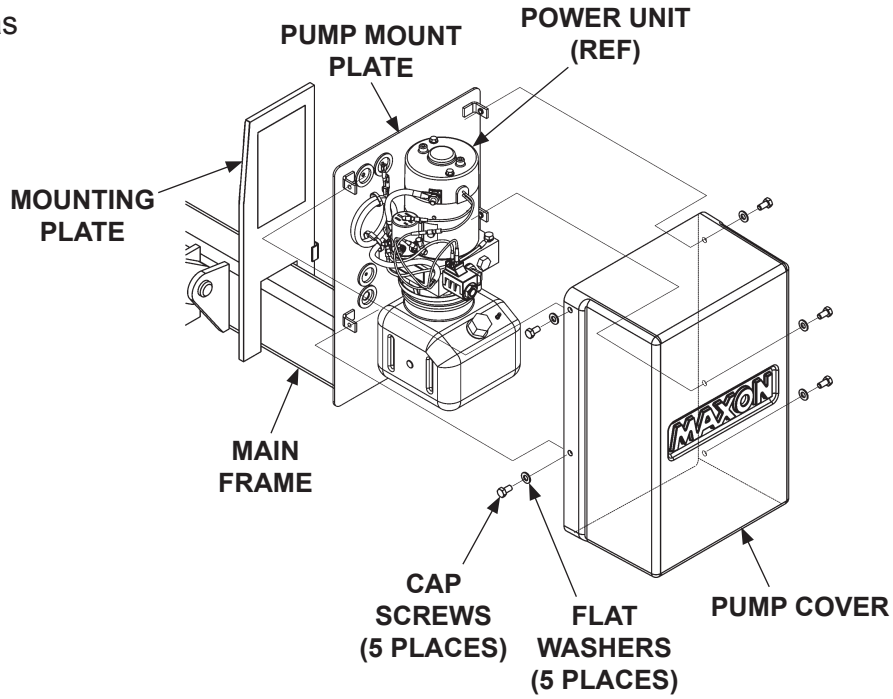
# STEP 5 - CONNECT POWER CABLE

**1.** Unbolt the pump cover as shown in **FIG. 37-1**.




**UNBOLTING PUMP COVER**
**FIG. 37-1**

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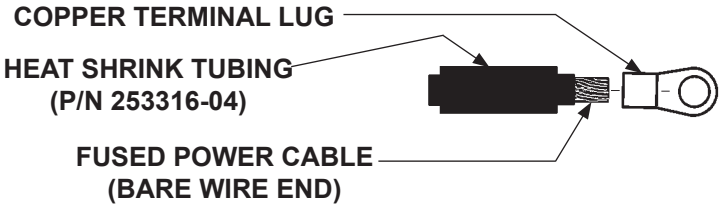
# STEP 5 - CONNECT POWER CABLE - Continued

**NOTE:** Hydraulic lines and electrical lines must be run into pump box through sealing grommets **(FIG. 38-3)**. To ensure a good seal on hydraulic & electrical lines, never cut the sealing grommets.

**2.** On the bare wire end of fused power cable, keep enough length to attach copper terminal lug and reach motor solenoid without putting tension on cable (after connection) **(FIG. 38-1)**. Measure (if needed) and then cut excess cable from bare wire end of cable. Put heat shrink tubing (parts box) **(FIG. 38-1)** on the end of the cable (leave room for terminal lug). Crimp copper terminal lug (from parts box) on the fused power cable and shrink the heat shrink tubing **(FIG. 38-2)**.




**PLACING TERMINAL LUG & HEAT SHRINK TUBING ON FUSED POWER CABLE**
**FIG. 38-1**

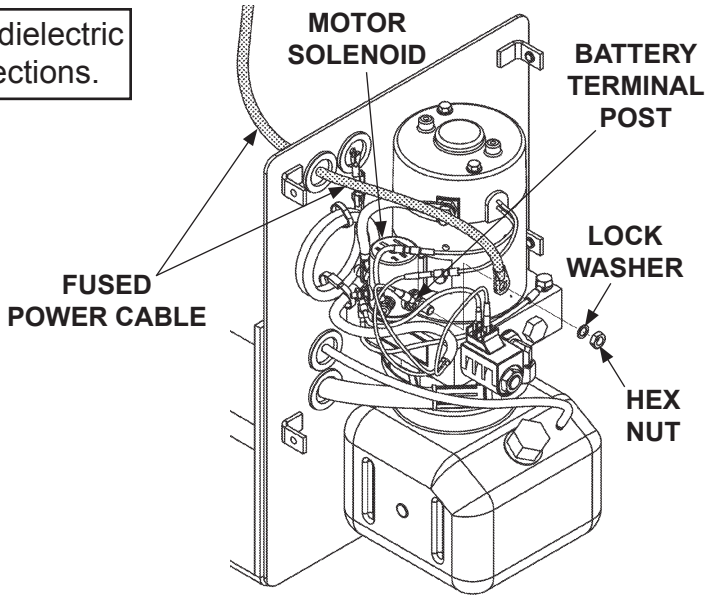
**TYPICAL FUSED POWER CABLE WITH TERMINAL LUG INSTALLED**
**FIG. 38-2**

## CAUTION

**To prevent damage to metal case starter solenoid, hold bottom terminal nut securely with wrench when loosening and tightening top terminal nut. Do not over-tighten the terminal nuts. For the 5/16" load terminals, torque nuts to 35 lbs.-in. Torque the nuts on #10-32 control terminals to 15 lbs.-in.**

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

**3.** Remove hex nut and lock washer from battery terminal post on the motor solenoid. Connect the fused power cable to the motor solenoid as shown in **FIG. 38-3**. Reinstall and tighten lock washer and hex nut.




**TYPICAL FUSED POWER CABLE CONNECTION**
**(GRAVITY DOWN PUMP SHOWN)**
**FIG. 38-3**

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# STEP 6 - CONNECT GROUND CABLE (RECOMMENDED)

**NOTE:** To ensure power unit is correctly grounded, MAXON recommends connecting optional 2 gauge ground cable from grounding stud on pump assembly to a grounding point on the frame, or negative battery terminal in the optional battery box.

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

**1.** Use lock nut to attach ground cable lug to ground stud on the pump assembly **(FIGS. 39-1A and 39-1B)**.

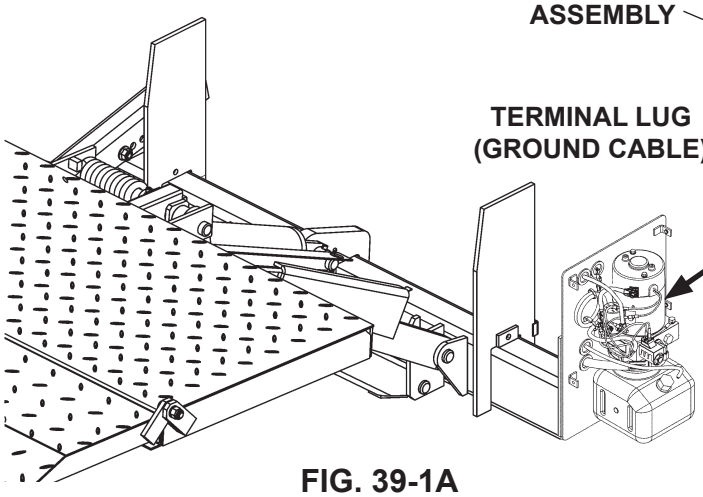
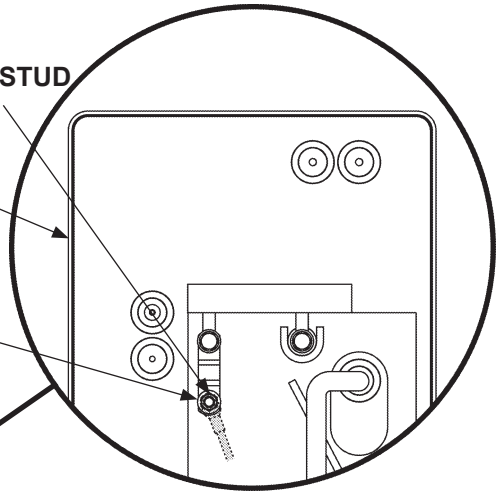


**FIG. 39-1A**




**CONNECTING GROUND CABLE TO PUMP ASSEMBLY GROUND**
**FIG. 39-1B**

**NOTE:** If there is a grounding point on the frame, use it to connect ground cable. Then, skip the step for drilling a hole.

**NOTE:** Clean the ground cable connection point on the frame down to bare metal.

**2.** Extend the ground cable to reach vehicle frame **(FIG. 39-2)** without putting tension on cable (after connection). Connect to an existing grounding point if available.

**3.** If necessary, drill a 11/32” (0.343”) hole in vehicle frame for bolting the ground cable terminal lug **(FIG. 39-2)**.

**4.** Bolt the ground cable terminal lug to vehicle frame as shown in **FIG. 39-2**.

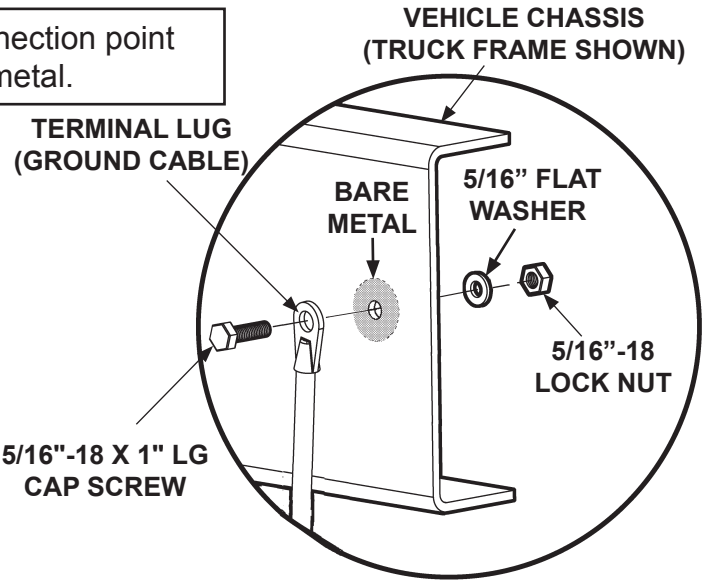



**FIG. 39-2**

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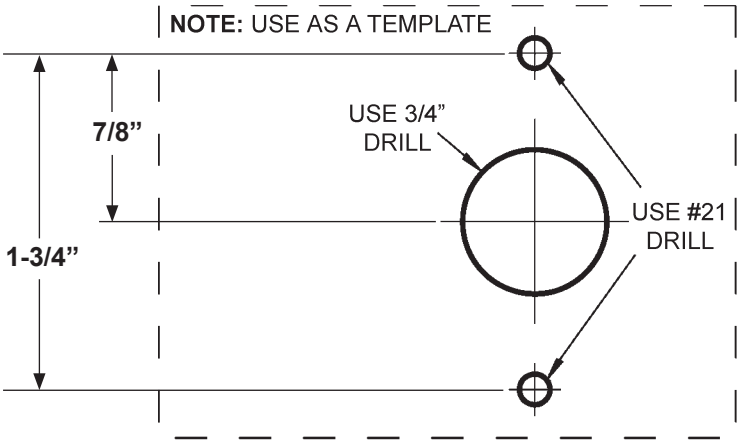
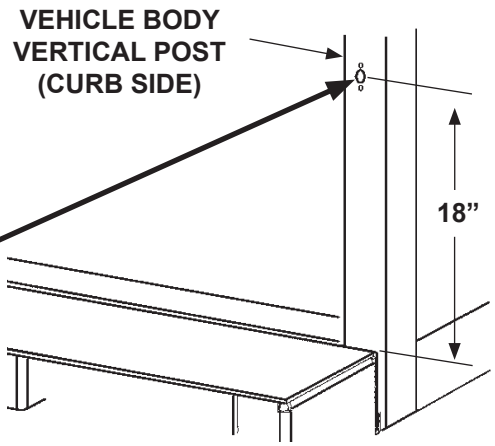
# STEP 7 - INSTALL CONTROL SWITCH

**1.** Drill one 3/4“ hole and two #21–size holes in the vertical post on curb side of vehicle body as shown in **FIG. 40-1A**. Use template shown in **FIG. 40-1B**.




**HOLE DRILLING TEMPLATE**
**FIG. 40-1B**




**RECOMMENDED POSITION FOR CONTROL SWITCH**
**FIG. 40-1A**

**NOTE:** Hydraulic lines and electrical lines must run into pump box through sealing grommets **(FIG. 40-2)**. To ensure a good seal on hydraulic & electrical lines, never cut the sealing grommets.

**2.** Cut tie strap on coiled wiring harness **(FIG. 40-2)**. Pull the wiring harness through grommet on the pump mounting plate **(FIG. 40-2)**.

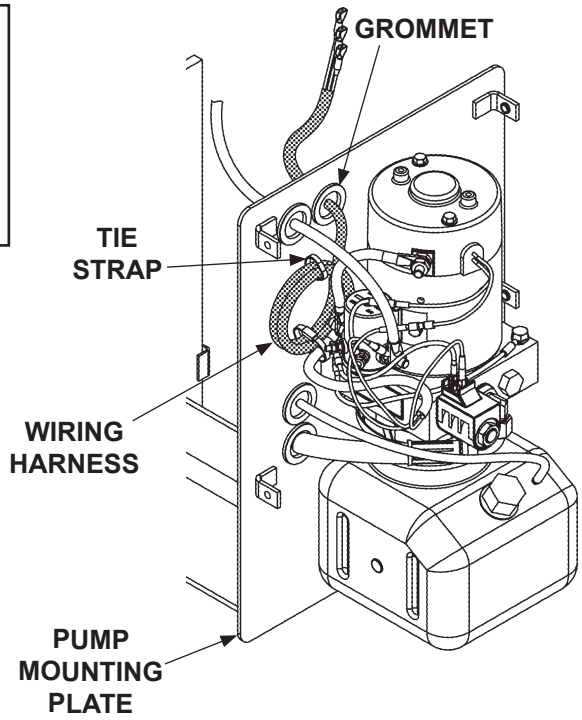



**FIG. 40-2**

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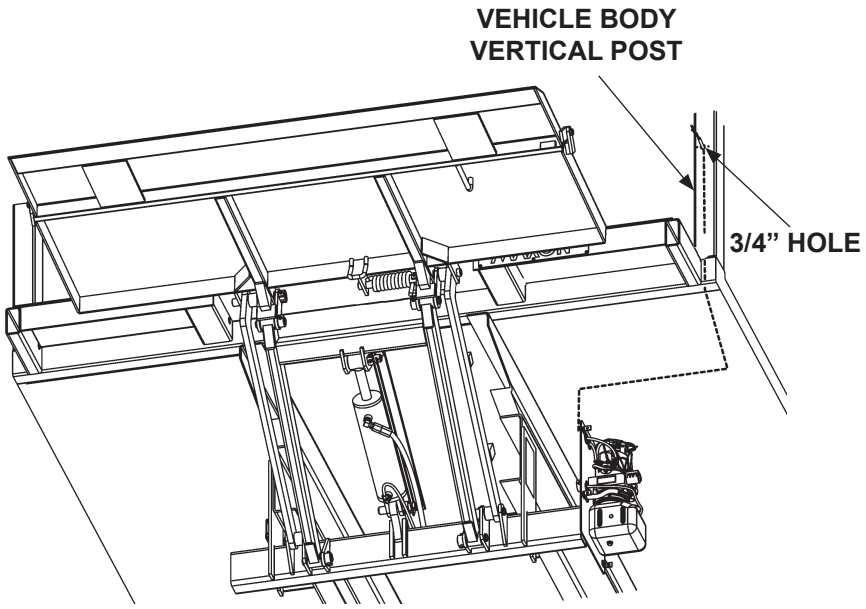
# STEP 7 - INSTALL CONTROL SWITCH - Continued

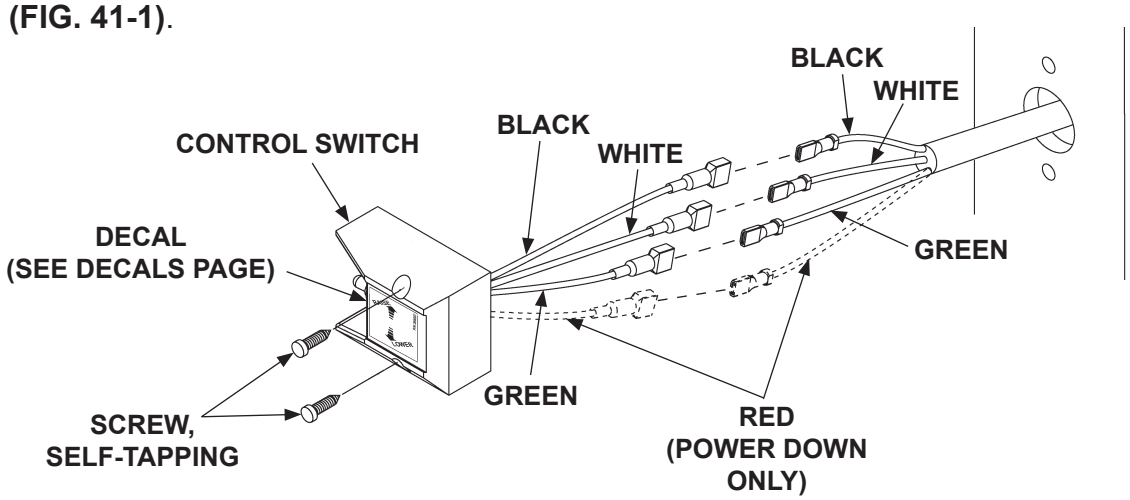
**NOTE:** MAXON recommends using dielectric grease on all electrical connections.

**3.** Run wiring harness under vehicle body **(see dashed line - FIG. 41-1)** and up through inside of vertical post. Then pull control switch wiring harness out the 3/4“ hole drilled in vertical post **(FIG. 41-1)**. Connect the control switch wiring to the wiring harness as shown in **FIG. 41-2**. Push extended wiring back into the ¾” hole in the vertical post until control switch touches the post. Attach control switch to vertical post with 2 self-tapping screws **(FIG. 41-2)**.




**ROUTING CONTROL SWITCH WIRING**
**FIG. 41-1**

**4.** If necessary, use clamps and tapping screws, from installation parts bag, to secure switch wiring harness to vehicle **(FIG. 41-1)**.




**CONTROL SWITCH WIRING CONNECTIONS**
**FIG. 41-2**

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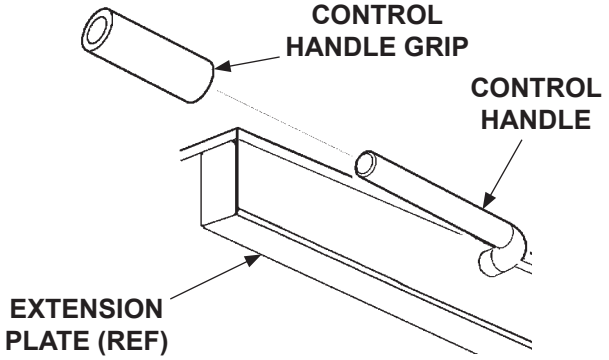
# STEP 7 - INSTALL CONTROL SWITCH - Continued

**NOTE:** If you plan to install **rental lock** (see **STEP 15**), wait until **STEP 15** to install the control handle grip.

**5.** If liftgate is equipped with painted extension plate, get the control handle grip **(FIG. 42-1)** from parts box. Install the handle grip on control handle as shown in **FIG. 42-1**.




**INSTALLING CONTROL HANDLE GRIP**
**FIG. 42-1**

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# STEP 8 - ADD 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.**

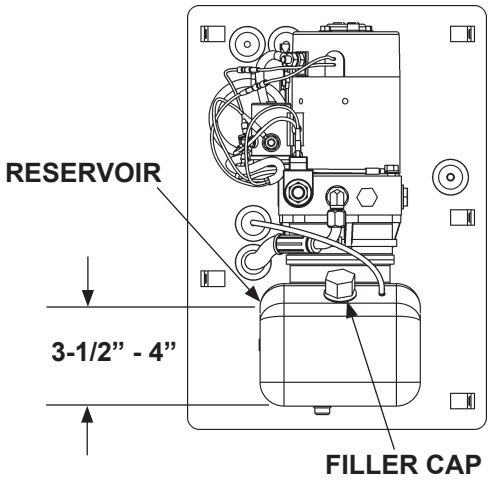
**NOTE:** Use correct grade of hydraulic fluid for your location.

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

See **TABLES 44-1 and 44-2** for recommended brands.

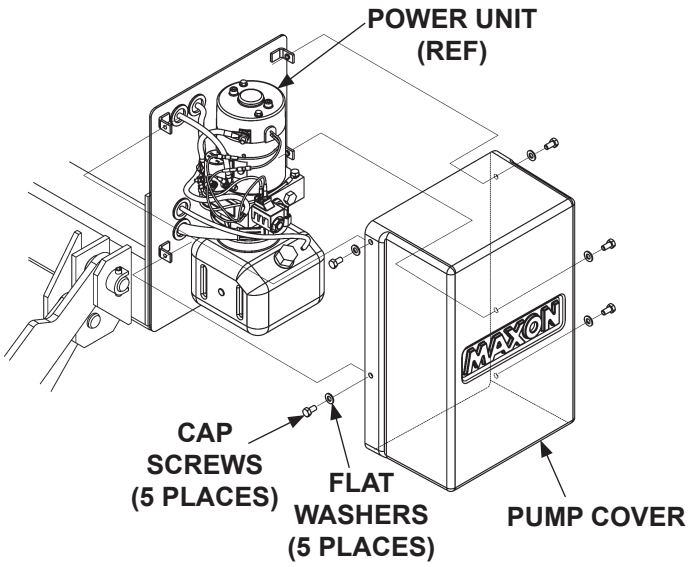
**1.** Pull out filler cap (no threads) shown in **FIG. 43-1**. Fill the reservoir **(FIG. 43-1)** with hydraulic fluid to 4" above the bottom **(FIG. 43-1)**.

**2.** Reinstall filler cap **(FIG. 43-1)**.




**PUMP RESERVOIR**
**(GRAVITY DOWN POWER UNIT SHOWN)**
**FIG. 43-1**

**3.** Bolt on the pump cover as shown in **FIG. 43-2**. Torque the bolts (cap screws) to **10 - 14 lbs.- in**.




**BOLTING ON PUMP COVER**
**FIG. 43-2**

# STEP 8 - ADD HYDRAULIC FLUID - Continued

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

**TABLE 44-1**

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

**TABLE 44-2**

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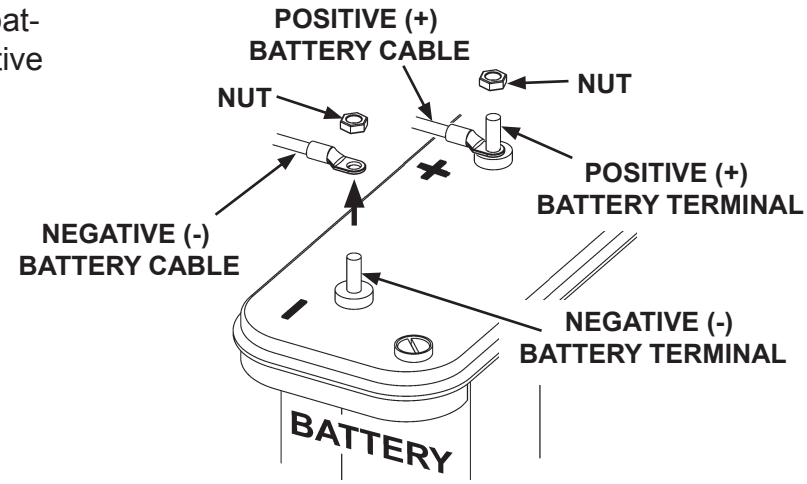
# STEP 9 - CONNECT POWER CABLE TO BATTERY

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

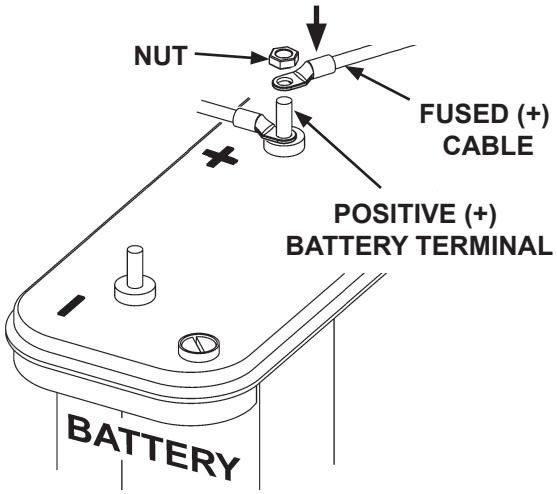
**1.** Remove nut from negative **(-)** battery terminal. Disconnect negative **(-)** battery cable **(FIG. 45-1)**.




**DISCONNECTING (-) BATTERY CABLE**
**FIG. 45-1**

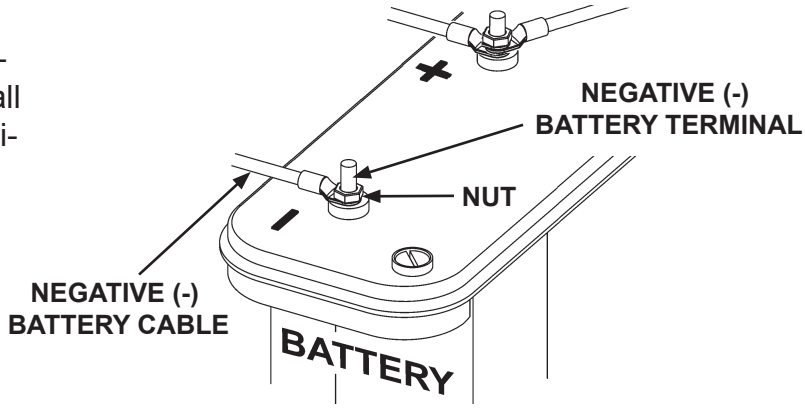
**2.** Remove nut from positive **(+)** battery terminal **(FIG. 45-2)**.

**3.** Connect fused positive **(+)** cable to positive **(+)** battery terminal **(FIG. 45-2)**. Then, reinstall nut on positive **(+)** battery terminal **(FIG. 45-2)**.




**CONNECTING FUSED (+) CABLE**
**FIG. 45-2**

**4.** Reconnect negative **(-)** battery cable to negative **(-)** battery terminal **(FIG. 45-3)**. Then, reinstall nut on negative **(-)** battery terminal **(FIG. 45-3)**.




**RECONNECTED BATTERY CABLES**
**FIG. 45-3**

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# STEP 10 - REMOVE LOCKING ANGLE AND CHECK FOR INTERFERENCE

## CAUTION

**Do not fully pressurize the system in this step. Fully pressurize the system and check for hydraulic leaks after Liftgate is fully welded.**

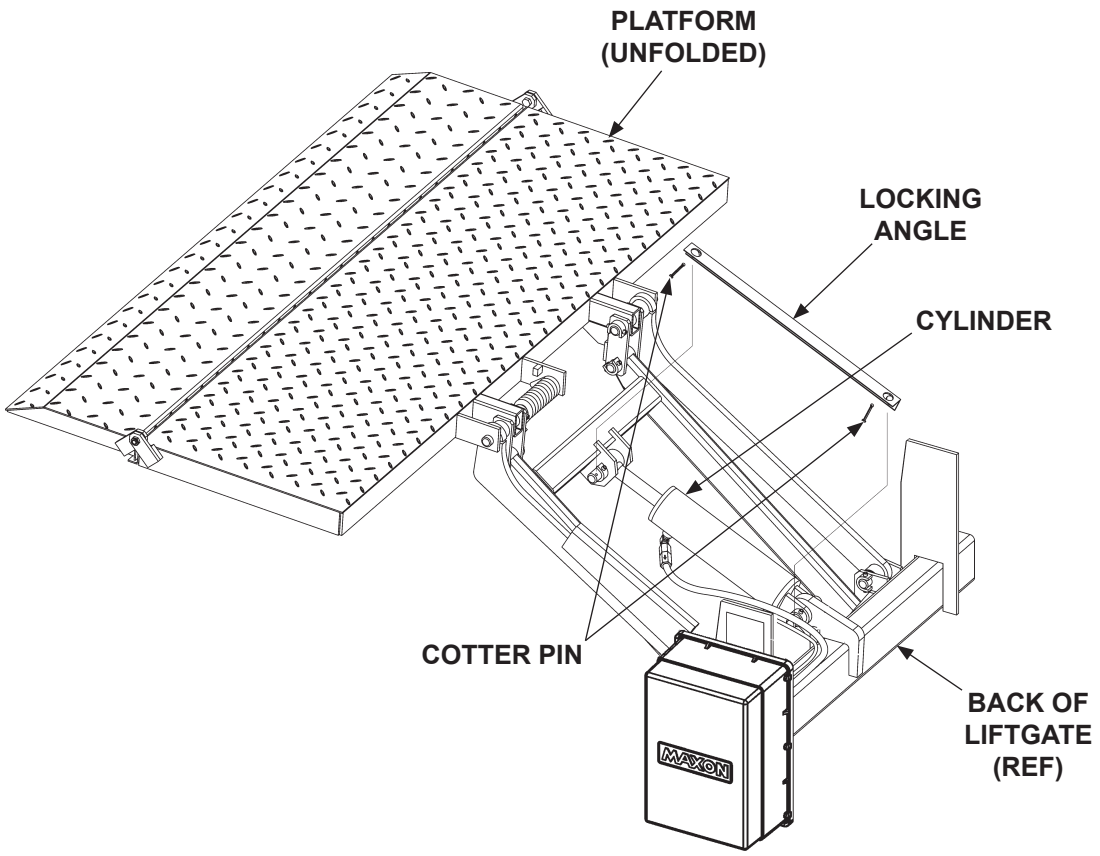
**1.** Push control switch to **UP** position and hold just enough time to pressurize hydraulic system. Release control switch. Hydraulic system is ready.

## ⚠ WARNING

**To prevent possible injury, never work in the area under the platform. Get access to the locking angle from the back of the Liftgate.**

**NOTE:** To operate Liftgate, locking angle must be removed from hydraulic cylinder.

**2.** Remove locking angle **(FIG. 46-1)** from cylinder pins. Remove the locking angle **(FIG. 46-1)**.




**REMOVING LOCKING ANGLE**
**FIG. 46-1**

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# STEP 10 - REMOVE LOCKING ANGLE AND CHECK FOR INTERFERENCE - Continued

**3.** Remove floor jack and hoist supporting Liftgate **(FIG. 47-1)**.

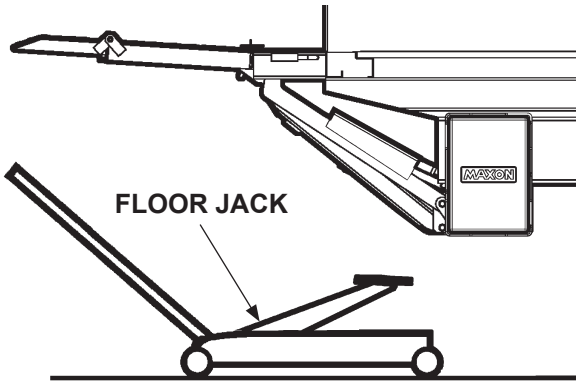
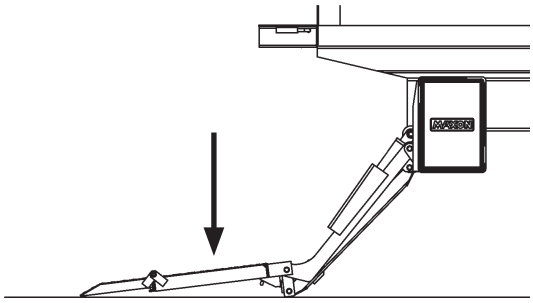
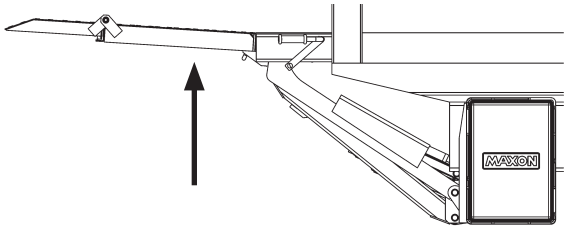



**FIG. 47-1**

**4.** Lower platform to the ground **(FIG. 47-2)**. Look for any interference between liftgate and vehicle as platform is lowered. If the platform lowers with a “jerking” motion, bleed air from the hydraulic system by doing the following. Push the control switch to the **DOWN** position until you hear air escaping into the hydraulic fluid reservoir. Then, raise the platform **(FIG. 47-3)**. Look for any interference between liftgate and vehicle as platform is raised. Repeat step until there is no air left in the system and platform lowers smoothly **(FIG. 47-2)**.



**LOWERING PLATFORM**
**FIG. 47-2**



**RAISING PLATFORM**
**FIG. 47-3**

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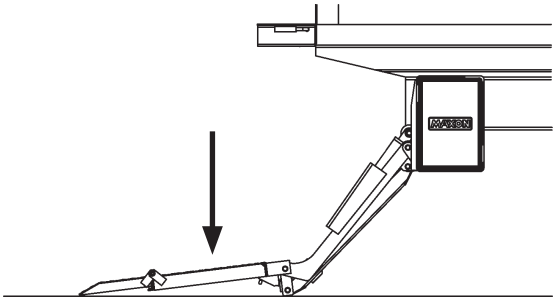
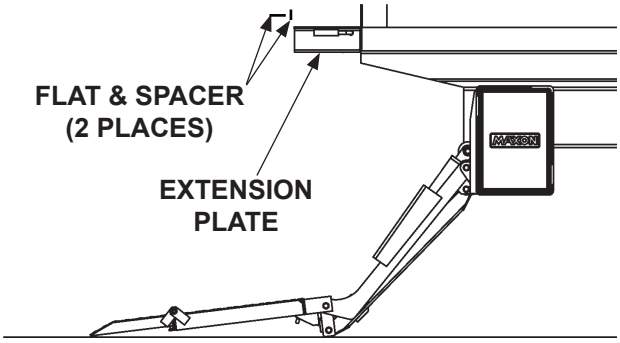
# STEP 10 - REMOVE LOCKING ANGLE AND CHECK FOR INTERFERENCE - Continued

**5.** Lower platform to the ground **(FIG. 48-1)**.



**LOWERING PLATFORM**
**FIG. 48-1**

**6.** Remove the 2 tack-welded flats and spacers **(FIG. 48-2)**.




**REMOVING FLATS & SPACERS**
**(PAINTED EXTENSION PLATE ONLY)**
**FIG. 48-2**

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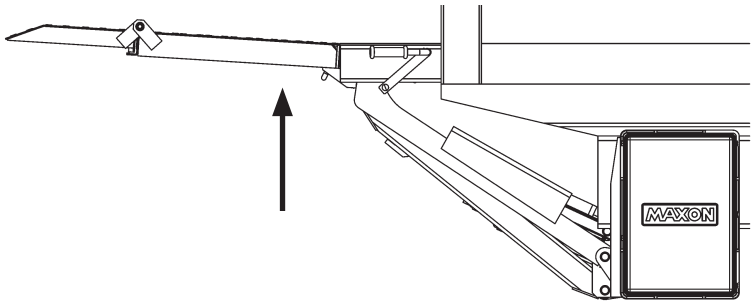
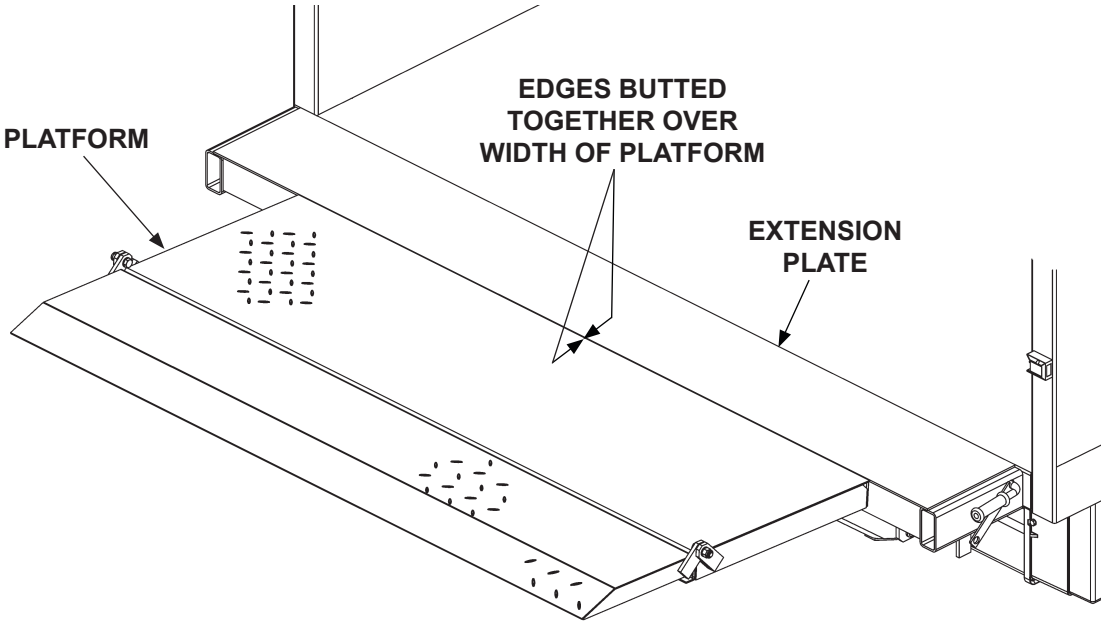
# STEP 10 - REMOVE LOCKING BRACKETS & CHECK FOR INTERFERENCE - Continued

**NOTE:** Correct any fit and interference problems before continuing with installation.

**7.** Raise platform to bed height **(FIG. 49-1)**. Heel of platform should butt against the edge of extension plate **(FIG. 49-2)**.




**RAISING PLATFORM**
**FIG. 49-1**




**PLATFORM & EXTENSION PLATE WITH EDGES BUTTED TOGETHER**
**FIG. 49-2**

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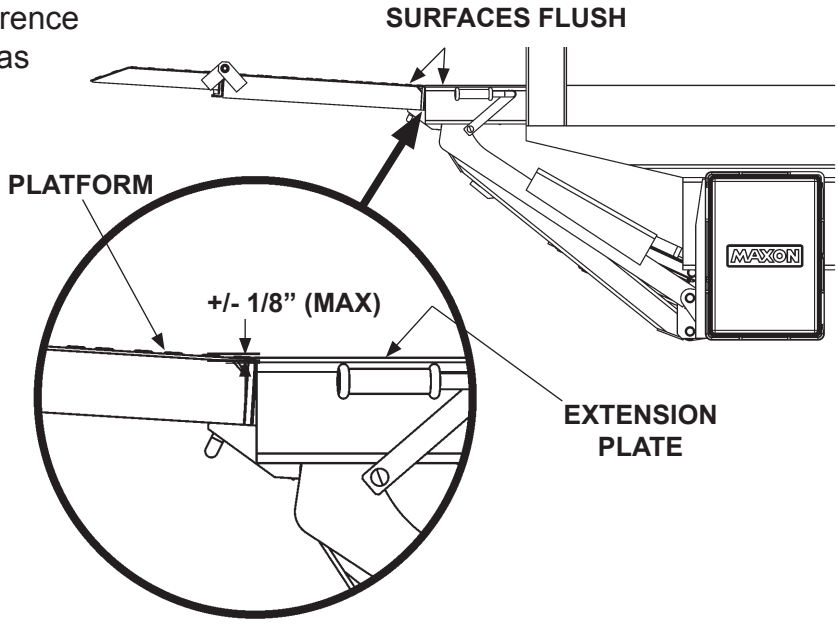
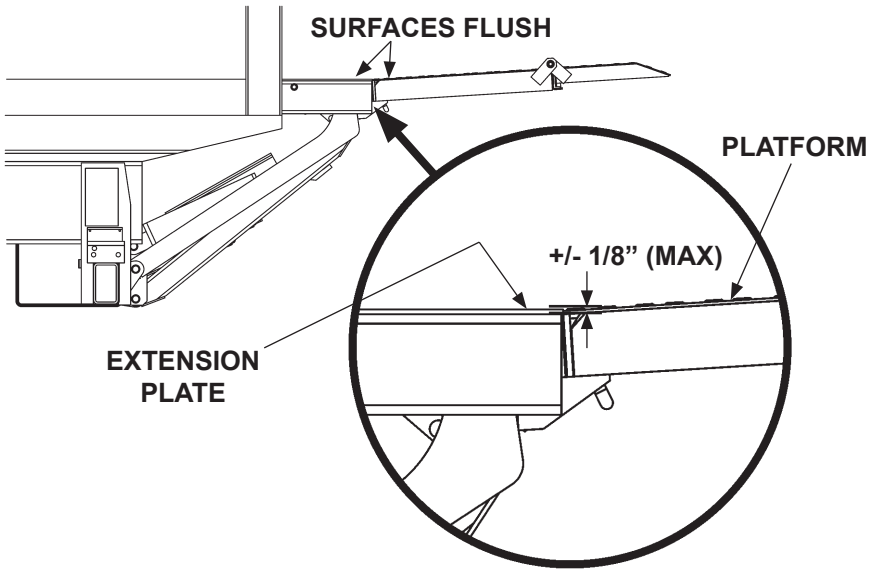
# STEP 10 - REMOVE LOCKING BRACKETS & CHECK FOR INTERFERENCE - Continued

**NOTE:** Correct any fit and interference problems before continuing with installation.

**8.** Ensure top surface of platform and extension plate are flush at the RH & LH sides of platform **(FIGS. 50-1 and 50-2)**. The allowable difference in height is +/- 1/8" maximum as shown.




**DIFFERENCE IN HEIGHT FOR TOP OF PLATFORM & EXTENSION PLATE (RH VIEW)**
**FIG. 50-1**




**DIFFERENCE IN HEIGHT FOR TOP OF PLATFORM & EXTENSION PLATE (LH VIEW)**
**FIG. 50-2**

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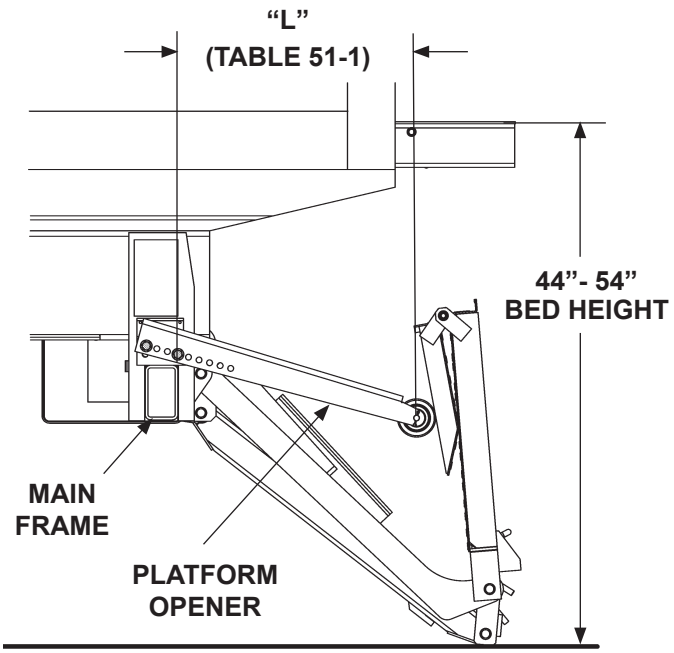
# STEP 11 - BOLT PLATFORM OPENER TO LIFTGATE

**1.** Make sure platform is at ground level.

| VEHICLE BED HEIGHT (TE-20 ONLY) | "L" |
|---|---|
| **54** | 19-1/2" |
| **52** | 21-1/2" |
| **50** | 22-1/2" |
| **48** | 24-1/2" |
| **46** | 26" |
| **44** | 27" |

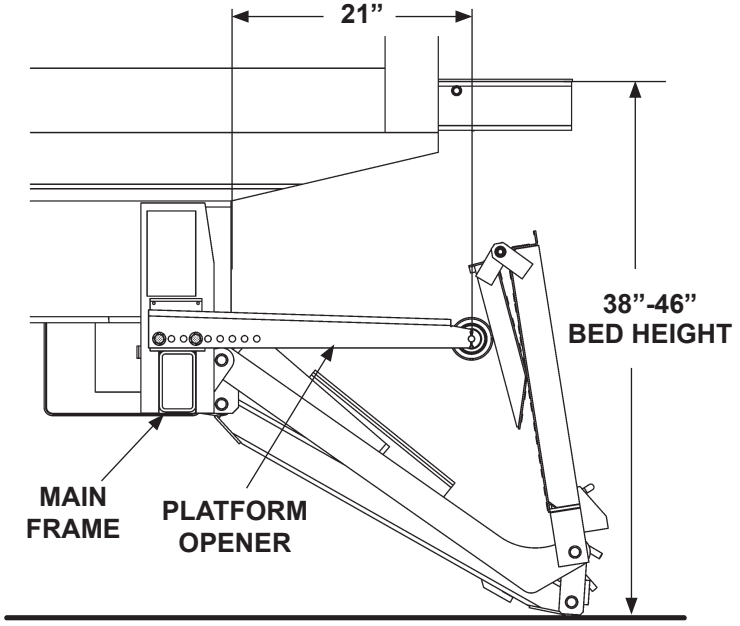
**TE-20 LIFTGATE OPENER POSITION DIMENSIONS TABLE 51-1**




**OPENER POSITION FOR HIGH BED HEIGHT FIG. 51-1**

**2.** Position the opener on main frame as shown.

- TE-20 Liftgates, high bed height: See **FIG. 51-1 and TABLE 51-1**
- TE-20 Liftgates, low bed height: See **FIG. 51-2**




**OPENER POSITION FOR LOW BED HEIGHT FIG. 51-2**

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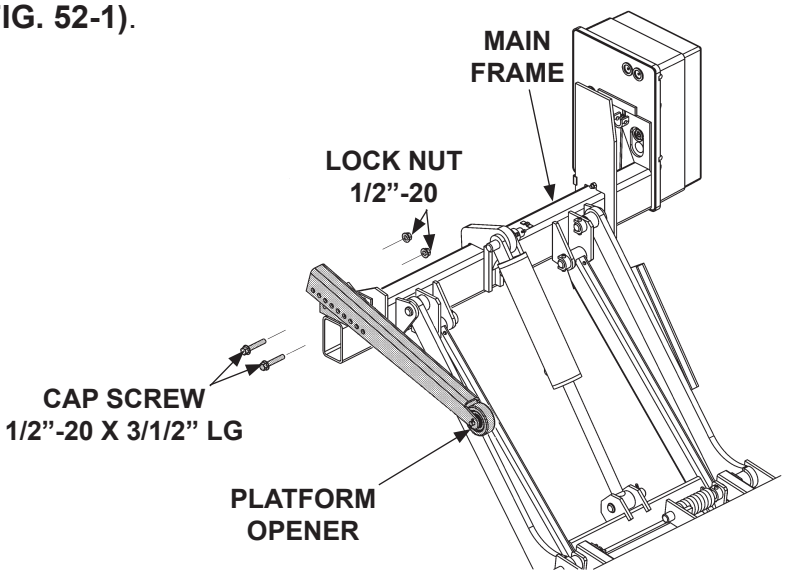
# STEP 11 - BOLT PLATFORM OPENER TO LIFTGATE - Continued

**⚠ CAUTION**

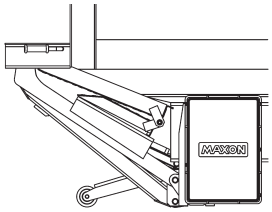
**If there is any interference with the platform while stowing Liftgate, check for damage on bottom of platform, flipover, and the hinge in between. A damaged platform or flipover may result in personal injury and additional damage to Liftgate.**

**3.** Bolt opener to main frame **(FIG. 52-1)**.

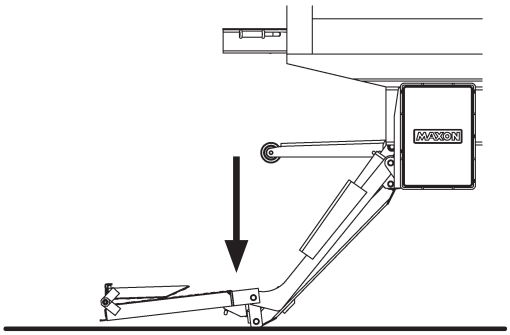



**BOLTING PLATFORM OPENER**
**FIG. 52-1**

**4.** Stow and unstow platform several times to verify it stows and unstows correctly and there is no interference **(FIGS. 52-2 and 52-3)**.




**STOWED PLATFORM**
**FIG. 52-2**




**PLATFORM UNSTOWED & LOWERED**
**FIG. 52-3**

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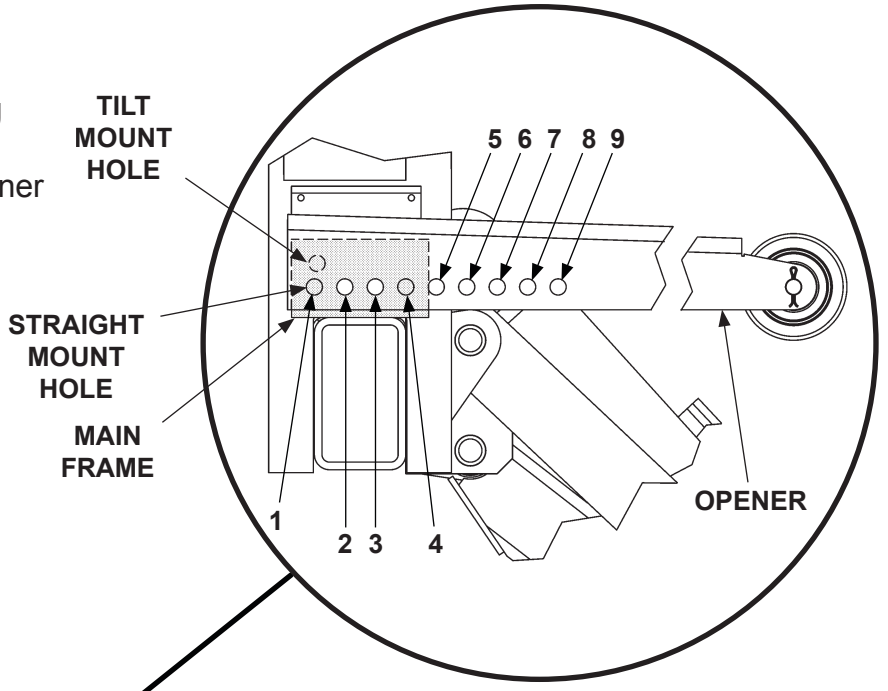
# STEP 11 - BOLT PLATFORM OPENER TO LIFTGATE - Continued

**5.** If the platform does not stow correctly, or if there is interference, adjustments may be necessary. To adjust opener, measure vehicle bed height **(FIGS. 53-1 and 53-2).** Then, move the opener, as required, to the matching bed height position for your Liftgate. Refer to **FIG. 53-1,TABLE 53-1 and FIG. 53-2**.

| VEHICLE BED HEIGHT | HOLE NUMBERS | MOUNT |
|---|---|---|
| **52”-54”** | 4, 7 | TILTED |
| **48”-52”** | 1, 4 | TILTED |
| **44”-48”** | 1, 4 | STRAIGHT |
| **38”-44”** | 1, 4 | STRAIGHT |

**LIFTGATE OPENER POSITIONS**
**TABLE 53-1**

**6.** Repeat process of stowing and unstowing platform several times to verify opener is operating correctly.




**PLATFORM OPENER ADJUSTMENT HOLES**
**FIG. 53-2**

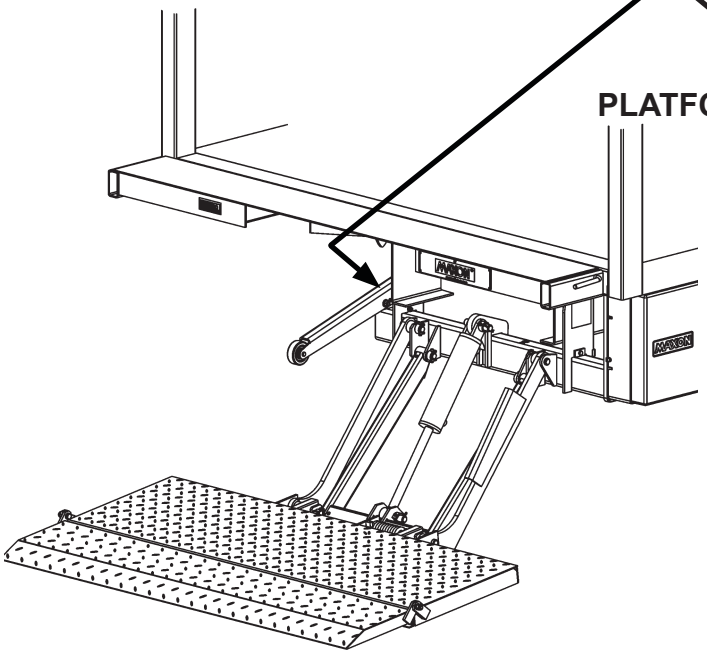


**FIG. 53-1**

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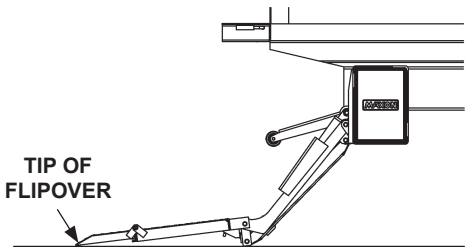
# STEP 12 - PLATFORM ADJUSTMENT (IF REQUIRED)

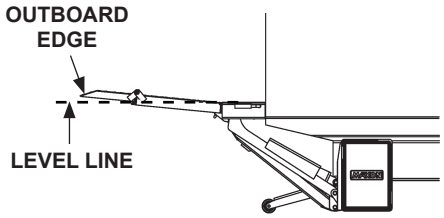
**NOTE:** Before doing the following procedure, make sure vehicle is parked on level ground.

**1.** Make sure platform is at ground level. Unfold the platform and flipover. As the platform first touches the ground, shackles and tip of flipover must touch the ground at the same time **(FIG. 54-1)**. If the shackles and the tip of flipover touch the ground at the same time, raise platform to bed height. Outboard edge on top of flipover should be above bed level **(FIG. 54-2)**. If indications are correct in both cases **(FIGS. 54-1 & 54-2)**, Liftgate is installed correctly and no adjustment is needed. If indications are incorrect, continue with instruction **2**.




**PLATFORM & SHACKLES TOUCH GROUND (RAMP FLIPOVER SHOWN)**
**FIG. 54-1**

**NOTE:** If tip of flipover touches first **(FIG. 54-3A)**, do instructions **2 and 3**. If the shackle touches first **(see FIG. 54-1)**, skip **2 and 3** and do instructions **4 and 5**.




**PLATFORM EDGE ABOVE BED LEVEL (RAMP FLIPOVER SHOWN)**
**FIG. 54-2**

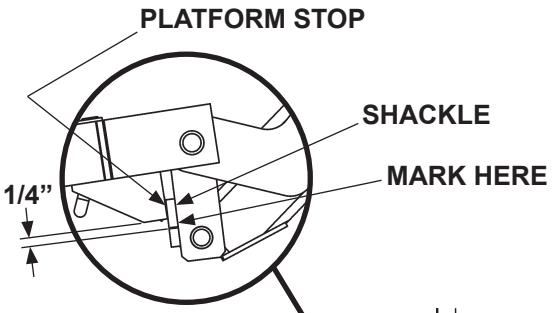
**2.** Make sure platform is still at ground level. If the shackle is not touching the ground, measure and compare distance **"A" (FIG. 54-3A)** with **TABLE 54-1 or TABLE 54-2** to determine the correct shim. Next, mark position on shackle **(FIG. 54-3B)**.

| RAISE TIP OF RAMP FLIPOVER THIS DISTANCE "A" | REQUIRED SHIM THICKNESS | WELD SIZE "W" |
|---|---|---|
| 11/16" | 1/16" | 1/16" |
| 1-3/8" | 1/8" | 1/8" |
| 2-1/16" | 3/16" | 3/16" |
| 2-3/4" | 1/4" | 1/4" |

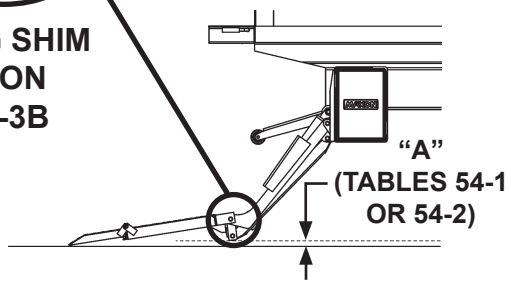
**SHIMS TO RAISE RAMP FLIPOVER**
**TABLE 54-1**

| RAISE TIP OF RAMP FLIPOVER THIS DISTANCE "A" | REQUIRED SHIM THICKNESS | WELD SIZE "W" |
|---|---|---|
| 9/16" | 1/16" | 1/16" |
| 1-1/4" | 1/8" | 1/8" |
| 1-15/16" | 3/16" | 3/16" |
| 2-5/8" | 1/4" | 1/4" |

**SHIMS TO RAISE WEDGE FLIPOVER**
**TABLE 54-2**



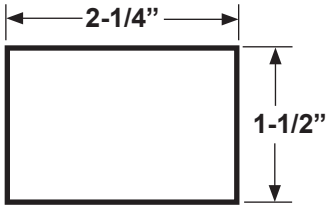

**MARKING SHIM POSITION**
**FIG. 54-3B**



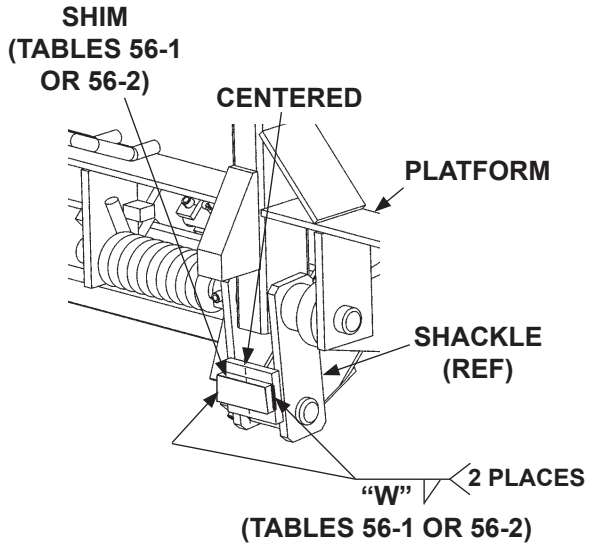

**SHACKLES DO NOT TOUCH GROUND (RAMP FLIPOVER SHOWN)**
**FIG. 54-3A**

# STEP 12 - PLATFORM ADJUSTMENT (IF REQUIRED) - Continued

**3.** Make shims as needed **(FIG. 55-1)**. Position bottom edge of shim to line up with mark on shackle **(see FIG. 55-2)**. Next, weld the shim to shackle as shown in **FIG. 55-2**.




**SHIM (1/16”, 1/8”, 3/16”, or 1/4”)**
**MADE FROM STEEL FLAT**
**FIG. 55-1**




**WELDING SHIMS (RH SHACKLE SHOWN)**
**FIG. 55-2**

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# STEP 12 - PLATFORM ADJUSTMENT (IF REQUIRED) Continued

**4.** Make sure platform is still at ground level. If the tip of flipover is not touching the ground, measure and compare distance **"B" (FIG. 56-1)** with **TABLE 56-1 or TABLE 56-2** to determine how much to grind from the platform stops **(FIG. 56-2)**.

| LOWER TIP OF RAMP FLIPOVER THIS DISTANCE "B" | GRIND METAL FROM PLATFORM STOP |
|---|---|
| 11/16" | 1/16" |
| 1-3/8" | 1/8" |
| 2-1/16" | 3/16" |
| 2-3/4" | 1/4" |

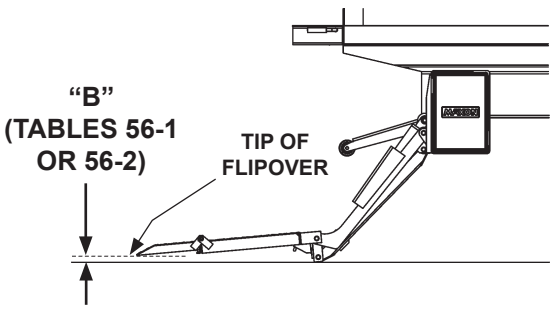
**GRIND TO LOWER TIP (RAMP FLIPOVER) TABLE 56-1**

| LOWER TIP OF WEDGE FLIPOVER THIS DISTANCE "B" | GRIND METAL FROM PLATFORM STOP |
|---|---|
| 9/16" | **1/16"** |
| 1-1/4" | **1/8"** |
| 1-15/16" | **3/16"** |
| 2-5/8" | **1/4"** |

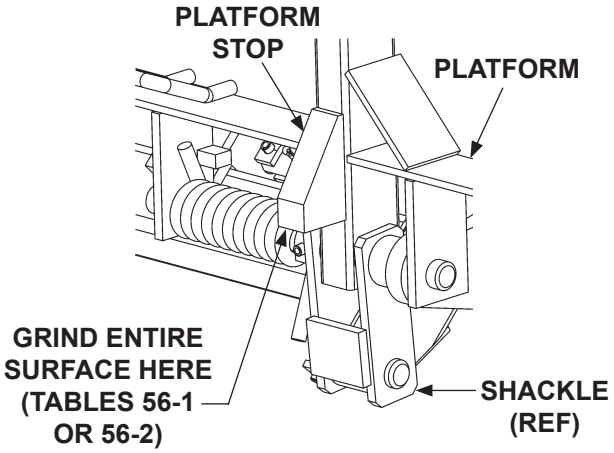
**GRIND TO LOWER TIP (WEDGE FLIPOVER) TABLE 56-2**

**5.** Grind correct amount of metal **(TABLE 56-1 or 56-2)** from platform stop as shown in **FIG. 56-2**.

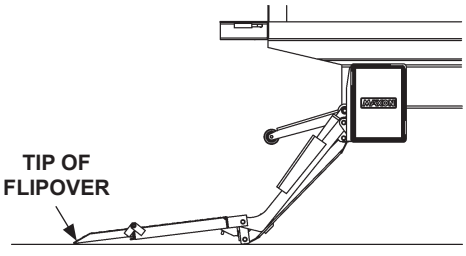
**6.** Raise the platform, then lower it to the ground. As the platform first touches the ground, the tip of flipover and shackle should touch at the same time as shown in **FIG. 56-3**.




**TIP OF FLIPOVER DOES NOT TOUCH GROUND (RAMP FLIPOVER SHOWN) FIG. 56-1**




**GRINDING PLATFORM STOPS (RH SHACKLE SHOWN) FIG. 56-2**




**PLATFORM & SHACKLES TOUCH GROUND (RAMP FLIPOVER SHOWN) FIG. 56-3**

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# STEP 13 - FINISH WELDING LIFTGATE TO VEHICLE

## ⚠ WARNING

**Welding on galvanized parts gives off especially hazardous fumes. To minimize hazard remove galvanizing from weld area, provide adequate ventilation, and wear suitable respirator.**

## CAUTION

**Prevent damage to hydraulic hoses. Before welding next to hydraulic hoses, protect the hoses with a heat-resistant cover such as a welding blanket.**

## CAUTION

**To protect the original paint system if equipped, a 3” wide area of paint must be removed from all sides of the weld area before welding.**

Weld each of the two mounting plates to main frame and vehicle frame **(FIG. 57-1)**.

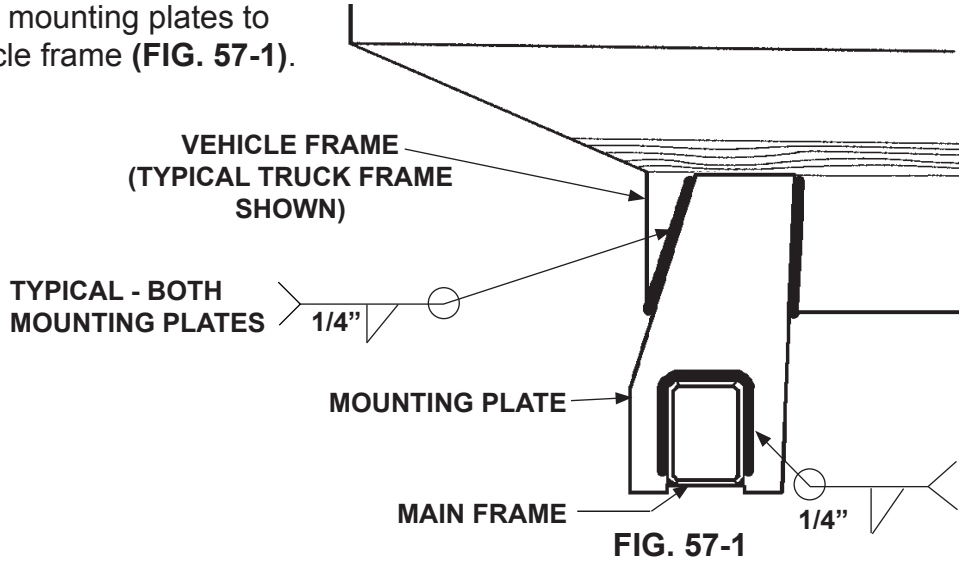


**FIG. 57-1**

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# STEP 14 - ADJUST SAFETY HOOK (IF REQUIRED)

## CHECK SAFETY HOOK FUNCTION

1. When raising platform to stowed position, listen for sound of **safety hook** engaging **platform loop**.

2. When the Liftgate is stowed, see if **platform loop** is positioned above the **safety hook** as shown in **FIG. 58-1**.

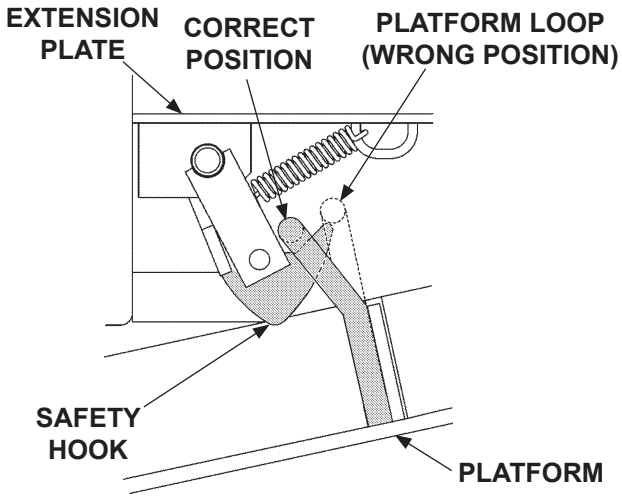


**FIG. 58-1**

## LOOP ADJUSTMENT

1. If the safety hook is not positioned correctly (**FIG. 58-1)**, Lower platform to ground level **(see Operation Manual)**.

2. Adjust by bending the platform loop as shown in **FIG. 58-2**.

3. Stow the platform and check for correct safety hook position. Repeat adjustment if required.

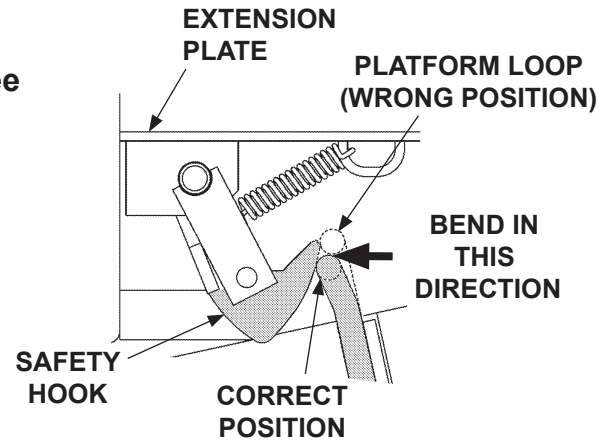


**FIG. 58-2**

## LUBRICATION (IF REQUIRED)

1. Make sure front surface of safety hook **(FIG. 58-3)** is lubricated with automotive grease. Apply grease if required.

2. Make sure control handle rod **(FIG. 58-3)** is lubricated where it has contact with brackets. Apply automotive grease if required.

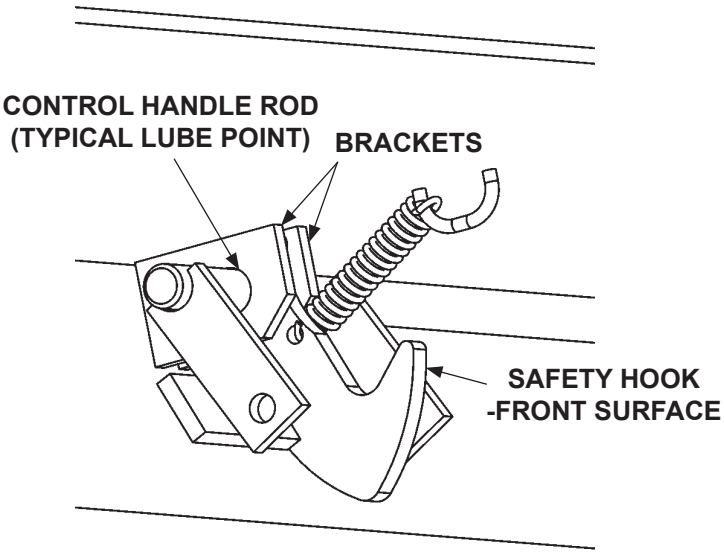


**FIG. 58-3**

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# STEP 15 - WELD ON LOCK BRACKET (IF EQUIPPED)

## CAUTION

**To protect the original paint system if equipped, a 3” wide area of paint must be removed from all sides of the weld area before welding.**

## CAUTION

**Prevent damaged grip. Finish welding rental lock before installing control handle grip.**

**NOTE:** Before positioning the locking bracket, make sure safety hook is hooked correctly to platform loop (see previous step).

**1.** From parts box, get the 6-1/2” lock bracket **(P/N 203417)**, 1” inner bracket **(P/N 203570)**, 3/8”-16 x 1” bolt and 3/8”-16 nut (if available) shown in **FIG. 59-1**. Bolt inner bracket to lock bracket with 3/8”-16 bolt and 3/8”-16 nut. Keep nut loose so bracket can rotate.

**2.** Fit the half-round cut-out end of lock bracket to control handle as shown in **FIG. 59-2**. Butt the top face of inner bracket against bottom of extension plate.

**3.** Position right hand (RH) side face of inner bracket flush with RH side of extension plate **(FIG. 59-2)**. Weld top face of inner bracket to bottom of extension plate **(FIG. 59-2)**. Make sure there is a 1/16” gap between inner bracket and lock bracket **(FIG. 59-2)**. Weld lock bracket to control handle **(FIG. 59-2)**. Remove nut and bolt **(FIG. 59-2)**. (If required, a padlock or freight car-type seal can be used to lock control handle.)

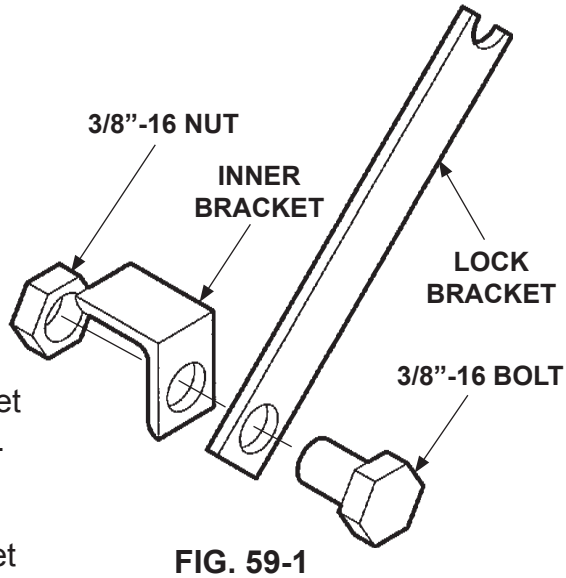


**FIG. 59-1**

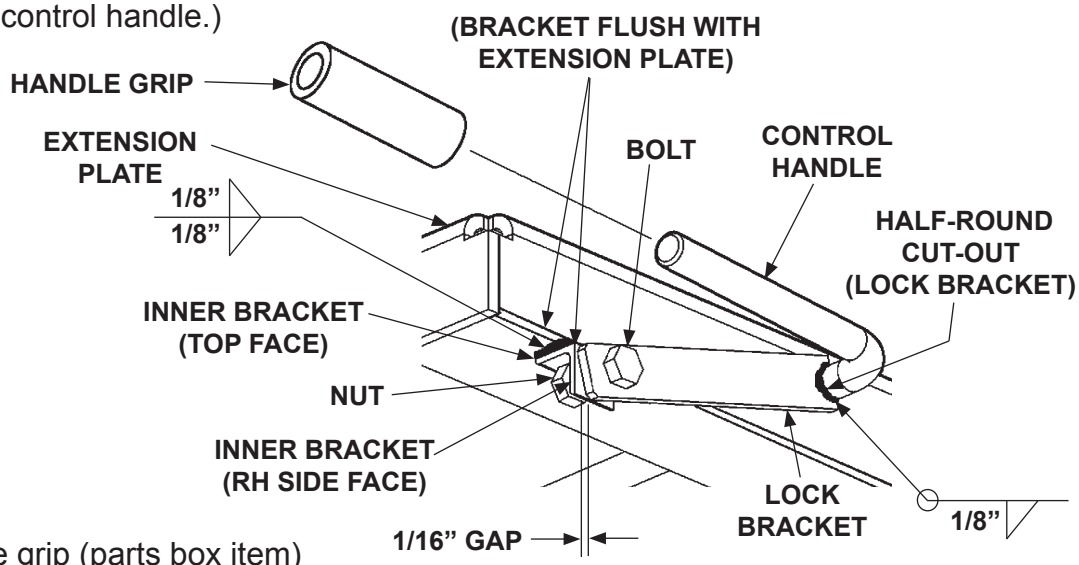


**FIG. 59-2**

**4.** Install handle grip (parts box item) on control handle **(FIG. 59-2)**.

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# STEP 16 - VEHICLE TAILLIGHT POSITIONING (IF REQUIRED)

**NOTE:** Positions are based on using taillights of 6-3/4” height by 5-3/4” width. Larger taillights may interfere with Liftgate. Taillights and attaching hardware are not provided with the Liftgate.

Position taillights as shown **(FIGS. 60-1, 60-2 & 60-3)**.

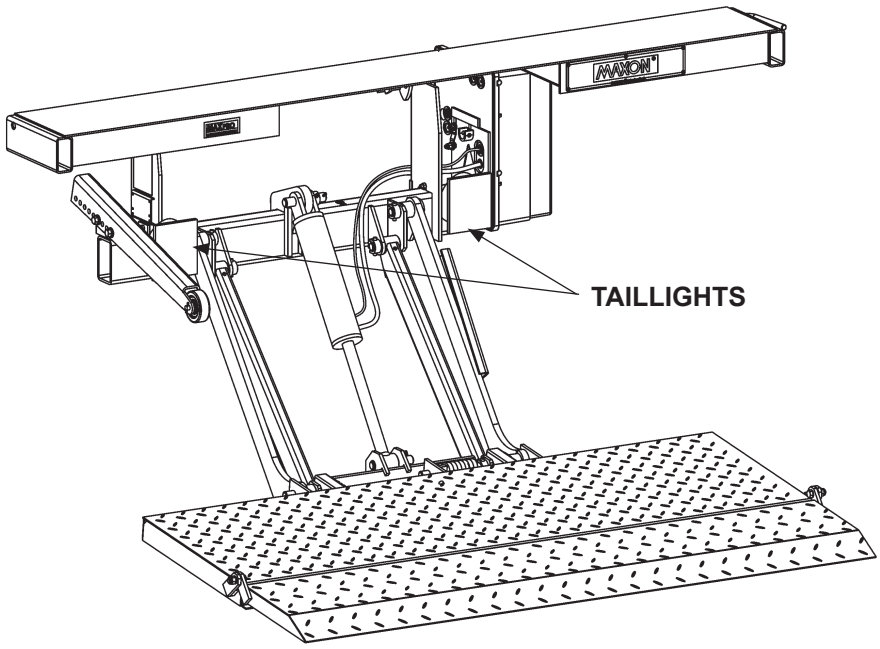
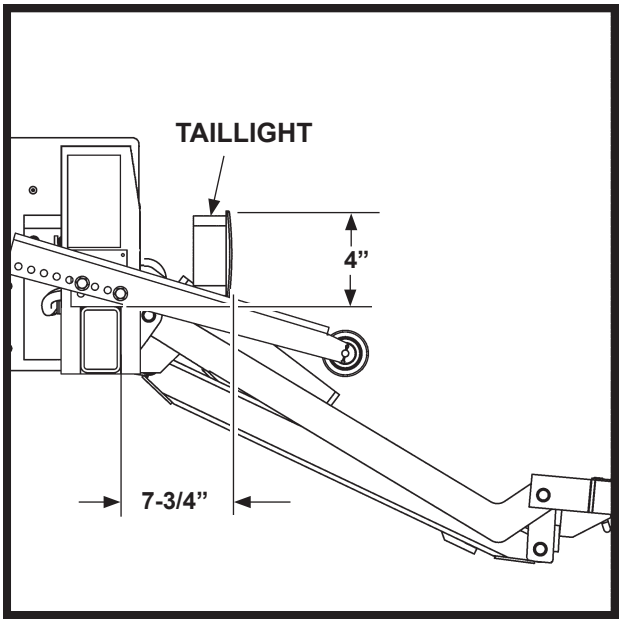
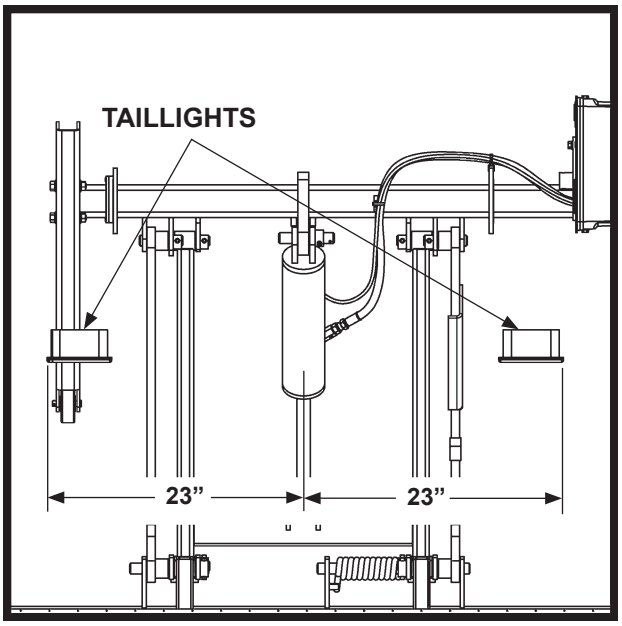



**FIG. 60-1**




**TAILLIGHT POSITIONS (LEFT HAND SIDE VIEW) FIG. 60-2**




**TAILLIGHT HORIZONTAL SPACING, TOP VIEW FIG. 60-3**

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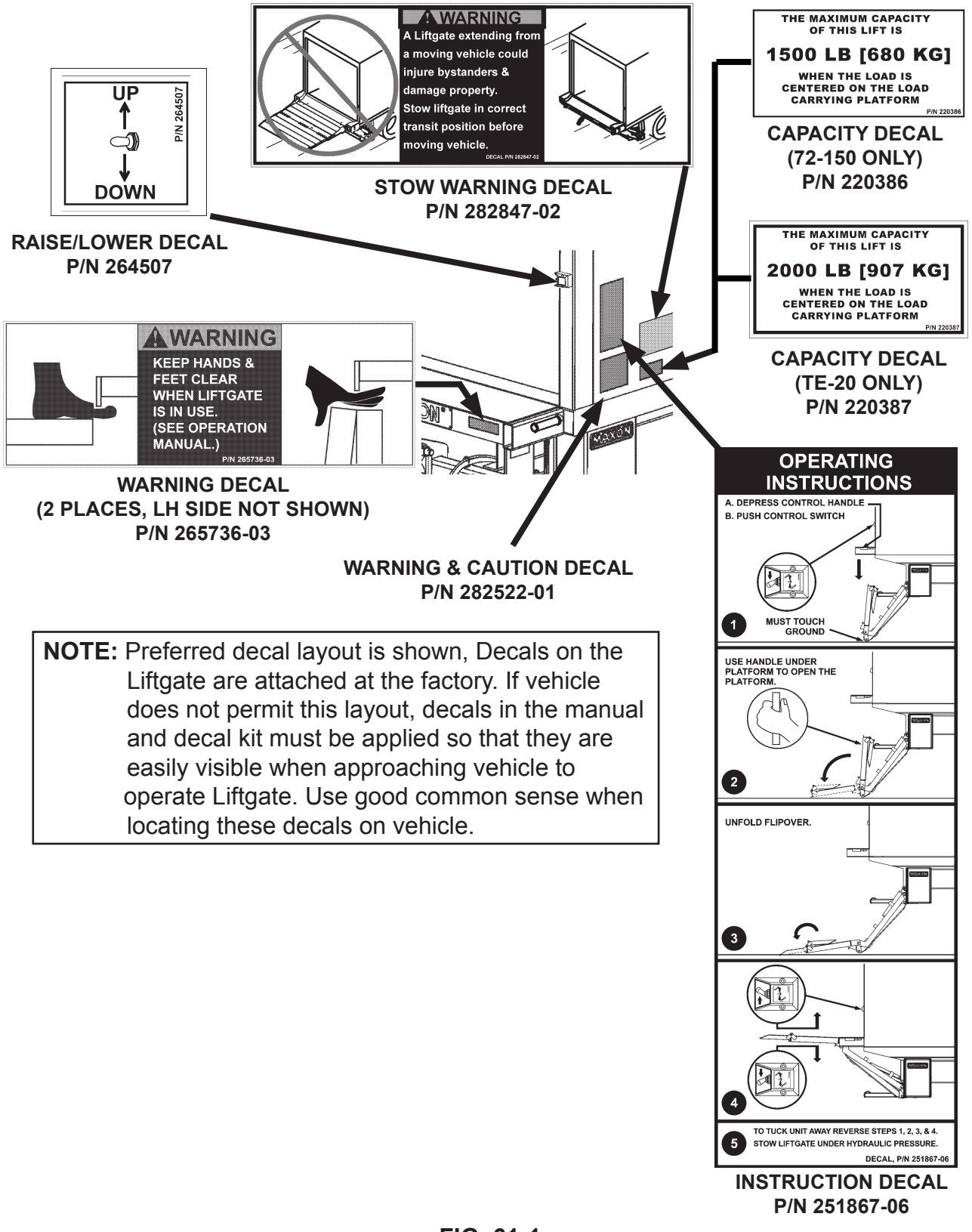
# ATTACH DECALS

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




**NOTE:** Preferred decal layout is shown, Decals on the Liftgate are attached at the factory. If vehicle does not permit this layout, decals in the manual and decal kit must be applied so that they are easily visible when approaching vehicle to operate Liftgate. Use good common sense when locating these decals on vehicle.

**FIG. 61-1**

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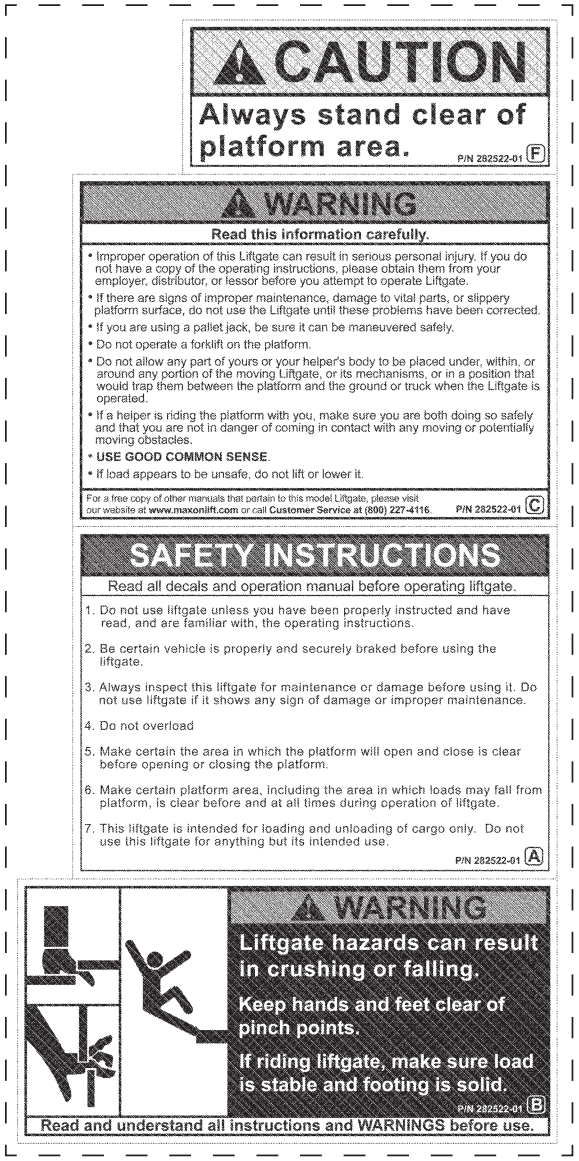
# ATTACH DECALS - Continued




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

**FIG. 62-1**

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# TOUCHUP PAINTED OR GALVANIZED FINISH

## 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.**

- If bare metal or primer is exposed on the painted portions of the Liftgate, touch up the paint. To maintain the protection provided by the original paint system, **MAXON** recommends aluminum primer touchup paint kit, **P/N 908134-01**.

- If bare metal is exposed on galvanized portions of the Liftgate, touch up the galvanized finish. To maintain the protection provided by the original galvanized finish, **MAXON** recommends cold galvanize spray, **P/N 908000-01**.

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# HYDRAULIC SYSTEM DIAGRAMS

## HYDRAULIC SCHEMATIC (GRAVITY DOWN)

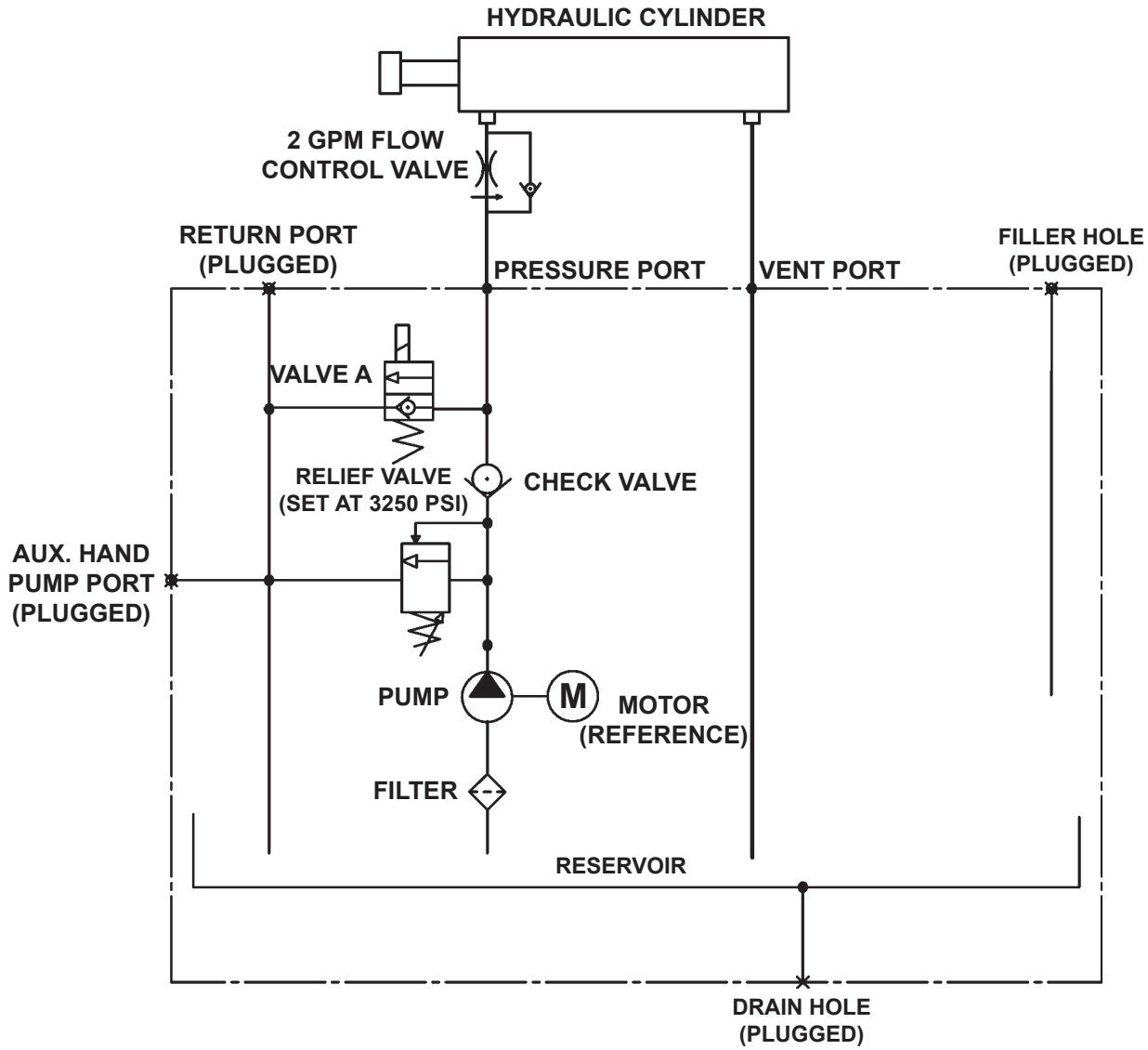


**FIG. 64-1**

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# HYDRAULIC SYSTEM DIAGRAMS

## HYDRAULIC SCHEMATIC (POWER DOWN)

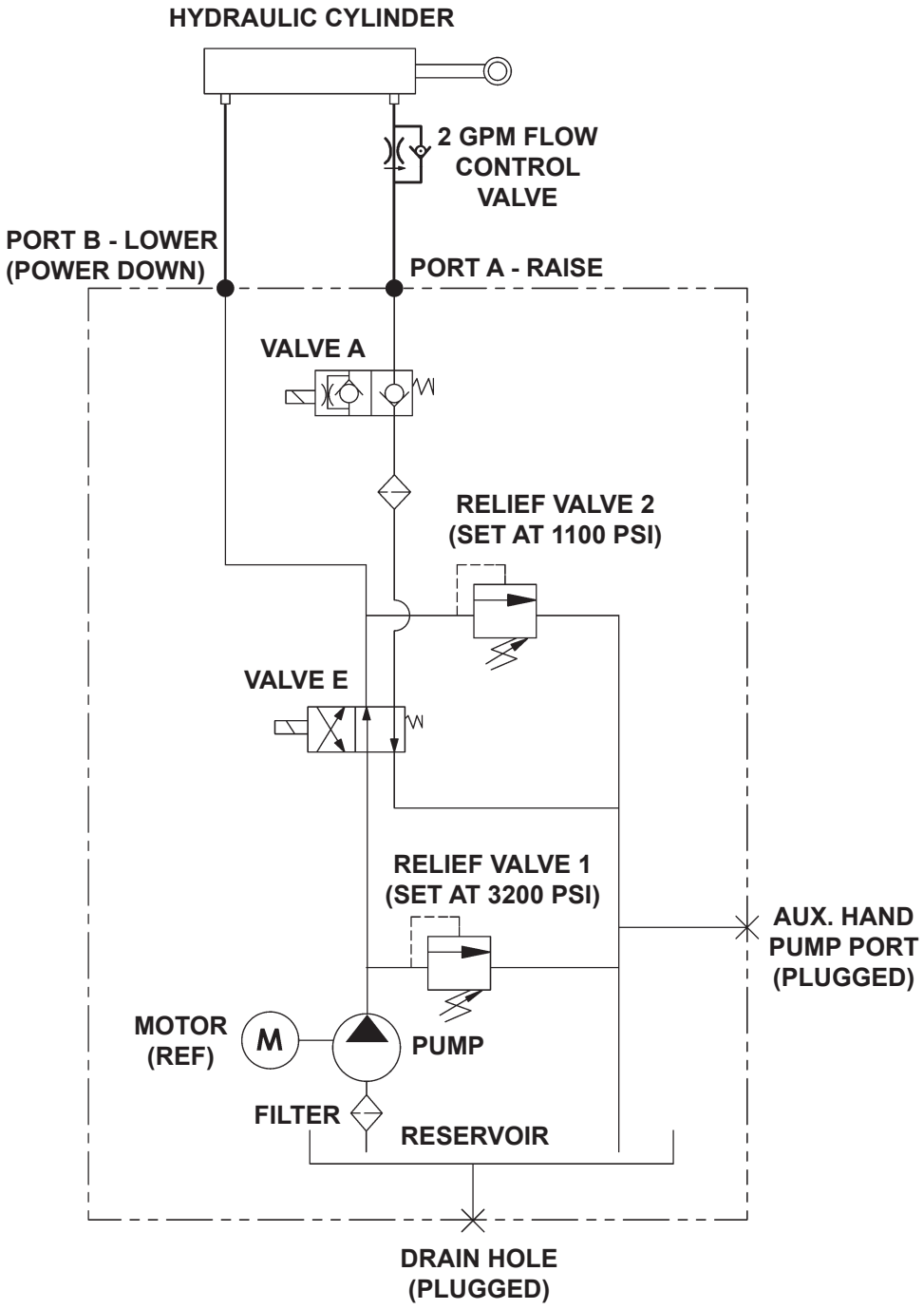


FIG. 65-1

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# ELECTRICAL SYSTEM DIAGRAMS

## ELECTRICAL SCHEMATIC (GRAVITY DOWN)

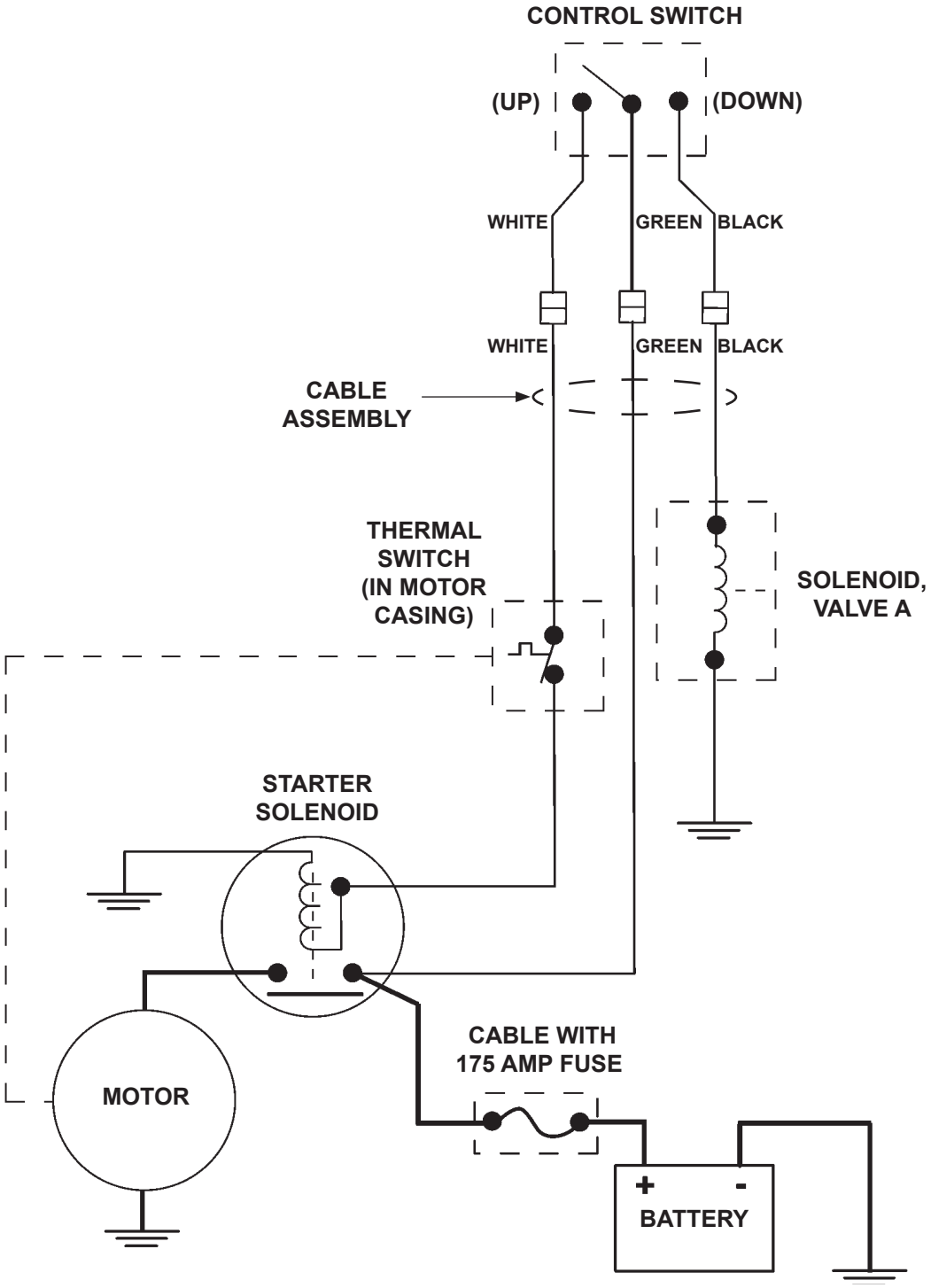


FIG. 66-1

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# ELECTRICAL SYSTEM DIAGRAMS

## ELECTRICAL SCHEMATIC (POWER DOWN)

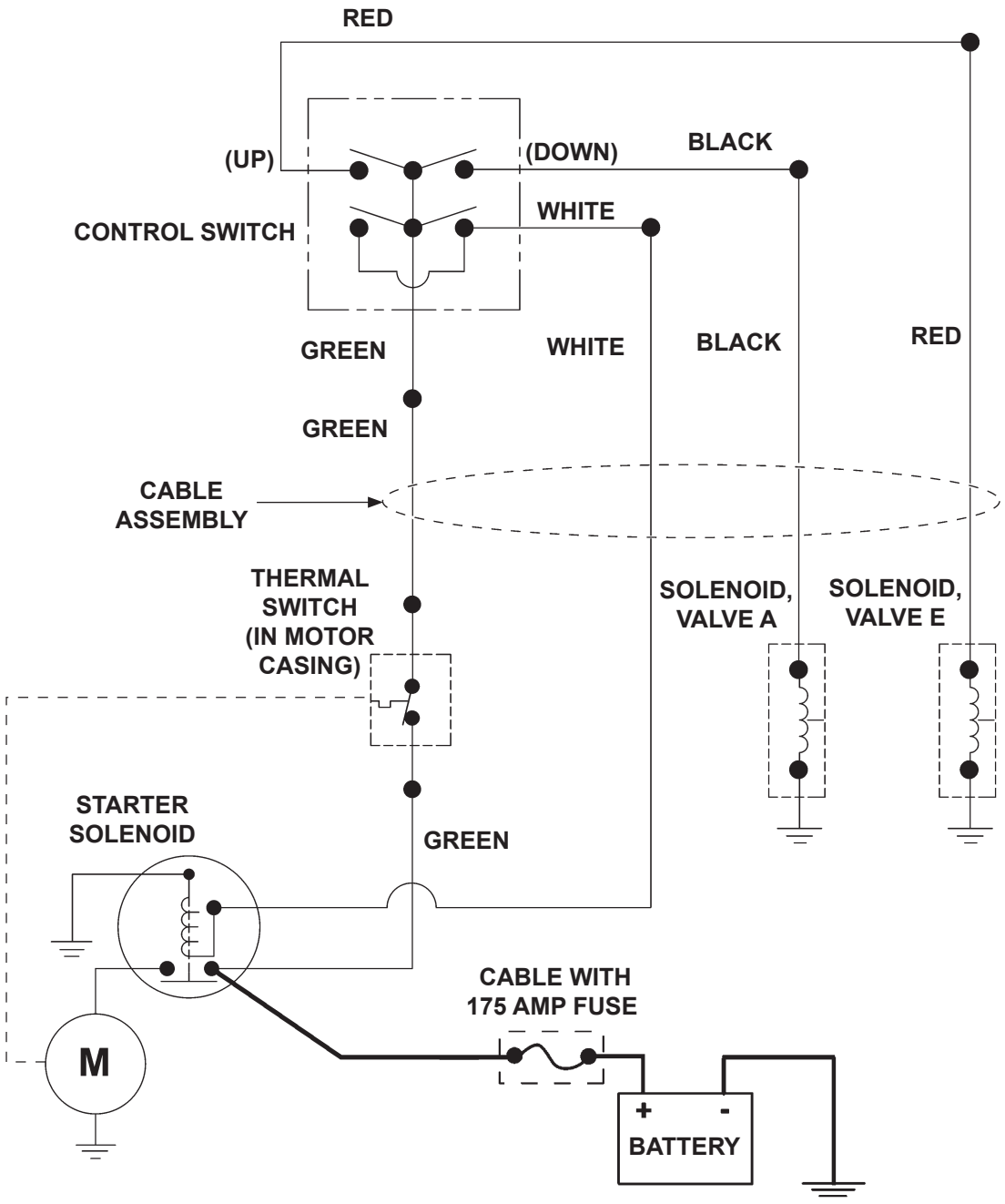


FIG. 67-1

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# OPTIONS
## OPTIONAL LIFTGATE COMPONENTS

| MISCELLANEOUS KITS | PART NO. | GD | PD |
|---|---|---|---|
| TRAFFIC CONES | 268893-01 | X | X |
| MOUNTING KIT, RELOCATE PUMP (PAINTED, PUMP ASSY NOT INCLUDED) | 287840-01 | X | |
| MOUNTING KIT, RELOCATE PUMP (PAINTED, PUMP ASSY NOT INCLUDED) | 287840-02 | | X |
| MOUNTING KIT, RELOCATE PUMP (GALVANIZED, PUMP ASSY NOT INCLUDED) | 287840-01G | X | |
| MOUNTING KIT, RELOCATE PUMP (GALVANIZED, PUMP ASSY NOT INCLUDED) | 287840-02G | | X |
| EXTENSION PLATE HARDWARE KIT (96” & 102” WIDE VEH.) | 283257-02 | X | X |
| | | | |
| **STEP KITS** | | | |
| SINGLE STEP KIT, 72-150 & TE-20 GALVANIZED (LOW BED HEIGHT, ONLY) | 285895-01G | X | X |
| SINGLE STEP KIT WITH BUMPER, 72-150 & TE-20 GALVANIZED (LOW BED HT, ONLY) | 285895-02G | X | X |
| SINGLE STEP KIT, 72-150 & TE-20 (LOW BED HEIGHT, ONLY) | 285895-01 | X | X |
| SINGLE STEP KIT WITH BUMPER, 72-150 & TE-20 (LOW BED HEIGHT, ONLY) | 285895-02 | X | X |
| DUAL STEP KIT, 72-150 & TE-20 (HIGH BED HEIGHT, ONLY) | 285817-01 | X | X |
| DUAL STEP KIT, 72-150 & TE-20, GALVANIZED (HIGH BED HEIGHT, ONLY) | 285817-01G | X | X |
| DUAL STEP KIT WITH 24” BUMPER, 72-150 & TE-20 (HIGH BED HEIGHT, ONLY) | 285817-02 | X | X |
| DUAL STEP KIT WITH 24” BUMPER, 72-150 & TE-20, GALVANIZED (HIGH BED HEIGHT, ONLY) | 285817-02G | X | X |
| **DOCK BUMPER KITS** | | | |
| STEEL DOCK BUMBER AND STEP (PAINTED VERSION ONLY) | 229044 | X | X |
| STEEL DOCK BUMPER (PAINTED VERSION ONLY) | 229045 | X | X |
| 2 STEP DOCK BUMPER (PAINTED VERSION ONLY) | 251416 | X | |
| DUAL STEP 24” RUBBER DOCK BUMPER (DUAL STEP) | 283295-01 | X | X |
| STANDARD BUMPER PADS (SINGLE STEP) | 203410 | X | X |
| | | | |
| **MECHANICAL KITS** | | | |
| MOUNTING BRACKET KIT | 280010 | X | X |
| HAND PUMP KIT, GRAVITY DOWN | 268075-01 | X | |
| EXTENSION KIT (FOR PAINTED, WELD-ON EXTENSION PLATES, 102” WIDE VEH) | 282815-01 | X | X |
| EXTENSION KIT (102” WIDE VEH), 72-150 & TE-20, GALVANIZED | 283134-02G | X | X |
| | | | |
| **ELECTRICAL KITS** | | | |
| IN CAB ON-OFF SWITCH | 250477 | X | X |
| TUK-A-WAY DUAL CONTROL KIT, GRAVITY DOWN | 264845 | X | |
| TUK-A-WAY DUAL CONTROL KIT, POWER DOWN | 264845-02 | | X |
| 10’ EXTENSION TO POWER CABLE | 264849 | X | X |
| CIRCUIT BREAKER KIT (150AMP) | 251576 | X | X |
| STREET SIDE CONTROL KIT, TUK-A-WAY, GRAVITY DOWN | 280265-01 | X | |
| STREET SIDE CONTROL KIT, TUK-A-WAY, POWER DOWN | 280265-03 | | X |
| HAND HELD CONTROL ASSEMBLY, GRAVITY DOWN | 280570-01 | X | |
| HAND HELD CONTROL ASSEMBLY, POWER DOWN | 280570-03 | | X |
| GROUND CABLE, 2 GAUGE X 38’ LG. | 269190-01 | X | X |
| CYCLE COUNTER KIT | 280590-01 | X | X |
| FRAME MOUNTING BRACKET FOR 2 OVAL LIGHTS | 282372-01 | X | X |
| | | | |
| **TOUCH-UP PAINT KIT** | | | |
| TOUCH-UP PAINT (BCG) WITH ALUMINUM PRIMER, SMALL | 908134-01 | X | X |
| COLD GALVANIZE SPRAY, 16 OZ | 908000-01 | X | X |
| BRIGHT ZINC SPRAY PAINT, 16OZ | 908100-01 | X | X |

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