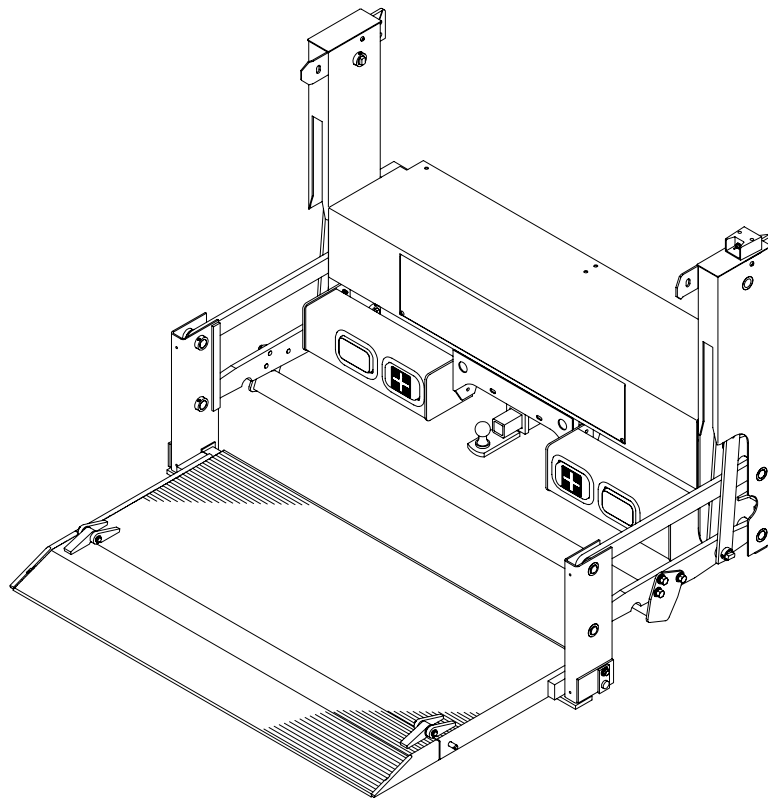


# TOPLIFTER

Tailgates By THIEMAN

## TT-15 OWNERS MANUAL/PARTS LIST

SHOWN WITH OPTIONAL 2 PC. ALUMINUM PLATFORM AND LIGHT KIT



**IMPORTANT! KEEP IN VEHICLE!**

PLEASE READ AND UNDERSTAND THE CONTENTS OF THIS  
MANUAL BEFORE OPERATING THE EQUIPMENT.

**NTEA**  
THE ASSOCIATION FOR THE WORK TRUCK INDUSTRY  
MEMBER

**THIEMAN**  
TAILGATES, INC.

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Celina, Ohio 45822

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**FOR YOUR RECORDS**

**Model No.** \_\_\_\_\_ **Date Purchased** \_\_\_\_\_

**Serial No.** \_\_\_\_\_

Your Thieman Tailgate is constructed of top quality material and is warranted to be free from defects in material and workmanship under normal use. With routine maintenance and proper operation this liftgate will provide long lasting service and dependability.

## WARNING!

The following list of warnings are to be read before operating the TT series liftgate.

- +DO NOT operate this liftgate unless you have been properly instructed and have read and understood the Owner's Manual, operating instructions and all decals. Improper operation of this lift may result in serious personal injury and/or damage to the liftgate. If you have not received your Owner's Manual or are missing operating instructions, decals, etc., call Thieman at 419-586-7727.
- +The vehicle must be securely and properly braked on level ground before using the liftgate.
- +All protective covers and guards must be in place before operating the liftgate.
- +Before using liftgate, check for signs of improper maintenance or damage(unusual noises, vibrations, fails to operate freely, missing hardware, cracked welds...etc). DO NOT use the lift if these are evident. Only an authorized Thieman distributor is qualified to do repairs on the liftgate. DO NOT attempt to do your own repairs or modify this liftgate. Altering this product will void all warranties and may damage the liftgate or even cause serious injury. If any repairs, adjustments, or maintenance not covered in this manual are required, contact your nearest Thieman distributor or call Thieman at 419-586-7727.
- +THIS IS NOT A PERSONNEL LIFT. Because of the pinch point between the platform and the truck, fall hazards, unstable loads, etc., riding the lift may cause severe personal injury or death. ALWAYS stay clear of the liftgate when in operation. Do NOT ride the liftgate.
- +This liftgate is intended for the use of loading and unloading cargo only, it is not to be used for anything other than this.
- +DO NOT OVERLOAD THE LIFTGATE. Each liftgate has a specific maximum capacity for lifting and lowering. The standard maximum rated capacities of the TT series liftgates differs with each model as follows:

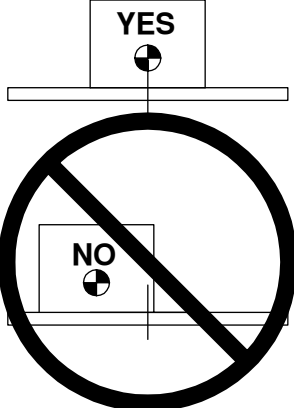
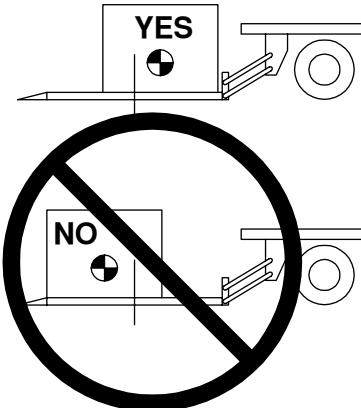
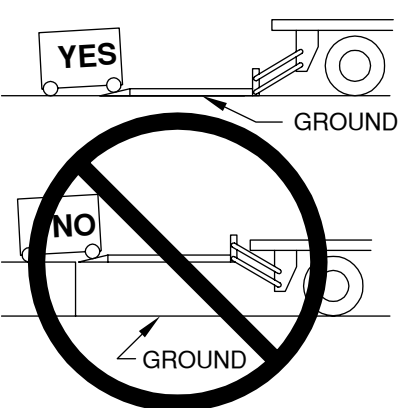

TT 15 -1500 lbs. Maximum Load

NOTE: Special options can lower the maximum rated capacities below those shown above. Be certain you know what the maximum rated capacity is for your particular liftgate.

- +NEVER off-center the load on the platform, from side to side or away from truck as this may overload the liftgate. The center of weight of the load should NEVER be placed beyond the center of the platform load surface, away from truck. Loads should be placed close to platform edge nearest truck. See figure 1.
- +NEVER allow any part of the load to extend beyond the edges of the platform
- +NEVER lift or lower unstable loads.
- +NEVER operate liftgate if platform load surface is slippery.
- +Make certain that the area below the platform is clear before and at all times during operation of the liftgate.
- +Load and unload the platform from the rear and not from the side of the platform.
- +Never operate lift trucks on or over any part of the platform.
- +Follow the maintenance guide as outlined in this manual.
- +NEVER move vehicle unless platform is properly stowed and power is off. Locking cable curb side pin must have cotter pin installed before transit.

# WARNING: POSITION LOADS PROPERLY ON PLATFORM

NEVER off-center the load on the platform, from side to side or away from truck as this may overload the liftgate. The center of weight of the load should NEVER be placed beyond the center of the platform load surface, away from truck. Loads should be placed close to the platform edge nearest truck. If a load is not uniformly distributed, then the heaviest portion should be closest to the edge of the platform nearest the truck. NEVER allow any part of the load to extend beyond the edges of the platform.

<b>⚠ WARNING</b>		
 <p><b>DO NOT OFF CENTER LOAD</b> (side to side)</p>	 <p><b>DO NOT OFF CENTER LOAD</b> (away from truck)</p>	 <p><b>DO NOT load or unload</b> from ramp end of platform with ramp off ground.</p>
 4671050F		

**THERMAL DATA:** To avoid overheating the motor do not operate this unit for more than 25 cycles/10 minutes with the maximum load. The motor then must be allowed to completely cool down to ambient temperature before cycling the lift again. This unit also has a 17% duty cycle, which means the liftgate can be cycled no more than 10 cycles/10 minutes constantly with a maximum load.

## **OPERATING INSTRUCTIONS**

### **CAUTION:**

Be sure to operate liftgate at a safe distance and never improperly load platform as this may cause personal injury or damage to the liftgate. ALWAYS SET PARKING BRAKE BEFORE OPERATING THIS LIFTGATE!

### OPENING OF PLATFORM

STEP 1: Remove safety cotter pin from curb side lock pin.

STEP 2: Disengage lock pins with one hand while holding platform upright with the other hand. Unfold platform using both hands until it is in the horizontal position.

STEP 3: Push toggle switch down and lower platform to the ground.

### RAISING OF PLATFORM

STEP 4: Push toggle switch up and raise platform to bed height.

### LOWERING OF PLATFORM

STEP 5: Push toggle switch down and lower platform to the ground.

### CLOSING

STEP 6: Raise platform to bed height and manually fold platform to the vertical position and be sure both lock pins are engaged. Replace cotter pin in curb side lock pin.

## **MAINTENANCE GUIDE**

The following inspection and maintenance operations should be performed at the recommended intervals or anytime the liftgate shows signs of abuse, and improper or abnormal operation.

### MONTHLY INSPECTION AND MAINTENANCE

Operate the liftgate throughout its entire operational cycle and check the following:

1. Check that there are no unusual noises or vibrations.
2. Check that the platform is level when raised to bed height.
3. Check for apparent damage to the liftgate such as bent or distorted members, any cracked welds, which may have resulted from overloading or abuse.
4. Check for any excessive wear in the following areas:
  - A. Platform Hinge Pins and Pivot Plates
  - B. All Pivot Points
  - C. All Cylinder Pins and Bolts
5. Check that all platform pivot pins are in place and retained by their proper retainers.
6. Check support cable for excessive wear and check that the locknuts on either end of the support cable are secure and pulling the cable tight between the pivot supports.
7. Check that all protective covers and guards are properly in place and secured.
8. Check painted finish, if in poor condition, then repaint. Any rusted parts should be replaced.
9. Check condition of non-painted parts, replace if corrosion exists.
10. Check for oil leaks in these areas:
  - A. Lift Cylinder
  - B. Hydraulic Hose - Replace if it shows signs of wear or cracking.
  - C. Hydraulic Fittings - Tighten or replace as may be required to stop leakage.
11. Check the oil level in the hydraulic reservoir. Release safety latches and lower gate to the ground, the oil should be within 1/2 inch from the top of the reservoir. See chart on next page.

HYDRAULIC FLUID CHART	
Temperature Range	Acceptable Fluids
-20 to 130° F	Dexron III Exxon Superflo ATF Shell Spirax S3 ATF MD3
-50 to 80° F	Shell Aero Fluid 4 Mobil Aero HFA Exxon Univis J-13 MIL H-5606
-75 to 165° F	Exxon Univis J-26

12. Check that all wiring and battery cable connections are tight and free of corrosion.

13. Lubrication of the TT series gate should be as follows:

<u>Area of Tailgate</u>	<u>Type of Lubrication</u>	<u>Frequency</u>
Extension Pivot	SAE 10 to SAE 20 oil	50 cycles
Pump Oil Change	See Above Chart	Yearly

\*The pivot points on the TT-15 have special bushings that do not require lubrication.

14. Check the pump relief pressure and also the motor amperage at this pressure. These values should be as follows:

Model	Max Amp Draw	Relief Pressure (psi)
TT15	165	2300

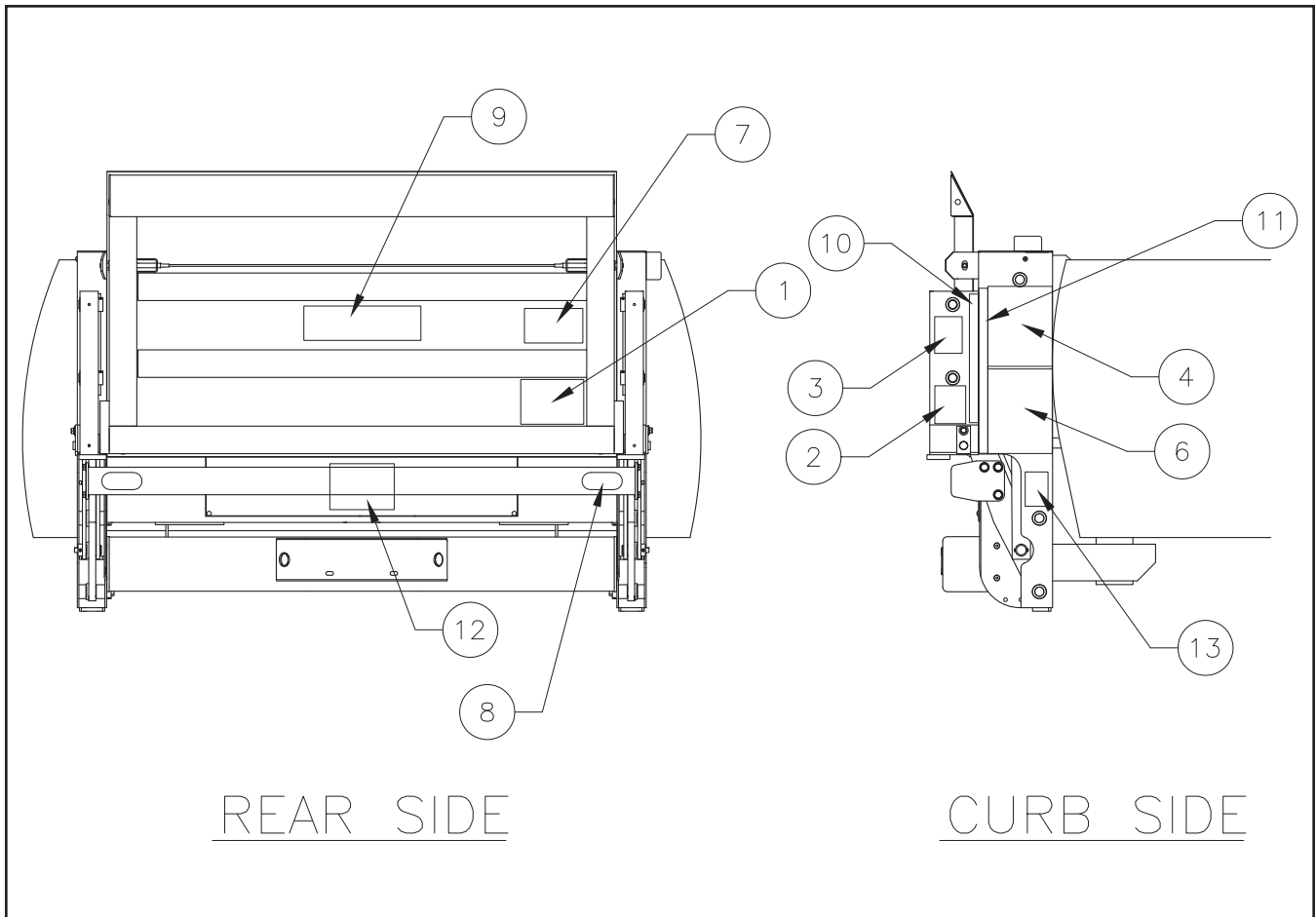
### SEMI-ANNUAL INSPECTION

- Perform the procedures outlined in the "Monthly Inspection and Maintenance."
- Inspect pump motor by:
  - Disconnecting battery cable
  - Remove motor end cover
  - Examine the armature brushes for wear. (Brushes should be replaced if they are less than 1/8" long).
  - Clean out all residue from inside of the motor housing.
  - Apply several drops of light weight machine oil to the armature shaft bearing in the motor cover end and reassemble the motor end cover.
- If the hydraulic oil in the reservoir is dirty:
  - Lower the platform completely to the ground.
  - Drain the oil from the hydraulic system and flush the entire system.
  - Remove the reservoir from the pump and clean the suction line filter. Also clean out any contaminants from the reservoir. Remount the reservoir when completed.
  - Replace the oil as outlined in Section 8 under Monthly Maintenance and Inspection.

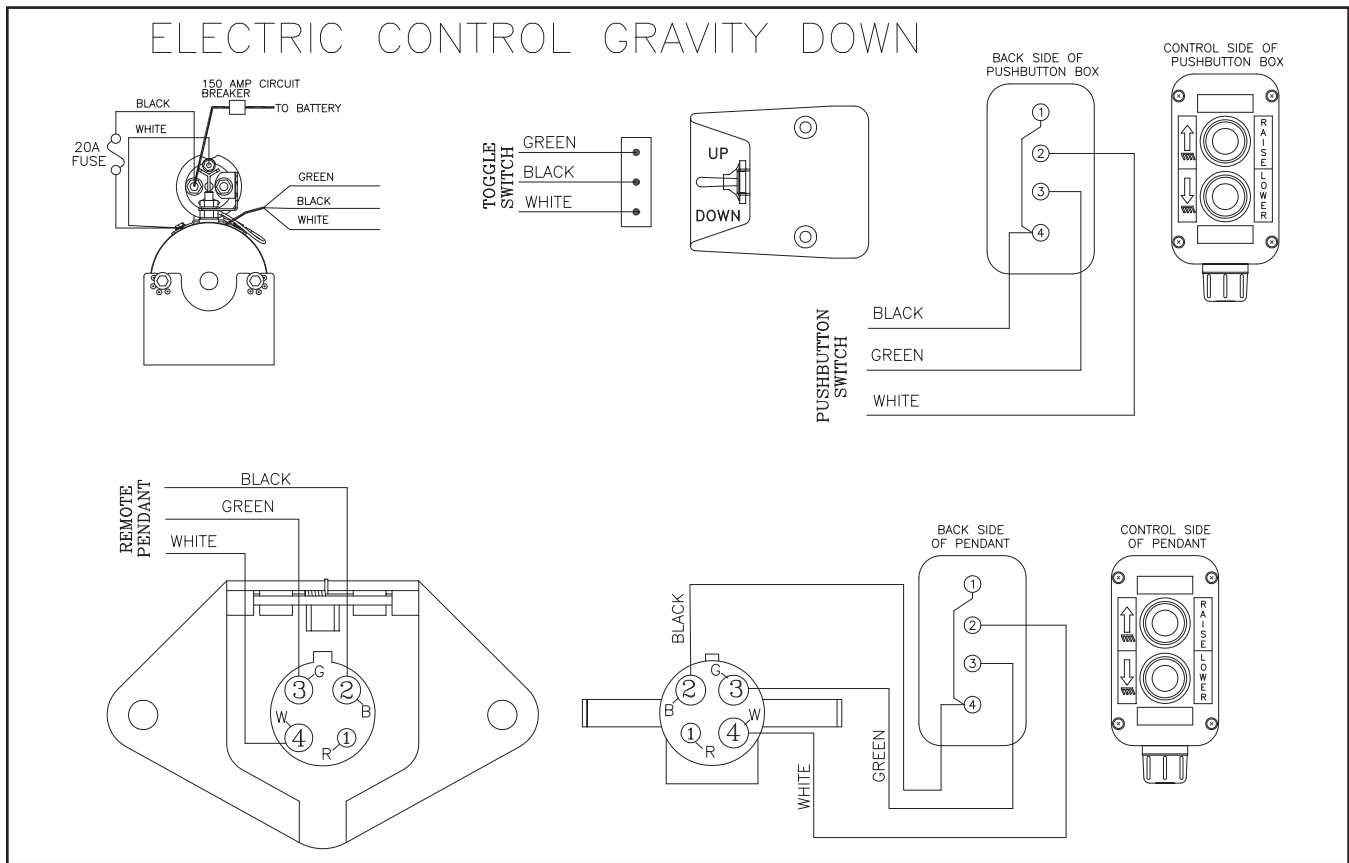
## INSPECTION AND LOCATION OF DECALS

Inspect all of the decals listed below to be certain that they are in the proper location and they are legible. All decals must be in place and legible or all warranties are void!

Item	Part Name	Part Number
1	Warning Decal-Off Center	4671050
2	PTO Decal	4650140
2	Fast Idle Decal	4650150
3	Danger Decal-No Riding	4609
4	Operating Decal	4650870
5	Capacity Decal-1500#	4650070
6	Warning Decal	4650530
7	Caution Decal-Working Area	4650770
8	Reflector (2)	5705
9	Thieman Nameplate	4650801
10	Hazard Marking Tape-Pivot	5760-002
11	Hazard Marking Tape-Frame	5760-003
12	Wiring Decal	4612
13	Warning Decal-High Pressure	4620



## ELECTRICAL PICTORIAL



## PARTS ORDERING PROCEDURE

When ordering parts, please include all the information asked below. If this information is not available, a complete written description or sketch of the required part will help Thieman identify and deliver the needed part to you.

### THE FOLLOWING INFORMATION MUST BE INCLUDED:

1. Serial Number - Thieman liftgate serial numbers can be found on the tag located on the outside of the curb side post near the bottom.
2. Model Number and Capacity.
3. Platform size and Material - Steel or Aluminum.
4. Part number.
5. Description.
6. Quantity required.

### IMPORTANT

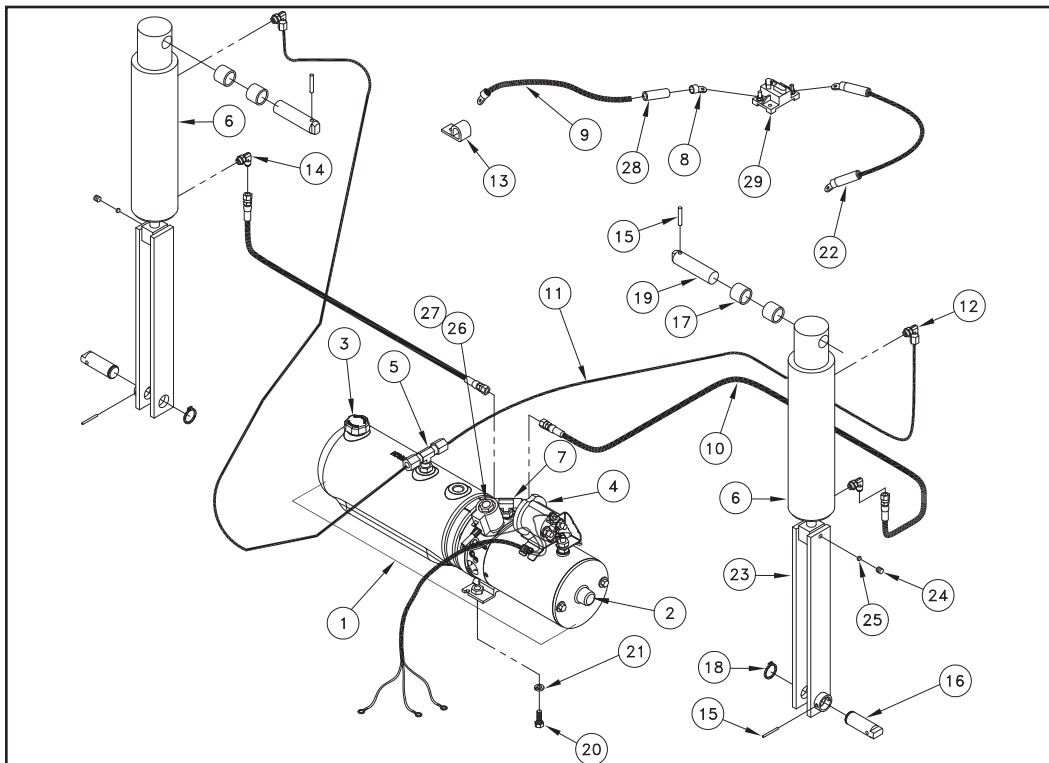
**IT IS IMPORTANT THAT EVERY VEHICLE THAT HAS A THIEMAN LIFTGATE HAVE LEGIBLE WARNING AND OPERATION DECALS CLEARLY POSTED ON THE VEHICLE AND AN OWNER'S MANUAL IN THE VEHICLE AT ALL TIMES AS A GUIDE FOR PROPER OPERATION AND MAINTENANCE.**

**ADDITIONAL WARNING DECALS, OPERATION DECALS, AND OWNER'S MANUALS CAN BE OBTAINED FROM THIEMAN TAILGATES, INC.**



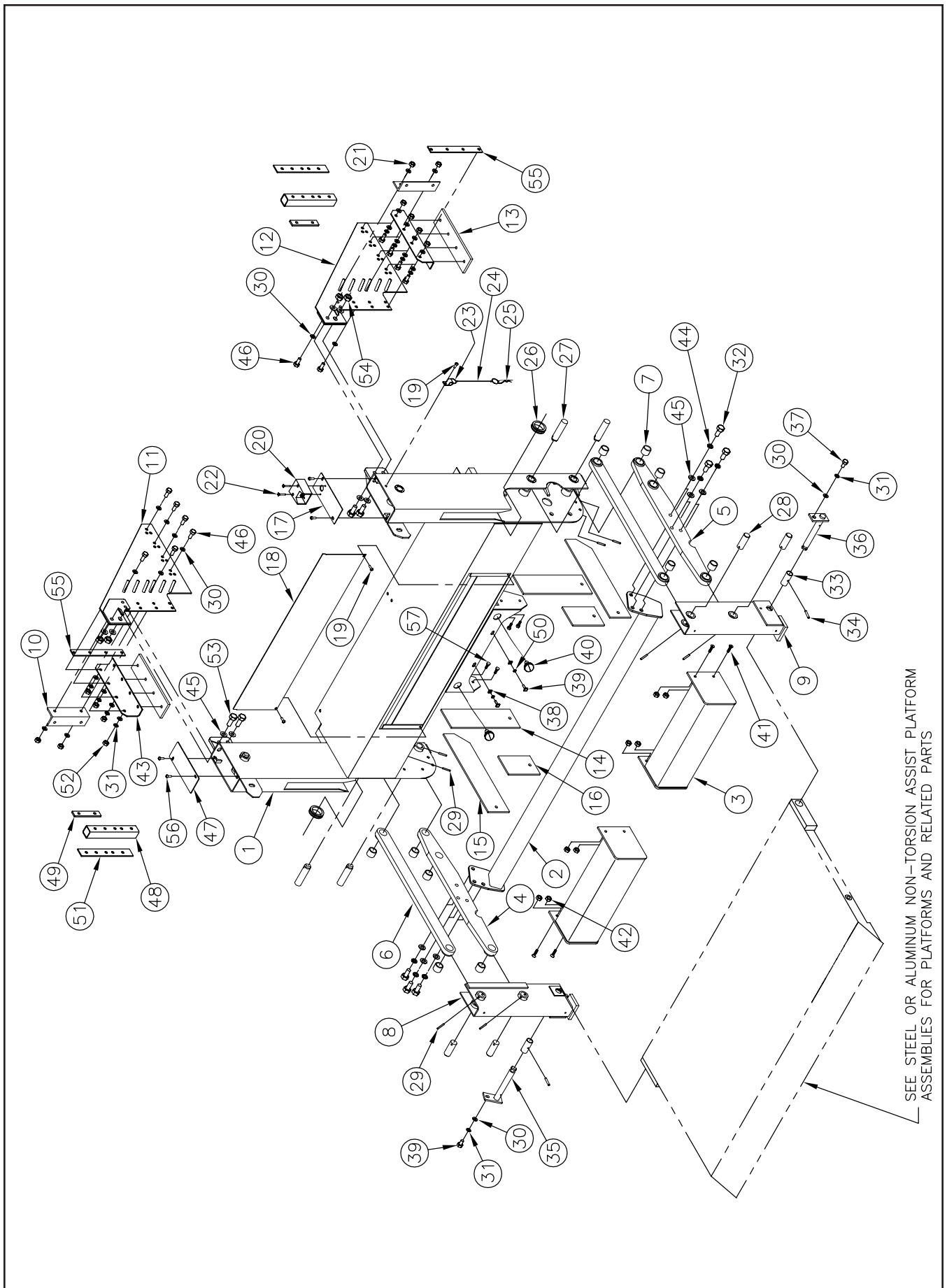
## PUMP & CYLINDER ASSEMBLY

Item	Part Number	Description	Qty./Model
1	4400871	Pump Asm-Items 2-5	1
2	4423520	Motor 8111	1
3	4420409	Breather	1
4	4468	Solenoid	1
5	4934-001	Tee BT-BT MAORB	1
6	4293	Cylinder Asm	2
7	4932-001	Tee MJ-MJ-MAORB	1
8	4350	Battery Lug	1
9	4300030	Battery Cable #2 x 25'	1
10	4951-7	Hose 41.00	2
11	4921-011	Tube 57.00	2
12	4933-001	Elbow BT-MAORB	2
13	5701260	Cable Retainer	12
14	4931-002	Restrictor Elbow MJ-MAORB	2
15	5702371	Spring Pin	4
16	5061	Pin	2
17	5504-001	Bushing	4
18	5781008	Retaining Ring	2
19	5059	Pin	2
20	8180122	Screw .38 x 1	2
21	8106-010	Internal Tooth Lockwasher .38	2
22	4318-001	Battery Cable #2 x 2'	1
23	31297	Clevis Weld	2
24	8108-005	Screw .38 x .75	2
25	4220240	Nylon Insert	2
26	4445	Valve Asm	1
27	4452	Valve Coil	1
28	4319-002	Heat Shrink	1
29	4301770	Circuit Breaker	1



**TT15 - UNDERCARRIAGE FOR PLATFORMS WITH NO TORSION ASSIST**

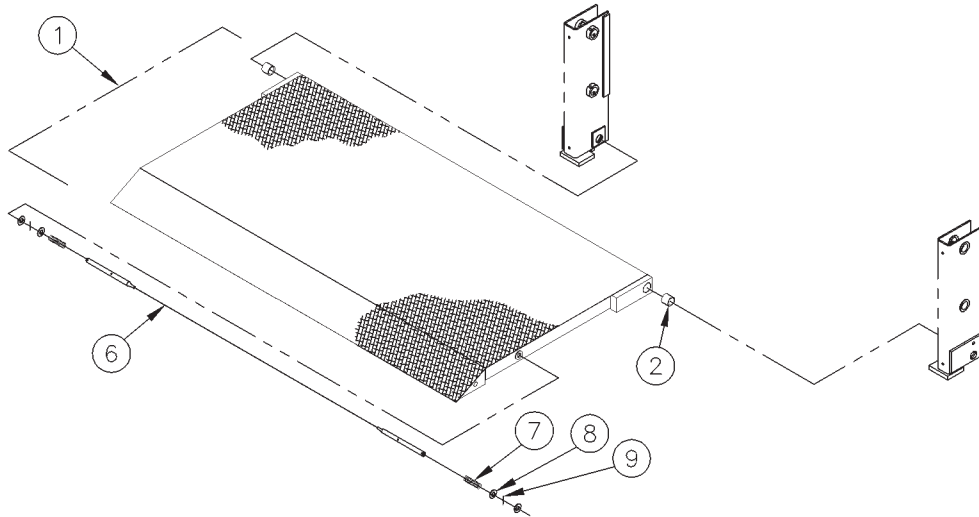
Item	Part Number	Description	Platform Width			
			49	53	56	60
1	31638-001	Frame Weld - For All Other Platforms	1			
1	31638-002	Frame Weld - For All Other Platforms		1		
1	31638-003	Frame Weld - For All Other Platforms			1	
1	31638-004	Frame Weld - For All Other Platforms				1
1	31638-005	Frame Weld-2PC. 26" Deep Steel Platform Only	1			
1	31638-006	Frame Weld-2PC. 26" Deep Steel Platform Only		1		
2	31638-007	Frame Weld-2PC. 26" Deep Steel Platform Only			1	
2	31638-008	Frame Weld-2PC. 26" Deep Steel Platform Only				1
2	31354-001	Brace Weld		1		
2	31354-002	Brace Weld			1	
2	31354-003	Brace Weld				1
2	31354-006	Brace Weld	1			
3	31635-001	Bumper Weld	1			
3	31635-002	Bumper Weld		1		
3	31635-003	Bumper Weld			1	
3	31635-004	Bumper Weld				1
4	31356-001	Lift Arm Asm. - LH, Incl. Item 7	1	1	1	1
5	31356-002	Lift Arm Asm. - RH, Incl. Item 7	1	1	1	1
6	31302	Idler Arm Asm., Incl. Item 7	2	2	2	2
7	5504-001	Bushing - Lift Arms and Idler Arms	10	10	10	10
8	31301-002	Pivot Support Weld LH	1	1	1	1
9	31300-002	Pivot Support Weld RH	1	1	1	1
10	2043	Mounting Angle			2	
11	31639-001	Post Support - LH			1	
11	31641-001	Post Support - LH	1	1		1
12	31639-002	Post Support - RH			1	
12	31641-002	Post Support - RH	1	1		1
13	27219	Backer Plate	2	2	2	2
14	23049-002	Frame Brace - Vertical	2	2	2	2
15	23049-003	Frame Brace - Horizontal	2	2	2	2
16	23049-001	Bumper Brace	2	2	2	2
17	27262-002	Post Cover RH	1	1	1	1
18	27090	Power Unit Cover	1	1	1	1
19	5793010	Screw .25 x .62	3	3	3	3
20	31446	Toggle Switch Asm	1	1	1	1
21	9413534	Locknut .38	4	4	4	4
22	8111-005	Screw #10 x.75	2	2	2	2
23	5702230	Cable Retainer	1	1	1	1
24	3801008	Latch Cable	1	1	1	1
25	5700022	Hairpin	1	1	1	1
26	5701200	Grommet	2	2	2	2
27	5059	Pin - Arms to Frame Weld	4	4	4	4
28	5060	Pin - Arms to Pivot Support Weld	4	4	4	4
29	5702371	Spring Pin .25 x 1.50	8	8	8	8
30	8120388	Flatwasher .38	10	10	26	10
31	8120382	Lockwasher .38	2	2	10	2
32	8100-010	Screw .50 x 1.25	6	6	6	6
33	3048	Pivot Tube	2	2	2	2
34	5708-004	Spring Pin	2	2	2	2
35	31281	Pin Weld LH - Pivot Support Weld to Platform	1	1	1	1
36	31282	Pin Weld RH - Pivot Support Weld to Platform	1	1	1	1
37	818012044	Screw .38 x .75	2	2	2	2
38	5702270	Plastic Square Nut	2	2	2	2
39	5702280	Screw	2	2	2	2
40	4300550	License Plate Light	2	2	2	2
41	8104-010	Screw - .31 x 1.00	4	4	4	4
42	9413447	Locknut .31	8	8	8	8
43	27220	Mounting Flange			2	
44	8120384	Lockwasher .50	6	6	6	6
45	8120396	Flatwasher .50	14	14	14	14
46	8180122	Screw .38 x 1.00	4	4	12	4
47	27262-001	Post Cover LH	1	1	1	1
48	3074	Post Support Spacer Tube			2	
49	23124	Spacer Plate			2	
50	8107-007	Flatwasher # 10		2	2	2
51	27213	Tube Spacer			2	
52	8120377	Nut .38			8	
53	8100-011	Screw .50 X 1.75	4	4	4	4
54	9414074	Locknut .50	4	4	4	4
55	27211	Post Spacer Plate	4	4	4	4
56	8109-019	Screw .25 X .75	4	4	4	4
57	8104-006	Screw .31 x 1.00 Hex Head	4	4	4	4



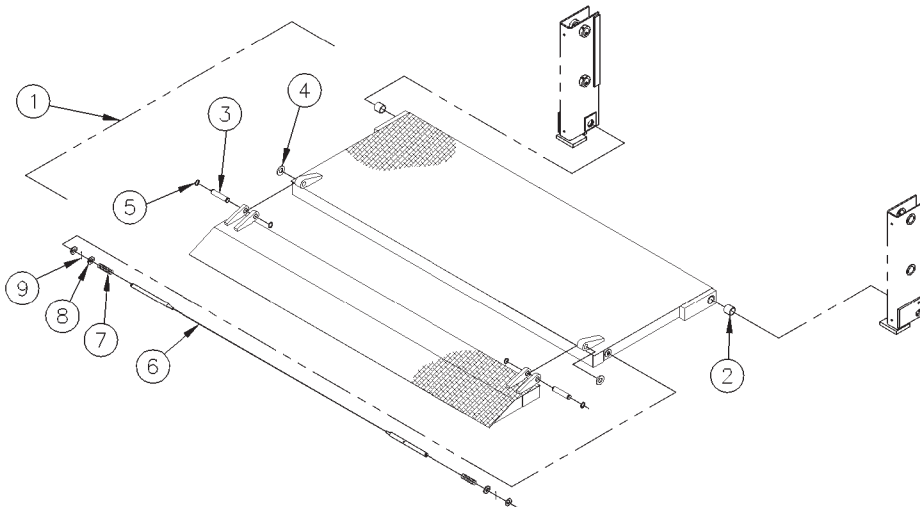
## STEEL DECKPLATE PLATFORMS WITH NO TORSION ASSIST

Item	Part Number	Description	Platform Width			
			49	53	56	60
1	3435-001	Platform Weld - 1 PC. 26" Deep, Incl. Item 2		1		
1	3435-002	Platform Weld - 1 PC. 26" Deep, Incl. Item 2			1	
1	3435-003	Platform Weld - 1 PC. 26" Deep, Incl. Item 2				1
1	3435-004	Platform Weld - 1 PC. 26" Deep, Incl. Item 2	1			
1	3440-004	Platform Weld - 2PC. 26" Deep, Incl. Items 2,3,4,5		1		
1	3440-005	Platform Weld - 2PC. 26" Deep, Incl. Items 2,3,4,5			1	
1	3440-006	Platform Weld - 2PC. 26" Deep, Incl. Items 2,3,4,5				1
1	3440-007	Platform Weld - 2PC. 26" Deep, Incl. Items 2,3,4,5	1			
2	5504-011	Bushing - Platforms	2	2	2	2
3	5056	Hinge Pin	2	2	2	2
4	8107-011	Flatwasher .62	2	2	2	2
5	5781017	Retaining Ring	4	4	4	4
6	31357-001	Locking Cable Asm.		1		
6	31357-002	Locking Cable Asm.			1	
6	31357-003	Locking Cable Asm.				1
6	31357-006	Locking Cable Asm.	1			
7	5101160	Spring	2	2	2	2
8	8120396	Flatwasher .50	4	4	4	4
9	8121222	Cotter Pin	2	2	2	2

ONE PIECE 26.00 DEEP" STEEL DECKPLATE PLATFORM

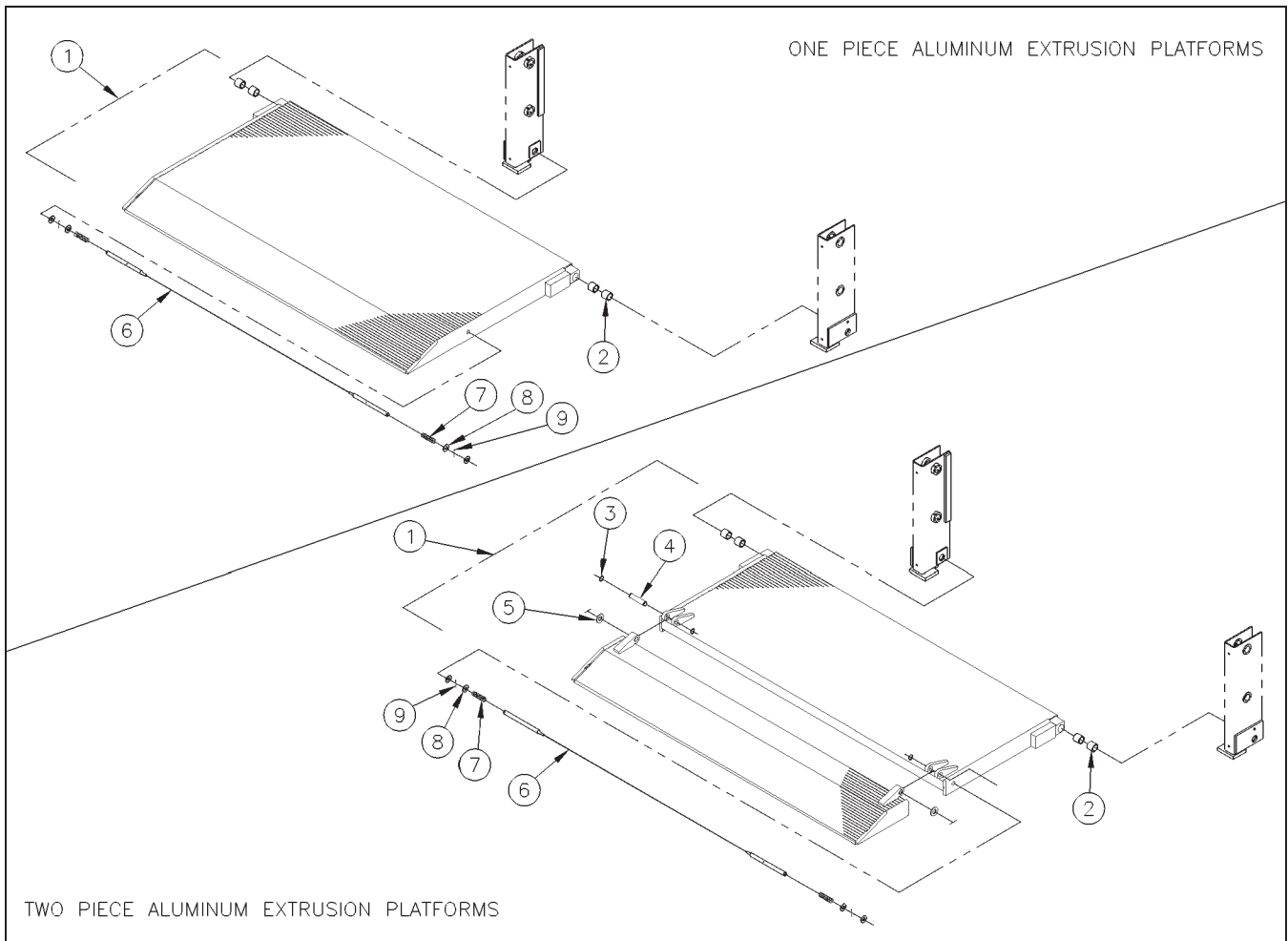


TWO PIECE 26.00 DEEP" STEEL DECKPLATE PLATFORM



## ALUMINUM EXTRUSION PLATFORMS WITH NO TORSION ASSIST

Item	Part Number	Description	Platform Width			
			49	53	56	60
1	3430-004	Platform Weld - 1 PC. 26" Deep, Incl. Item 2		1		
1	3430-005	Platform Weld - 1 PC. 26" Deep, Incl. Item 2			1	
1	3430-006	Platform Weld - 1 PC. 26" Deep, Incl. Item 2				1
1	3430-014	Platform Weld - 1 PC. 26" Deep, Incl. Item 2	1			
1	3430-001	Platform Weld - 1 PC. 32" Deep, Incl. Item 2		1		
1	3430-002	Platform Weld - 1 PC. 32" Deep, Incl. Item 2			1	
1	3430-003	Platform Weld - 1 PC. 32" Deep, Incl. Item 2				1
1	3430-013	Platform Weld - 1 PC. 32" Deep, Incl. Item 2	1			
1	3429-004	Platform Weld - 2 PC. 26" Deep, Incl. Items 2,3,4,5		1		
1	3429-005	Platform Weld - 2 PC. 26" Deep, Incl. Items 2,3,4,5			1	
1	3429-006	Platform Weld - 2 PC. 26" Deep, Incl. Items 2,3,4,5				1
1	3429-022	Platform Weld - 2 PC. 26" Deep, Incl. Items 2,3,4,5	1			
1	3429-010	Platform Weld - 2 PC. 32" Deep, Incl. Items 2,3,4,5		1		
1	3429-011	Platform Weld - 2 PC. 32" Deep, Incl. Items 2,3,4,5			1	
1	3429-012	Platform Weld - 2 PC. 32" Deep, Incl. Items 2,3,4,5				1
1	3429-023	Platform Weld - 2 PC. 32" Deep, Incl. Items 2,3,4,5	1			
2	5504-011	Bushing - Platforms		4	4	4
3	5781017	Retaining Ring		4	4	4
4	5056	Hinge Pin		2	2	2
5	8107-011	Flatwasher .62		2	2	2
6	31357-001	Locking Cable Asm.		1		
6	31357-002	Locking Cable Asm.			1	
6	31357-003	Locking Cable Asm.				1
6	31357-006	Locking Cable Asm.	1			
7	5101160	Spring		2	2	2
8	8120396	Flatwasher .50		4	4	4
9	8121222	Cotter Pin		2	2	2

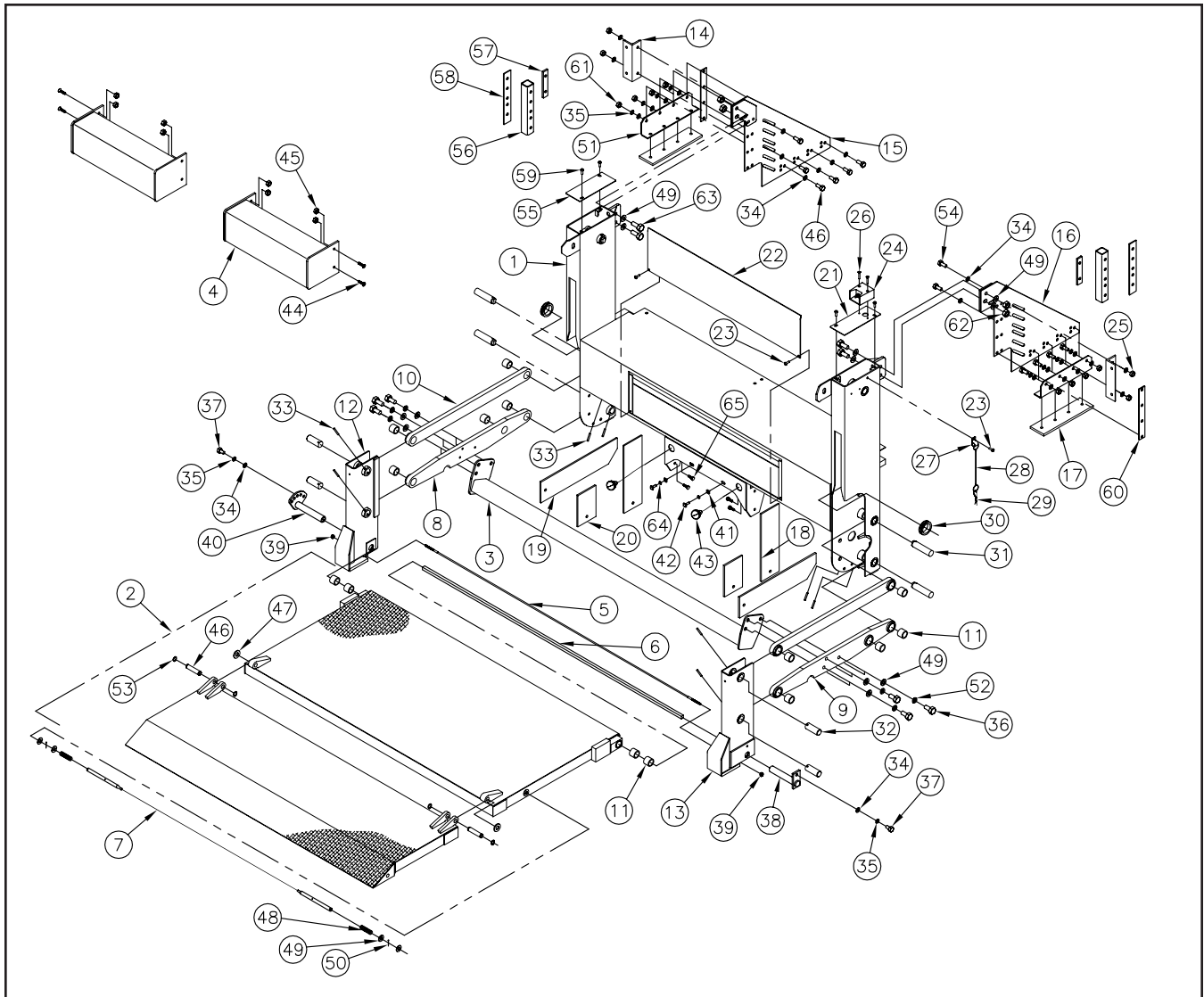


**TT15 - STEEL 42.00" DEEP PLATFORMS WITH TORSION ASSIST**

Item	Part Number	Description	Platform Width			
			49	53	56	60
1	31638-001	Frame Weld	1			
1	31638-002	Frame Weld		1		
1	31638-003	Frame Weld			1	
1	31638-004	Frame Weld				1
2	3441-001	Platform Weld - 2PC. 42" Deep, Incl. Items 11,46,47		1		
2	3441-002	Platform Weld - 2PC. 42" Deep, Incl. Items 11,46,47			1	
2	3441-003	Platform Weld - 2PC. 42" Deep, Incl. Items 11,46,47				1
2	3441-004	Platform Weld - 2PC. 42" Deep, Incl. Items 11,46,47	1			
3	31354-001	Brace Weld		1		
3	31354-002	Brace Weld			1	
3	31354-003	Brace Weld				1
3	31354-004	Brace Weld	1			
4	31635-001	Bumper Weld	1			
4	31635-002	Bumper Weld		1		
4	31635-003	Bumper Weld			1	
4	31635-004	Bumper Weld				1
5	3801-001	Support Cable		1		
5	3801-002	Support Cable			1	
5	3801-003	Support Cable				1
5	3801-006	Support Cable	1			
6	5101-009	Torsion Bar		1		
6	5101-010	Torsion Bar			1	
6	5101-011	Torsion Bar				1
6	5101-014	Torsion Bar	1			
7	31357-001	Locking Cable		1		
7	31357-002	Locking Cable			1	
7	31357-003	Locking Cable				1
7	31357-006	Locking Cable	1			
8	31356-001	Lift Arm Asm. - LH, Incl. Item 11	1	1	1	1
9	31356-002	Lift Arm Asm. - RH, Incl. Item 11	1	1	1	1
10	31302	Idler Arm Asm. , Incl. Item 11	2	2	2	2
11	5504-001	Bushing - Lift Arms, Idler Arms, and Platform	14	14	14	14
12	31483	HD Pivot Support Weld LH	1	1	1	1
13	31482	HD Pivot Support Weld RH	1	1	1	1
14	2043	Mounting Angle			2	
15	31639-001	Post Support - LH			1	
15	31641-001	Post Support - LH	1	1		1
16	31639-002	Post Support - RH			1	
16	31641-002	Post Support - RH	1	1		1
17	27219	Backer Plate	2	2	2	2
18	23049-002	Frame Brace - Vertical	2	2	2	2
19	23049-003	Frame Brace - Horizontal	2	2	2	2
20	23049-001	Bumper Brace	2	2	2	2
21	31298-002	Post Cover RH	1	1	1	1
22	27090	Power Unit Cover	1	1	1	1
23	8449646	Screw .25 x .62	6	6	6	6
24	31446	Toggle Switch Asm	1	1	1	1
25	9413534	Locknut .38	4	4	4	4
26	8111-005	Screw # 10 x.75	2	2	2	2
27	5702230	Cable Retainer	1	1	1	1
28	3801008	Latch Cable	1	1	1	1
29	5700022	Hairpin	1	1	1	1
30	5701200	Grommet	2	2	2	2
31	5059	Pin - Arms to Frame Weld	4	4	4	4
32	5060	Pin - Arms to Pivot Support Weld	4	4	4	4
33	5702371	Spring Pin .25 x 1.50	8	8	8	8
34	8120388	Flatwasher .38	10	10	26	10
35	8120382	Lockwasher .38	2	2	10	2
36	8100-010	Screw .50 x 1.25	6	6	6	6
37	8180120	Screw .38 x .75	2	2	2	2
38	31283	Pin Weld - RH Pivot Support Weld to Platform	1	1	1	1
39	8103-022	Locknut .25	2	2	2	2
40	31003	Adjustment Bracket- LH Pivot Support Weld to Platform	1	1	1	1
41	5702270	Plastic Square Nut	2	2	2	2
42	5702280	Screw	2	2	2	2
43	4300550	License Plate Light	2	2	2	2

# TT15 - STEEL 42.00" DEEP PLATFORMS WITH TORSION ASSIST - CONTINUED

Item	Part Number	Description	Platform Width			
			49	53	56	60
44	8104-010	Screw-.31 x 1.00	4	4	4	4
45	9413447	Locknut .31	8	8	8	8
46	5056	Hinge Pin	2	2	2	2
47	8107-011	Flatwasher .62	2	2	2	2
48	5101160	Spring	2	2	2	2
49	8120396	Flatwasher .50	18	18	18	18
50	8121222	Cotter Pin	2	2	2	2
51	27220	Mounting Flange			2	
52	8120384	Lockwasher .50	6	6	6	6
53	5781017	Retaining Ring	4	4	4	4
54	8180122	Screw .38 x LOO	4	4	12	4
55	27262-001	Post Cover LH	1	1	1	1
56	3074	Post Support Spacer Tube			2	
57	23124	Spacer Plate			2	
58	27213	Tube Spacer			2	
59	8109-019	Screw .25 X .75	4	4	4	4
60	27211	Post Spacer Plate	4	4	4	4
61	8120377	Nut .38			8	
62	9414074	Locknut .50	4	4	4	4
63	8100-011	Screw .50 X 1.75	4	4	4	4
64	8107-007	Flatwasher #10	2	2	2	2
65	8104-006	Screw .31x1.00 Hex Head	4	4	4	4



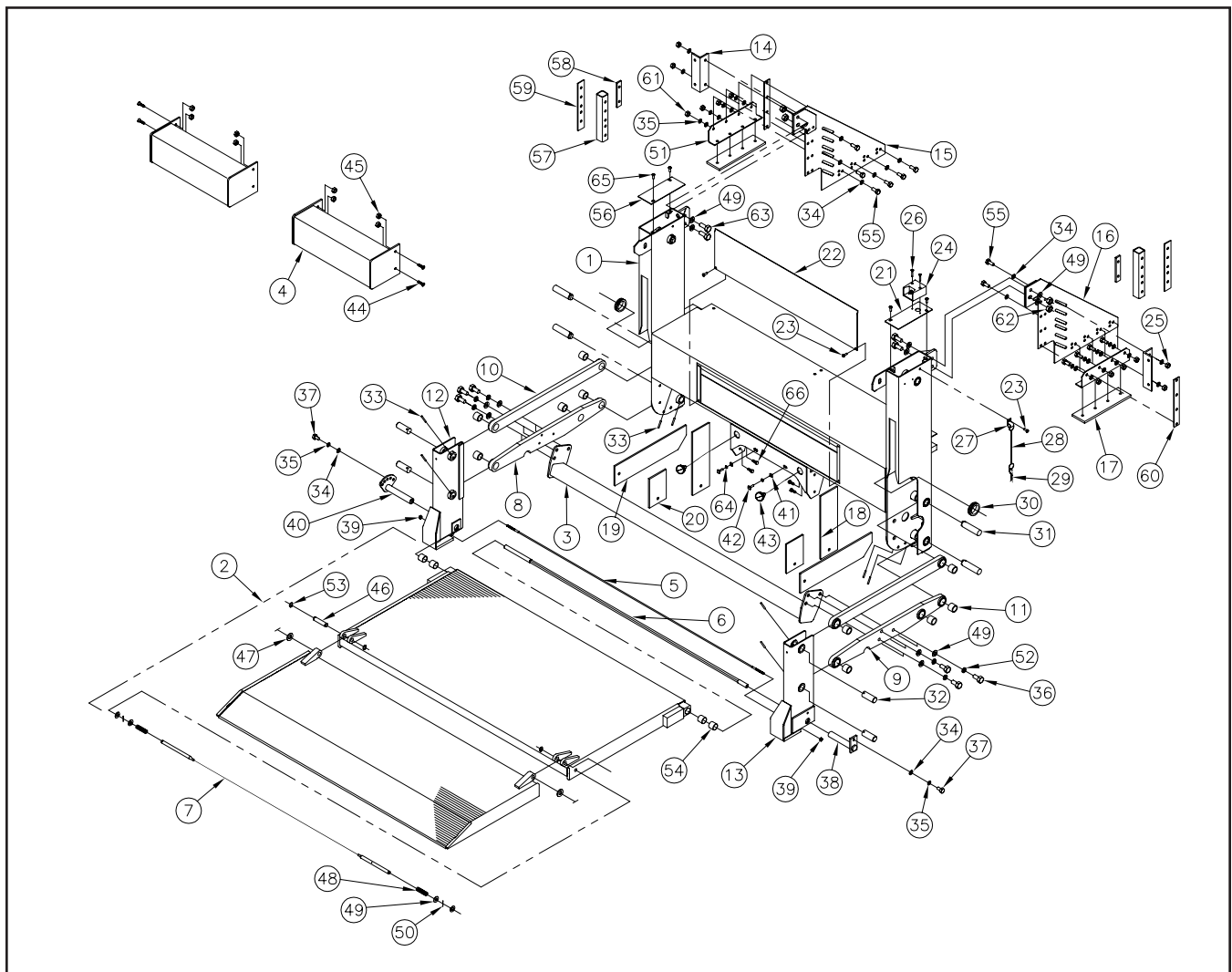
**TT15 - ALUMINUM 44.00" DEEP PLATFORMS WITH TORSION ASSIST**

Item	Part Number	Description	Platform Width			
			49	53	56	60
1	31638-001	Frame Weld	1			
1	31638-001	Frame Weld		1		
1	31638-003	Frame Weld			1	
1	31638-001	Frame Weld		1		1
2	3443-004	Platform Weld - 2PC. 44" Deep, Incl. Items 54,46,47		1		
2	3443-005	Platform Weld - 2PC. 44" Deep, Incl. Items 54,46,47			1	
2	3443-006	Platform Weld - 2PC. 44" Deep, Incl. Items 54,46,47				1
2	3443-008	Platform Weld - 2PC. 44" Deep, Incl. Items 54,46,47	1			
3	31354-001	Brace Weld		1		
3	31354-002	Brace Weld			1	
3	31354-003	Brace Weld				1
3	31354-006	Brace Weld	1			
4	31635-001	Bumper Weld	1			
4	31635-002	Bumper Weld		1		
4	31635-003	Bumper Weld			1	
4	31635-004	Bumper Weld				1
5	3801-001	Support Cable		1		
5	3801-002	Support Cable			1	
5	3801-003	Support Cable				1
5	3801-006	Support Cable	1			
6	5107-003	Torsion Bar		1		
6	5107-004	Torsion Bar			1	
6	5107-005	Torsion Bar				1
6	5107-006	Torsion Bar	1			
7	31357-001	Locking Cable		1		
7	31357-002	Locking Cable			1	
7	31357-003	Locking Cable				1
7	31357-006	Locking Cable	1			
8	31356-001	Lift Arm Asm. - LH, Incl. Item 11	1	1	1	1
9	31356-002	Lift Arm Asm. - RH, Incl. Item 11	1	1	1	1
10	31302	Idler Arm Asm. , Incl. Item 11	2	2	2	2
11	5504-001	Bushing - Lift Arms and Idler Arms	10	10	10	10
12	31483	HD Pivot Support Weld LH	1	1	1	1
13	31482	HD Pivot Support Weld RH	1	1	1	1
14	2043	Mounting Angle			2	
15	31639-001	Post Support - LH			1	
15	31641-001	Post Support - LH	1	1		1
16	31639-002	Post Support - RH			1	
16	31641-002	Post Support - RH	1	1		1
17	27219	Backer Plate	2	2	2	2
18	23049-002	Frame Brace - Vertical	2	2	2	2
19	23049-003	Frame Brace - Horizontal	2	2	2	2
20	23049-001	Bumper Brace	2	2	2	2
21	27262-002	Post Cover RH	1	1	1	1
22	27090	Power Unit Cover	1	1	1	1
23	5793010	Screw .25 x .62	3	3	3	3
24	31446	Toggle Switch Asm	1	1	1	1
25	9413534	Locknut .38	4	4	4	4
26	8111-005	Screw #10 x .75	2	2	2	2
27	5702230	Cable Retainer	1	1	1	1
28	3801008	Latch Cable	1	1	1	1
29	5700022	Hairpin	1	1	1	1
30	5701200	Grommet	2	2	2	2
31	5059	Pin - Arms to Frame Weld	4	4	4	4
32	5060	Pin - Arms to Pivot Support Weld	4	4	4	4
33	5702371	Spring Pin .25 x 1.50	8	8	8	8
34	8120388	Flatwasher .38	10	10	26	10
35	8120382	Lockwasher .38	2	2	10	2
36	8100-010	Screw .50 x 1.25	6	6	6	6
37	8180120	Screw .38 x .75	2	2	2	2
38	31283	Pin Weld - RH Pivot Support Weld to Platform	1	1	1	1
39	8103-022	Locknut .25	2	2	2	2
40	31003	Adjustment Bracket- LH Pivot Support Weld to Platform	1	1	1	1
41	5702270	Plastic Square Nut	2	2	2	2
42	5702280	Screw	2	2	2	2
43	4300550	License Plate Light	2	2	2	2



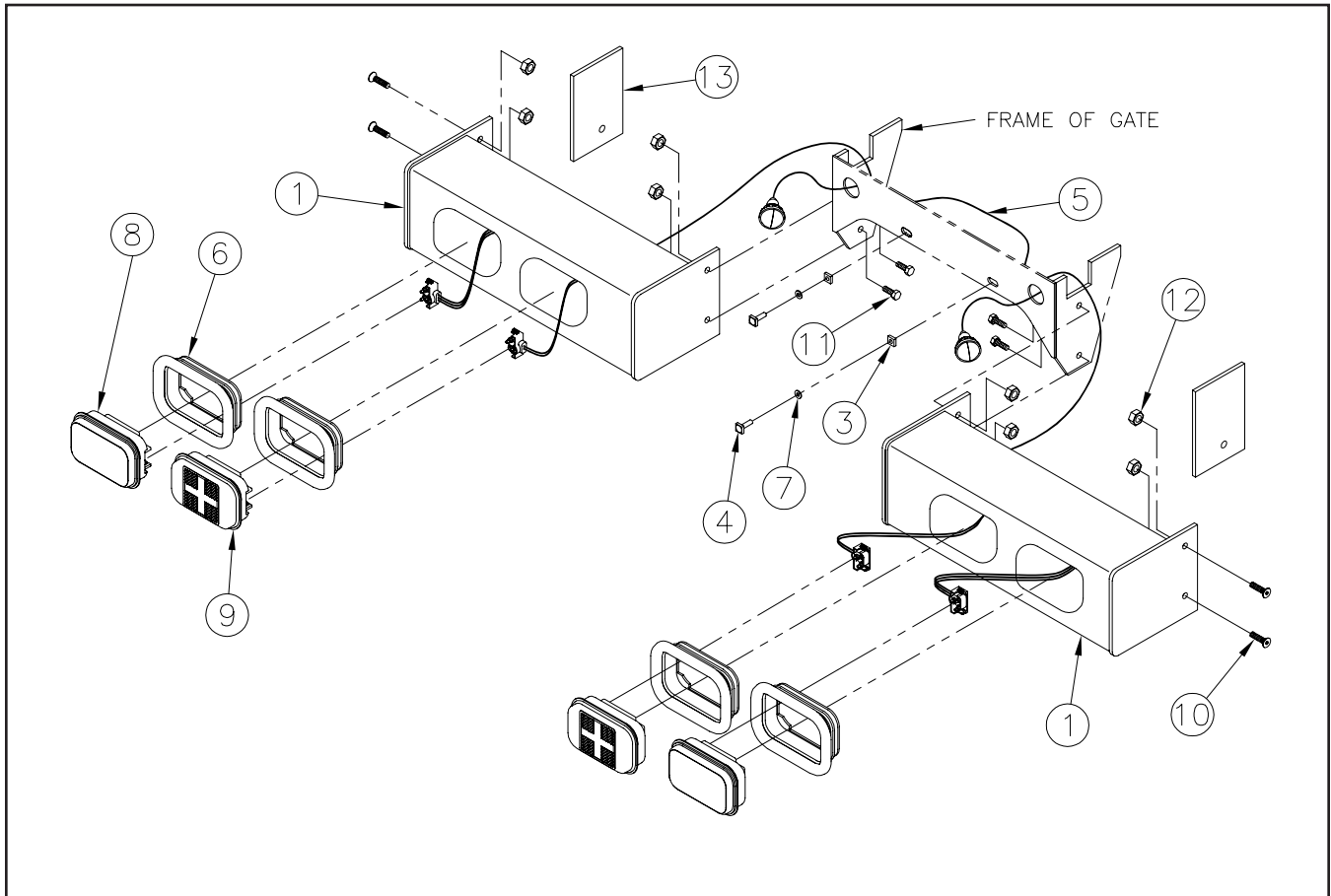
# TT15 - ALUMINUM 44.00" DEEP PLATFORMS WITH TORSION ASSIST - CONTINUED

Item	Part Number	Description	Platform Width			
			49	53	56	60
44	8104-010	Screw - .31 x 1.00	4	4	4	4
45	9413447	Locknut .31	8	8	8	8
46	5056	Hinge Pin	2	2	2	2
47	8107-011	Flatwasher .62	2	2	2	2
48	5101160	Spring	2	2	2	2
49	8120396	Flatwasher .50	10	10	18	10
50	8121222	Cotter Pin	2	2	2	2
51	27220	Mounting Flange			2	
52	8120384	Lockwasher .50	6	6	6	6
53	5781017	Retaining Ring	4	4	4	4
54	5504-012	Bushing	4	4	4	4
55	8180122	Screw .38 x 1.00	4	4	12	4
56	31298-001	Post Cover LH	1	1	1	1
57	3074	Post Support Spacer Tube			2	
58	23124	Spacer Plate			2	
59	27213	Tube Spacer			2	
60	27211	Post Spacer Plate	4	4	4	4
61	8120377	Nut .38			8	
62	9414074	Locknut .50	4	4	4	4
63	8100-011	Screw .50 X 1.75	4	4	4	4
64	8107-007	Flatwasher #10	2	2	2	2
65	8109-019	Screw .25 X .75	4	4	4	4
66	8104-006	Screw .31x1.00 Hex Head	4	4	4	4



## BUMPER-LIGHT ASSEMBLY - OPTIONAL

Item	Part Number	Description	Platform Width			
			49	53	56	60
1	31635-005	Bumper Weld	2			
1	31635-006	Bumper Weld		2		
1	31635-007	Bumper Weld			2	
1	31635-008	Bumper Weld				2
2	3642	Bumper Light Kit- includes items 3-9	1	1	1	1
3	5702270	Plastic Square Nut	2	2	2	2
4	5702280	Screw	2	2	2	2
5	43040	Light Harness	1	1	1	1
6	4379	Grommet	4	4	4	4
7	8107-007	Flatwasher#10	2	2	2	2
8	4380	Stop/Turn/Tail Lamp	2	2	2	2
9	4381	Back-up Lamp	2	2	2	2
10	8104-010	Screw-.31 x 1.00 Flat Head	4	4	4	4
11	8104-006	Screw-.31 x 1.00 Hex Head	4	4	4	4
12	9413447	Locknut .31	8	8	8	8
13	23049-001	Bumper Brace	2	2	2	2



## TROUBLESHOOTING GUIDE

### TT15ET

- Test Equipment:**
1. 0-5000 psi pressure gauge
  2. DC voltmeter/ohm meter
  3. DC amp meter
  4. standard mechanics tools

Note: Please refer to the electrical diagrams and hose connection drawings in the liftgate's owners manual when troubleshooting. This guide is only for standard Thieman liftgates. Special liftgates with options other than those in the owner's manual will require special diagrams for troubleshooting. Read and understand this entire guide completely before doing any troubleshooting. Certain listed problems may be related to other problems listed so a comprehensive knowledge is required before proceeding.

Problem – Pump motor will not run in the raise mode

- Causes –
- a. Tripped circuit breaker
  - b. Blown 20A fuse
  - c. Defective or undercharged battery(ies)
  - d. Improper battery cable connection or improper ground connection
  - e. Defective or improperly wired raise switch
  - f. Defective or improperly wired solenoid start switch
  - g. Defective pump motor

- Corrections –
- a. Reset the circuit breaker located within 2ft of the liftgate supply battery(ies).
  - b. Replace 20A fuse
  - c. The “at rest” voltage for the batteries without the engine running and under no load should be at least 12.5V. The minimum voltage between the motor stud and ground is 9V at maximum load conditions. If proper voltage is not present, charge or replace the batteries. The battery(ies) on the vehicle should be that which has a minimum 150 amp reserve capacity.
  - d. Trace battery and ground cable connections to locate improper connection(s). Make sure the ground cable from the batteries to the frame is a heavy 2ga. cable and that is connected to bare metal on the frame. Make sure there is 12.5V present at the large terminal on the motor start solenoid where the 2ga. cable from the batteries is connected. Replace any damaged cables and repair any bad connections.
  - e. Check for voltage on the black wire at the control switch. If no voltage is present the black wire from the motor start solenoid is loose or broken and needs repaired. If voltage is present then check for voltage at the white wire on the switch with the switch in the “RAISE” position. If no voltage is present, replace the switch.
  - f. Check for voltage on the white wire at the motor start switch when the switch is activated. If no voltage exists the white wire is loose or broken between the switch and the motor start solenoid. Check that the purple ground wire on the start solenoid is connected properly and there are no bad connections. If there is voltage on the white wire and the coil does not

energize or if there is no voltage present at the motor terminal then replace the start switch.

- g. With the switch activated in the “RAISE” position and the motor start solenoid is activated, check for voltage at the motor terminal. If voltage is present and the motor is not running, replace the motor.

## 2. Problem – Liftgate will not raise to bed with a load and the pump motor running

- Causes –
- a. Low hydraulic fluid
  - b. Overload condition
  - c. Improperly adjusted or defective main relief valve
  - d. Lift cylinders are bypassing, liftgate is drifting down
  - e. Broken hydraulic line
  - f. Clogged or disconnected suction line
  - g. Defective pump

- Corrections -
- a. Make sure the reservoir has the proper amount of fluid. Check for the fluid line through the plastic reservoir. The hydraulic fluid should be within 1/2” of the top of the reservoir with the liftgate in the lowered position. Fill with Dexron III automatic transmission fluid.
  - b. The power unit on the TT15 is equipped with a lifting relief valve to prevent overloading of the liftgate. The relief setting for the TT15 is 2200 psi.
  - c. See section “c” above for relief valve setting. Plumb a pressure gauge into the high pressure circuit of the liftgate. Remove all loads from the liftgate’s platform. Engage the “RAISE” switch until the liftgate is fully raised. Keep the “RAISE” switch engaged until the pump bypasses through the relief valve and note the pressure on the gauge at this time. If the rated relief pressure is not present during relief, adjust the high pressure relief valve setting as necessary. If the relief pressure is not attainable the relief valve must be cleaned and/or replaced or the pump is defective. See part “g” below.
  - d. If the liftgate will not raise with a load on the platform but empty is raising slowly or only partially, the cylinders may be bypassing. To check for bypassing cylinders do the following. Lower the gate to the ground to relieve all pressure from the cylinders. Disconnect the cylinders from the liftarm. Press the “RAISE” switch until the cylinders is fully retracted. Disconnect the return line from the power unit and put the end of the line in a container to catch any oil which comes out during this test. Press the “RAISE” switch for 15 to 20 seconds and watch for a steady stream of fluid coming out of the return line into the container. If no steady stream of oil is present connect the hose to the butt end of the cylinders after removing the return line and fitting. Re-attach the return line and fitting to the rod end port. Put the loose end of the return line in a container to catch any oil, which comes out during this test. Press the “RAISE” switch until the cylinders is fully extended. Press the “RAISE” switch for 15 to 20 seconds and watch for a steady stream of fluid coming out of one of the disconnected hose ends into the container. Replace or rebuild any cylinders with fluid coming out of the return line, as this indicates fluid is

bypassing the piston seals on the cylinder. Reconnect rebuilt or replaced cylinders and hoses as before.

- e. Broken or punctured hydraulic lines and fittings must be replaced with care to avoid injury from high pressure oil streams.
- f. With the liftgate at the ground, disconnect the power unit and remove the reservoir. Check to see if the suction tube is clogged or has fallen out of the pump base. Clean the screen or reattach the suction tube as required.
- g. If all else fails replace the power unit, it is probably worn out.

### 3. Problem – Liftgate will not lower

- Causes -
- a. Defective lowering solenoid coil or valve
  - b. Clogged or defective hydraulic lines, fittings or flow controls

- Corrections -
- a. With the “LOWER” switch engaged check for voltage on the green wire at the switch. If no voltage is present replace the switch. If voltage is present, with the “LOWER” switch engaged, check for voltage at the green wire on the lower solenoid valve coil terminal. If no voltage is present, the green wire from the “LOWER” switch is loose or broken and needs replaced. If there is voltage (minimum of 9.5 volts) and the valve is not opening to allow the gate to lower, either the lower coil is bad or the entire lower coil/valve assembly is bad. To check to see if the coil is defective, remove the green wire from the spade terminal on the lower coil and check for continuity between the spade terminal and the nut, which holds the coil on the valve stem. If continuity does not exist, replace the defective coil, otherwise replace the defective lower coil/valve assembly.
  - b. Remove any obstruction in the hoses, fittings or flow controls or replace any hose, fitting or flow control, which does not allow fluid to flow through freely.

### 4. Problem – Liftgate raises slowly – The raise speed of the TT15 on a 45” bed height while empty at 70° F is approximately 8-9 seconds. The raise speed loaded for the same conditions is approximately 12-14 seconds.

- Causes -
- a. Overload condition
  - b. Cold weather
  - c. Partially blocked suction screen
  - d. Lift cylinders are bypassing
  - e. Improperly adjusted or defective raise relief valve
  - f. Low voltage and/or bad ground
  - g. Worn out pump

- Corrections –
- a. See section 2b
  - b. Refer to Owner’s Manual for alternative oils to use for cold weather conditions.
  - c. Remove reservoir and clean or replace suction screen as necessary.
  - d. See section 2d
  - e. See section 2c
  - f. The minimum voltage between the motor stud and ground is 9.5 volts at maximum load conditions. See section 1b and 1c.

g. After all other corrections are performed it will be necessary to replace the pump.

5. Problem – Foamy oil flowing from reservoir breather

Causes - a. Air is present in the system

Corrections - a. This can occur if air enters the system if the fluid level is low, see problem 2, part a, or if the suction tube is disconnected, see problem 2, part f. Also air may enter through fittings, which are not tightened properly, so check for any leaks around fittings or hoses. Once the source of the air is determined, the cylinders must be bled of all air. Most air can be removed from the system by lowering the gate to the ground to relieve all pressure from the cylinders, unpinning the cylinders and cycling them back and forth several times from fully extended to fully retracted and allowing the pump to bypass through the relief valves for a few seconds in each direction.

If you have any questions or problems that are not covered in this guide please call Thieman's Engineering Department at 1-800-524-5210.



