

LEYMAN

LIFT GATES

MAINTENANCE AND TROUBLESHOOTING MANUAL

Legend™ TLS®

TLS3510RL

TLS4500RL

TLS4510RL

Hide-A-Way® Trailer Side Gates



Rev1.0_07/26

Table of Contents

SECTION 1 – Operation & Specs

General Specifications and Minimum Mounting Space Requirements	1.1
General Terminology	1.2
Grounding Recommendations	1.3
Recommended Hydraulic Oils and Lubrications	1.4

SECTION 2 – Maintenance

Preventive Maintenance Check List	2.1
Side Gate Preventive Maintenance Guide	2.2
PM Task Lubrication and Parts Locator	2.3-2.4
Platform Adjustments	2.5-2.6
Maintenance Minder® Reset	2.7

SECTION 3 – Troubleshooting

Symptom / Remedies	3.1
Electric and hydraulic schematics/MM2®	3.2
Ground Wires	3.3
Condition / Recommended Action	3.4-3.10

SECTION 4 – Diagrams and Parts

Wiring Diagram – Bucher (MM2 + TEMP SW.) TLS3510RL / TLS4510RL	4.1
Wiring Diagram – SPX With Smart Start Solenoid TLS4500RL	4.2
Wiring Diagram – SPX With Maintenance Minder 2 TLS4500RL	4.3
Wiring Diagram – SPX or Monarch (MM2 + TEMP SW.) TLS4500RL	4.4
Power Unit Replacement Parts TLS3510RL / TLS4510RL	4.5
Power Unit Replacement Parts TLS4500RL	4.6
Hydraulics - Interior Parts TLS3510RL / TLS4510RL	4.7-4.9
Hydraulics Bottom Side Parts TLS3510RL / TLS4510RL	4.10
Hydraulics Bottom Side Parts TLS4500RL	4.11-4.12
Emergency Hand Pump Option #184	4.13
Emergency Hand Pump Option #261	4.14
Replacement Bearings And Pins	4.15-4.16
Chain Area Replacement Parts	4.17
Basic Electrics – Replacement Parts TLS3510RL / TLS4510RL	4.18
Basic Electrics – Replacement Parts – Monarch TLS3510RL / TLS4510RL	4.19-4.20
Toggle Switch Replacement Parts	4.21
Walk Around Electrics (Option #183 TLS-DEUTSCH)	4.22-4.23
Lights And Sensors (Option #155)	4.24-4.25
Replacement of Safety Decals	4.26
Notes	4.27

Scan QR Code For Additional Manuals



Installation Manual



Parts Manual



Operations Manual

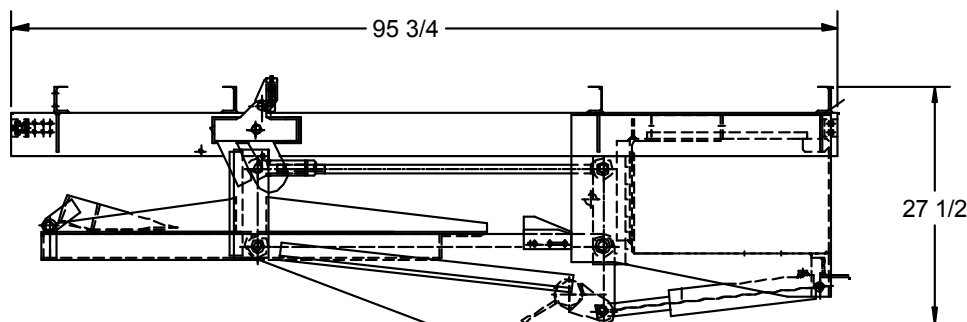
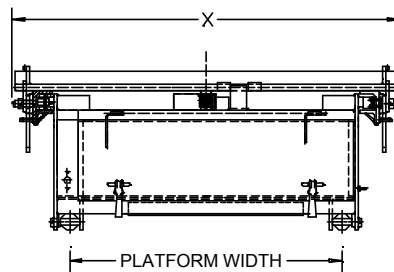
GENERAL SPECIFICATIONS

CUSTOMER: _____
 MODEL: TLS _____
 SERIAL #: _____
 CAPACITY: 4500 lbs.
 TYPE: Trailer Side Door Lift Gate
 OPERATION: Power up/Gravity down
 Power in/out
 HYDRAULIC PRESSURE: 2500PSI – Up Function
 800PSI – In/Out Function

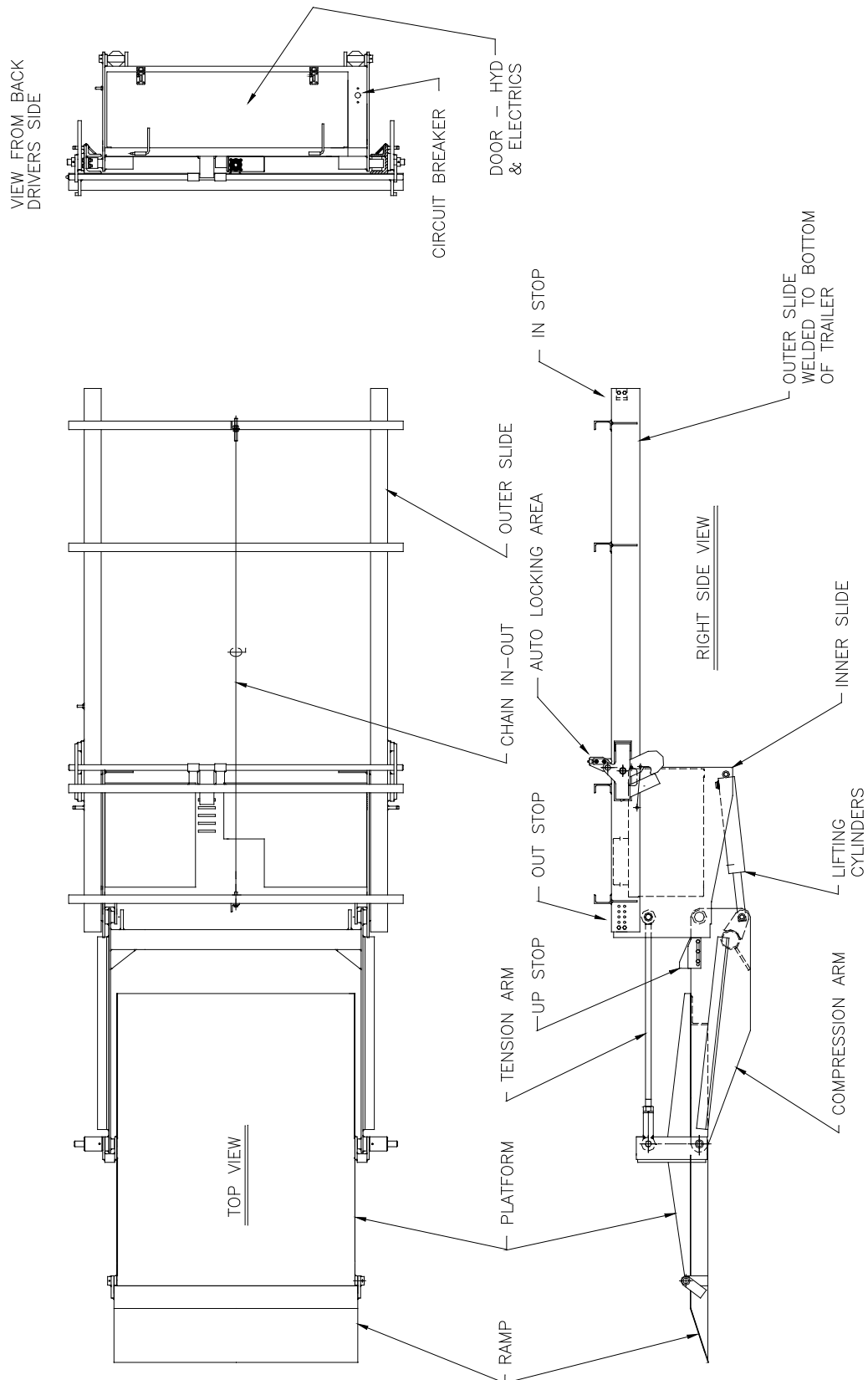
Model Number	Lifting Capacity	Platform Size	Main Platform	Secondary Platform	Rigid Ramp	Approx. Weight
TLS 3510	3,500 lbs.	42" W x 55" D	51" D	4" D	10" Taper	TLS 3510 1,200 lbs.
		48" W x 55" D				TLS 3510 1,300 lbs.
		60" W x 55" D				TLS 3510 1,450 lbs.
		72" W x 55" D				TLS 3510 1,600 lbs.
TLS 3510	3,500 lbs.	80" W x 48" D	48" Flat	No Secondary	5" Taper	TLS 3510 1,800 lbs.
TLS 4510	4,500 lbs.	42" W x 55" D	51" D	4" D	10" Taper	TLS 4510 1,250 lbs.
		48" W x 55" D				TLS 4510 1,350 lbs.
		60" W x 55" D				TLS 4510 1,500 lbs.
		72" W x 55" D				TLS 4510 1,660 lbs.

MINIMUM MOUNTING SPACE REQUIREMENTS

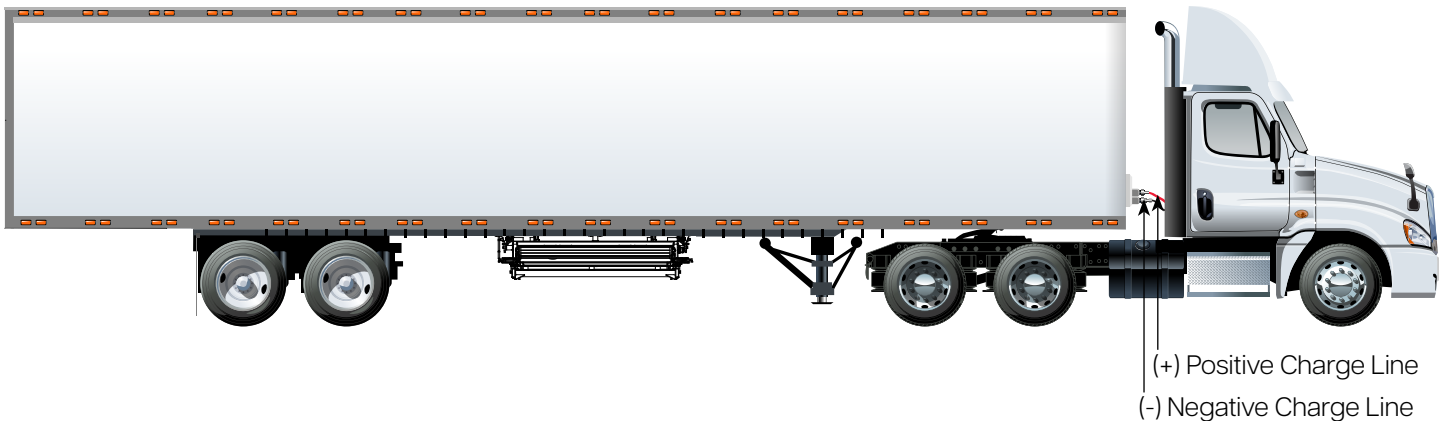
PLATFORM WIDTH	DIMENSION "X"
42"	60"
48"	66"
60"	78"
72"	90"



GENERAL TERMINOLOGY



GROUNDING RECOMMENDATION FOR TRACTOR/TRAILER



The Maintenance Minder 2[®] Controller requires a minimum of 10 volts to start and 8 volts to continue running the Legend™ TLS[®] lift gate. Power unit solenoid valves will require 10.5 volts to operate the coils. Utilization of a single positive cable often does not provide a sufficient ground for the charging circuit. Therefore, our recommendation for grounding tractor/trailers with the Legend™ TLS[®] gate is as follows:

Two (2) cables: one (1) positive and one (1) negative, both running to the tractor batteries.



NOTE

The use of a battery charger as the sole power source to operate a Legend™ TLS[®] is unauthorized and will prevent the Legend™ TLS[®] from working properly. The lift gate must always be operated in conjunction with at least one (1) 12 volt heavy-duty dual purpose or AGM lift gate battery. A minimum of 10.5 volts must be maintained in order for the valves to operate.

RECOMMENDED HYDRAULIC OILS / LUBRICATIONS

HYDRAULIC OILS	MANUFACTURER	TYPE	TEMP RANGE
Level 1 Normal Conditions	Mobil	DTE 11	-15° F to + 150° F
	Shell	TELLUS-T15	-15° F to + 150° F
	Exxon	UNIVIS-N15	-15° F to + 150° F
Level 2 Cold Conditions	Mobil	AERO-HFA	-50° F to + 80° F
	Shell	AERO FLUID #4	-50° F to + 80° F
	Exxon	UNIVIS-HVI13	-50° F to + 80° F
	Mil	H-5606	-50° F to + 80° F

HYDRAULIC TANK CAPACITY

2 ½ gallons

LUBRICATION - GREASE

Cam Rollers, Idler Sprockets, Auto-Lock shaft, cylinder pins, if grease fittings provided

Level 1 Normal Conditions NLGI #2 Lithium base grease
Level 2 Cold Conditions NLGI #1 Lithium base grease
DO NOT USE CHASSIS or 5th WHEEL GREASE

BATTERIES

Two (2) 12-Volt DC Group 31 Heavy-Duty Dual Purpose or AGM

ELECTRICAL COMPONENTS CONNECTIONS

Use Fluid Film Rust & Corrosion Protection by Eureka, except on Start Solenoid.
 On Start Solenoid, use Color Guard by Loctite, or Liquid Electrical Tape

AMPERAGE DRAW OF MOTOR

When raising platform (empty) approximately 115 AMPS @ 13.5 volts. At bypass approximately 235 AMPS @ 13.5 volts

LIFTING PRESSURE SETTING

With platform at floor level and pump in bypass 2500PSI

IN-OUT PRESSURE SETTING

When sliding gate in-out and pump in bypass 800PSI

MINIMUM VEHICLE FLOOR HEIGHT LADEN

With any size of platform – vehicle floor height 48"

MAXIMUM VEHICLE FLOOR HEIGHT UNLADEN

With any size of platform – vehicle floor height 58"

APPROXIMATE TIMES EMPTY AT 80° F WITH 2 GROUP 31 BATTERIES

Time up: 14 – 18 seconds, Time down(gravity down): 12 –16 seconds



WARNING

The use of a battery charger as the sole power source to operate the lift gate is unauthorized and will prevent the lift gate from working properly. The lift gate must always be operated in conjunction with at least one (1) 12 volt heavy duty lift gate battery. A minimum of 9.5 volts must be maintained in order for the DOWN valve and 10.5 volts for the IN / OUT valves to operate.



MAINTENANCE



SIDE GATE PREVENTIVE MAINTENANCE CHECK LIST

MAINTENANCE by CYCLES for LEGEND™ TLS MODELS
Date: _____

Customer		Gate Model #	
Location		Gate Serial #	
Vehicle #		Serviced By	

√ = OK X = Repair A = Adjusted N = Not Applicable

3000	MOTOR / PUMP COMPONENTS	3000	MOTOR / PUMP COMPONENTS
	Check batteries for corroded, loose or broken connections		Check charge line/power line for corroded, loose or broken connections at both ends
	Check batteries for proper voltage level and charging		Check amp draw of motor with fully charged batteries and tight clean connections
	Check all wiring in pump box for corroded, loose or broken connections		Check all ground wires for corroded, loose or broken connections
	Check solenoid valves for proper operation		Check pressure setting of relief valves
	Check reservoir for proper oil level (Gate down on the ground, fluid level should be 1" from top of tank)		Clean all wiring connections in pump and battery box. Spray with Fluid Film Corrosion Protection by Eureka. Use Color Guard or Liquid Electrical Tape on Start Solenoid.
	Inspect circuit breakers and fuses for proper operation		Check emergency hand pump for proper operation if equipped.
	Check all fittings/hoses in power unit for tightness and leaks		Check hydraulic motor sprockets for worn bushings and proper operation
3000	STRUCTURAL COMPONENTS	3000	STRUCTURAL COMPONENTS
	Check for correct operation of the gate UP, DOWN, IN, and OUT.		Check IN/OUT chain for proper adjustment (no more than ½" play)
	Check wiring harness on side of gate for chaffed, frayed, or broken wires.		Check all pivot points for loose, broken, or missing roll pins
	Check wiring harness on side of gate for loose, broken, or missing clamps.		Check UP stops for proper positioning of the platform and adjust as needed.
	Check the ground cable on side of gate for loose or corroded connections.		Check the IN/OUT stops for loose, broken, or missing hardware
	Check hydraulic cylinders for leaks		Check all warning lights for proper operation if equipped
	Check hydraulic cylinder pins for loose, broken, or missing roll pins.		Check rollers for proper operation
	Check Auto Lock mechanism for proper operation. Lubricate and adjust as needed.		Check over-all gate for damage or broken welds and repair as needed.
			Check Compression and Tension Arms for worn bushings
3000	LUBRICATION	12000	PERIODIC CHECK LIST
	Stainless Steel Chain should not require any lubrication. Lubricate Idler Sprockets, Auto-Lock shaft, Cam Rollers, and Cylinder Pins at base end. Level 1 Normal Conditions NLGI #2 Lithium base grease Level 2 Cold Conditions NLGI #1 Lithium base grease DO NOT USE CHASSIS or 5th WHEEL GREASE		Check all pivot point bushings for wear or damage
			Check hydraulic motor sprockets for worn bushings and proper operation.
		15000	PERIODIC CHECK LIST
			Flush hydraulic system and change hydraulic oil
			Clean and repaint as necessary

MAINTENANCE MINDER2® (IF EQUIPPED) READINGS MENU 2

Screen 1 # Lifts	Screen 3 Service Faults	Screen 4 Low Voltage Faults	Screen 6 High Temperature Faults

SIDE GATE PREVENTIVE MAINTENANCE GUIDE

1. Autolock Assy Adjustment & Lube

Spray Lube (with Silicone) on Pockets and Grease Shaft Keepers x (2)

2. Grease Rollers x (4) with Lithium Based # 2 Grease

3. Proper Skid Wear Pad Adjustment x (4) Correct adjustment: 3/16" from track

4. Proper Chain Adjustment



Good Chain Adjustment



Bad Chain Adjustment



Good Skid Wear Pad Adjustment
Correct pad adjustment: 3/16" from track



Bad Skid Wear Pad Adjustment

5. Grease all fittings - See Page 2 for location of fittings

(20 fittings with **SINGLE CHAIN** – 22 fittings with **DUAL CHAIN**)

6. Check Bushings

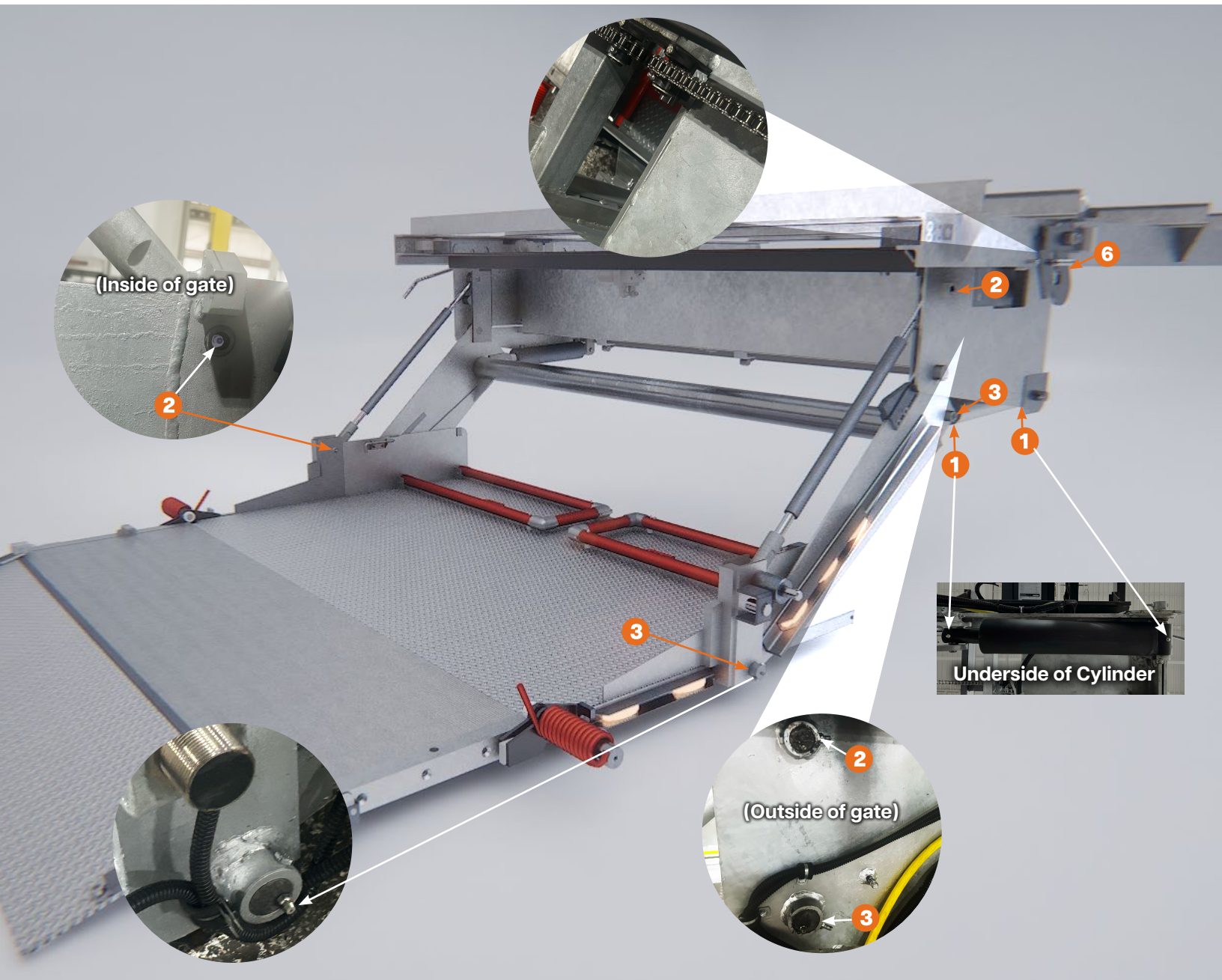
- Platform: Tension Arms, Compression Arms
- Idler Sprockets

7. Inspect all electrical connections for broken, frayed or corrosion

8. Inspect all hardware for broken, missing roll pins, bolts, nuts, fasteners

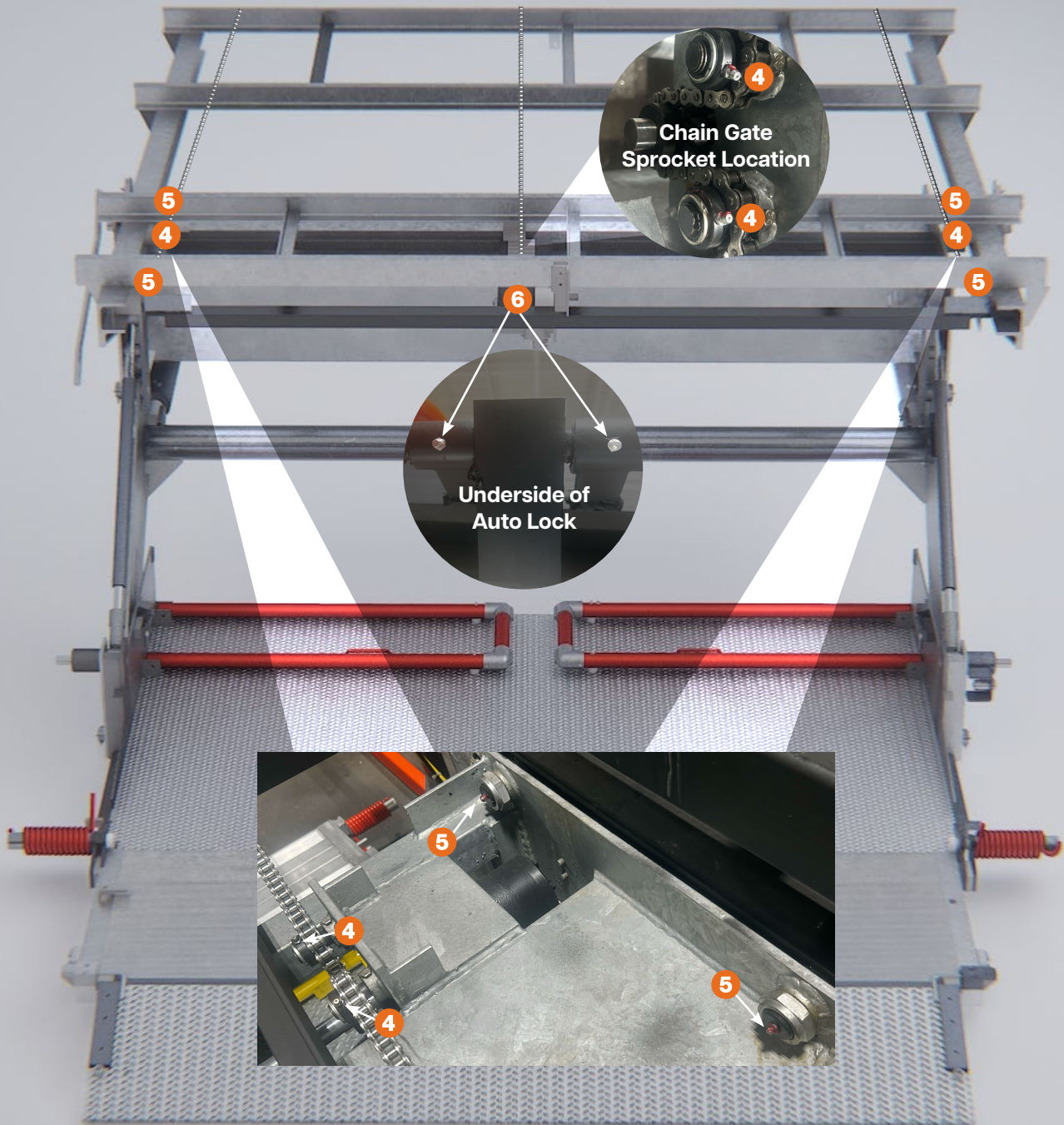
9. Check Hydraulic Oil Level with the platform on the ground. Fill to about 1" from the top of the tank. **See recommended hydraulic oils (P 1.4)**

PM TASK/LUBRICATION/PART LOCATOR



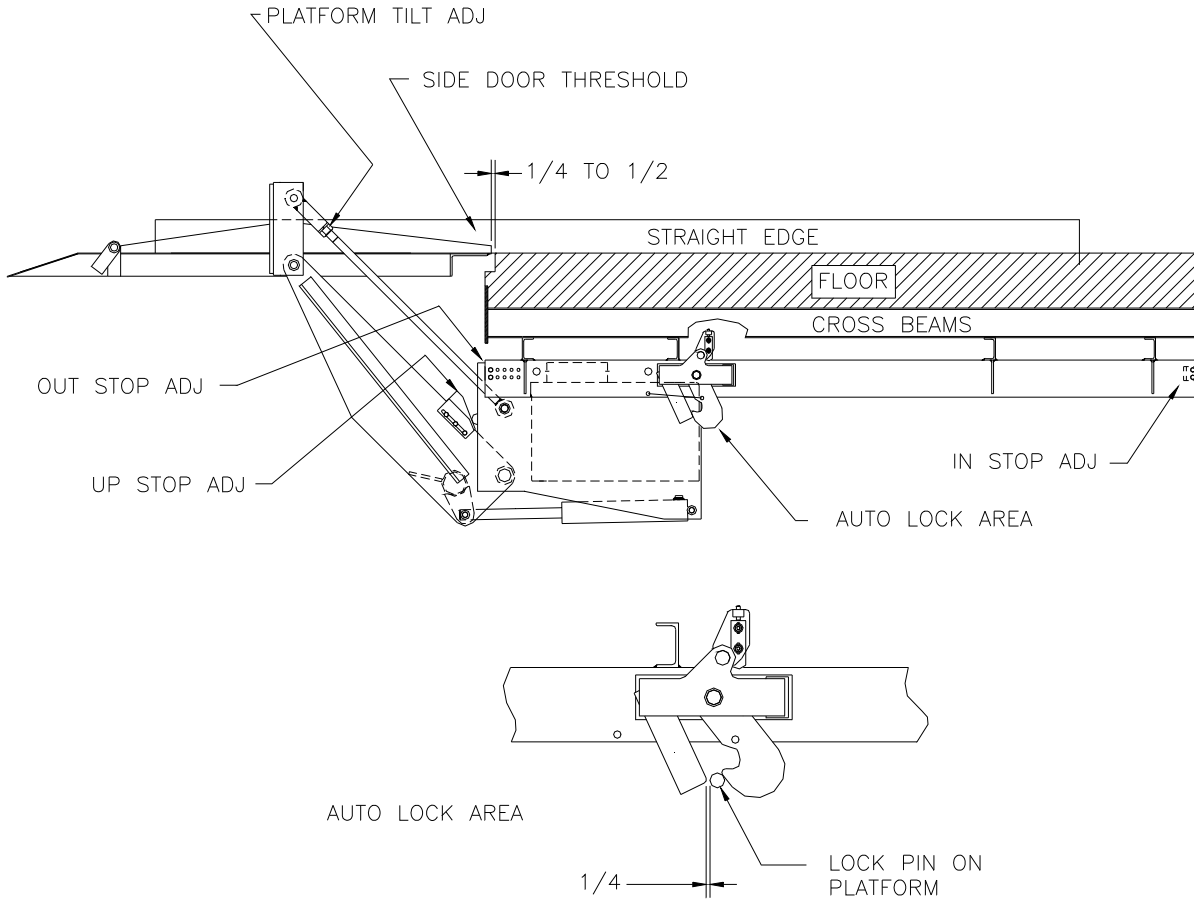
- 1 (2) Lifting Cylinders** (x4 grease fittings) **Lithium Based #2 Grease**
- 2 (2) Tension Arms** (x4 grease fittings) **Lithium Based #2 Grease**
- 3 (2) Compression Arms** (x4 grease fittings) **Lithium Based #2 Grease**
- 6 Auto Lock** **Silicone Spray Lube** lock assembly on both sides of gate

PM TASK/LUBRICATION/PART LOCATOR (CONT)



- 4 (2) Idler Sprockets** (x2 grease fittings) on gates with (1) chain **Lithium Based #2 Grease**
- (4) Idler Sprockets** (x4 grease fittings) on gates with (2) chains **Lithium Based #2 Grease**
- 5 Rollers** (x4 grease fittings) **Grease Rollers with Lithium Based #2 Grease**
- 6 Auto Lock** (x2 grease fittings) **Grease Shaft with Lithium Based #2 Grease**

PLATFORM ADJUSTMENTS



STEP 1: The platform was preset at the factory to be level to the floor of the trailer within $\frac{1}{4}$ ". With a straight edge, check this. If it is okay, proceed to step 2. If not, let the platform down to the ground. Remove the two (2) roll pins and the top Tension Arm pivot pins (one on each side).

NOTE

One full turn moves the tip of the platform $\frac{1}{4}$ " (turn the end in, this moves the tip of the platform up, unscrewing moves the tip of the platform down. Make necessary adjustments. Replace pins, raise the platform up and check. Repeat if necessary. Replace roll pins. **Each side must be adjusted the same amount.**

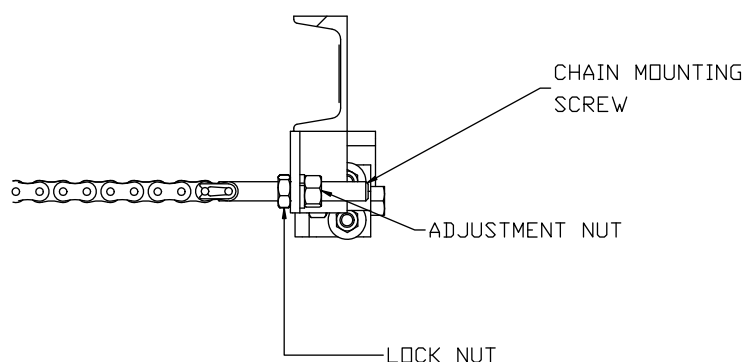
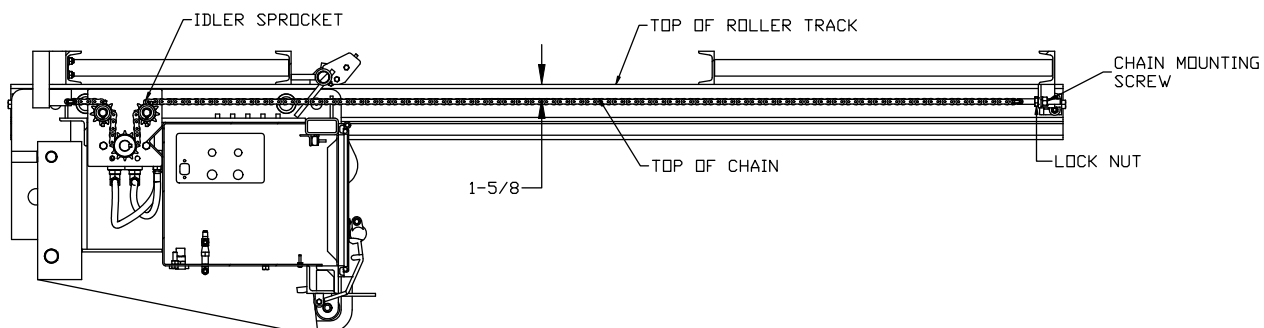
CAUTION

STEP 2: If this adjustment has been made, the IN stops must be adjusted to provide the $\frac{1}{4}$ " clearance with the Auto Lock pin (see lower sketch).

STEP 3: Adjust the OUT stops. The tip of the platform should be $\frac{1}{4}$ " to $\frac{1}{2}$ " from the edge of the threshold.

STEP 4: Adjust the IN stops. See lower sketch and adjust for the $\frac{1}{4}$ " dimension.

PLATFORM ADJUSTMENTS (CONT)



STEP 5: Ensure the platform is fully out before taking chain measurements or adjusting. Measurements should be taken at the halfway distance from the chain mounting screw to the idler sprocket (approximately where the measurement is in the top picture). The chain should have 1/8" to 1/4" of sag. Another way to measure is from the top of the roller track to the top of the chain, which is between 1-5/8" and 1-3/4".

STEP 6: Adjust the chain tension via the Chain Mounting Screw. Loosen both nuts at the same time. Unscrew the lock nut with a few extra threads for tightening. Use the adjustment nut to make the adjustment. To add tension to the chain, rotate the nut clockwise. To loosen chain tension, rotate the nut counterclockwise. To lock the tension adjustment, tighten the lock nut while maintaining the position of the adjustment nut.

NOTE

Ensure the chain is not twisted to ensure sprocket engagement.

NOTE

Chains will stretch a small amount over time. Chain tension should be adjusted as a part of regular maintenance if necessary.

CAUTION

Overtightening the chains will result in the gate seizing during in and out operations, which will prohibit movement.

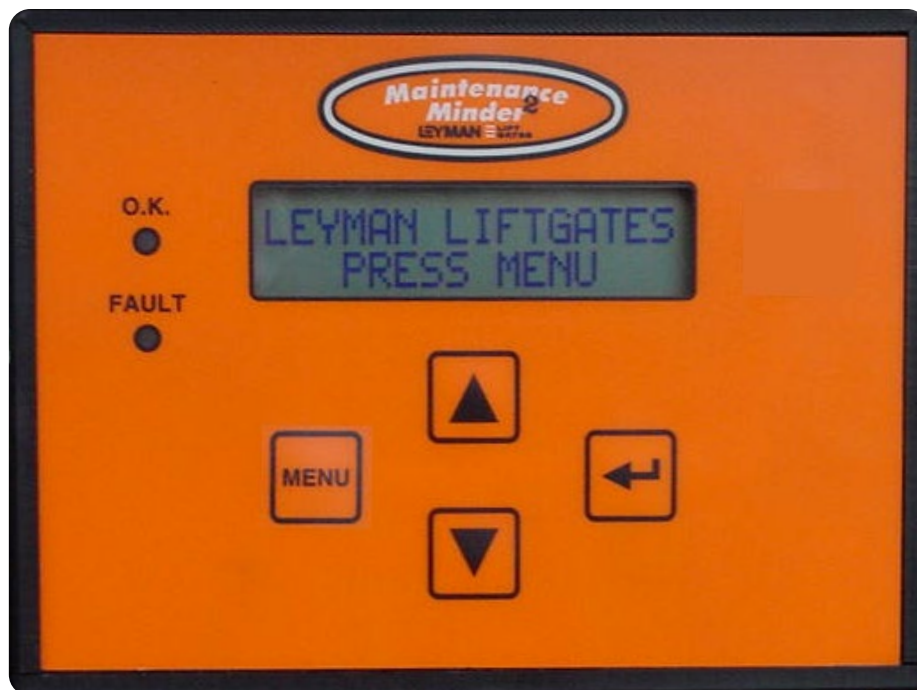


MAINTENANCE MINDER® RESET

RESETTING after MAINTENANCE IS PERFORMED

To **RESET** the **Maintenance Minder2®** after maintenance has been performed:

1. Toggle up or down to **MENU 2**, hit , and toggle down to the "**Reset All Info**" screen.
2. Press and hold the hidden **RESET** button  at top of faceplate.
3. Follow the instructions on the screen regarding a second button, which must be pressed to complete the reset operation.



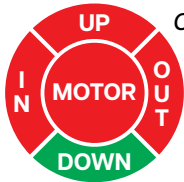


TROUBLE SHOOTING



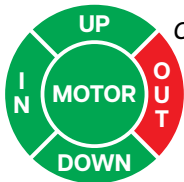
SYMPTOM / REMEDIES

Electronics and Hydraulic Schematics / Maintenance Minder	Page 3.2
Grounding	Page 3.3



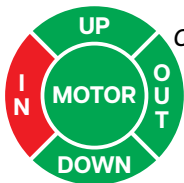
Click Icon For Remedies

1. Gate will **NOT** run **UP/IN/OUT** but goes **DOWN** – **MOTOR NOT RUNNING**Page 3.4



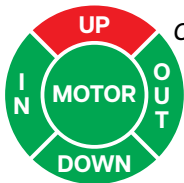
Click Icon For Remedies

2. Gate will run **UP/DOWN/IN** but will **NOT** run **OUT**Page 3.5



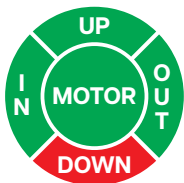
Click Icon For Remedies

3. Gate will run **UP/DOWN/OUT** but will **NOT** run **IN**Page 3.6

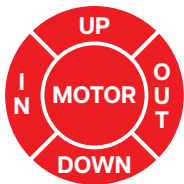


Click Icon For Remedies

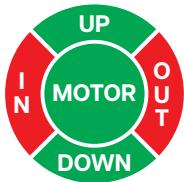
4. Gate will run **IN/OUT/DOWN** but will **NOT** run **UP**Page 3.7



5. Gate will run **UP/IN/OUT** but will **NOT** run **DOWN**Page 3.8



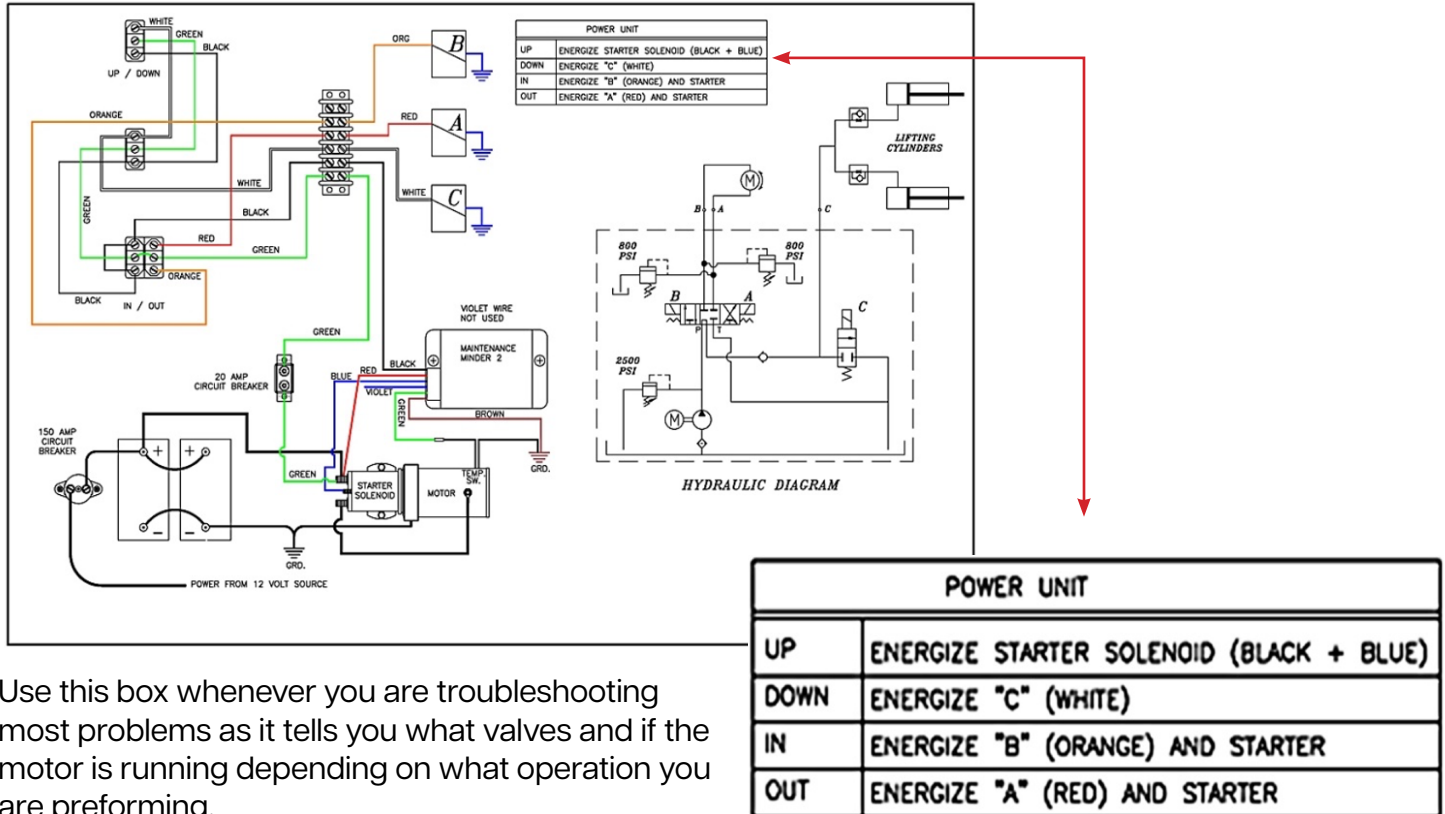
6. Gate will **NOT** run **UP/DOWN/IN/OUT** – **MOTOR NOT RUNNING**Page 3.9



6. Gate will **NOT** run **IN/OUT** – **MOTOR RUNS SOUNDS UNDER PRESSURE**Page 3.10

ELECTRIC AND HYDRAULIC SCHEMATICS/MM2®

Laminated on the inside of the power unit door is a wire and hydraulic schematic. Also, there is a box on the schematic that lets you know what color wire each valve and motor is and which are activated so you know where to look if the gate is having a particular problem.



Use this box whenever you are troubleshooting most problems as it tells you what valves and if the motor is running depending on what operation you are performing.

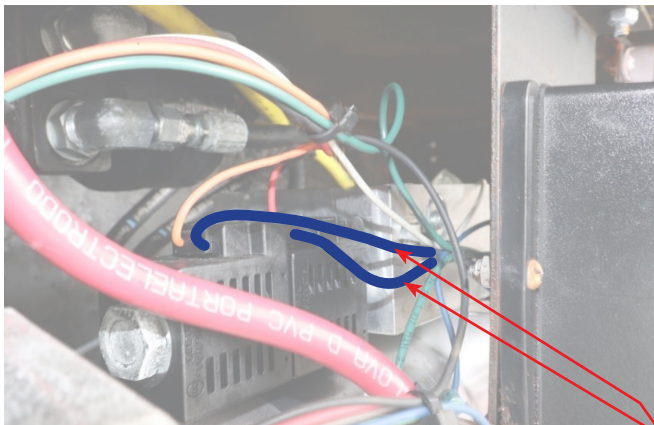


Maintenance Minder2 Left Hand Light Codes

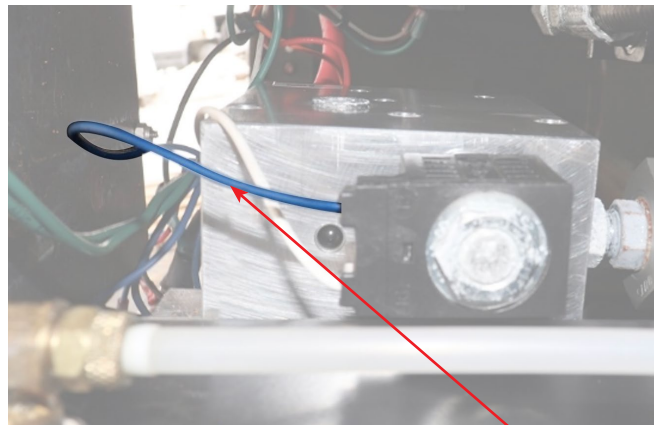
1. Doorbelling: This is caused by flipping a switch that runs the motor more than once rapidly which causes the motor to shut down and not run. Wait 2 to 3 seconds then run the gate again.
- 2 OK: This flashing green whenever you operate the switches to let you know everything is working properly.
3. Fault: The light becomes red to let you know a fault has happened. The screen also comes on to let you know what fault it was but only stays on for 30 seconds.
4. Service Faults: This comes on after 3000 Lifts to let you know that a PM is due. It will also beep every lift past 3000 but does not stop the operation of the gate.

GROUND WIRES

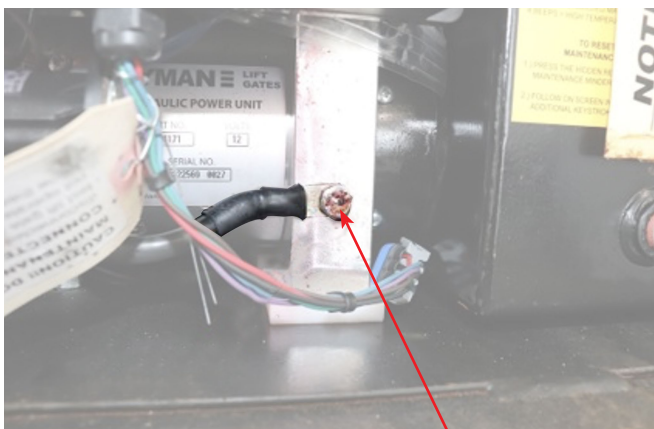
NOTE: Whenever troubleshooting a gate first make sure the batteries are fully charged, all connections are clean, tight, and all ground are secure



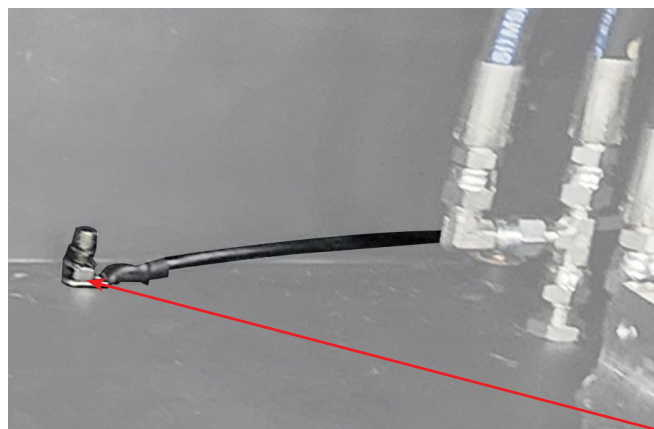
"A and B" Valve Ground Wires (Blue Wires)



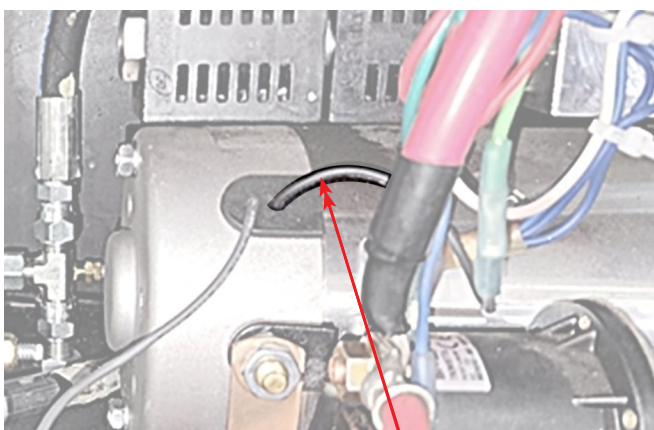
"C" Valve Ground Wire (Blue Wire)



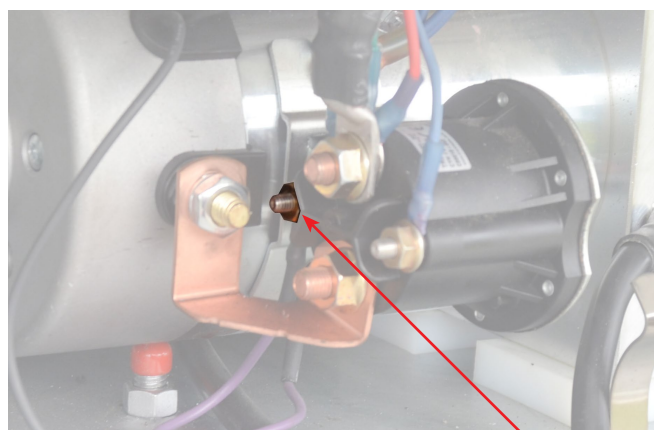
Ground to Side of Power Unit



Ground from side of Power Unit to stud in box

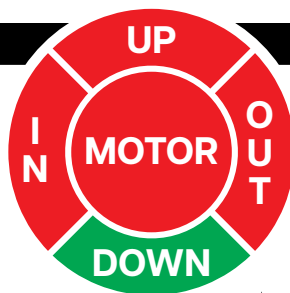


Motor Thermister Ground



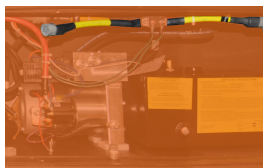
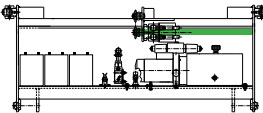
Small post starter solenoid ground

Condition / Recommended Action


1:1

Check voltage at the test point inside the power unit on the **BLACK** wire for 12V by trying to run the gate up, in or out. If you have voltage of 12 volts or higher at the **BLACK** wire at the test point, then switches and **YELLOW** wire harness from gate to the in & out box are good.

Test Point in Power Unit Box



- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire



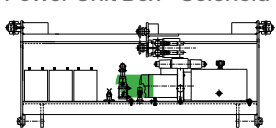
Cover

Test Point

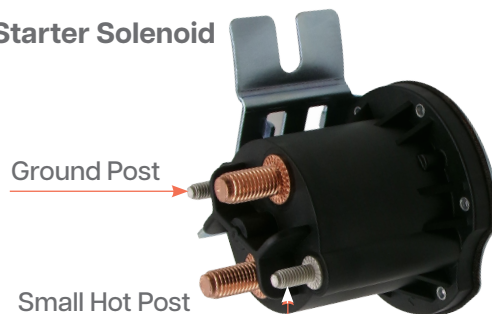
1:2

Check to see if you have voltage on the small **BLUE/BLACK** wire on the starter solenoid when trying to run the gate up, in, or out. If you don't have voltage on the small **BLUE/BLACK** wire then more than likely the MM2 is bad or the pin on the MM2 plug is not making connection.

Power Unit Box - Solenoid



Starter Solenoid



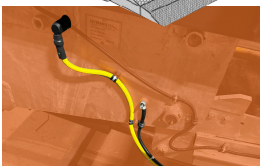
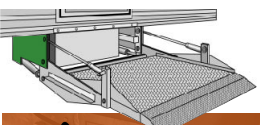
Ground Post

Small Hot Post

1:3

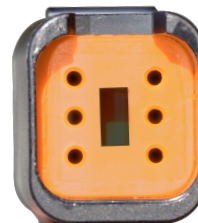
If there is no voltage at the **BLACK** wire on the test plug, check continuity from the **BLACK** wire on each side of the **YELLOW** wiring harness. Unplug the **YELLOW** wire from the outside of the gate and the outside of the in & out switch box. If you have no continuity on the **BLACK** wire change the **YELLOW** cable wiring harness.

Yellow Switch Wire and Ground



Duetsch Connection Wire Layout

- White Wire
- Orange Wire
- Red Wire

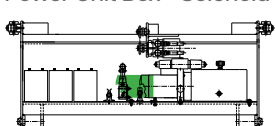


- No Connection
- Black Wire
- Green Wire

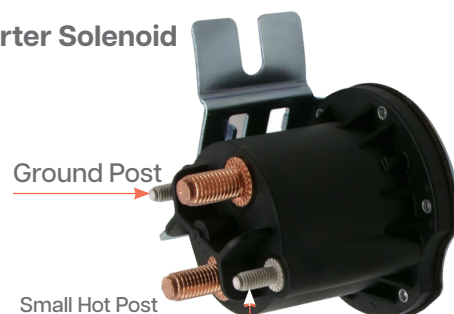
1:4

Check the condition of the starter solenoid. Use a jumper wire from the positive side of the battery to the small **BLUE/BLACK** wire on the small hot post on the starter solenoid. If the starter solenoid works and the motor runs then it could be the MM2 is not working correctly. If the starter solenoid doesn't run then the starter solenoid is bad.

Power Unit Box - Solenoid



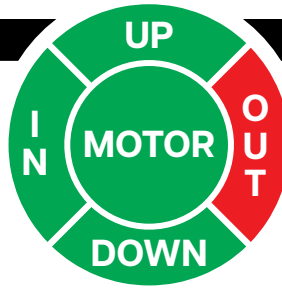
Starter Solenoid



Ground Post

Small Hot Post

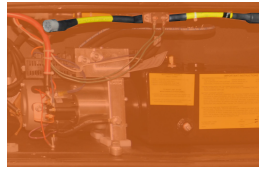
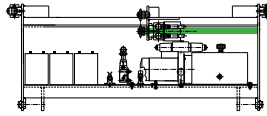
Condition / Recommended Action



2:1

Check voltage at the test point inside the power unit on the **RED** wire for 12V by trying to run the gate out. If you have voltage at the **RED** wire at the test point, then switches and **YELLOW** wiring harness from gate to the in & out box are good.

Test Point in Power Unit Box



- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire



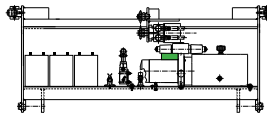
Test Point

Cover

2:2

If you have 12V, check coil on double stem. Easy way to check the coil is to swap coil "A" & "B". Push up on the In & Out switch if the gate runs out then the coil is bad. If the gate doesn't move and you hit up on the In & Out switch and the gate does not run out then the stem is bad.

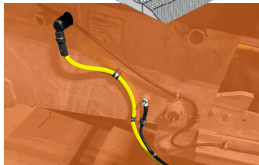
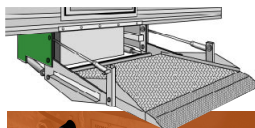
Coils for In/Out in Power Unit Box



2:3

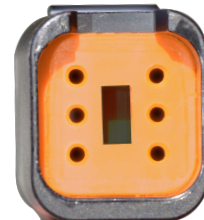
If there is no voltage at the **BLACK** wire on the test plug, check continuity from the **BLACK** wire on each side of the **YELLOW** wiring harness. Unplug the **YELLOW** wire from the outside of the gate and the outside of the in & out switch box. If you have no continuity on the **BLACK** wire change the **YELLOW** cable wiring harness.

Yellow Switch Wire and Ground



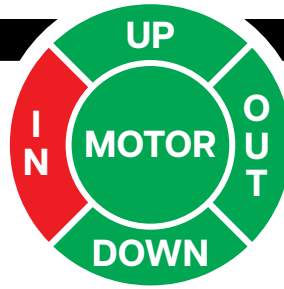
Deutsch Connection Wire Layout

- White Wire
- Orange Wire
- Red Wire



- No Connection
- Black Wire
- Green Wire

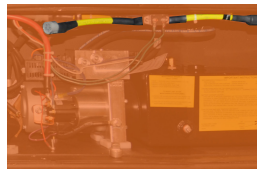
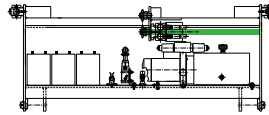
Condition / Recommended Action



3:1

Check voltage at the test point inside the power unit on the **RED** wire for 12V by trying to run the gate out. If you have voltage at the **RED** wire at the test point, then switches and **YELLOW** wiring harness from gate to the in & out box are good.

Test Point in Power Unit Box



- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire



Test Point

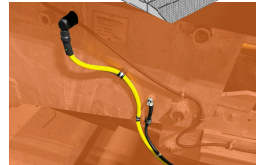
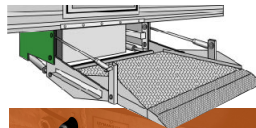


Cover

3:2

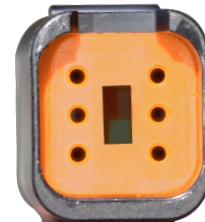
If there is no voltage at the **BLACK** wire on the test plug, check continuity from the **BLACK** wire on each side of the **YELLOW** wiring harness. Unplug the **YELLOW** wire from the outside of the gate and the outside of the in & out switch box. If you have no continuity on the **BLACK** wire change the **YELLOW** cable wiring harness.

Yellow Switch Wire and Ground



Deutsch Connection Wire Layout

- White Wire
- Orange Wire
- Red Wire

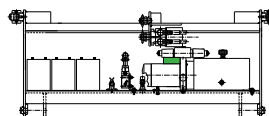


- No Connection
- Black Wire
- Green Wire

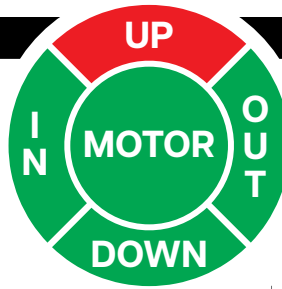
3:3

If you have 12V, check coil on double stem. Easy way to check the coil is to swap coil "A" & "B". Push up on the In & Out switch if the gate runs out then the coil is bad. If the gate doesn't move and you hit up on the In & Out switch and the gate does not run out then the stem is bad.

Coils for In/Out in Power Unit Box



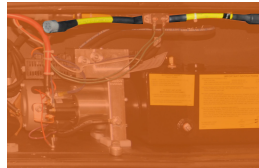
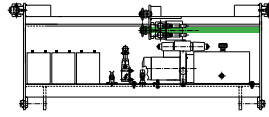
Condition / Recommended Action



4:1

Check voltage at the **BLACK** wire at the test point inside the power unit when pushing up on the Up & Down switch. If you don't have 12V check continuity at the switches.

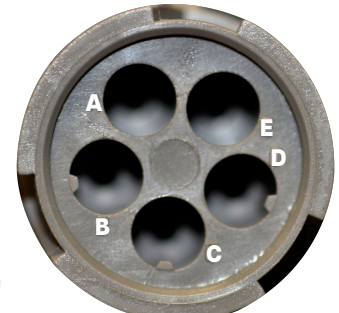
Test Point in Power Unit Box



- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire



Cover

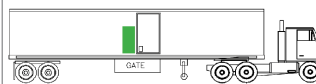


Test Point

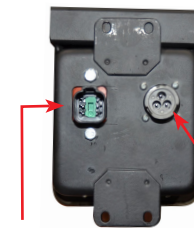
4:2

To check continuity at the switches at the back of the In & Out box disconnect the plug at back of the box for the **YELLOW** wire. Check continuity at the up & down switch in the in & out box between the **GREEN** and **BLACK** wire when pushing up on the up & down switch in the box. If you do not get continuity then the switch inside the in & outbox is bad. But if all three up and down switches two in the sidewall of the trailer and the one in the up and down box don't work then the black wire inside the in & out box is bad.

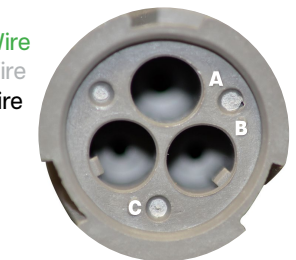
Test Point for Switches



- A - Green Wire
- B - White Wire
- C - Black Wire



Yellow Wire Plug

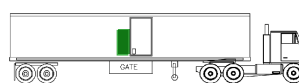


Wire to switches inside trailer wall

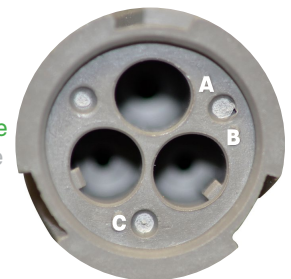
4:3

To check continuity at the switches in the side wall of the trailer at the back of the In & Out Box disconnect the plug at back of the box that goes up into the side wall of the trailer. Check continuity at the up & down switch in the in & out box between the **GREEN** and **BLACK** wire when pushing up on the up & down switch. If you get continuity then the wire and the bottom switch are good.

Test Point for Switches



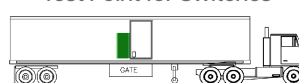
- A - Green Wire
- B - White Wire
- C - Black Wire



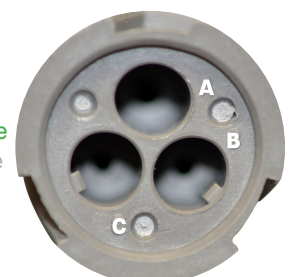
4:4

Do the same test for the upper switch. If you get continuity then wiring and switch is good. If neither switch works then the wire from the in & out box to the switches is bad.

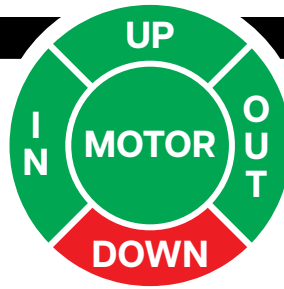
Test Point for Switches



- A - Green Wire
- B - White Wire
- C - Black Wire



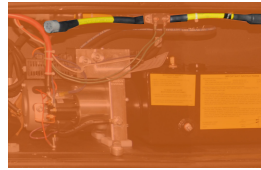
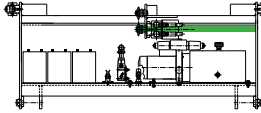
Condition / Recommended Action



5:1

Check voltage at the test point inside the power unit on the **WHITE** wire for 12V by trying to run the gate in. If you have voltage at the **WHITE** wire at the test point, then switches and **YELLOW** wiring harness from gate to the in & out box are good.

Test Point in Power Unit Box



- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire



Cover

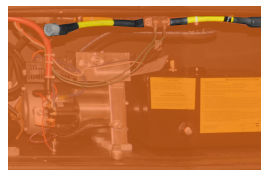
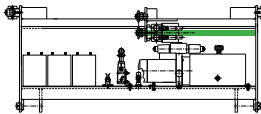


Test Point

5:2

If there is no voltage at the **WHITE** wire, check continuity from the **WHITE** wire on each side of the **YELLOW** wiring harness. Unplug the **YELLOW** wire from the outside of the gate and the outside of the in & out switch box. If you have no continuity on the **WHITE** wire change the **YELLOW** cable wiring harness.

Test Point in Power Unit Box



- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire

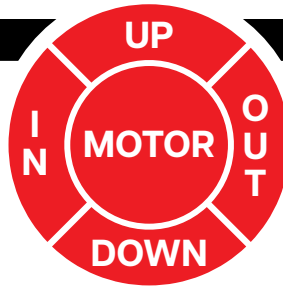


Cover



Test Point

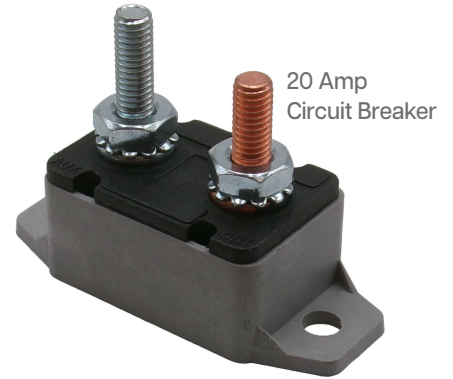
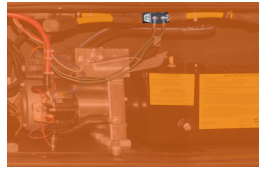
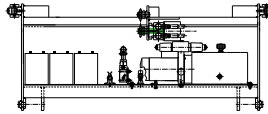
Condition / Recommended Action



6:1

Check 20 Amp circuit breaker continuity to make sure the circuit breaker isn't bad.

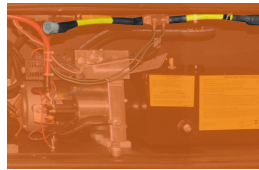
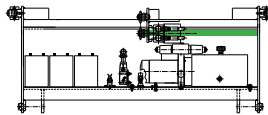
Test Point in Power Unit Box



6:2

Check **GREEN** for power at the test point in the power unit.

Test Point in Power Unit Box



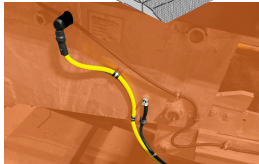
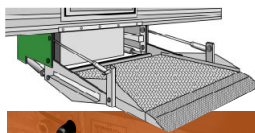
- A - White Wire
- B - Orange Wire
- C - Red Wire
- D - Black Wire
- E - Green Wire



6:3

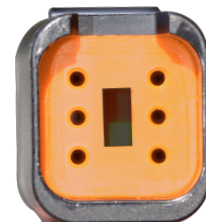
If **NO** power at the test point, unplug the **YELLOW** wire from the outside of the gate and the outside of the in & out switch box. If you have no continuity on the **GREEN** wire change the yellow cable wiring harness.

Yellow Switch Wire and Ground



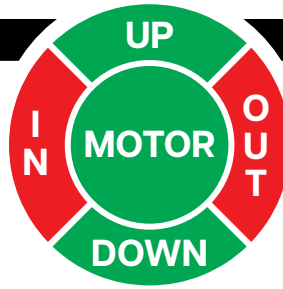
Deutsch Connection Wire Layout

- White Wire
- Orange Wire
- Red Wire



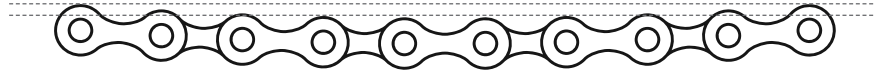
- No Connection
- Black Wire
- Green Wire

Condition / Recommended Action


7:1

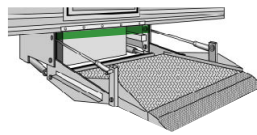
In & Out chain may be too tight. Chain should have a 1/8" to 1/4" drop in the middle of the chain when all the way out.

1/8" to 1/4"


7:2

Slide pads may be too tight on the side walls of the track. Loosen slide pads then re-adjust them. To do so have the gate all the way in tighten rear pads until they hit the side wall then back out 1 full turn. Then run the gate all the way out and do the same on the front pads.

Slide Pad Adjustment

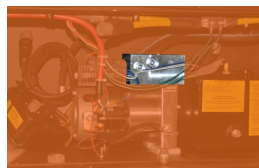
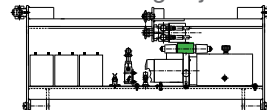


1. Run gate out all the way until it hits the front stops to adjust the front slide pads
2. Run the bolts in on each side of the gate in front until it hits the side of the track. Then back out one full turn each one.
3. Then run the gate in all the way until it hits the rear stops to adjust the rear slide pads.
4. Run the bolts in on each side of the gate in front until it hits the side of the track. Then back out one full turn each one.

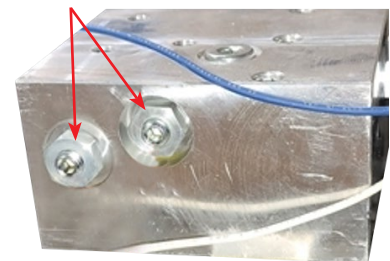

7:3

Pressure setting on the in & out chain may be too low. Pressure should be between 800 and 850 PSI. Check and adjust the pressure as needed. **DO NOT ADJUST PRESSURE WITHOUT USING PRESSURE GAUGES AS THIS MAY CAUSE DAMAGE TO THE CHAIN.**

Pressure Setting Adjustment



Pressure Setting Valves for In & Out Operations



Loosen locking nut. Screw set screw in to raise pressure. Out to lower the pressure. Hold set screw in place and retighten nut after setting.



DIAGRAMS



LEYMAN

LIFT GATES

PARTS

Legend™ TLS®

TLS3510RL

TLS4500RL

TLS4510RL

Hide-A-Way® Trailer Side Gates

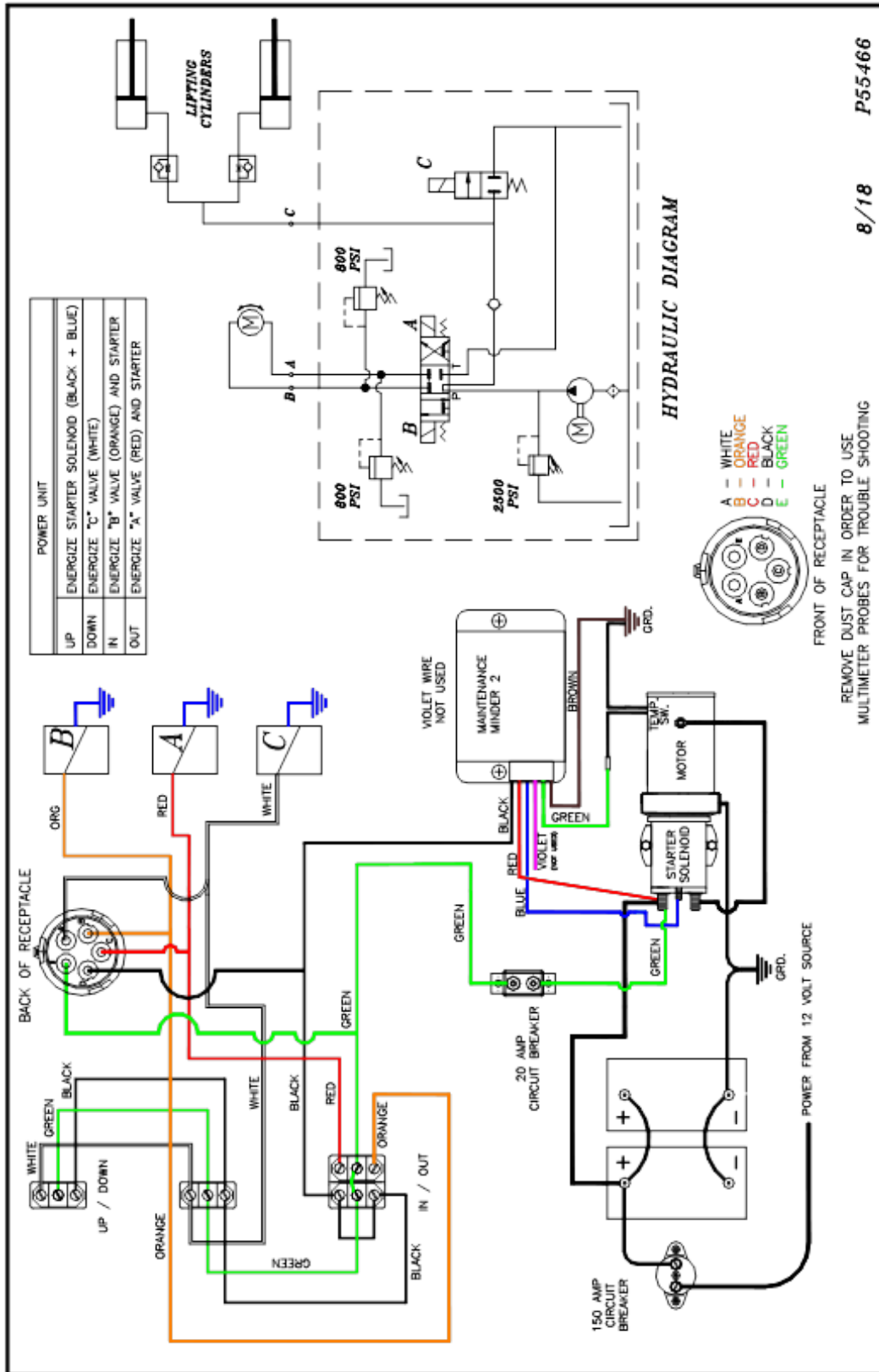


Rev1.0_07/26

DIAGRAMS

WIRING DIAGRAM – BUCHER (MM2 + TEMP SW.)

TLS3510RL / TLS4510RL



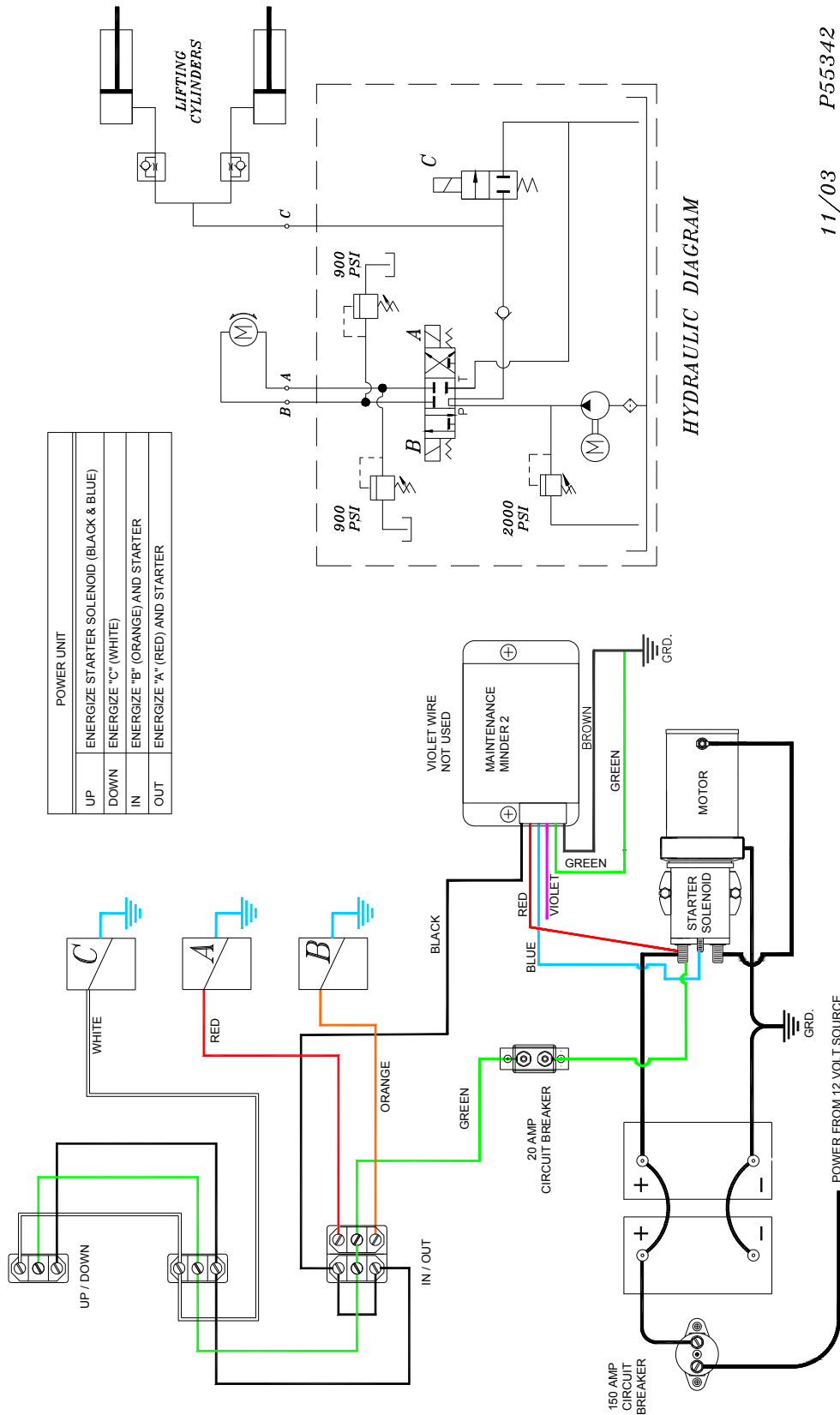
WIRING DIAGRAM – SPX WITH SMART START SOLENOID



DIAGRAMS

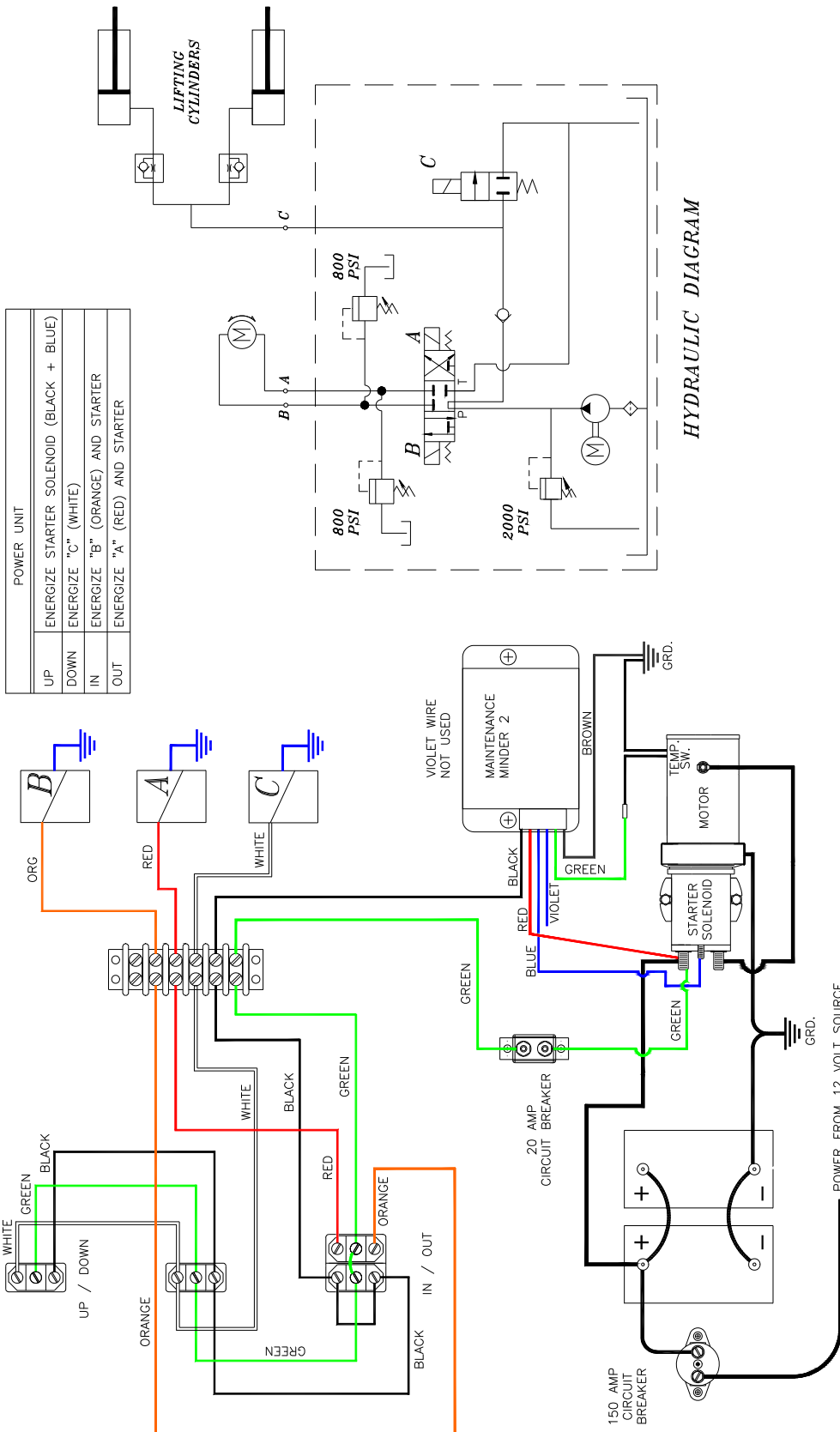
WIRING DIAGRAM – SPX WITH MAINTENANCE

MINDER 2 TLS4000RL – GOLD MOTOR AND NO TEMPERATURE SWITCH

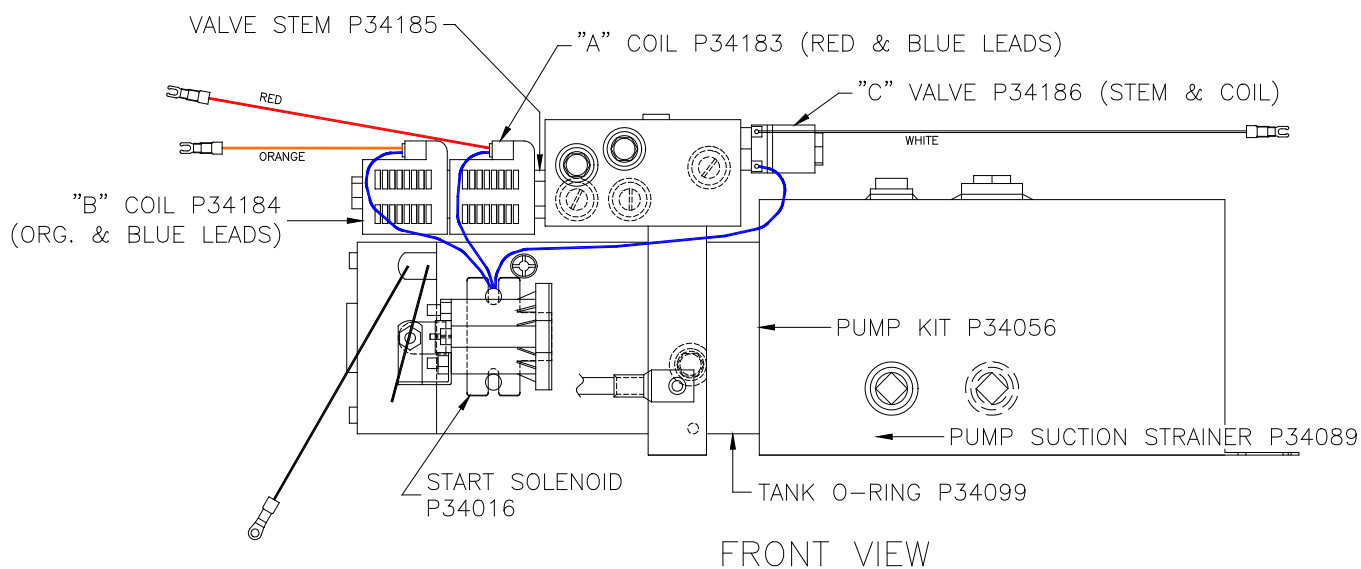
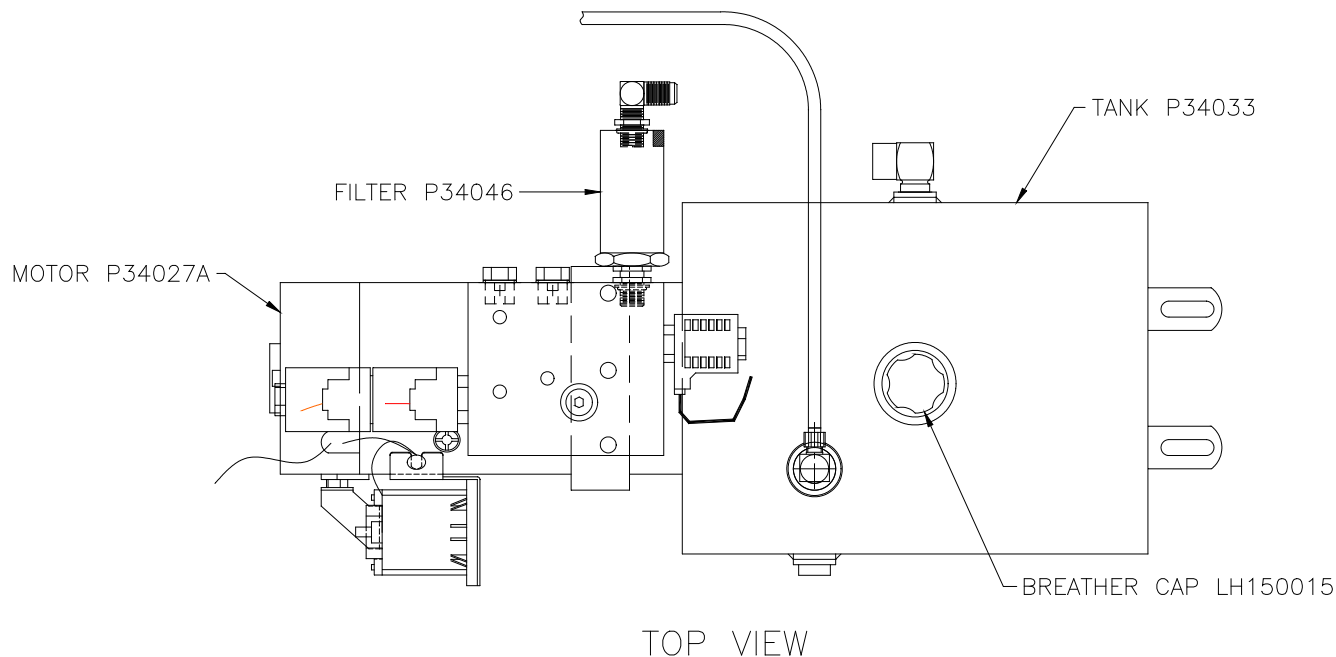


DIAGRAMS

WIRING DIAGRAM – SPX OR MONARCH (MM2 + TEMP SW.) TLS4000RL



BUCHER POWER UNIT

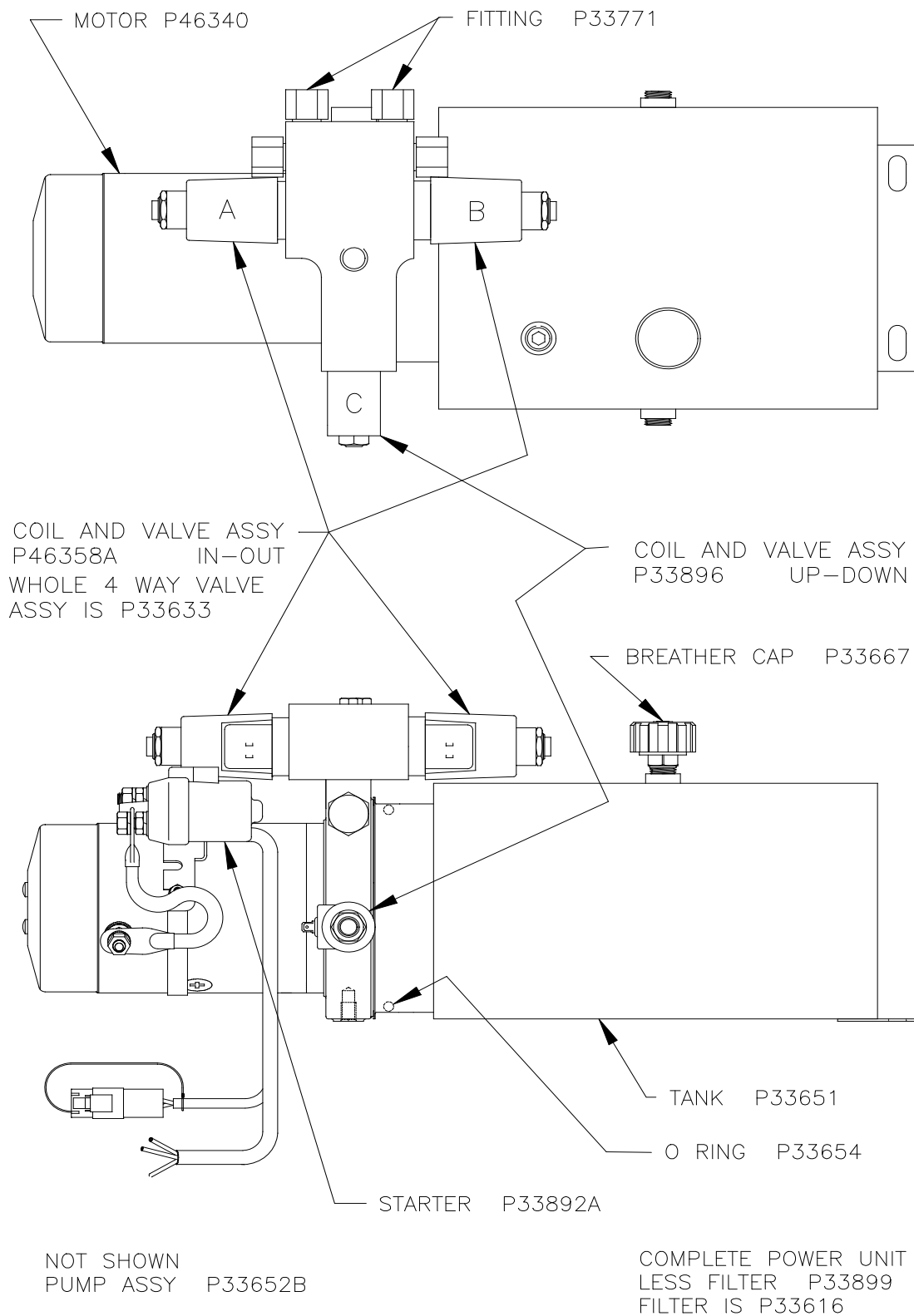


COMPLETE POWER UNIT (LESS FILTER AND FITTINGS) P34171
 MAINTENANCE MINDER 2® CONTROLLER P46608H

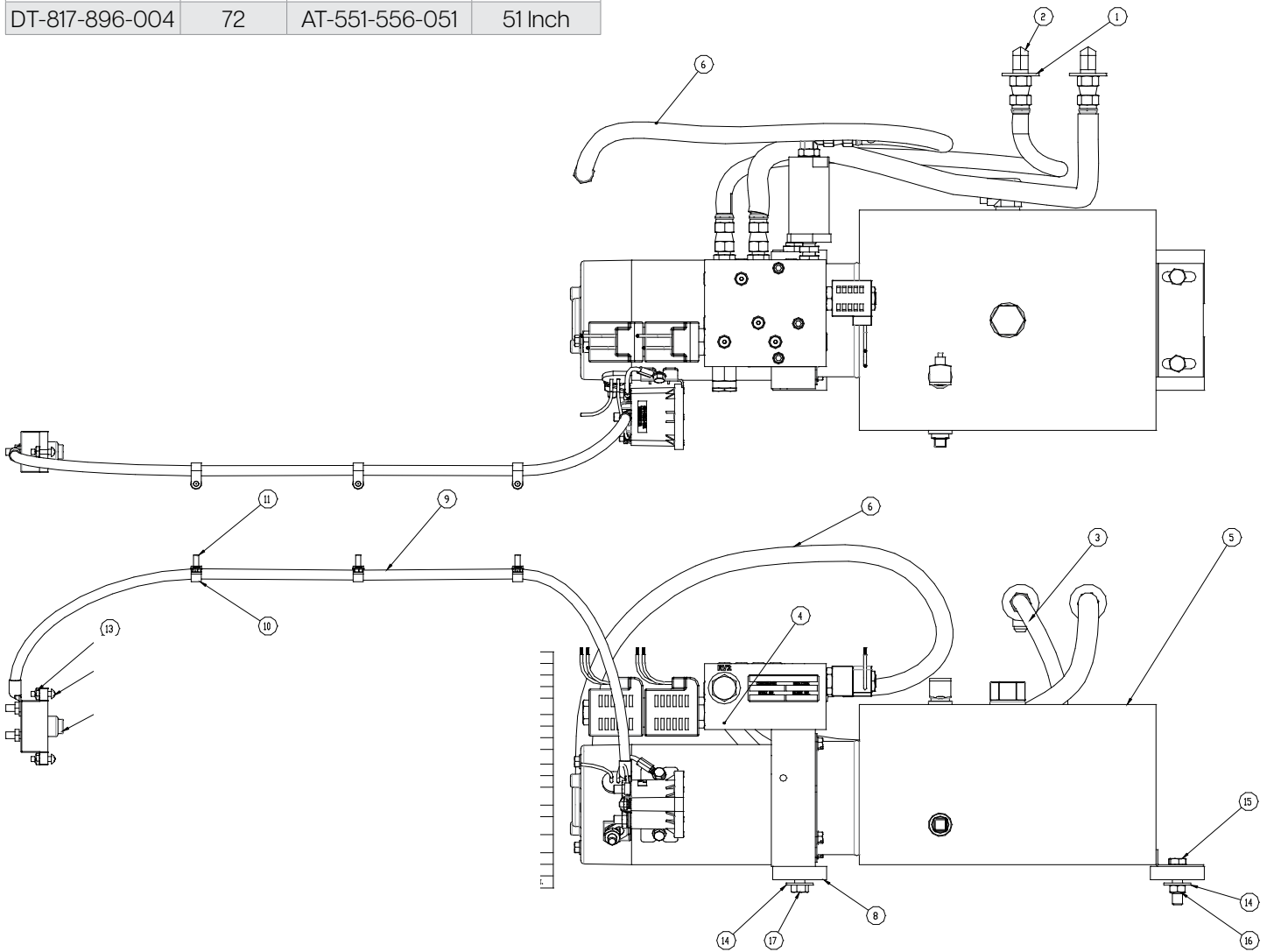
DIAGRAMS

POWER UNIT REPLACEMENT PARTS TLS4000RL

Fenner (Gold Motor) And Smart Start Solenoid



PART NUMBER	GATE WIDTH	ITEM 9 BATTERY CABLE SUB ASSEMBLY	ITEM 9 LENGTH
DT-817-896-001	42	AT-551-556-036	36 Inch
DT-817-896-002	48	AT-551-556-039	39 Inch
DT-817-896-003	60	AT-551-556-045	45 Inch
DT-817-896-004	72	AT-551-556-051	51 Inch



DIAGRAMS

HYDRAULICS - INTERIOR PARTS TLS3510RL/TLS4510RL – cont

INDEX NUMBER	QTY	PART NUMBER	DESCRIPTION	COMMENTS
1	2	P26004	Flat Washer	
2	2	P34106	Bulkhead Elbow	w/Nut
3	1	AT-501-354-018	Hydraulic Line 18"	
4	1	AT-501-354-023	Hydraulic Line 23"	
5	1	CA-501-443	Bucher Power Unit	
6	1	AT-501-354-027	Hydraulic Line 27"	
7	1	P46864	Circuit Breaker	150 AMP
8	4	AP-817-838	Plastic Space	
9	1	AT-551-771-055	2 Gauge Battery Cable Assembly	
10	3	P46250	Loop Clamp	
11	3	P17518	Self Tapping Screw	10-32 X 1/2
12	2	P19534	Round Head Machine Screw	10-24 X 3/4
13	2	P23504	Lock Nut	10-24
14	4	P46501	Flat Washer	3/8
15	2	P10030	Hex Bolt	3/8-16 X 1-1/2
16	2	P23501	Lock Nut	3/8-16
17	2	P10512	Hex Bolt	3/8-16 X 1-1/4



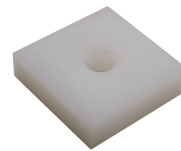
Flat Washer
P26004



Bulkhead Elbow
P34106



Circuit Breaker
P46864



Plastic Space
AP-817-838



Loom Clamp
P46250



Self-Tap Screw
P17518



Round Head Machine Screw
P19534



Lock Nut
P23504



Flat Washer
P46501



Self-Tap Screw
P10030



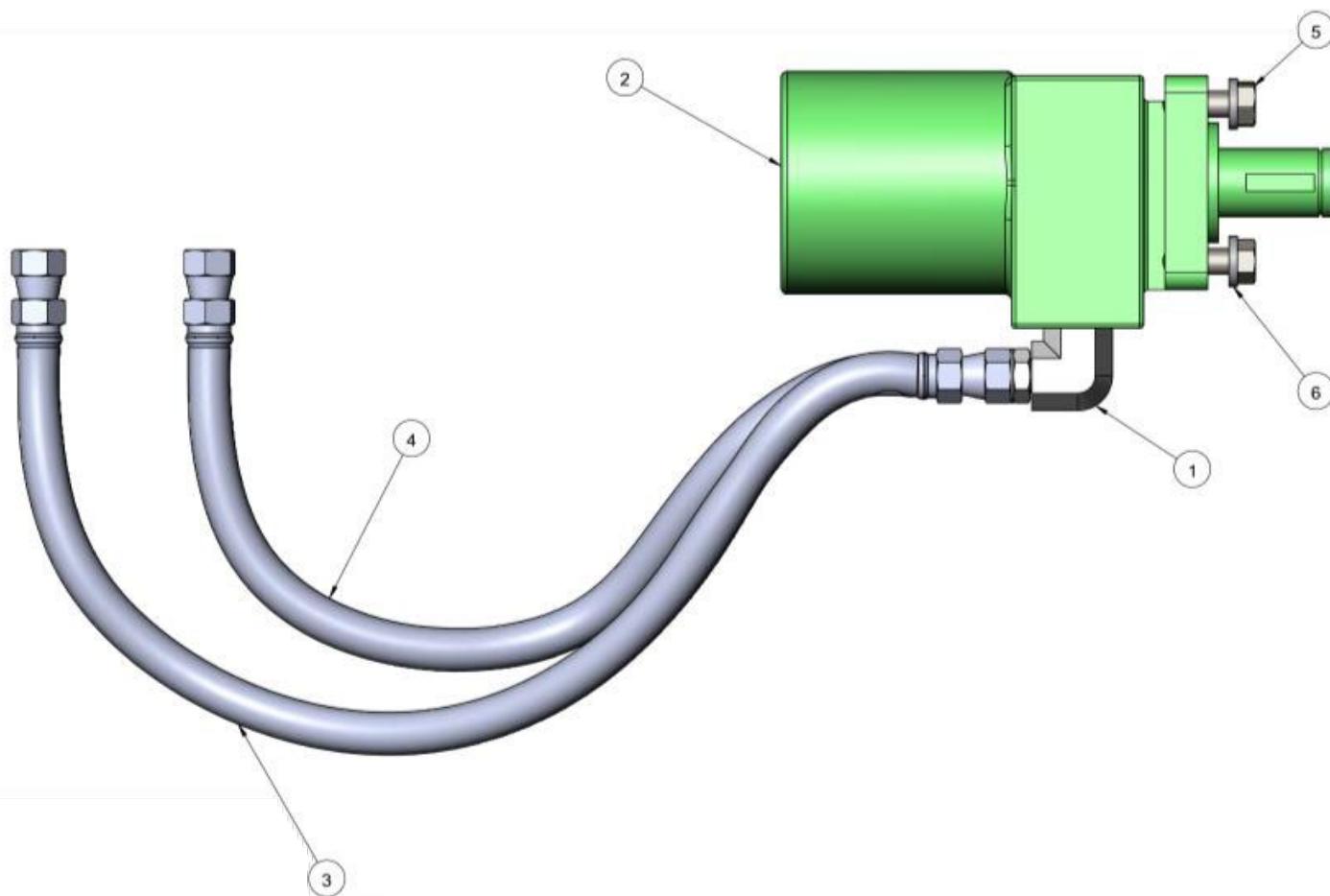
Lock Nut
P23501



Hex Bolt
P10512

DIAGRAMS

HYDRAULICS - INTERIOR PARTS TLS3510RL/TLS4510RL – cont



ITEM NUMBER	QTY	PART NUMBER	DESCRIPTION	MATERIAL SIZE
1	2	P34204	90° Elbow	JIC 10 - JIC 06
2	1	P33625	Hydraulic Motor	
3	1	AT-501-354-020	Hydraulic Line 3/18 Diameter – 20' Long	
4	1	AT-501-354-016	Hydraulic Line 3/18 Diameter – 16' Long	
5	4	P11021	HHCS	3/8-16 x LG, Gr 5 Plated
6	4	P26017	Lock Washer	3/8



90° Elbow
P34204



Hydraulic Motor
P33625



Hydraulic Line 3/18
Diameter – 20' Long
AT-501-354-020



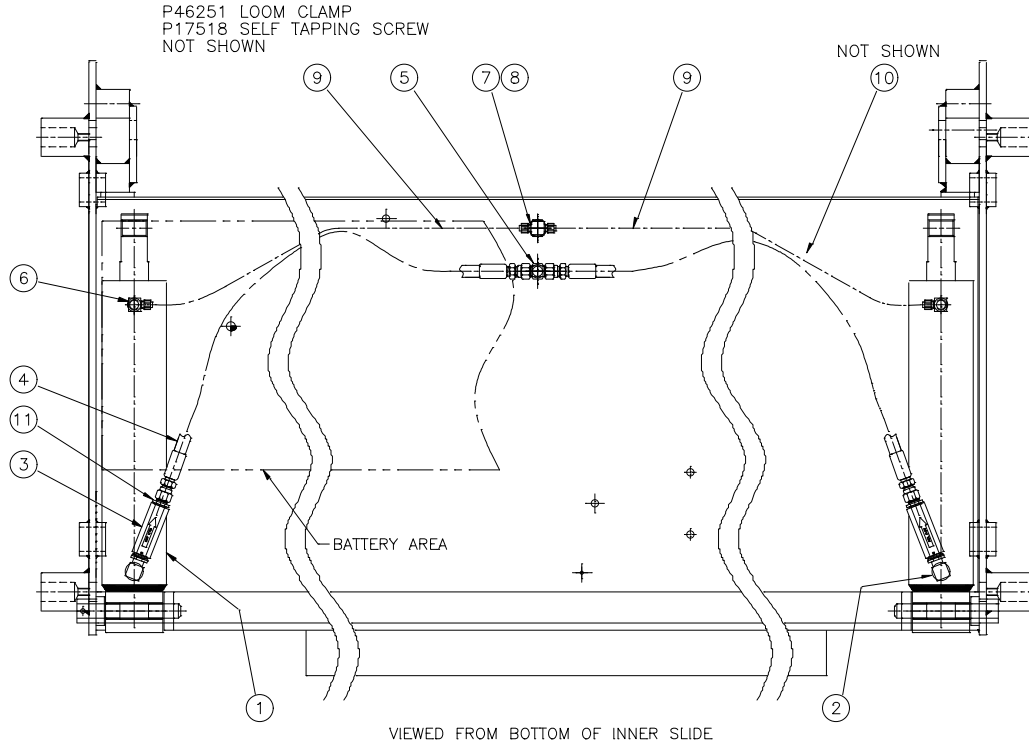
HHCS
P11021



Lock Washer
P26017

DIAGRAMS

HYDRAULICS BOTTOM SIDE PARTS TLS3510RL/TLS4510RL



INDEX #	QTY	PART #	DESCRIPTION	COMMENTS
1	2	P34182	Hydraulic Cylinder	3" Bore x 12" Stroke – Seal Kit P34217
2	2	P34041	Male Elbow	SAE O-RING (M) – SAE O-RING (M)
3	2	P34161	Flow Control	2.0 GPM SAE O-RING
4	2	See Chart	Hydraulic Line	
5	1	P34105	Bulkhead Tee	
6	2	P33932	Brass Male Elbow	
7	1	P33699	Brass Tee	1/4 NPT TO 1/4 TUBE
8	1	P33617	Reducer	3/8 NPT – 1/4 NPT
9	2	See Chart	1/4 " Poly Tube	
10	4	P36335	Wire Tie	
11	2	P34044	Adapter	SAE O-RING (M) - JIC (M)



Hydraulic Cylinder
P34182



Male Elbow
P34041



Flow Control
P34161



Bulkhead Tee
P34105



Brass Male Elbow
P33932



Brass Tee
P33699



Reducer
P33617

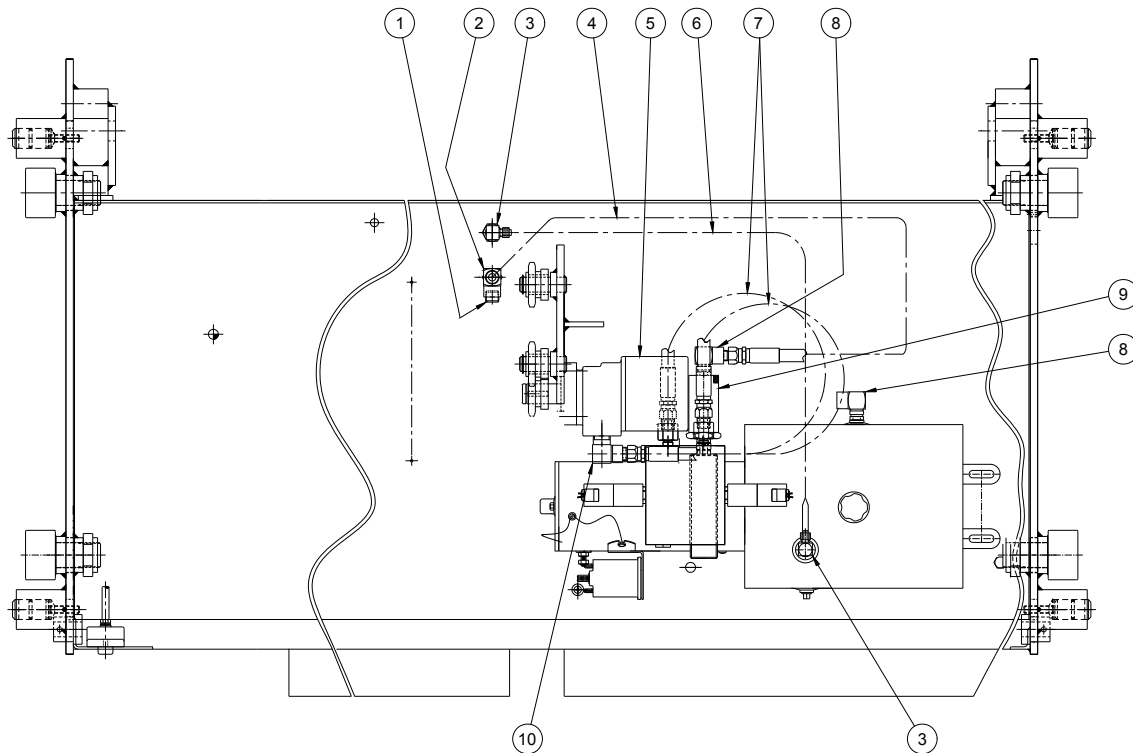


Wire Tie
P46335

GATE WIDTH	ITEM 4 HYDRAULIC LINE W/ENDS	ITEM 9 POLY TUBE
42	AT-501-354-027	P33702-021
48	AT-501-354-030	P33702-028
60	AT-501-354-035	P33702-034
72	AT-501-354-040	P33702-037

DIAGRAMS

HYDRAULICS BOTTOM SIDE PARTS TLS4500RL



INDEX #	QTY	PART #	DESCRIPTION	COMMENTS
1	1	P34044	Cap Nut	JIC 9/16-18
2	1	P34048	Tee	JIC 9/16-18 M-M-F
3	2	P33932	Brass Male Elbow	3/8NPT TO 1/4" HOSE
4	1	AT-501-354-027	Hydraulic Hose	3/8 w/ JIC ENDS
5	1	P33635	Hydraulic Motor	
6	1	P33702-026	1/4" Poly Tube	
7	2	AT-501-292-020	Hydraulic Hose	1/4 NPT – 3/8 NPT
8	2	P34020	Elbow	SAE O-RING - JIC
9	1	P34046	Inline Filter	
10	2	P33202	Street Elbow	1/2(M) TO 3/8(F)



Cap Nut
P34044



Tee
P34048



Brass Male Elbow
P33932



Elbow
P34020

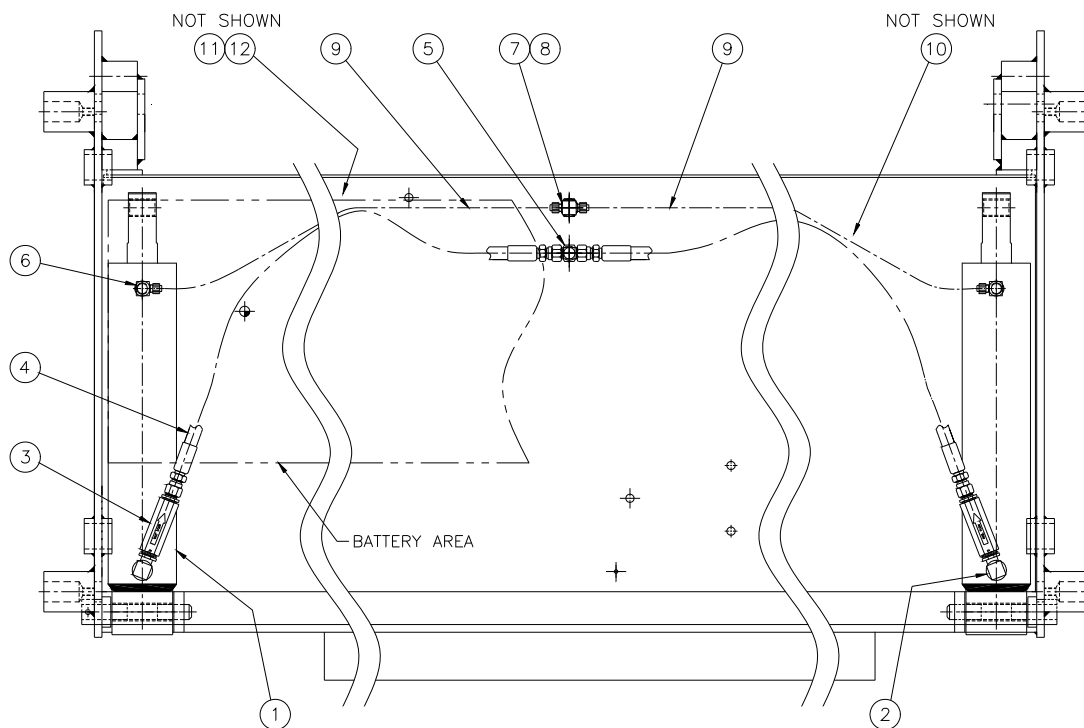


Inline Filter
P34046



Street Elbow
P33202

HYDRAULICS BOTTOM SIDE PARTS TLS4500RL



INDEX #	QTY	PART #	DESCRIPTION	COMMENTS
1	2	P34182	Hydraulic Cylinder	3" BORE x 12" STROKE
2	2	P34041	Male Elbow	SAE O-RING (M) – SAE O-RING (M)
3	2	P34161	Flow Control	2.0 GPM
4	2	See Chart	Hydraulic Line	
5	1	P34105	Bulkhead Tee	
6	2	P33932	Brass Male Elbow	
7	1	P33699	Brass Tee	1/4 NPT TO 1/4 TUBE
8	1	P33617	Reducer	3/8 NPT – 1/4 NPT
9	2	See Chart	1/4 " POLY TUBE	
10	4	P46335	Wire Tie	



Hydraulic Cylinder
P34182



Male Elbow
P34041



Flow Control
P34161



Bulkhead Tee
P34105



Brass Male Elbow
P33932



Brass Tee
P33699



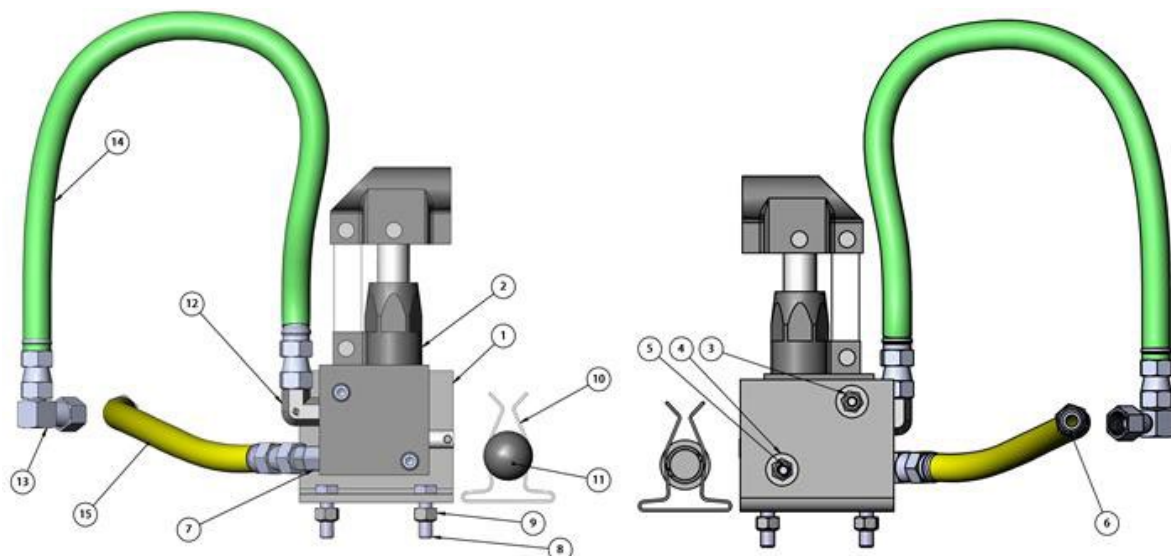
Reducer
P33617



Wire Tie
P46335

GATE WIDTH	ITEM 4 HYDRAULIC LINE W/ENDS	ITEM 9 POLY TUBE
42	AT-501-354-027	P33702-021
48	AT-501-354-030	P33702-028
60	AT-501-354-035	P33702-034
72	AT-501-354-040	P33702-037

EMERGENCY HAND PUMP OPTION #184



ITEM #	QTY	PART #	DESCRIPTION	MATERIAL/SIZE
1	1	AP-501-267	Hand Pump Mounting Bracket	
2	1	P33902	Hand Pump With Handle	
3	2	P23502	Lock Nut	1/2-20
4	2	P26001	1/4 Diameter Flat Washer	
5	2	P15541	Socket Head Cap Screw 1/4-20 x 2"	
6	1	P34006	Adapter 1/4 Male NPT to 9/16 Male 90°	
7	1	P34245	45° Elbow From 1/4-18 NPT Male to 7/16-18 JIC Male	
8	2	P10040	HHCS 5/16-18 x 1" Plated Grade 2	
9	2	P23510	5/16-16 Hex Lock Nut	
10	2	P46192	Tool Holder (Handle Mounting Bracket)	
11	REF	P33902A	Handle	
12	1	P34127	1/4-18 NPT M 9/16-18 JIC M	
13	1	P34051	90° Elbow	
14	1	AT-501-354-014	Hydraulic Line Assembly 3/8 Diameter	
15	1	AT-501-292-020	Hydraulic Line Assembly	



Hand Pump w/Handle
P33902



HHCS 5/16-18 x 1"
Plated Grade 2
P10040



Handle Holder
P46192



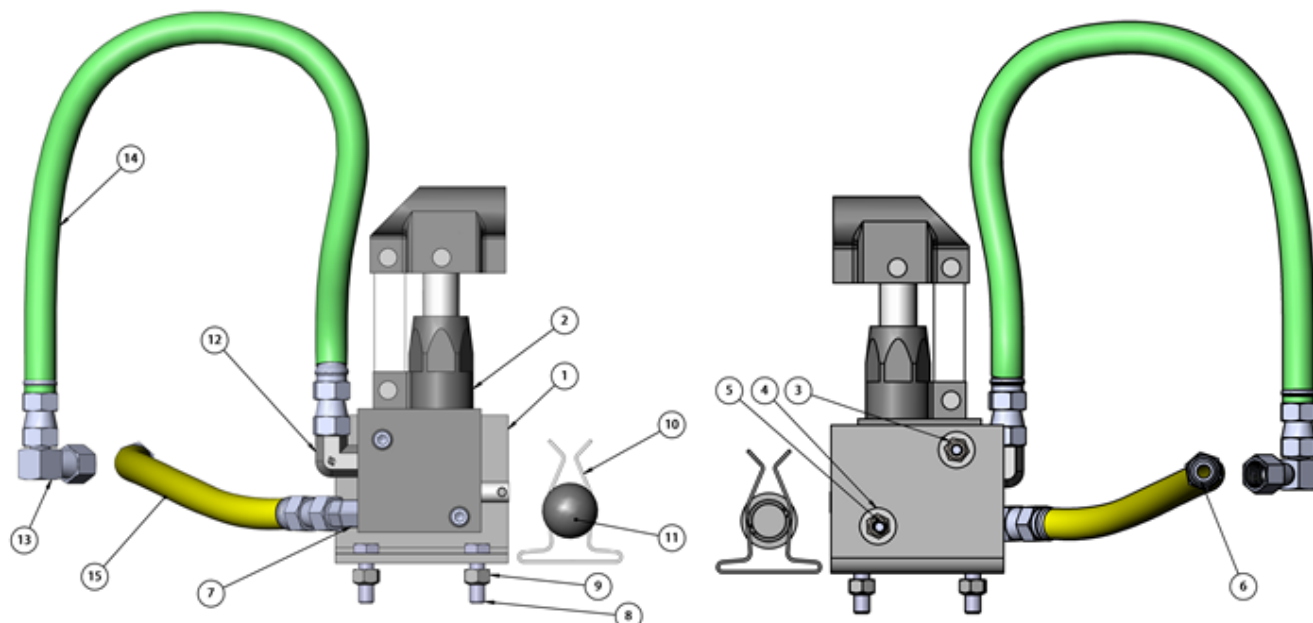
1/4-18 NPT M
9/16-18 JIC M
P34127



90° Elbow
P34051

DIAGRAMS

EMERGENCY HAND PUMP OPTION #261



INDEX #	QTY	PART #	DESCRIPTION	COMMENTS
1	1	AP-501-267	Mounting Bracket	
2	1	P33902	Hand Pump W/Handle	
3	2	P23502	Lock Nut	1/4-20
4	2	P26001	1/4 Diameter Flat Washer	1/4
5	2	P15541	Socket Head Cap Screw	1/4-20 X 2
6	1	P34004	Adapter 1/4 Male NPT to 9/16 Male 90°	
7	1	P34245	45° Elbow From 1/4-18 NPT Male to 7/16-18 JIC Male	
8	2	P10040	HHCS 5/16-18 x 1" Plated Grade 2	5/16
9	2	P23510	5/16-16 Hex Lock Nut	
10	2	P46192	Tool Holder (Handle Mounting Bracket)	
11	REF	P33902A	Handle	1/4-20
12	1	P34127	1/4-18 NPT M 9/16-18 JIC M	
13	1	P34051	90° Elbow	
14	1	AT-501-354-014	Hydraulic Line Assembly 3/8 Diameter	
15	1	AT-501-292-020	Hydraulic Line Assembly	



Hand Pump w/Handle
P33902



HHCS 5/16-18 x 1"
Plated Grade 2
P10040



Handle Holder
P46192



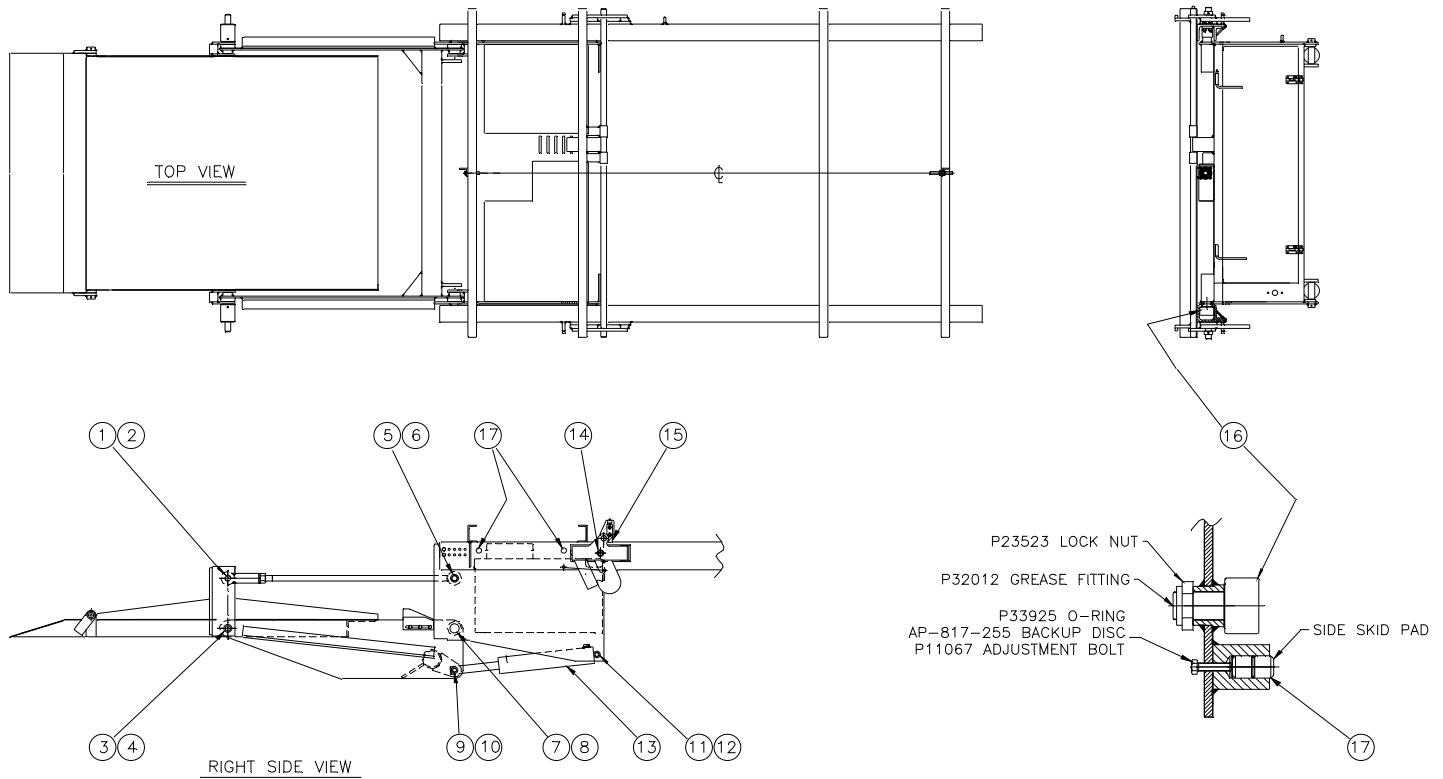
1/4-18 NPT M
9/16-18 JIC M
P34127



90° Elbow
P34051

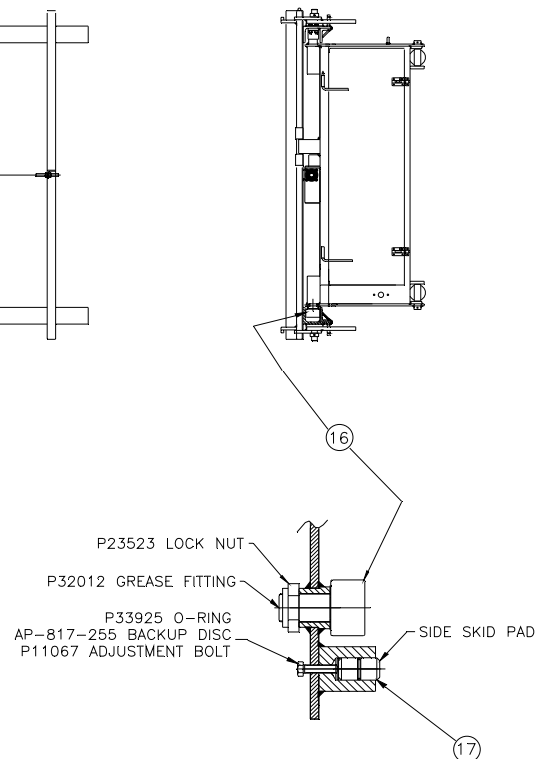
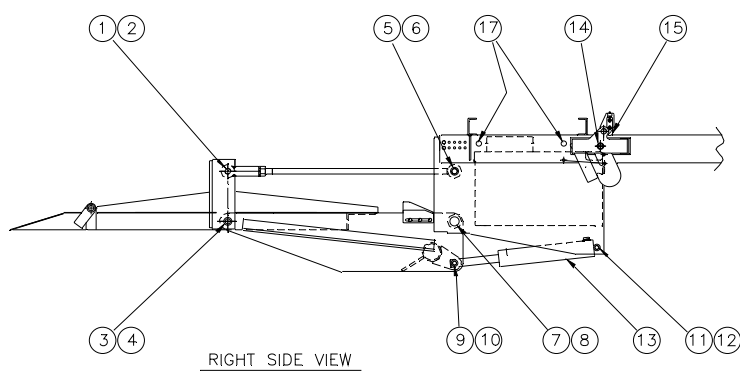
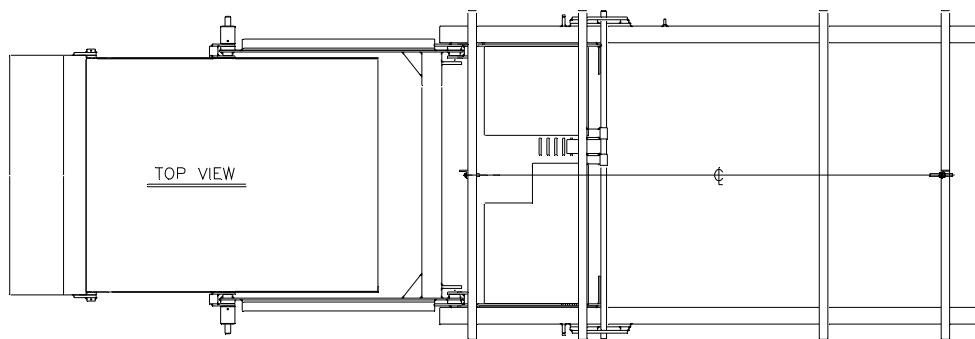
DIAGRAMS

REARRANGEMENT BEARINGS AND PINS



INDEX NUMBER	QTY	PART NUMBER	PART NAME	MATERIAL./SIZE
1	2	P43567	Bearing	1 id. x 1-1/2 lg.
2	2	BA-817-844 / BP-817-472	Pin & Boss / Pin only	1 dia. x 7-5/8 lg.
3	2	P43567	Bearing	1 id. x 1-1/2 lg.
4	2	AP-817-842	Pin (Comp Arm to Platform)	1 dia. x 3-5/8 lg.
5	2	P43567	Bearing	1 id. x 1-1/2 lg.
6	2	AP-817-842	Pin (Tension arm to Inner)	1 dia. x 3-5/8 lg.
7	2	P43566	Bearing	1-1/4 id. x 1-1/2 lg.
8	2	AP-817-843	Pin (Comp Arm to Inner)	1-1/4 dia. x 3-5/8 lg.
9	4	P43620	Bearing (cyl. rod end)	3/4 id. x 5/8 lg.
10	2	AA-817-742	Pin Kit (Rod end w/hdw)	3/4 dia. x 3-3/4 lg.
11	4	P43573	Bearing (cyl. base end)	3/4 id. x 3/4 lg.
12	2	AA-817-743	Pin(Base end w/hdw)	3/4 dia. x 6-1/8 lg.
13	2		Hyd. Cylinder	
14	2	P43570	Bearing	1 id. x 1/2 lg.
15	2	AP-817-233	Skid Pad	Pushes "J" Hook
16	4	P37544	Roller	Ref. P23523 Nut & P32012 Gr. Fitting
17	4	AP-817-044	Side Skid Pad	1 od. x 1-13/16 lg.
	8 ea	P11062 and P23502	Bolt and Lock Nut	Use w/items 4, 6, 10, 12
	2 ea	P11063 and P23502	Bolt and Lock Nut	Use w/item 8
	2	P47538	Roll pin	Use w/item 2
	8	P32016	Grease Fitting	Use w/items 2, 4, 6, 8

REARRANGEMENT BEARINGS AND PINS – cont



Bearing
P43567



Pin
BP-817-472



Bearing
P43567



Pin (Comp Arm to Platform)
AP-817-842



Bearing
P43567



Pin (Tension Arm to Inner)
AP-817-842



Bearing
P43566



Pin (Tension Arm to Inner)
AP-817-843



Bearing (cyl. rod end)
P43620



Bearing (cyl. base end)
P43573



Pin (Base end w/hdw)
AA-817-743



Bearing
P43570



Roller
P37544

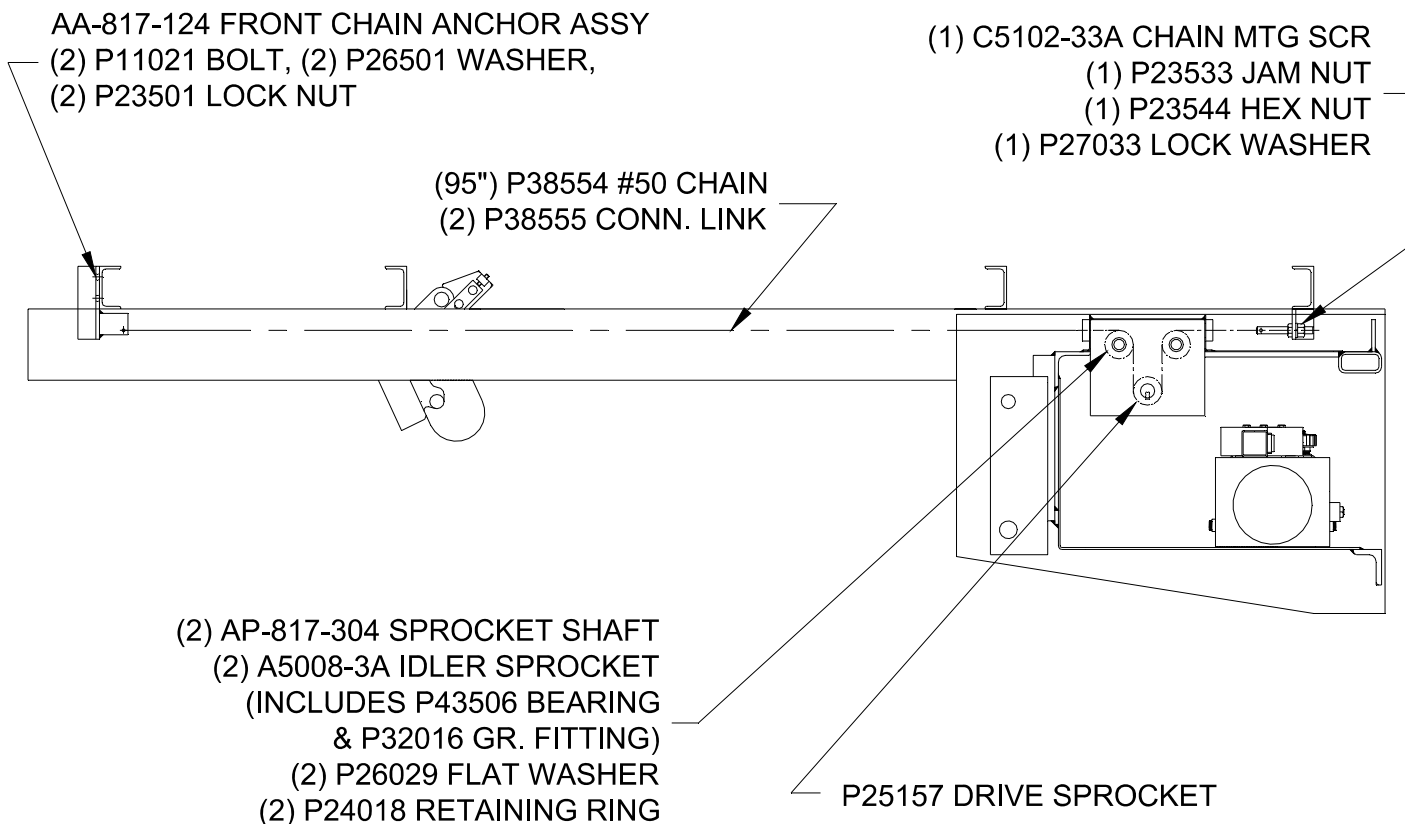


Side Skid Pad
AP-817-044



Bolt and Lock Nut
P47538

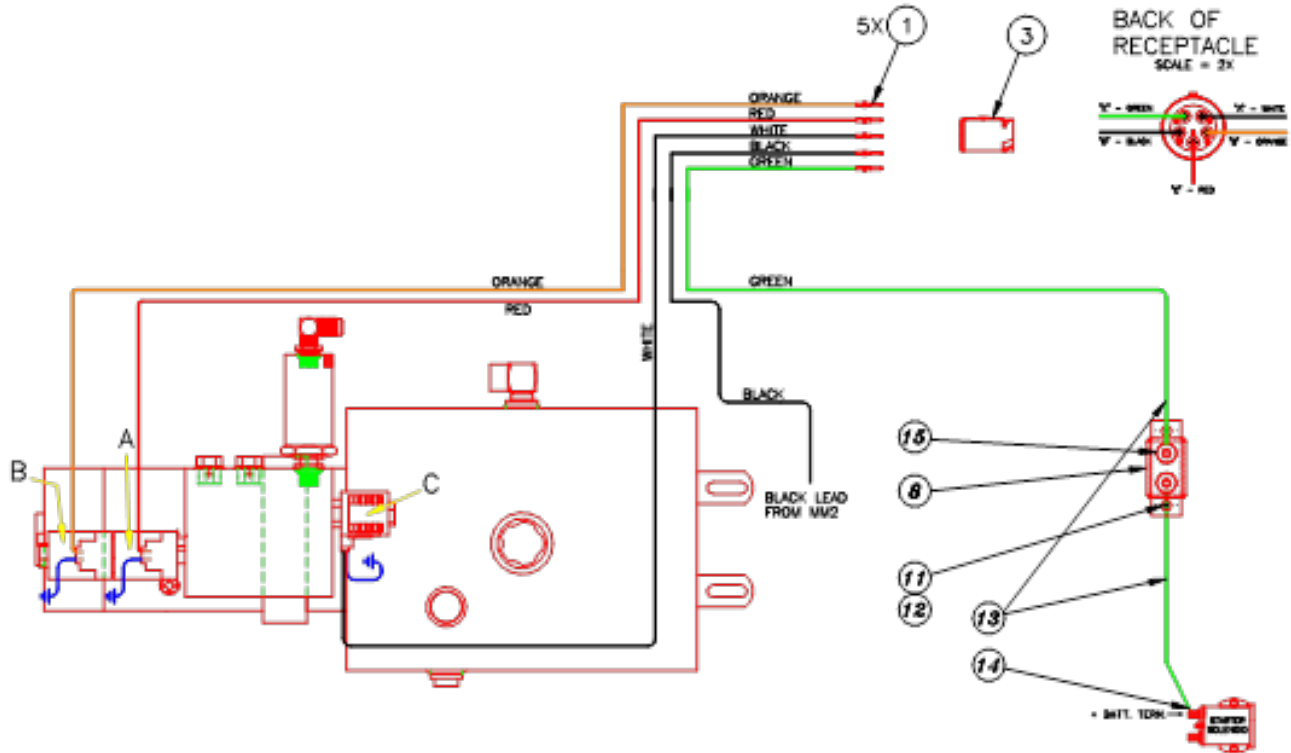
CHAIN AREA REPLACEMENT PARTS



DIAGRAMS

BAIRD ELECTRICS – REPLACEMENT PARTS

TLS3510RL/TLS4510RL



INDEX #	QTY	PART #	DESCRIPTION	MATERIAL/SIZE
1	5	P46888	Pin, Solid	0460-215-16141
2	1	P46445	Cord Grip 1/2 NPT	For 16-5 & 1/0 Cable
3	1	P46886	Receptacle	HD14-5-16P
4	1	P46738	Cord Grip 16mm x 1.5	
5	1	S350-001.000	HR Round Plug	3/16 Diameter x 1 inch lg
6	1	P46251	Loom Clamp 3/4 Inch	For 16-5 Cable
7	1	P46250	Loom Clamp 1/2 Inch	For Ground Cable
8	1	P46236	20 Amp Circuit Breaker	
9	6	P46335	Cable Tie, 7 Inch	Inside Enclosure
10	1	P17518	Self Tapping Screw	
11	2	P19501	Screw 10-24 x 1/2	
12	2	P23504	Nut	
13	2	P46301	Green 16 Gauge Wire	1 PC 22 Inch, 1 PC 13 Inch
14	1	P46751	Ring Terminal	16-14, 3/8 Screw
15	2	P46507	Ring Terminal Small	16-14, #10 Screw



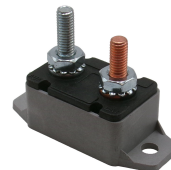
Cord Grip
P46445



Receptacle
P46886



Cord Grip 16mm x 1.5
P46738



20 Amp Circuit Breaker
P46236

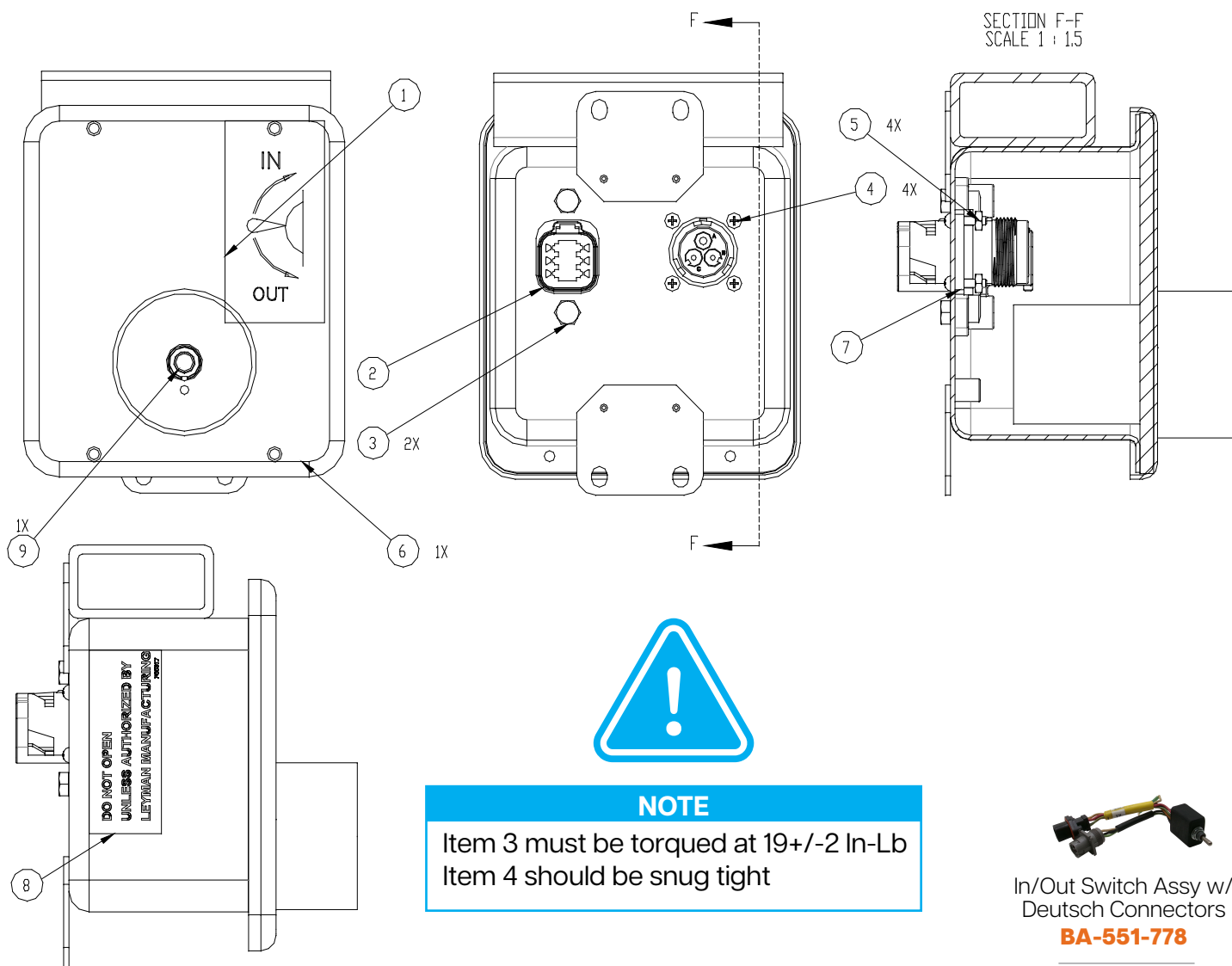


Small Ring Terminal
P46507

DIAGRAMS

BABINGELECTRICS – REPLACEMENT PARTS

MONARCH W/POTTED SWITCHES for TLS3510RL/TLS4510RL



INDEX NUMBER	QTY	PART NUMBER	DESCRIPTION
1	1	P55222	In/Out Toggle Switch Decal
2	1	BA-551-778	In/Out Switch Assy w/Deutsch Connectors
3	2	P10816	HHCS M5 x 0.8 x 12
4	4	P19537	Round Head Machine Screw 4-40 x 1/2
5	4	P23547	4-40 Zinc Plated Machine Nut
6	1	BA-551-780	Switch Box Weldment / Assy
7	1	P46901	3 Pin Receptical Gasket, HD10-3-GKT
8	1	P55317	Do Not Open Decal
9	1	P46291	Halk Boot



In/Out Switch Assy w/
Deutsch Connectors

BA-551-778



3 Pin Receptical Gasket,
HD10-3-GKT

P46901



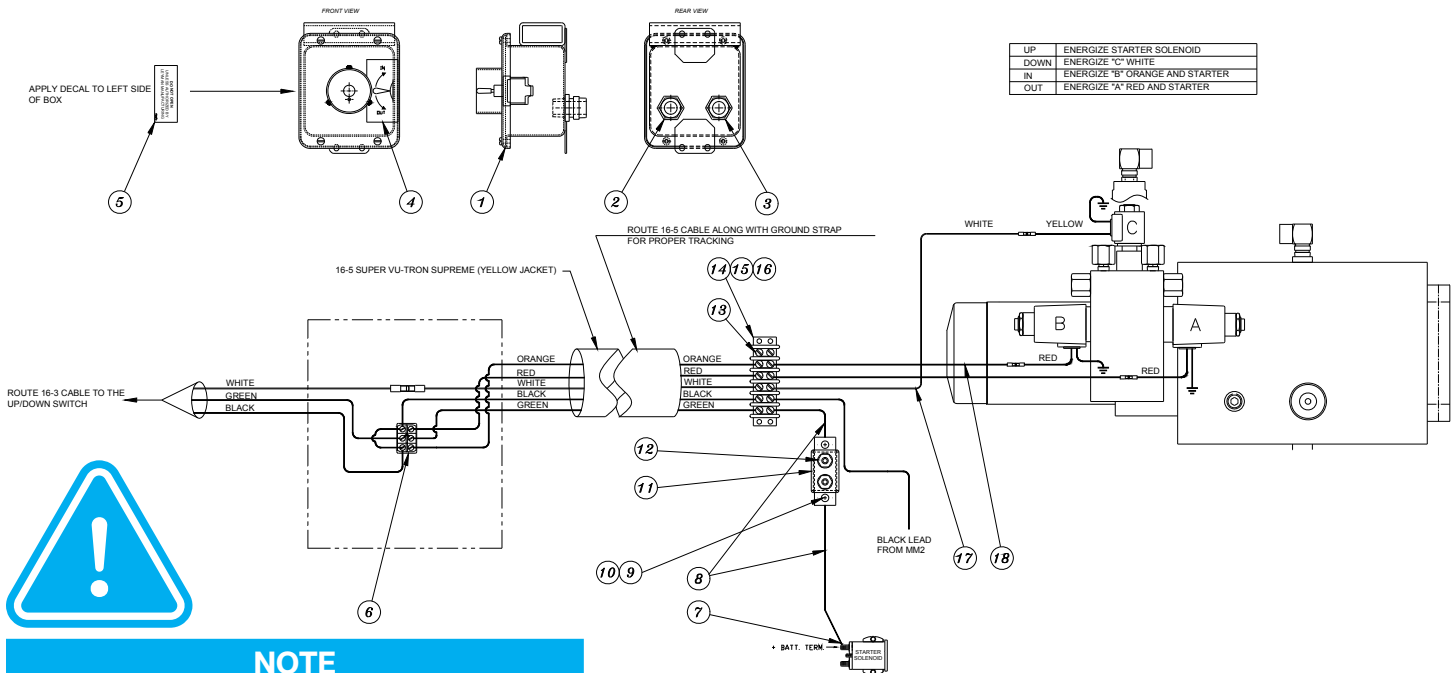
Halk Boot

P46291

DIAGRAMS

BAVIN ELECTRICALS – REPLACEMENT PARTS

MONARCH W/POTTED SWITCHES for TLS4500RL

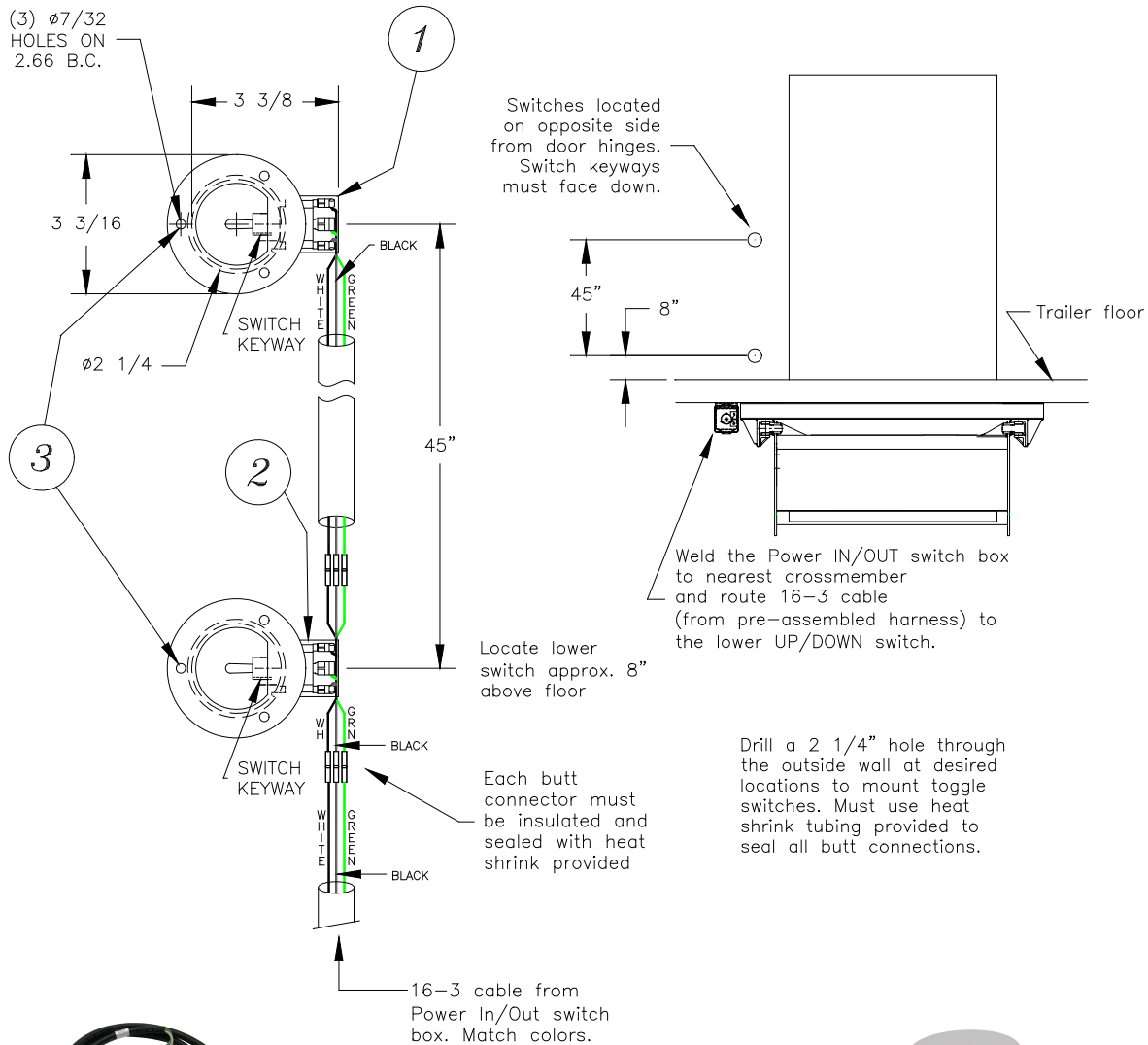


NOTE

Spray fluid film sealer on terminal strip after making connections

INDEX NUMBER	QTY	PART NUMBER	DESCRIPTION	COMMENTS
1	1	BA-551-317	Switch Box Assembly	
2	1	P46445	Cord Grip	FOR 16-5 CABLE
3	2	P46517	Cord Grip	FOR 16-3 CABLE
4	1	P55222	In/Out Decal	
5	1	P55317	"Do Not Open" Decal	
6	1	AA-551-537	In/Out Potted Switch Assy	
7	1	P46235	Large Ring Terminal	
8	2	P46301	Wire – Green	12" Long Each
9	2	P19501	Screw	10-24 X 1/2
10	2	P23504	Nut	
11	1	P46236	20 Amp Circuit Breaker	
12	2	P46507	Small Ring Terminal	
13	10	P46319	Fork Terminal	
14	1	P46449	Terminal Block	
15	2	P19501	Screw	
16	2	P23535	Lock Nut	
17	1	P46631	White Shrink Tube	18" Use to identify wire lead
18	1	P46632	Orange Shrink Tube	18" Use to identify wire lead
19	1	P55345	Electrics/Hyd. Diagram	For MM2, +temp switch
	204"	P46748	16-5 Cable (yellow)	High Flex Cable

TOGGLE SWITCH REPLACEMENT PARTS



Top Up/Down Switch Assembly
AA-551-538



Small Ring Terminal
P46729



Recessed Switch Plate
P46292

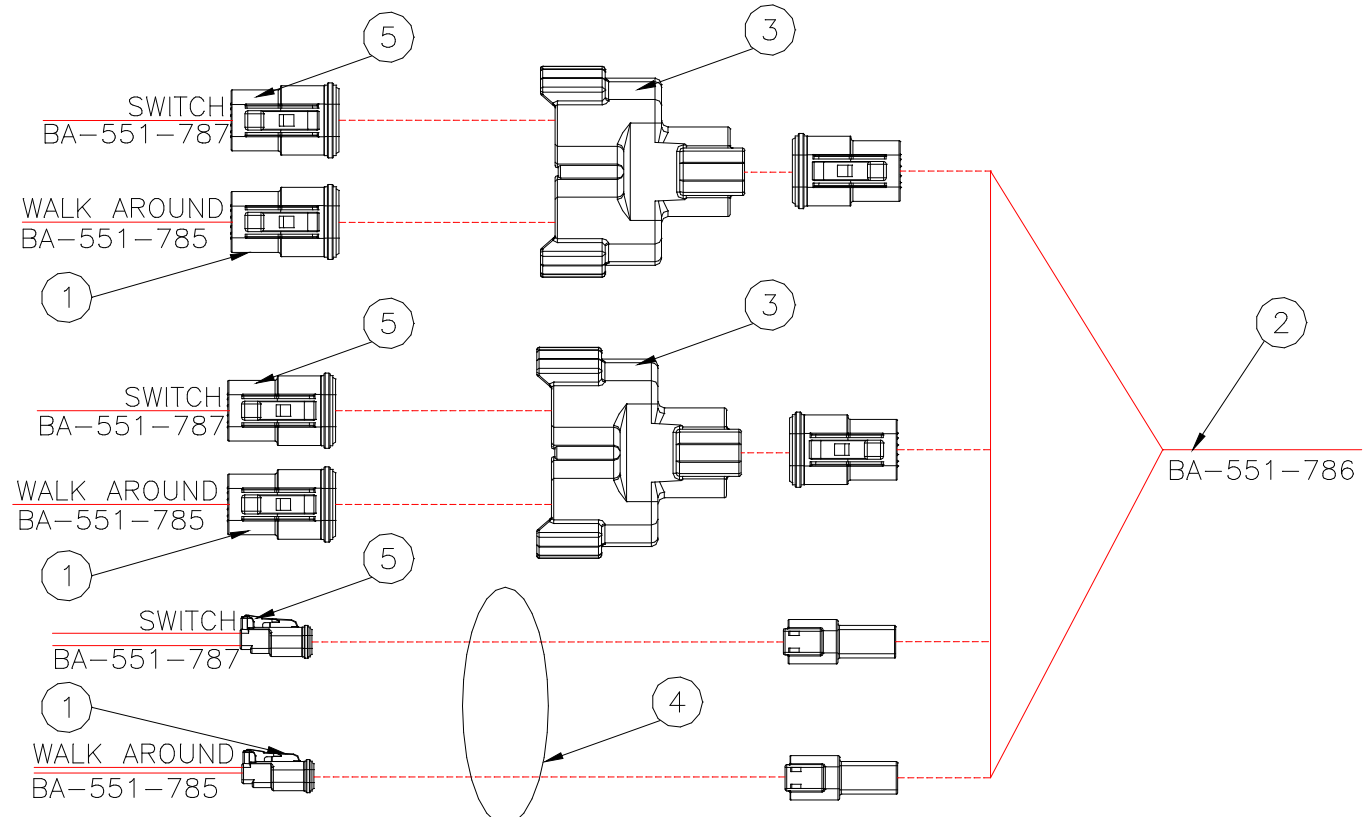
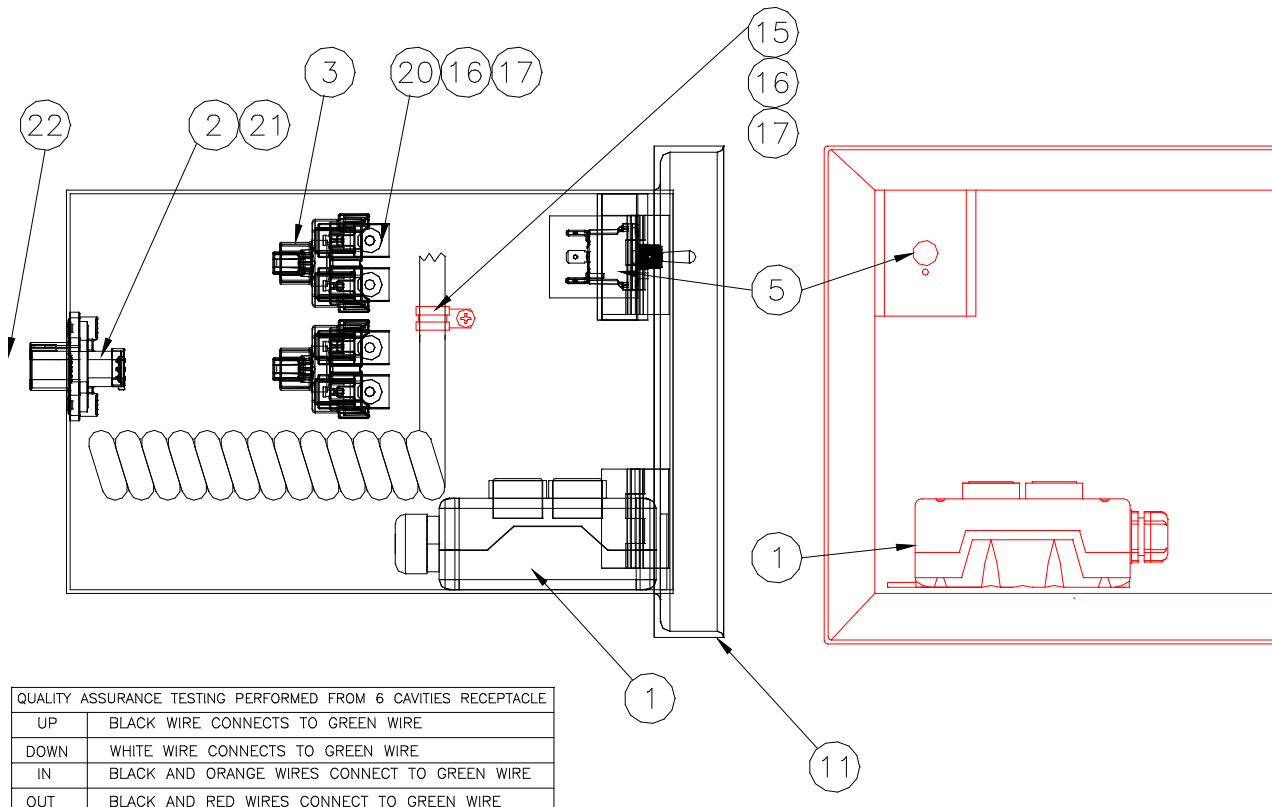


Rubber Half Boot
P46291

INDEX #	QTY	PART #	DESCRIPTION	COMMENTS
1	1	AA-551-538	Top Up/Down Switch Assembly	Including Recess Switch Plate
2	1	P46729	Lower Up/Down Switch	Including Recess Switch Plate
3	6	P17536	Sheet Metal Screw	
4	4	P46250	Loom Clamp	Not Shown
5	4	P17518	Self Tapping Screw	Not Shown
	2	P46292	Recessed Switch Plate	Reference Items 1 & 2
	2	P46291	Rubber Half Boot	Reference Items 1 & 2

DIAGRAMS

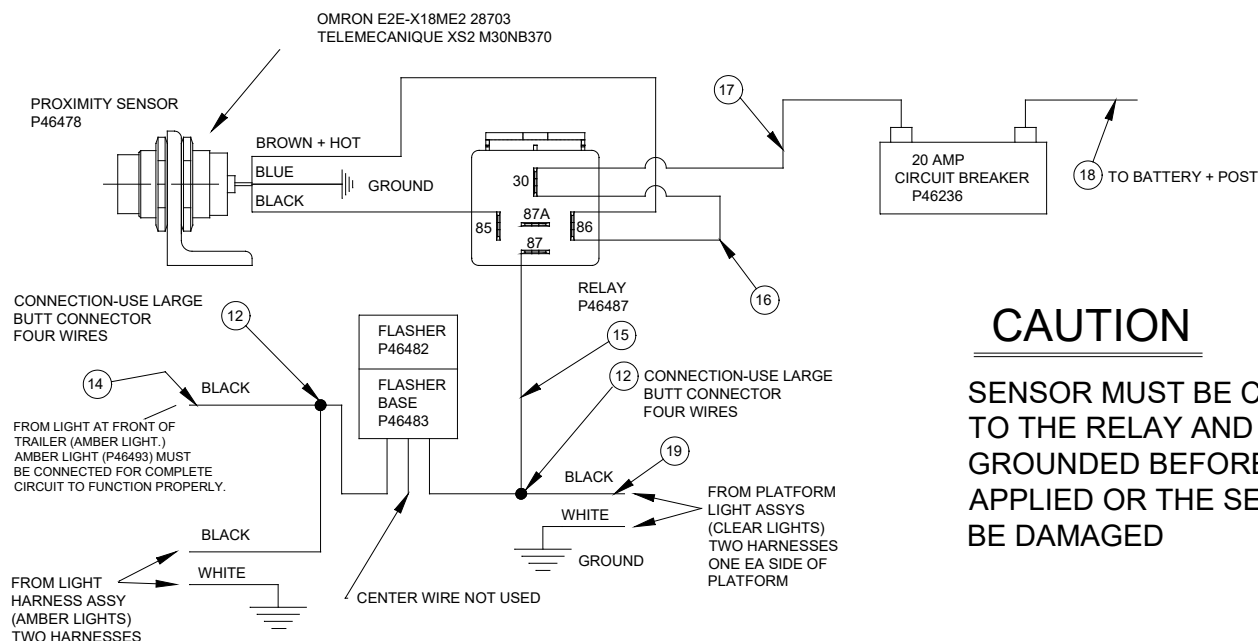
WALK-AROUND Electrics (Option #183TLS-DEUTSCH)



Walk Around Electrics (Option #183TLS-DEUTSCH) – cont.

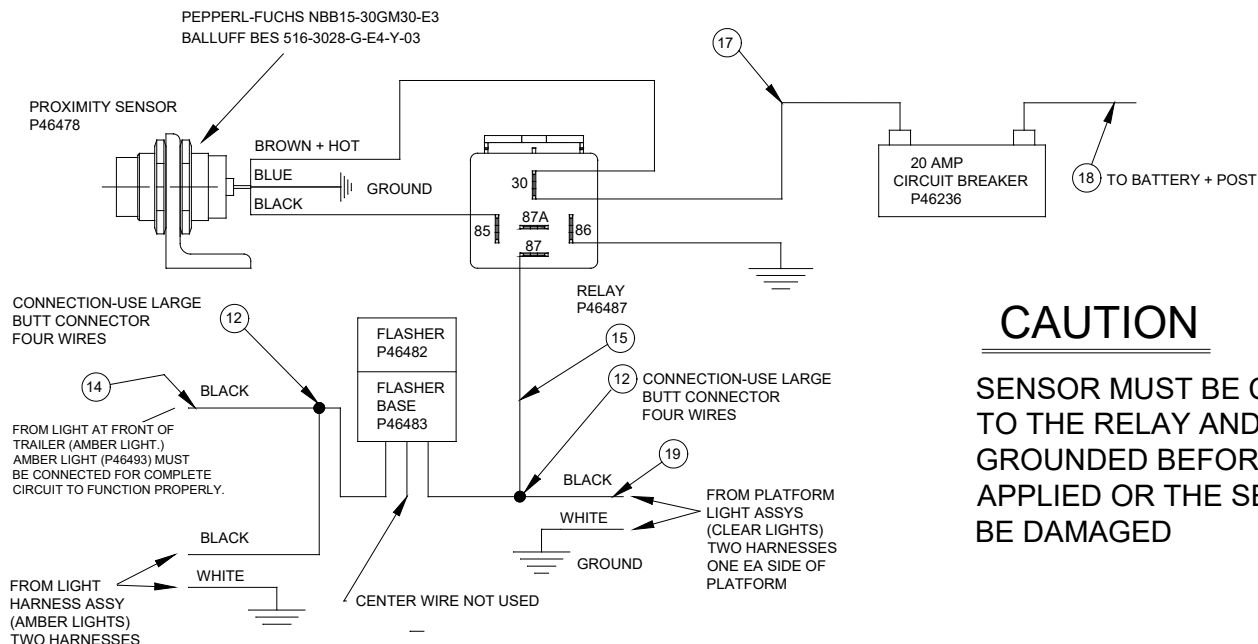
INDEX #	QTY	PART #	DESCRIPTION	MATERIAL / SIZE
1	1	BA-551-785	2-Button Control Assembly	
2	1	BA-551-786	Walk Around Storage Box – Inside Harness	
3	2	P46913	Receptacle “Y” Connector	
4	1	P46335	Cable Tie Black Nylon	
5	1	P46912	Potted Toggle Switch Assembly	
6				
7				
8				
9				
10				
11	1	P46915	Push Button Box	Ref. Dwg. CA-551-789
12				
13				
14	5	P17518	Self Tapping Screw	
15	6	P46450	Loom Clamp	
16	5	P19501	Round Head Screw	#10-24 x 1/2
17	5	P23504	Lock Nut	#10-24
18	1	S560-014.000	Support Angle	ST ANGLE 1-1/2 x 1-1/2 x 1/4 x 14
19	1	S560-006.000	Brace	HR FLAT 1/4 x 1/2 x 6
20	4	P46914	Mounting Clip	1011-026-0205
21	2	P10816	HHCS M5 x 0.8 x 12	Torqued at 19+/-2 IN-LB
22	1	BA-551-784	External Side Wall Harness for Hand Held Control	ST ANGLE 1-1/2 x 1-1/2 x 1/4 x 14

WORKING AND SENSORS (Option #155)



CAUTION

SENSOR MUST BE CONNECTED
TO THE RELAY AND THE RELAY
GROUNDED BEFORE POWER IS
APPLIED OR THE SENSOR WILL
BE DAMAGED



CAUTION

SENSOR MUST BE CONNECTED
TO THE RELAY AND THE RELAY
GROUNDED BEFORE POWER IS
APPLIED OR THE SENSOR WILL
BE DAMAGED

WORKING AND SENSORS (Option #155) – cont.

INDEX #	QTY	PART #	DESCRIPTION	MATERIAL / SIZE
1	1	P46478	Proximity sensor	
2	1	AP-817-139	Sensor mount	Weld to inner slide cover
3	1	S566-006.000	Sensor target	2 x 1-1/2 x 1/8 x 6
4	1	P46487	Relay	
5	1	P46482	Flasher	Blk wire on sol to blk wire
6	1	P46483	Flasher base	Blk wire on sol to blk wire
7	1	P46236	Circuit breaker	20 amp, auto reset
8	4	P17518	Self tapping screw	CirB-2, relay-1, flasher base-1
9	2	P46751	Large ring terminal	To starter lg hot post
10	3	P46318	Female terminal push on	For relay connections
11	5	P46047	Small ring terminal	To circuit breaker & 3 grounds
12	2	P46157	Lg butt connector	
13	1	BA-551-193	Light harness assy	Includes all lights
14	1	P46017	Black wire 16-GA	600" To front of trailer
15	1	P46017	Black wire 16-GA	8" From clear lights to relay
16	1	P46301	Green wire 16-G	3" From relay 30 to relay 86
17	1	P46301	Green wire 16-G	8" From relay to circuit breaker
18	1	P46301	Green wire 16-GA	48" From circuit breaker to battery
19	2	P46017	Black wire 16-GA	180" From relay to clear lights
20	1	P46665	Female terminal push on	For double wire connection
21	1	P46739	Cord grip	
22	1	P46740	Black nylon nut	

REARRANGEMENT OF SAFETY DECALS

Leyman Manufacturing will replace safety stickers at any time **FREE OF CHARGE**.

Locate the following decals on trailer side wall near door –

P55236	Operating Instructions
P55157	Urgent Warning – Read Before Operation (Qty. 2)
P55294	CAUTION Do Not Stand....
P55193	Maximum Capacity Decal - LPS

Locate the following decal on trailer side wall under door threshold –

P55138	Keep Feet from Edge....
---------------	-------------------------

Locate the following decals at Toggle Switches –

P55222	IN / OUT
P55221	UP / DOWN (Qty. 2)



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no vertical margin lines or other markings present. The paper appears to be a standard sheet of notebook paper.