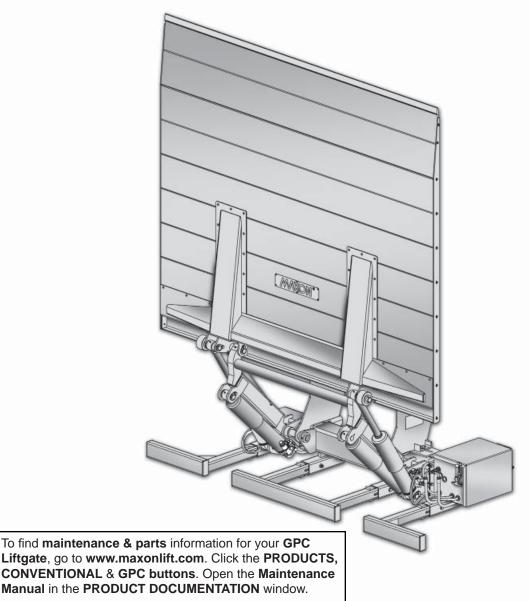
M-09-24 REV. G AUGUST 2016



GPC-22, GPC-33 & GPC-44

INSTALLATION MANUAL



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MAXON® 11921 Slauson Ave.

SUMMARY OF CHANGES: M-09-24, REVISION G

PAGE	DESCRIPTION OF CHANGE
COVER	Updated REV and date of release.
38	Updated pump reservoir and fluid check/fill instructions.
48	Updated Power Unit Motor & Solenoid Operation chart.
51-52	Added diodes and updated wiring to controls on electrical schematics.

Comply with the following WARNINGS and SAFETY INSTRUCTIONS while installing Liftgates. Refer to WARNING, CAUTION, and SAFETY INSTRUCTIONS decals on Liftgate.

AWARNING

- 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 vehicle body.
- 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.

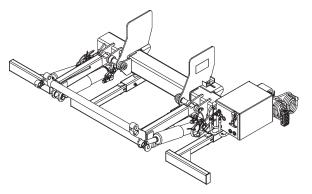
SAFETY INSTRUCTIONS

- Read and understand the instructions in this **Installation Manual** before installing Liftgate.
- Before operating the Liftgate, read and understand the operating instructions.
- Comply with all **WARNING** and instruction decals attached to the Liftgate.
- Keep decals clean and legible. If decals are illegible or missing, replace them. Free replacement decals are available from **Maxon Customer Service**.
- Consider the safety and location of bystanders and location of nearby objects when operating the Liftgate. Stand to one side of the platform while operating the Liftgate
- Do not allow untrained persons to operate the Liftgate.
- Wear appropriate safety equipment such as protective eyeglasses, faceshield and clothing while
 performing maintenance on the Liftgate and handling the battery. Debris from drilling and contact
 with battery acid may injure unprotected eyes and skin.
- Be careful working by an automotive type battery. Make sure the work area is well ventilated and there are no flames or sparks near the battery. Never lay objects on the battery that can short the terminals together. If battery acid gets in your eyes, immediately seek first aid. If acid gets on your skin, immediately wash it off with soap and water.
- If an emergency situation arises (vehicle or Liftgate) while operating the Liftgate, release the control switch to stop the Liftgate.
- A correctly installed Liftgate operates smoothly and reasonably quiet. The only noticeable noise during operation comes from the power unit while the platform is raised and lowered. Listen for scraping, grating and binding noises and correct the problem before continuing to operate Liftgate.

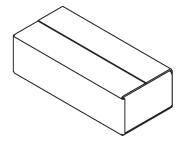
NOTICE

- Maxon Lift is responsible for the instructions to correctly install **MAXON** Liftgates on trucks or trailers only.
- Liftgate installers, not Maxon Lift, are responsible for reviewing and complying with all applicable Federal, State, and Local regulations pertaining to the trailer or truck.

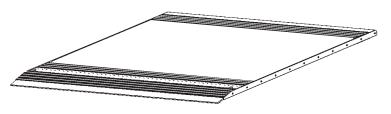
GPC INSTALLATION COMPONENTS & KITS



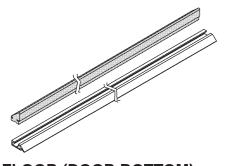
HYDRAULIC LIFT MECHANISM WITH BUMPER (GPC-22/GPC-33 SHOWN)



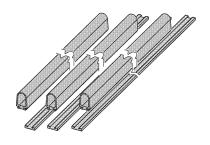
BOXED SMALL ITEMS KIT



PLATFORM ASSEMBLY (ALUMINUM WITH DUAL CART STOPS SHOWN)



FLOOR (DOOR BOTTOM) **SEAL KIT** P/N PL00133



OPTIONAL REAR CLOSURE (DOOR SIDES) SEAL KIT P/N 7-20004

PARTS BOX CONTENTS

GPC-22 & GPC-33 SMALL ITEMS KIT

NOTE: To find maintenance & parts information for your GPC Liftgate, go to www. maxonlift.com. Click the PRODUCTS, CONVENTIONAL buttons. Open the Maintenance Manual in the PRODUCT DOCUMENTATION window.

	DESCRIPTION	QTY.	PART NUMBER
REF	SMALL ITEMS KIT (GPC-22 & GPC-33)	1	283414
1	INTERNAL CONTROL MOUNT BRACKET KIT	1	269144-01
2	MARKER FLAG KIT (MAXON)	1	PL00010
3	EXTERNAL CONTROL BRACKET KIT	1	268804-01
4	LIFT STOP BOLT KIT	1	PL00062
5	BUFFER ASSEMBLY KIT	1	PL00132
6	FITTING JIG	2	4-100584
7	CABLE ASSY, 200 AMPS, 33 FT LG. (BLACK)	1	284114-01
8	CABLE ASSY, 200 AMPS, 33 FT LG. (RED, INLINE FUSE)	1	284115-01
9	FRAME CLIPS	20	050079
	MANUAL & DECAL KIT (GPC-22 & GPC-33) (STANDARD)	1	283423-01 (GPC-22) 283423-02 (GPC-33)
	MANUAL & DECAL KIT (GPC-22 & GPC-33) (AUTOTILT)		283423-04 (GPC-22) 283423-05 (GPC-33)
10	A. INSTALLATION MANUAL	1	M-09-24
	B. OPERATION MANUAL	1	M-09-25
	C. DECALS	-	REFER TO DECAL PAGES IN THIS MANUAL
11	STEEL CHANNEL (1-1/2" X 3" X 1/4")	2	CH076X038X07
12	MOUNTING BOLT KIT	1	PL00456
13	MICRO ALLOY STEEL PLATE (8" X 8" X 1/4")	2	SQ200X200X06
14	PLASTIC TIES, 7" LG.	25	205780
15	HEAT SHRINK TUBING, 3/4" X 1-1/2" LG.	3	253316-04
16	GUSSET FOR LIFT STOP	2	4-95649
17	LUG, 2GA COPPER (3/8" RING)	3	906497-03
18	FLAT WASHER, 30MM O.D.	4	NB13530-W
19	STEEL CHANNEL, (1-1/2" X 3" X 1/4")	2	CH076X038X07
20	ROLL PIN (SELLOC), 6MM X 40MM LG.	2	5-05018
21	ROLLER (ANTISKID, YELLOW, 3-1/2" O.D.)	2	3-101880

TABLE 8-1

PARTS BOX CONTENTS - Continued GPC-44 SMALL ITEMS KIT

NOTE: To find maintenance & parts information for your GPC Liftgate, go to www. maxonlift.com. Click the PRODUCTS, CONVENTIONAL buttons. Open the Maintenance Manual in the PRODUCT DOCUMENTATION window.

	DESCRIPTION	QTY.	PART NUMBER
REF	SMALL ITEMS KIT (GPC-44)	1	283264
1	INTERNAL CONTROL MOUNT BRACKET KIT	1	269144-01
2	MARKER FLAG KIT (MAXON)	1	PL00010
3	EXTERNAL CONTROL BRACKET KIT	1	268804-01
4	LIFT STOP BOLT KIT	1	PL00062
5	BUFFER ASSEMBLY KIT	1	PL00132
6	FITTING JIG	2	4-100584
7	CABLE ASSY, 200 AMPS, 33 FT LG. (BLACK)	1	284114-01
8	CABLE ASSY, 200 AMPS, 33 FT LG. (RED, INLINE FUSE)	1	284115-01
9	FRAME CLIPS	20	050079
10	FLAT WASHER, 30MM O.D.	4	NB13530-W
11	ROLL PIN (SELLOC), 6MM X 40MM LG.	2	5-05018
12	ROLLER (ANTISKID, YELLOW, 3-1/2" O.D.)	2	3-101880
	MANUAL & DECAL KIT (GPC-44) (STANDARD) MANUAL & DECAL KIT (GPC-44) (AUTOTILT)	1	283423-03 283423-06
	A. INSTALLATION MANUAL	1	M-09-24
13	B. OPERATION MANUAL	1	M-09-25
	C. DECALS	-	REFER TO DECAL PAGES IN THIS MANUAL
14	STEEL CHANNEL (1-1/2" X 3" X 1/4")	2	CH076X038X07
15	MOUNTING BOLT KIT, HEAVY DUTY	1	PL00113
16	MICRO ALLOY STEEL PLATE (8" X 8" X 1/4")	2	SQ200X200X06
17	PLASTIC TIES, 7" LG.	25	205780
18	HEAT SHRINK TUBING, 3/4" X 1" LG.	3	253316-04
19	GUSSET FOR LIFT STOP	2	4-95649
20	LUG, 2GA COPPER (3/8" RING)	3	906497-03

TABLE 9-1

VEHICLE REQUIREMENTS

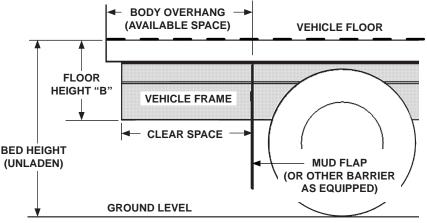
CAUTION

The sliding axle assembly on a trailer can collide with a Liftgate mounted on the slide rails. To prevent damage to Liftgate and trailer, install stops on the slide rails to keep the sliding axles from hitting Liftgate. Refer to Liftgate clearance dimensions in this section of the manual.

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

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

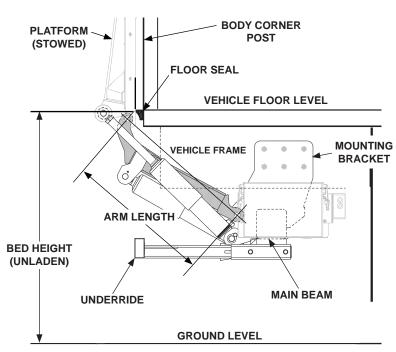
 Check and record dimensions of vehicle where liftgate will be mounted (FIG. 10-1).



VEHICLE DIMENSIONS FIG. 10-1

2. Measure length of lift arms (FIG. 10-2) to verify that the length is optimum for the range of bed heights and clearances shown in FIG. 10-1 and TABLE 10-1.

Use FIG. 10-1, clearance dimensions in TABLE 11-1, and worksheets in FIGS.
 13-1 and 14-1 to calculate the initial mounting dimensions for Liftgate.



MEASURING ARM LENGTH (ALL GPC MODELS) FIG. 10-2

VEHICLE REQUIREMENTS - Continued

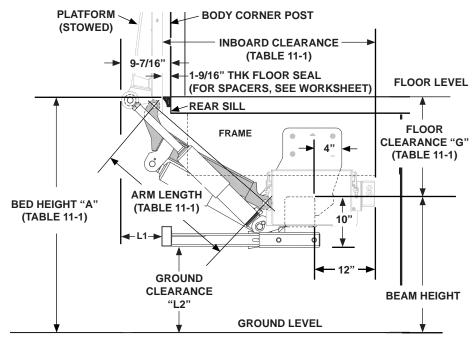
SHORT LIFT ARM (29-1/2)			
MAX. BEAM HEIGHT = 27-3/8			
MAX. BED HT. (UNLADEN)	MIN. FLOOR CLEARANCE	INBOARD CLEARANCE	
49-9/16	22-3/16	40-1/4	
49-5/16	21-3/4	40-9/16	
48-7/8	21-3/8	41	
48-1/2	21-3/32	41-3/8	
48-3/16	20-11/16	41-11/16	
47-3/4	20-5/16	42-3/32	
47-3/8	19-7/8"	42-3/8	
47	19-1/2	42-11/16	
46-9/16	19-3/32	43-3/32	
46-3/16	18-11/16	43-3/16	
45-3/4	18-5/16	43-11/16	
45-3/8	17-7/8	44	
45	17-1/2	44-5/16	
44-1/2	17-3/32	44-9/16	
44-3/32	16-9/16	44-7/8	
43-11/16	16-3/16	45-3/16	
43-3/16	15-3/4	45-3/8	
42-3/4	15-5/16	45-11/16	
MIN. BED HT (LADEN) = 37-3/8			

MEDIUM LIFT ARM (34-1/2)			
MAX. BEAM HEIGHT = 30-3/4			
MAX. BED HT. (UNLADEN		INBOARD CLEARANCE	
56-9/16	25-3/4	43-9/16	
56-3/16	25-5/16	44	
55-11/16	24-7/8	44-1/2	
55-5/16	24-1/2	44-7/8	
54-7/8	24-3/32	45-3/16	
54-3/8	23-9/16	45-11/16	
53-7/8	23-3/16	46-3/32	
53-1/2	22-11/16	46-1/2	
53-3/32	22-3/16	46-7/8	
52-9/16	21-3/4	47-3/16	
52-3/32	21-5/16	47-9/16	
51-9/16	20-3/4	48	
51-3/32	20-5/16	48-5/16	
50-9/16	19-3/4	48-11/16	
50-3/32	19-5/16	49	
49-9/16	18-3/4	49-5/16	
49-3/32	18-5/16	49-9/16	
48-9/16	17-3/4	49-7/8	
MIN. BED HT (LADEN) = 42-5/16			

LONG L	IFT ARM	(39-3/8)	
MAX. BEAM HEIGHT = 31			
MAX. BED HT. (UNLADEN	MIN. FLOOR CLEARANCE		
60-3/8	29-5/16	47"	
59-7/8	28-7/8	47-1/2	
59-3/8	28-3/8	48	
587/8	27-7/8"	48-3/8	
58-3/8	27-3/8	49	
57-7/8	26-7/8"	49-3/8	
57-3/8	26-3/8"	49-3/4	
56-7/8	25-7/8"	50-5/16	
56-5/16	25-5/16	50-11/16	

MIN. BED HT (LADEN) = 52-5/16

LIFTGATE CLEARANCE DIMENSIONS IN INCHES (ALL GPC MODELS) **TABLE 11-1**



LIFTGATE CLEARANCE DIMENSIONS (ALL GPC MODELS) FIG. 11-1

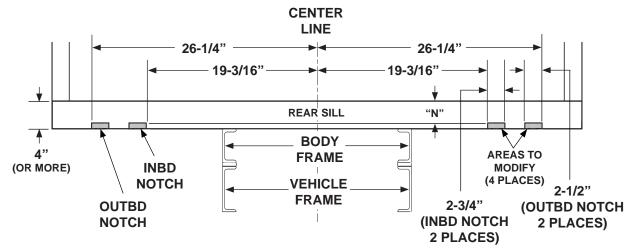
VEHICLE REQUIREMENTS - Continued

CAUTION

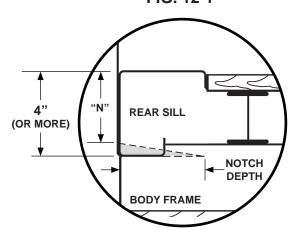
- To prevent Liftgate and/or vehicle from being damaged, check for possible interference from rear sill that is 4" or more in height. Lift arms and/or tilt cylinder rods could hit the rear sill when platform approaches bed height.
- Installer is responsible for ensuring that vehicle body and frame modifications do not adversely affect the integrity of the body and frame.

NOTE: Rear sill height and resulting clearance for tilt cylinder rods and lift arms can differ greatly from installation-to-installation. Height, depth, and angle of notches will vary for different vehicle bodies and lengths of lift arms.

4. If rear sill is likely to interfere with tilt cylinder rods and/or lift arms, measure and mark the areas to be modified on the rear sill as shown in FIG. 12-1. Dimension "N" is the distance to top of the notch. A side view of notch(s) is shown in FIG. 12-2.



FRONT VIEW - REAR SILL NOTCH POSITIONS (LIFTGATE NOT SHOWN) FIG. 12-1



RH SIDE VIEW - REAR SILL NOTCH FIG. 12-2

WORKSHEET FOR INITIAL MOUNTING DIMENSIONS

Calculate initial mounting dimensions according to measurements and clearances shown in the VEHICLE REQUIREMENTS section. An example worksheet is shown in FIG. 13-1.

NOTE: If necessary, spacers can be used between bottom of vehicle frame and top of Liftgate main beam to create more FLOOR CLEARANCE "G". MAXON does not provide spacers. Adding spacers reduces ground clearance ("L1").

NOTE: Floor seal may be spaced away from rear sill to clear swing-door external hinges, locking bars, and other obstructions on rear sill. Refer to WORKSHEET to calculate spacer thickness for rear sill. If required, suitable angle steel may be substituted for door seal. MAXON does not provide the spacers and angle steel.

	1
1. Measured BED HEIGHT (UNLADEN) (FIG. 10-1)	48"
2. Max. BED HEIGHT "A" (FIG. 11-1 & TABLE 11-1)	48-3/16"
Select closest number above BED HEIGHT (UNLADEN) on line 1.	
3. Optimum ARM LENGTH for BED HEIGHT "A" (FIG. 11-1 & TABLE 11-1)	29-1/2"
4. Measured ARM LENGTH as shipped (FIG. 10-2)	29-1/2"
5. Range of MIN. FLOOR CLEARANCE "G" (FIG. 11-1 & TABLE 11-1)	20-11/16"
Lowest number of range corresponds to closest table value for line 2.	to
Highest number corresponds to max. BED HEIGHT (UNLADEN) allowed for arm length.	22-3/16"
6. Measured FLOOR HEIGHT "B" dimension (FIG. 10-1)	18"
NOTE: Refer to range of values on line 5.	
If "B" is within range, enter "0" on line 7 & enter measured distance for "B" on line 8.	
If "B" is not within range of values entered on line 5, follow instructions on lines	
7 and 8 for selecting spacers and adjusting floor clearance.	0"
7. Standard spacer height (between main beam & bottom of vehicle chassis)	3"
for sufficient MIN. FLOOR CLEARANCE "G".	ļ
8. Adjusted MIN. FLOOR CLEARANCE "G" (FIG. 11-1 & TABLE 11-1)	21"
Enter the sum of lines 6 & 7.	
9. Spacer thickness for floor seal (if required)	11/16"
Measure thickest obstruction on rear sill & add 1/4" more clearance.	
Then, subtract seal thickness of 1-9/16".	
Example: 2" thk obstruction + 1/4" more clearance= 2-1/4" total gap	
Total platform gap minus floor seal thickness= spacer thickness (2-4/16" - 1-9/16"= 11/16") NOTE: Add spacer thickness to INBOARD CLEARANCE on line 10 .	
Angle steel (2-1/2" x 2-1/2" in this case) can be substituted for floor seal & spacer.	
10. INBOARD CLEARANCE (FIG. 11-1 & TABLE 11-1)	41-3/8"
Use table value closest to value on line 8. Add thickness of floor seal spacers if required.	71-3/0
NOTE: Mounting plate requires 4" forward of main beam to clear protrusions on vehicle	
frame.	
Junction box requires 12" forward of main beam to clear mud flap or other barrier.	
11. Calculated GROUND CLEARANCE "L2" (FIG. 11-1)	17"
Subtract MIN. FLOOR CLEARANCE "G" (line 8) from measured BED HEIGHT (line 1).	
Subtract 10" (height of main beam & underrun bumper). Example: 48"-21"-10"=	
	<u> </u>

EXAMPLE WORKSHEET FOR CALCULATING INITIAL DIMENSIONS FIG. 13-1

WORKSHEET FOR INITIAL MOUNTING DIMENSIONS - Continued

1. Measured BED HEIGHT (UNLADEN) (FIG. 10-1)	
2. Max. BED HEIGHT "A" (FIG. 11-1 & TABLE 11-1) Select closest number above BED HEIGHT (UNLADEN) on line 1.	
3. Optimum ARM LENGTH for BED HEIGHT "A" (FIG. 11-1 & TABLE 11-1)	
4. Measured ARM LENGTH as shipped (FIG. 10-2)	
 Range of MIN. FLOOR CLEARANCE "G" (FIG. 11-1 & TABLE 11-1) Lowest number of range corresponds to closest table value for line 2. Highest number corresponds to max. BED HEIGHT (UNLADEN) allowed for arm length. 	
6. Measured FLOOR HEIGHT "B" dimension (FIG. 10-1) NOTE: Refer to range of values on line 5. If "B" is within range, enter "0" on line 7 & enter measured distance for "B" on line 8. If "B" is not within range of values entered on line 5, follow instructions on lines 7 and 8 for selecting spacers and adjusting floor clearance.	
7. Standard spacer height (between main beam & bottom of vehicle chassis) for sufficient MIN. FLOOR CLEARANCE "G".	
8. Adjusted MIN. FLOOR CLEARANCE "G" (FIG. 11-1 & TABLE 11-1) Enter the sum of lines 6 & 7.	
9. Spacer thickness for floor seal (if required) Measure thickest obstruction on rear sill & add 1/4" more clearance. Then, subtract seal thickness of 1-9/16". NOTE: Add spacer thickness to INBOARD CLEARANCE on line 10. Angle steel can be substituted for floor seal & spacer.	
10. INBOARD CLEARANCE (FIG. 11-1 & TABLE 11-1) Use table value closest to value on line 8. Add thickness of floor seal spacers if required. NOTE: Mounting plate requires 4" forward of main beam to clear protrusions on vehicle frame. Junction box requires 12" forward of main beam to clear mud flap or other barrier.	
11. Calculated GROUND CLEARANCE "L2" (FIG. 11-1) Subtract MIN. FLOOR CLEARANCE "G" (line 8) from measured BED HEIGHT (line 1). Subtract 10" (height of main beam & underrun bumper).	

WORKSHEET FOR CALCULATING INITIAL DIMENSIONS FIG. 14-1

RED FUSED POWER

STEP 1 - RUN POWER & GROUND CABLES

A 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. Keep adequate distance between (+) and (-) cables that connect to battery. 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.

NOTE: The fuse end of the red power cable will be connected to (+) terminal on vehicle battery.

1. Run the red fused power (+) cable and black ground (-) cable (Kit items) along vehicle frame from the vehicle battery to the rear of vehicle where Liftgate will be mounted. Clip cables to vehicle frame at intervals shown (FIG. 15-1). Leave sufficient cable to reach the power pack on the Liftgate.

BLACK-GROUND (-) CABLE

RED POWER (+) CABLE

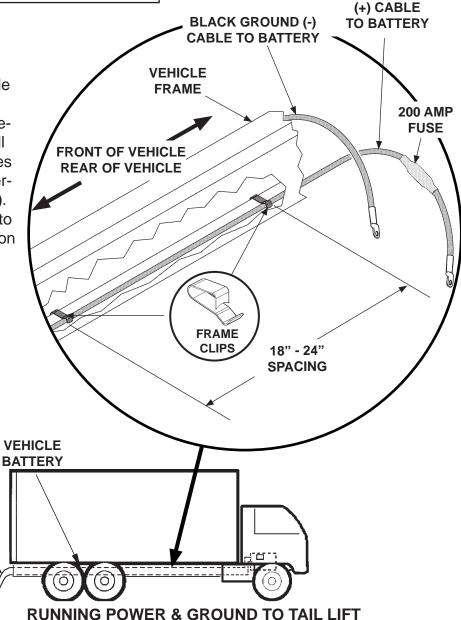


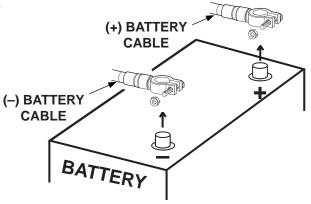
FIG. 15-1

STEP 1 - RUN POWER & GROUND CABLES - Continued

WARNING

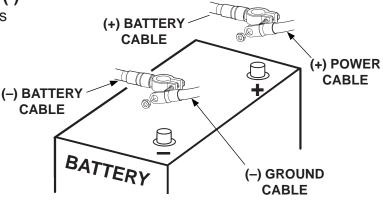
Prevent possible injury and damaged equipment. Ensure battery cables remain disconnected from battery until safe to reconnect. Reconnect battery cables only as instructed in this manual.

2. In the vehicle battery compartment, disconnect the (+) and (-) battery cables as shown in FIG. 16-1.



DISCONNECTING BATTERY CABLES FIG. 16-1

3. Connect the (+) power cable and (-) ground cable to the battery cables (disconnected from battery) as shown in FIG. 16-2.

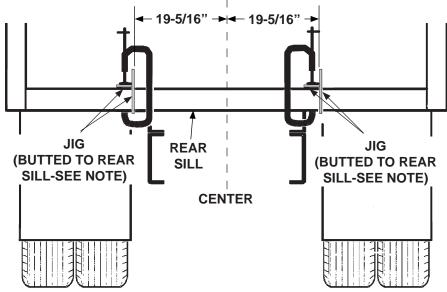


CONNECTING (+) POWER & (-) GROUND CABLES TO DISCONNECTED BATTERY CABLES FIG. 16-2

STEP 2 - FIT LIFTGATE TO VEHICLE

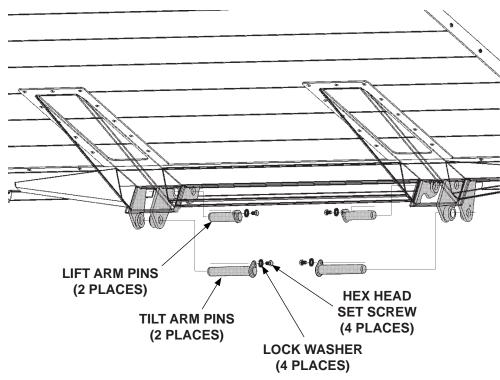
NOTE: Ensure both installation jigs fit snug against the top and side of the rear sill. If rear sill spacers are necessary (see WORKSHEET FOR INITIAL MOUNTING DIMENSIONS), ensure correct thickness of spacers is fitted in snug between the rear sill and jigs. Lift mechanism must be centered within the opening on the rear sill.

1. Position the 2 installation jigs (Kit items) on the rear sill of the vehicle body as shown in FIG. 17-1. Clamp or tack-weld jigs to rear sill.



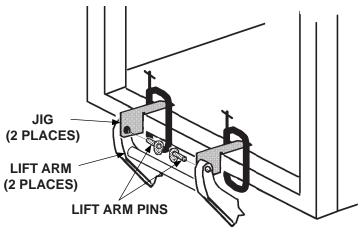
INSTALLATION JIGS POSITIONED ON REAR SILL OF VEHICLE BODY FIG. 17-1

2. Raise and support platform enough to remove the 2 lift arm pins and 2 tilt arm pins (FIG. 18-1).



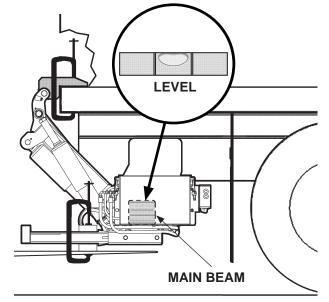
REMOVING LIFT ARM & TILT ARM PINS PROVIDED WITH PLATFORM FIG. 18-1

3. Use the 2 lift arm pins, removed from platform, to pin each lift arm to a jig clamped to rear sill (FIG. 18-2).

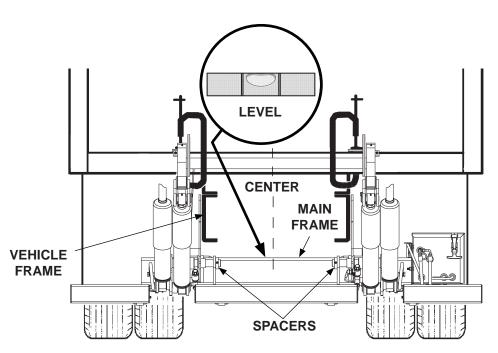


PINNING LIFT ARMS TO JIGS FIG. 18-2

4. Position the liftgate as shown in FIGS. 19-1 and 19-2 and the applicable dimensions from WORK-SHEET FOR INITIAL MOUNTING **DIMENSIONS**. Keep liftgate from moving out of position while welding or bolting mounting plates to vehicle frame.



LIFT MECHANISM POSITIONED ON VEHICLE FIG. 19-1



LIFT MECHANISM POSITIONED ON VEHICLE (FORKLIFT NOT SHOWN) FIG. 19-2

NOTE: The external control is pre-wired to electrical controller box. This control will be operable when power and ground cables for the liftgate are connected correctly in the pump box and at the battery. External control can be used to help adjust the position of lift mechanism and tilt arms when connecting to platform.

- 5. Remove pump cover. Run the (+) power cable through the sealing grommet to power unit (FIG. 20-2). Leave enough cable to reach starter motor solenoid without putting tension on cable (after connection). Then run (-) power cable through sealing grommet to power unit (FIG. 20-2). Leave enough cable to reach motor (-) terminal stud without putting tension on cable (after connection).
- 6. Put heatshrink tubing (Parts Box item) (FIG. 20-1) over each bare cable end (leave room for terminal lug). Crimp a terminal lug (Parts Box item) on each bare end of power cable (FIG. 20-1). Then shrink the heatshrink tubing over the barrel of the lug (FIG. 20-2).

POWER CABLE (BARE WIRE END)

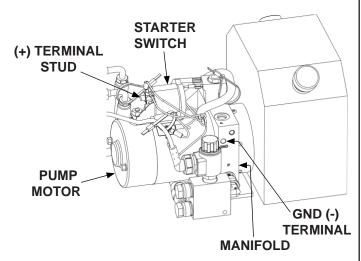
PLACING TERMINAL LUG & HEATSHRINK TUBING ON POWER CABLE FIG. 20-1



TYPICAL POWER CABLE WITH TERMINAL LUG INSTALLED FIG. 20-2

NOTE: Use dielectric grease on all electrical connections.

Connect (+) fused cable to (+) terminal on starter switch (FIG. 20-3). Next, connect (-) ground cable to GND (-) terminal on the pump manifold (FIG. 20-3). Then, apply dielectric grease to electrical connections.



CONNECTING (+) & (-) POWER CABLES TO POWER UNIT FIG. 20-3

WARNING

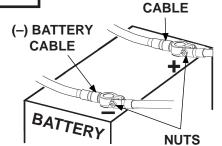
Prevent possible injury and damaged equipment. Ensure the (+) power cable, (-) ground cable, and control switch are connected to power unit before reconnecting vehicle battery cables.

NOTE: Use dielectric grease on all electrical connections.

8. Connect (+) and (-) battery cables to vehicle battery (FIG. 21-1). Tighten the connector nuts securely.

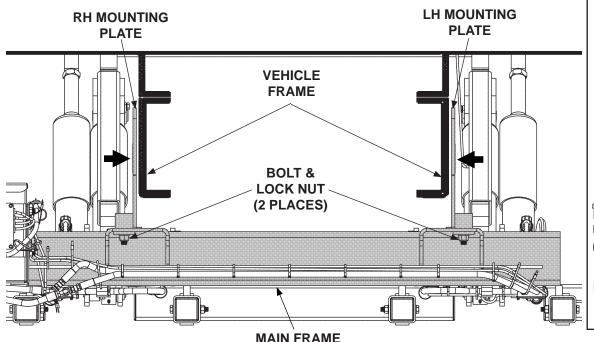
NOTE: Mounting plates can be adjusted to fit vehicle frames 29-1/2" to 34-1/2" wide.

9. Position mounting plates for a snug fit against vehicle as follows. Loosen the 2 lock nuts at the base of each mounting plate (FIG. 21-2). Keep liftgate centered on rear sill of vehicle body. Butt both mounting plates against vehicle frame. Tighten lock nuts (FIG. 21-2) to 122 lb-ft.



(+) BATTERY

RECONNECTING VEHICLE BATTERY CABLES FIG. 21-1



REPOSITIONING MOUNTING PLATES (REAR VIEW OF MAIN FRAME) FIG. 21-2

STEP 3 - MOUNT LIFTGATE ON VEHICLE FRAME

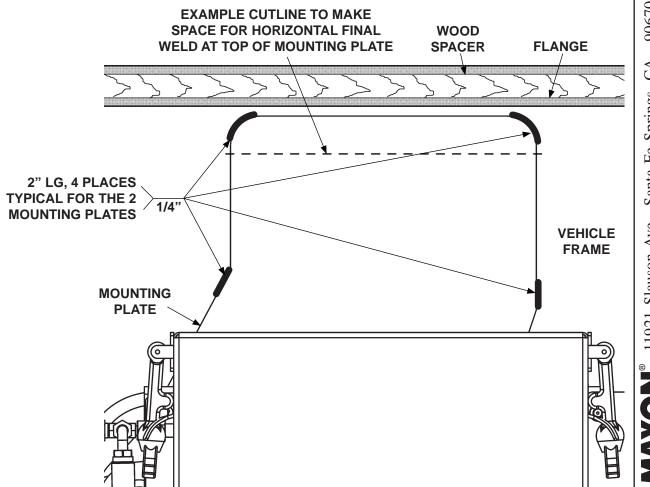
A WARNING

Never operate the liftgate with loaded platform until mounting plates are completely welded to the vehicle frame. Personal injury and equipment damage can result. Tack welds are only a temporary means to attach liftgate to frame.

NOTE: Mounting plates can be cut shorter at the top for more clearance from the vehicle underbody or to provide space for a final horizontal weld. Ensure mounting plates have sufficient length for the final vertical welds required in **STEP 8.** Refer to **WARNING** above.

- 9" min. vertical weld at both edges with horizontal weld across top
- 10" min. vertical weld at both edges when horizontal top weld not possible

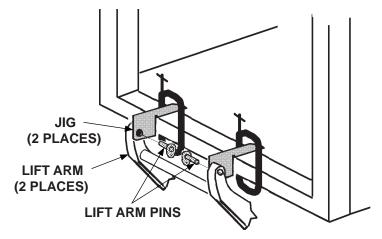
Keep liftgate from moving out of position. Tack weld each mounting plate to vehicle frame as shown in **FIG. 22-1**.



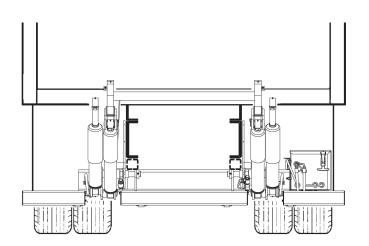
WELDING MOUNTING PLATES TO VEHICLE FRAME FIG. 22-1

STEP 4 - REMOVE INSTALLATION JIGS

1. Remove lift arm pins and jigs (FIGS. 23-1 and 23-2).



REMOVING PLATFORM PINS, CLAMPS & JIGS FIG. 23-1



LIFT ARMS FREED FROM INSTALLATION JIGS FIG. 23-2

2. Lower forklift or jack and remove from under liftgate.

STEP 5 - ATTACH PLATFORM & ROLLERS

A WARNING

To prevent possible injury, never work in the area directly under the platform. Gain access to lift arm and tilt cylinder rod connection points at heel of platform.

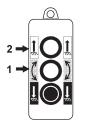
- 1. Support platform in horizontal position (FIG. 24-5).
- 2. Use external control to raise or lower lift arms in position on the platform heel (FIGS. 24-1, 24-2 and 24-5). Next, insert pins to connect lift arms to platform. Then, bolt both pins securely to platform. Torque the 4 hex head set screws to 38 lb-ft.
- 3. Use external control to extend or retract tilt cylinder rods to correct position on the platform heel (FIGS. 24-3, 24-4 and 24-5). Next, insert pins to connect tilt cylinder rods to platform (FIG. 24-5). Then, bolt both pins securely.



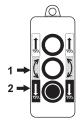
UP BUTTON (RAISE LIFT ARMS) FIG. 24-1



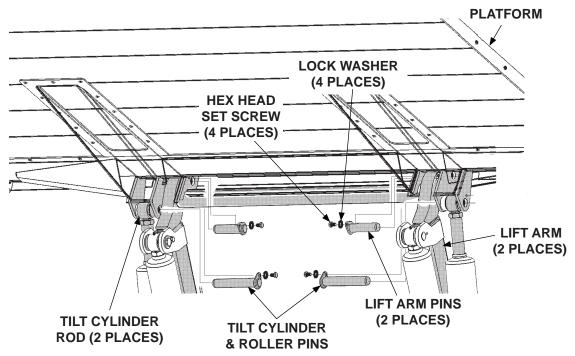
DOWN BUTTON (LOWER LIFT ARMS) FIG. 24-2



TILT UP (EXTEND TILT CYLINDER ROD) FIG. 24-3



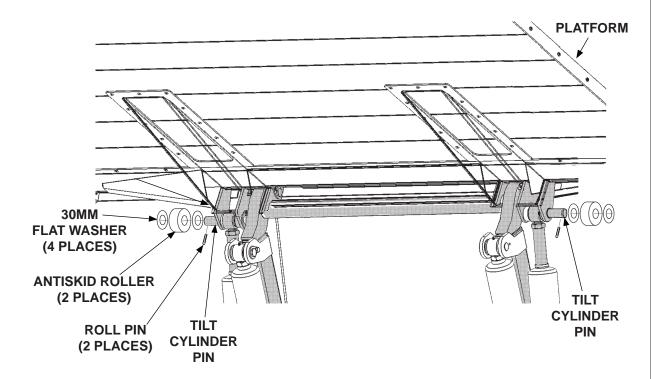
TILT DOWN (RETRACT TILT CYLINDER ROD) FIG. 24-4



CONNECTING LIFT ARMS & TILT ARMS TO HEEL OF PLATFORM (ALUMINUM PLATFORM SHOWN) FIG. 24-5

STEP 5 - ATTACH PLATFORM & ROLLERS - Continued

4. Attach anti-skid rollers, with flat washers and roll pins (Kit items), to tilt cylinder pins (FIG. 25-1).



ATTACHING ANTI-SKID ROLLERS TO CYLINDER PINS (ALUMINUM PLATFORM SHOWN) FIG. 25-1

- **5.** Remove platform supports.
- **6.** Use external control to lower platform (FIG. 26-2) to ground level and raise platform (FIG. 26-1) to vehicle floor level. Watch for interference between moving parts on the liftgate and the vehicle body and frame.

STEP 6 - ATTACH FLOOR SEAL

NOTE: If optional flip-up door kit will be installed, refer to M-11-03 for instructions regarding installation of floor seal.

1. Lower platform to the ground (FIG. 26-1).

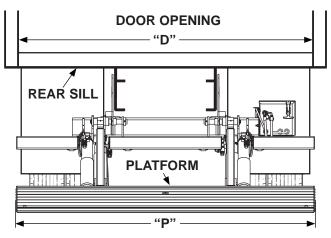
> **NOTE:** If door seals are required for top and sides of the door opening, measure width of door opening.

2. Measure width "**P**" of the platform (FIG. 26-1) or width "D" of door opening.

NOTE: If door seals are to be installed at top and sides of door opening, cut floor seal to width "D" of door opening.

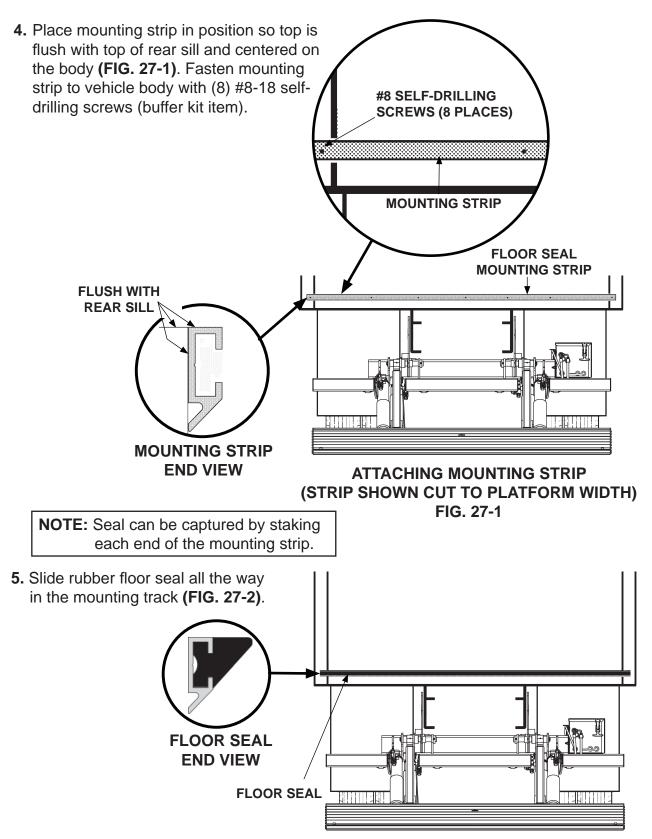
NOTE: Rubber floor seal may stretch when inserted. If door seals will not be installed, cut the rubber floor seal 1/2" longer than mounting strip. Rubber should relax to length of strip after a time.

3. Cut the floor seal mounting strip (FIG. 27-1) and floor seal (Kit items) to measured length "P" or "D" (FIG. 26-1).



MEASURING WIDTH OF PLATFORM OR DOOR WIDTH ON THE BODY (PLATFORM ON THE GROUND) FIG. 26-1

STEP 6 - ATTACH FLOOR SEAL - Continued



FLOOR SEAL INSERTED (SEAL IS SHOWN CUT TO PLATFORM WIDTH) FIG. 27-2

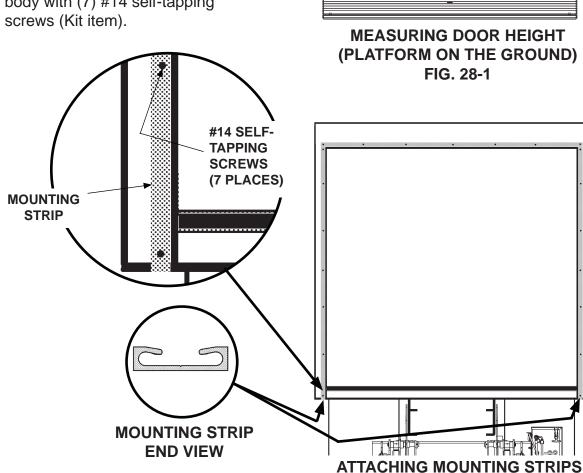
STEP 7 - ATTACH DOOR SEALS & PLATFORM BUFFERS

"H"

DOOR OPENING

FIG. 28-2

- 1. Measure height "H" from bottom of rear sill to top of door opening on vehicle body (FIG. 28-1).
- 2. Cut 2 door seal mounting strips (FIG. 28-2) and door seals (FIG. 28-2) (Kit items) to measured length "H" (FIG. 28-1).
- 3. Place mounting strip (Kit item) in position on LH side & RH side of door opening (FIG. 28-2). Fasten each mounting strip to vehicle body with (7) #14 self-tapping



REAR SILL



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STEP 7 - ATTACH DOOR SEALS & PLATFORM BUFFERS -Continued

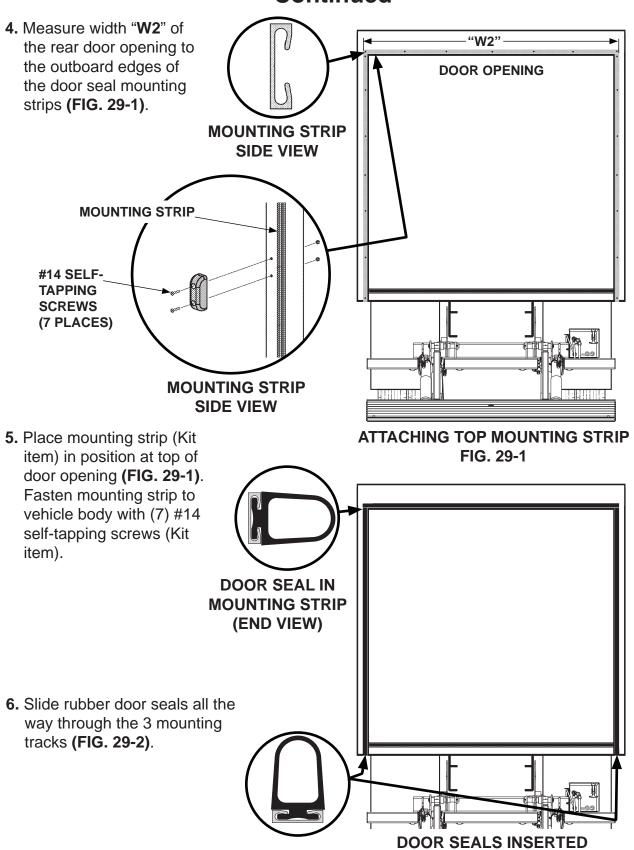


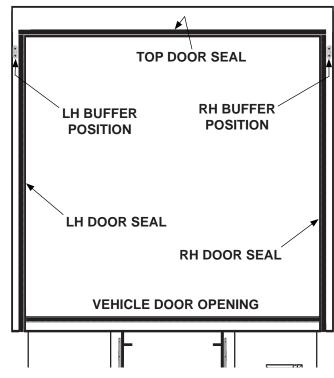
FIG. 29-2

(800) 227-4116 FAX (888) 771-7713 02906 Santa Fe Springs, CA. 11921 Slauson Ave.

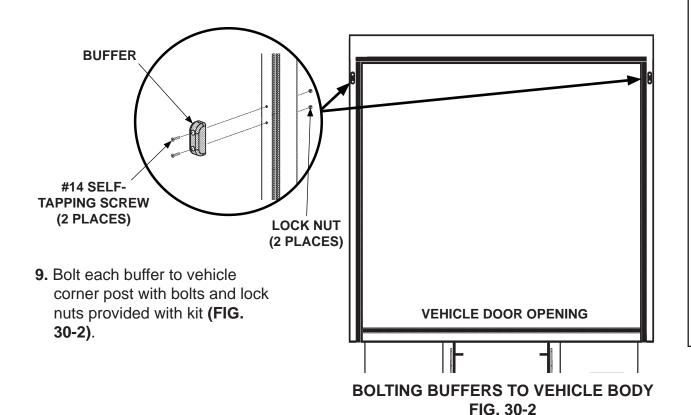
STEP 7 - ATTACH DOOR SEALS & PLATFORM BUFFERS -Continued

7. Position rubber buffers (Kit item) on vehicle body corner posts at outboard side of door seals as shown in FIG. 30-1. Ensure each buffer is below the seal at the top of the door and makes contact with platform below the tip.

8. Use each rubber buffer (Kit item) as a template for marking and drilling 2 pilot holes (#14 screws) in each vehicle body corner post (FIG. 30-1).



POSITIONING BUFFERS ON VEHICLE BODY FIG. 30-1



30

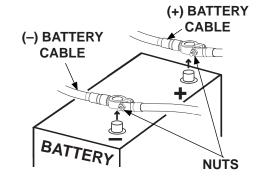
STEP 8 - FINISH WELDING MOUNTING PLATES

1. Lower the platform to the ground.

A WARNING

To prevent possible injury, disconnect power from battery while working under vehicle body.

2. Disconnect (+) and (-) power cables from battery.



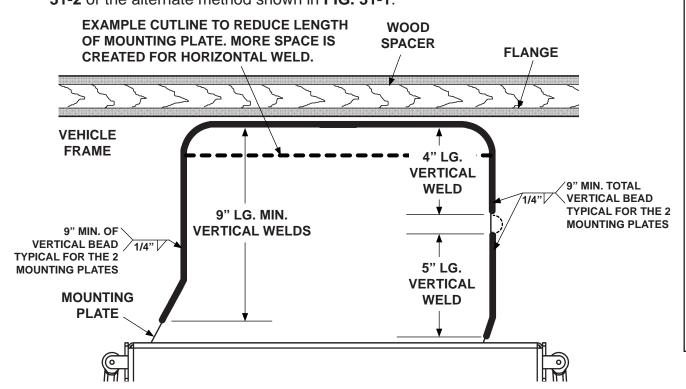
DISCONNECTING BATTERY CABLES FIG. 31-1

A WARNING

Never operate the liftgate with loaded platform until mounting plates are completely welded to the vehicle frame.

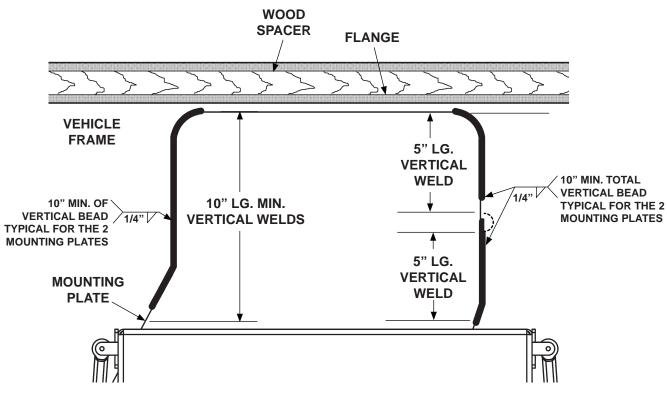
NOTE: A hole in vehicle frame could interfere with welding 1 continuous bead on the vertical edges of mounting plate. The mounting plate can be welded above and below hole. However, the length of the 2 vertical welds must add up to the minimum overall length of 1 continuous vertical weld.

3. Keep liftgate from moving out of position. Weld each mounting plate to vehicle frame as shown in FIG.31-2 or the alternate method shown in FIG. 31-1.



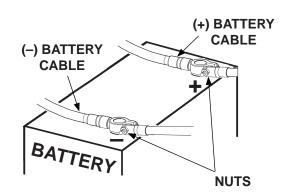
WELDING MOUNTING PLATES TO VEHICLE FRAME FIG. 31-2

STEP 8 - FINISH WELDING MOUNTING PLATES - Continued



ALTERNATE METHOD FOR WELDING MOUNTING PLATES TO VEHICLE FRAME FIG. 32-1

4. Reconnect (+) and (-) powercables to battery (FIG. 32-2). Tighten the connector nuts securely.



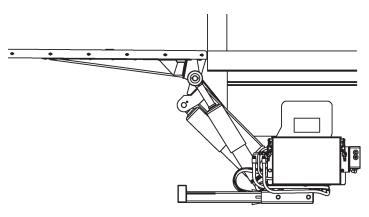
RECONNECTING BATTERY CABLES FIG. 32-2

ABOUT REAR IMPACT GUARDS

NOTE: The REAR IMPACT GUARDS on this Liftgate are FMVSS-certified if Liftgate is installed correctly in accordance with this installation manual.

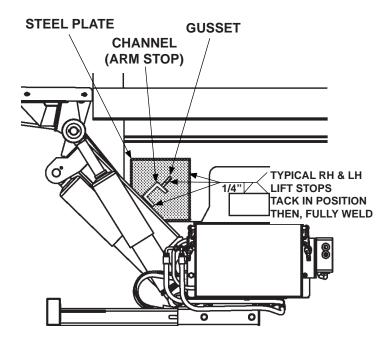
STEP 9 - ATTACH LIFT STOPS

- 1. Raise open platform to vehicle floor level (FIG. 33-1).
- 2. Find area, free of obstructions, on vehicle frame by RH lift arm. Position lift stop channel, with gusset and plate (Kit items), so channel is in contact with RH lift arm and as close as possible to underside of vehicle body (FIG. 33-2). Tack weld in position. Repeat this step for LH lift arm.



PLATFORM RAISED TO FLOOR LEVEL FIG. 33-1

- **3.** Lower platform to ground level. Then, raise platform to floor level to verify platform is in correct position when the lift arms come in contact with the stops (FIG. 33-2).
- 4. When stop and gusset are in correct position, fully weld plate, stop, and gusset (FIG. 33-2). Repeat this step for LH lift arm.



LIFT STOP & GUSSET WELDED TO VEHICLE FRAME FIG. 33-2

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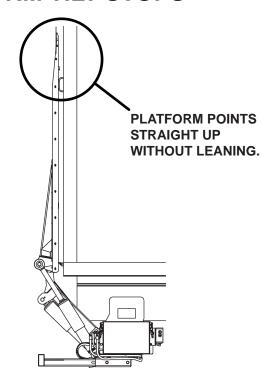
STEP 10 - ADJUST PLATFORM TILT STOPS

1. Stow platform (FIG. 34-1).

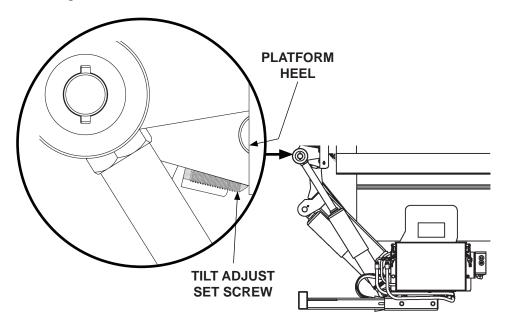
2. Ensure platform is pointed straight up and not leaning towards the vehicle body (FIG. 34-1).

> **NOTE:** There is a tilt stop adjustment screw where each lift arm connects to platform.

3. If platform leans toward vehicle body, turn tilt stop screws clockwise at RH and LH sides of the platform (FIG. 34-2). Turn screws evenly until platform points straight up without leaning.



PLATFORM STOWED FIG. 34-1



4. Tilt platform down to bed level. Then tilt platform up to stowed position (FIG. 34-1). Ensure platform is not leaning. If necessary repeat adjustment instruction 3.

PLATFORM WITH RH TILT STOP SHOWN FIG. 34-2

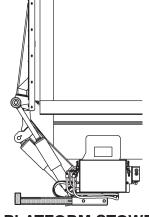
MAXON

STEP 11 - ADJUST UNDERRUN BUMPER

A WARNING

To prevent possible injury, stow platform and disconnect vehicle battery from power pack before working below platform.

1. Stow the platform (FIG. 35-1).

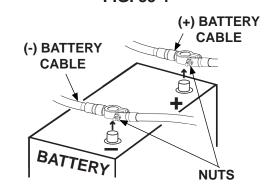


PLATFORM STOWED FIG. 35-1

A WARNING

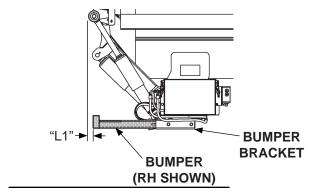
To prevent possible injury, disconnect power from Tail Lift while working under vehicle body.

2. Disconnect (+) and (-) battery cables from battery (FIG. 35-2).



DISCONNECTING BATTERY CABLES FIG. 35-2

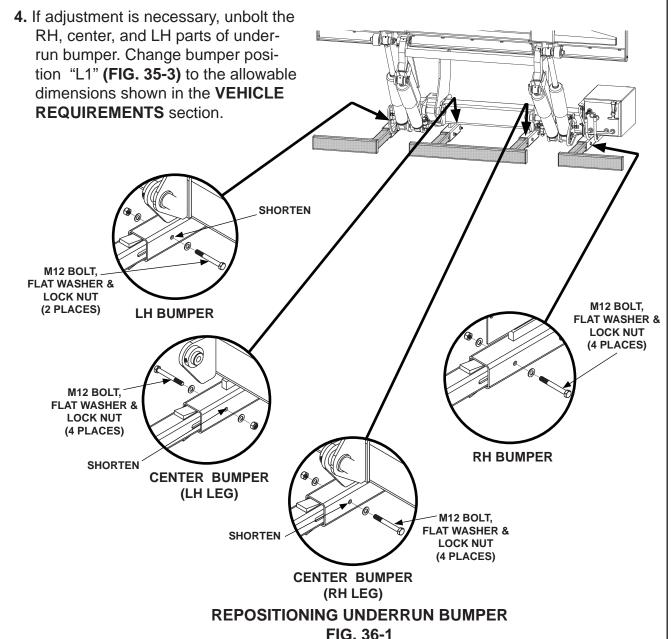
3. Measure position "L1" of the RH, center, and LH parts of underrun bumper (**FIG. 35-3**).



MEASURING UNDERRUN BUMPER POSITION & GROUND CLEARANCE FIG. 35-3

STEP 11 - ADJUST UNDERRUN BUMPER - Continued

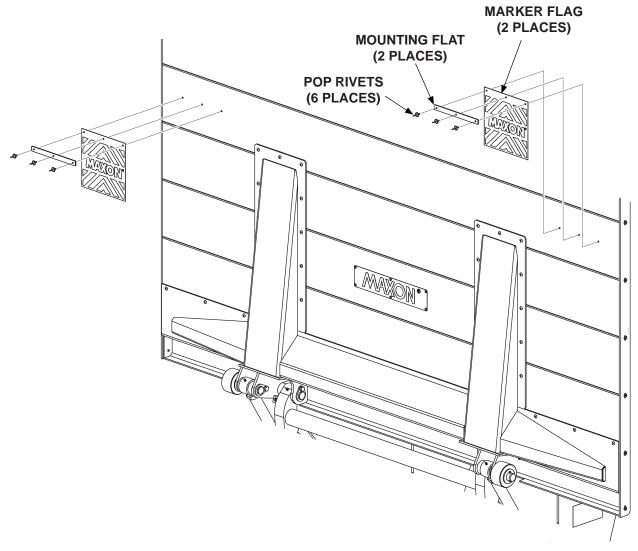
NOTE: The center part of the underrun bumper must be bolted to the main frame with 8 bolts. For the RH and LH parts of the bumper, each part must be bolted to the main frame with 2 bolts. Bolt pattern allows bumper position "L1" to be shortened approximately 2-3/8" from shipping position.



- **5.** When each of the 3 bumpers are in correct position, bolt each bumper to bracket with specified number of bolts (FIG. 36-1). Torque each of the 12 lock nuts to 86 lb-ft.
- 6. Reconnect (+) and (-) battery cables to battery. Tighten the connector nuts securely.

STEP 12 - ATTACH MARKER FLAGS

1. Stow platform (FIG. 37-1).



ATTACHING MARKER FLAGS TO PLATFORM (ALUMINUM SHOWN)
FIG. 37-1

2. Use mounting flats to mark and drill 6 holes to fasten flags and flats to platform (FIG. 37-1).

NOTE: Aluminum pop rivets and self-tapping screws are provided with marker flag kit. Use the 6 aluminum rivets to attach flags to aluminum platform. To attach marker flags to steel platform, use the 6 self-tapping screws.

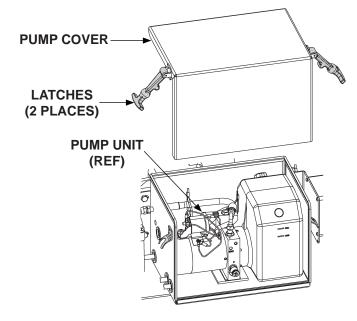
3. Attach marker flags (Kit items) as shown in **(FIG. 37-1)**.

STEP 13 - CHECK 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.

- 1. Tilt platform down to bed level. Then, lower platform to the ground and tilt the tip down.
- 2. Unlatch and open pump cover (FIG. 38-1).
- 3. Check the hydraulic fluid level in reservoir as follows. With platform on ground, level should be as shown in FIG. 38-2.



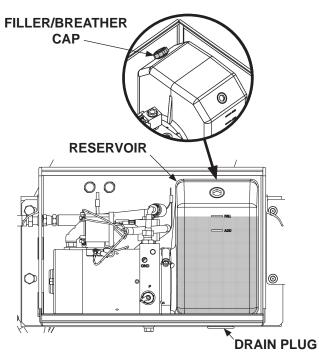
UNLATCH/LATCH PUMP COVER FIG. 38-1

4. If needed, add ISO 22 hydraulic fluid to the reservoir as follows. Removefiller cap (FIG. 38-2). Fill the reservoir with hydraulic fluid to the FULL mark (FIG. 38-2). Reinstall filler cap (FIG. 38-2).



Pump cover must be correctly secured to prevent it from becoming a hazard. Ensure pump cover is latched to pump box.

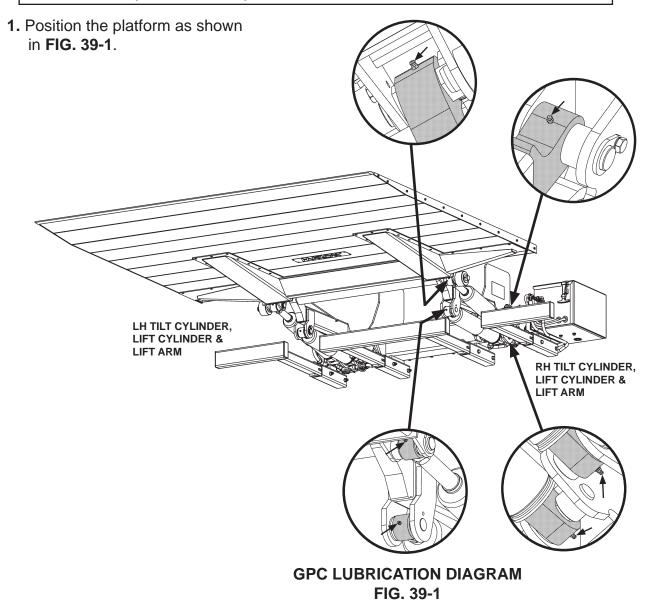
5. Close and latch the pump cover (FIG. 38-1).



POWER UNIT FLUID LEVEL FIG. 38-2

STEP 14 - LUBRICATE BEARINGS AT GREASE FITTINGS

NOTE: Lube fittings are shown for the RH tilt cylinder, RH lift cylinder, and RH arm of the lift frame. There are also lube fittings at the same places on the LH tilt cylinder, LH lift cylinder, and LH arm of the lift frame.



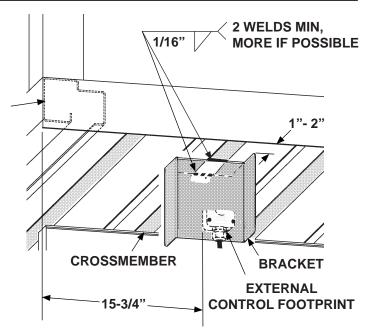
2. Pump multi-purpose lithium grease in each lube fitting on the cylinders and arms until grease starts oozing from ends of the bearings. Refer to lubrication diagram in FIG. 39-1. Wipe off excess grease with a clean lint-free cloth.

STEP 15 - ATTACH EXTERNAL BRACKET & CONTROL

CAUTION

Prevent damage to control box. Make sure installed control box does not protrude from the vehicle body.

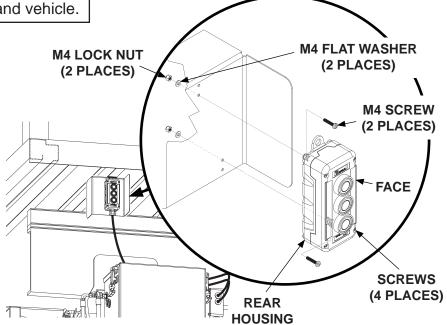
- Position external control bracket on crossmembers at the RH side (curbside) near rear sill of vehicle body as shown FIG. 40-1.
 - **REAR SILL**
- 2. Weld external control bracket in position (FIG. 40-1).
- Remove control face from rear housing by loosening 4 screws (FIG. 40-2).



POSITIONING EXTERNAL CONTROL BRACKET UNDER VEHICLE BODY FIG. 40-1

NOTE: Secure excess length of control cable behind power pack away from moving parts on liftgate and vehicle.

4. Bolt external control rear housing to bracket with 2 screws and 2 lock nuts provided (FIG. 40-2).

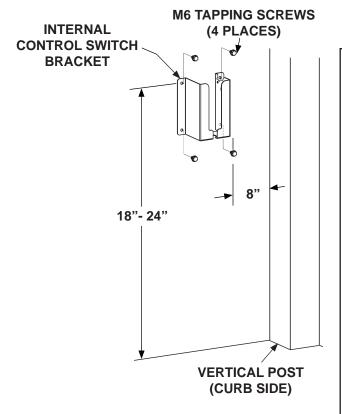


Reattach control face to rear housing with 4 screws (FIG. 40-2).

BOLTING EXTERNAL CONTROL TO BRACKET FIG. 40-2

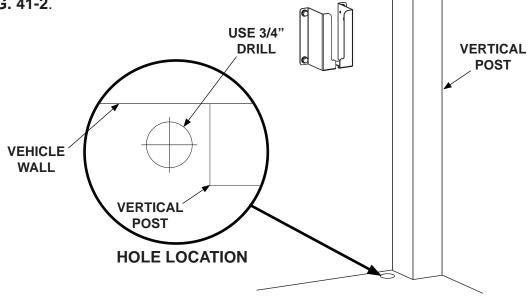
STEP 16 - ATTACH INTERNAL BRACKET & CONTROL

1. Position internal control bracket (Kit item) by RH rear vehicle body vertical post as shown in FIG. 41-1. Use bracket to to mark and drill 4 holes for M6 tapping screws. Then, bolt bracket to vehicle body 4 self-tapping screws (Kit item) (FIG. 41-1).



BOLTING INTERNAL SWITCH BRACKET TO VEHICLE BODY FIG. 41-1

2. Drill 3/4" hole through vehicle floor as shown in FIG. 41-2.

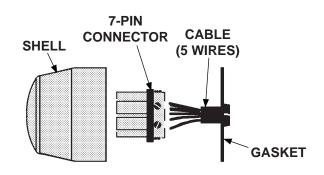


HOLE DRILLED FOR WIRING FIG. 41-2

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STEP 16 - ATTACH INTERNAL BRACKET & CONTROL - Continued

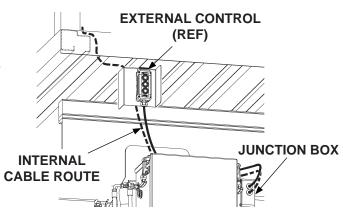
3. Slide gasket from bottom of connector shell (FIG. 42-1). Then, release 7-pin connector from bottom of shell.



DISCONNECTING INTERNAL CONTROL CABLE CONNECTOR FIG. 42-1

4. Disconnect 5 wires of internal control cable from 7-pin connector (FIG. 42-1).

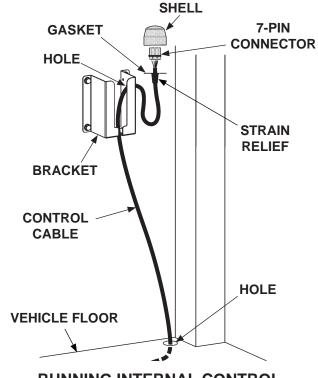
5. Run control cable from junction box under vehicle body (see dashed line, FIG. 42-2), and up through vehicle floor.



RUNNING INTERNAL CONTROL CABLE INTO VEHICLE BODY FIG. 42-2

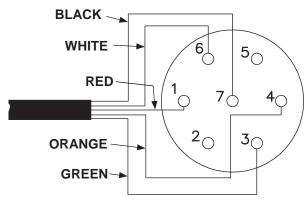
STEP 16 - ATTACH INTERNAL BRACKET & CONTROL - Continued

6. Pull control cable through 3/4" hole (FIG. 43-1). Then, route cable through lower RH corner of bracket and hole on RH wall of bracket.



RUNNING INTERNAL CONTROL CABLE THROUGH FLOOR FIG. 43-1

7. Route cable through strain relief side of connector gasket (FIG. 43-1). Then, reconnect control cable to 7-pin connector according to wiring diagram in FIG. 43-2.



INTERNAL CONTROL CABLE CONNECTOR WIRING DIAGRAM FIG. 43-2

8. Insert 7-pin connector in shell (FIG. 43-1). Twist connector clockwise and position locking tab to secure in place.

STEP 16 - ATTACH INTERNAL BRACKET & CONTROL - Continued

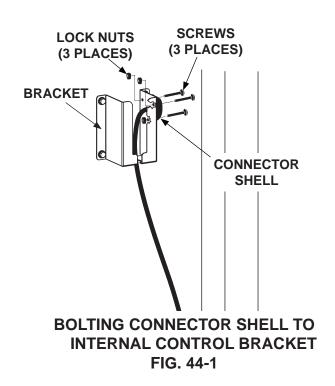
NOTE: Position connector shell so cover pivots up when opened.

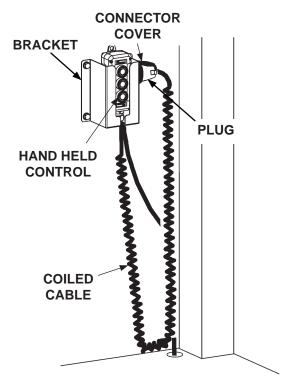
9. Use #10-24 x 1-1/4" machine screws and lock nuts (3 each) to bolt connector shell to wall of the bracket (FIG. 44-1).

10. Place hand held control in bracket (**FIG. 44-2**).

NOTE: When hand held control is plugged in correctly, connector cover should capture the plug.

11. Open connector cover **(FIG. 44-2)**. Then, plug in the hand held control.





HAND HELD CONTROL PLUGGED IN FIG. 44-2

ATTACH DECALS

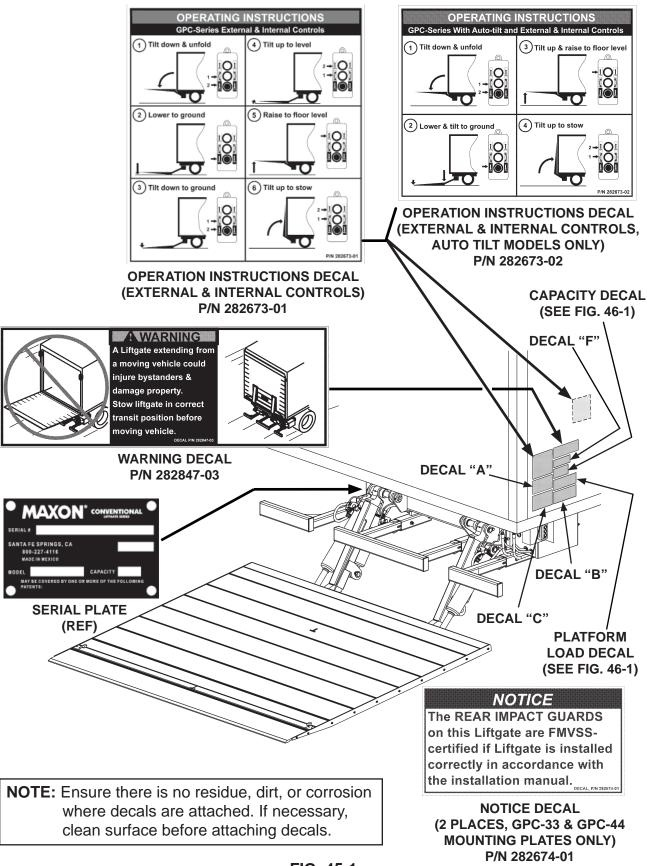


FIG. 45-1

ATTACH DECALS - Continued









DECAL SHEET P/N 282522-01

THE MAXIMUM CAPACITY
OF THIS LIFT IS

2200 POUNDS

WHEN THE LOAD IS POSITIONED ON THE PLATFORM 24" FROM THE HEEL.

GPC-22 LIFT CAPACITY DECAL P/N 282523-01

THE MAXIMUM CAPACITY
OF THIS LIFT IS

3300 POUNDS

WHEN THE LOAD IS POSITIONED ON THE PLATFORM 24" FROM THE HEEL.

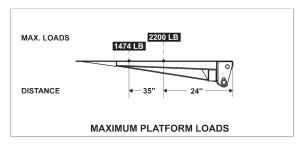
GPC-33 LIFT CAPACITY DECAL P/N 282523-02

THE MAXIMUM CAPACITY OF THIS LIFT IS

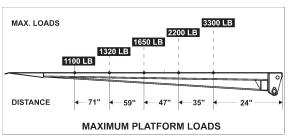
4400 POUNDS

WHEN THE LOAD IS POSITIONED ON THE PLATFORM 24" FROM THE HEEL.

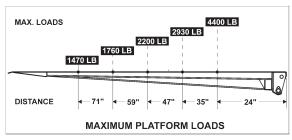
GPC-44 LIFT CAPACITY DECAL P/N 282523-03



GPC-22 PLATFORM LOAD DECAL P/N 282663-01



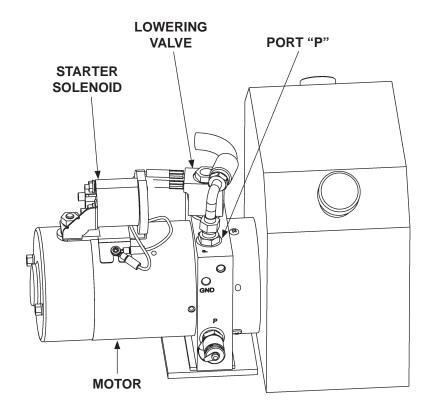
GPC-33 PLATFORM LOAD DECAL P/N 282663-02



GPC-44 PLATFORM LOAD DECAL P/N 282663-03

FIG. 46-1

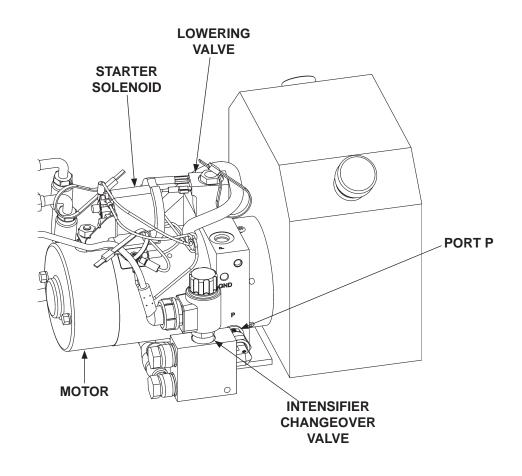
SYSTEM DIAGRAMS PUMP & MOTOR SOLENOID OPERATION (WITHOUT AUTO TILT)



POWER UNIT MOTOR & SOLENOID OPERATION								
		SOLENOID OPERATION						
LIFTGATE FUNCTION	PORT	(✓ MEANS ENERGIZED)						
		MOTOR	LOWERING	LOGIC	LOGIC	LOGIC	LOGIC	
				VALVE	VALVE	VALVE	VALVE	
			VALVE	VALVE LIFT-1 LIFT-2 TILT-1 TILT-	TILT-2			
RAISE	Р	✓	-	\	✓	-	•	
LOWER	Р	-	✓	✓	✓	-	-	
TILT UP	Р	✓	-		1	\	\	
TILT DOWN	Р	-	\	ı	ı	>	>	
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC WITHOUT AUTO TILT								

TABLE 47-1

PUMP & MOTOR SOLENOID OPERATION (WITH AUTO TILT)



POWER UNIT MOTOR & SOLENOID OPERATION								
	PORT	SOLENOID OPERATION						
LIFTGATE FUNCTION		(✓ MEANS ENERGIZED)						
		MOTOR	LOWERING VALVE	LOGIC	LOGIC	LOGIC	LOGIC	INTENSIFIER
				VALVE	VALVE	VALVE	VALVE	CHANGEOVER
				LIFT-1	LIFT-2	TILT-1	TILT-2	VALVE
RAISE	Р	\checkmark	-	✓	✓	✓	✓	-
LOWER	Р	-	✓	\checkmark	✓	✓	✓	-
TILT UP	Р	✓	-	-	-	✓	✓	✓
TILT DOWN	Р	-	✓	-	-	✓	✓	✓
REFER TO VALVES SHOWN ON								

HYDRAULIC SCHEMATIC WITH AUTO TILT

MAXON® 11921 Slauson Ave.

SYSTEM DIAGRAMS - ContinuedHYDRAULIC SCHEMATIC (WITHOUT AUTO TILT)

NOTE: LOGIC VALVES ARE DOUBLE-LOCK SEAT, NC. FLOW RATE IS 19 LPM (5 GPM).

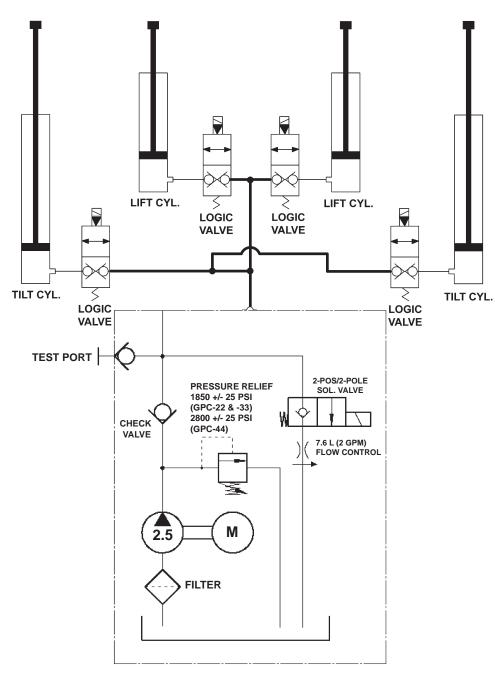


FIG. 49-1

SYSTEM DIAGRAMS - Continued HYDRAULIC SCHEMATIC (WITH AUTO TILT)

NOTE: LOGIC VALVES ARE DOUBLE-LOCK SEAT, NC. FLOW RATE IS 19 LPM (5 GPM).

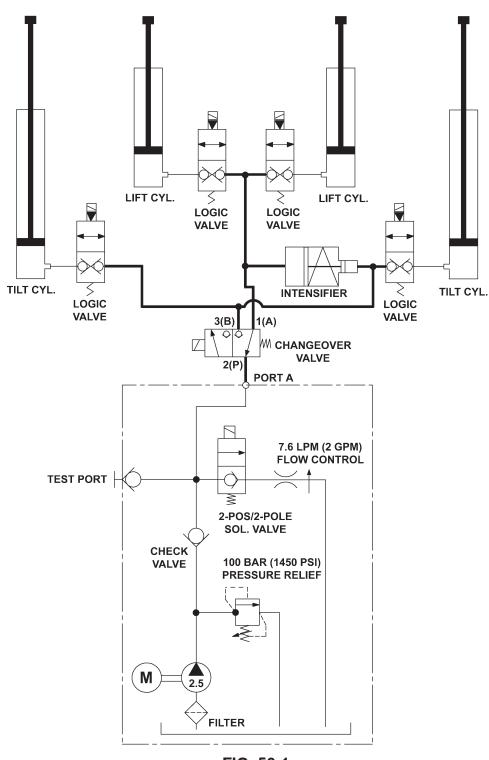


FIG. 50-1

MAXON® 11921 Slauson Ave. Santa Fe Springs, CA.

SYSTEM DIAGRAMS - Continued ELECTRICAL SCHEMATIC, 12V (WITHOUT AUTO TILT)

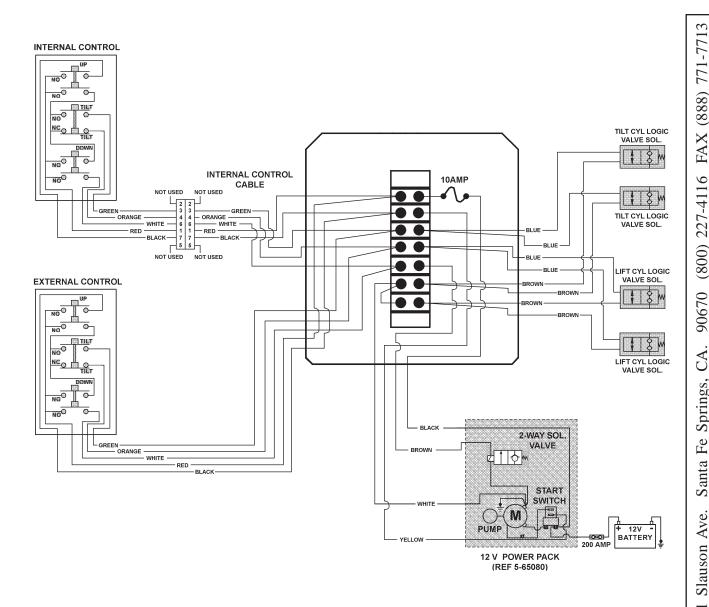


FIG. 51-1

MAXON® 11921 Slauson Ave. Sa

SYSTEM DIAGRAMS - Continued ELECTRICAL SCHEMATIC, 12V (WITH AUTO TILT)

