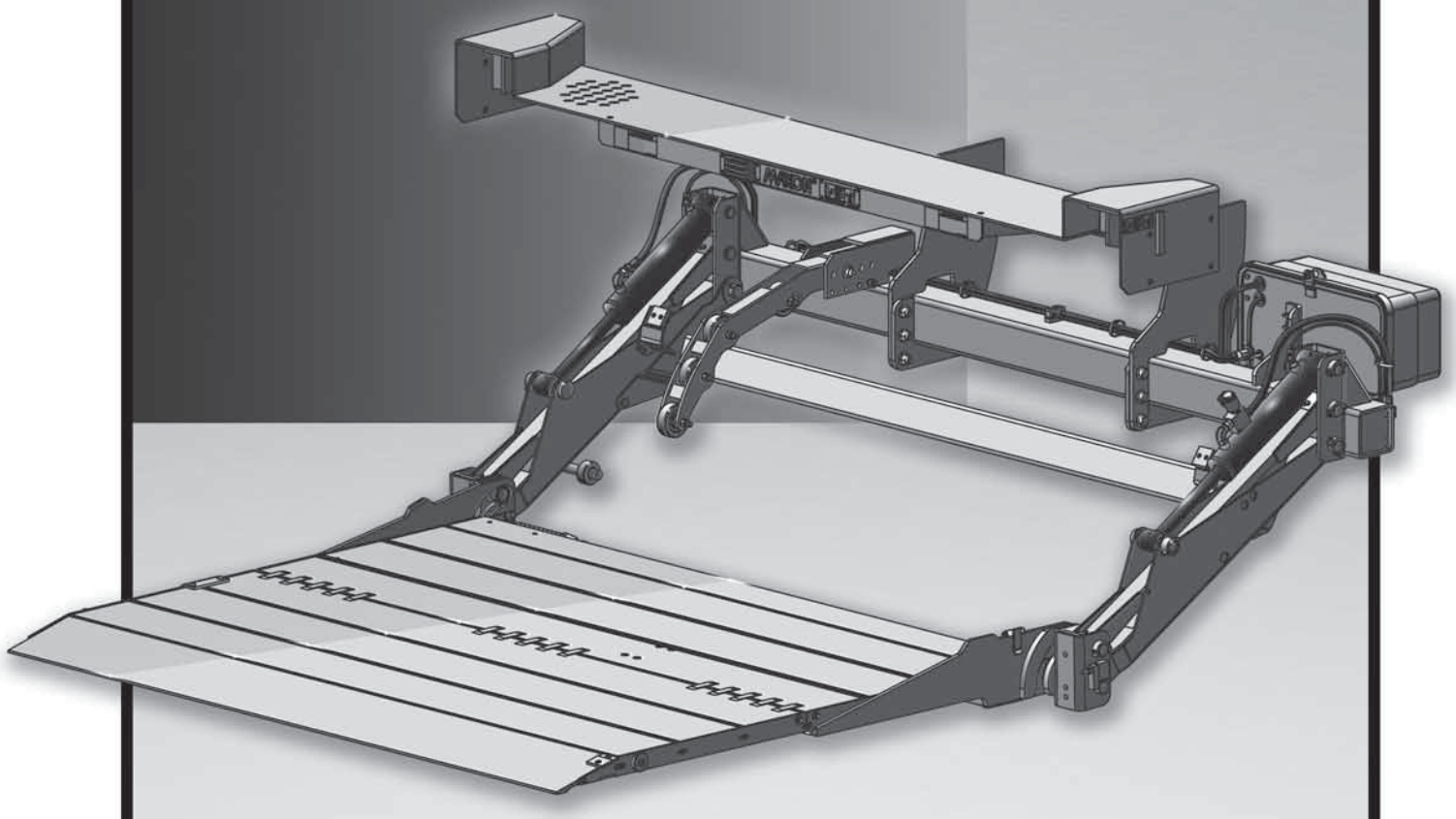
M-18-14
JANUARY 2019

MAXON®

GPTLR Series

INSTALLATION MANUAL

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



To find maintenance & parts information for your **GPTLR Liftgate**, go to **www.maxonlift.com**. Click the **PRODUCTS, TUK-A-WAY** & **GPTLR** buttons. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window. For parts, click on the **PARTS PORTAL**, **TUK-A-WAY** & **GPTLR** buttons.

TABLE OF CONTENTS

WARNINGS **4**

SAFETY INSTRUCTIONS **5**

NOTICE **5**

GPTLR LIFTGATE COMPONENTS 6

GPTLR-SERIES INSTALLATION PARTS BOXES 7

GPTLR-SERIES MANUALS & DECALS 8

VEHICLE REQUIREMENTS **9**

CENTER OF MASS **15**

STEP 1 - ATTACH EXTENSION PLATE TO VEHICLE 16

BOLT EXTENSION PLATE 16

WELD EXTENSION PLATE (ALTERNATE METHOD) 19

STEP 2 - WELD LIFTGATE TO VEHICLE 21

STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) . 25

STEP 4 - RUN POWER CABLE 32

STEP 5 - CONNECT POWER CABLE 34

STEP 6 - CONNECT GROUND CABLE 36

STEP 7 - INSTALL CONTROL SWITCH 38

STEP 8 - CHECKING HYDRAULIC FLUID 40

STEP 9 - CONNECT POWER CABLE TO BATTERY 42

STEP 10 - REMOVE LOCKING BRACKETS & CHECK 43

FOR INTERFERENCE 43

STEP 11 - ADJUST PLATFORM (IF REQUIRED) 48

STEP 12 - FINISH WELDING LIFTGATE TO VEHICLE 57

STEP 13 - WELD TRUCK BODY TO FRAME 58

(TRUCKS ONLY) 58

STEP 14 - ADJUST OPENER (IF REQUIRED) 59
STEP 15 - ADJUST UNDERRIDE 62
STEP 16 - VEHICLE TAILLIGHT POSITIONING (IF REQUIRED)..... 76
ATTACH DECALS 77
DECALS & PLATES 78
ATTACH NONSKID & SAFETY STRIPING..... 79
TOUCHUP GALVANIZED FINISH 80
SYSTEM DIAGRAMS 81
PUMP & MOTOR SOLENOID OPERATION (GRAVITY DOWN)..... 81
PUMP & MOTOR SOLENOID OPERATION (POWER DOWN)..... 82
HYDRAULIC SCHEMATIC (GRAVITY DOWN)..... 83
HYDRAULIC SCHEMATIC (POWER DOWN) 84
ELECTRICAL SCHEMATIC (GRAVITY DOWN) 85
CABLE WITH 85
175 AMP FUSE 85
ELECTRICAL SCHEMATIC (POWER DOWN) 86
GPTLR ELECTRICAL VALUES & TORQUE SPECIFICATIONS 87
OPTIONS 88
OPTIONAL LIFTGATE COMPONENTS..... 88
PRE-DELIVERY INSPECTION FORM..... 89

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

⚠ WARNING

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

⚠ WARNING

- Do not stand, or allow obstructions, under the platform when lowering the Liftgate. **Be sure your feet are clear of the Liftgate.**
- **Keep fingers, hands, arms, legs, and feet clear of moving Liftgate parts (and platform edges) when operating the Liftgate.**
- **Correctly stow platform when not in use. Extended platforms could create a hazard for people and vehicles passing by.**
- **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.
- Recommended practices for welding galvanized steel are contained in the current **AWS (American Welding Society) D19.0 Welding Zinc-Coated Steel**. Damage to Liftgate and/or vehicle, and personal injury can result from welds that are done incorrectly.

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SAFETY INSTRUCTIONS

- Read and understand the instructions in this **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 or children 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. Refer to Technology Maintenance Council (TMC) RP 1428: Entry And Egress Guidelines for Vehicles With Fold-Under Type Liftgates.

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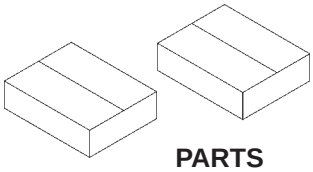
GPTLR LIFTGATE COMPONENTS

⚠ CAUTION

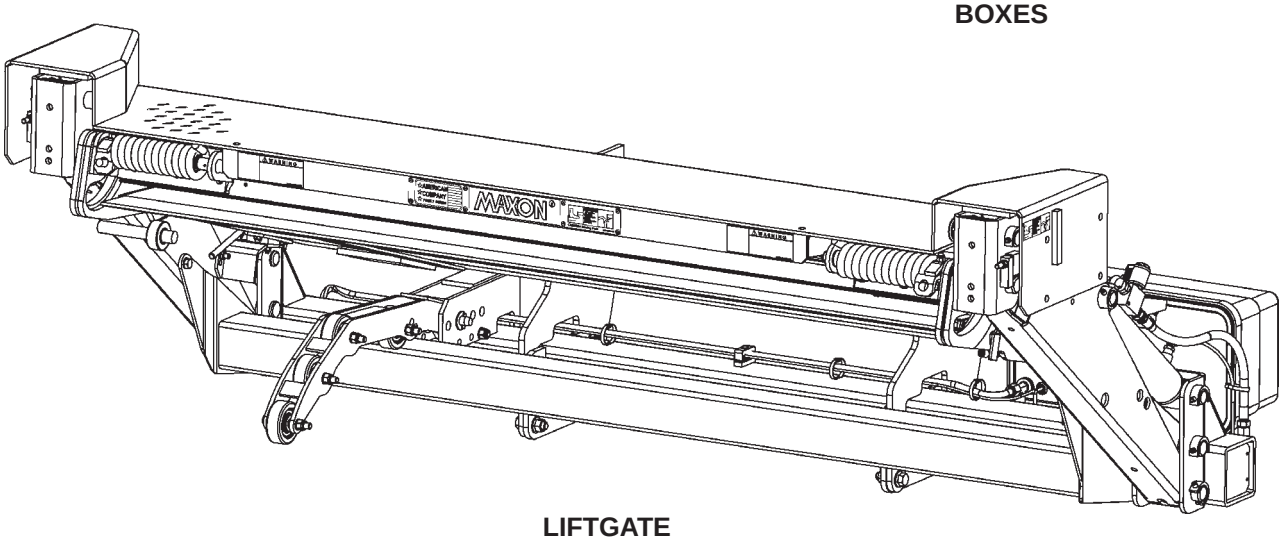
Unpacking the Liftgate on unlevel surface may allow heavy components to slide off when shipping bands are cut. Injury and equipment damage could result. Before the shipping bands are cut, put Liftgate on level surface that will support 1500 lbs. When unpacking the Liftgate, remove heavy components carefully to avoid injury and damage.

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 enclosed in each box. If parts and components are missing or incorrect call:

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



PARTS BOXES



LIFTGATE

GPTLR COMPONENTS
FIG. 6-1

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GPTLR-SERIES INSTALLATION PARTS BOXES

ITEM	NOMENCLATURE OR DESCRIPTION	QTY.	PART NUMBER
REF	PARTS BOX A	1	297502-01
1	SPRING CLIP	10	050079
2	PLASTIC TIE	2	206864
3	#10 LOOM CLAMP	2	801681
4	SCREW TAPPING #10 X 1/2” LG.	2	030458
5	GROUND CABLE ASSEMBLY, 2GA, 48” LG	1	251871-26
6	CABLE ASSEMBLY, 2GA, 49-3/4” LG. (GROUND)	1	268226-11
7	CAP SCREW, 5/16”-18 X 3/4” LG	1	900009-3
8	CABLE ASSEMBLY, 175A, 38 FT LG.	1	264422

PARTS BOX A WITH POWER CABLE
TABLE 7-1

ITEM	NOMENCLATURE OR DESCRIPTION	QTY.	PART NUMBER
REF	PARTS BOX B	1	297318-01
1	TOGGLE SWITCH ASSEMBLY	1	296855-01
2	INSTALLATION BRACKET	2	269462-01
3	HEX HEAD NUT, 1/2”-13	2	901011-9
4	SHIM, PLATFORM ADJUSTMENT, 1/8”	2	281166-02
5	SHIM, PLATFORM ADJUSTMENT, 1/16”	2	281166-01
6	SCREW, SELF TAPPING, #10-24 X 1-1/2” LG	2	900057-7
7	LUG, 2 GUAGE, COPPER, 5/16”	1	906497-02
8	CAP SCREW, HEX HEAD, 1/2”-13 X 1-1/2” LG.	2	900035-3

PARTS BOX B WITHOUT POWER CABLE, GROUND CABLE, OR FRAME CLIPS
TABLE 7-2

ITEM	NOMENCLATURE OR DESCRIPTION	QTY.	PART NUMBER
REF	PARTS BOX C	1	297502-02
1	SPRING CLIP	20	050079
2	PLASTIC TIE	4	206864
3	GROMMET, 1” DIA, 2 HOLES	1	266428-09
4	CABLE ASSY, 175 AMP 38 FT LG	1	264422
5	GROUND CABLE ASSY, 2 GA X 38FT LG	1	269191-01
6	#10 LOOM CLAMP	2	801681
7	SELF-TAPPING SCREW, 10 X 1/2” LG.	2	030458

PARTS BOX C WITH GROUND CABLE
TABLE 7-3

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GPTLR-SERIES MANUALS & DECALS

NOTE: To find **maintenance & parts** information for your **GPTLR Liftgate**, go to **www.maxonlift.com**. Open the **Maintenance Manual** in the **PRODUCT DOCUMENTATION** window. For parts, click on the **PARTS PORTAL**, **TUK-A-WAY** & **GPTLR** buttons.

ITEM	NOMENCLATURE OR DESCRIPTION	QTY.	PART NUMBER
REF	DECAL & MANUAL KIT	1	299460-01 (GPTLR-25)
			299460-02 (GPTLR-33)
			299460-06 (GPTLR-25, SWG EXT)
			299460-05 (GPTLR-33, SWG EXT)
			299459-01 (GPTLR-44)
			299459-02 (GPTLR-55)
1	INSTALLATION MANUAL	1	M-18-14
2	OPERATION MANUAL	1	M-18-15
3	DECALS (SEE DECAL PAGES IN THIS MANUAL)	1	(ALL GPTLR'S)

TABLE 8-1

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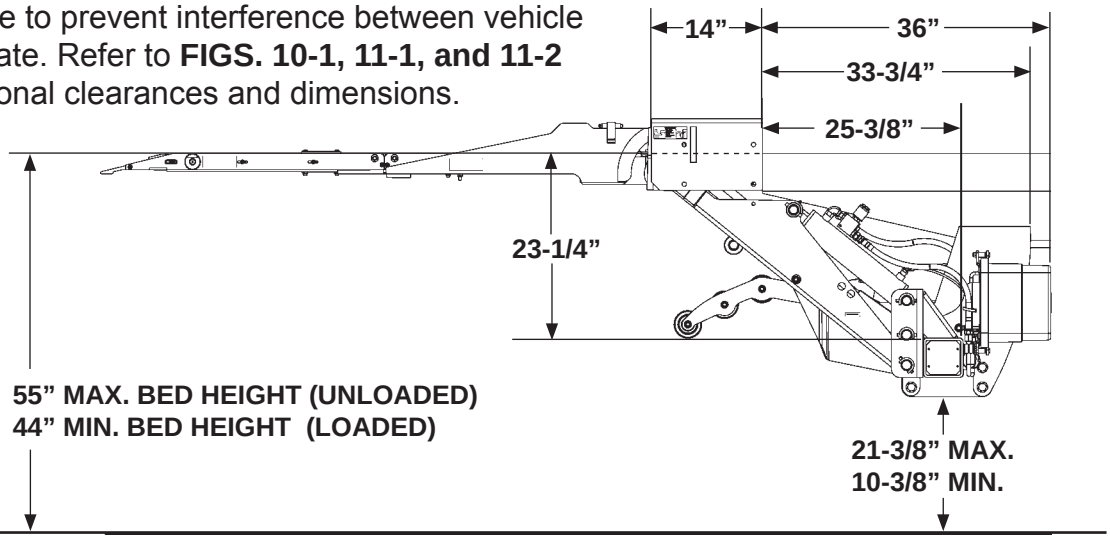
VEHICLE REQUIREMENTS

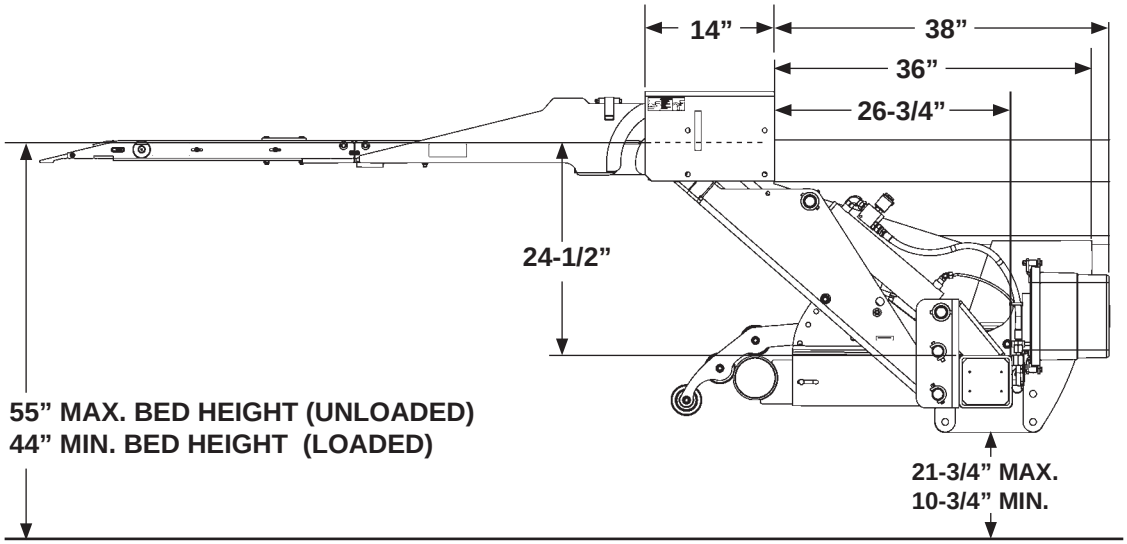
NOTE:

- **BODY maximum and minimum operating bed height for GPTLR-25, GPTLR-33, GPTLR-44, & GPTLR-55 with standard platform:**
  Maximum height is **55”** (Unloaded). Minimum height is **44”** (Loaded). If Liftgate is equipped with Canadian (CMVSS) underride, minimum height is **49”**. Refer to Canadian underrides listed in **OPTIONS**, and underride adjustment procedure.
- Make sure vehicle is parked on level ground while preparing vehicle and installing Liftgate.
- On vehicle bodies equipped with swing open doors, the extension plate and vehicle body must be modified to install this Liftgate.
- Dimensions are provided as reference for fitting Liftgate to vehicle body.

1. Check for correct clearances **(FIGS. 9-1 and 9-2)** on vehicle to prevent interference between vehicle and Liftgate. Refer to **FIGS. 10-1, 11-1, and 11-2** for additional clearances and dimensions.



GPTLR-25 & -33 LIFTGATE CLEARANCE DIMENSIONS (FOR REFERENCE)
FIG. 9-1



GPTLR-44 & -55 LIFTGATE CLEARANCE DIMENSIONS (FOR REFERENCE)
FIG. 9-2

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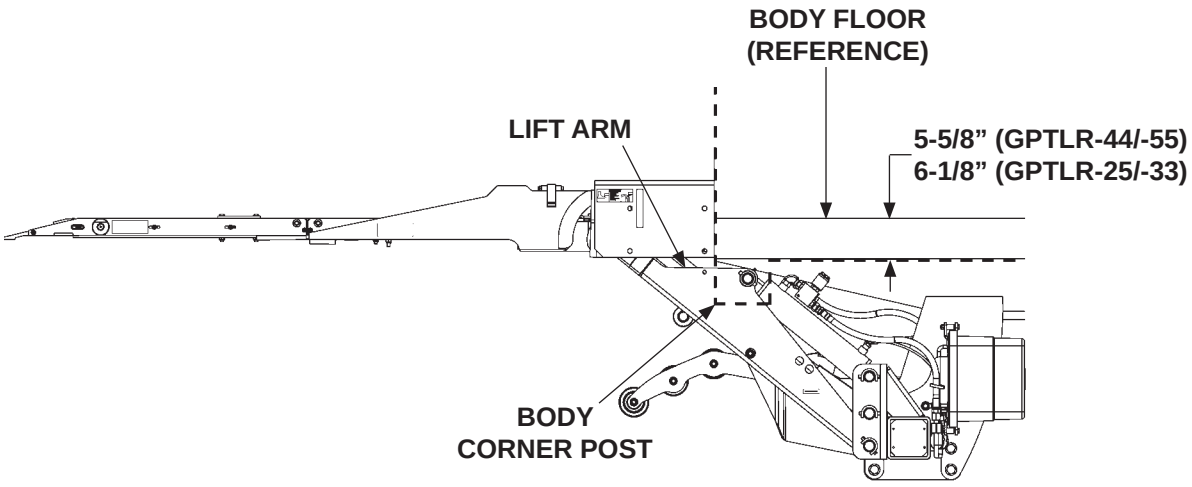
VEHICLE REQUIREMENTS - Continued



VEHICLE BODY CORNER POST CLEARANCE (FOR REFERENCE)
FIG. 10-1

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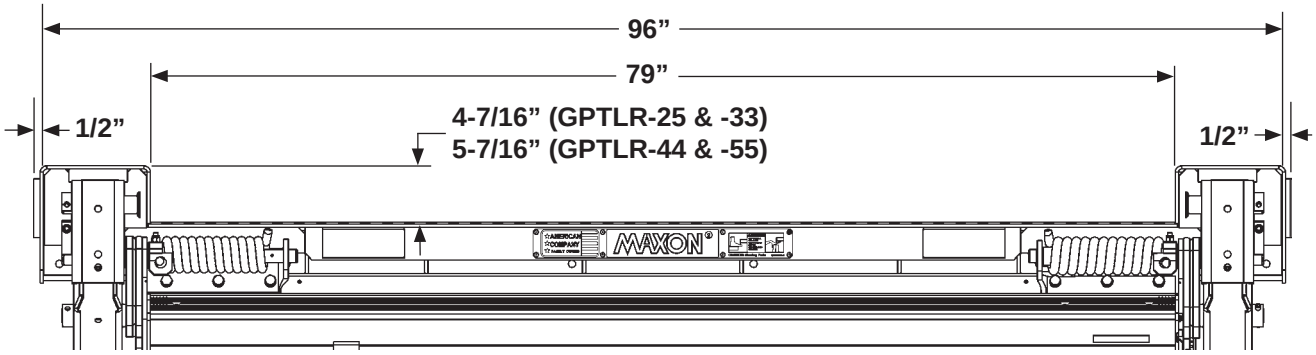
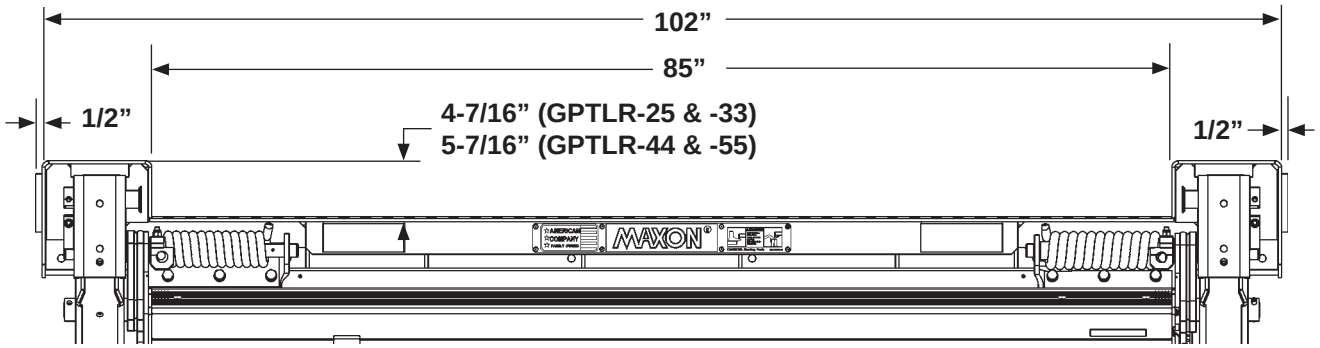
VEHICLE REQUIREMENTS - Continued



GPTLR EXTENSION PLATE DIMENSIONS FOR 96” WIDE BODY
FIG. 11-1



GPTLR EXTENSION PLATE DIMENSIONS FOR 102” WIDE BODY
FIG. 11-2

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VEHICLE REQUIREMENTS - Continued

CAUTION

- **To prevent aluminum platform from being damaged, make sure vehicle frame is cut correctly and rear sills are modified if over 5” in height. If the cutouts are incorrect, platform may hit vehicle frame or underbody when stowing the Liftgate. The bottom of the platform may also hit the sill.**
- **Installer is responsible for ensuring that vehicle body and frame modifications do not adversely affect the integrity of the body and frame.**

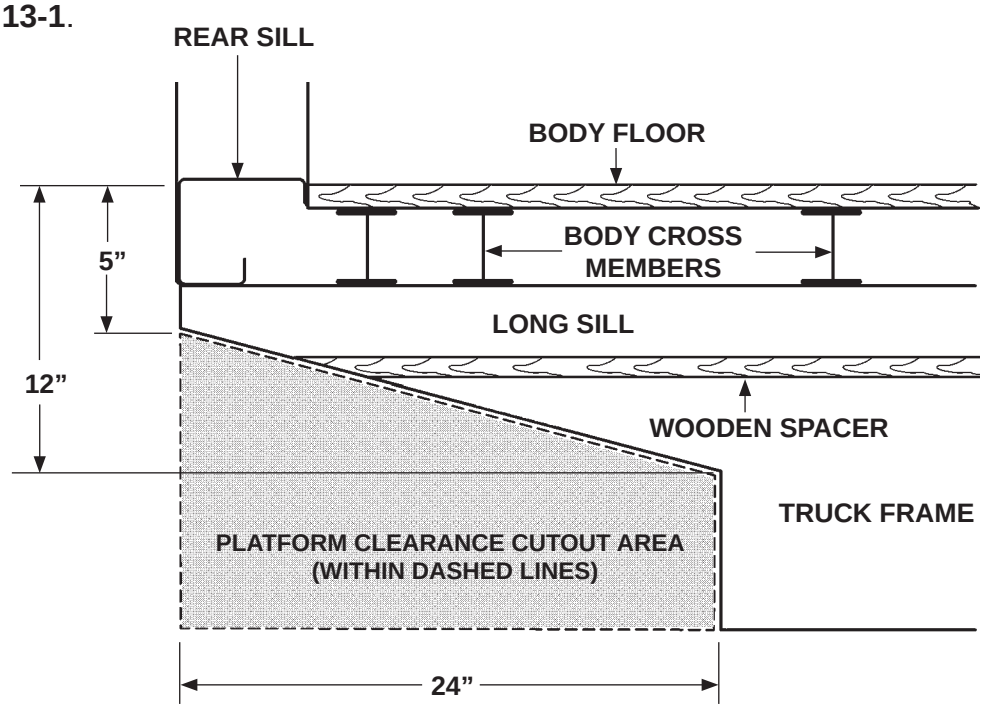
NOTE: The dimensions, shown in the illustration below, are maximums except as indicated.

NOTE: The platform cutout area shown below applies to trucks and trailers. Typical truck frame is shown. For installation on frameless trailers, kit must be selected from the **OPTIONAL COMPONENTS** section in this manual.

NOTE: Refer to the platform clearance cutout area in **FIGS. 12-1 and 13-1.** Remove any part of the rear sill that protrudes into this area.

NOTE: For Liftgates installed on trailers, refer to **FIG. 14-1** for lift arm and platform clearances on the rear sill. If necessary, remove the interfering portions of the rear sill according to dimensions shown in **FIG. 14-1** .

2. Fit the Liftgate to vehicle body by cutting vehicle frame as shown in **FIGS. 12-1 or 13-1**.



VEHICLE FRAME CUT FOR GPTLR-25 & GPTLR-33
FIG. 12-1

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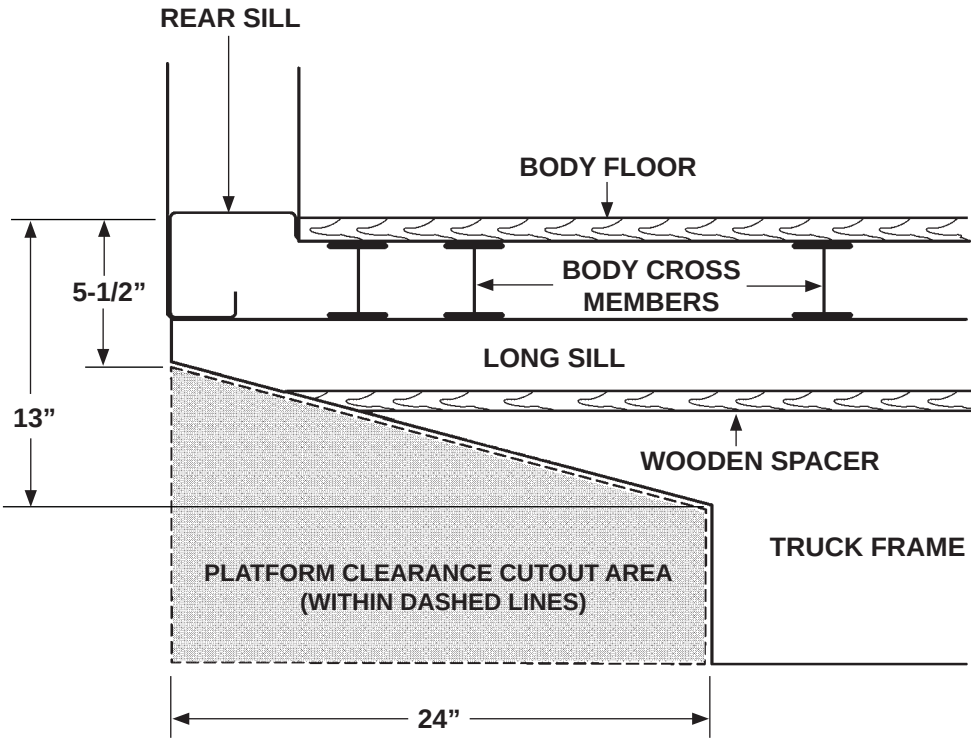
VEHICLE REQUIREMENTS - Continued



VEHICLE FRAME CUT FOR GPTLR-44 & GPTLR-55
FIG. 13-1

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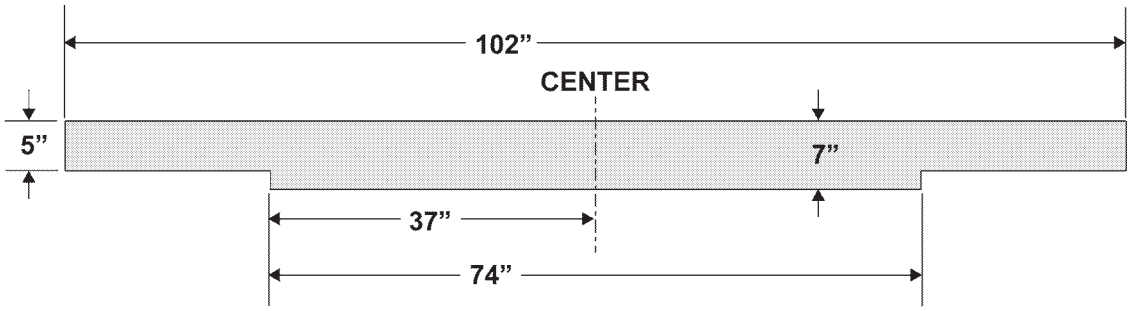
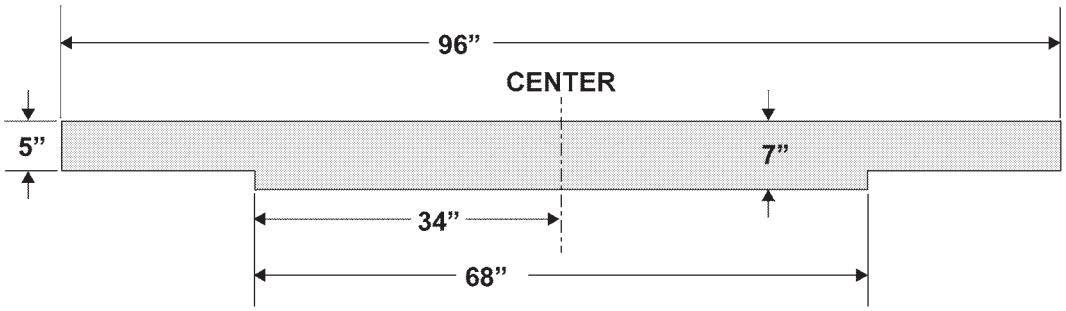
VEHICLE REQUIREMENTS - Continued

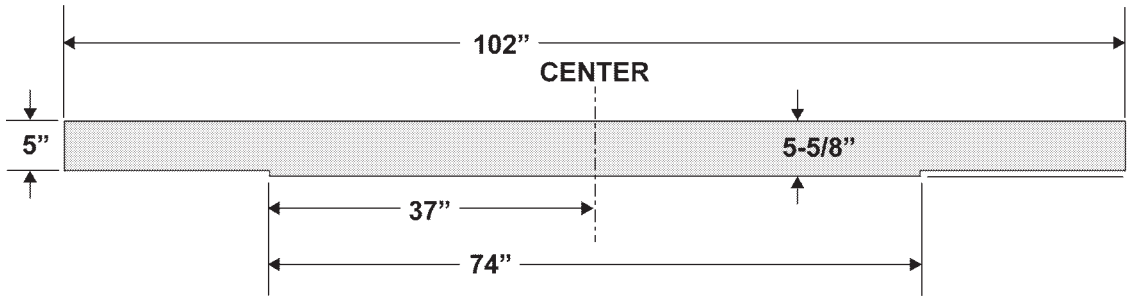
3. If necessary, cut trailer rear sill as shown in **FIG. 14-1**.



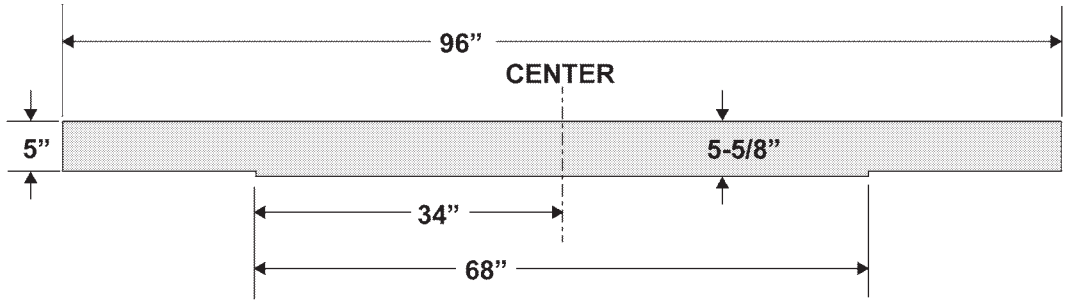
GPTLR -44 & GPTLR -55



GPTLR -44 & GPTLR -55



GPTLR -25 & GPTLR -33



GPTLR -25 & GPTLR -33

REAR SILL CUTS FOR ALL GPTLR LIFTGATES
FIG. 14-1

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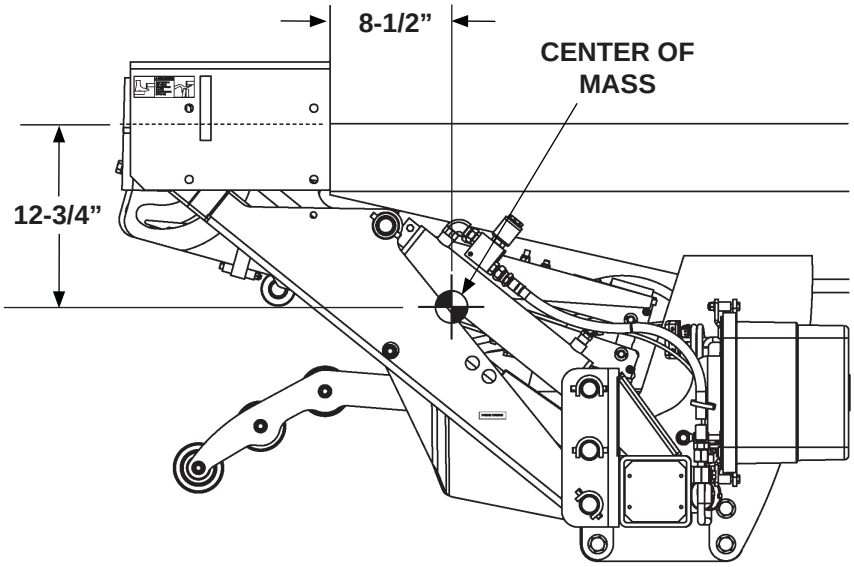
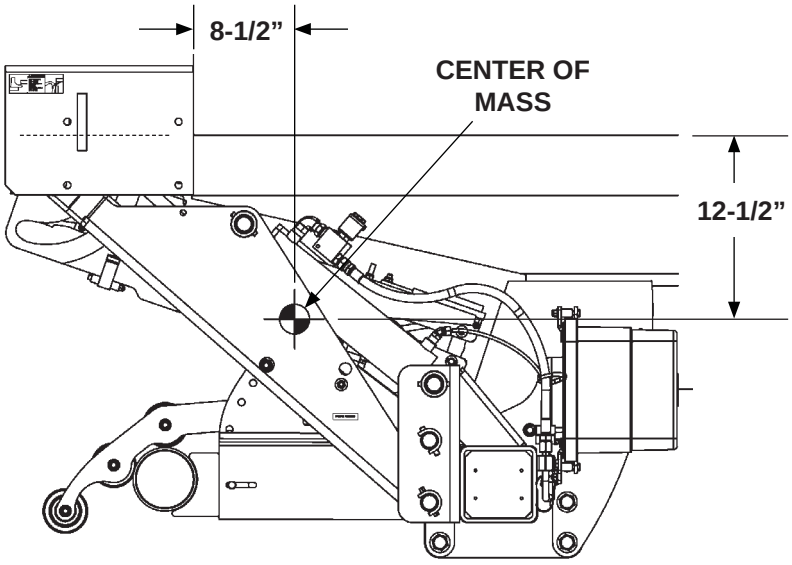
CENTER OF MASS



GPTLR-25 & GPTLR-33 CENTER OF MASS (STOWED POSITION)
FIG. 15-1



GPTLR-44 & GPTLR-55 CENTER OF MASS (STOWED POSITION)
FIG. 15-2

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STEP 1 - ATTACH EXTENSION PLATE TO VEHICLE

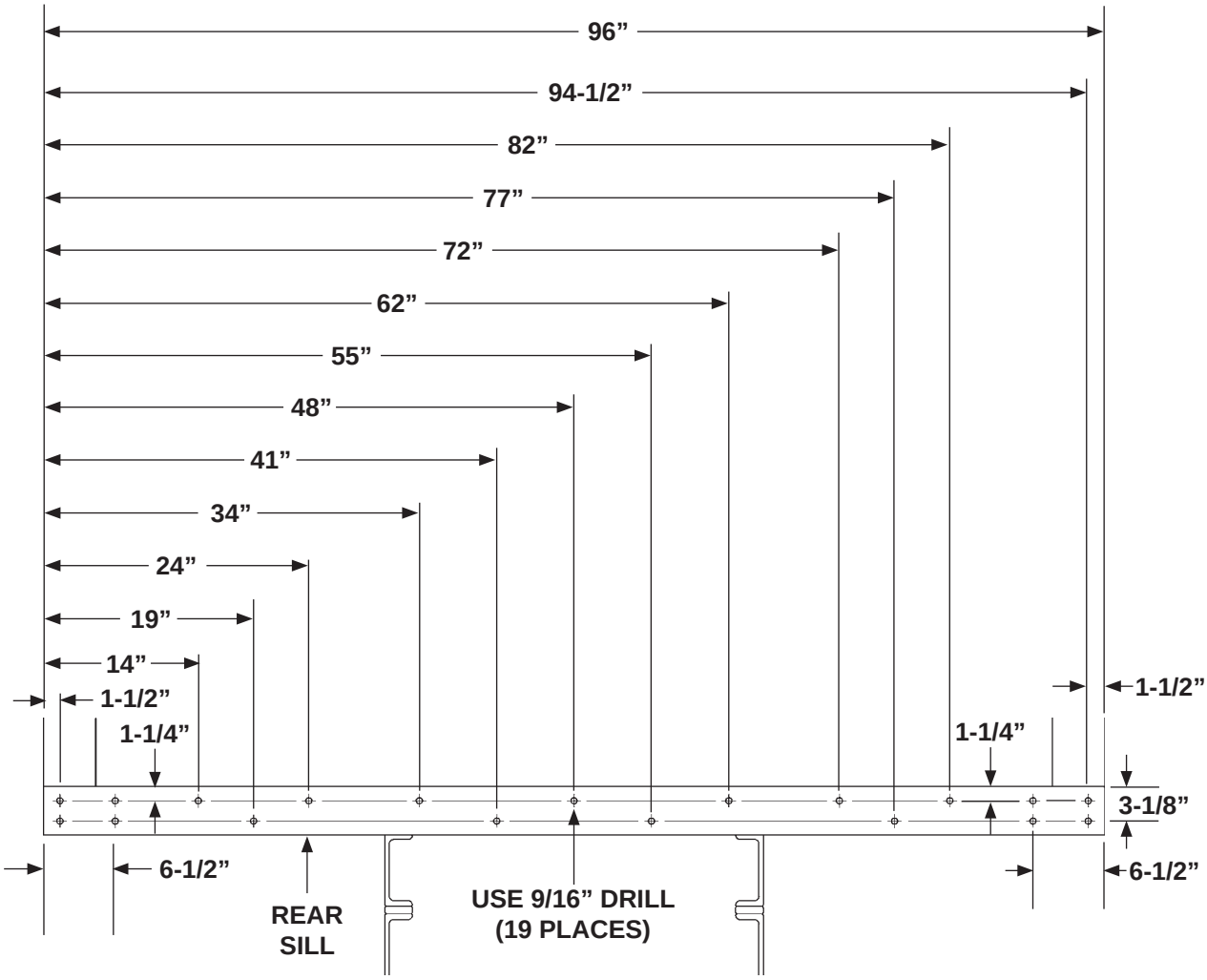
CAUTION

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

NOTE: Liftgate extension plate comes with bolt holes so it can be bolted to vehicle body with optional bolt kit. **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. Extension plate may also be welded to vehicle body. Do the following bolting or welding instructions for the extension plate.

BOLT EXTENSION PLATE

1. Mark and drill holes into rear sill as shown in **FIGS. 16-1 and 17-1**.



REAR SILL - HOLE LOCATIONS FOR 96” WIDE VEHICLE
FIG. 16-1

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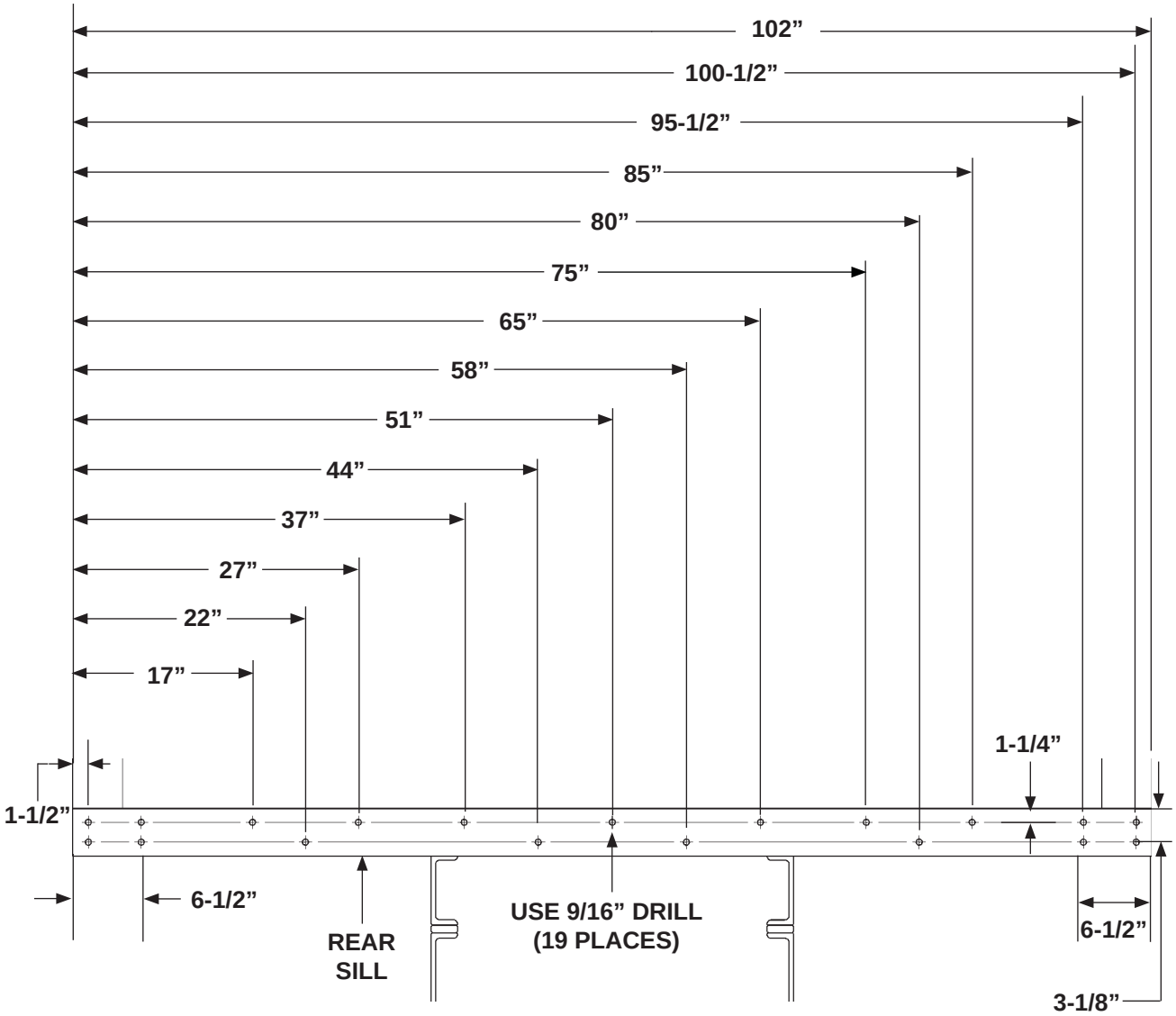
STEP 1 - ATTACH EXTENSION PLATE TO VEHICLE - Continued



REAR SILL - HOLE LOCATIONS FOR 102” WIDE VEHICLE
FIG. 17-1

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STEP 1 - ATTACH EXTENSION PLATE TO VEHICLE - Continued

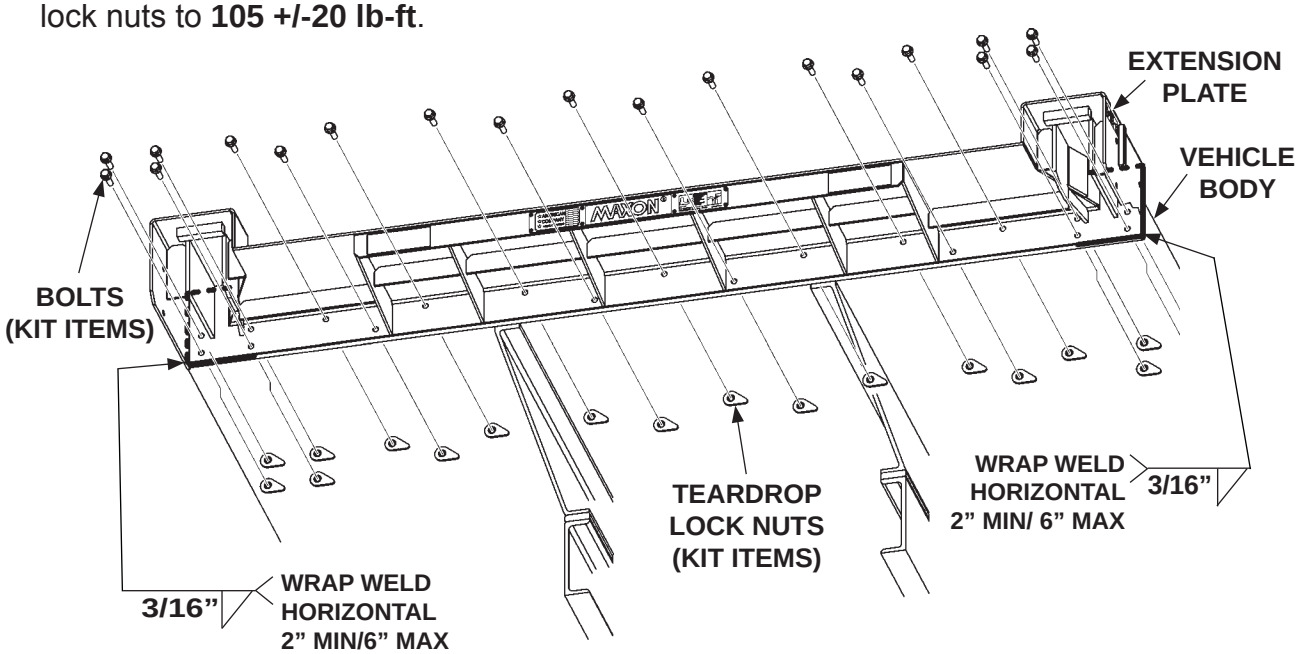
CAUTION

The mating surface between the bolt-on extension plate and vehicle rear sill must be as flat as possible. Interference between the mating surfaces could result in a distorted top surface of extension plate when all the bolts are tightened. Distorted extension plate can also make the dual steps difficult to install correctly. Remove interference or shim rear sill to eliminate or reduce the possibility of a distorted extension plate.

NOTE: Do not tighten extension plate bolts and lock nuts until:
- All the bolts and lock nuts are in place.
- Mating surfaces of extension plate and rear sill are made flat as possible.
- Top of extension plate is flush with top of rear sill.

NOTE: Weld the LH and RH ends of the extension plate to vehicle body as shown in **FIG. 18-1** if any of the following conditions apply.
- Bolt holes are not accessible on the corner posts of the vehicle body.
- Liftgate will be used for dock loading applications.
- As required by body/trailer manufacturer

2. Bolt extension plate to vehicle as shown in **FIG. 18-1**. If necessary, reposition extension plate so top surface is flush with top surface of sill. Then, torque bolts and lock nuts to **105 +/-20 lb-ft**.



BOLTING EXTENSION PLATE (96" WIDE EXTENSION PLATE SHOWN)
FIG. 18-1

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STEP 1 - ATTACH EXTENSION PLATE TO VEHICLE - Continued

WELD EXTENSION PLATE (ALTERNATE METHOD)

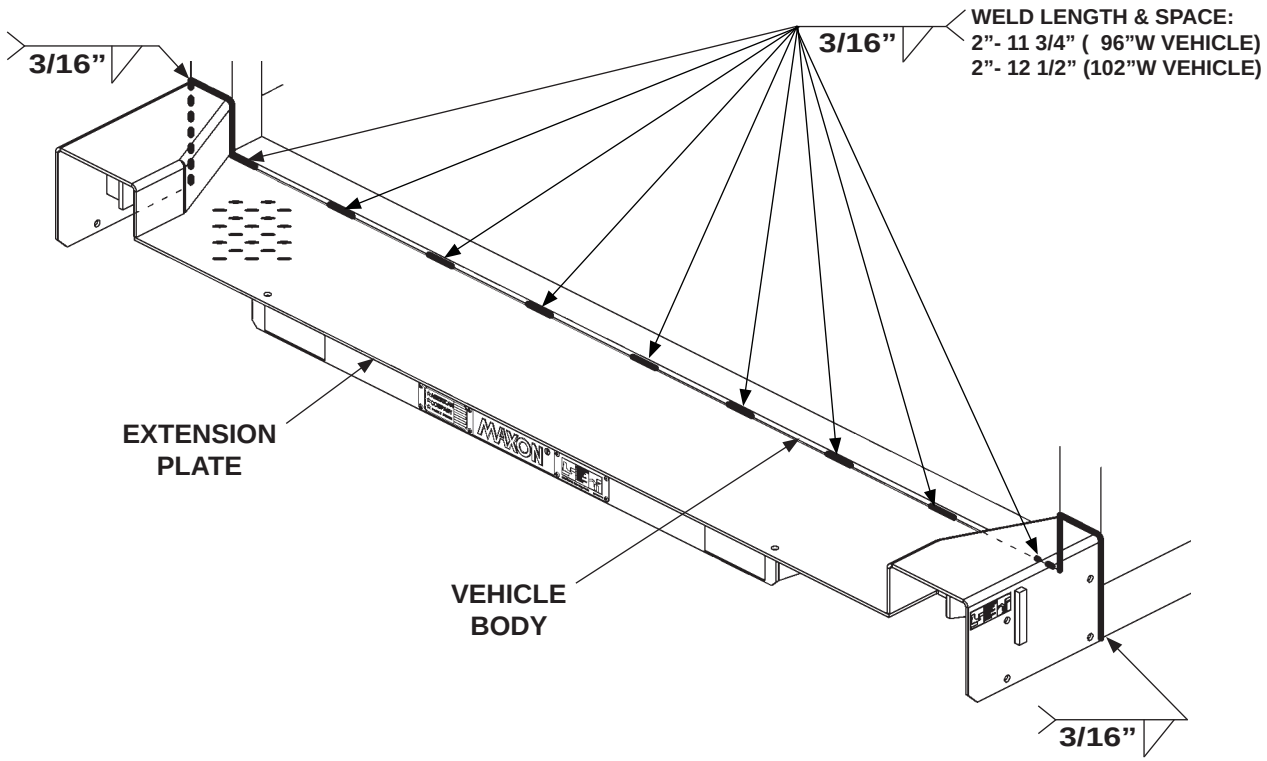
CAUTION

To preserve the corrosion-resistant properties of the galvanized finish, MAX-ON recommends bolting the galvanized extension plate to vehicle.

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.

NOTE: For welding galvanized steel, refer to recommended practices as outlined in **AWS (American Welding Society) D19.0 Welding Zinc-Coated Steel.**

1. Center the extension plate on vehicle body. Weld the extension plate to vehicle body sill as shown in **FIGS. 19-1 and 20-1**.



EXTENSION PLATE WELDS - VIEWED FROM ABOVE
FIG. 19-1

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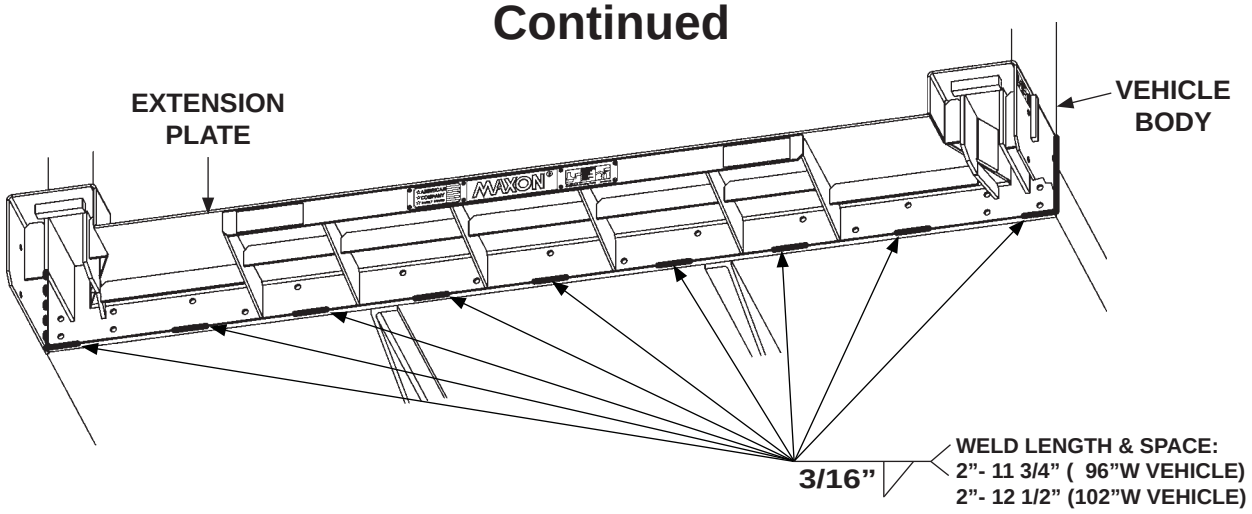
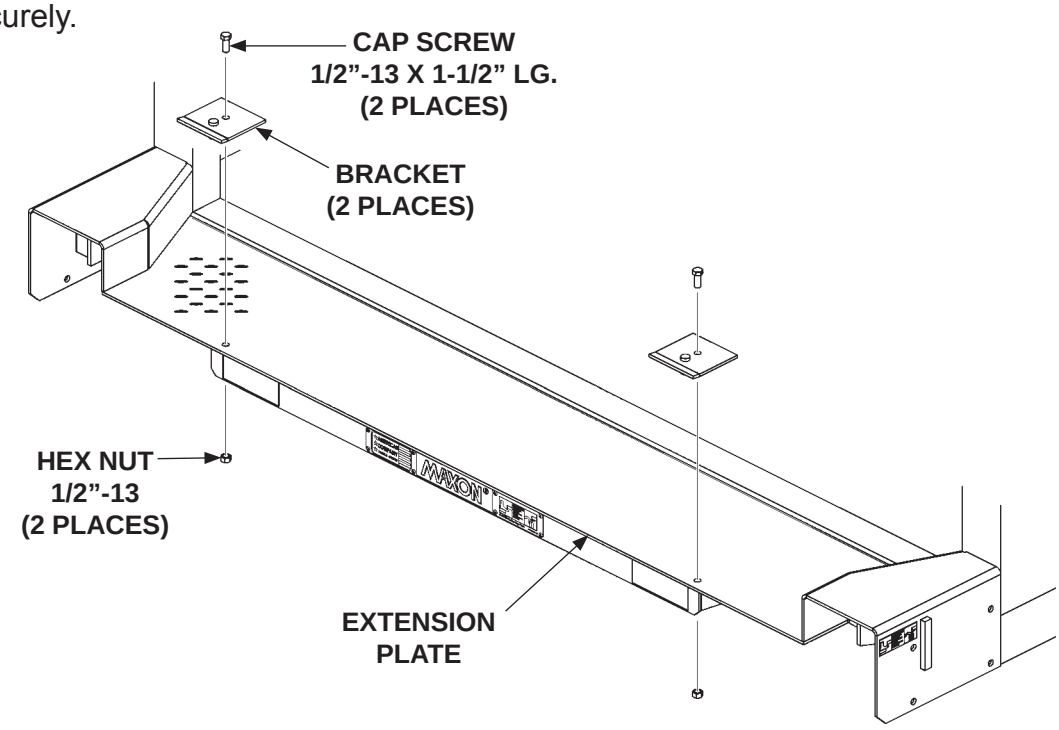
STEP 1 - ATTACH EXTENSION PLATE TO VEHICLE - Continued



EXTENSION PLATE WELDS - VIEWED FROM UNDERNEATH
FIG. 20-1

NOTE: During installation of liftgate, installation brackets keep the heel of the platform level with extension plate and maintain a ¾" gap between extension plate and heel of platform. The extension plate has bolt holes for bolting on the installation brackets provided in parts box.

2. Bolt 2 installation brackets (parts bag items) on the extension plate as shown in **FIG. 20-2**. Tighten hex nuts securely.



BOLTING ON INSTALLATION BRACKETS
FIG. 20-2

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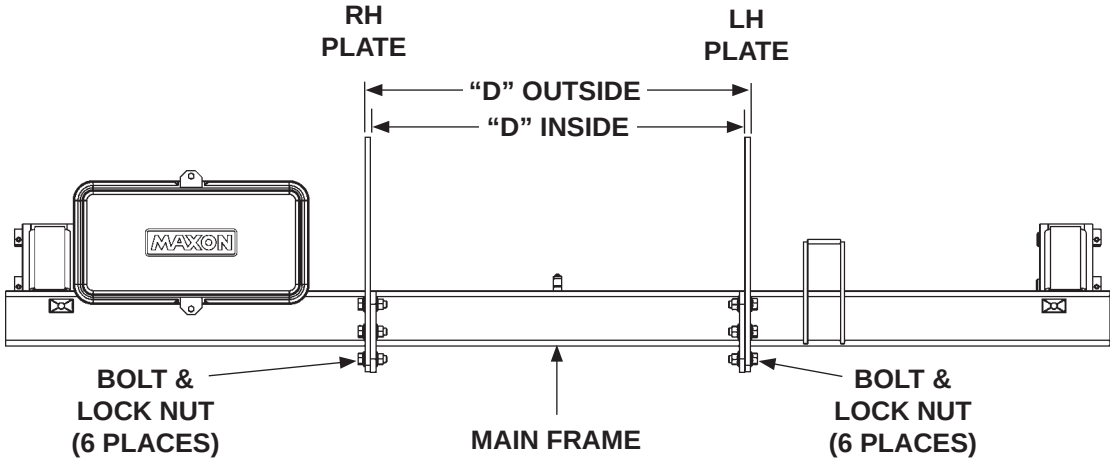
STEP 2 - WELD LIFTGATE TO VEHICLE

NOTE: GPTLR Liftgates are equipped with mounting plates installed at the factory. Mounting plate widths are shown based upon truck or trailer frame widths. Ensure you have the correct mounting plate kit for your application.

If it's necessary to unbolt mounting plates from main frame **(FIG 21-1)**, torque mounting plate nuts and bolts **220-240 lb-ft** (GPTLR-25/GPTLR-33) or **350-375 lb-ft** (GPTLR-44/GPTLR-55).



BOLT ON MOUNTING PLATES FOR INSTALLATION ON TRUCKS & TRAILERS (REAR VIEW OF LIFTGATE)
FIG. 21-1

LIFTGATE MODEL	"D" INSIDE	"D" OUTSIDE	APPLICATION
GPTLR-25/GPTLR-33	34-1/4"	35-1/4"	Common truck chassis width
	32-3/4"	33-3/4"	Trailer applications
	34-13/16"	35-13/16"	Trailer applications (91 cm)

TABLE 21-1

LIFTGATE MODEL	"D" INSIDE	"D" OUTSIDE	APPLICATION
GPTLR-44/GPTLR-55	34-1/4"	35-1/4"	Common truck chassis width
	33-1/4"	34-1/4"	Trailer applications
	34"	35"	
	34-13/16"	35-13/16"	Trailer applications (91 cm)
	37-1/4"	38-1/4"	Trailer applications

TABLE 21-2

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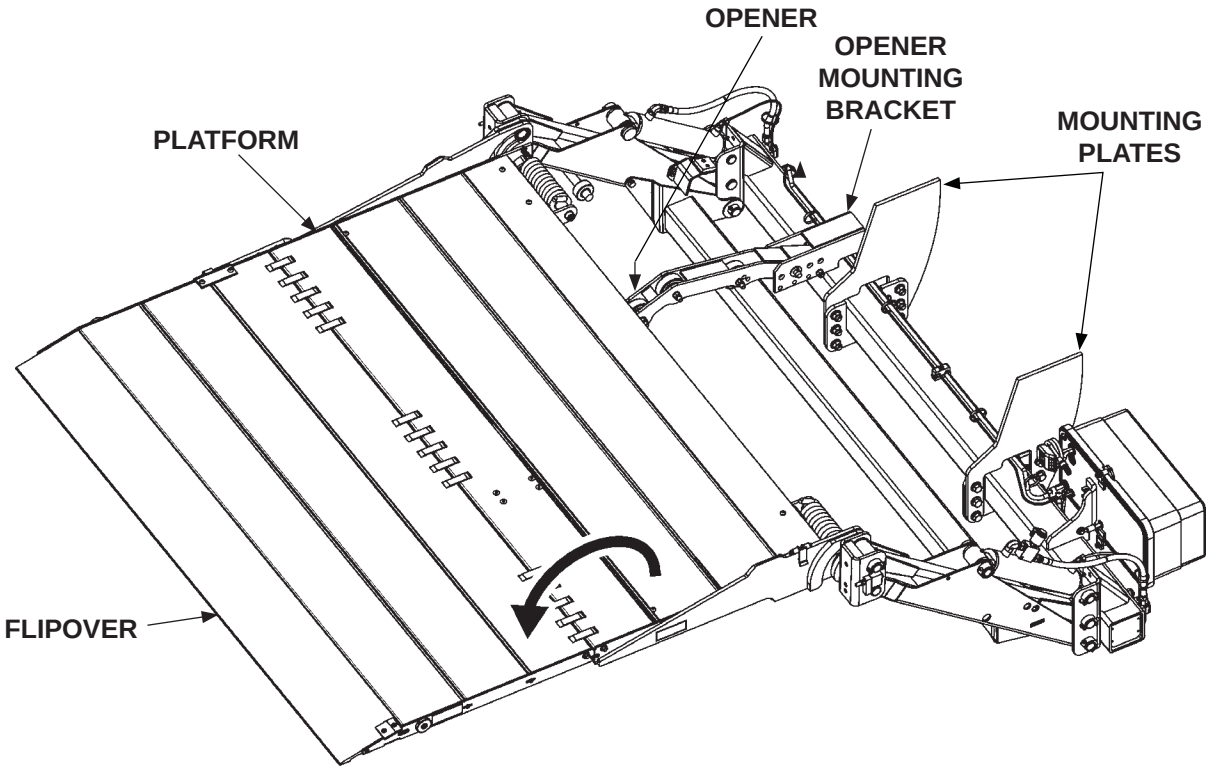
STEP 2 - WELD LIFTGATE TO VEHICLE - Continued

1. Unfold the platform and flipover **(FIG. 22-1)**.



PLATFORM & FLIPOVER UNFOLDED
FIG. 22-1

2. Unbolt opener from mounting bracket (shipping position) and save to reinstall **(FIG. 22-1)**.

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STEP 2 - WELD LIFTGATE TO VEHICLE - Continued

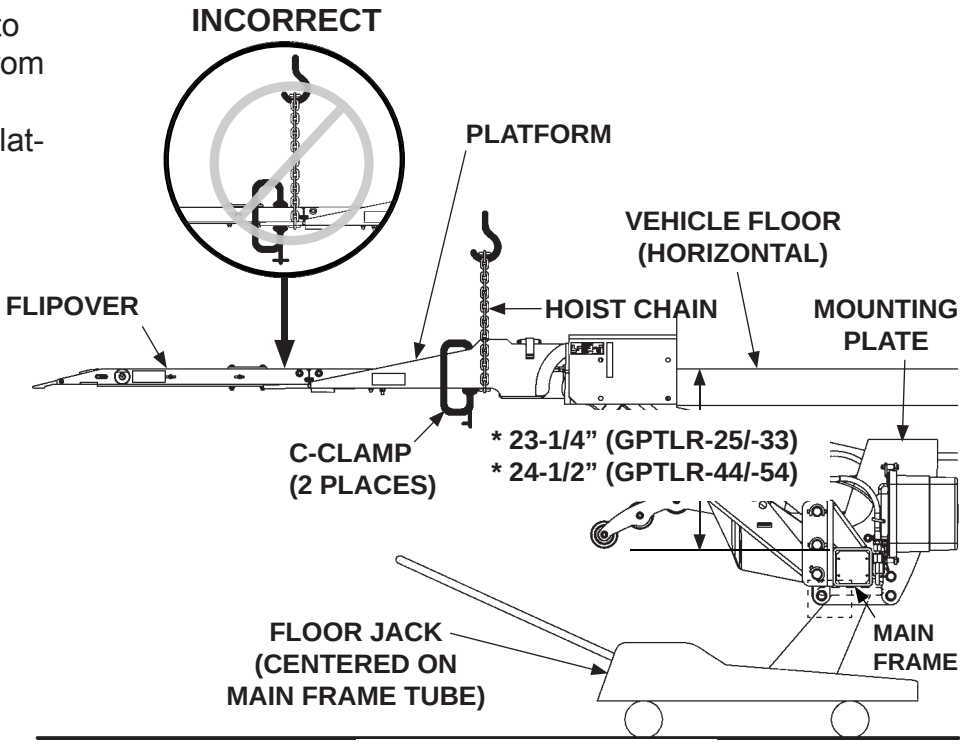
⚠ CAUTION

To prevent damage to aluminum flipover, NEVER hoist the Liftgate by the flipover as illustrated below. Hoist the Liftgate by the platform only as shown in the illustration below.

CAUTION

Maintain distance between vehicle floor and top of main frame at center of main frame as shown in the instructions. Dimension tolerance is +/- 1/4". Never apply force at the ends of the main frame tube to change the floor clearance.

3. Make sure hoist is not set up the incorrect way **(FIG. 23-1)**. Place a "C" clamp on each side of platform **(FIG. 23-1)** to prevent hoist chain from slipping off platform. Wrap chain around platform **(FIG. 23-1)**.



*** TOLERANCE IS +/- 1/4"**

CORRECT WAY TO HOIST LIFTGATE
FIG. 23-1

4. Hoist the Liftgate **(FIG. 23-1)**. Then, place floor jack under center of main frame **(FIG. 23-1)**. Jack the Liftgate into position. Make sure vehicle floor is horizontal. Maintain distance between floor and top of main frame as shown in **FIG. 23-1**.

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STEP 2 - WELD LIFTGATE TO VEHICLE - Continued

CAUTION

Prevent damage to hydraulic hoses. If welding next to hydraulic hoses, use a protective cover such as a welding blanket to cover the hoses.

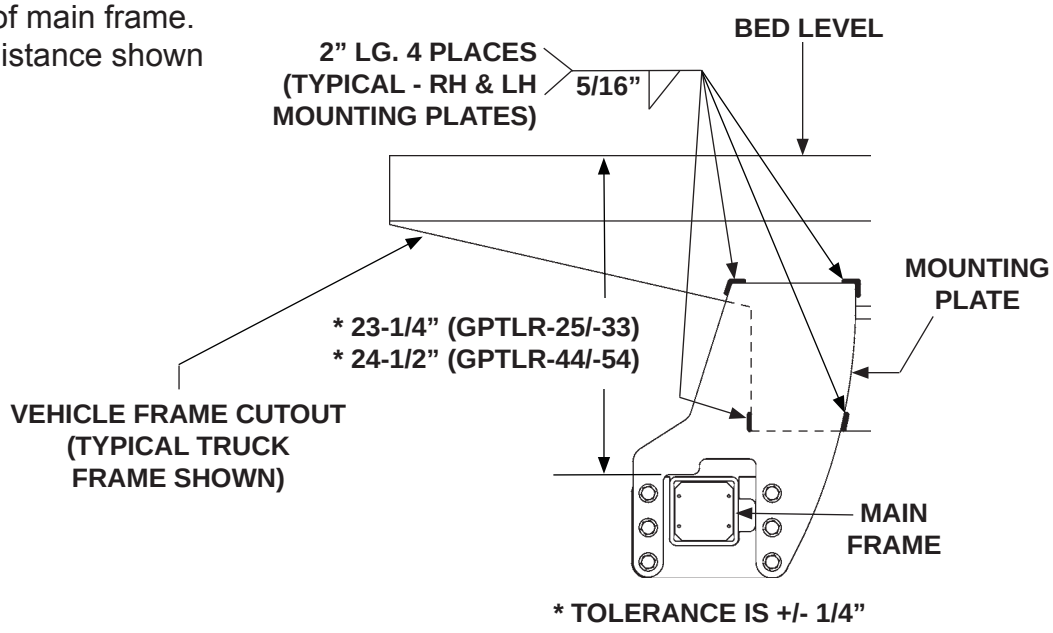
CAUTION

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

When using an electric welder, connect the welder ground to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

5. Clamp both mounting plates to vehicle frame. Check the distance between bed level and top of main frame. Maintain the distance shown in **FIG. 24-1**.



WELD TO VEHICLE FRAME AND MAIN FRAME
(RH SIDE SHOWN)
FIG. 24-1

6. Weld the mounting plates to vehicle frame as shown in **FIG. 24-1**. Remove clamps.

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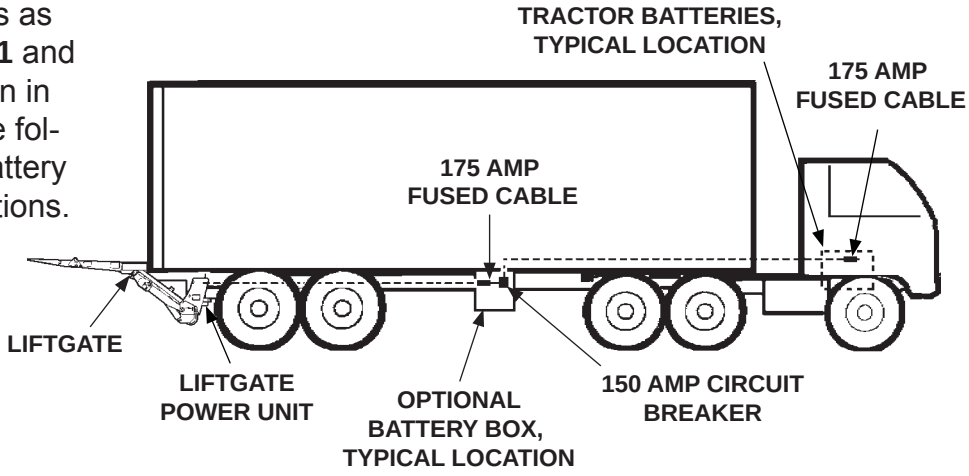
STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED)

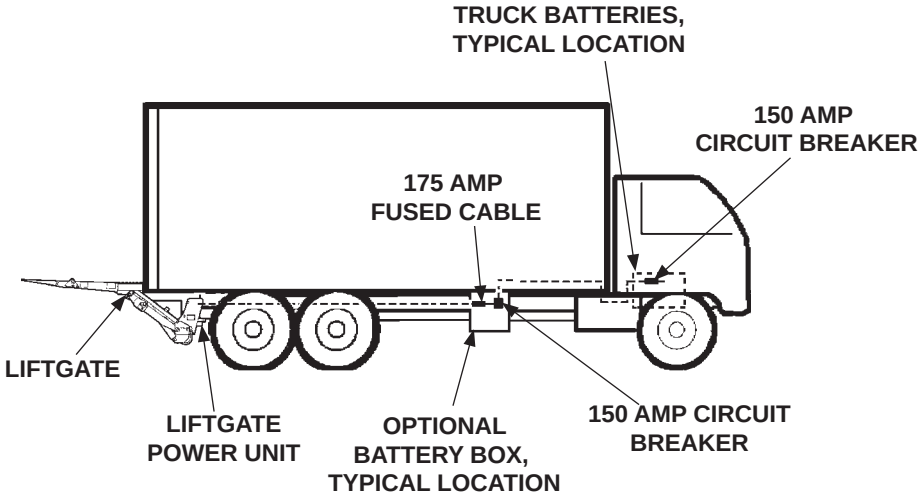
RECOMMENDED CONFIGURATION

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. 25-1** and on trucks as shown in **FIG. 25-2**. See the following page for battery and cable connections.



RECOMMENDED LIFTGATE & OPTIONAL BATTERY BOX INSTALLATION ON TRAILER
FIG. 25-1



RECOMMENDED LIFTGATE & BATTERY BOX INSTALLATION ON TRUCK
FIG. 25-2

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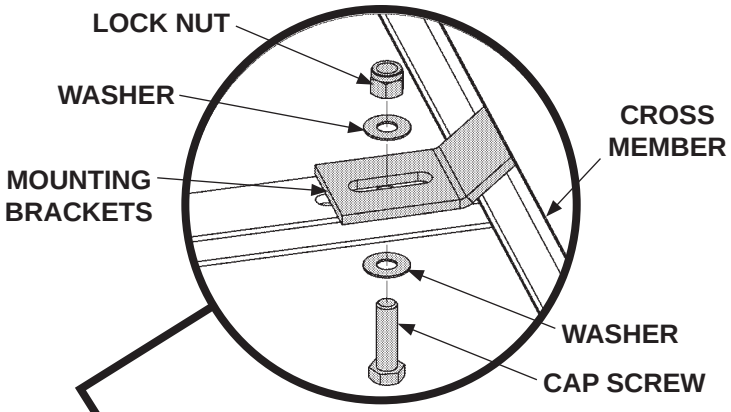
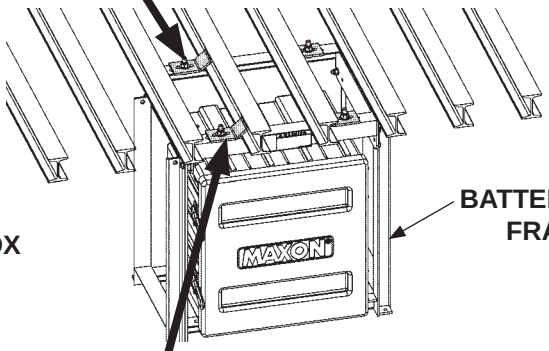
STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

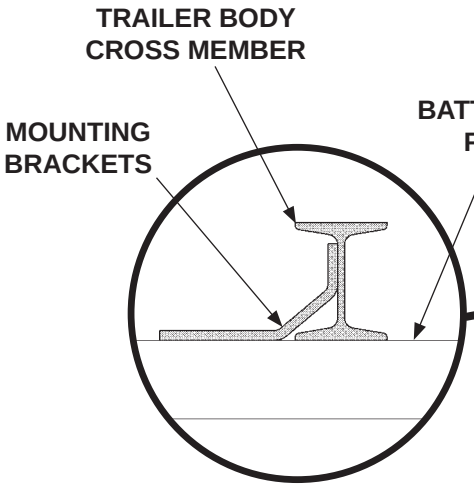
2. Select holes on top of battery box frame to align mounting brackets flush to cross members. Refer to **FIGS. 26-1A & 26-1B** for trailers and **FIG. 26-2** for trucks. Bolt mounting brackets to battery box frame as shown in **FIG. 26-1C**. Torque each bolt and lock nut to **85-128 lb-ft**.



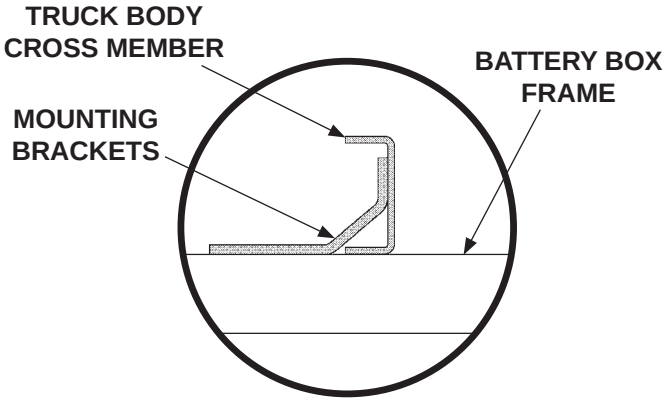
BOLTING BRACKETS (8 PLACES) FIG. 26-1C



ALIGNING BATTERY BOX FRAME (TRAILER SHOWN) FIG. 26-1A



FLUSH BRACKETS FOR TRAILERS (8 PLACES) FIG. 26-1B



FLUSH BRACKETS FOR TRUCKS (8 PLACES) FIG. 26-2

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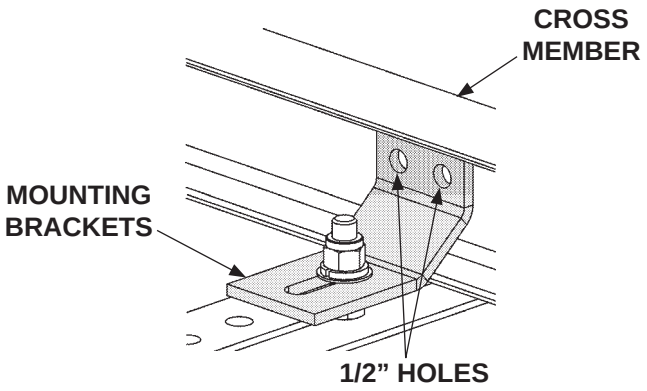
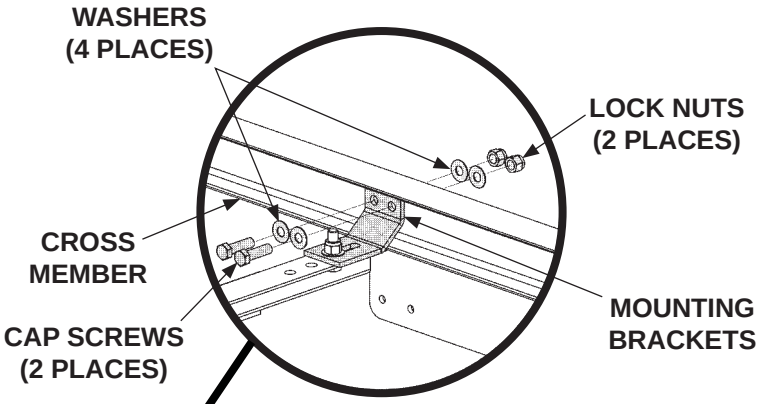
STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

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

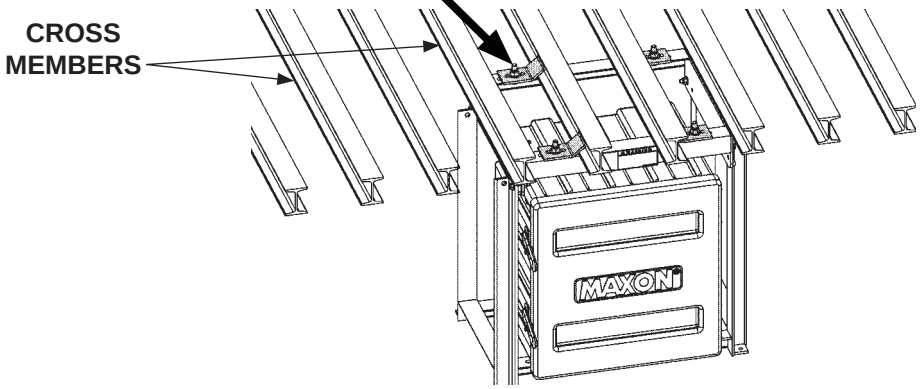
3. Using mounting brackets as a template mark and drill holes through cross members **(FIG. 27-1)**. Bolt mounting brackets to cross members as shown in **FIGS. 27-2A and 27-2B**. Torque bolts and lock nuts to **85-128 lb-ft**.



MARK AND DRILL BRACKET HOLES
FIG. 27-1



BOLTING BRACKETS
(8 PLACES)
FIG. 27-2B



BOLTING BATTERY BOX FRAME
FIG. 27-2A

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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.

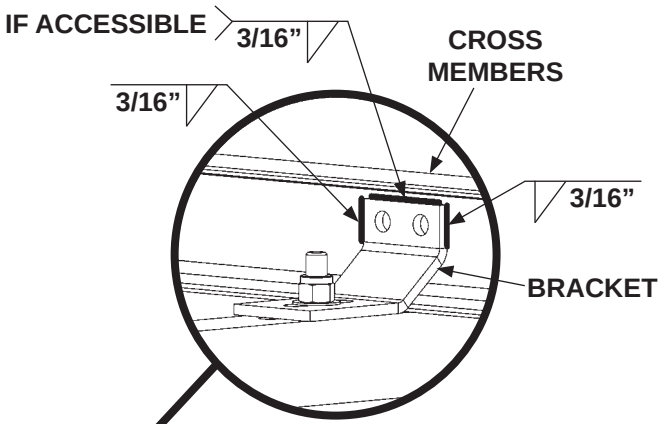
CAUTION

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

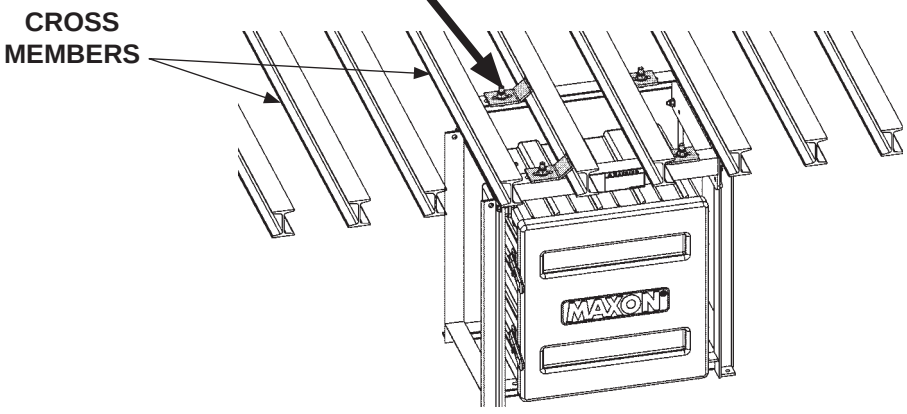
CAUTION

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

4. Weld each bracket to cross members as shown in **FIGS. 28-1A and 28-1B**. Weld top of bracket if accessible.



WELDING BRACKETS (8 PLACES) FIG. 28-1B



BOLTING PUMP & BATTERY BOX FRAME FIG. 28-1A

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

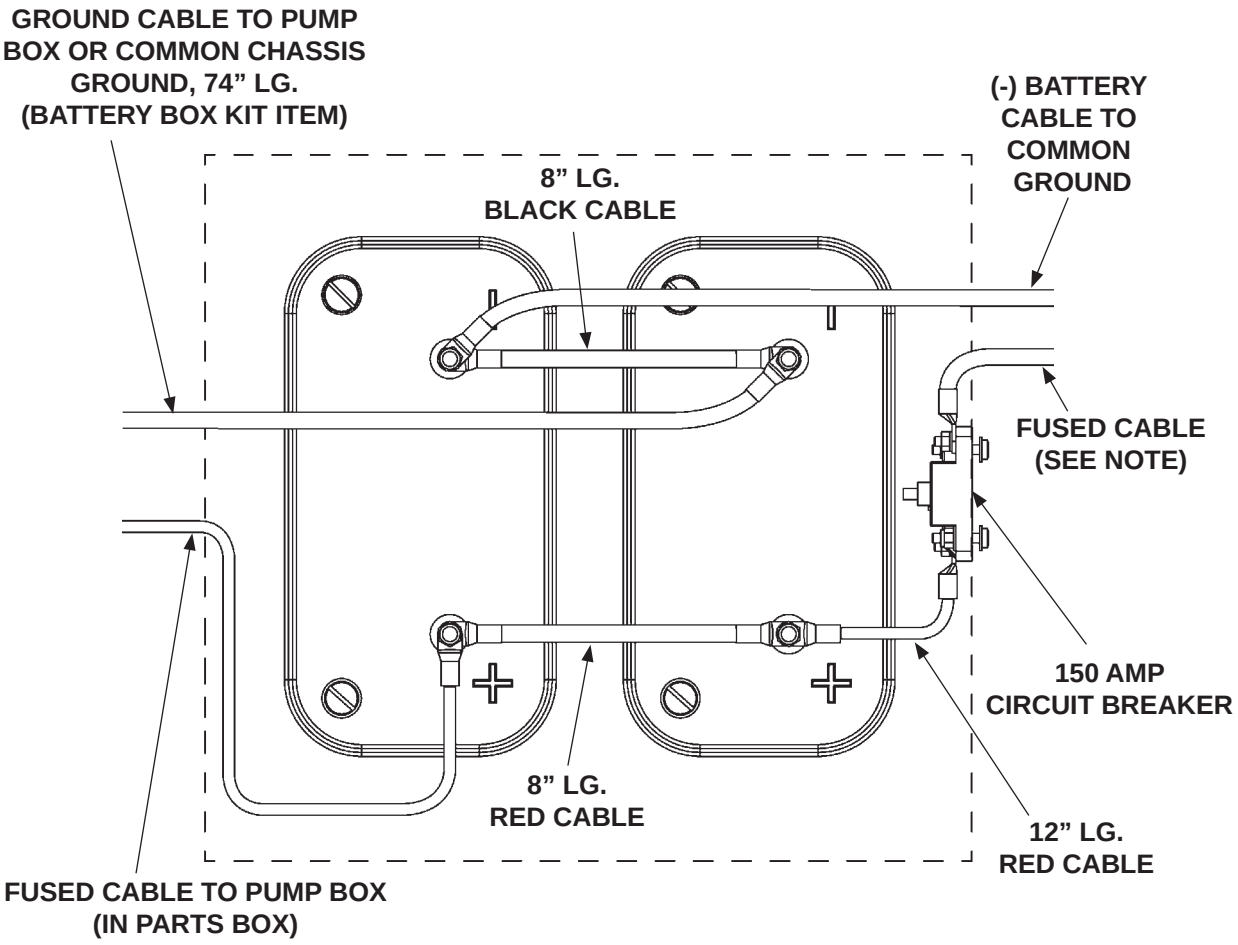
⚠ WARNING

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.

5. Connect battery cables, fused cables, and ground cables for 12 volt power as shown in **FIG. 29-1**. Refer to **FIG. 29-1** for connecting 24 volt power.



12 VOLT BATTERY CONNECTIONS FOR 12 VOLT POWER
FIG. 29-1

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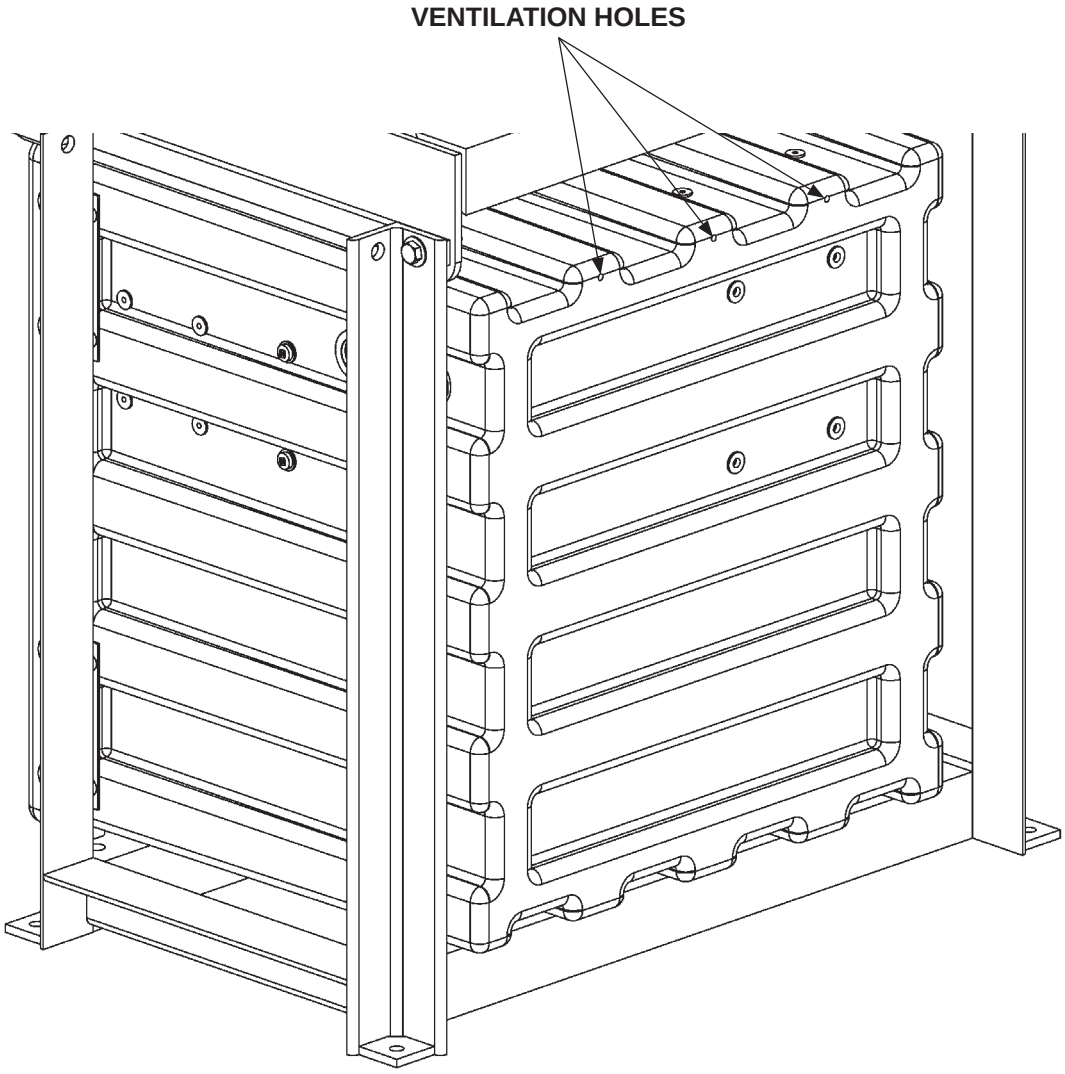
STEP 3 - ATTACH OPTIONAL BATTERY BOX & FRAME TO VEHICLE (IF EQUIPPED) - Continued

⚠ 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. 30-1

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

BATTERY BOX ASSEMBLY

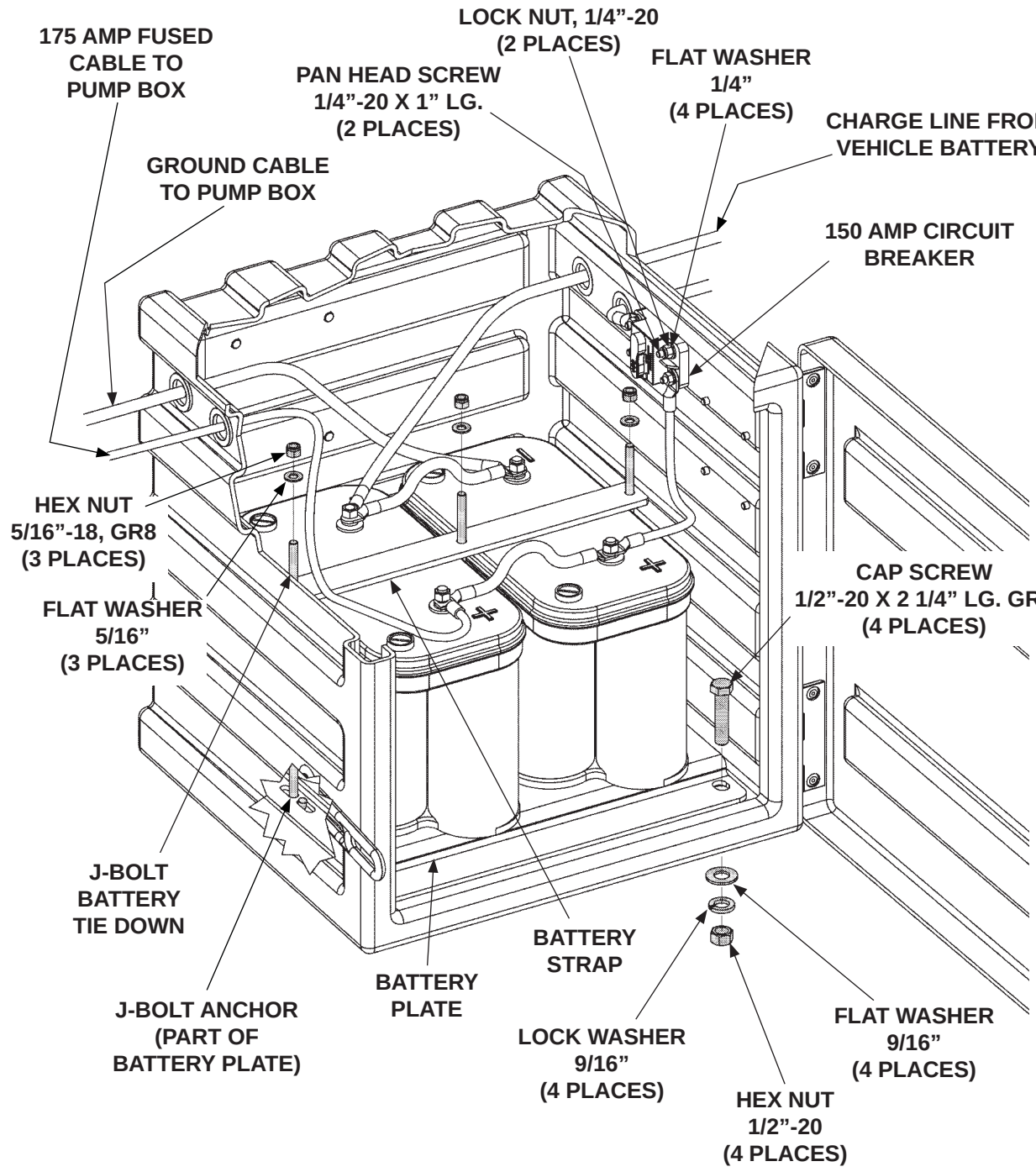

FIG. 31-1

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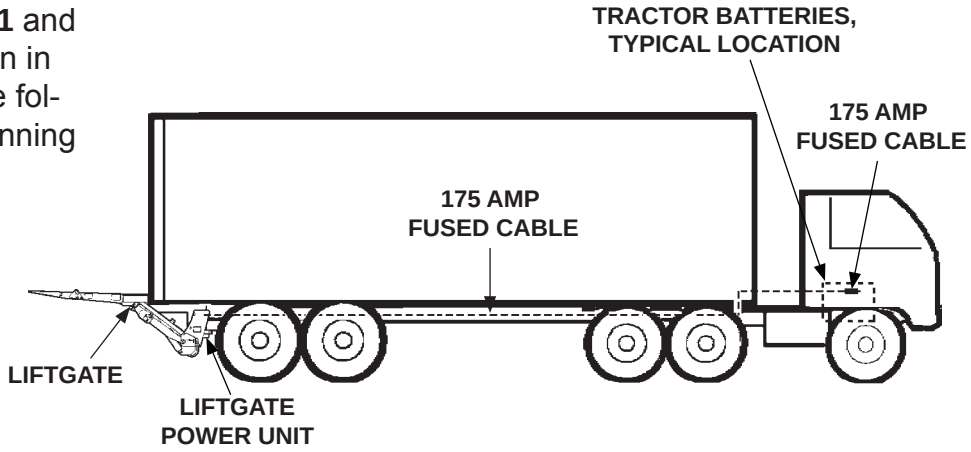
STEP 4 - RUN POWER CABLE

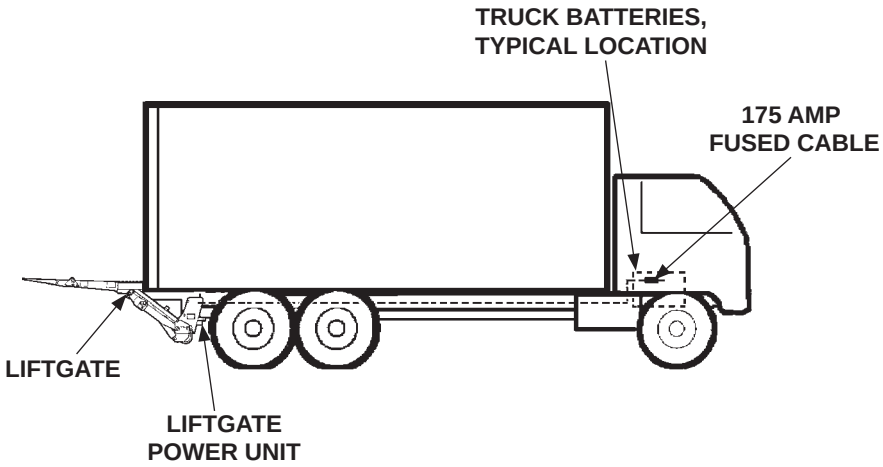
NOTE: Make sure the Liftgate power unit, and all batteries on the vehicle for the power unit, are connected correctly to a common chassis ground.

RECOMMENDED CONFIGURATION

1. Liftgate powered from truck batteries is typically installed on trailers as shown in **FIG. 32-1** and on trucks as shown in **FIG. 32-2**. See the following page for running the power cable.



RECOMMENDED LIFTGATE & POWER CABLE INSTALLATION ON TRAILER
FIG. 32-1



RECOMMENDED LIFTGATE & POWER CABLE INSTALLATION ON TRUCK
FIG. 32-2

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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. 33-1**. Keep enough cable near the battery to reach the positive terminal without straining cable (after connection). Run cable to pump box on Liftgate.

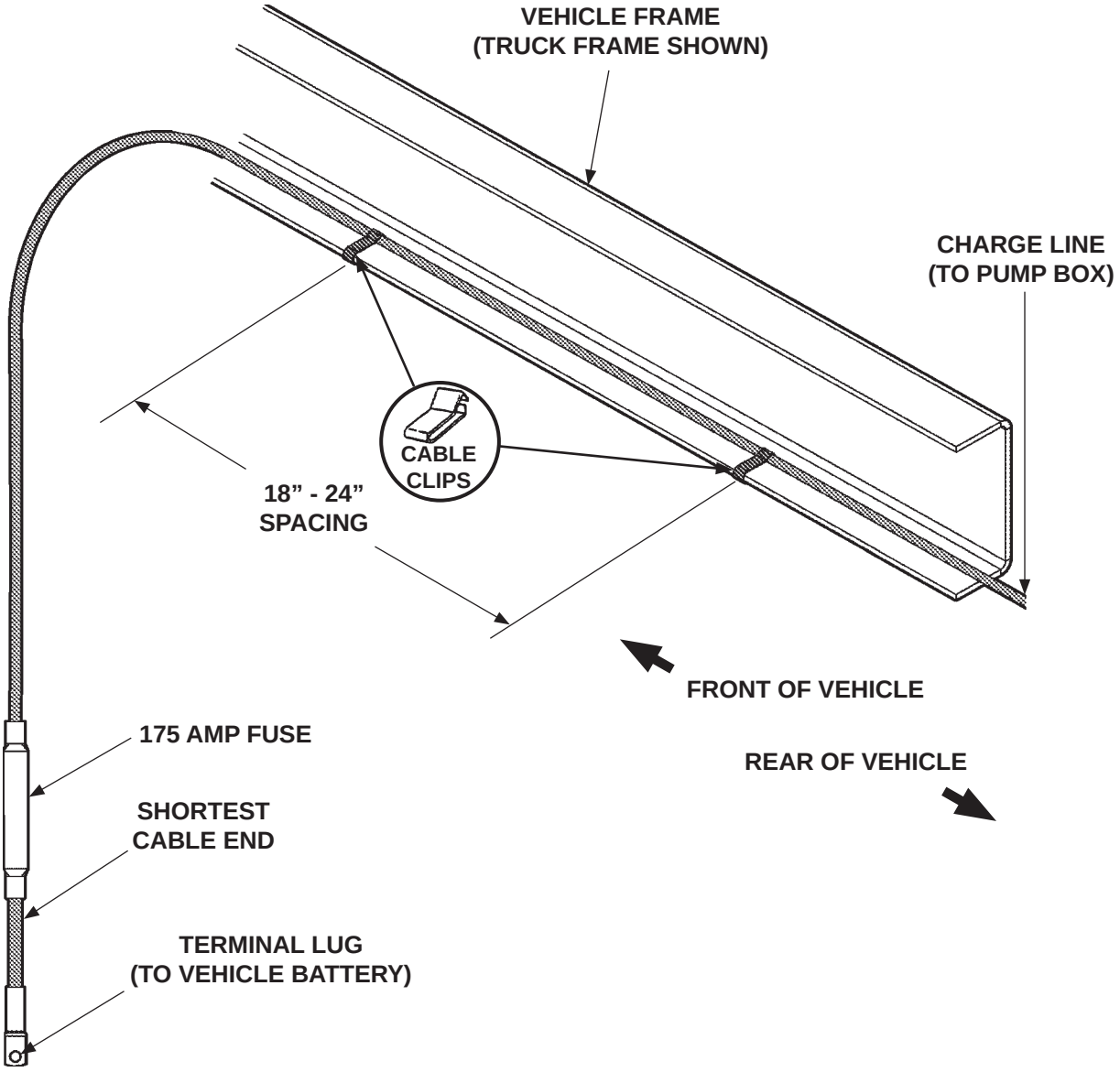

FIG. 33-1

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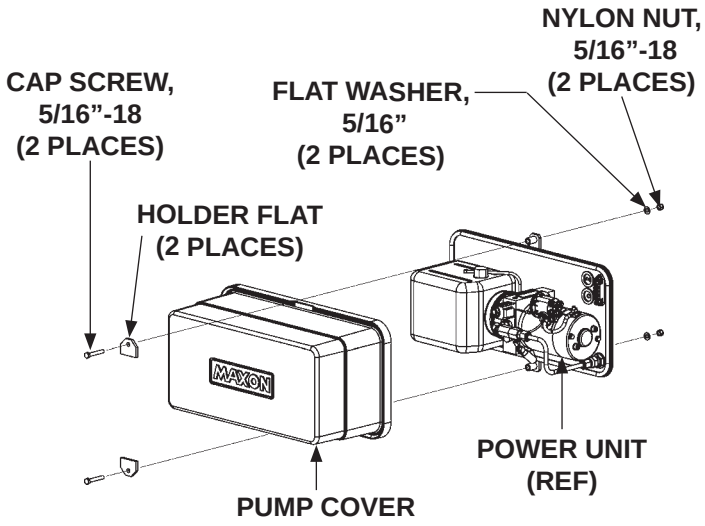
STEP 5 - CONNECT POWER CABLE

1. Unbolt and remove pump cover as shown in **FIG. 34-1**.



UNBOLTING PUMP COVER
FIG. 34-1

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STEP 5 - CONNECT POWER CABLE - Continued

NOTE: Electrical lines must be run into pump box through sealing grommets **(FIG. 35-3)**. To ensure a good seal on hydraulic & electrical lines, never cut the sealing grommets.

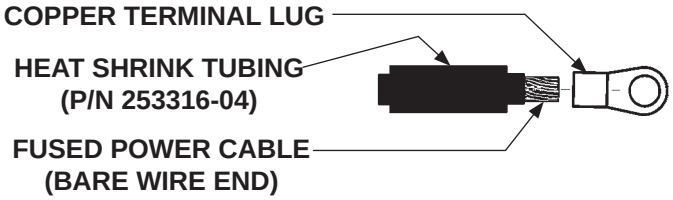
2. Run fused power cable through grommet on pump mounting plate **(FIG. 35-3)**.

3. On the bare wire end of fused power cable, keep enough length to attach copper terminal lug and reach starter solenoid without putting tension on cable (after connection) **(FIG. 35-1)**. Measure (if needed) and then cut excess cable from bare wire end of cable. Put heat shrink tubing (parts box) **(FIG. 35-1)** 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. 35-2)**.

CAUTION

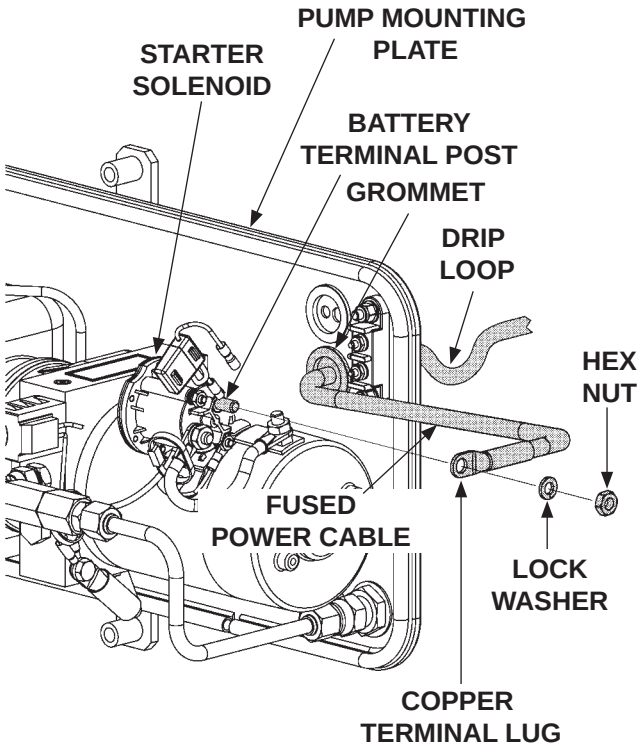
Do not over-tighten the terminal nuts on starter solenoid. For the load terminals, torque nuts to 35 lb.-in. max. Torque the nuts on #10-32 control terminals 15 lb-in max.

4. Remove hex nut and lock washer from battery terminal post on the starter solenoid. Connect the fused power cable to the starter solenoid as shown in **FIG. 35-3**. Reinstall and tighten lock washer and hex nut. Torque hex nut to **35 lb-in** maximum.



PLACING TERMINAL LUG & HEAT SHRINK TUBING ON FUSED POWER CABLE
FIG. 35-1

TYPICAL FUSED POWER CABLE WITH TERMINAL LUG INSTALLED
FIG. 35-2



TYPICAL FUSED POWER CABLE CONNECTION (GRAVITY DOWN PUMP SHOWN)
FIG. 35-3

STEP 6 - CONNECT GROUND CABLE

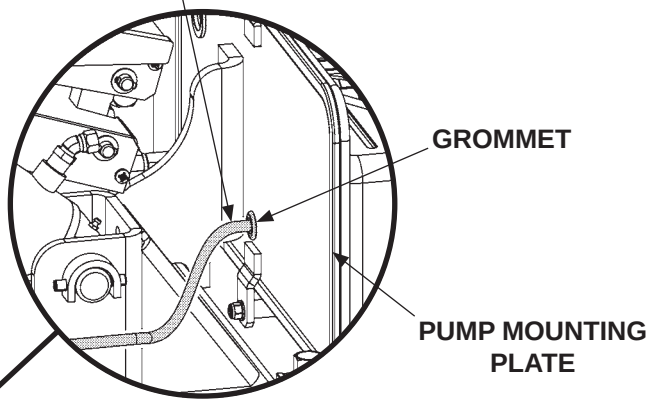
NOTE: Electrical lines must be run into pump box through sealing grommets **(FIG. 36-1A)**. To ensure a good seal on the electrical lines, never cut the sealing grommets.

NOTE: To ensure power unit is correctly grounded, connect 2 gauge ground cable to grounding connection on pump.

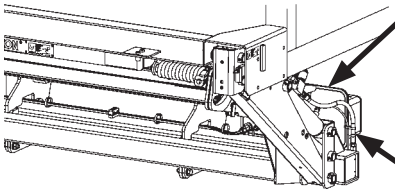
1. Insert external ground cable (parts box) through grommet on pump mounting plate **(FIGS. 36-1 & 36-1A)**.

2. Bolt ground cable to ground connection on pump using existing bolt **(FIGS. 36-1 & 36-1B)**.

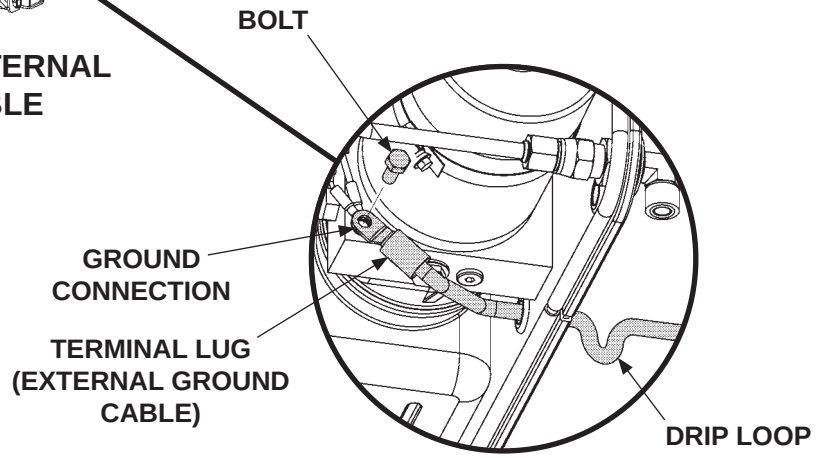
3. Form a drip loop on the ground cable where it enters the grommet from outside the pump mounting plate **(FIGS. 36-1 & 36-1B)**.



INSERTING GROUND CABLE THROUGH GROMMET FIG. 36-1A



CONNECTING EXTERNAL GROUND CABLE FIG. 36-1



BOLTING GROUND CABLE TO PUMP FIG. 36-1B

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STEP 6 - CONNECT GROUND CABLE - Continued

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.

4. Extend the ground cable to reach vehicle frame **(FIG. 37-1)** without putting tension on cable (after connection). Connect to an existing grounding point if available.

5. If necessary, drill a 11/32” (0.343”) hole in vehicle frame for bolting the ground cable terminal lug **(FIG. 37-1)**.

6. To prevent corrosion**,** paint or use galvanized spray on bare metal area **FIG. 37-1**.

7. Bolt the ground cable terminal lug to vehicle frame as shown in **FIG. 37-1**.

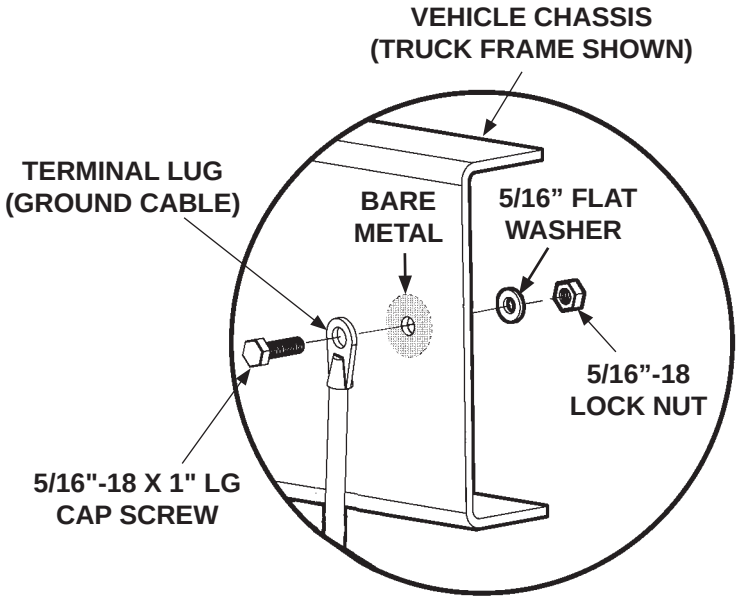

FIG. 37-1

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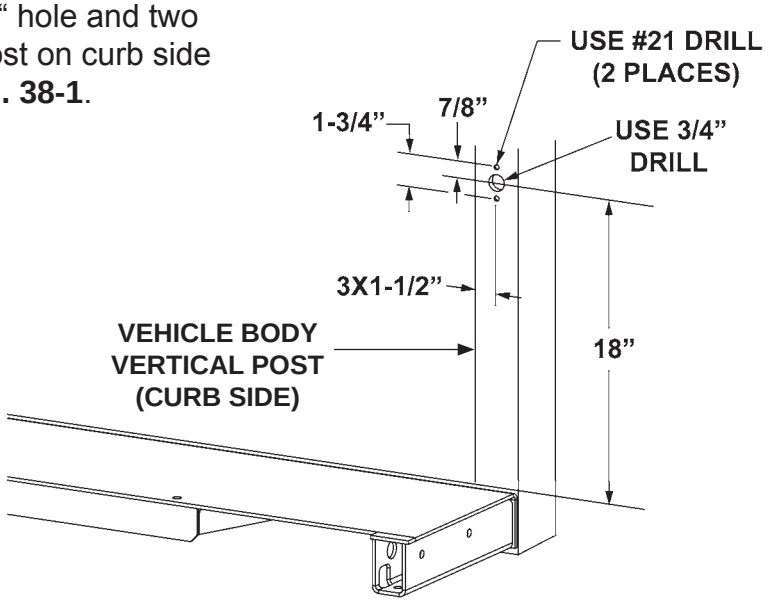
STEP 7 - INSTALL CONTROL SWITCH

1. Measure, mark and drill one 3/4“ hole and two #21–size holes in the vertical post on curb side of vehicle body as shown in **FIG. 38-1**.

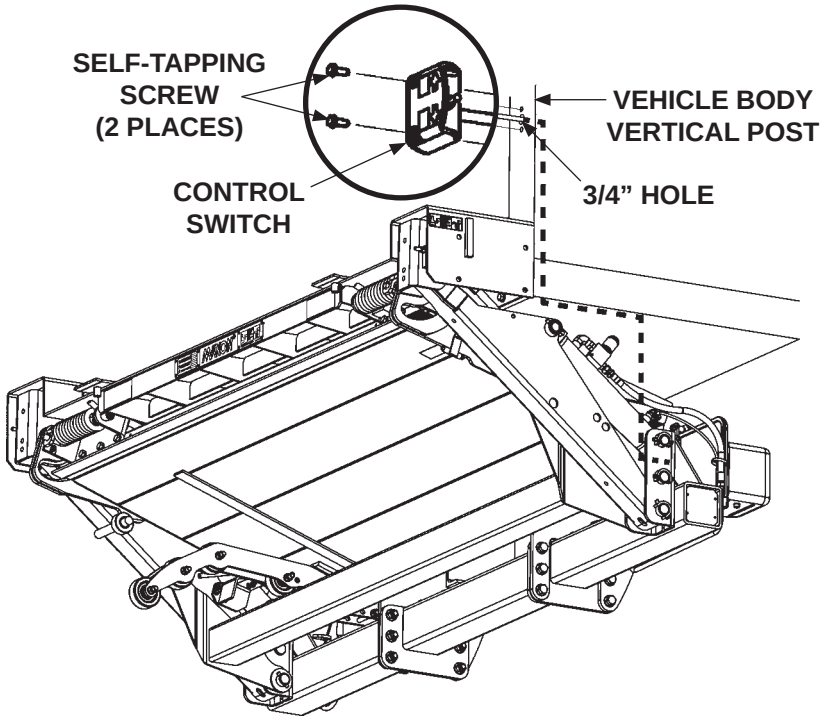


DRILLING MOUNTING HOLES
FIG. 38-1

2. Insert control switch wiring harness (parts box) into 3/4” hole on corner post and down the vertical post and under the vehicle body to the pump assembly. **(See dashed line - FIG. 38-2.)**

3. Push control switch and cable back into the 3/4” hole in the vertical post until control switch touches the post **(FIG. 38-2)**. Attach control switch to vertical post with 2 self-tapping screws (parts box) **(FIG. 38-2)**.

4. If necessary, use clamps and self-tapping screws (parts box) to secure switch cable to vehicle under-body and frame **(FIG. 38-2)**.



ROUTING CONTROL SWITCH WIRING
FIG. 38-2

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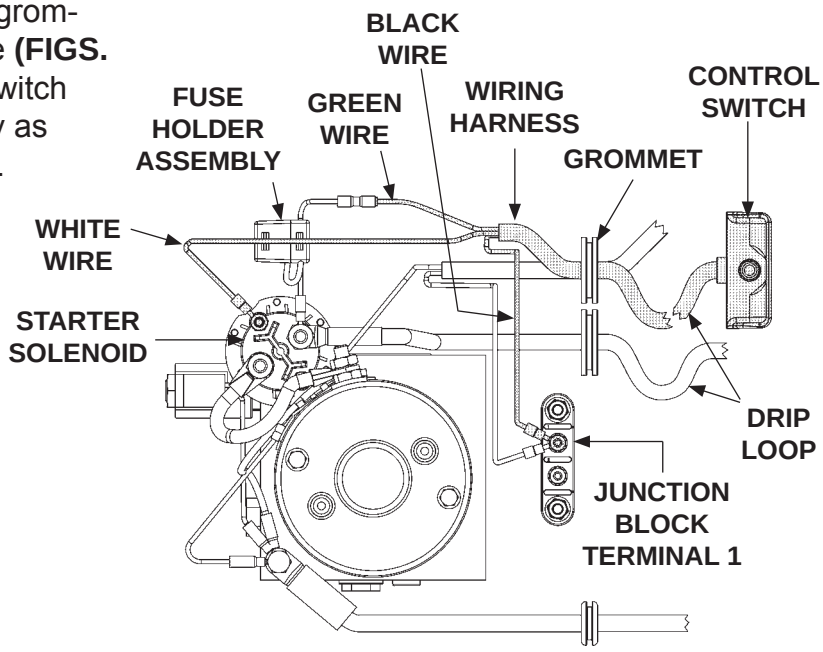
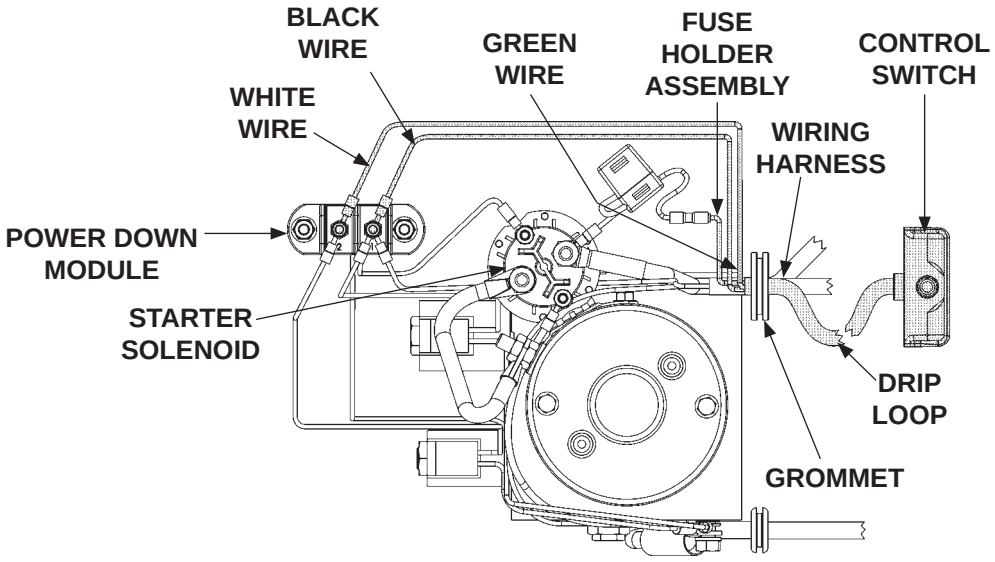
STEP 7 - INSTALL CONTROL SWITCH - Continued

NOTE: Electrical lines must be run into pump box through sealing grommets **(FIGS. 39-1 & 39-2)**. To ensure a good seal on the electrical lines, never cut the sealing grommets.

5. Insert switch wiring through grommet on pump mounting plate **(FIGS. 39-1 & 39-2)**. Connect the switch wiring to the pump assembly as shown in **FIGS. 39-1 & 39-2**.



CONTROL SWITCH WIRING CONNECTIONS (GRAVITY DOWN) FIG. 39-1



CONTROL SWITCH WIRING CONNECTIONS (POWER DOWN) FIG. 39-2

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STEP 8 - CHECKING HYDRAULIC FLUID

CAUTION

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

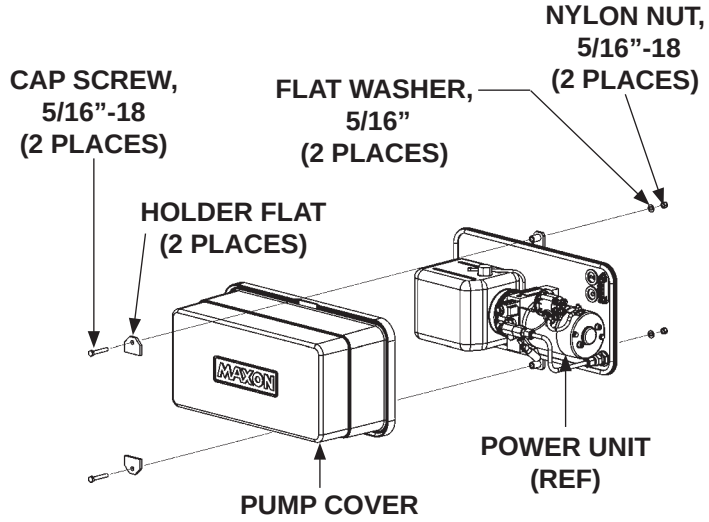
NOTE: Liftgate is shipped with **ISO 32** oil. Use correct oil for climate conditions.

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

See **TABLES 40-1 & 40-2** for recommended brands of **ISO 32** & **ISO 15** oils.

1. Unbolt and remove pump cover **(FIG. 40-1)**.

2. Check the hydraulic fluid level in reservoir as follows. With Liftgate stowed, or platform at vehicle bed height, level should be as shown in **FIG. 40-2**.



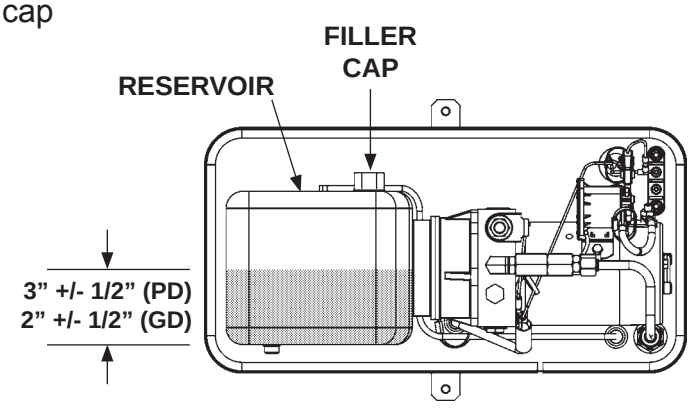
UNBOLTING PUMP COVER
FIG. 40-1

3. If needed, add fluid to the reservoir as follows. Pull out (no threads) filler cap **(FIG. 40-2)**. Fill the reservoir with hydraulic fluid to level shown in **FIG. 40-2**. Reinstall filler cap **(FIG. 40-2)**.

CAUTION

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

4. Bolt on the pump cover as shown in **FIG. 40-1**. Torque the bolts (cap screws) to **10-14 lb-ft**.



POWER UNIT FLUID LEVEL
FIG. 40-2

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STEP 8 - CHECKING HYDRAULIC FLUID - Continued

ISO 32 HYDRAULIC OIL	
RECOMMENDED BRANDS	**PART NUMBER**
CHEVRON	HIPERSYN 32
KENDALL	GOLDEN MV
SHELL	TELLUS S2 VX 32
EXXONMOBIL	UNIVIS N-32, DTE-24

TABLE 41-1

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

TABLE 41-2

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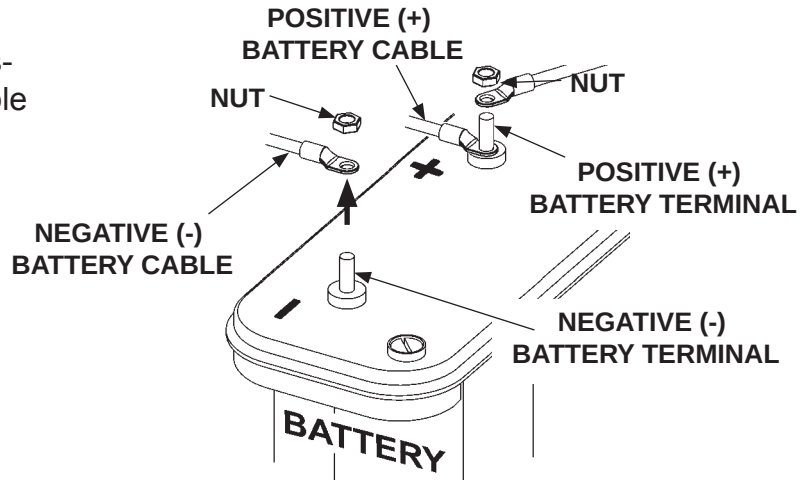
STEP 9 - CONNECT POWER CABLE TO BATTERY

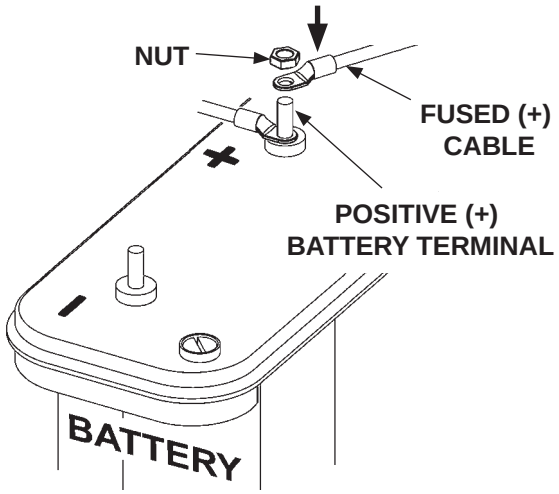
1. Remove nut from negative **(-)** battery terminal **(FIG. 42-1)**. Disconnect negative **(-)** battery cable **(FIG. 42-1)**.



DISCONNECTING (-) BATTERY CABLE
FIG. 42-1

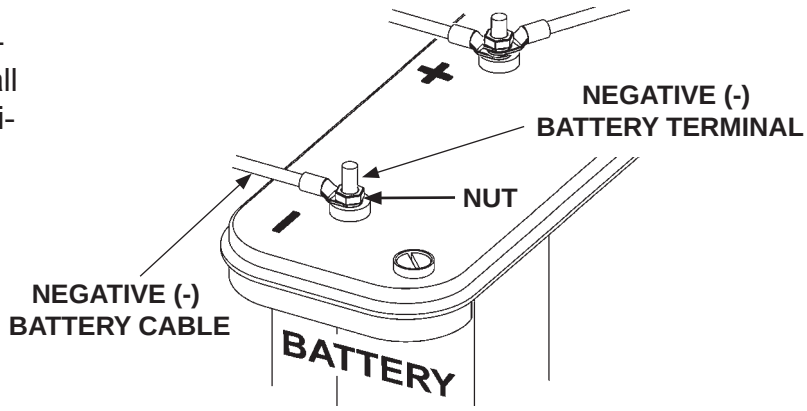
2. Remove nut from positive **(+)** battery terminal **(FIG. 42-1)**.

3. Connect fused positive **(+)** cable to positive **(+)** battery terminal **(FIG. 42-2)**. Then, reinstall nut on positive **(+)** battery terminal **(FIG. 42-2)**.



CONNECTING FUSED (+) CABLE
FIG. 42-2

4. Reconnect negative **(-)** battery cable to negative **(-)** battery terminal **(FIG. 42-3)**. Then, reinstall nut on negative **(-)** battery terminal **(FIG. 42-3)**.



RECONNECTED BATTERY CABLES
FIG. 42-3

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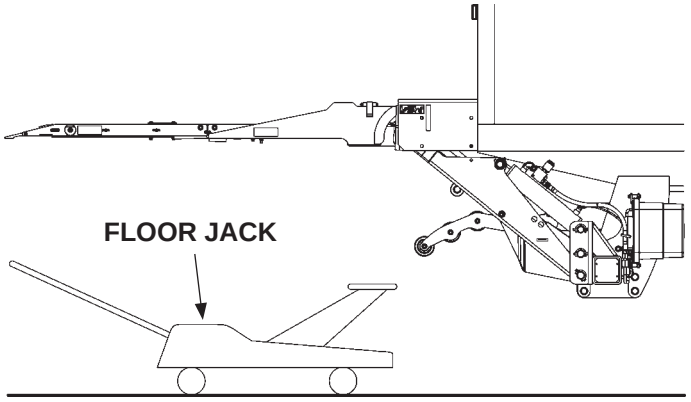
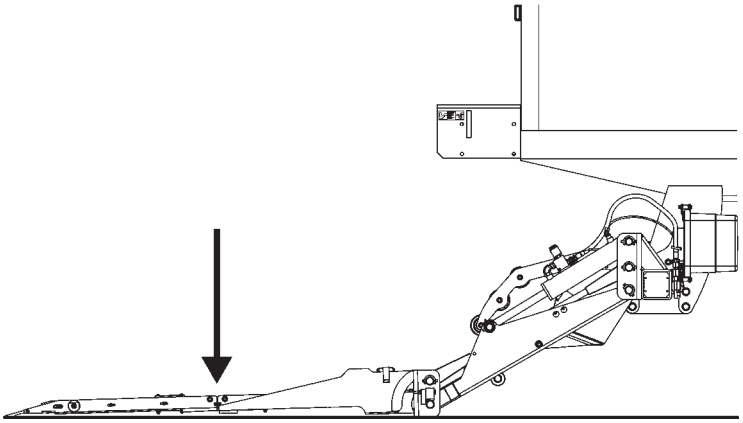
STEP 10 - REMOVE LOCKING BRACKETS & CHECK FOR INTERFERENCE

1. Remove floor jack and hoist supporting Liftgate **(FIG. 43-1)**.



REMOVING JACK
FIG. 43-1

2. Lower platform to ground level **(FIG. 43-2)**. Refer to operating instructions in **Operation Manual**.



LOWERING PLATFORM
FIG. 43-2

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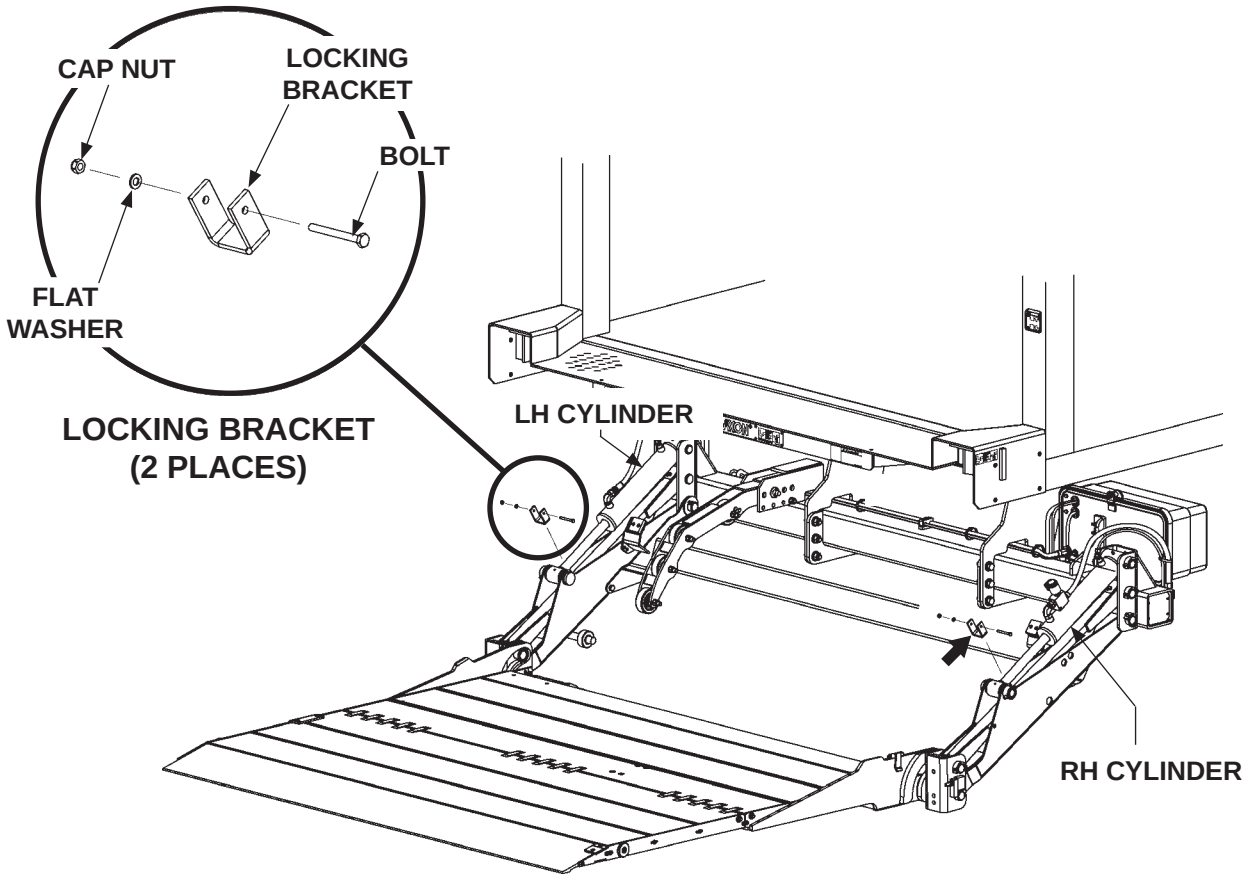
STEP 10 - REMOVE LOCKING BRACKETS & CHECK FOR INTERFERENCE - Continued

CAUTION

To prevent damage to Liftgate, the locking bracket on each cylinder must be removed before operating Liftgate.

3. Unbolt the locking brackets from both cylinders **(FIG. 44-1)**.



REMOVING LOCKING BRACKETS
FIG. 44-1

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

4. Raise the platform **(FIG. 45-1)**. Look for any interference between liftgate and vehicle as platform is raised.

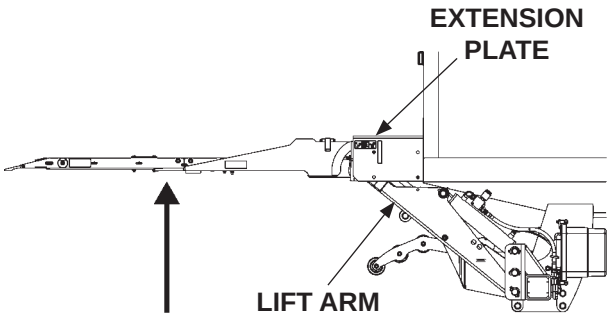
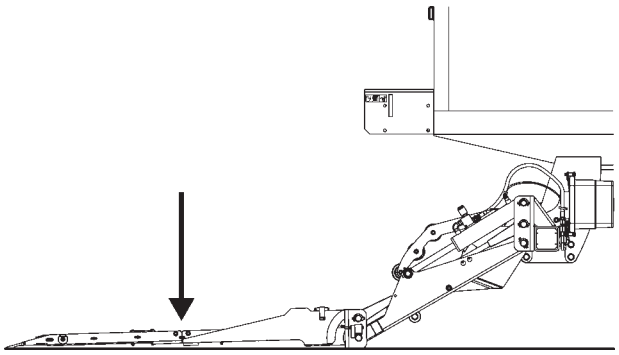
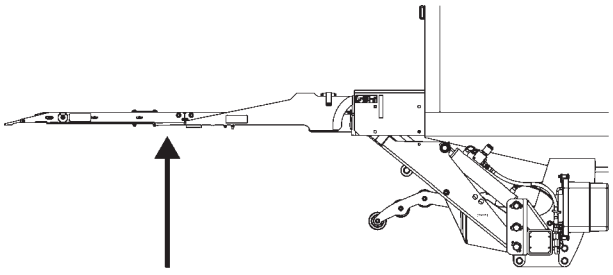


FIG. 45-1

5. Lower platform to the ground **(FIG. 45-2)**. 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. 45-3)**. 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. 45-3)**.



LOWERING PLATFORM
FIG. 45-2



RAISING PLATFORM
FIG. 45-3

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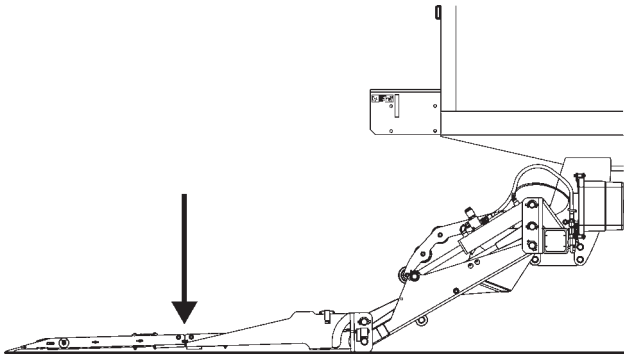
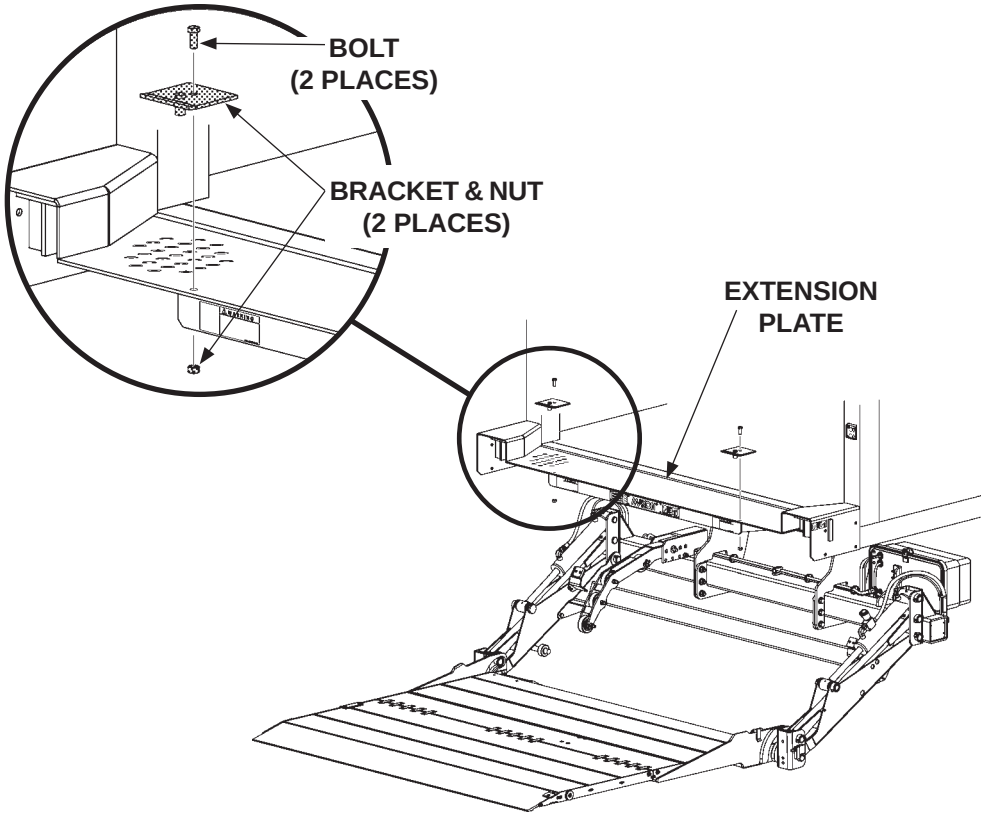
STEP 10 - REMOVE LOCKING BRACKETS & CHECK FOR INTERFERENCE - Continued

6. Lower platform to the ground **(FIG. 46-1)**.



LOWERING PLATFORM
FIG. 46-1

7. Unbolt the 2 installation brackets from extension plate **(FIG. 46-2)**.



REMOVING INSTALLATION BRACKETS
FIG. 46-2

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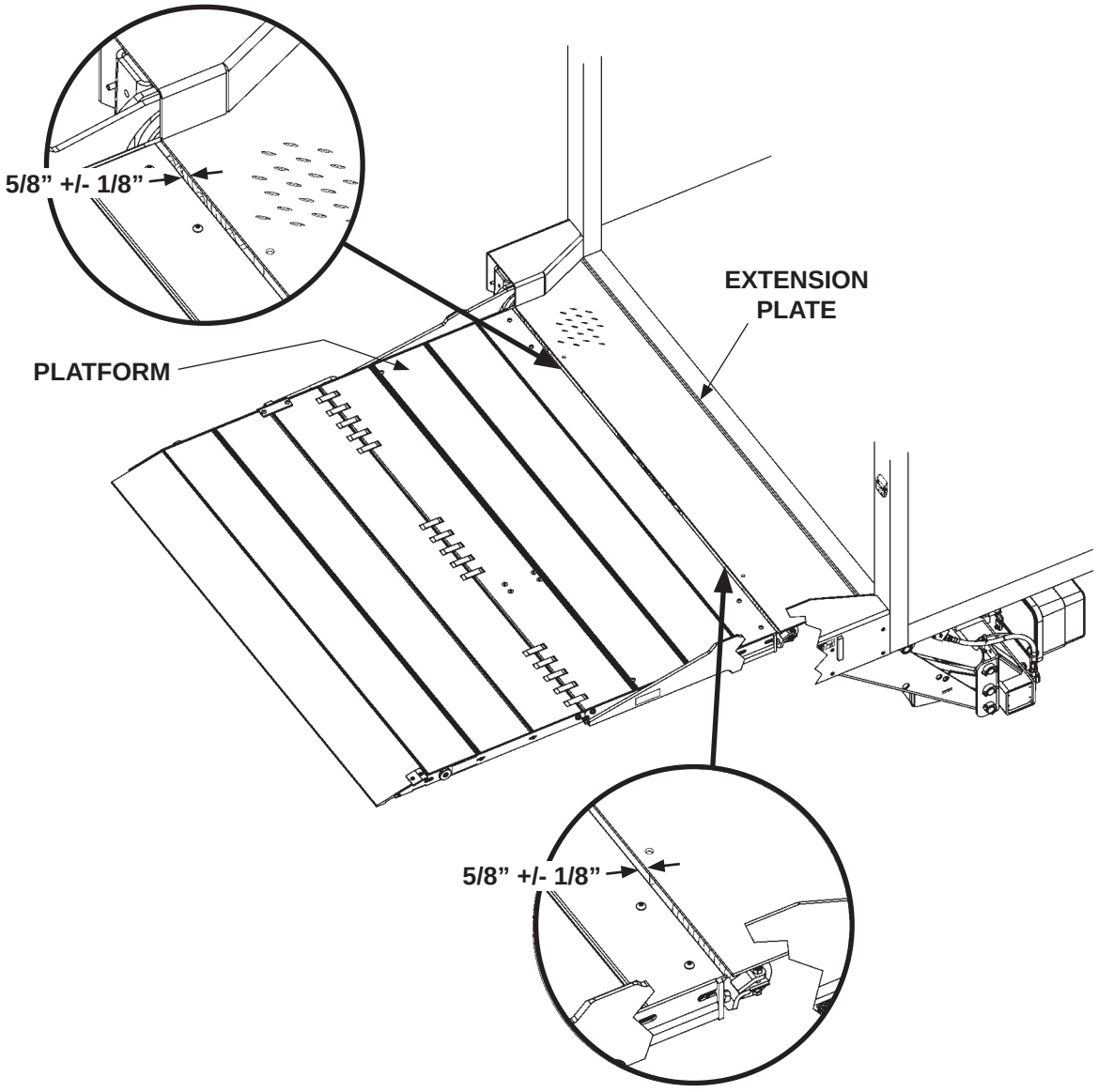
STEP 10 - REMOVE LOCKING BRACKETS & CHECK FOR INTERFERENCE - Continued

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

8. Raise the platform to vehicle floor level **(FIG. 47-1)**. Refer to operating instructions in **Operation Manual**. Check for 5/8” gap between platform and edge of extension plate **(FIG. 47-1)**.



CHECKING GAP BETWEEN PLATFORM AND EXTENSION PLATE
FIG. 47-1

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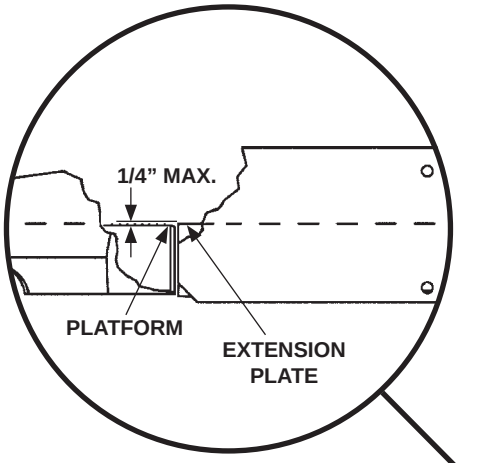
STEP 11 - ADJUST PLATFORM (IF REQUIRED)

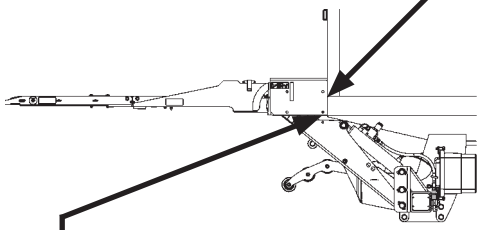
NOTE: In most cases, if Liftgate is installed according to the instructions in this manual, platform will not require adjustment. Use the following instructions to check the platform. Adjust the platform only if required.

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

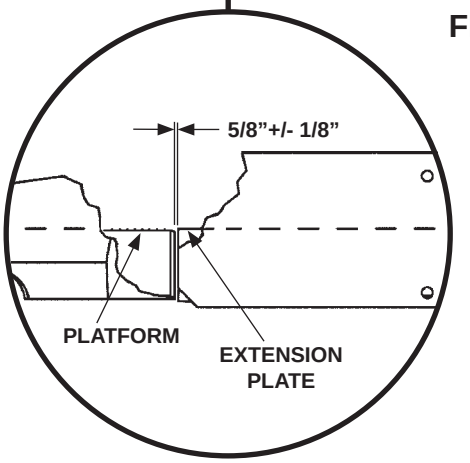
1. RAISE platform to bed height. Check the platform as follows. Inboard edge on top of platform must be no more than 1/4" from diamond plate surface on top of extension plate **(FIGS. 48-1A & 48-1B)**. The maximum allowable horizontal gap between inboard edge of platform and adjacent edge of extension plate is 5/8" +/- 1/8" **(FIGS. 48-1A & 48-1C)**. **LOWER** platform to ground level. Shackles and tip of flipover should touch the ground at the same time **(FIG. 48-2)**. Tip of flipover must not be higher than 1/4" above the ground. If all indications are correct **(FIGS. 48-1A, 48-1B, 48-1C, & 48-2)**, Liftgate is installed correctly and no adjustment is needed. If the tip of flipover is too high above the ground, if shackles are off the ground, or if there is too much gap between platform and extension plate, continue doing this procedure.



VERTICAL GAP
FIG. 48-1B

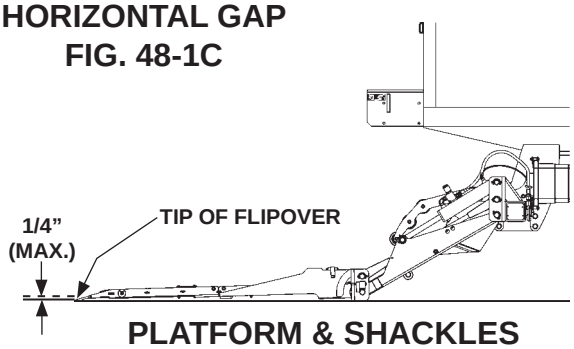


PLATFORM AT BED LEVEL
FIG. 48-1A



HORIZONTAL GAP
FIG. 48-1C

NOTE: If the shackles do not touch the ground **(see FIG. 49-1)**, do instruction **2**. If the tip of the flipover is more than 1/4" above the ground **(see FIG. 48-2)**, skip **instructions 2 - 5** and do **instruction 6**. If there is too much vertical space **(FIG. 48-1B)** or horizontal space **(FIG. 48-1C)** between platform and extension plate, start with **instruction 7** to remove and reinstall Liftgate.



PLATFORM & SHACKLES TOUCH GROUND
FIG. 48-2

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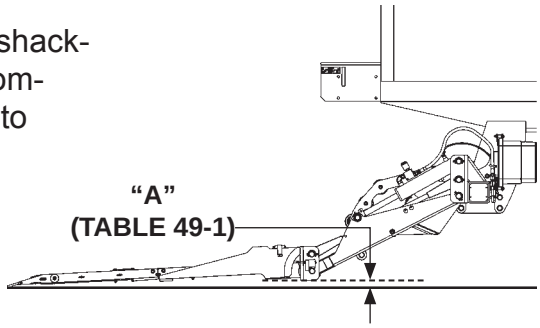
STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

2. Make sure platform is still at ground level. If the shackles are not touching the ground, measure and compare distance **"A" (FIG. 49-1)** with **TABLE 49-1** to determine the correct shim.



SHACKLES DO NOT TOUCH GROUND
FIG. 49-1

RAISE TIP OF FLIPOVER THIS DISTANCE "A"	REQUIRED SHIM THICKNESS	WELD SIZE "W"
1"	1/16"	1/32"
2"	1/8"	1/16"

TABLE 49-1

3. Fold the flipover and platform. Then, raise the platform to position shown in **FIG. 49-2A**.

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.

CAUTION

When using an electric welder, connect the welder to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

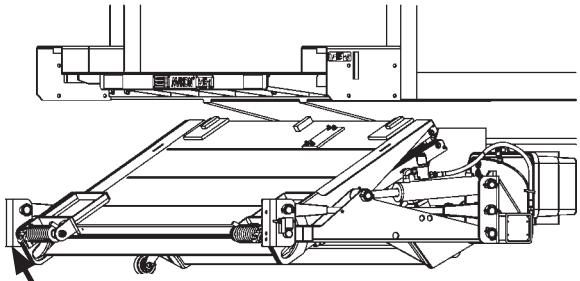


FIG. 49-2A

4. Use **TABLE 49-1** to select the correct size shim from the parts box. Weld shim to pin as shown in **FIG. 49-2B**.

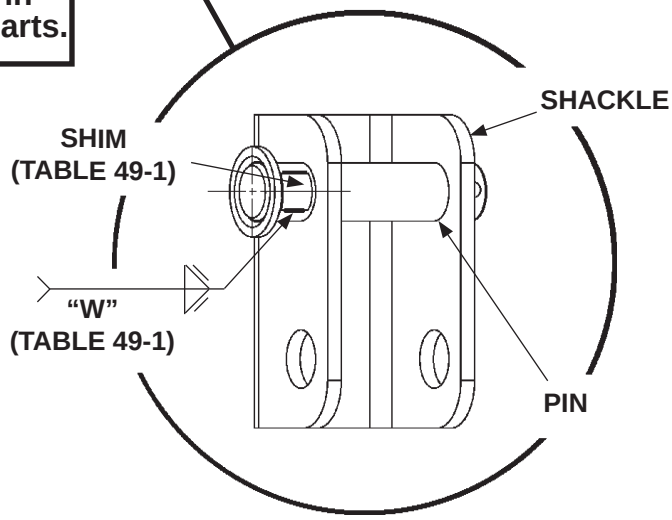


FIG. 49-2B

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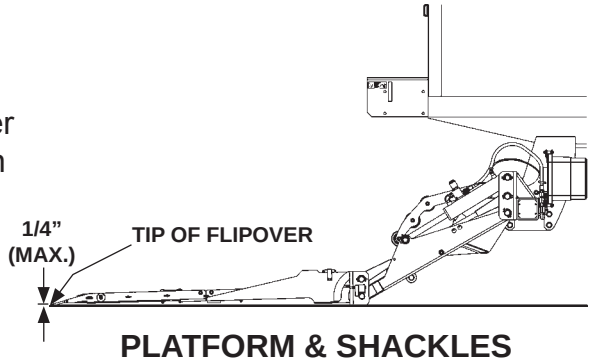
STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

5. Lower platform to the ground. Unfold platform and flipover. **RAISE** the platform to bed height, then **LOWER** it to the ground. The tip of flipover and shackle should touch the ground as shown in **FIG. 50-1**. Tip of flipover must not be higher than 1/4" above the ground.



PLATFORM & SHACKLES TOUCH GROUND
FIG. 50-1

NOTE: For an aluminum platform & flipover equipped with retention ramp, 2" of ground clearance is acceptable at the tip of flipover.

6. If the tip of flipover is more than 1/4" above the ground **(FIG. 50-2)**, note the distance **"B"** above ground level. See the exception in the **NOTE** above. Distance **"B"** will be used for adjusting the platform later in this procedure.

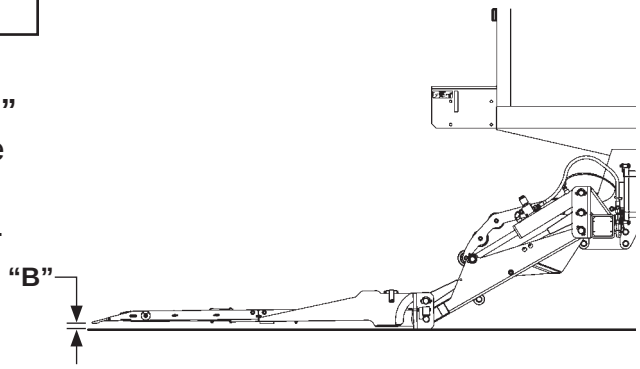


FIG. 50-2

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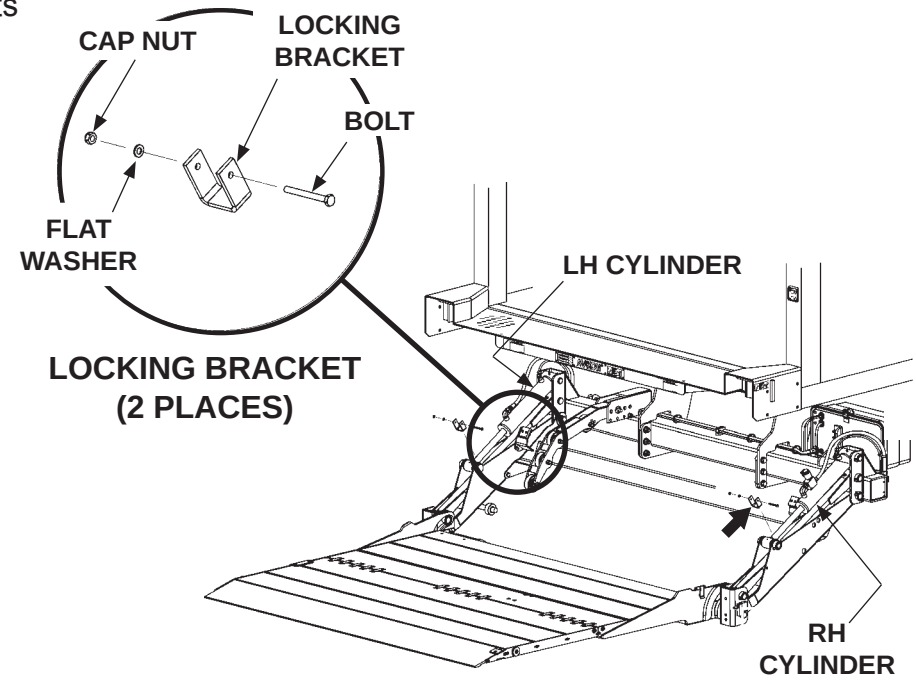
STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

7. Reinstall locking brackets on both cylinders **(FIG. 51-1)**. Bolt each locking bracket in place.



REINSTALLING LOCKING BRACKETS
FIG. 51-1

8. Review the **WARNING** page at the front of this manual before continuing this procedure. **Stay clear of moving Liftgate parts.**

9. **RAISE** platform to position just below extension plate **(see FIG. 51-2)**. Refer to operating instructions in **Operation Manual**.

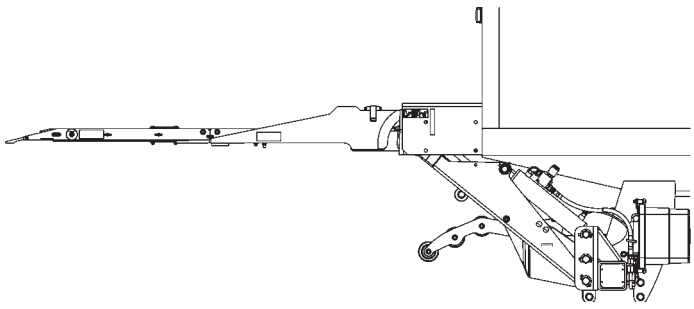


FIG. 51-2

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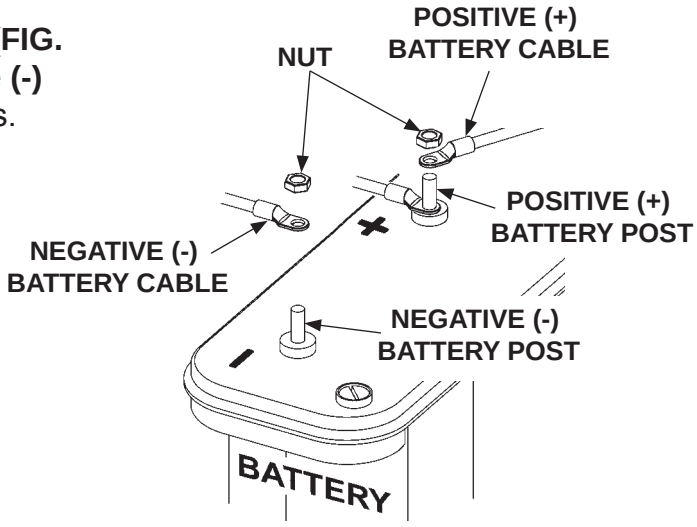
STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

⚠ WARNING

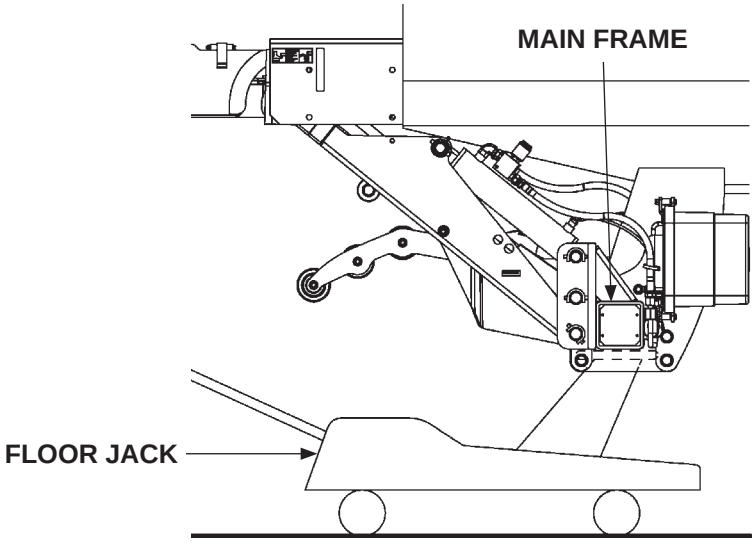
To prevent accidental personal injury and equipment damage, make sure power is disconnected from Liftgate while installing parts.

10. Disconnect power to the pump by disconnecting negative **(-)** and positive **(+)** cables from battery **(FIG. 52-1)**. Reinstall nuts on negative **(-)** and positive **(+)** battery terminals.



DISCONNECTING BATTERY POWER
FIG. 52-1

11. Support the Liftgate under main frame with a floor jack **(FIG. 52-2)**.



SUPPORTING LIFTGATE
FIG. 52-2

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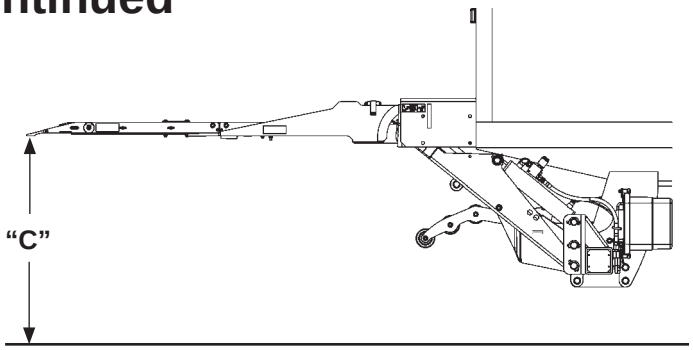
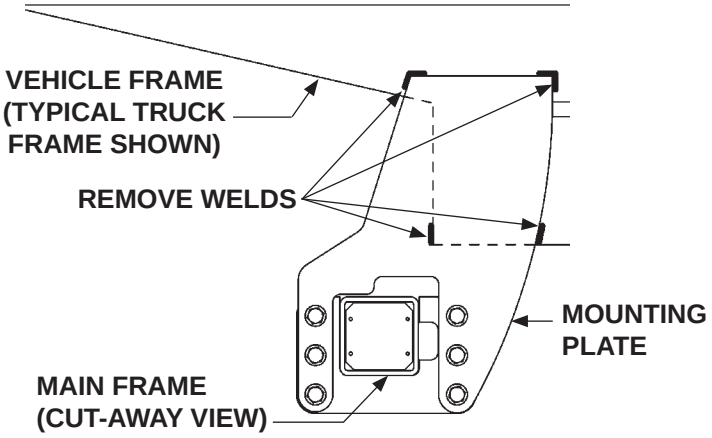
STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

12. Measure distance **"C"** from the tip of the flipover to ground level **(FIG. 53-1)**. Next, subtract the distance **"B"** measured in instruction 6. The result is distance **"D"** for the platform adjustment **(FIG. 53-3)**. For example, if you measured 50" for **"C"** and 1" for **"B"**, the calculated distance **"D"** for the platform adjustment is 49".



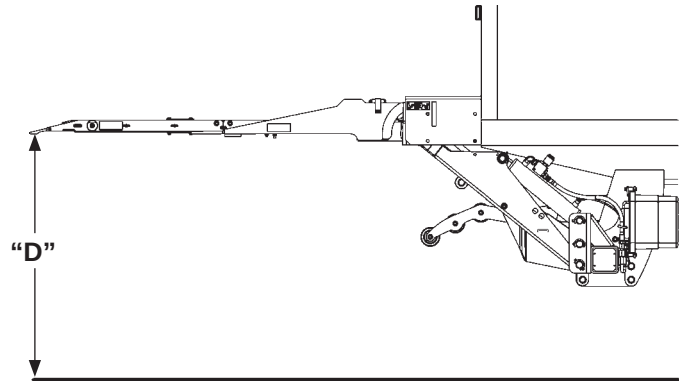
LIFTGATE CLEARANCE DIMENSIONS
FIG. 53-1

13. Remove welds from RH side and LH side mounting plates **(FIG. 53-2)**.



REMOVING WELDS FROM MOUNTING PLATE
(RH SIDE SHOWN)
FIG. 53-2

14. Raise or lower the floor jack to adjust distance **"D"** between tip of flipover and ground level **(FIG. 53-3)**. Use the distance **"D"** calculated in instruction 12.



LIFTGATE CLEARANCE DIMENSIONS
FIG. 53-3

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STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

CAUTION

When using an electric welder, connect the welder ground to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

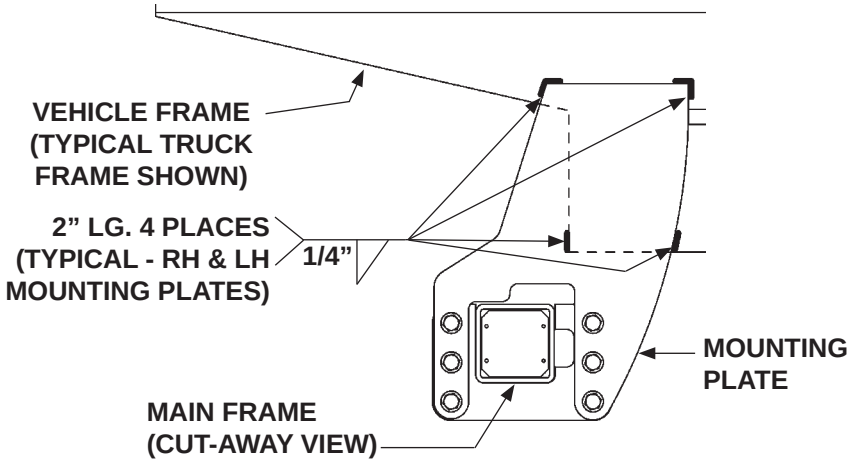
CAUTION

Prevent damaged hydraulic hoses. Before welding next to hydraulic hoses, protect the hoses with a heat-resistant cover.

CAUTION

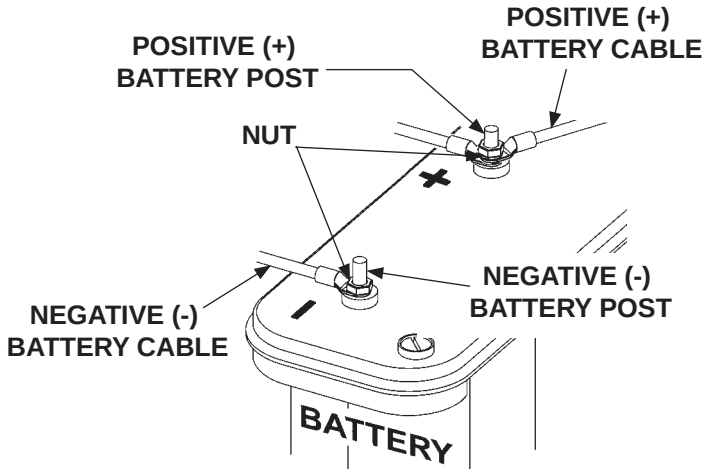
To protect the original paint system, a 3" wide area of paint must be removed from all sides of the weld area before welding.

15. Clamp the RH side and LH side mounting plates to vehicle frame. Weld the mounting plates to vehicle frame as shown in **FIG. 54-1**. Remove clamps.



WELD TO VEHICLE FRAME AND MAIN FRAME (RH SIDE SHOWN)
FIG. 54-1

16. Reconnect power to the pump by reconnecting positive **(+)** and negative **(-)** cables to battery **(FIG. 54-2)**. Reinstall and tighten nut when each battery cable is reconnected.



RECONNECTING POWER
FIG. 54-2

17. Lower the floor jack and move it away from the Liftgate.

STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

18. **LOWER** the Liftgate to ground level **(FIG. 55-2A)**. Remove the installation brackets from RH side and LH side of platform **(FIG. 55-2B)**.

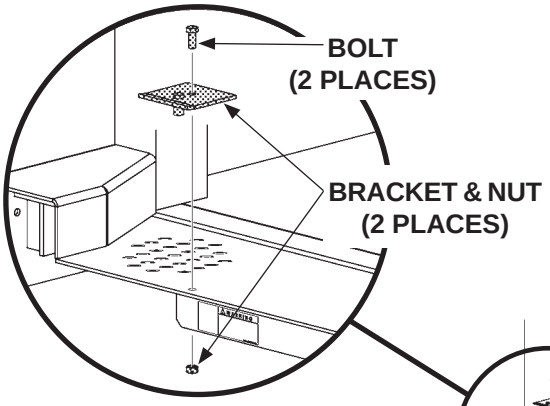
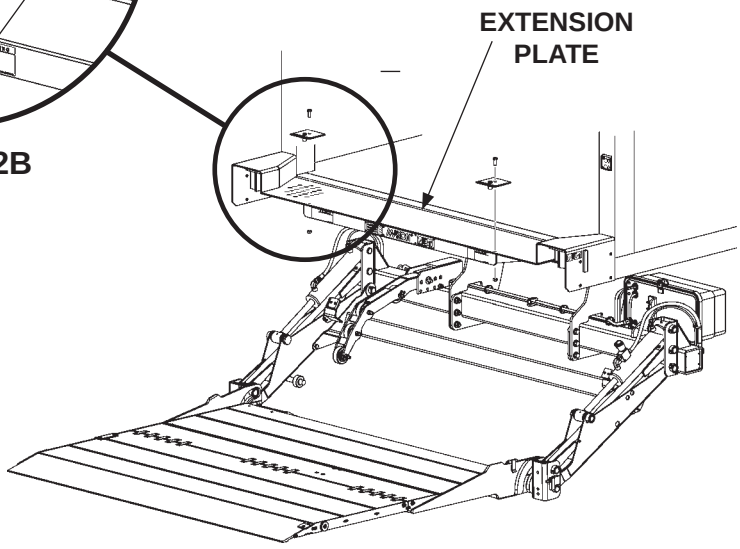


FIG. 55-2B



REMOVING INSTALLATION BRACKETS
FIG. 55-2A

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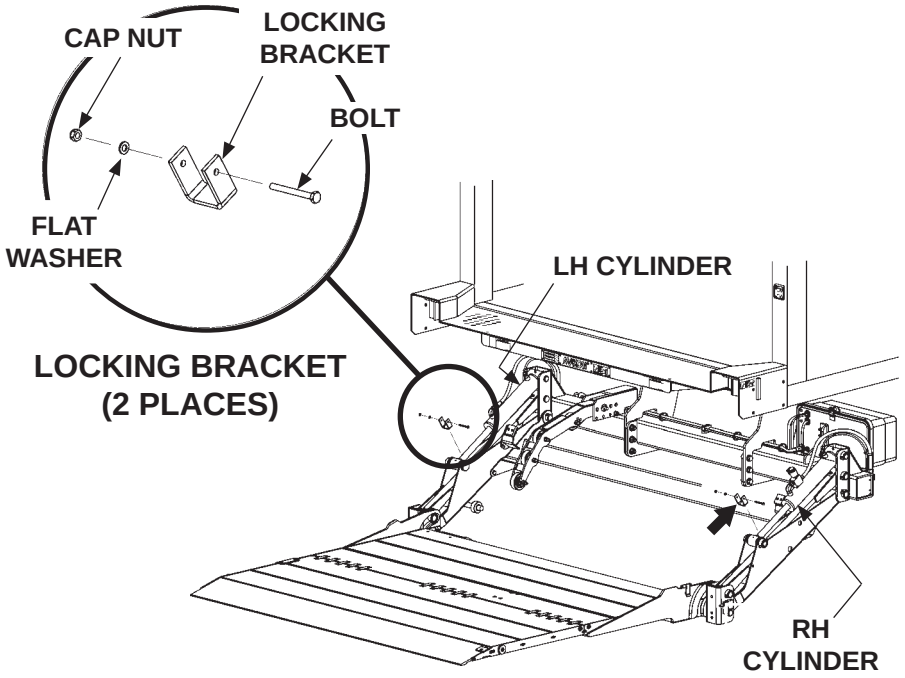
STEP 11 - ADJUST PLATFORM (IF REQUIRED) - Continued

19. Unbolt the locking brackets from both cylinders **(FIG. 56-1)**. Remove the locking brackets.



REMOVING LOCKING BRACKETS
FIG. 56-1

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STEP 12 - FINISH WELDING LIFTGATE TO VEHICLE

⚠ WARNING

Liftgate is shipped from factory with mounting plates bolted to the main frame. Weld the mounting plates as shown in illustrations before operating Liftgate.

CAUTION

When using an electric welder, connect the welder ground to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

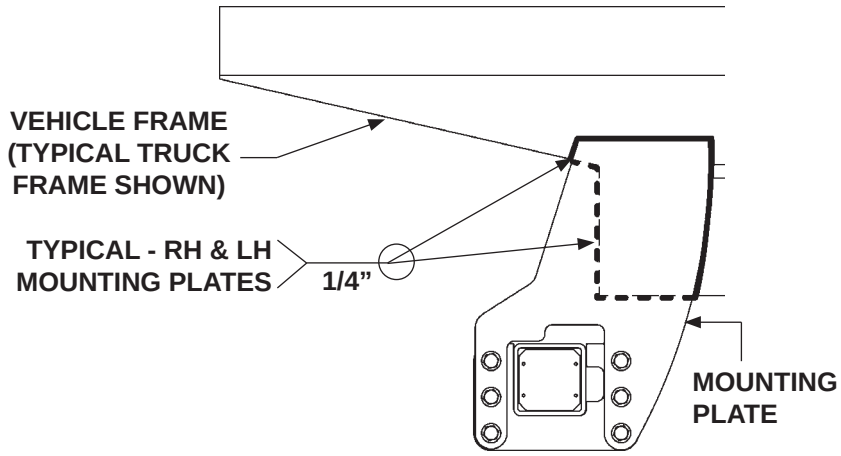
CAUTION

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

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.

Weld the mounting plates to vehicle frame as shown in **FIG. 57-1**.



WELD TO VEHICLE FRAME
(RH SIDE SHOWN)
FIG. 57-1

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STEP 13 - WELD TRUCK BODY TO FRAME (TRUCKS ONLY)

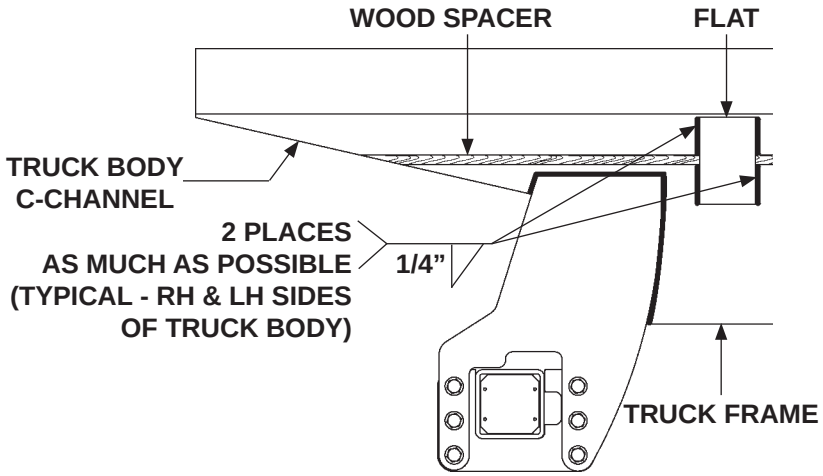
CAUTION

When using an electric welder, connect the welder to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

CAUTION

To prevent truck body from moving out of position, weld the C-channels on each side of truck body to truck frame.

1. Fabricate two flats, from 1/4” thick x 4” wide steel, that will fit in the area on the truck frame shown in **FIG. 58-1**.



WELDING TRUCK BODY TO FRAME (RH SIDE SHOWN) FIG. 58-1

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.

2. Weld flat to the truck frame and the C-channel on the RH side of truck body as shown in **FIG. 58-1**. Ensure welds on flat are the same length above and below the wood spacer **(FIG. 58-1)**. Repeat for the LH side of the truck body.

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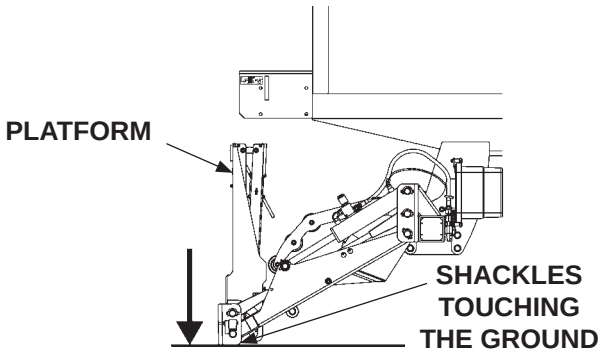
STEP 14 - ADJUST OPENER (IF REQUIRED)

NOTE: The platform must always stow and unfold without hitting underside of vehicle. Platform should unfold as close as possible to position shown in **FIG. 59-1**, but must never be positioned so it falls open.

1. The **MAXON-recommended** procedure for repositioning the opener is as follows. Lower the platform from stowed position **(FIG. 59-1)**.

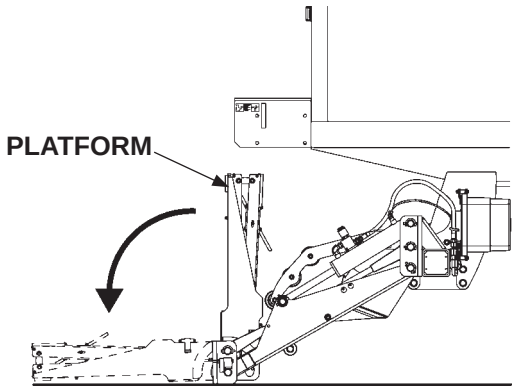


PLATFORM LOWERED FROM STOWED POSITION (RH SIDE VIEW)
FIG. 59-1

⚠ CAUTION

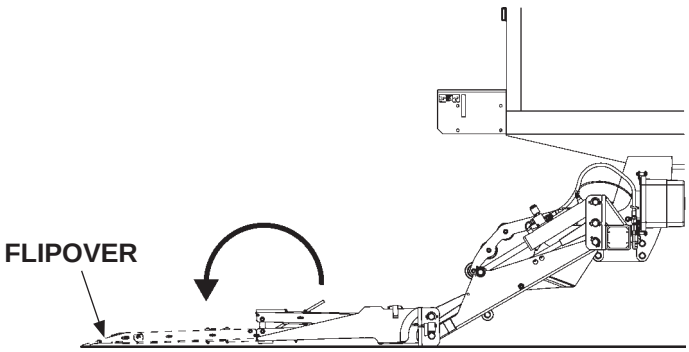
To prevent injury, unfold platform before repositioning opener.

2. Unfold the platform **(FIG. 59-2)**.



UNFOLDING PLATFORM
FIG. 59-2

3. Unfold the flipover **(FIG. 59-3)**.



UNFOLDING FLIPOVER
FIG. 59-3

4. Measure vehicle bed height. Then move the opener, as required, to the matching bed height position for your Liftgate as shown in **FIG. 60-1B** and **FIG. 61-1B**.

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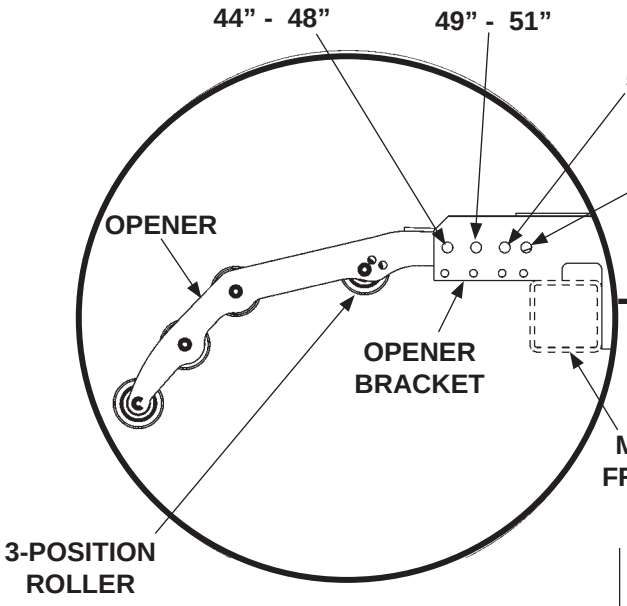
STEP 14 - ADJUST OPENER (IF REQUIRED) - Continued

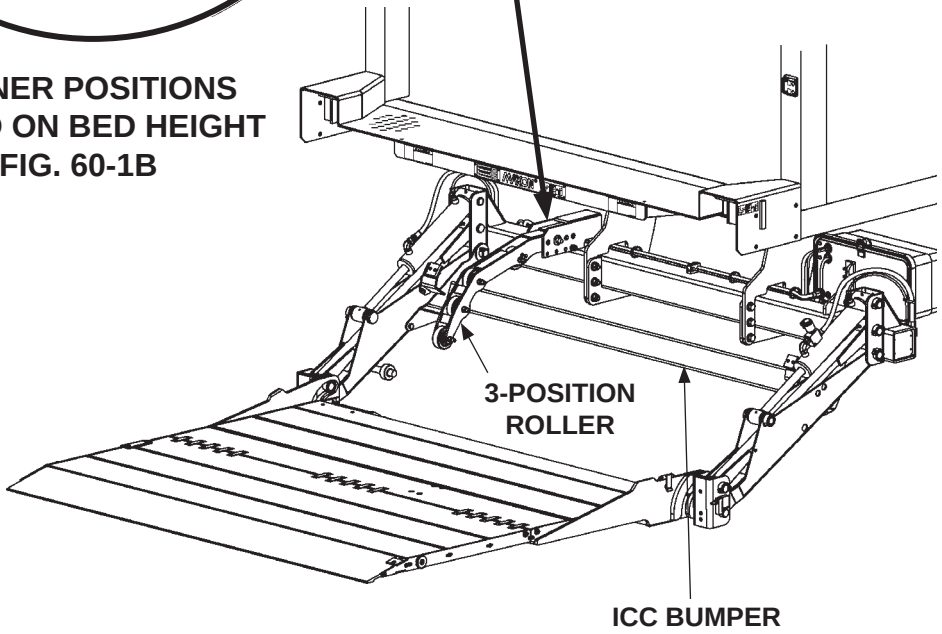
CAUTION

To prevent damage to ICC bumper, opener must not rub against bumper. Ensure the 3-position roller remains in contact with ICC bumper at first contact and through the full range of motion to highest position. Bolt roller in one of the 3 hole positions that best maintains contact between roller and bumper.

NOTE: Opener can be repositioned to best open the platform when vehicle bed heights are 46" to 55". The platform must always stow and unfold without hitting underside of vehicle. Platform should unfold as close as possible to position shown in **FIG. 59-1**, but must never be positioned so it falls open.



OPENER POSITIONS BASED ON BED HEIGHT
FIG. 60-1B



GPTLR-25 OR GPTLR-33
FIG. 60-1A

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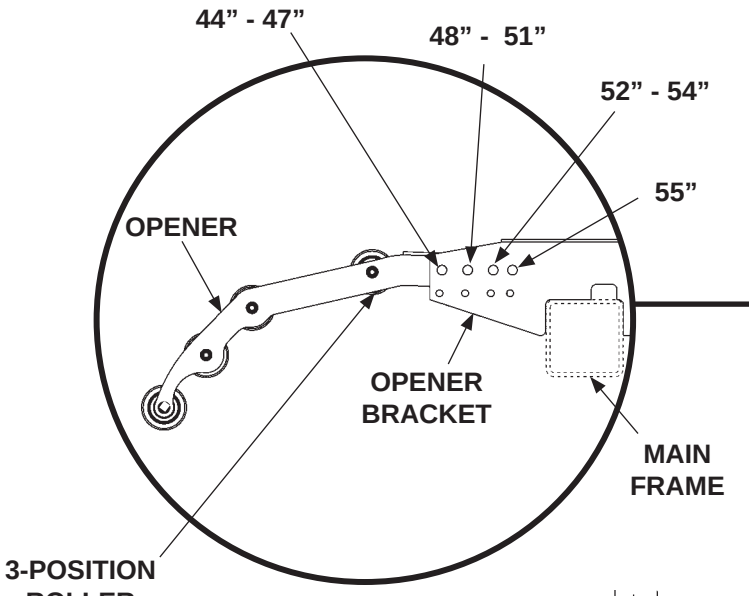
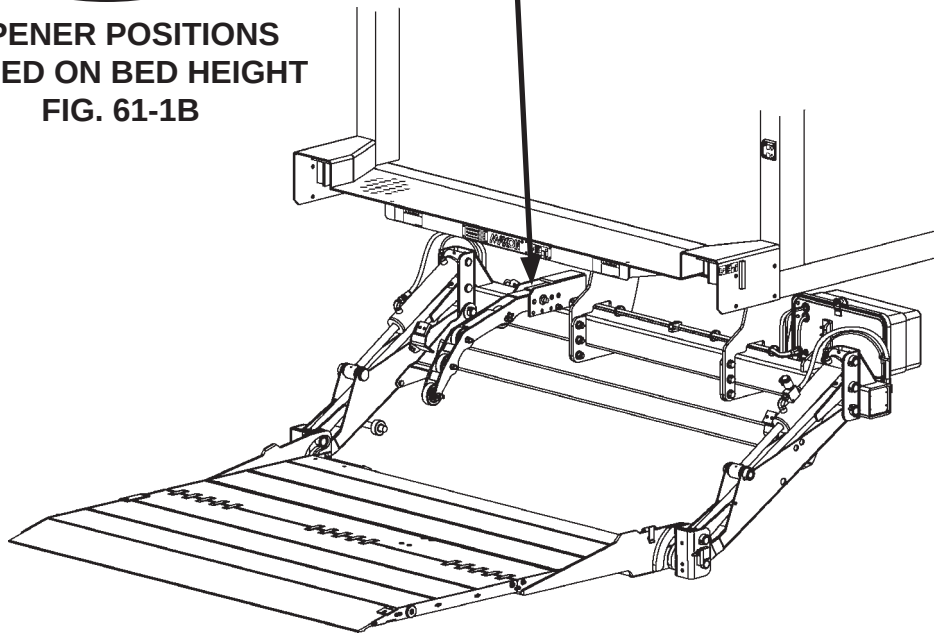
STEP 14 - ADJUST OPENER (IF REQUIRED) - Continued

NOTE: Opener can be repositioned to best open the platform when vehicle bed heights are 44” to 55”. The platform must always stow and unfold without hitting underside of vehicle. Platform should unfold as close as possible to position shown in **FIG. 59-1**, but must never be positioned so it falls open.



OPENER POSITIONS BASED ON BED HEIGHT FIG. 61-1B



GPTLR-44 & GPTLR-55 FIG. 61-1A

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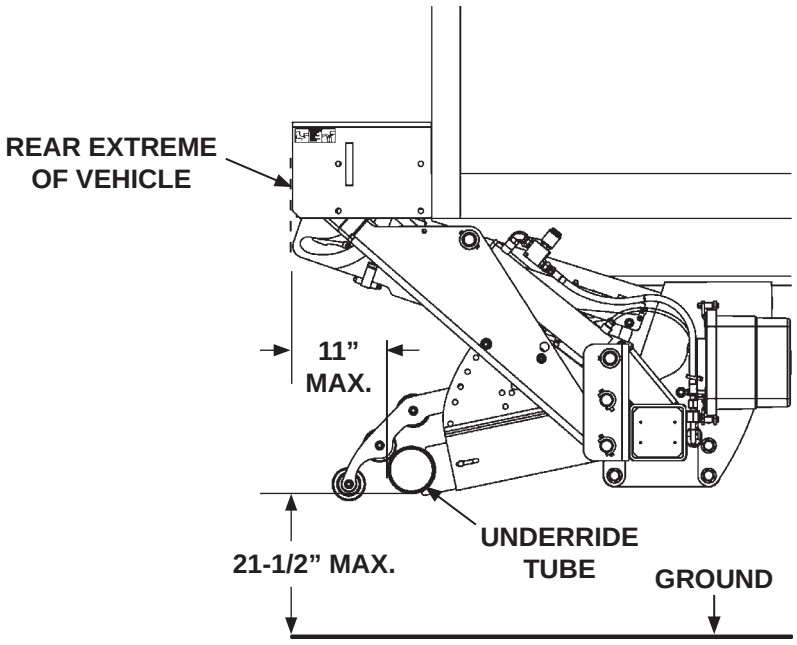
STEP 15 - ADJUST UNDERRIDE

NOTE: This underride adjustment procedure is for:
- GPTLR-25 & GPTLR-33 with Federal Motor Vehicle Safety Standard (FMVSS) optional underride
- GPTLR-44 & GPTLR-55 with standard FMVSS underride
- GPTLR-44 & GPTLR-55 with Canadian Motor Vehicle Safety Standard (CMVSS) underride

NOTE: For 5” tubular underride to meet applicable FMVSS and CMVSS regulations, ground clearance must not exceed 21-1/2” from the bottom of the tube. Also, the rear-facing part of the underride tube must not exceed 11” from the rear extreme of the vehicle. Refer to **FIG. 62-1**.



GPTLR-44 OR GPTLR-55 LIFTGATE, EQUIPPED WITH STANDARD UNDERRIDE, SHOWN WITH MAXIMUM ALLOWABLE CLEARANCES
FIG. 62-1

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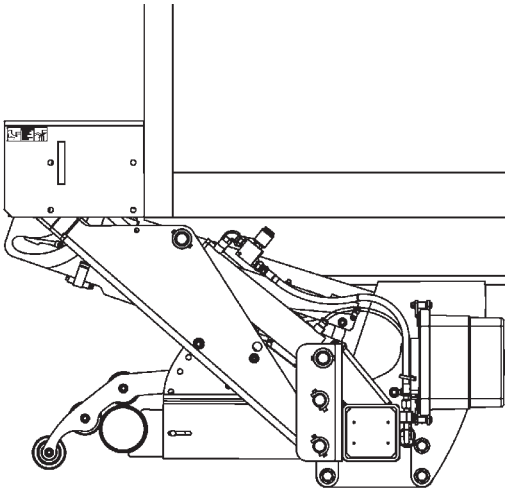
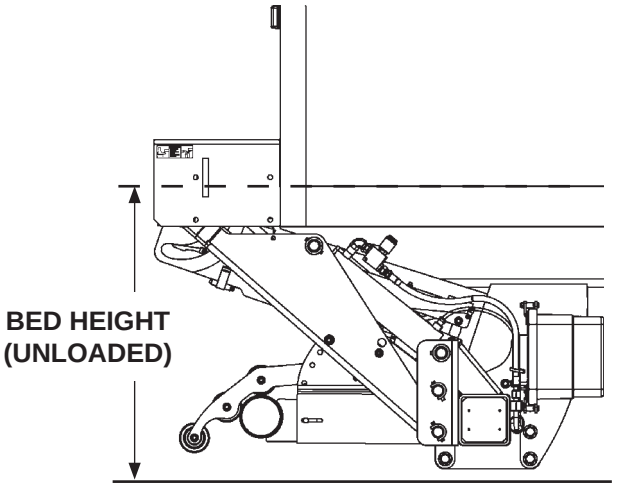
STEP 15 - ADJUST UNDERRIDE - Continued

1. Stow the Liftgate under hydraulic pressure **(FIG. 63-1)**.



LIFTGATE WITH PLATFORM STOWED (STANDARD UNDERRIDE SHOWN) FIG. 63-1

2. Measure vehicle bed height **(FIG. 63-2)**.



MEASURING BED HEIGHT (STANDARD UNDERRIDE SHOWN) FIG. 63-2

NOTE: If underride is already bolted in correct position for your bed height, and if tube position is adjustable, go to the instructions for **ADJUSTING UNDERRIDE TUBE**.

3. Refer to **FIGS. 64-1B, 64-2B, and 65-1B** to find the hole position that matches your model of Liftgate, underride, and bed height.

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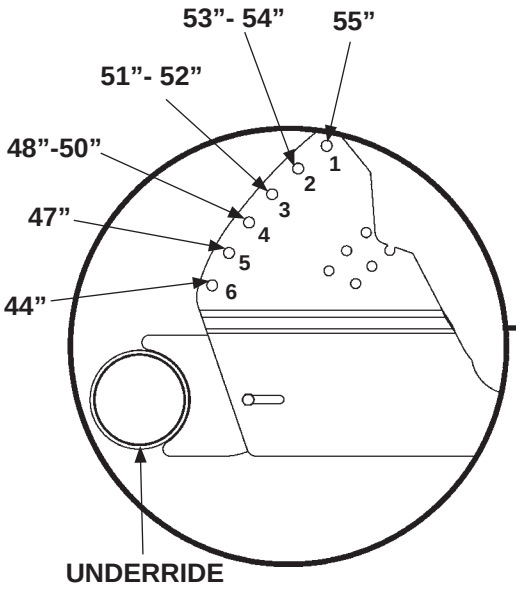
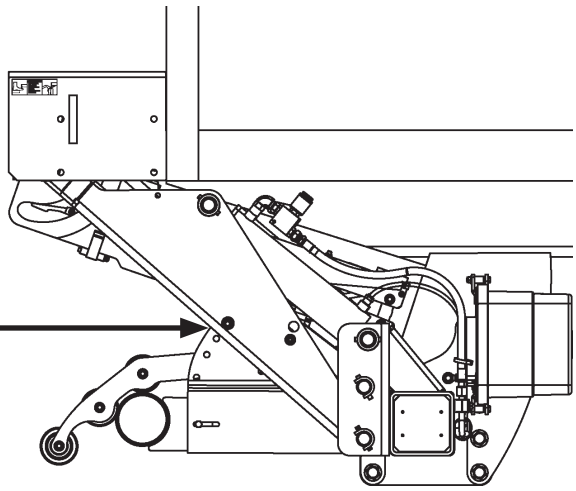
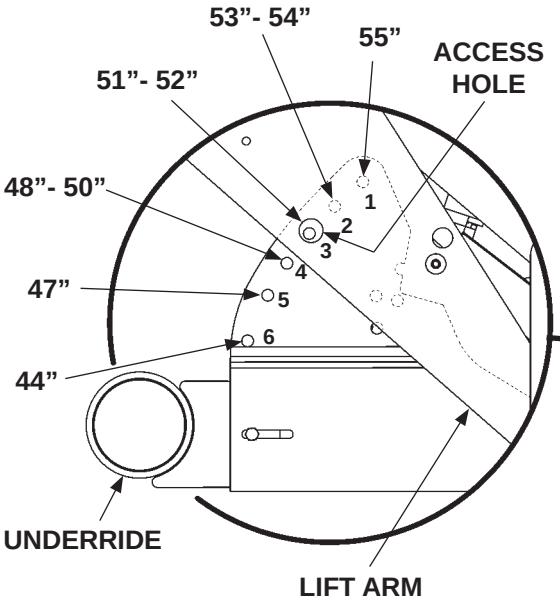
STEP 15 - ADJUST UNDERRIDE - Continued



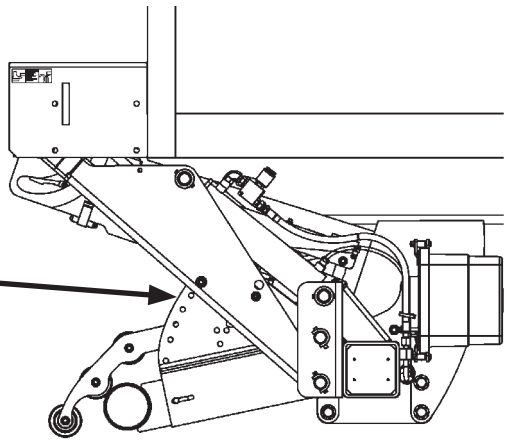
GPTLR-25 & GPTLR-33 FMVSS UNDERRIDE BRACKET SETTINGS BASED ON BED HEIGHT (RH BRACKET SHOWN) FIG. 64-1B



GPTLR-25 & GPTLR-33 OPTIONAL FMVSS UNDERRIDE FIG. 64-1A



GPTLR-44 & GPTLR-55 FMVSS UNDERRIDE BRACKET SETTINGS BASED ON BED HEIGHT (RH BRACKET SHOWN) FIG. 64-2B



GPTLR-44 & GPTLR-55 STANDARD FMVSS UNDERRIDE FIG. 64-2A

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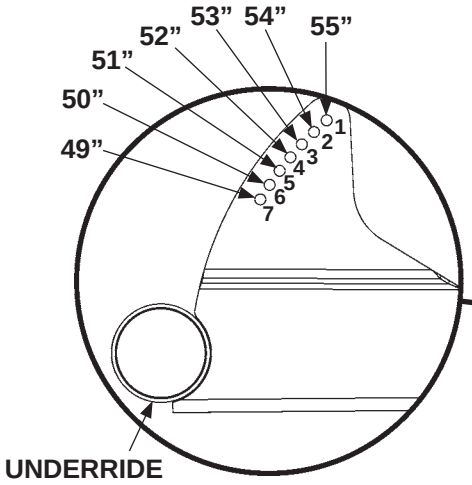
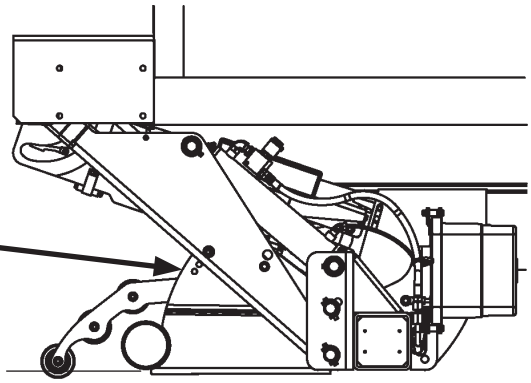
STEP 15 - ADJUST UNDERRIDE - Continued



GPTLR-44 & GPTLR-55 CMVSS
UNDERRIDE BRACKET SETTINGS
BASED ON BED HEIGHT
(RH BRACKET SHOWN)
FIG. 65-1B



GPTLR-44 & GPTLR-55
OPTIONAL CMVSS UNDERRIDE
FIG. 65-1A

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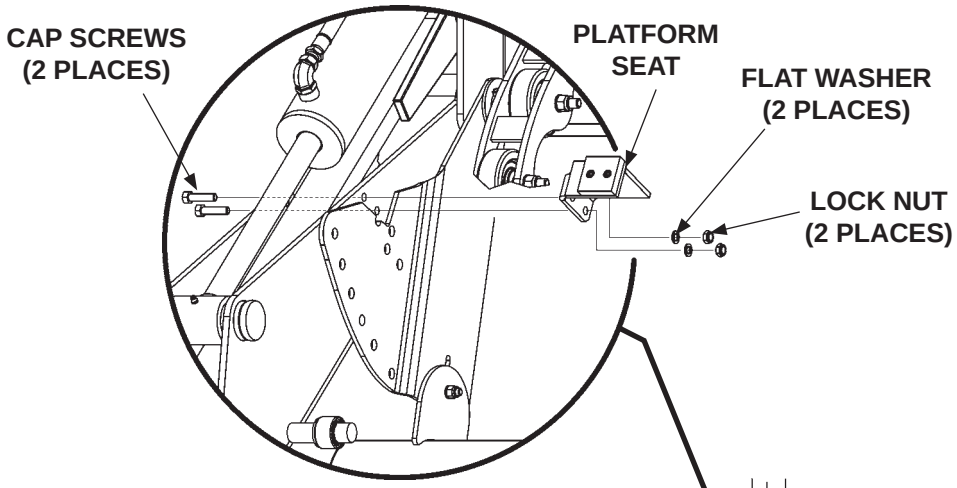
STEP 15 - ADJUST UNDERRIDE - Continued

NOTE: If your underride is not in the correct position for bed height of vehicle, perform the following procedure.

ADJUSTING UNDERRIDE ASSEMBLY

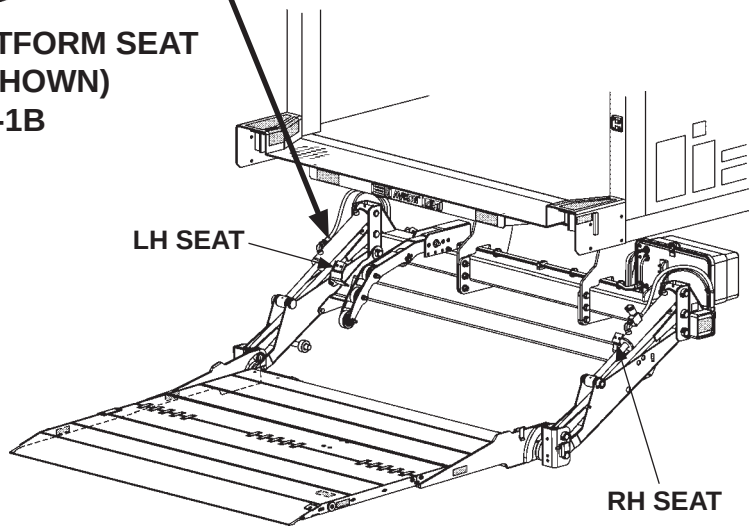
NOTE: Platform seats must be removed from lift arms to adjust position of underride assembly. Seats must be reinstalled after adjusting position.

4. Lower platform to the ground. Then, unfold platform and flipover **(FIG. 66-1A)**.



UNBOLTING PLATFORM SEAT
(LH SEAT SHOWN)
FIG. 66-1B

5. Unbolt each of the 2 platform seats **(FIG. 66-1B)**.



LIFTGATE WITH PLATFORM ON THE GROUND
(STANDARD FMVSS UNDERRIDE SHOWN)
FIG. 66-1A

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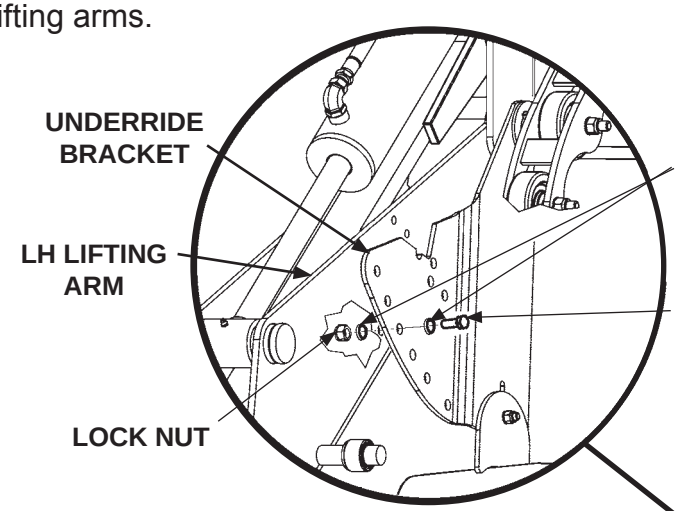
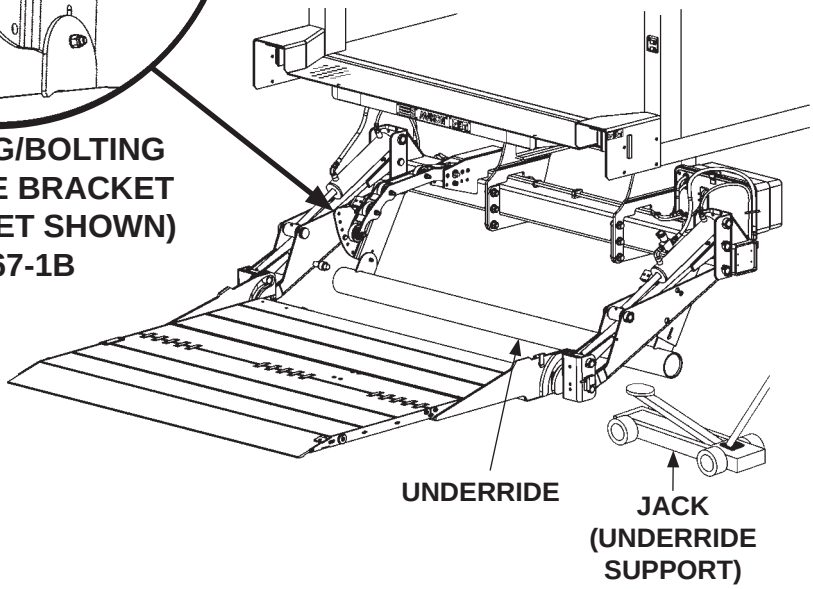
STEP 15 - ADJUST UNDERRIDE - Continued

NOTE: At the lowest bed heights, underride may have too little ground clearance for a jack. If necessary, raise the platform up to 6” to get a jack in position to support the underride.

6. Adjust position of the underride assembly as follows. Support underride with floor jack **(FIG. 67-1A)**. Next, unbolt LH underride bracket **(FIG. 67-1B)** and RH underride bracket from lifting arms.



UNBOLTING/BOLTING UNDERRIDE BRACKET (LH BRACKET SHOWN) FIG. 67-1B



ADJUSTING UNDERRIDE (STANDARD FMVSS UNDERRIDE SHOWN) FIG. 67-1A

7. Swing the underride to the hole setting observed in **FIGS. 64-1B, 64-2B** or **65-1B.** Bolt the underride brackets in the new position **(FIG. 67-1B)**. Torque the 1/2”-13 cap screws to **85 lb-ft**.

8. Lower and remove floor jack **(FIG. 67-1A)**.

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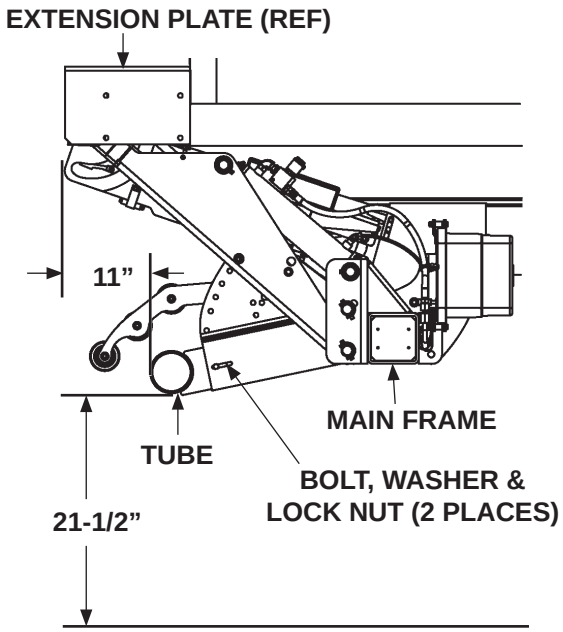
STEP 15 - ADJUST UNDERRIDE - Continued

NOTE: The only models with an adjustable underride tube are
- Optional FMVSS underride (GPTLR-25 & GPTLR-33)
- Standard FMVSS underride (GPTLR-44 & GPTLR-55).

ADJUSTING UNDERRIDE TUBE

9. Stow the platform. Refer to **FIG. 68-1**. Loosen bolt and lock nut, at each end of tube, just enough to move underride tube **(FIG. 68-1)**. Rotate the tube up or down, and slide the tube outward or inward to the dimensions shown in **FIG. 68-1**. Tighten bolts and lock nuts to secure tube in correct position.



UNDERRIDE TUBE ADJUSTMENT
(RH SIDE SHOWN)
FIG. 68-1

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STEP 15 - ADJUST UNDERRIDE - Continued

CAUTION

When using an electric welder, connect the welder to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

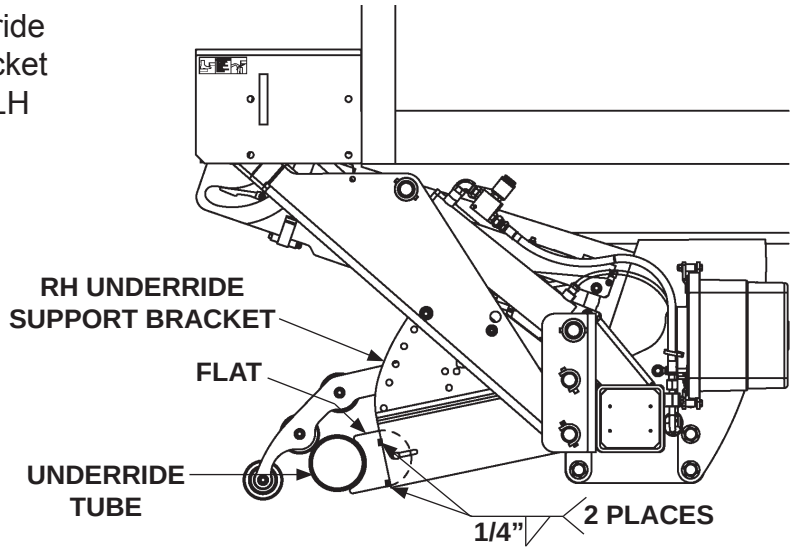
CAUTION

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

CAUTION

Prevent the date of manufacture decal from being damaged. Cover decal when welding underride support brackets.

10. Tack weld flat, on underride tube, to RH support bracket **(FIG. 69-1)**. Repeat for LH support bracket.



TACK WELDING FLATS TO SUPPORT BRACKETS (RH SIDE SHOWN)
FIG. 69-1

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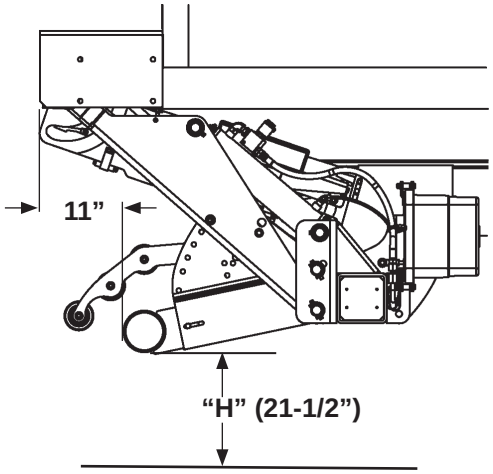
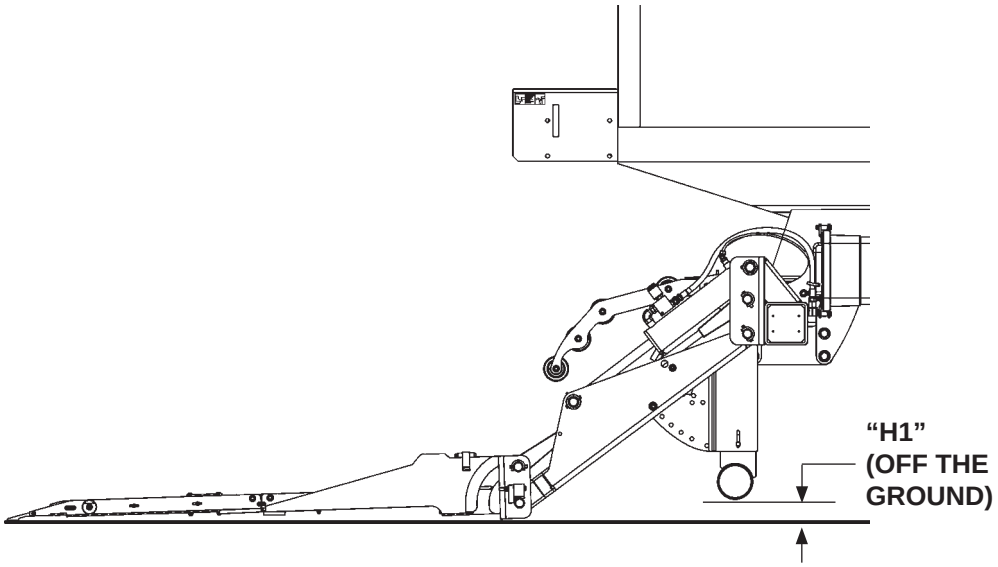
STEP 15 - ADJUST UNDERRIDE - Continued

11. With platform stowed, measure and record ground clearance "**H**" **(FIG. 70-1)**. Then, lower the platform to the ground to measure ground clearance "**H1**" **(FIG. 70-2)**. Compare measurements with **TABLES 71-1, 72-1 and 72-2**.



STANDARD FMVSS UNDERRIDE
FIG. 70-1



STANDARD FMVSS UNDERRIDE
FIG. 70-2

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STEP 15 - ADJUST UNDERRIDE - Continued

NOTE: The bed height dimensions, for each underride hole shown below, apply to an unloaded vehicle.

RECOMMENDED BOLTED HOLE POSITIONS FOR OPTIONAL FMVSS UNDERRIDE INSTALLED ON GPTLR-25 & GPTLR-33			
BED HEIGHT	**UNDER-RIDE HOLE NO.**	**"H" EXPECTED UN-DERRIDE GROUND CLEARANCE (PLATFORM STOWED)**	**"H1" EXPECTED UNDERRIDE GROUND CLEAR-ANCE & MAX SPRING DEFLECTION OF VEHICLE WITH LOAD (PLATFORM ON THE GROUND)**
55"	**1**	**21.5"**	**6.3"**
54"	**2**	**21.5"**	**5.5"**
53"	**2**	**21.5"**	**4.7"**
52"	**3**	**21.5"**	**4.0"**
51"	**3**	**21.5"**	**3.4"**
50"	**4**	**21.5"**	**2.9"**
49"	**4**	**21.5"**	**2.4"**
48"	**4**	**21.5"**	**2.0"**
47"	**5**	**21.5"**	**1.7"**
44"	**6**	**21.5"**	**1.4"**

TABLE 71-1

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STEP 15 - ADJUST UNDERRIDE - Continued

NOTE: The bed height dimensions, for each underride hole shown below, apply to an unloaded vehicle.

RECOMMENDED BOLTED HOLE POSITIONS FOR STANDARD FMVSS UNDERRIDE INSTALLED ON GPTLR-44 & GPTLR-55			
BED HEIGHT	**UNDER-RIDE HOLE NO.**	**"H" EXPECTED UN-DERRIDE GROUND CLEARANCE (PLATFORM STOWED)**	**"H1" EXPECTED UNDERRIDE GROUND CLEAR-ANCE & MAX SPRING DEFLECTION OF VEHICLE WITH LOAD (PLATFORM ON THE GROUND)**
55"	1	21.5"	3.6"
54"	2	21.5"	2.9"
53"	2	21.5"	2.3"
52"	3	21.5"	1.8"
51"	3	21.5"	1.3"
50"	4	21.5"	0.9"
49"	4	21.5"	0.6"
48"	4	21.5"	0.3"
47"	5	21.5"	0.1"
44"	6	21.5"	0"

TABLE 72-1

RECOMMENDED BOLTED HOLE POSITIONS FOR OPTIONAL CMVSS UNDERRIDE INSTALLED ON GPTLR-44 & GPTLR-55			
BED HEIGHT	**UNDER-RIDE HOLE NO.**	**"H" EXPECTED UN-DERRIDE GROUND CLEARANCE (PLATFORM STOWED)**	**"H1" EXPECTED UNDERRIDE GROUND CLEAR-ANCE & MAX SPRING DEFLECTION OF VEHICLE WITH LOAD (PLATFORM ON THE GROUND)**
55"	1	21.35"	4.16"
54"	2	21.36"	3.37"
53"	3	21.38"	2.70"
52"	4	21.40"	2.17"
51"	5	21.41"	1.75"
50"	6	21.42"	1.44"
49"	7	21.42"	1.24"

TABLE 72-2

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STEP 15 - ADJUST UNDERRIDE - Continued

CAUTION

When using an electric welder, connect the welder to one of the parts being welded, as close to the weld as possible. Failure to comply could result in damage to cylinders and electrical parts.

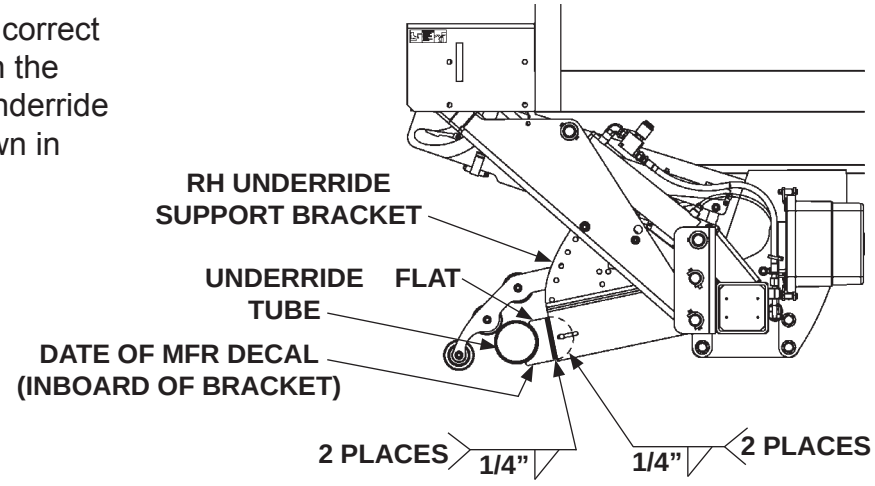
CAUTION

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

CAUTION

Prevent the date of manufacture decal from being damaged. Cover decal when welding underride support brackets.

12. When the underride is in correct position, weld the flats on the tube to the RH and LH underride support brackets as shown in **FIG. 73-1**.



WELDING FLATS TO SUPPORT BRACKETS (RH SIDE SHOWN)
FIG. 73-1

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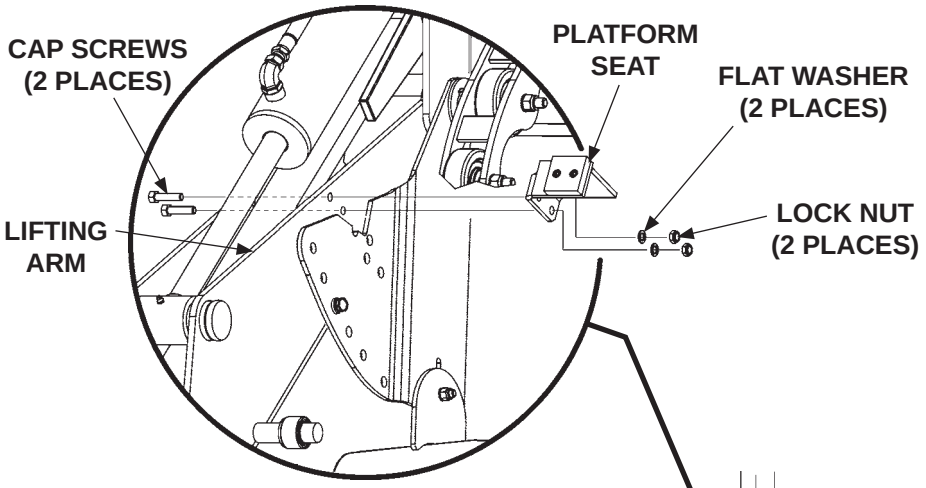
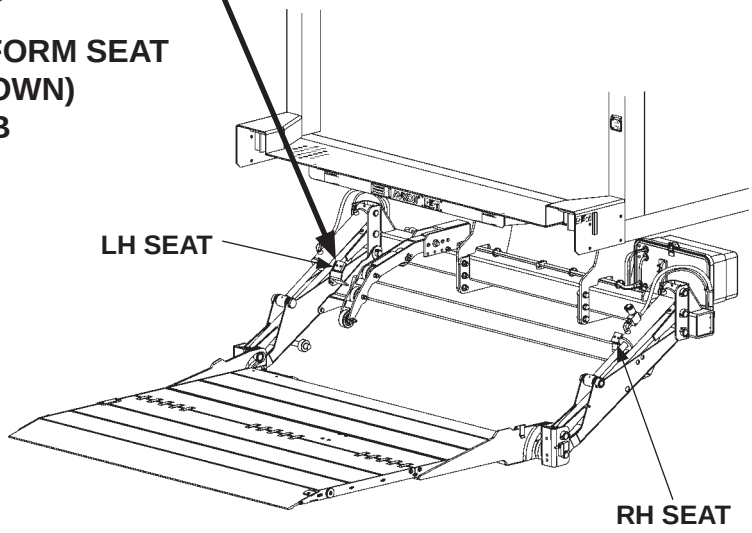
STEP 15 - ADJUST UNDERRIDE - Continued

NOTE: For some bed heights, platform seat may be bolted against the underride bracket.

13. Lower platform to the ground **(FIG. 74-1A)**. Then, bolt the LH platform seat **(FIG. 74-1B)** and the RH platform seat in position. Torque the cap screws and lock nuts to **42 lb-ft**.



BOLTING ON PLATFORM SEAT
(LH SEAT SHOWN)
FIG. 74-1B



LIFTGATE WITH PLATFORM ON THE GROUND
(STANDARD FMVSS UNDERRIDE SHOWN)
FIG. 74-1A

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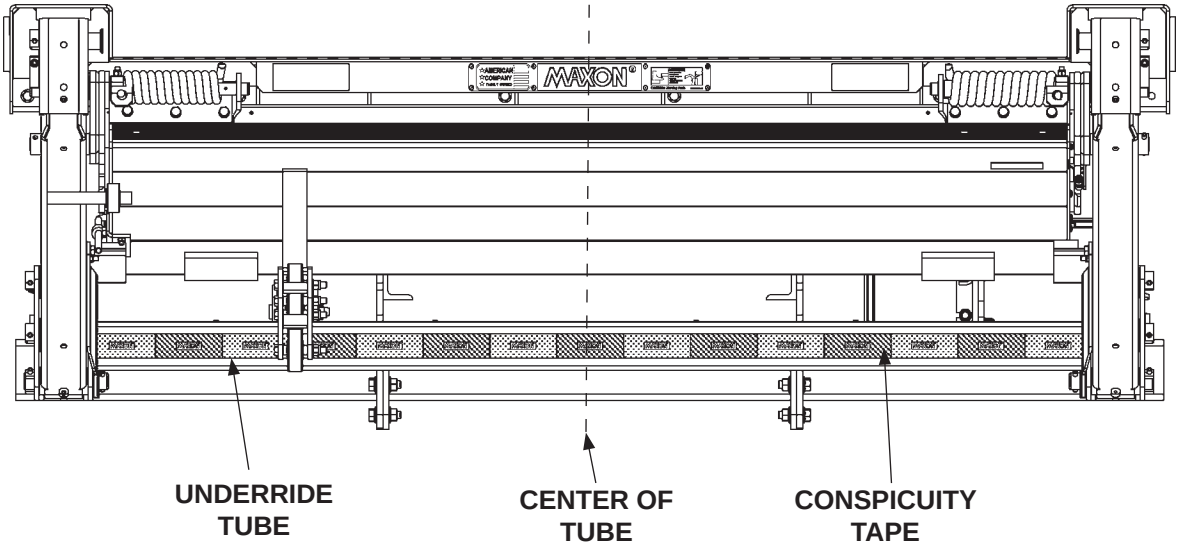
STEP 15 - ADJUST UNDERRIDE - Continued

14. Stow platform **(FIG. 75-1).** Next, center conspicuity (reflective) tape on the underride tube as shown in **FIG. 75-1.** Remove backing from tape. Then, attach tape to underride **(FIG. 75-1).**



ATTACH CONSPICUITY TAPE
FIG. 75-1

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STEP 16 - VEHICLE TAILLIGHT POSITIONING (IF REQUIRED)

NOTE: Taillights may interfere with Liftgate. Taillights and attaching hardware are not provided with the Liftgate. If needed, install vehicle taillights to comply with state and federal vehicle lighting requirements, such as FMVSS 108.

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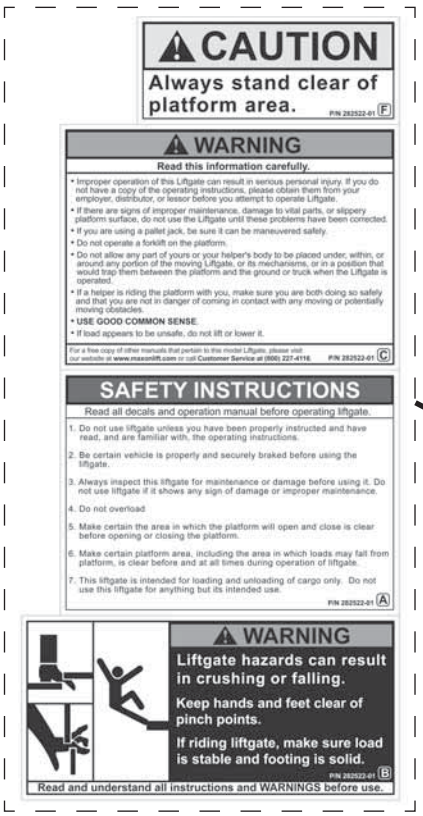
ATTACH DECALS

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.

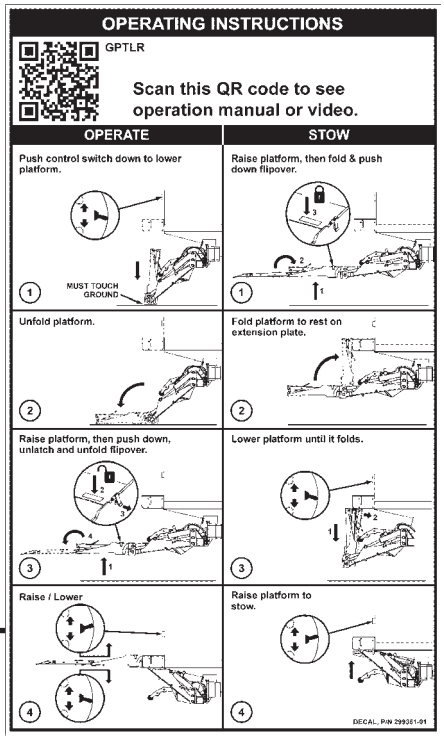
NOTE: Ensure there is no residue, dirt or corrosion where decals are attached. If necessary, clean surface before attaching decals.



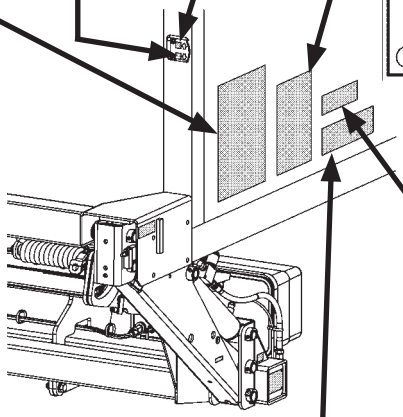
DECAL SHEET
(SMALL, WARNING & CAUTION)
P/N 282522-01

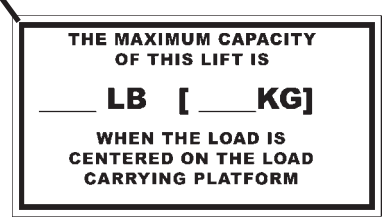
UP DECAL
(DECAL SHEET)

DOWN DECAL
(DECAL SHEET)

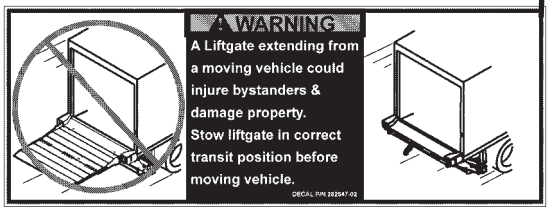


INSTRUCTION DECAL
P/N 299361-01





CAPACITY DECAL
(SEE TABLE 77-1)



STOW WARNING DECAL
P/N 282847-02

CAPACITY DECALS	
CAPACITY	**PART NO.**
2500 LBS.	220382
3300 LBS.	220388-02
4400 LBS.	253155
5500 LBS.	253161

TABLE 77-1

FIG. 77-1

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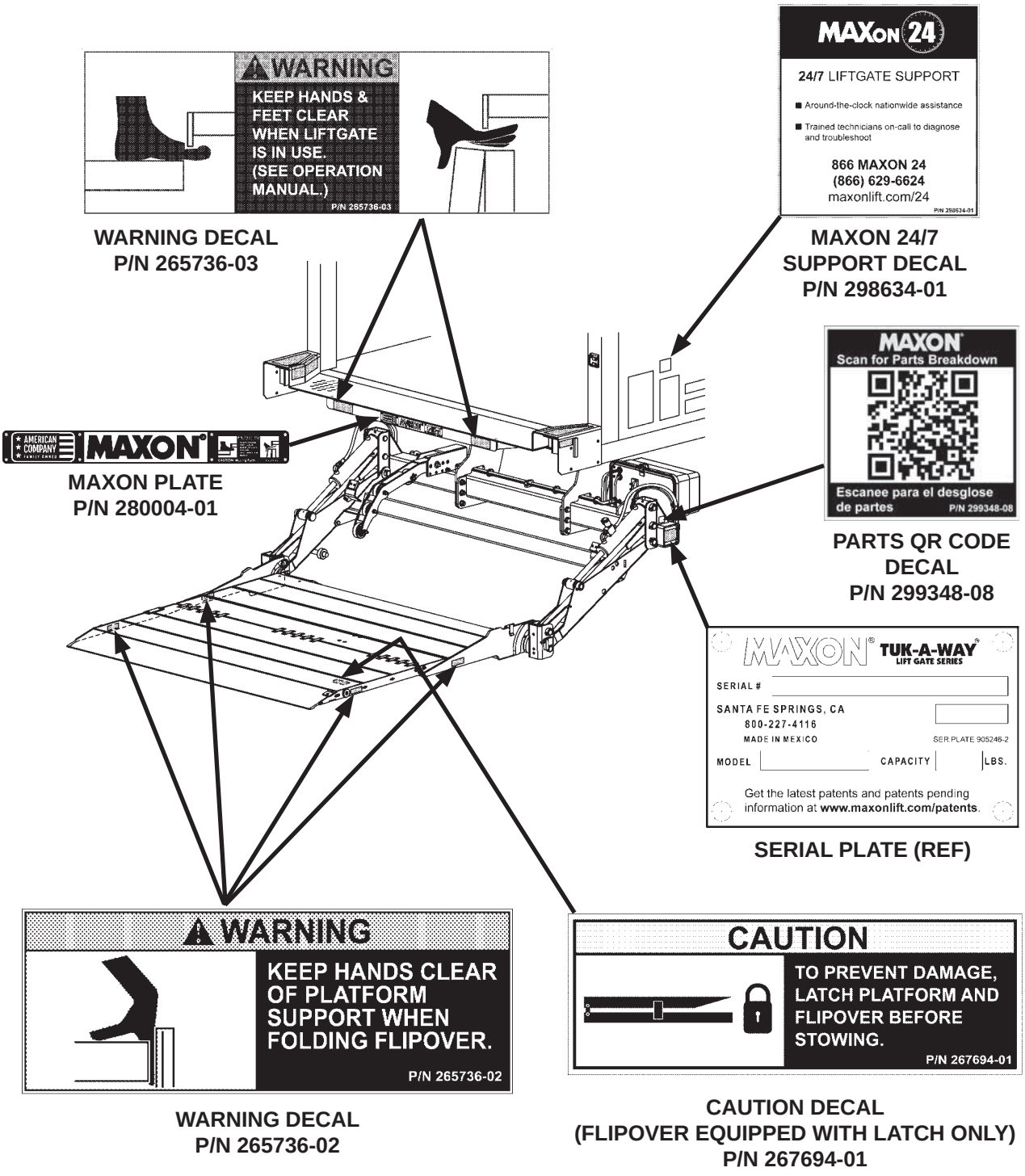
DECALS & PLATES



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

FIG. 78-1

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ATTACH NONSKID & SAFETY STRIPING

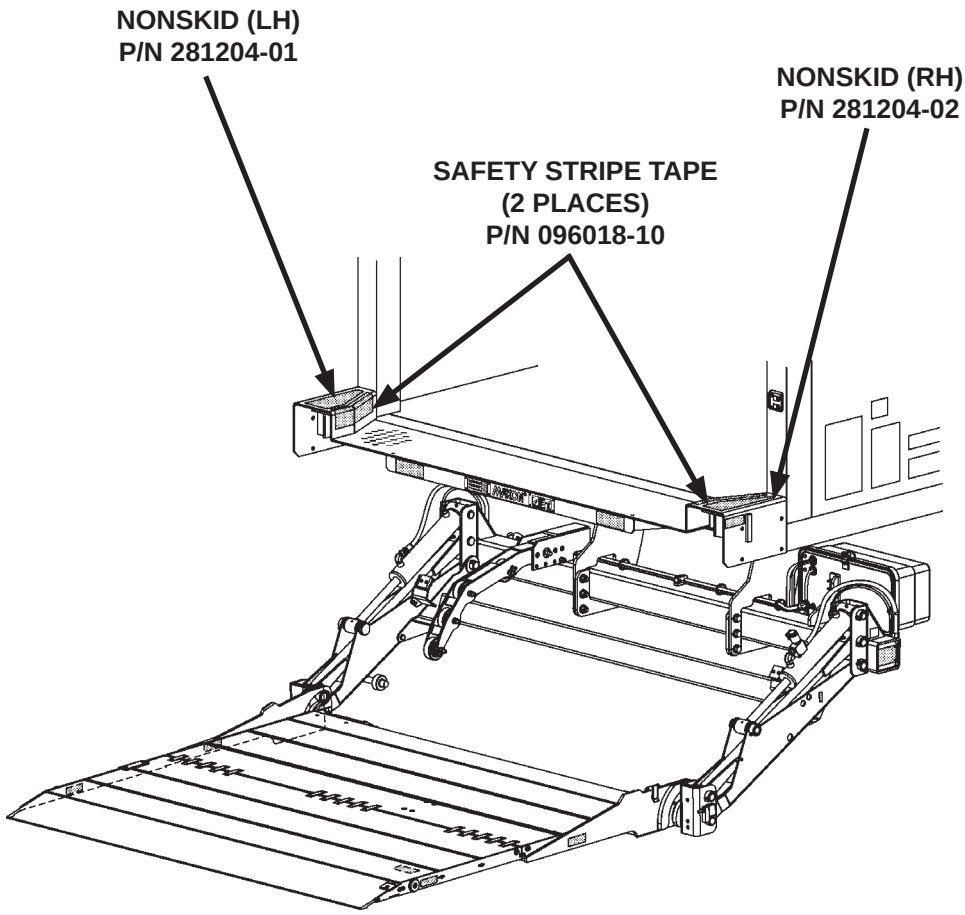

FIG. 79-1

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TOUCHUP GALVANIZED FINISH

CAUTION

Damaged cylinder seals and contaminated hydraulic fluid can result from applying cold galvanized finish to the polished portion of the cylinder rod. To prevent damage, protect the exposed polished portion of the cylinder rod while spraying.

- 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.

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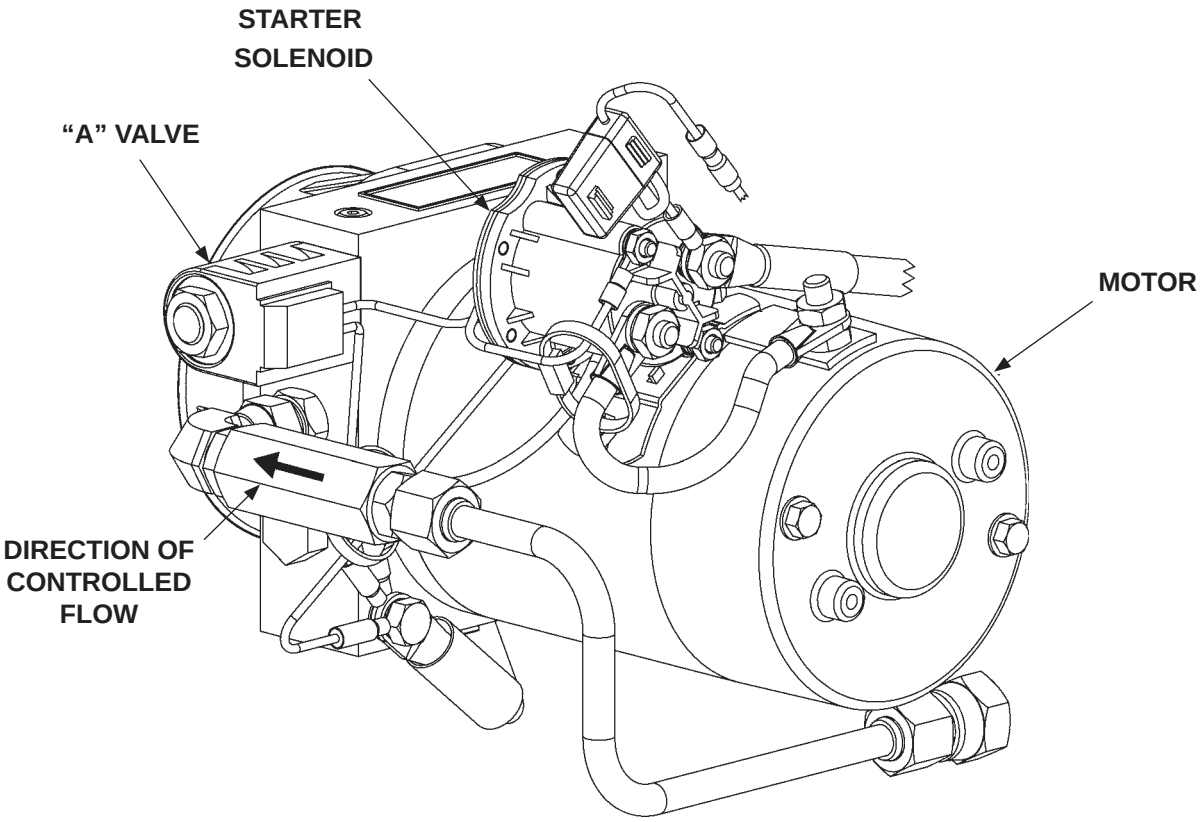
SYSTEM DIAGRAMS
PUMP & MOTOR SOLENOID OPERATION (GRAVITY DOWN)



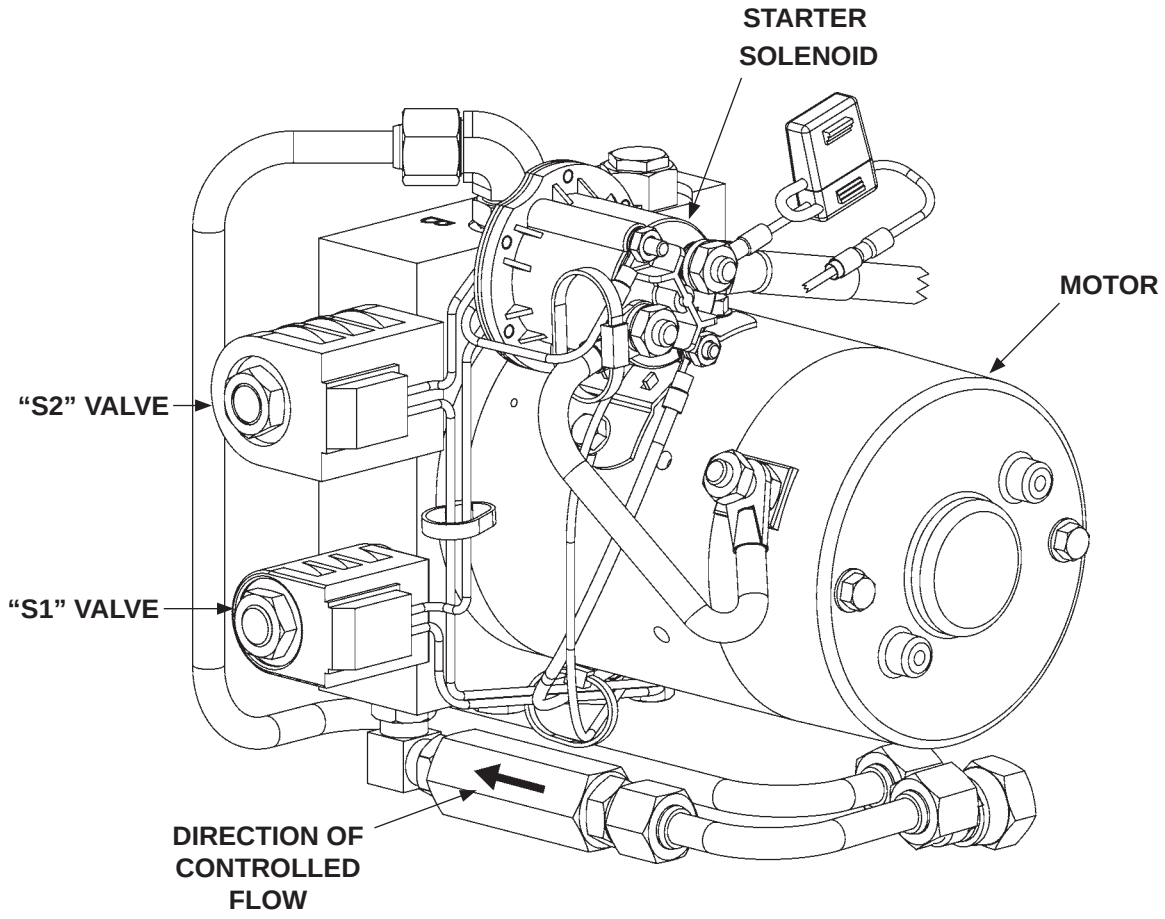
GRAVITY DOWN POWER UNIT
FIG. 81-1

POWER UNIT MOTOR & SOLENOID OPERATION				
LIFTGATE FUNCTION	PORT	SOLENOID OPERATION (✓ MEANS ENERGIZED)		
		MOTOR	VALVE "A"	LOCK VALVE
RAISE	A	✓	-	-
LOWER	VENT	-	✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC				

TABLE 81-1

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

PUMP & MOTOR SOLENOID OPERATION (POWER DOWN)



POWER DOWN POWER UNIT
FIG. 82-1

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

TABLE 82-1

HYDRAULIC SCHEMATIC (GRAVITY DOWN)

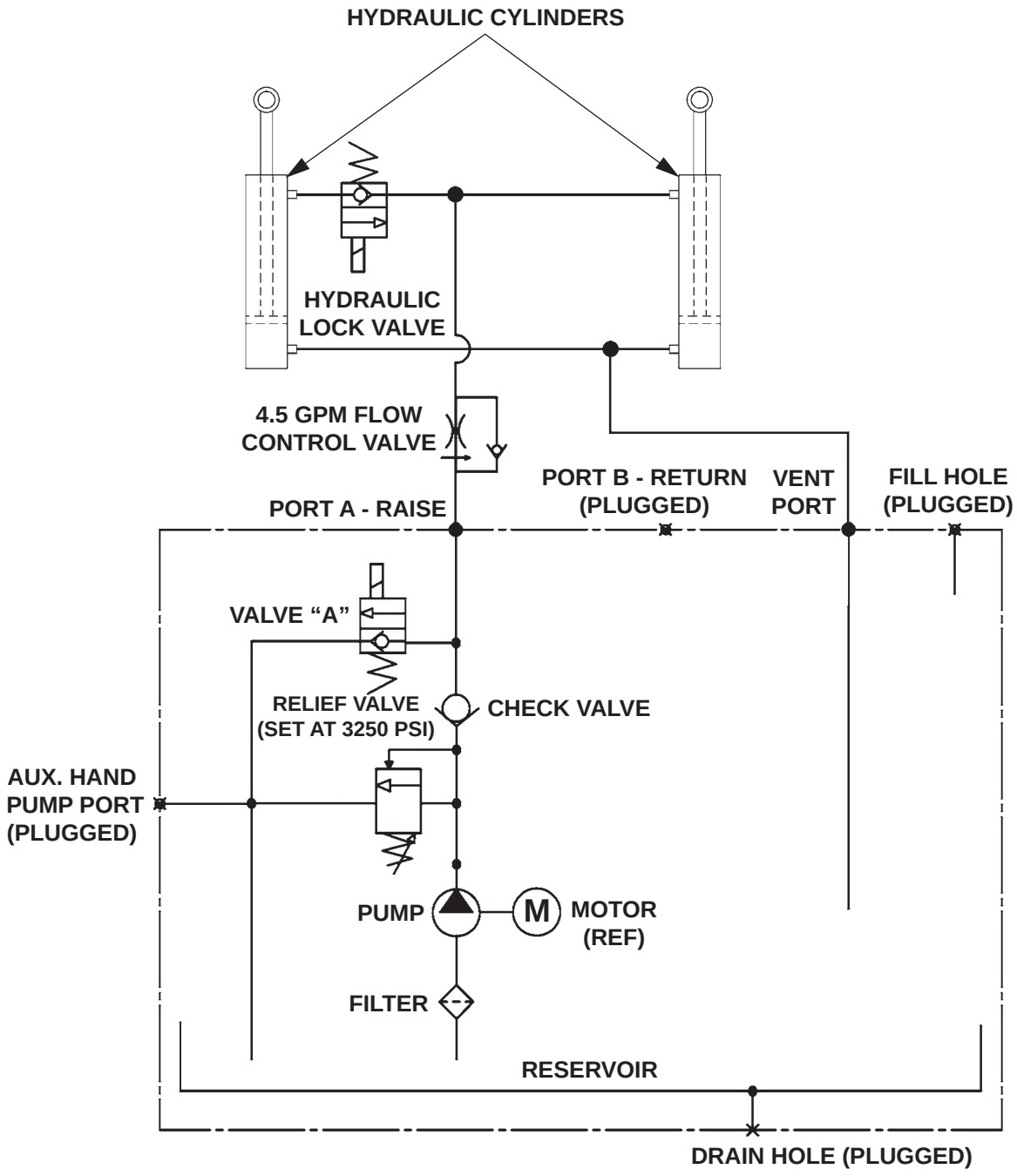


FIG. 83-1

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HYDRAULIC SCHEMATIC (POWER DOWN)

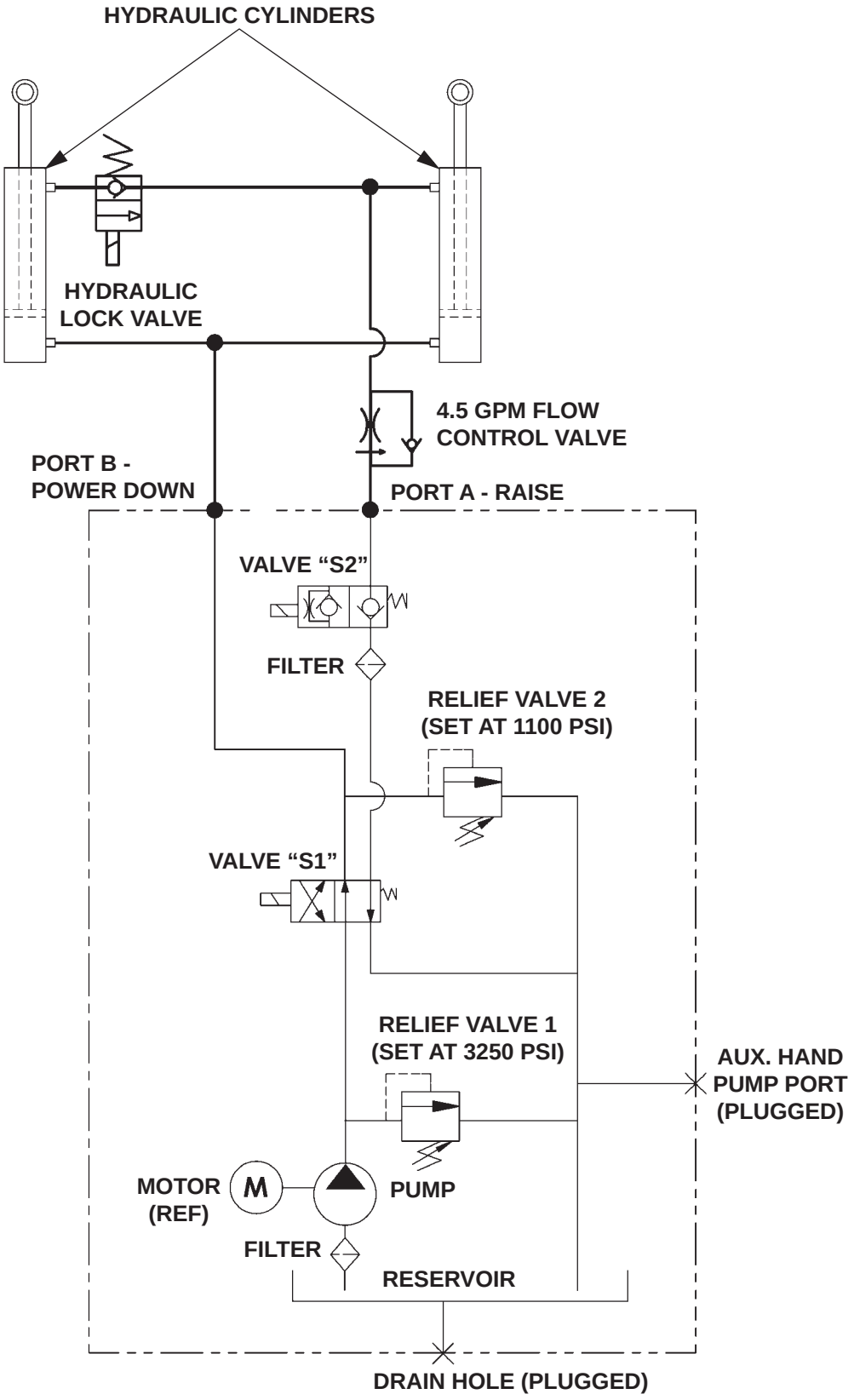

FIG. 84-1

ELECTRICAL SCHEMATIC (GRAVITY DOWN)

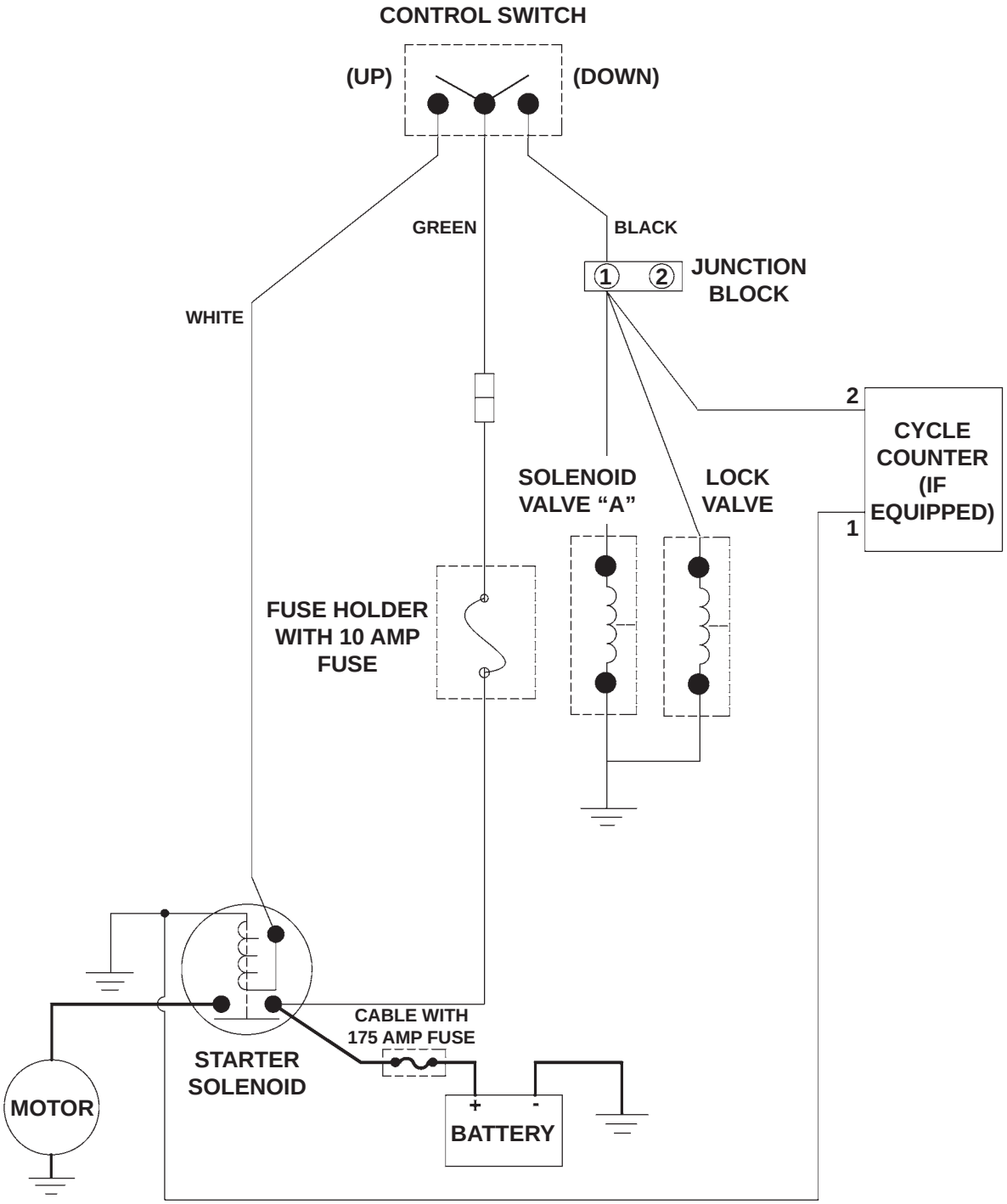

FIG. 85-1

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ELECTRICAL SCHEMATIC (POWER DOWN)

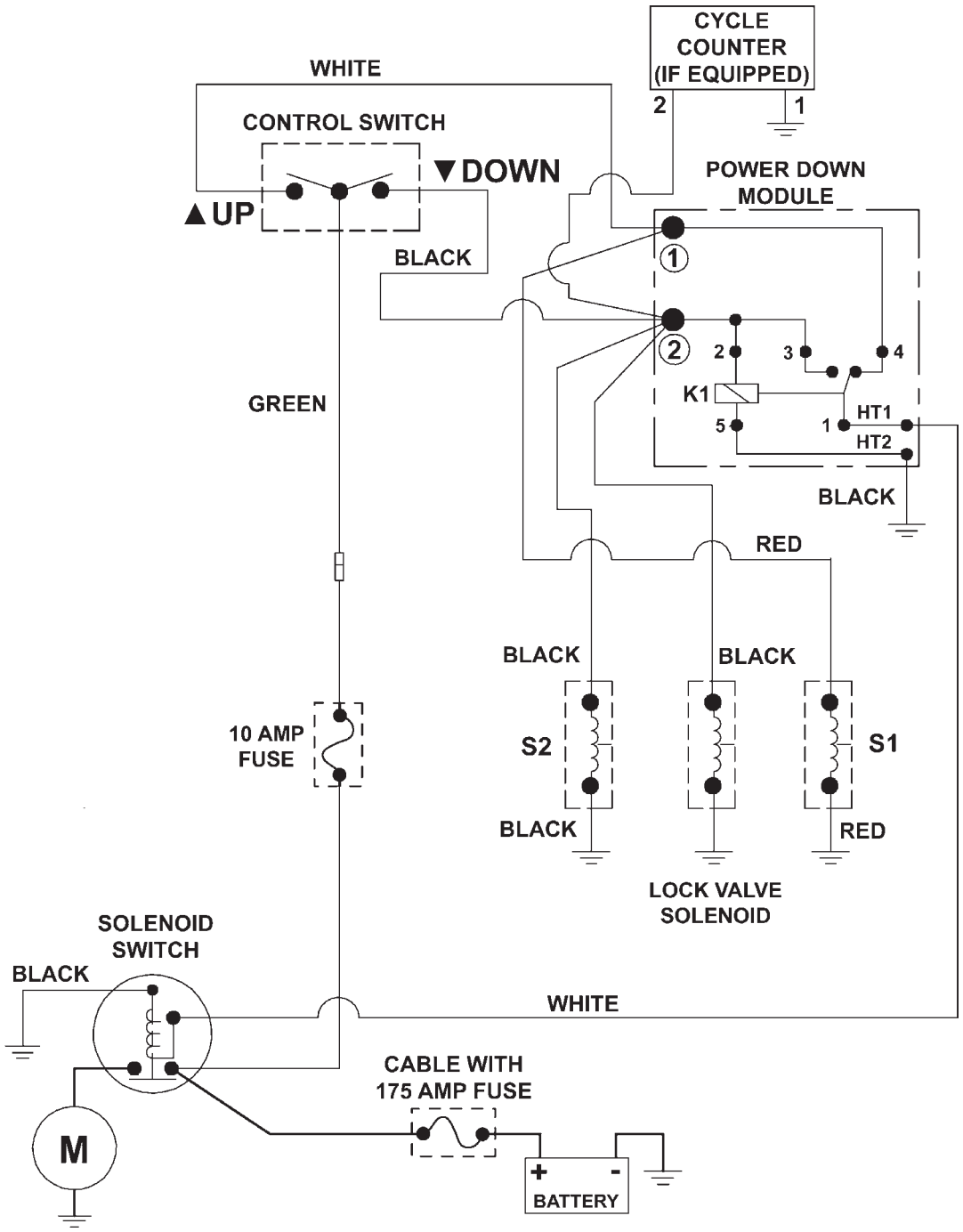

FIG. 86-1

SYSTEM DIAGRAMS
GPTLR ELECTRICAL VALUES & TORQUE SPECIFICATIONS

Solenoid Switch	12V	24V
Coil resistance:	5.4Ω @70ºF. ±15%	20.1Ω @70ºF. ±15%
Ampere:	2.2A	1.2A
Coil terminal torque: **10-15 lb-in** max.		
Contact terminal torque: **30-35 lb-in** max.		
Solenoid Valves (A, S1, & S2)		
Coil resistance:	4.0Ω @ 70ºF. ±15%	26.7Ω @ 70ºF. ±15%
Ampere:	3A, 2.5A @10V	
Coil terminal torque: **15-45 lb-in** max.		
Valve cartridge torque: **25-30 lb-ft** max.		
Coil nut torque: **15-45 lb-in**		
Solenoid Lock Valve		
Coil resistance:	8.0Ω @ 70ºF. ±15%	30Ω @ 70ºF. ±15%
Ampere:	1.5A	0.8A
Coil nut torque: **3-4.5 lb-ft** max.		
Valve cartridge torque: **18.5-22 lb-ft** max.		
Digital Cycle Counter		
Input voltage	4V - 30V	4V - 30V
Ampere	<2mA	
Ground Cable		
Cap screw torque: **24 lb-ft** max.		

TABLE 87-1

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

OPTIONS
OPTIONAL LIFTGATE COMPONENTS

MISCELLANEOUS KITS	PART NO.
IN CAB ON-OFF SWITCH	250477
FRAMELESS TRAILER, GPTLR, 102” WIDE	282562-01
FRAMELESS TRAILER, GPTLR, 102” WIDE, GALVANIZED	282562-01G
FRAMELESS TRAILER, GPTLR, 96” WIDE	282562-02
FRAMELESS TRAILER, GPTLR, 96” WIDE, GALVANIZED	282562-02G
CIRCUIT BREAKER (150 AMP)	251576
TRAFFIC CONES	268893-01
FRAME MOUNTING BRACKET FOR 2 OVAL LIGHTS, GALVANIZED	282372-01G
FRAME MOUNTING BRACKET FOR 2 OVAL LIGHTS, NO FINISH	282372-03
HAND PUMP, GPTLR, GRAVITY DOWN	287369-01
HAND PUMP, GPTLR, POWER DOWN	287389-01
EXTRA CONTROLS & CONTROL KITS	**PART NO.**
HAND HELD CONTROL, TUK-A-WAY	280570-07
HAND HELD CONTROL, TUK-A-WAY, 120”	263260-13
HAND HELD CONTROL, TUK-A-WAY, 240”	263260-14
STREET SIDE CONTROL, TUK-A-WAY	297116-01
DUAL CONTROL, TUK-A-WAY	297115-01
STEP KITS	**PART NO.**
DUAL STEP, GPTLR-25/33, GALVANIZED	281312-01G
DUAL STREET SIDE STEP GPTLR-25/33 GALVANIZED	281312-02G
DUAL CURB SIDE STEP, GPTLR-25/33 GALVANIZED	281312-03G
DUAL STEP, GPTLR-44/55, GALVANIZED	281311-01G
DUAL STEP, GPTLR, GALVANIZED (FOR 283678-01G EXTENSION PLATE ASSEMBLY, 102” LG.)	283685-01G
FOLD DOWN STEP ALL GPTLR’S (1 KIT PER SIDE)	267835-01
PLATFORM RAIL INSTALLATION	**PART NO.**
PLATFORM RAIL INSTALLATION, GPTLR, GALVANIZED	298495-01G

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MAXON®

PRE-DELIVERY INSPECTION FORM

Important! This pre-delivery checklist is to aid the installer in confirming the proper installation of this Maxon product. It is not a comprehensive list and does not replace the use of the installation manual. The installer is responsible for following all instructions in the installation manual.

Model:_____ **Date:** _____

Serial Number: _____ **Technician:** _____

Pre-Installation Inspection:

- ☐ Correct model
- ☐ Correct capacity
- ☐ Correct platform size
- ☐ Correct options
- ☐ Manuals & decals

Structural Inspection:

- ☐ Inspect alignment of final assembly
- ☐ Inspect pump box secure mounting
- ☐ Inspect all installation welds
- ☐ Check roll pins, bolts and fasteners
- ☐ Inspect tightness of hardware used to secure liftgate to vehicle.
- ☐ Ensure platform ramp tip touches ground or is not more than **1/4"** off the ground.
- ☐ Ensure bottom of underride tube is not more than **21-1/2"** off the ground and not more than **11"** forward of the extreme rear of vehicle.

Hydraulic Inspection:

- ☐ Proper fluid level (See **CHECKING HYDRAULIC FLUID** step in this manual.)
- ☐ Check hydraulic fittings in pump box for leaks
- ☐ Check hydraulic line connections for leaks

Electrical Inspection:

- ☐ Check power/charge plug and terminal
- ☐ Check for tight wire connections
- ☐ Circuit breaker (150A) installed in battery box (if equipped) or by truck/tractor battery.
- ☐ Ensure batteries are fully charged, all cable connections are tight & tiedowns are tight.
- ☐ Inspect all solenoid connections
- ☐ Check all wiring harness connections
- ☐ Check electrical cable connections are tight & secure.

Operation Inspection:

NOTE: The following times are for 55" bed height, aluminum platform and flipover, Exxon Univis HVI-13 oil, & temperature at 70°F. Times are for reference only and may vary for larger platforms, smaller platforms, or temperature changes.

- ☐ Check operation of all main and optional control switches.

GPTLR-25 or GPTLR-33 only

- ☐ Unloaded platform lowers in **6 sec**.
- ☐ Unloaded platform raises in **15 sec**.

GPTLR-44 or GPTLR-55 only

- ☐ Unloaded platform lowers in **10 sec**.
- ☐ Unloaded platform raises in **25 sec**.

- ☐ **All GPTLR:** Unloaded platform raises and lowers evenly. At the extension plate, platform must not be more than **1/4"** uneven, from side to side.
- ☐ **All GPTLR:** Breakaway force to unfold platform is **30 lb-ft** maximum. Breakaway force to fold platform is **40 lb-ft** maximum.
- ☐ **All GPTLR:** Platform stores securely under vehicle body
- ☐ Check if cycle counter works
- ☐ Decals in correct location and legible

Verify all lights are operational

(For lights supplied by MAXON only)

- ☐ Platform lights turn **ON** when platform is unfolded, and turn **OFF** when platform is stowed.
- ☐ Taillights, stop lights, turn lights, and backup lights turn **ON** and **OFF** correctly.

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