

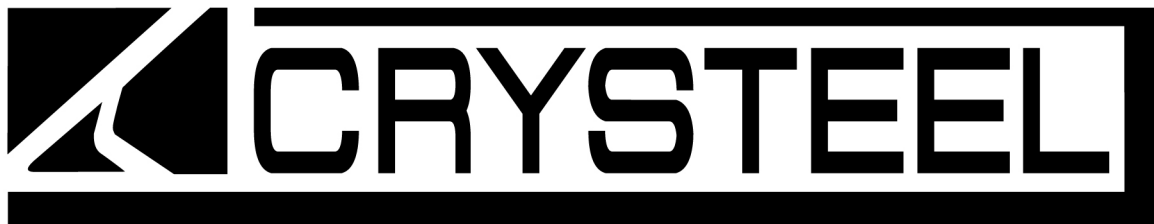


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# CRYSTEEL'S *GateSaver* *Hydraulic Lift Tailgate*



***THIS MANUAL MUST BE INCLUDED WITH THE VEHICLE  
AFTER COMPLETING THE INSTALLATION.***

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DATE PURCHASED \_\_\_\_\_

HOIST SERIAL NUMBER \_\_\_\_\_

CYLINDER SERIAL NUMBER \_\_\_\_\_

DEALER \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE \_\_\_\_\_

## FOREWORD

The GateSaver is a hydraulic tailgate lift system that can be installed on existing bodies. It enables the operator to lift the tailgate high and out of the way for unloading large, tailgate-damaging loads without damaging the tailgate. The GateSaver includes a traditional style tailgate hinge plate, which allows the tailgate to be used in its normal mode.

This manual contains the information needed for the proper installation and operation of the GateSaver. With proper installation, use, and regular maintenance, Crysteel's GateSaver will give many years of trouble free service.

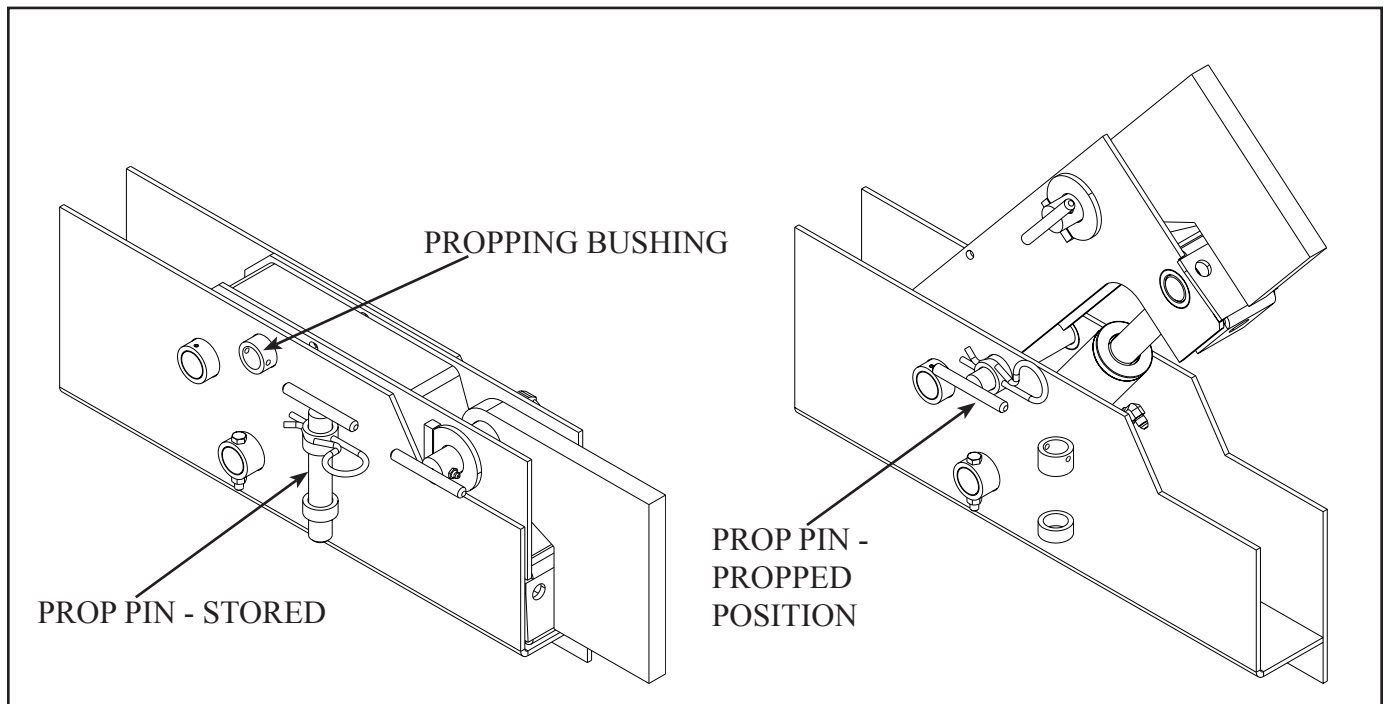
When ordering parts, be sure to give serial number of both cylinders. The serial number of the cylinder is stamped on the barrel of the cylinder near the base. For future reference, copy these numbers NOW in the space provided above. Order parts by number and description as given in the parts listing in this manual.

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## OPERATION AND USE

1. Release the tailgate latch before operating the GateSaver.
2. Move the GateSaver toggle switch to the 'Raise' position to raise the tailgate with the GateSaver. Release the toggle switch to hold the tailgate in a raised position or when the tailgate is fully raised.
3. Move the GateSaver toggle switch to the 'Lower' position to lower the tailgate. Release the toggle switch when the tailgate is fully lowered.
4. Latch the tailgate closed.
5. To operate the tailgate prop, release the tailgate latch and fully raise the tailgate. Move the prop pin from its storage location to the propping bushings under the GateSaver arm; secure pin in place with the hair pin. Do this on both sides. Lower the tailgate onto the prop legs.
6. To lower the tailgate prop, fully raise the tailgate. Remove the prop pin from the propping bushings and place it in its storage position; secure it in place with the hair pin. Do this on both sides. Lower the tailgate and latch the tailgate closed.



## SOME DO'S AND DON'TS FOR SAFE AND LONG SERVICE




1. Use the proper automatic transmission fluid (Dexron II). **KEEP IT CLEAN.** Remember to change it regularly. **CAUTION: NEVER use hydraulic BRAKE FLUID in the hydraulic system.**
2. **ALWAYS** carefully block up the tailgate using both tailgate props before working under it.
3. **DO NOT** tamper with the hydraulic relief valve. This will void the warranty. It can cause severe damage to the GateSaver.
4. Check all bolts and fittings regularly. Keep them tight.
5. Regularly grease pivot points.

# INSTALLATION INSTRUCTIONS

## GENERAL INFORMATION

It is a good idea to look through these installation instructions before beginning to mount the hoist and hydraulic system.

When welding, protect the truck's electrical, air and brake systems by disconnecting, removing or covering. Tighten all nuts and bolts to a consistent level. Use the following table for torque values.

Size	Grade 2 Torque	Grade 5 Torque	Grade 8 Torque
			
1/4-20	3-4 lb-ft	6-7 lb-ft	10-11 lb-ft
1/4-28	4-5 lb-ft	8-9 lb-ft	11-12 lb-ft
5/16-18	8-9 lb-ft	14-15 lb-ft	21-22 lb-ft
5/16-24	9-10 lb-ft	15-16 lb-ft	21-22 lb-ft
3/8-16	17-18 lb-ft	24-26 lb-ft	37-40 lb-ft
3/8-24	19-20 lb-ft	28-30 lb-ft	40-43 lb-ft
1/2-13	38-42 lb-ft	60-65 lb-ft	90-100 lb-ft
1/2-20	43-47 lb-ft	70-75 lb-ft	95-105 lb-ft
5/8-11	75-80 lb-ft	122-130 lb-ft	180-190 lb-ft
5/8-18	85-90 lb-ft	145-150 lb-ft	200-210 lb-ft
3/4-10	132-140 lb-ft	220-230 lb-ft	315-330 lb-ft

## PREPARE THE BODY

To install the GateSaver, several things need to be done to the body first.

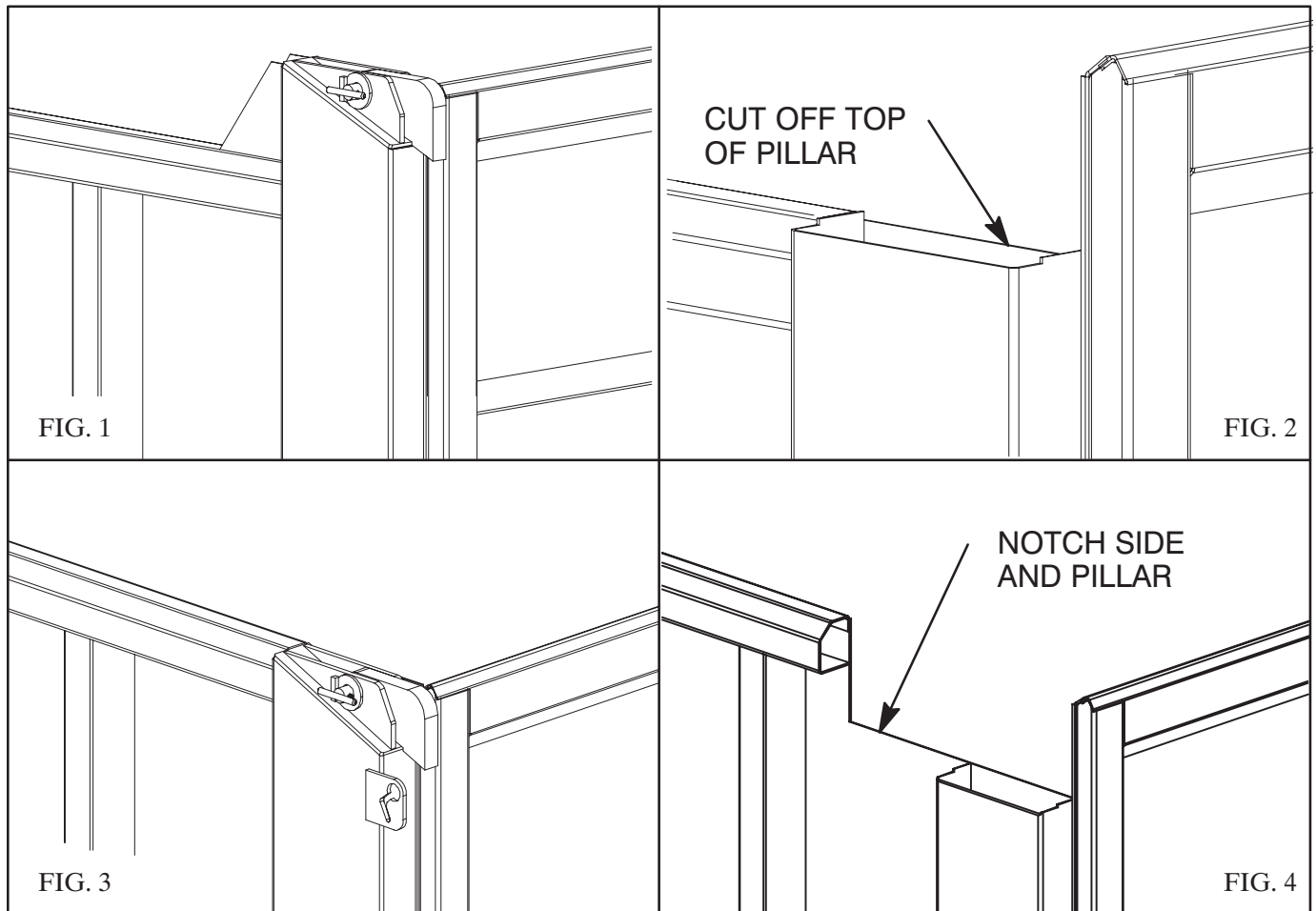
1. Remove the tailgate and cut the hinge plates off the tailgate.

If the tailgate and rear pillar extend above the top of the sides, as shown in Figure 1:

2. Mark a line on the inside and the outside of the rear pillars even with the top of the top rail of the side. Cut off the top of the pillars. See Figure 2.

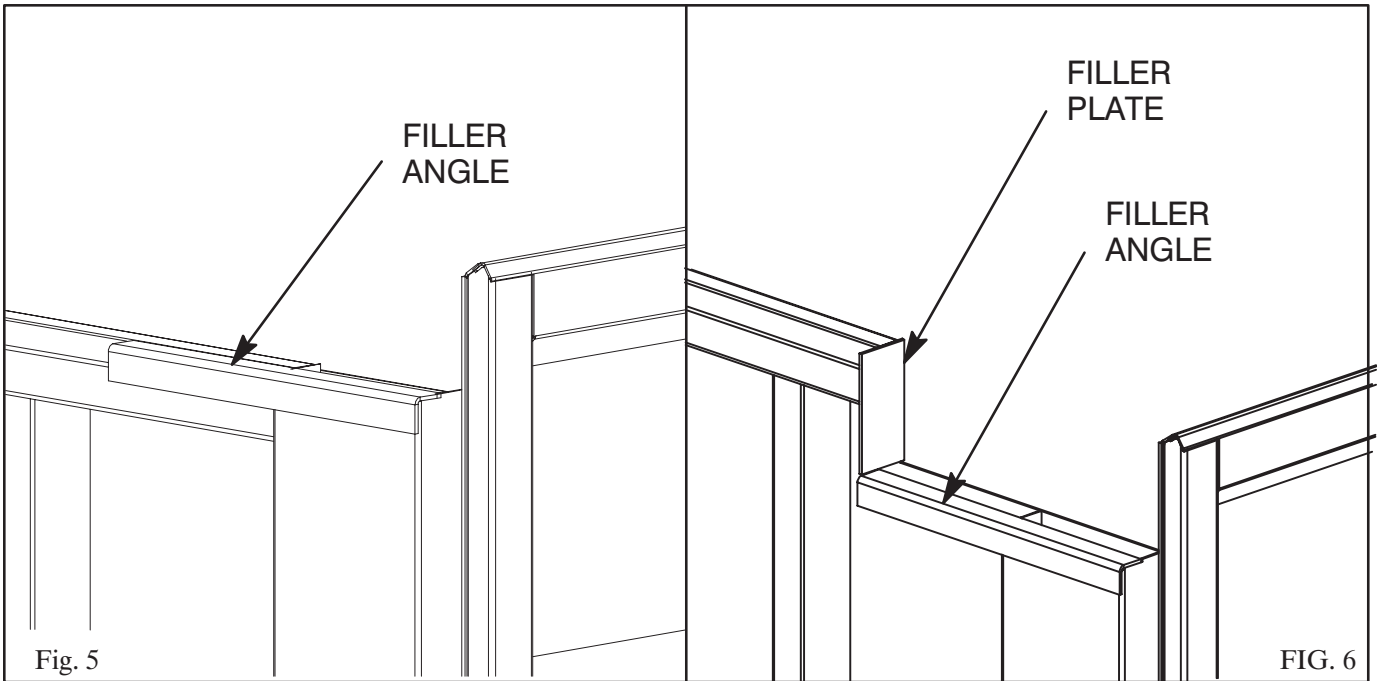
Or if the top of the tailgate, pillar and side are even with each other, as shown in Figure 3:

3. Mark a rectangle 9 3/4' high x 28" long on the inside of the body. Cut the side panel, top rail and rear pillars. See Figure 4. NOTE: For sloped-rear bodies, measure forward from the top corner of the side panel where it meets the inside of the tailgate.
4. Notch the top outside of the pillars so the top of the filler angle is flush with the top of the side. This notch is shown in Figures 2 and 4.

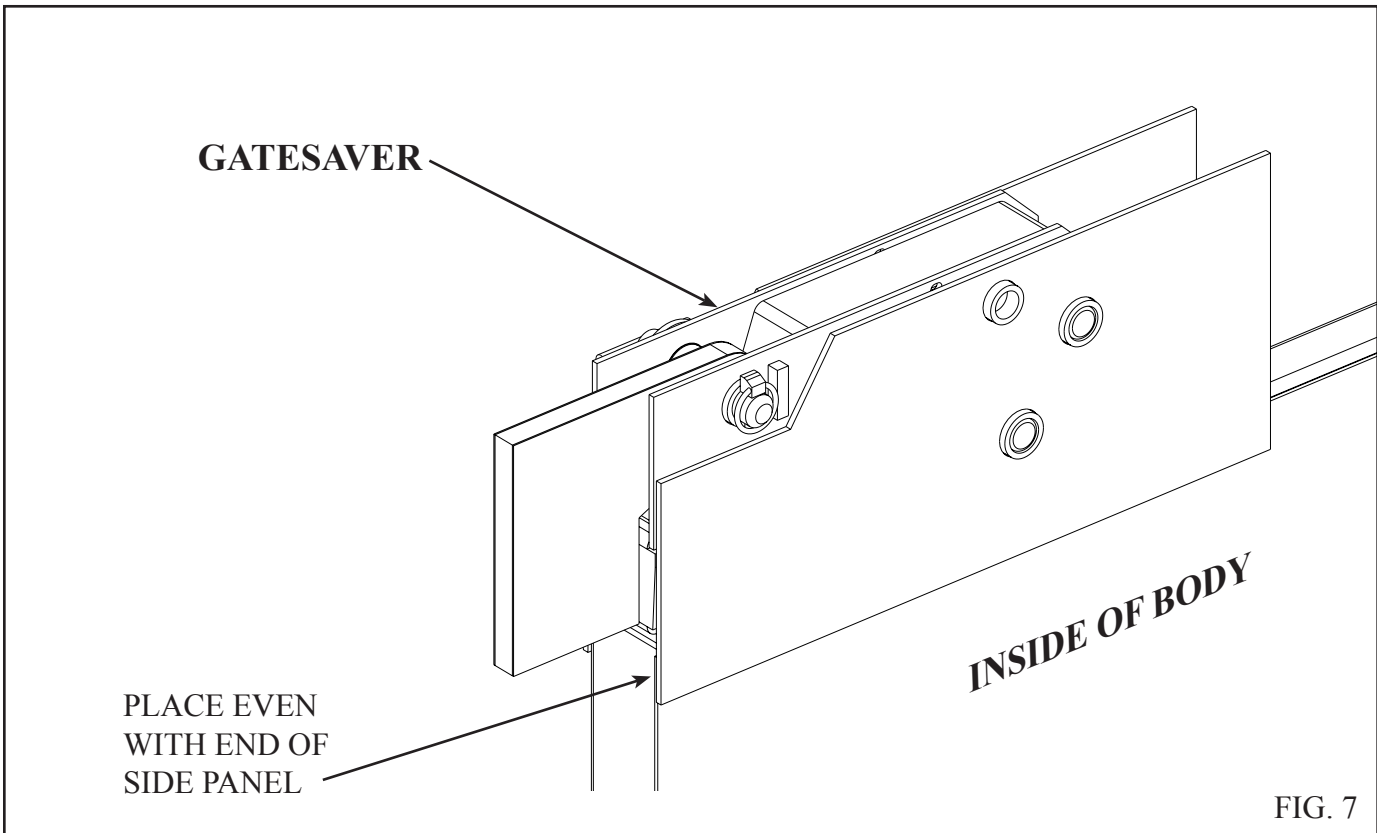


## LOCATE GATESAVER

Place the filler angle on the top of the rear pillar even with the back of the pillar and tack weld in place. See Figures 5 and 6. For bodies where the notch has been cut in the side panel, as shown in Figure 6, make a filler plate to cap the top rail and side panel.



Place the left GateSaver on the top of the left rear pillar with the short vertical leg against the inside of the side panel and even with the back end of the side panel. See Figure 7.



For sloped-rear bodies, place the left GateSaver on the top of the left rear pillar with the short vertical leg against the inside of the side panel and the top corner of the inner arm is even with the back end of the side panel. See Figure 8.

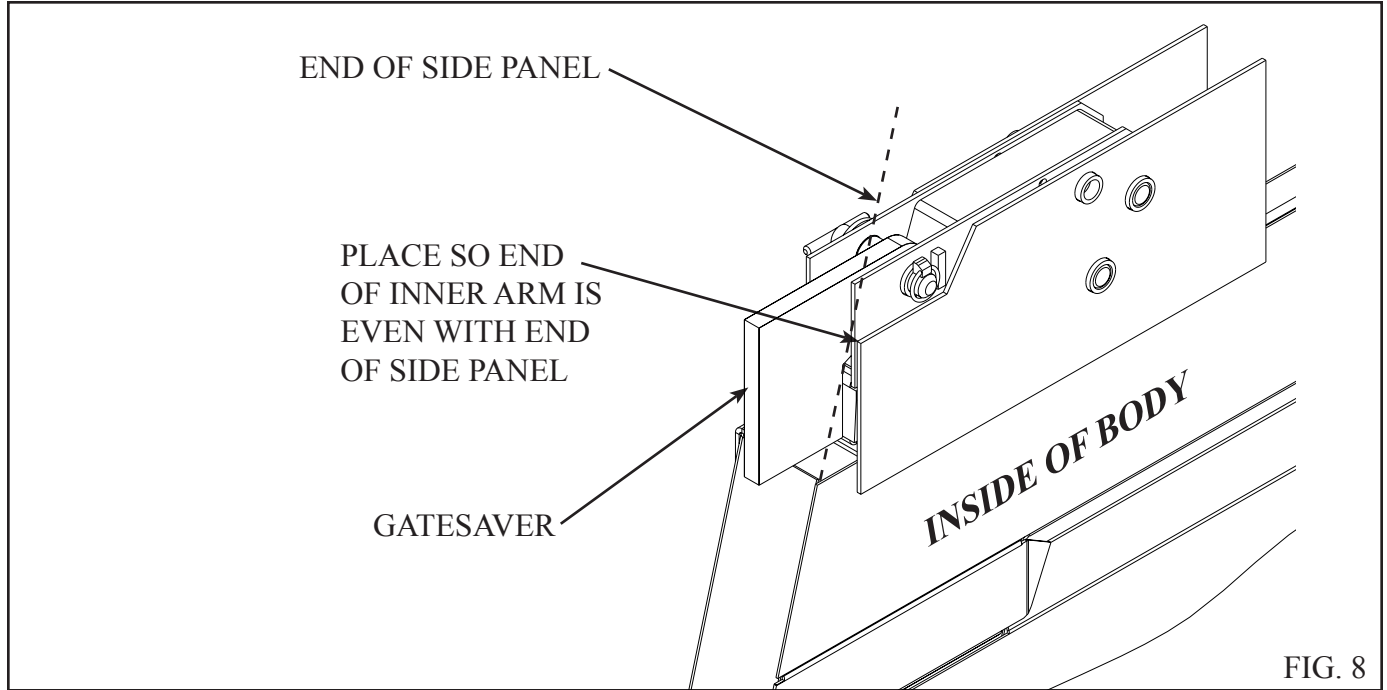


FIG. 8

Raise the GateSaver arm and look inside. See Figure 9. If the filler angle partially blocks the hose access hole in the bottom of the GateSaver, mark it for trimming. Remove the GateSaver and trim the filler angle as marked.

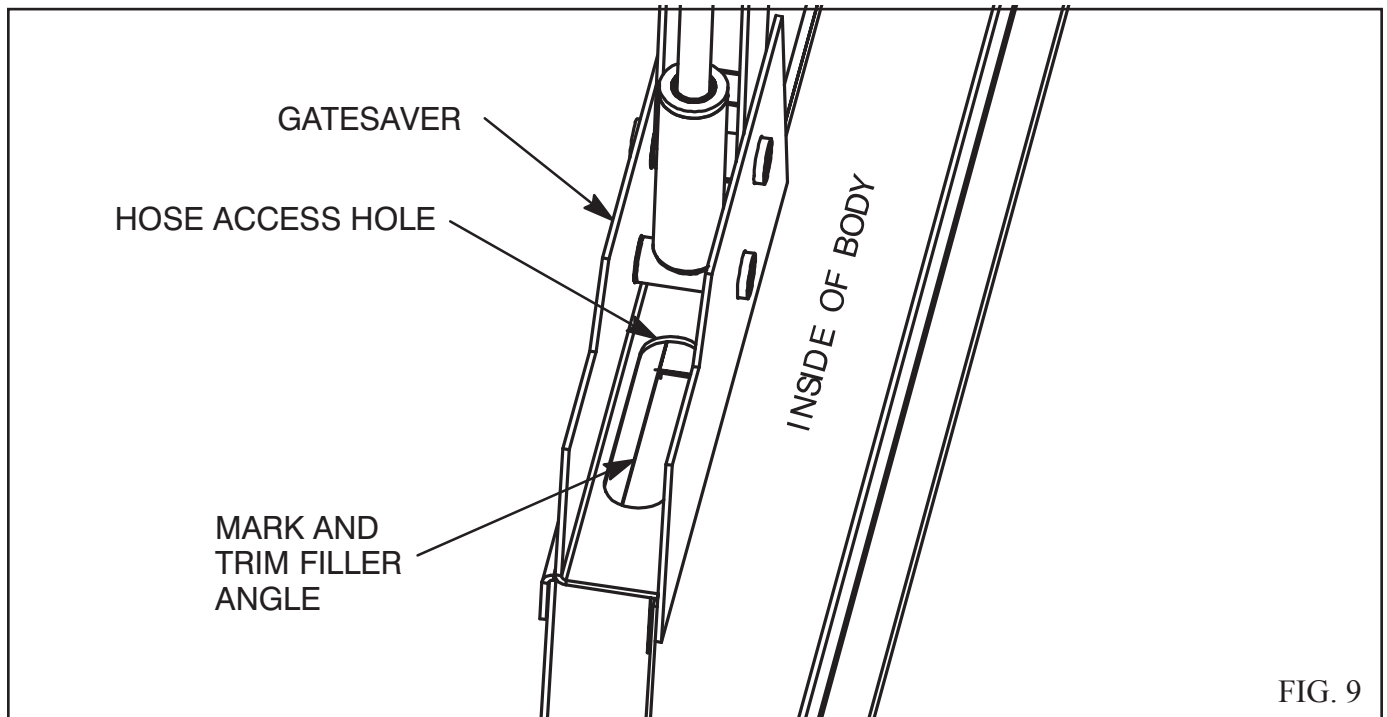
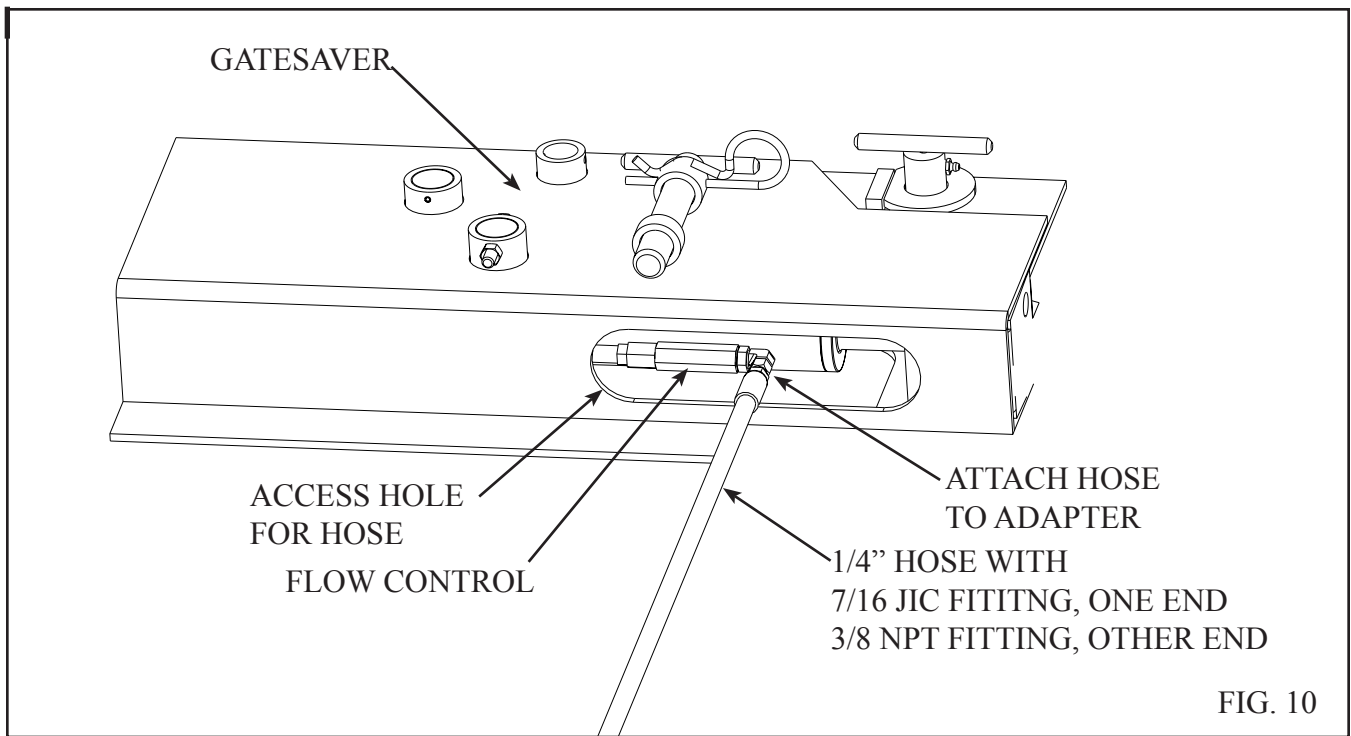
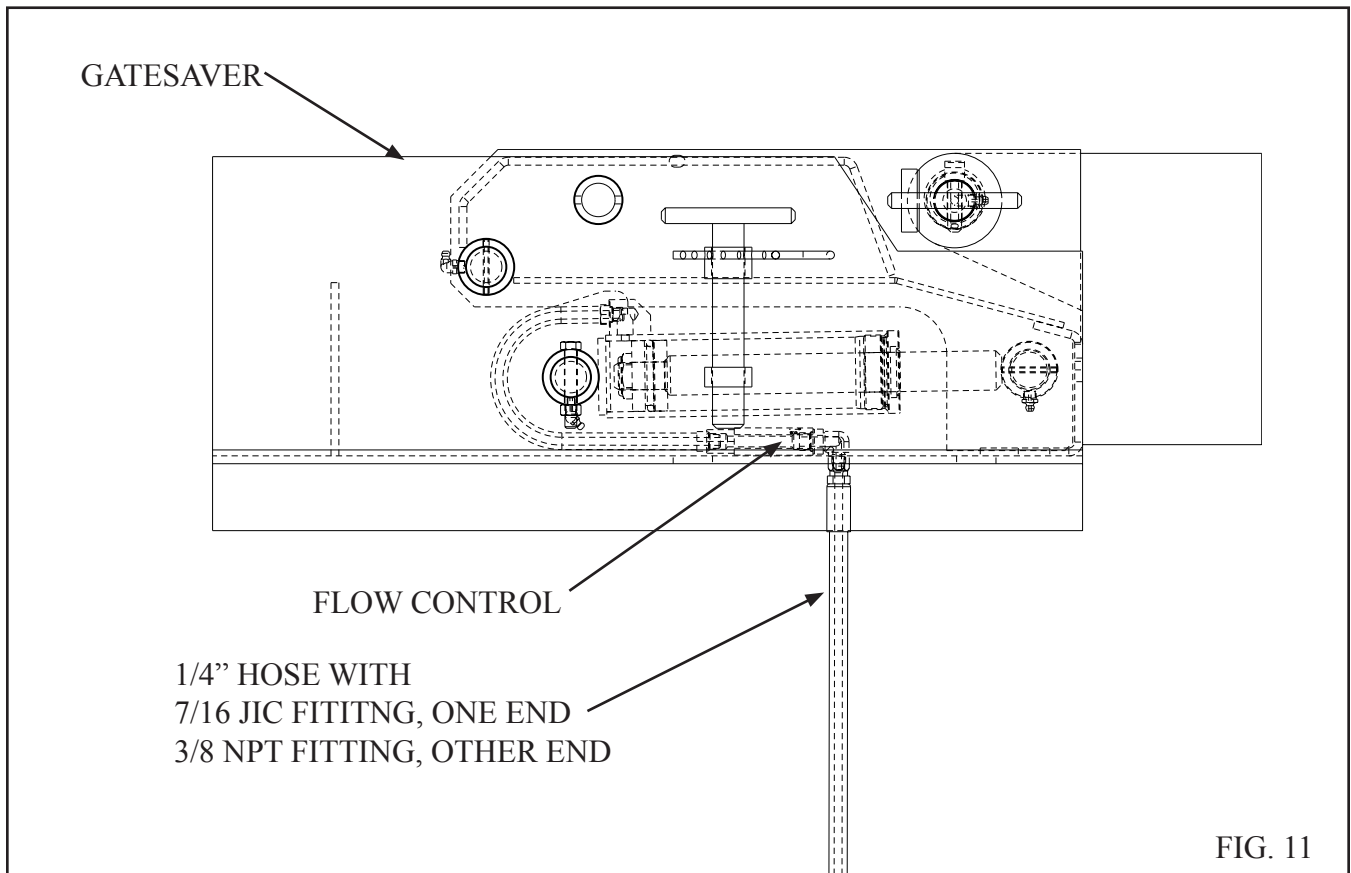


FIG. 9

Before installing the GateSaver, a long hose should be connected to the flow control already connected to the cylinder. Connect the long 1/4" ID hose directly to the adapter installed in the flow control, routing the hose through the access hole in the bottom of the GateSaver. See Figures 10 and 11.

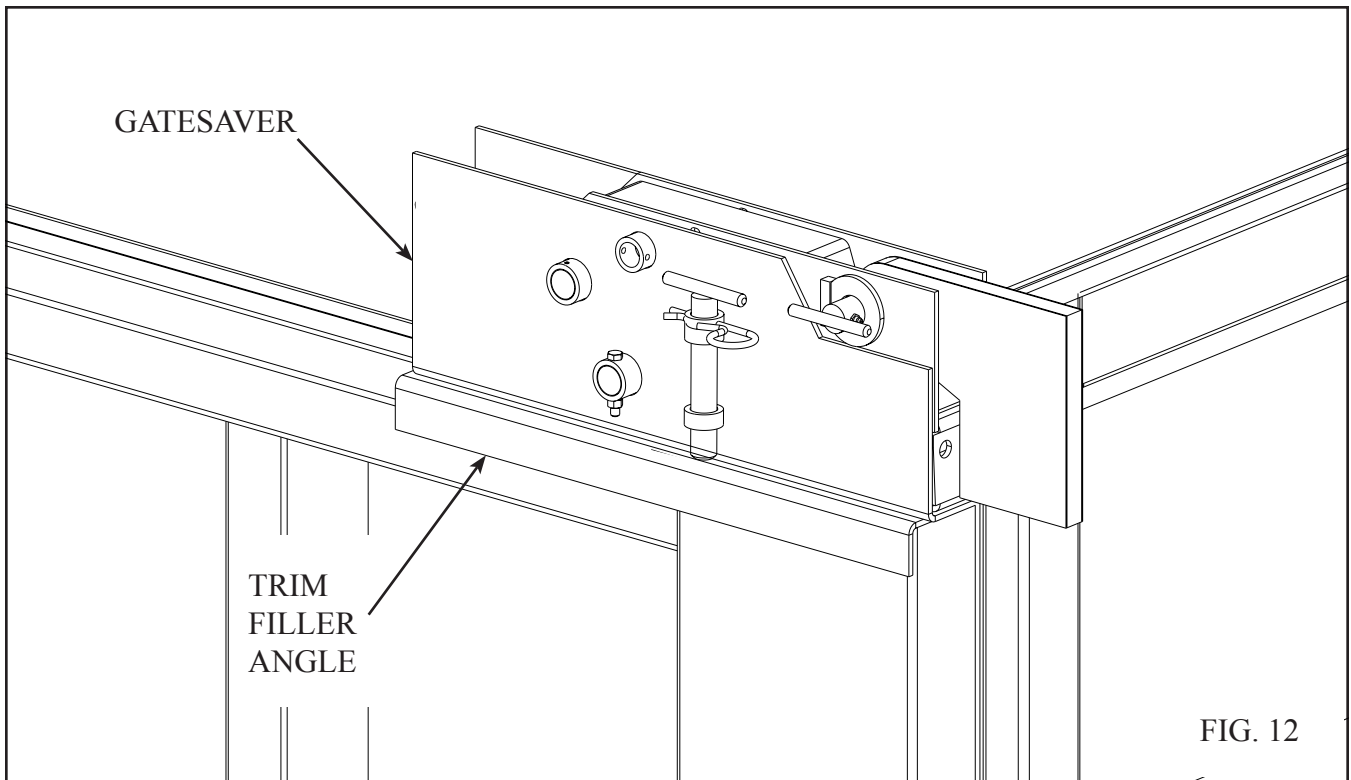


Push the GateSaver arm down, as shown in Figure 11.



Replace the GateSaver on the body, routing the hose through the rear corner pillar and tack weld the GateSaver in place.

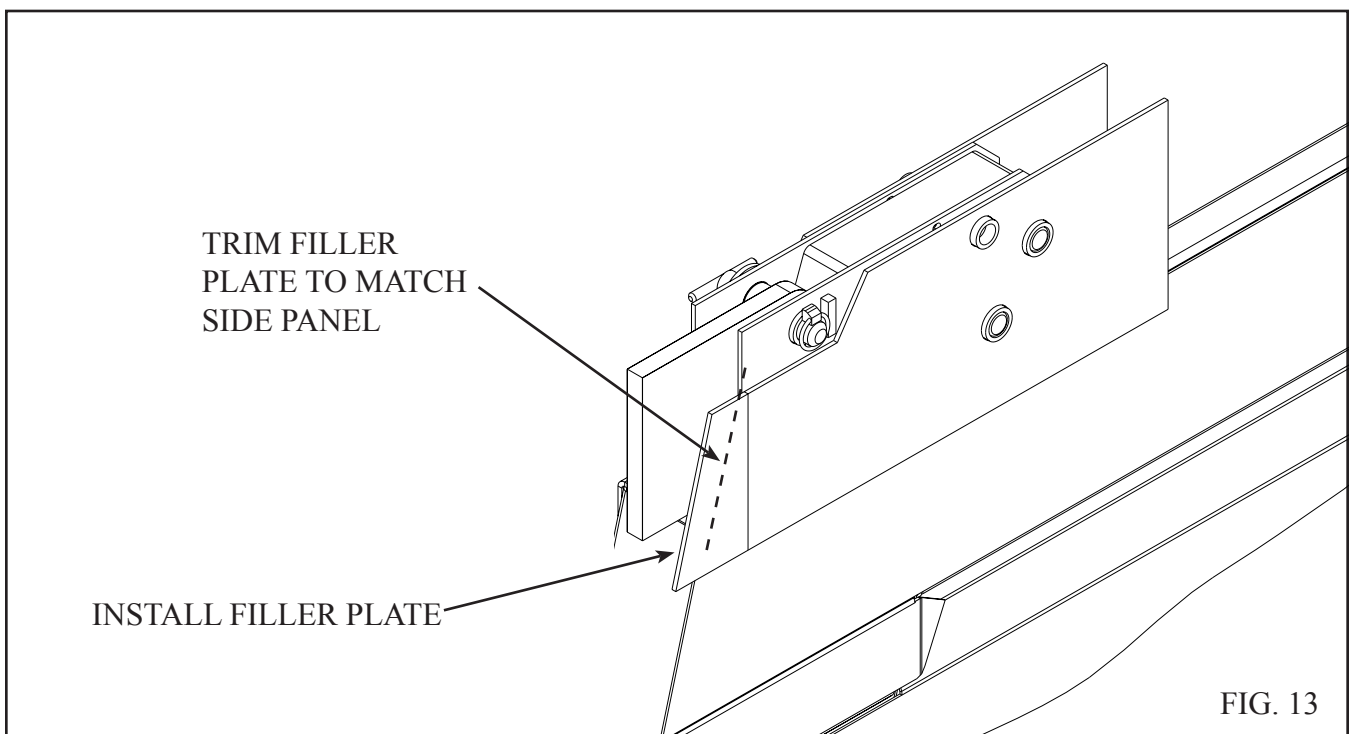




Trim the filler angle as desired. Weld the filler angle to the rear pillar and top rail, all around. Weld the GateSaver to the rear pillar, filler angle and top rail, all around.

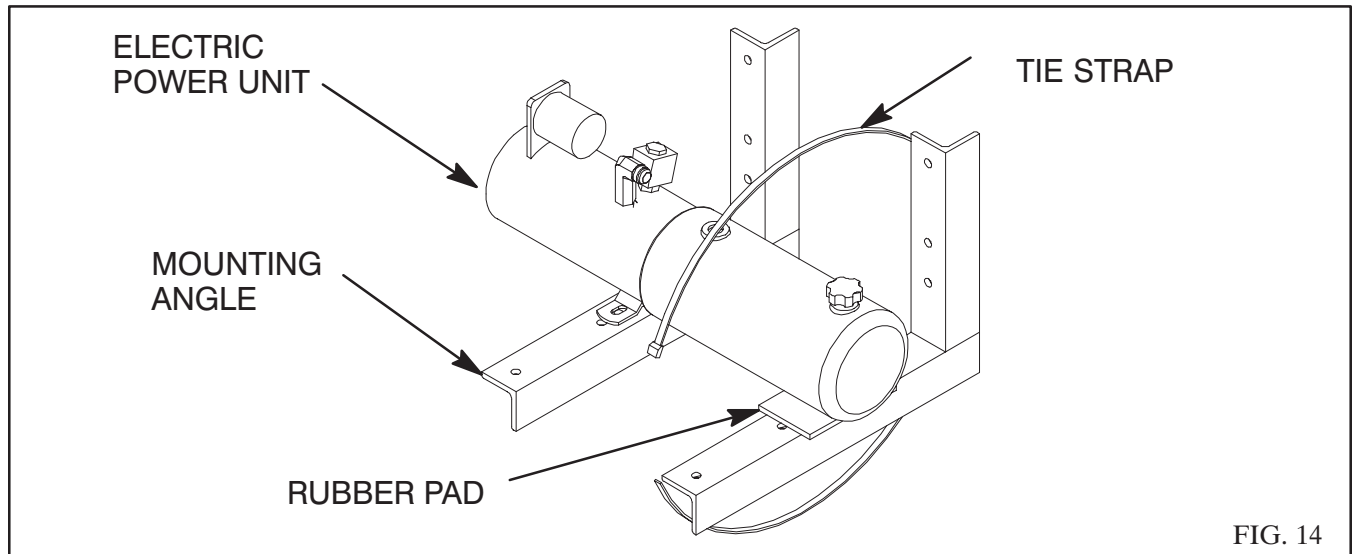
Repeat these steps for the right side.

For sloped-rear bodies, add a filler to the inside of the GATESAVER frame as shown in Fig. 13. Trim it to match the end of the side panel.



## MOUNT ELECTRIC POWER UNIT

The electric power unit should be mounted close behind the cab, either inside or outside the truck frame. After determining where to mount the power unit, bolt one mounting angle to the power unit using the 3/8 x 1 hex head cap screws, flat washers and hex lock nuts, tightening to 25 to 28 lb-ft. Clamp the mounting bracket to the truck frame. Clamp the second mounting angle to the truck frame so it supports the far end of the reservoir.

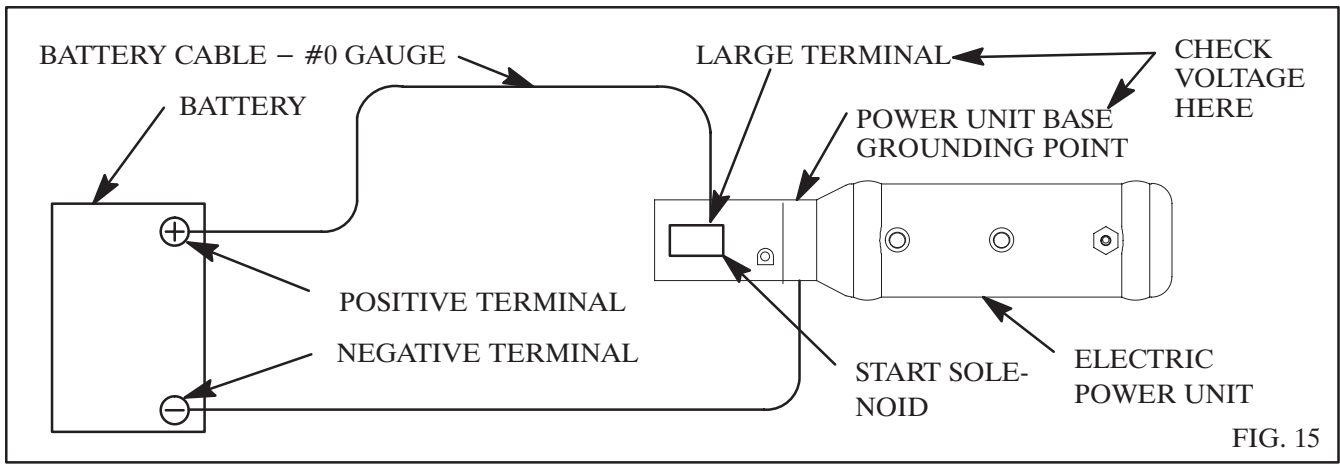


***CAUTION: BE CAREFUL OF BRAKELINES, WIRING, ETC. INSIDE THE TRUCK FRAME WHEN DRILLING THE TRUCK FRAME.***

Drill 17/32 diameter holes in the truck frame and bolt the mounting angles in place using 1/2 x 2 hex head cap screws and hex lock nuts, tightening to 90 to 100 lb-ft. Insert the 3 x 5 rubber pad between the reservoir and the second mounting angle. Clamp the reservoir and rubber pad to the mounting angle with the tie strap provided.

For rated performance, the voltage at the power unit must be a minimum of 12VDC. This should be measured between the large terminal of the start solenoid (where the battery cable is connected) and the power unit base. NOTE: Grounding of the power unit is just as important as the installation of the positive battery cable. It is easier to get a good ground by using a second battery cable.

Connect the large terminal on the motor start solenoid to the positive terminal on the battery with a #0 gauge battery cable. Grounding of the power unit can be completed either through the vehicle chassis or by a second battery cable. If grounding through the vehicle chassis, be sure to replace the light ground strap between the battery and the vehicle chassis with a #0 gauge cable. If grounding with a second battery cable, connect the negative terminal on the battery to the grounding hole on the power unit base using an #0 size battery cable. See Figure 15. Check the voltage between the large terminal on the start solenoid and the power unit base.

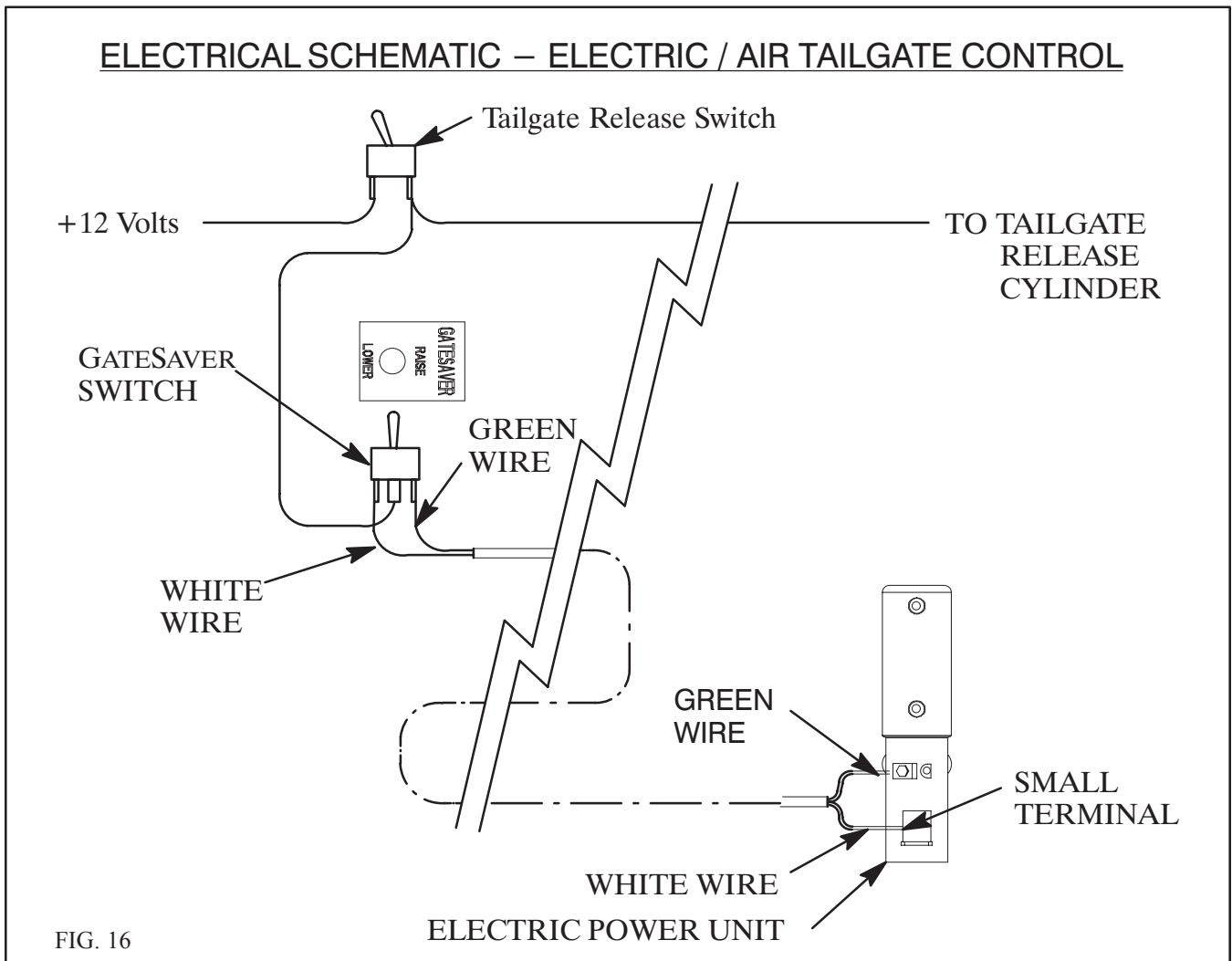


Clamp the motor solenoid cover to the motor using the long tie-strap included with the electric power unit.

### INSTALL GATESAVER CONTROL - ELECTRIC / AIR TAILGATE CONTROL

The tailgate latch fingers must be opened before the GateSaver is operated. The following electrical diagram ensures that the air tailgate control is operated before the GateSaver control can be used.

Mount the control switch in the cab in a convenient location near the hoist control.

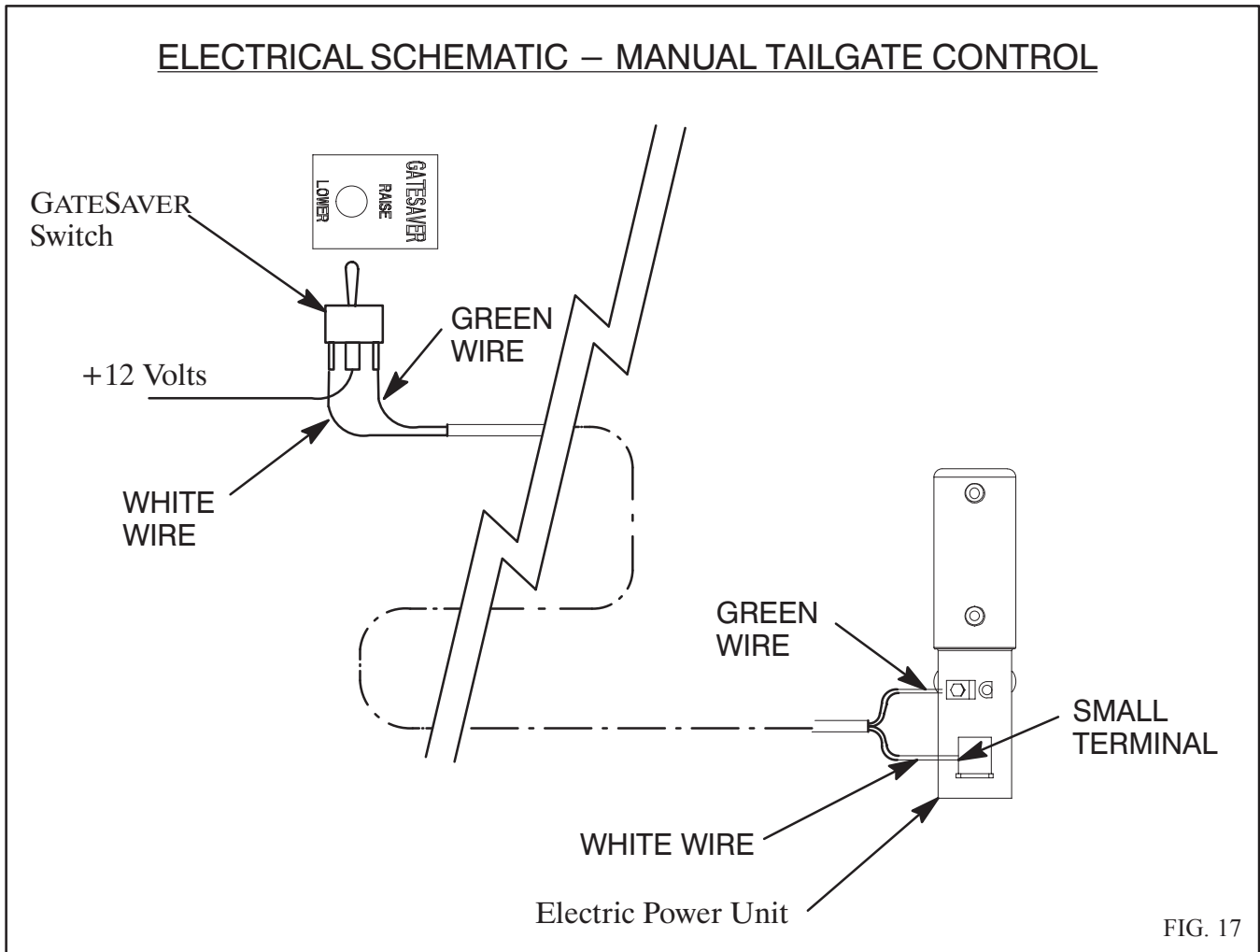


Connect a 16 gauge wire from the switched side of the Tailgate Release Switch to the common, middle terminal of the GateSaver Switch. The electric power unit has a two wire, 20 foot long cable prewired to the power unit. Route the free end of the cable into the cab of the truck. Connect the white and green wires to the GateSaver switch - white wire to raise the tailgate, green wire to lower the tailgate.

### INSTALL GATESAVER CONTROL - MANUAL TAILGATE CONTROL

For bodies equipped with a manual tailgate release use the following electrical diagram to wire the electric power unit.

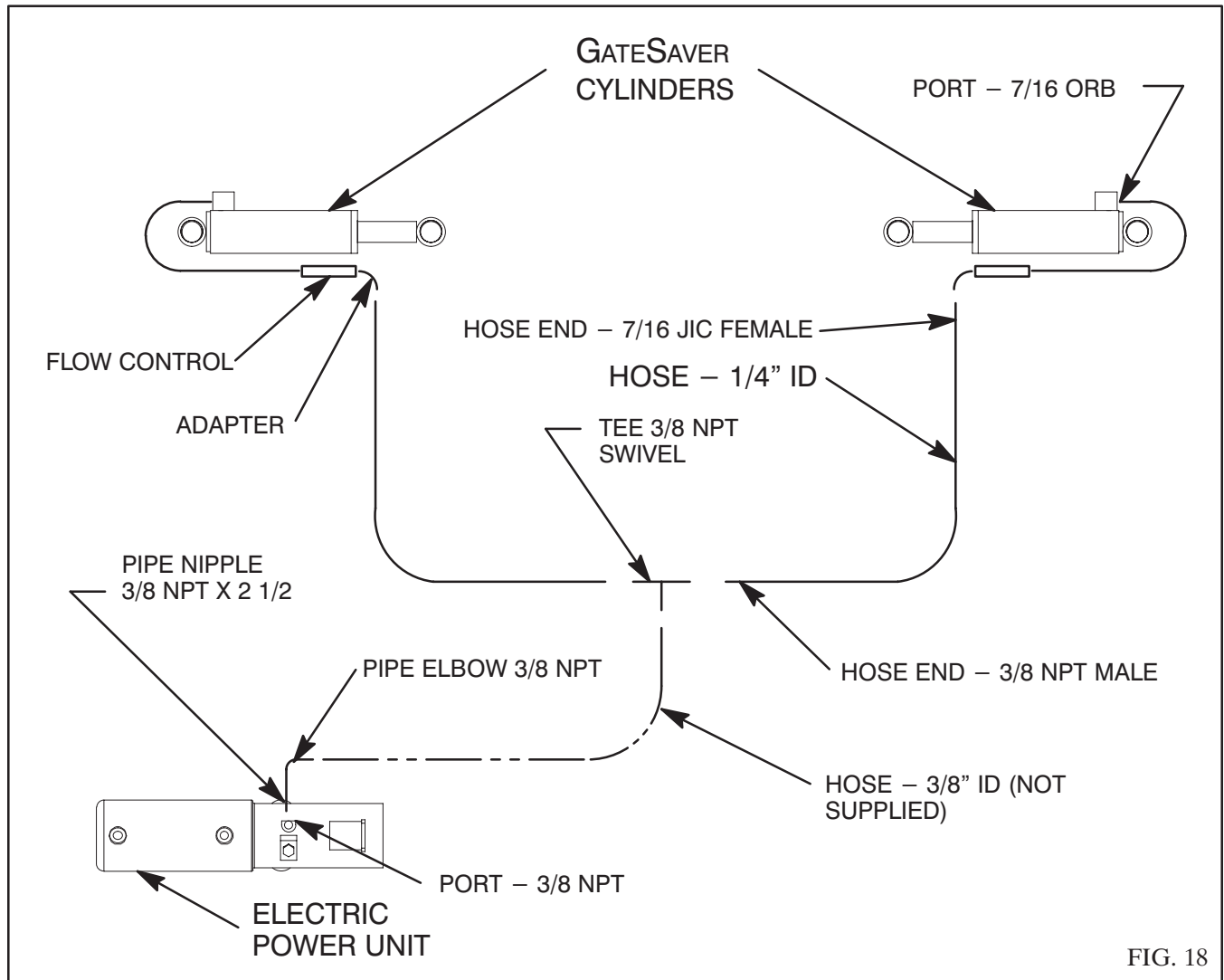
Mount the control switch in the cab in a convenient location near the hoist control.



Connect a 16 gauge wire from the cold side of the ignition switch to the common, middle terminal of the GateSaver Switch. The electric power unit has a two wire, 20 foot long cable prewired to the power unit. Route the free end of the cable into the cab of the truck. Connect the white and green wires to the to the GateSaver switch - white wire to raise the tailgate, green wire to lower the tailgate.

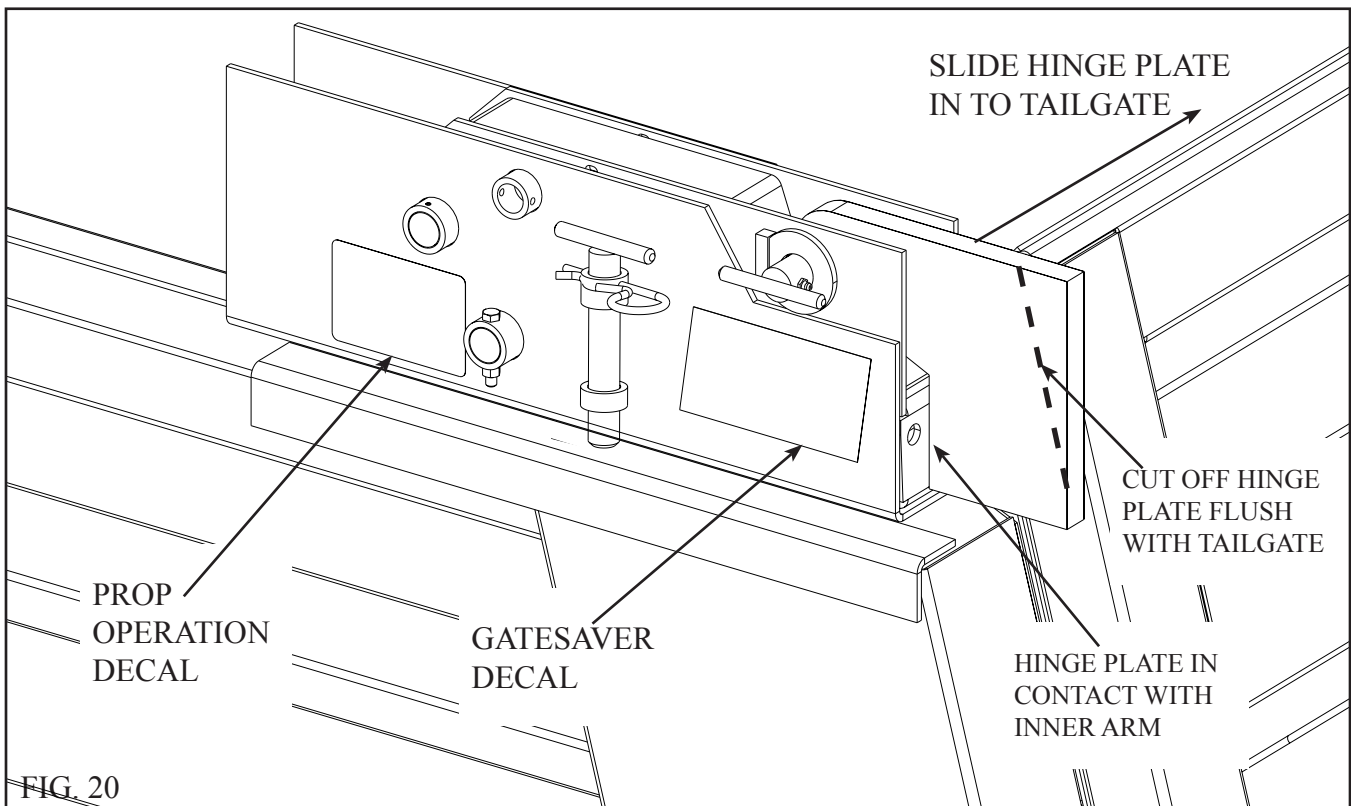
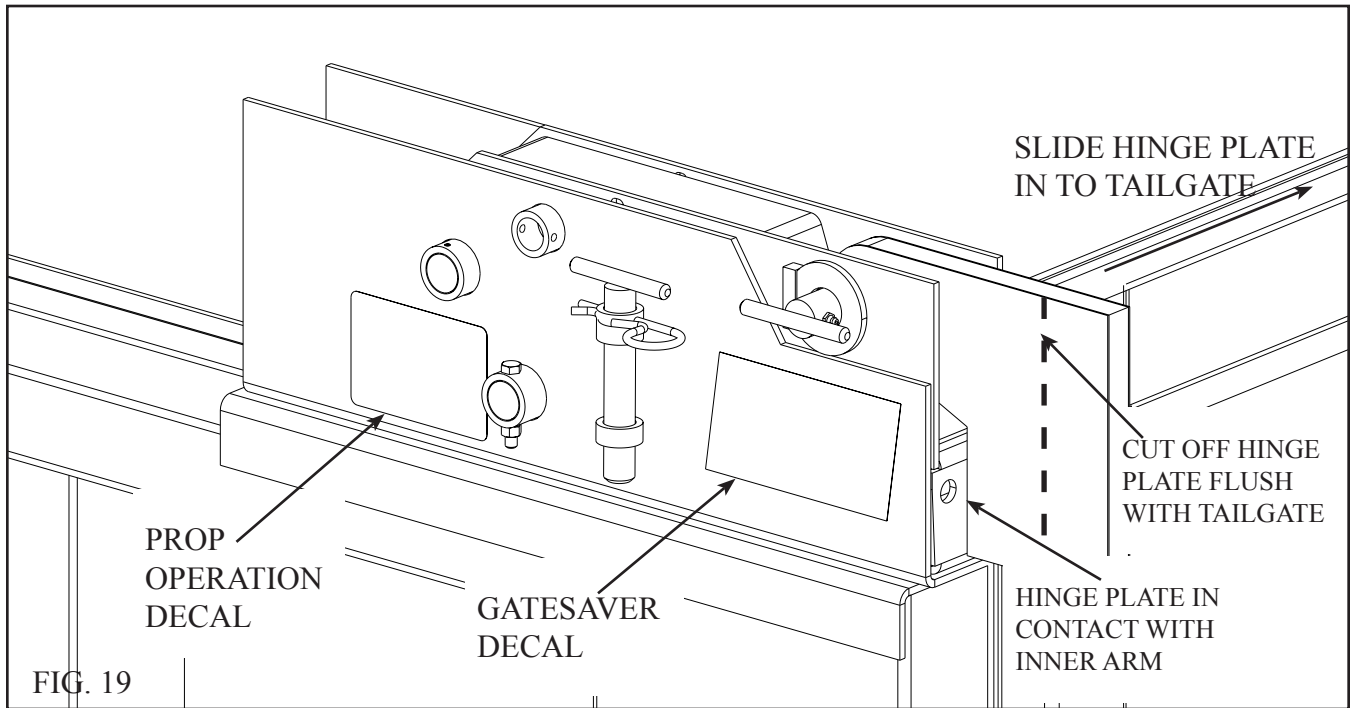
## INSTALL HYDRAULIC HOSES

Connect the two hoses connected to the GateSaver cylinders with a swivel pipe tee. Secure the hoses to the understructure of the body to protect them from damage. Install a 3/8 x 2 1/2 pipe nipple in the port on the power unit. Install a 3/8 pipe elbow on the nipple and connect a 3/8" ID hose connecting the tee adapter to the adapter on the power unit. This hose is not provided.



## COMPLETE INSTALLATION

Re-install the tailgate. Slide the GATESAVER hinge plates in to contact the tailgate and trim hinge plate to be flush with back face of tailgate. Make sure hinge plate contacts inner arm of GATESAVER. Securely weld the hinge plates to the tailgate and to the bushings.



Paint the GateSaver to match the body and install the GateSaver decals.

## ADD AUTOMATIC TRANSMISSION FLUID

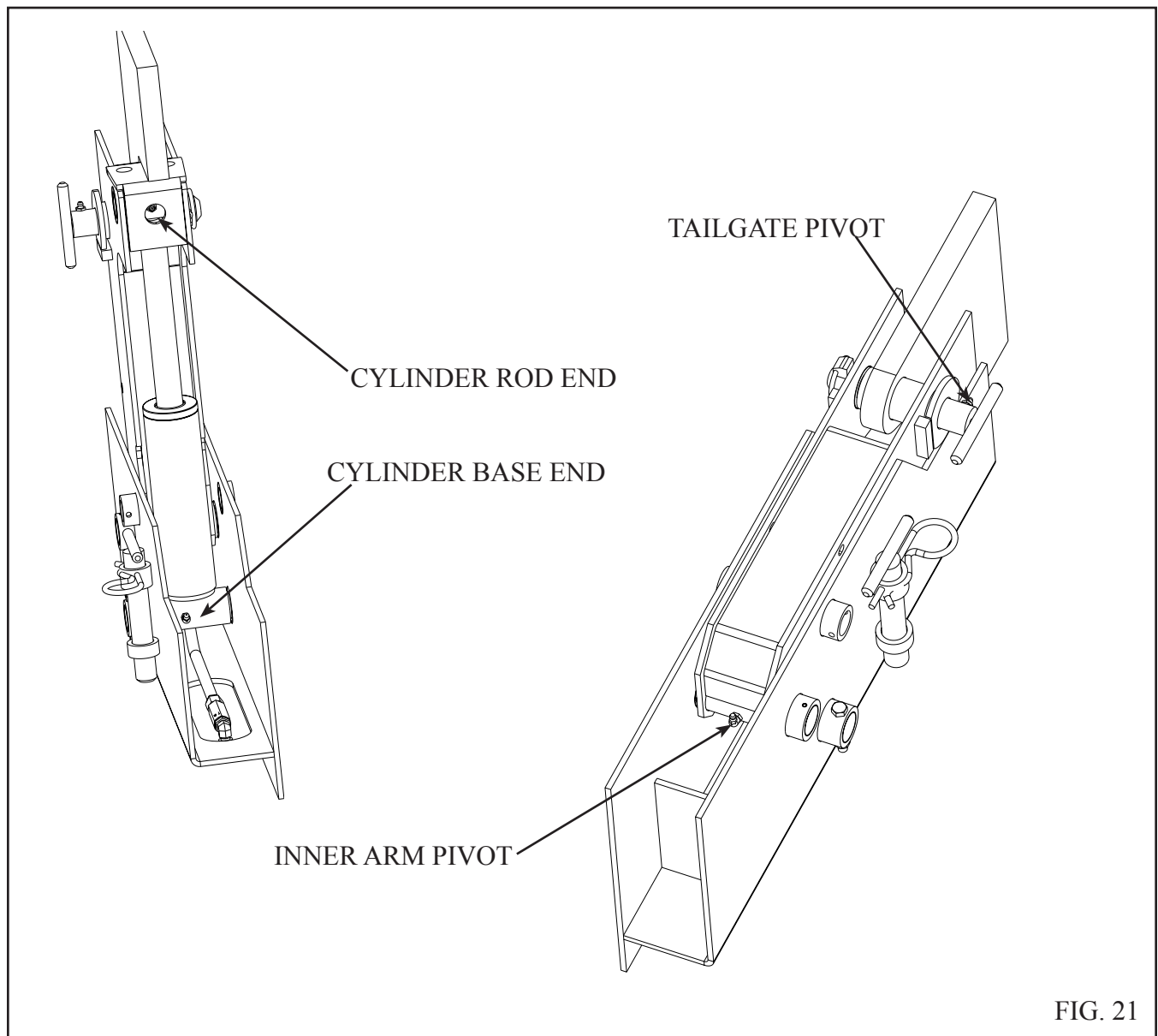
Initially fill the reservoir with 2 quarts of DEXRON II automatic transmission fluid. **DO NOT OVERFILL THE RESERVOIR!** Raise and lower the GateSaver several times and check the fluid level in the reservoir. Add AT fluid as needed.

***KEEP THE ATF CLEAN! USE CLEAN CONTAINERS, FUNNELS AND OTHER EQUIPMENT!***

With normal use and working conditions the automatic transmission fluid should be changed annually. The breather cap should be cleaned every time the fluid is changed. With heavy use or very dusty working conditions the fluid should be changed more often.

## LUBRICATE GATESAVER

The GateSaver has four greaseable pivots. These should be greased when installation is complete and regularly, every 100 cycles. The four grease points are shown in the following illustration.



## GATESAVER PARTS

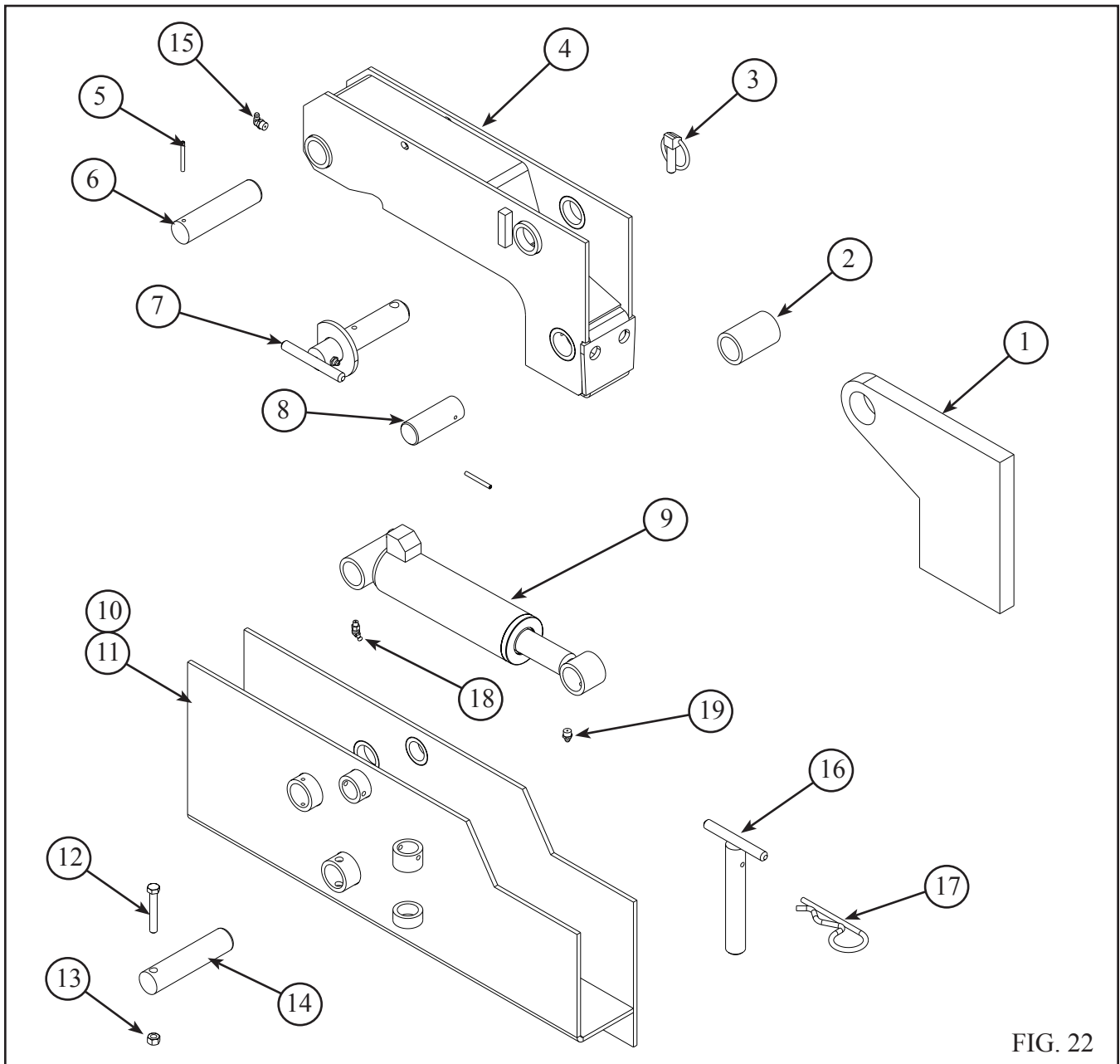


FIG. 22

ITEM	DESCRIPTION	PART NO.	QTY
1.	Hinge Plate	1636961 (285786)	2
2.	Bushing, Hinge Plate	1633753 (268356)	2
3.	Lynch Pin 7/16 x 1 3/8	1643184 (402063)	2
4.	Assy Hinge Arm - GateSaver	1626251 (174775)	2
5.	Spring Pin 3/16 x 1 3/4	1643989 (405574)	4
6.	Pin - 5.250" long	1633769 (268525)	2
7.	Assy TG Pin - GateSaver	1623565 (146967)	2
8.	Pin - 3.438 Long	1633768 (292569)	2
9.	Assy Cylinder - GateSaver	1626252 (174776)	2
10.	Assy Frame - GateSaver - Left	1626180 (173405)	1
11.	Assy Frame - GateSaver - Right	1626181 (173406)	1



ITEM	DESCRIPTION	PART NO.	QTY
12.	Hex Head Cap Screw 3/16-16 x 2 1/2 Grade 5	1642715 (400125)	2
13.	Hex Lock Nut 3/8-16	1643177 (402038)	2
14.	Pin Cylinder w/ Hole	1633874 (270482)	2
15.	Grease Zerk 1/8 NPT - 90°	1642713 (400117)	2
16.	Assy Pin GateSaver Prop	1625716 (166106)	2
17.	Hair Pin 1 1/4	1643082 (401627)	2
18.	Grease Zerk 1/4-28 - 45°	1644818 (407361)	2
19.	Grease Zerk 1/8 NPT Straight	1645187 (407986)	2

### GATESAVER HYDRAULIC SYSTEM PARTS

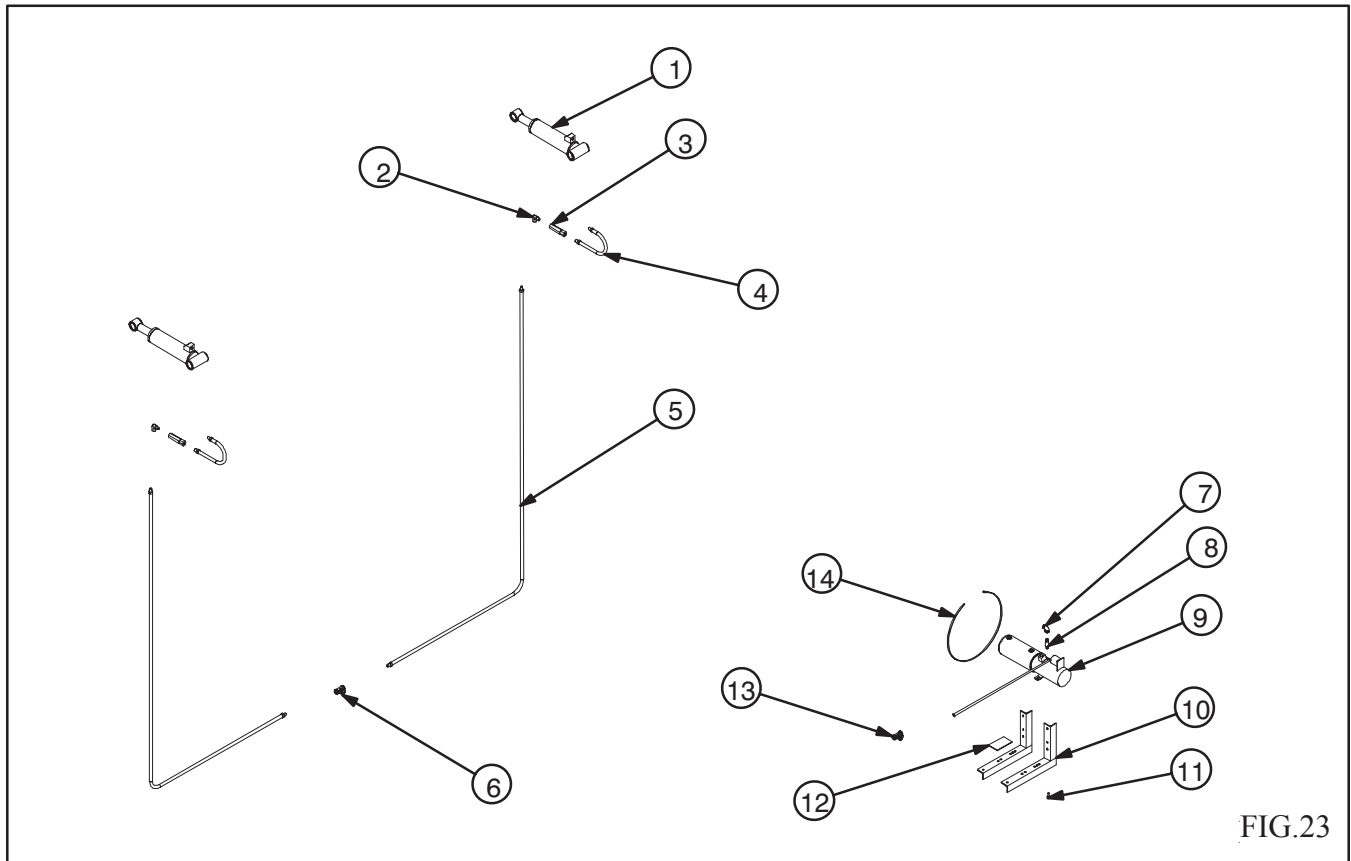


FIG.23

ITEM	DESCRIPTION	PART NO.	QTY
1.	Assy Cylinder - GateSaver	1626252 (174776)	2
2.	Adpater 9/16 ORBM x 7/16 JICM 90°	1644642 (406988)	2
3.	Flow Control - 0.5 GPM	1644640 (406986)	2
4.	Hose 7/16-9/16 ORB x 13"	1644641 (406987)	2
5.	Hose 7/16 JIC- 3/8 NPT x 108"	1644643 (406989)	2
6.	Tee Swivel 3/8 NPT	1643235 (402156)	1
7.	Pipe Elbow 3/8 NPT	1642797 (400413)	1
8.	Pipe Nipple 3/8 x 2 1/2	1643387 (402676)	1
9.	Monarch Electric Pump - SA	1644673 (407051)	1
10.	Assy Pump Mounting Angle	1621438 (100174)	2
11.	Hex Head Cap Screw 3/8-16 x 1 Grade 5	1642714 (400121)	2

ITEM	DESCRIPTION	PART NO.	QTY
12.	Rubber Pad 3 x 5	1643881 (405319)	1
13.	Toggle Switch (On)-Off-(On)	1642951 (401193)	1
14.	Cable Tie 33"	1643817 (404956)	1

### GATESAVER CYLINDER PARTS

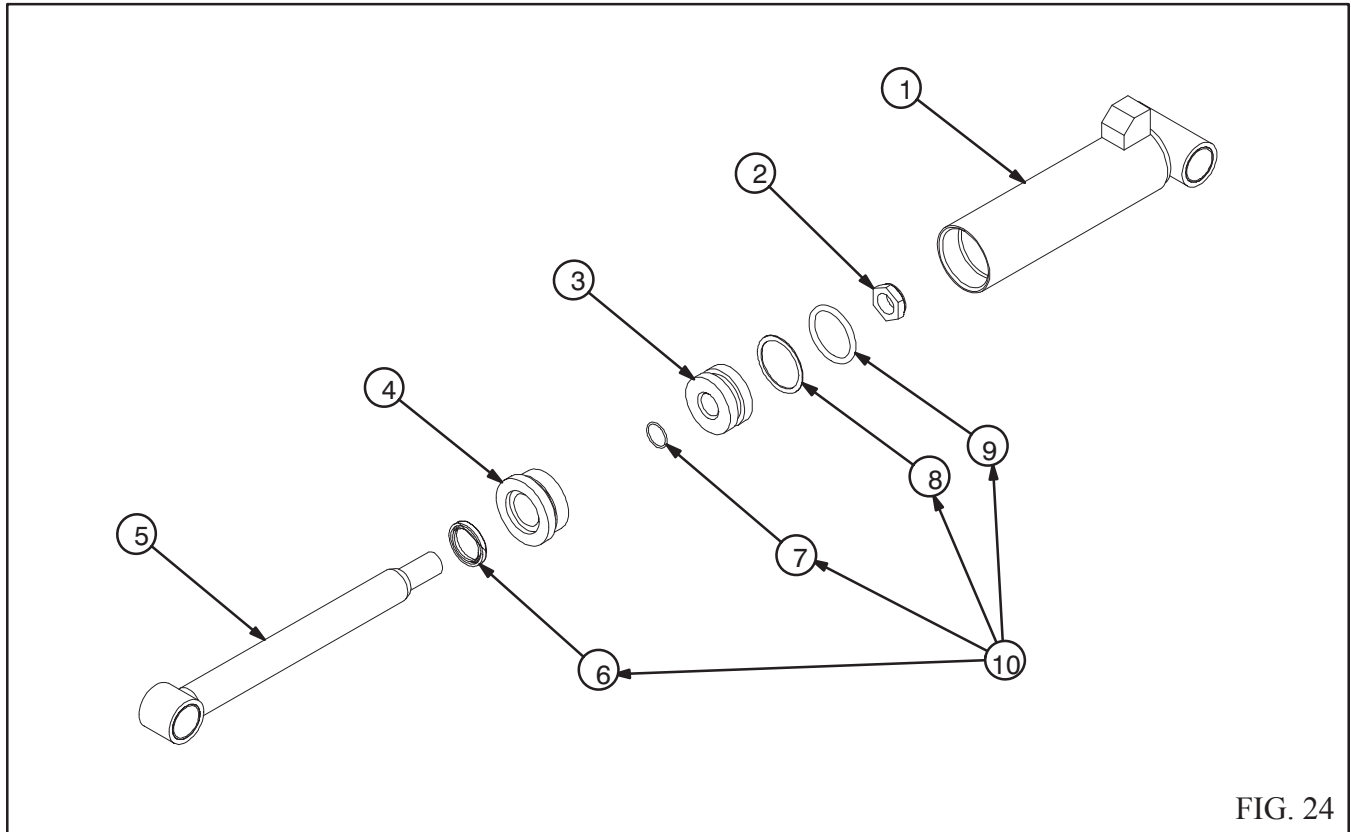


FIG. 24

ITEM	DESCRIPTION	PART NO.	QTY
1.	Assy Cylinder Tube - GateSaver	1626253 (174777)	1
2.	Hex Lock Nut 7/8-14, Nylon Insert	1642749 (400201)	1
3.	Piston - 2.250"	1629599 (202457)	1
4.	Head - 2.250" x 1.250"	1629600 (202459)	1
5.	Assy Cylinder Shaft - GateSaver	1626254 (174778)	1
6.	Wiper 1 1/4"	1642783 (400288)	1
7.	O-Ring 7/8 ID x .070 CS	1642778 (400268)	1
8.	Back Up 1 7/8 ID	1642785 (400294)	1
9.	O-Ring 1 7/8 ID x .210 CS	1642784 (400293)	1
10.	Seal Kit	1621433 (100089)	1

## NOTES

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**CRYSTEEL MANUFACTURING'S  
5 YEAR CUSTOMER SATISFACTION PLEDGE  
& WARRANTY**

Crysteel offers the most comprehensive warranty in the truck equipment industry. Crysteel warrants each product against defects in material and workmanship for 60 months from the in-service date.

For the full Customer Satisfaction Pledge and Warranty information, please visit our website.

<http://www.crysteel.com>

**! CAUTION !**

- **BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION**
- **LUBRICATE HOIST GREASE FITTINGS OFTEN – AT LEAST EACH TIME TRUCK IS SERVICED**
- **TRUCK MUST BE LEVEL FOR DUMPING**
- **DO NOT OVERLOAD**

CRYSTEEL MFG, INC.

**CRYSTEEL MANUFACTURING, INC.**

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