

M-97-07  
REV. -  
NOV. 1997

# MAINTENANCE MANUAL

# CONVENTIONAL LIFTGATE SERIES

## TG-150 LM TG-20 LM

**MAXON**<sup>®</sup>  
LIFT CORP.

11921 Slauson Avenue.  
Santa Fe Springs, CA. 90670  
(800) 227-4116

# **MAXON<sup>®</sup>**

**LIFT CORP.**

**11921 Slauson Ave.  
Santa Fe Springs, CA. 90670**

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## **CUSTOMER SERVICE:**

**TELEPHONE (562) 464-0099 TOLL FREE (800) 227-4116**

**FAX: (888) 771-7713**

**NOTE: Check with Customer Service for updated versions  
of Manuals on an annual basis.**

## **WARRANTY POLICY & PROCEDURE**

### **NEW LIFTGATE WARRANTY**

Term of Warranty: 2 Years from Date of In-Service

Type of Warranty: Full Parts and Labor

MAXON agrees to replace any components which are found to be defective during the first 2 years of service, and will reimburse for labor based on MAXON's Liftgate Warranty Flat Rate Labor Schedule. (Call MAXON Customer Service for a copy).

All claims for warranty must be received within 30 Days of the repair date, and include the following information:

1. Liftgate Model Number
2. Liftgate Serial Number
3. Detailed Description of Problem
4. Corrective Action Taken, and Date of Repair.
5. Parts used for Repair, Including MAXON Part Number(s).
6. MAXON R.M.A. # and/or Authorization # if applicable (see below).
7. Person contacted at MAXON if applicable.

All warranty repairs must be performed by an authorized MAXON warranty station. For major repairs, MAXON Customer Service must be notified and an "Authorization Number" obtained. Major repairs would generally be considered repairs made to the structural assembly of the liftgate and/or repairs not outlined in the MAXON Liftgate Warranty Flat Rate Schedule.

Major components (i.e. hydraulic pumps, cylinders, valves, or failed structural parts) must be returned, freight pre-paid, prior to the claim being processed. To ensure timely processing of these warranty claims, an R.M.A. (Returned Merchandise Authorization) number must be obtained from MAXON Customer Service prior to the return of any defective part. Defective Parts must be returned within 60 days of the claim date for consideration to:

**MAXON Lift Corp.  
16205 Distribution Way, Cerritos, CA 90703  
Attn: RMA#\_\_**

MAXON's warranty policy does not include the reimbursement for travel time, towing, vehicle rental, service calls, oil, batteries, defects due to misuse or abuse, or loss of income due to downtime. Fabrication of parts, which are available from MAXON, are also not covered.

MAXON's Flat Rate Labor Schedule takes into consideration the time required for diagnosis of a problem.

### **PURCHASE PART WARRANTY**

Term of Warranty: 1 Year from Date of Purchase

Type of Warranty: Part Replacement

MAXON will guarantee all returned genuine replacement parts upon receipt and inspection of parts and invoice.

# Table of Contents

WARNING.....	PAGE 4
PERIODIC MAINTENANCE CHECKLIST .....	PAGE 5
DECALS .....	PAGE 6
CONTROL SWITCH .....	PAGE 7
ASSEMBLY DRAWING .....	PAGE 8
WIRE CONNECTIONS GRAVITY DOWN .....	PAGE 11
PUMP ASSEMBLY, GRAVITY DOWN .....	PAGE 12
HARNESS & SWITCH ASSY GRAVITY DOWN .....	PAGE 14
<b>POWER-DOWN SECTION .....</b>	<b>PAGE 15</b>
CONTROL SWITCH, POWER DOWN.....	PAGE 16
252561 HARNESS & SWITCH ASSY.....	PAGE 17
PUMP ASSEMBLY, POWER DOWN .....	PAGE 18
WIRE CONNECTIONS POWER DOWN .....	PAGE 20
TROUBLE SHOOTING .....	PAGE 21

## WARNING

1. Read the **Maintenance Manual** and understand it thoroughly before any maintenance of this unit is done.
2. Read the **YELLOW** urgent warning decal on the side of the vehicle close to the unit before operating.
3. If decals are dirty, clean them. If decals are defaced or missing, replace them. **Free replacements** are available from the manufacturer. See information at the end of the Warnings
4. Be aware that the safety and location of other people or objects should be considered before operation of this unit. Stand to one side of platform while operating this unit.
5. Do not stand under, or have any foreign object under the Platform when lowering. **Be sure that the lowering of the Platform and/or Flipover will miss your feet!**
6. Keep fingers, hands, arms, legs, and feet clear of moving parts when operating this unit.
7. If during your maintenance procedure, it becomes necessary to ride the platform, keep your feet and any foreign objects clear of the rear edge of the platform. Otherwise your feet or the foreign objects could become trapped between the edge of the platform and the vehicle bed.
8. Inspect all Roll Pins monthly, to insure that they are not broken. Replace if broken.
9. Inspect all hydraulic hoses and fittings annually. Check for cracks and deterioration, and replace if necessary.
10. **Disconnect battery** when replacing parts or servicing.
11. Do not allow children to ride, play with, or operate this unit.
12. In the event of an emergency while operating the unit, release the toggle switch and the unit will stop immediately.
13. A properly installed Lift should operate smoothly and the only noise during the operation of this unit should be from the Pump Unit during the raising of the Platform. Any scraping, grating or audible indications of rough operation will need investigating. The cause will need resolving before any further deterioration of performance occurs.
14. Use only **Maxon Authorized Parts** for replacement. Replacement parts should be ordered from:

MAXON LIFT CORP. Parts Department  
11921 Slauson Ave., Santa Fe Springs, Ca. 90670  
Phone: (800) 227-4116

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# PERIODIC MAINTENANCE CHECKLIST

## **Annually**

Visually check the complete unit for excessive wear, worn parts or broken welds. Check all Hinge Pins for excessive wear or broken welds. For parts replacement, see the Assembly Breakdown Drawings.

## **Six Months**

Visually check the Platform Hinge Pins for excessive wear or broken welds. For parts replacement, see the Assembly Breakdown Drawings.

## **Quarterly**

Check the oil in the Pump Reservoir. The oil should be Grade ISO-(32) Hydraulic Fluid. **\*See below for Cold Weather operation.**

Check Hoses and Fittings for scuffing and leaks. Replace if necessary.

Check the electrical wiring for worn insulation, and the terminals for corrosion and secure fit.

Check all bolts for tightness.

Check that all Warning Decals are in place and readable.

Check that all roll pins are properly installed. Replace if necessary.

Inspect the Hook & Chain Assembly for proper operation.

### **\* COLD WEATHER OPERATION**

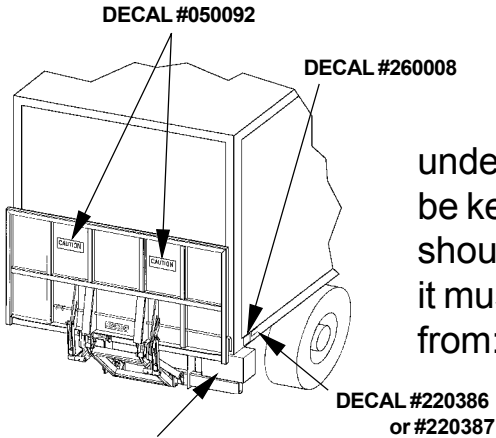
#### **OIL SPECIFICATIONS:**

Grade ISO-(32)  
Gravity, API - 29.5 Degrees  
Pour Point, F- (-54 Degrees)

#### **VISCOSITY:**

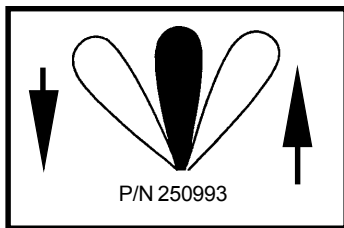
@ 40 Degrees C - 31.2 cSt  
@100 Degrees C - 6.2 cSt  
VISCOSITY INDEX - 154 VI  
Flash Point, F - 325 Degrees

# DECALS



Locate DECAL #801358 on Reservoir

## Suggested Decal Locations



These Decals should be read and completely understood before operating the unit. They should also be kept clean and readable at all times. If any decal should become detached from the vehicle, or defaced, it must be replaced. Free replacements are available from: MAXON Lift Corp., Parts Department.

**CAUTION!**  
**STAND CLEAR**  
 P/N 050092

**WARNING**  
**READ CAREFULLY**

- Improper operation of this Lift can result in serious personal injury. Do not operate unless you have been properly instructed and have read, and are familiar with the operating instructions. If you do not have a copy of the instructions, please obtain them from your employer, distributor, or lessor, before you attempt to operate Lift.
- Be certain that the vehicle is properly and securely braked before using the Lift.
- Always inspect this Lift for maintenance or damage before using it. If there are signs of improper maintenance, damage to vital parts, or slippery Platform surface, do not use the Lift until these problems have been corrected.
- Do not overload the Lift. The load limit is based on evenly distributed cargo over the entire Platform surface. If you are using a pallet jack, be sure it can be maneuvered safely. Do not operate a forklift on the Platform or travel with the platform in an open position at any time.
- Load should be placed in a stable position close to the edge of the Platform nearest the truck. The heaviest portion of the load should never be placed beyond the center of the Platform away from the truck.
- Never allow yourself, a helper, or bystander to stand in a position where a falling load could land on either of you. Also do not allow your's or your helper's feet to be placed under any portion of the lowering Lift.
- If a helper is riding the Platform with you, make sure you are both doing so safely and that you are not in danger of coming in contact with any moving or potentially moving obstacles. USE GOOD COMMON SENSE. If load appears to be unsafe, do not lift or lower it.

MAXON LIFT CORP.  
 PART NO. 260008

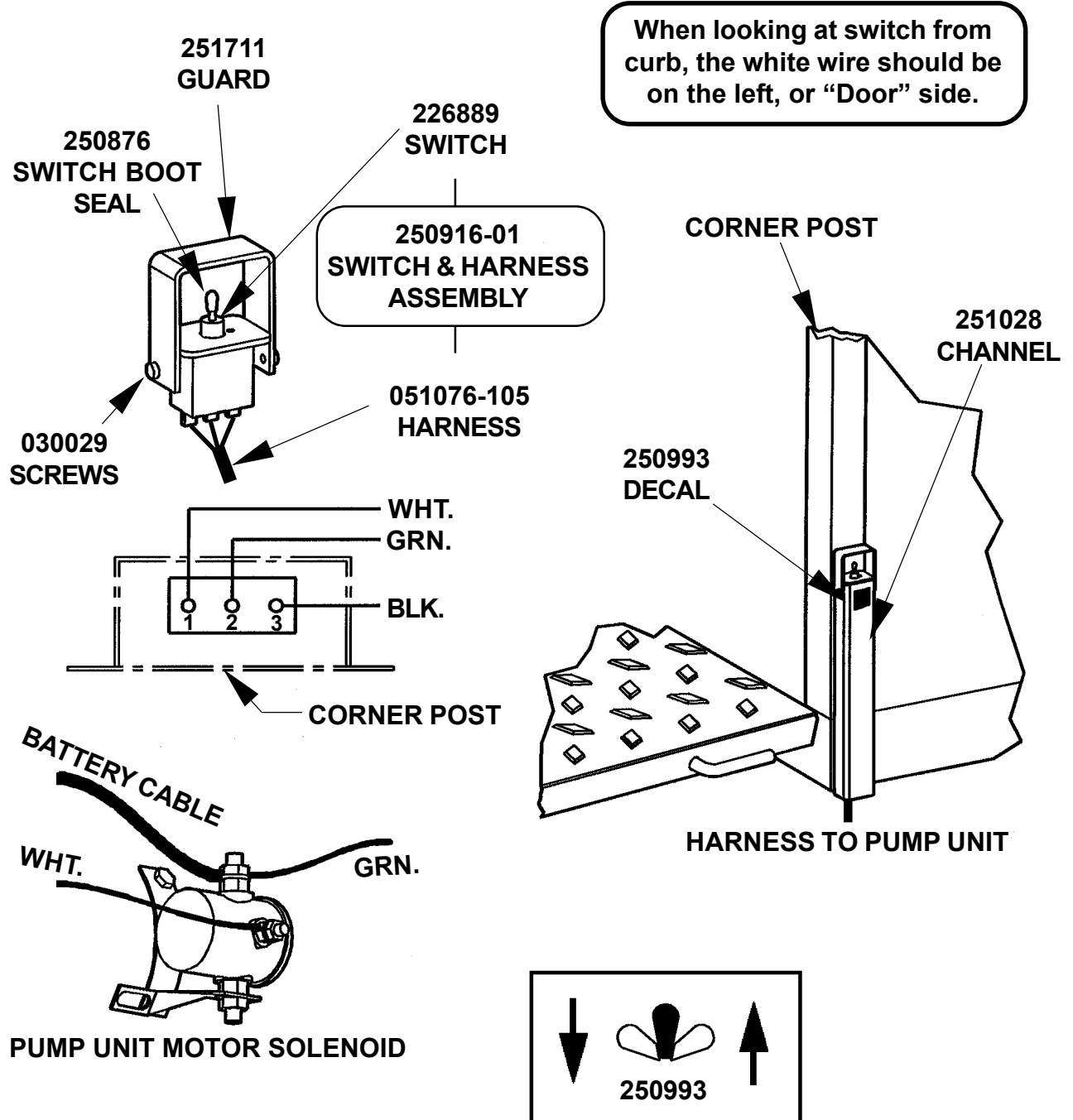
**CAUTION!**  
**DO NOT USE BRAKE FLUID...**  
**USE: No. 10W S.A.E. Motor Oil**  
**Hydraulic Hoist Oil**  
**Type "A" Transmission Fluid**  
**"Fill only when lift is lowered to ground"**  
 P/N 801358

**THE MAXIMUM CAPACITY OF THIS LIFT IS**  
**1500 LBS.**  
**WHEN THE LOAD IS CENTERED ON THE LOAD CARRYING PLATFORM**  
 P/N 220386

**THE MAXIMUM CAPACITY OF THIS LIFT IS**  
**2000 LBS.**  
**WHEN THE LOAD IS CENTERED ON THE LOAD CARRYING PLATFORM**  
 P/N 220387

# CONTROL SWITCH

Assemble Switch in Mount Bracket as shown. When mounting the bracket to the Channel, note the location of the *white & black wires* to ensure proper wiring to match the "UP & DOWN" Decal.

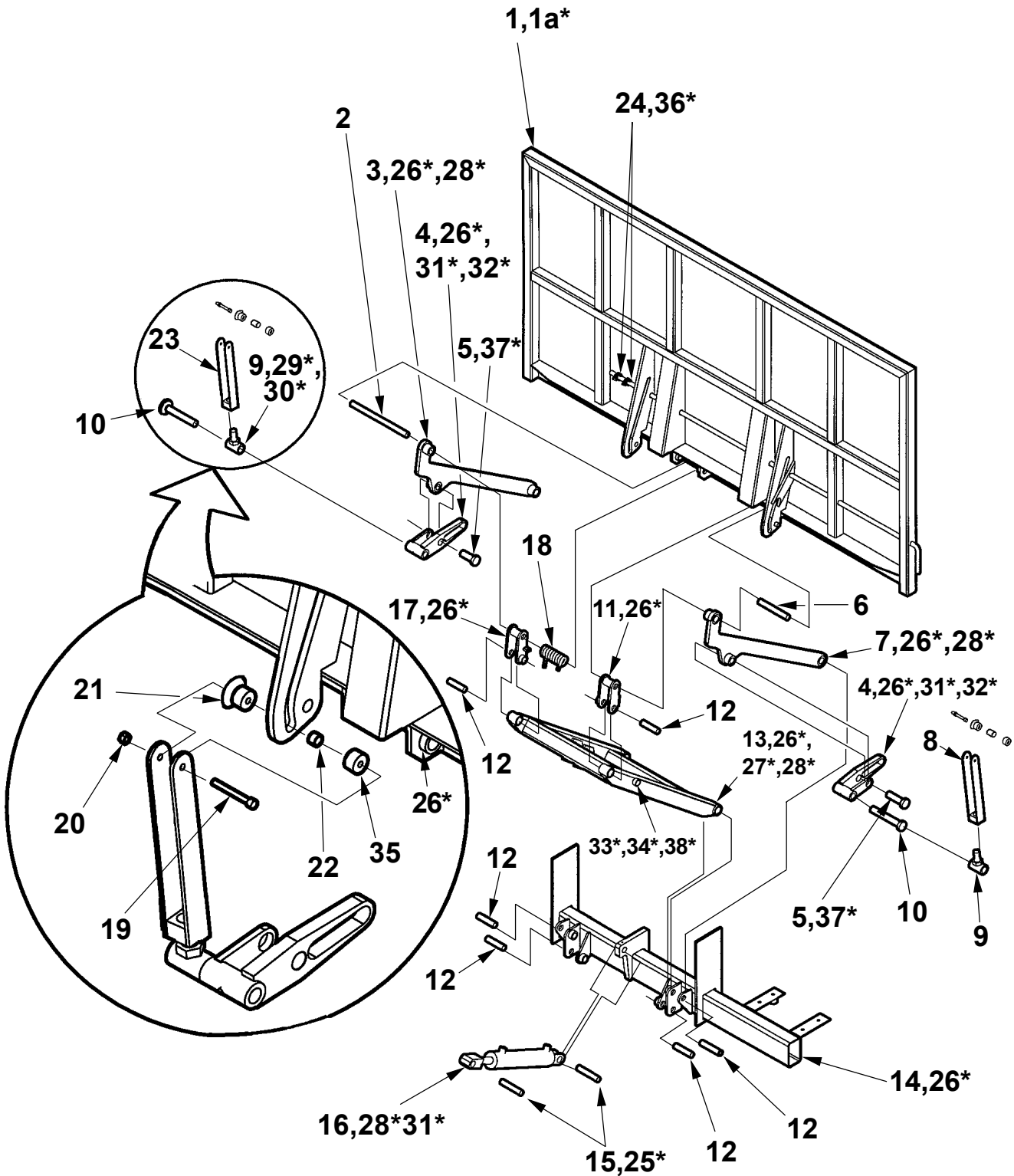


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# ASSEMBLY DRAWING

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**\* = Not Shown**



# ASSEMBLY DRAWING

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	261602-01	PLATFORM WELDMENT 36" x 80" WIDE
		261602-04	PLATFORM WELDMENT 42" x 80" WIDE
		261602-07	PLATFORM WELDMENT 48" x 80" WIDE
		261602-02	PLATFORM WELDMENT 36" x 86" WIDE
		261602-05	PLATFORM WELDMENT 42" x 86" WIDE
		261602-08	PLATFORM WELDMENT 48" x 86" WIDE
		261602-03	PLATFORM WELDMENT 36" x 92" WIDE
		261602-06	PLATFORM WELDMENT 42" x 92" WIDE
		261602-09	PLATFORM WELDMENT 48" x 92" WIDE
1a*	1	253944-02	RAMP, 6" FIXED x 80" WIDE
		253944-03	RAMP, 6" FIXED x 86" WIDE
		253944-05	RAMP, 12" FIXED x 80" WIDE
		253944-06	RAMP, 12" FIXED x 86" WIDE
		253830	RAMP, SINGLE CART STOP x 80" WIDE
		253830-01	RAMP, SINGLE CART STOP x 86" WIDE
		253890	RAMP, DUAL CART STOP x 80" WIDE
		253890-01	RAMP, DUAL CART STOP x 86" WIDE
2	1	252685	PIN, 1" DIA. x 13.75" LONG
3	1	252675-01	PARALLEL ARM WELDMENT L.H.
4	2	261582	ARM, PLATFORM CLOSER WELDMENT
5	2	261896-01	PIN WELDMENT, 1" DIA x 4.01" LONG
6	1	260830	PIN, 1" DIA. x 7.25" LONG
7	1	252675-02	PARALLEL ARM WELDMENT R.H.
8	1	260923	ARM, PUSHING ADJUST WELDMENT R.H.
9	2	261597	BOLT & BUSHING WELDMENT
10	2	261456-01	PIN WELDMENT, 1" DIA x 6.85" LONG
11	1	260815-02	SHACKLE WELDMENT, R.H.
12	6	252686	PIN, 1" DIA. x 4" LONG

(Continued on next page)

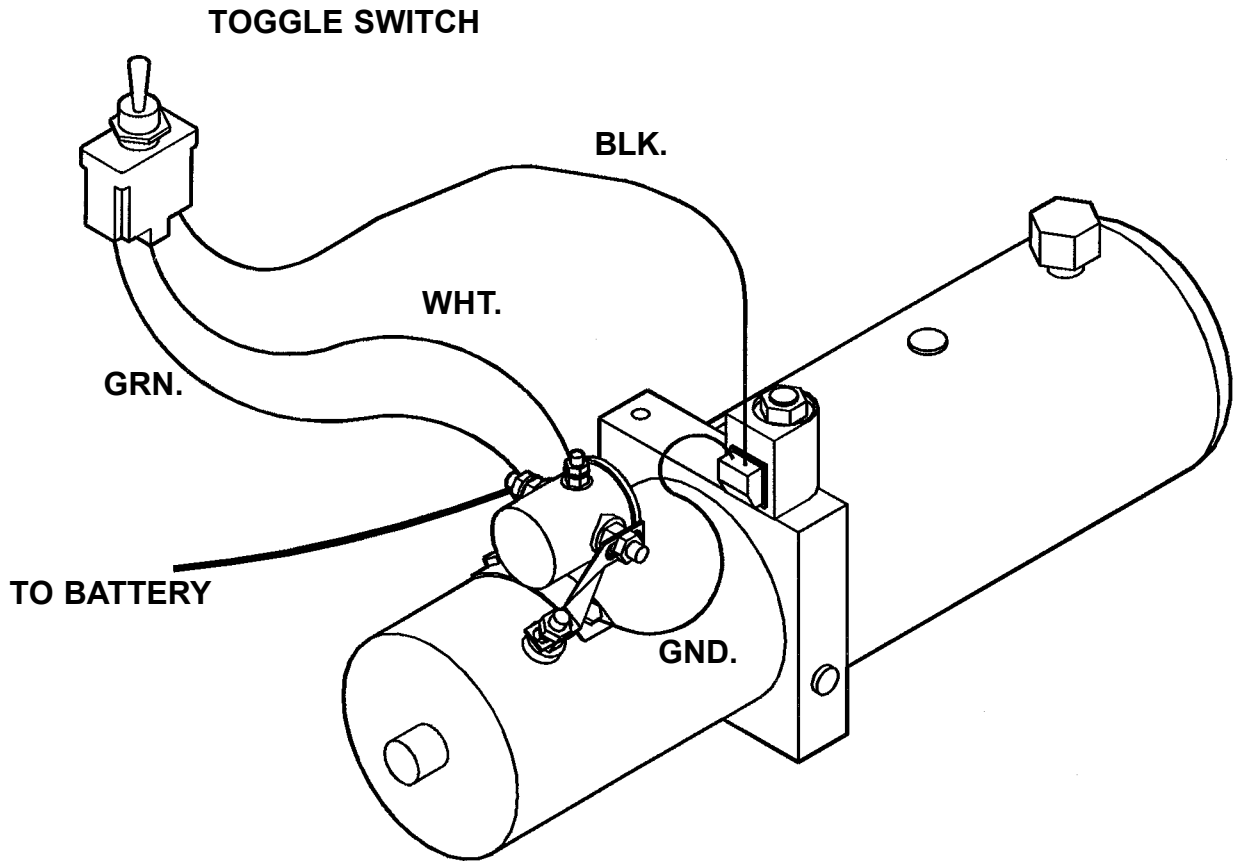
# ASSEMBLY DRAWING


ITEM	QTY.	PART NUMBER	DESCRIPTION
13	1	260736-01	LIFT FRAME WELDMENT (TG-150/12/20)
14	1	260733-01	MAINFRAME WELDMENT (TG-150/20)
15	2	261895	PIN, 1" DIA. x 5.12" LONG
16	1	260372	CYLINDER, 3 x 10 x 1.25" ROD (TG-150)
		260392	CYLINDER, 3.5 x 10 x 1.25" ROD (TG-20)
17	1	260815-01	SHACKLE WELDMENT, L.H.
18	1	262228	SPRING, TORSION 1/2 x 6 11.25CL
19	2	900047	SHOULDER BOLT, 1/2" x 3/4" LG.
20	2	040540	NUT, NYLON, 5/16-18 UNC
21	2	261454	SPACER, SLEEVE 1/2" DIA x 5/8" LG.
		261455	ROLLER, TRAVEL, 3/4" DIA x 1/2" LG.
22	2	905127-04	BEARING, SELF-LUBE, 3/8 x 5/8
23	1	260923-01	ARM, PUSHING ADJUST. WELDMENT L.H.
24	2	202528-02	SPRING, TORSION .160 x 1
25*	2	030159	COTTER PIN, 3/16 x 2
26*	14	221416	PIN, ROLL 3/8" x 2" ZINC
27*	2	221497	PIN, ROLL 3/8" x 1-1/2" ZINC
28*	7	260916-03	BEARING, SELF LUBE 1" x 2" LONG
29*	2	260916-02	BEARING, SELF LUBE 1" x 1-1/2" LONG
30*	2	260916-01	BEARING, SELF LUBE 1" x 1-1/4" LONG
31*	3	260916-06	BEARING, SELF LUBE 1" x 1" LONG
32*	2	260916-07	BEARING, SELF LUBE 1" x 1/2" LONG
33*	2	260917-01	BEARING, SELF LUBE 3/4" x 3/4" LONG
34*	2	252684	ROLLER
35	2	201966	ROLLER, YOKE #CYR 1-1/4S
36*	2	030410	PIN, ROLL, 1/4 x 1-1/2
37*	2	260930	RETAINING RING
38*	2	252683-01	PIN WELDMENT

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# WIRE CONNECTIONS GRAVITY DOWN

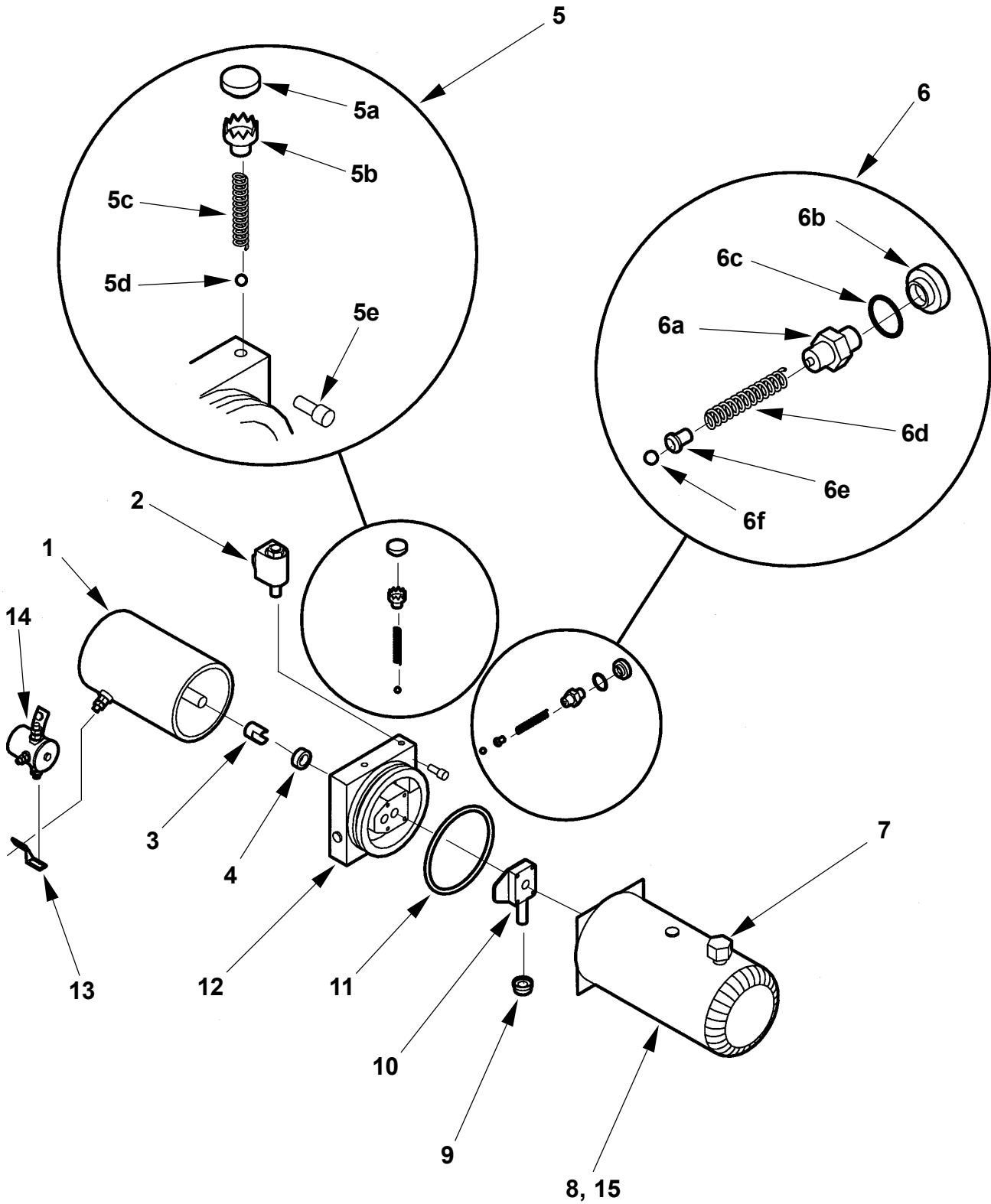


	POWER TO
UP	WHT.
DOWN	BLK.

# PUMP ASSEMBLY, GRAVITY DOWN

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## PUMP ASSEMBLY, GRAVITY DOWN

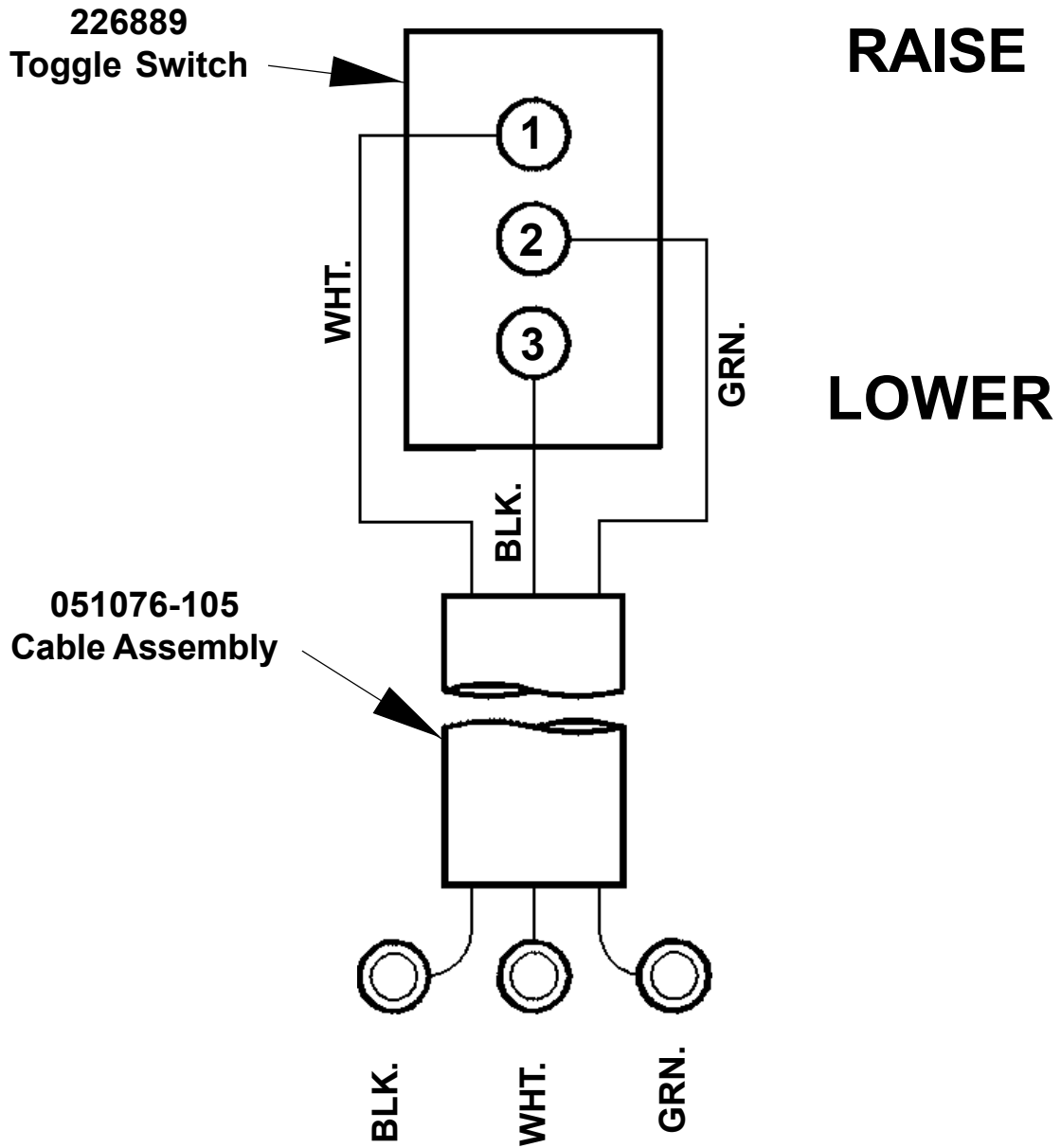
ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	229272	MOTOR, 12 VOLTS DC
2	1	253353	VALVE, SOLENOID 2-WAY
*2a	1	226594	O-RING KIT, 2-WAY VALVE
3	1	229200	COUPLING
4	1	260261	OIL SEAL
5	1	251885	CHECK VALVE KIT
5a	1	260234	VALVE CAP
5b	1	260255	RETAINER
5c	1	260231	SPRING
5d	1	260257	STEEL BALL
5e	1	260256	SOCKET HEAD CAPSCREW
6	1	260229	RELIEF VALVE KIT
6a	1	260232	ADJUSTING SCREW
6b	1	260234	VALVE CAP
6c	1	260235	O-RING
6d	1	260231	SPRING
6e	1	260233	SPRING GUIDE
6f	1	260230	STEEL BALL
7	1	229193	FILLER/BREATHER CAP
8	1	251882	RESERVOIR, 3 QT.
9	1	260250	FILTER
10	1	260272	PUMP ASSEMBLY
11	1	251884	O-RING
12	1	260273	DRIVEPLATE ASSEMBLY 5"
13	1	262866	BUS BAR
14	1	262939	SOLENOID SWITCH
*15	4	229202	CAPSCREW, HEX. WASHER HD.

\* NOT SHOWN

# HARNESS & SWITCH ASSY GRAVITY DOWN

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# POWER-DOWN SECTION

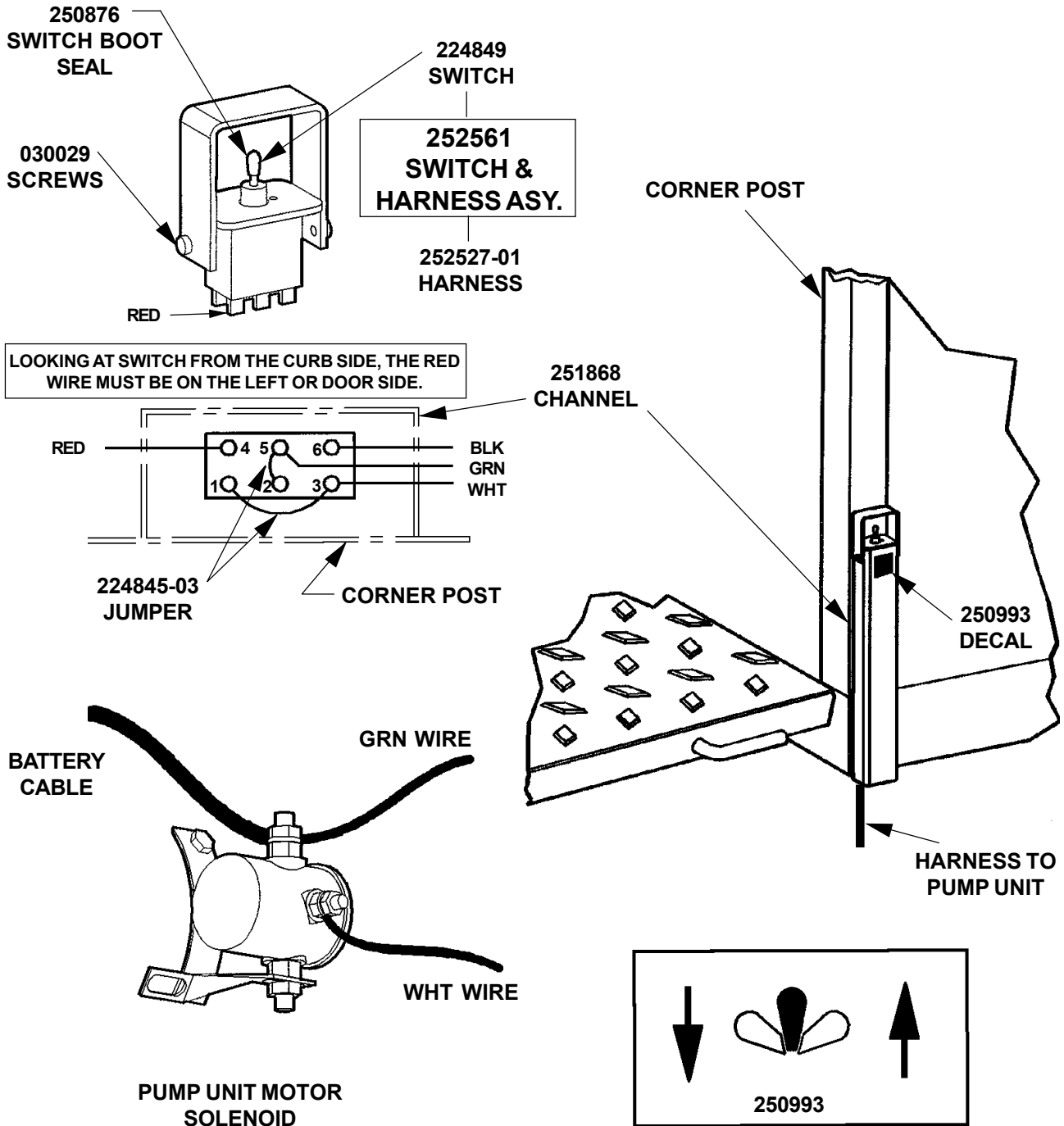
## TG-150 LM

## TG-20 LM

# CONTROL SWITCH, POWER DOWN

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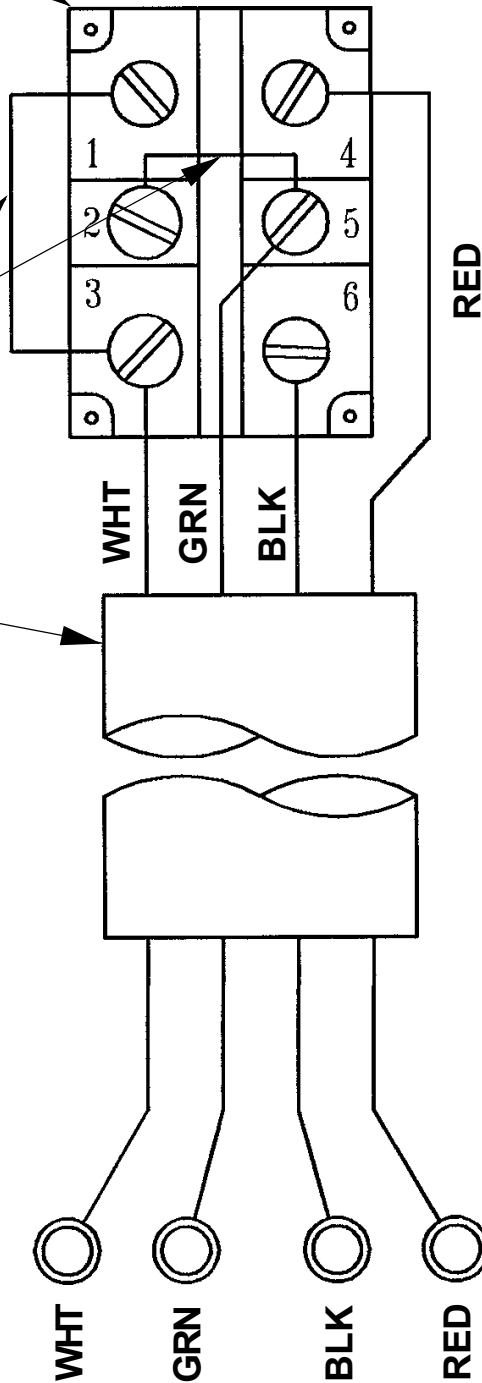


# 252561 HARNESS & SWITCH ASSY.

224849 SWITCH  
DP-DT 6 CON.

224845-03  
WIRE ASY. 2"

229068-01  
CABLE ASY.



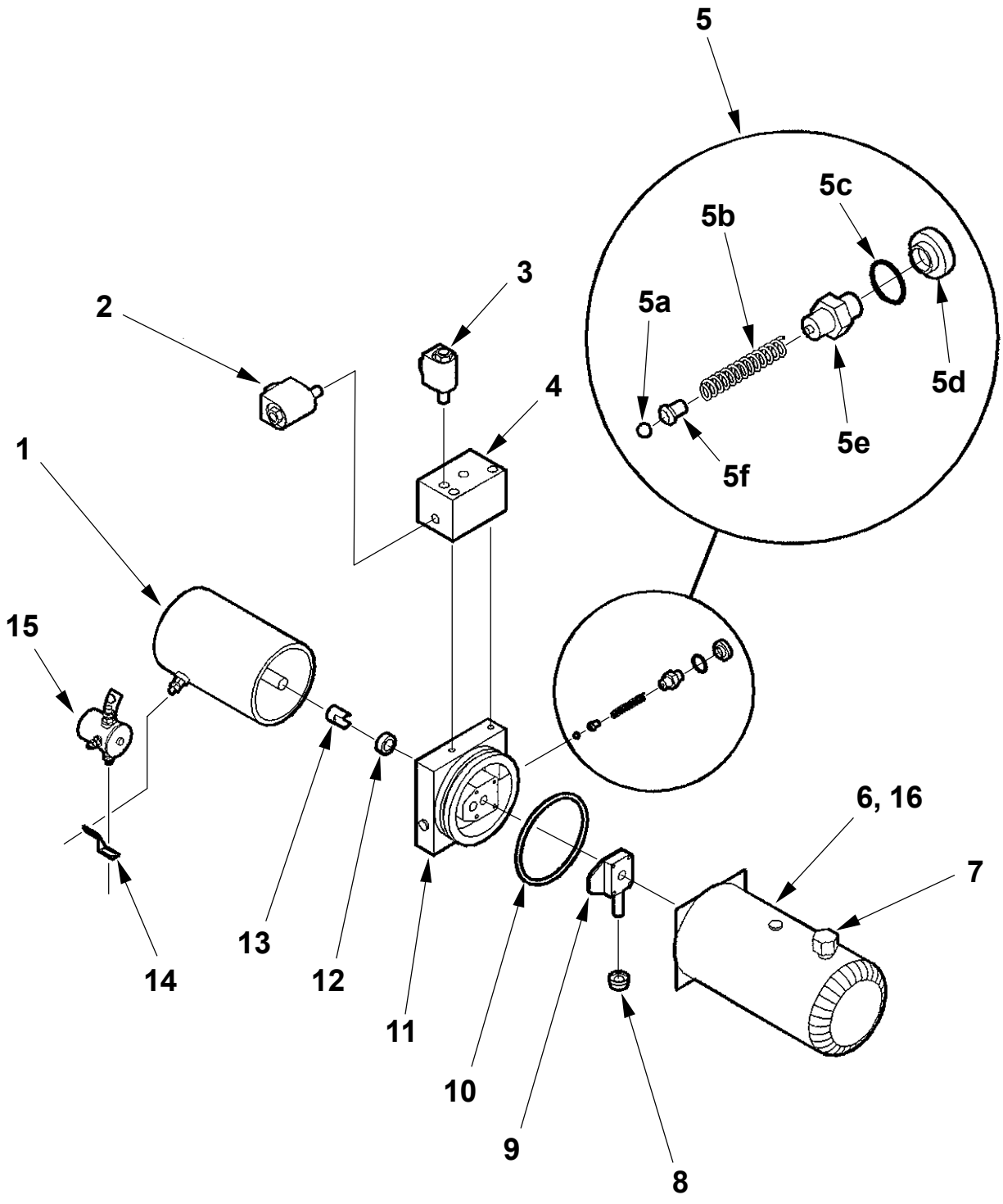
LOWER

RAISE

# PUMP ASSEMBLY, POWER DOWN

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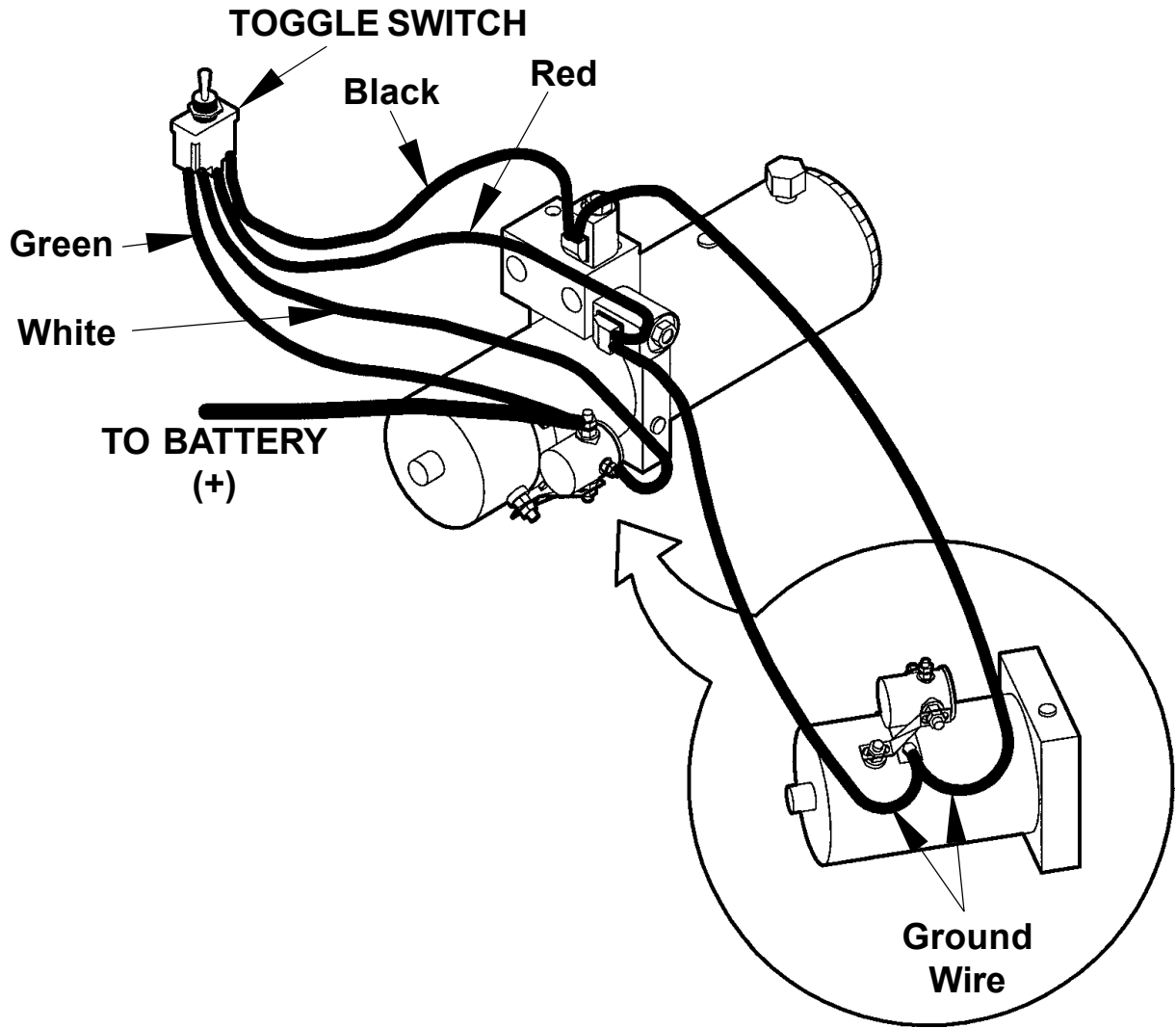
## PUMP ASSEMBLY, POWER DOWN

ITEM	QTY.	PART NO.	DESCRIPTION	
1	1	229272	MOTOR 12 VOLTS DC	(39200388)
2	1	260276	VALVE, SOLENOID 4 WAY	(38500040)
*2a	1	226595	O-RING KIT, 4-WAY VALVE	
3	1	253353	VALVE, SOLENOID (2 WAY)	(38502407)
4	1	260280	MANIFOLD BLOCK ASSEMBLY	(28600354)
5	1	260229	RELIEF VALVE KIT	(10901282)
5a	1	260230	STEEL BALL	(63800250)
5b	1	260231	SPRING	(37502092)
5c	1	260235	O-RING	(60108905)
5d	1	260234	VALVE CAP	(35901127)
5e	1	260232	ADJUSTING SCREW	(36101080)
5f	1	260233	SPRING GUIDE	(34301061)
6	1	229193	FILLER / BREATHER CAP	(69420006)
7	1	251882	RESERVOIR, 3QT.	(32301171)
8	1	260250	FILTER	(37201037)
9	1	260281	PUMP ASSEMBLY	(20001815)
10	1	251884	O-RING	(60120041)
11	1	260274	DRIVEPLATE ASSEMBLY 5"	(20002923)
12	1	260261	OIL SEAL	(60200077)
13	1	229200	COUPLING	(37901000)
14	1	229199	BUS BAR	(38901061)
	1	260270	SOLENOID SWITCH	(39002122)
*16	4	229202	HEX WASHER HD. CAPSCREW	(66700900)

\* NOT SHOWN

# WIRE CONNECTIONS POWER DOWN

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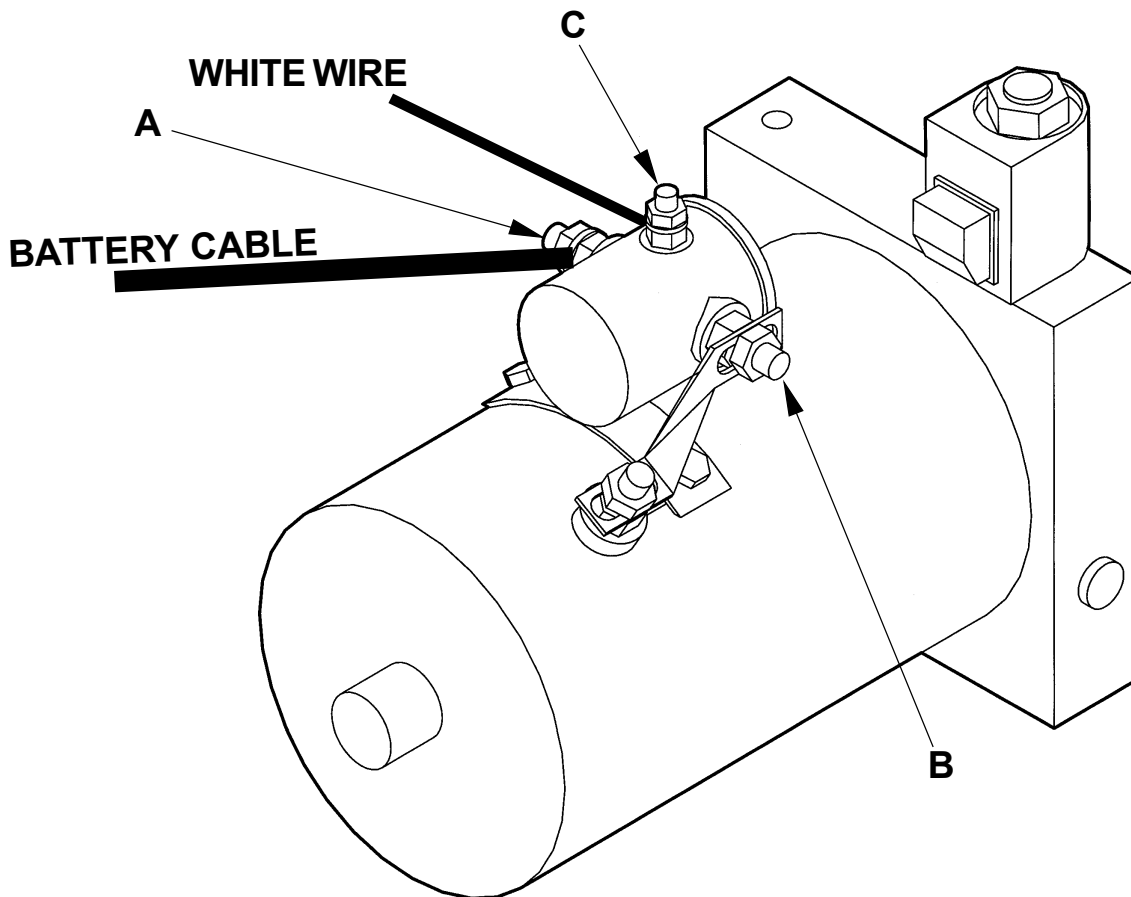


	<b>POWER TO</b>
<b>UP</b>	<b>WHT, RED</b>
<b>DOWN</b>	<b>WHT, BLK</b>

# TROUBLE SHOOTING

## PLATFORM WILL NOT RAISE

1. Verify that power is being supplied to the Solenoid Terminal “A”. Re-charge Battery if less than 12 Volts.
2. Touch a jumper wire on terminals “A” & “C”. If Motor runs,
  - a. Check switch, switch connections, and white wire. Correct connections or replace switch.
  - b. Check Solenoid Valve. (Ref. Next Page Item 7)
3. Touch heavy jumper cables to terminals “A” & “B”.
  - a. If motor runs, you must replace the motor solenoid.
  - b. If motor does not run, then you must repair or replace the motor.

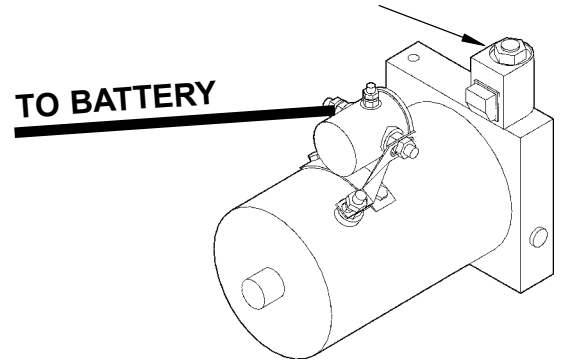


# TROUBLE SHOOTING

## PLATFORM WILL NOT LOWER

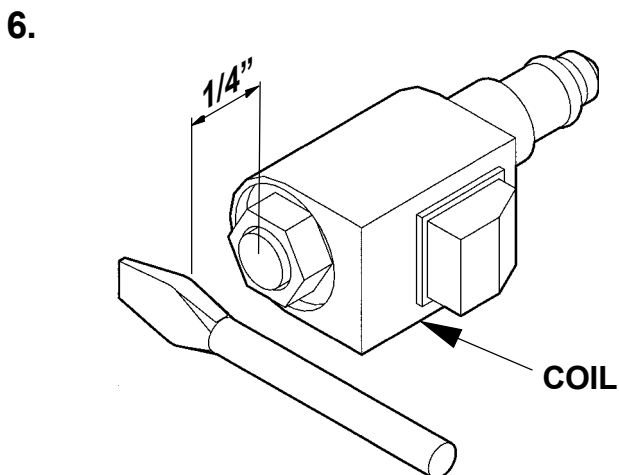
4. Activate the "RAISE" switch. Depress the Handle while activating the "LOWER" switch. If the Liftgate doesn't lower, verify that the Safety Hook is releasing properly. (Ref. "Safety Hook" detail sheet)
5. Check for 12 Volts of power when the solenoid valve located on top of the pump is energized. Energize by lowering the Platform. If voltage is low, re-charge or replace battery. If no voltage registers, check the connections on the solenoid wires and the switch. If the switch is defective, replace the switch.

### CHECK SOLENOID FOR POWER

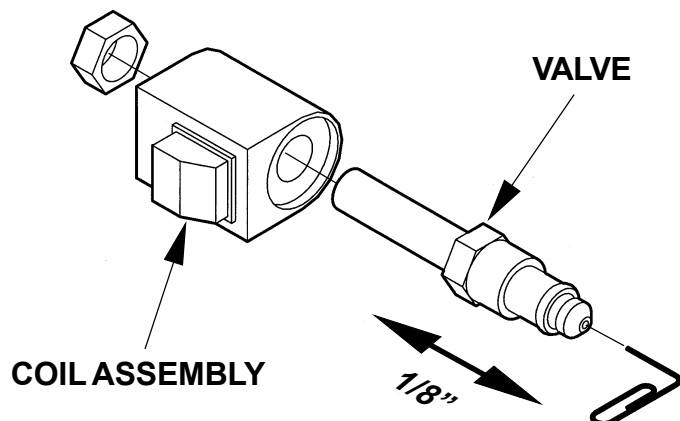


To check the solenoids for power, hold a screwdriver approximately 1/4" from the top nut of the solenoid and energize the unit.

If the solenoid is good, it will draw the screwdriver to the nut through magnetic force. If not, the coil must be replaced. The Coil will slip off when the Nut and Wires are removed.



- 6.
7. To check the valve itself, remove the **Coil Assembly**, then unscrew the **Valve**, from the Pump. Using a Paper Clip, push on the plunger inside the valve. It should move freely approximately 1/8". If not, replace the Valve.



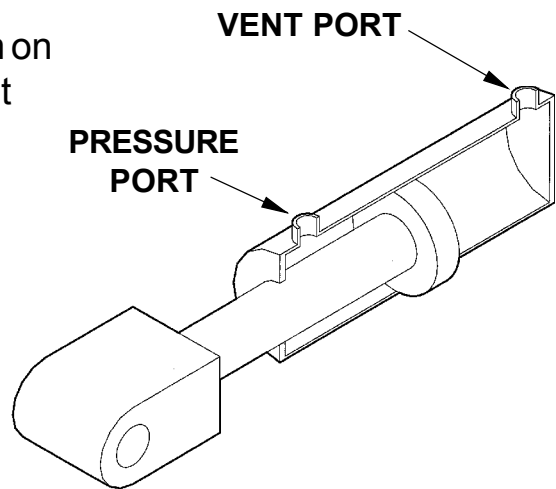
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# TROUBLE SHOOTING

## PLATFORM RAISES BUT LEAKS DOWN

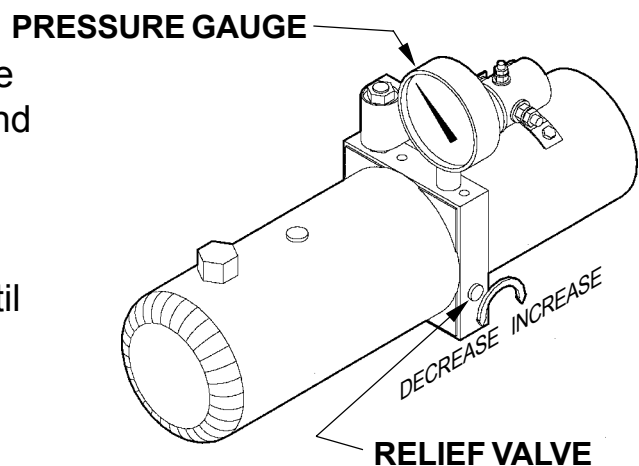
8. Check solenoid valve as noted on item #7. Inspect "O- Ring" for damage and wash the Valve in solvent to remove any foreign substances inside the **Valve**. If the plunger still does not move freely approximately 1/8", then replace the **Valve**.
9. Check Hydraulic Cylinder. With Platform on the ground, remove breather plug or vent line from vent port of cylinder. Raise Platform to bed level. If oil streams from vent port, the Piston Seals are worn. See breakdown drawing.



## LIFT GATE WILL NOT PICK UP

### RATED CAPACITY

10. With Platform on the ground, remove the pressure hose from the Pump and replace it with a Pressure Gauge. Raise Platform to bed level and hold switch in the "UP" position. Adjust Relief Valve on side of the Pump until gauge shows 2800 to 3000 P.S.I.



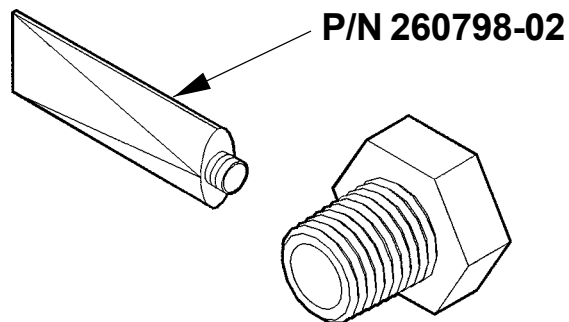
11. Check Hydraulic Cylinder per item #9.
12. If Pump can not produce 2800 to 3000 P.S.I. and a minimum of 12 Volts are available, Pump is worn and requires replacement.





## LIQUID SEALANT APPLICATION

1. Clean all threads with a soft brush and a suitable cleaning solvent.
2. Dry threads thoroughly with compressed air or shop towel.
3. Apply the Liquid Sealant (Compound PLS 2), to the external threads of the Male Connector.
4. Assemble the fitting and torque it to the prescribed value.
5. Check for leakage. If leakage exists, remove the fitting and return to Step # 1.
6. If fitting is loosened or removed, return to Step # 1.



### **CAUTION**

Due to the 80% lead content in PLS 2, follow these safety and first aid precautions:

**Eye Contact** - Flush eyes immediately with large quantities of water, lifting the upper and lower eyelids occasionally. If irritation persists, consult a physician.

**Skin Contact** - Flush the contaminated skin and wash with soap and water.

**Ingestion** - If person is conscious, give large quantities of water to drink and induce vomiting. Consult a physician immediately.