

M-91-12
REV. 3
MARCH 1996

MAINTENANCE MANUAL

TUK-A-WAY[®] **LIFT GATE SERIES**

72-150 B

TE-20 B

MAXON[®]
LIFT CORP.

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



11921 Slauson Ave.
Santa Fe Springs, CA. 90670

CUSTOMER SERVICE:

(562) 464-0099

(800) 227-4116

FAX: (888) 771-7713

TECHNICAL SERVICE:

(800) 8-MAXTEK (862-9835)

NOTE: Check with Customer Service Department 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.

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

PURCHASE PART WARRANTY

Term of Warranty: 1 Year from Date of Purchase Type of Warranty: Part Replacement and Replacement Labor

MAXON will guarantee all returned genuine replacement parts upon receipt, and inspection of parts and invoice. All Warranty repairs must be performed by an authorized MAXON warranty station.

For major repairs, MAXON's Warranty Department must be notified, and an "Authorization Number" received. 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.G.A. (Returned Goods Authorization) number must be obtained from MAXON's Warranty Department prior to the return of any defective part. Defective Parts must be returned within 60 days of the claim date for consideration to:

**Warranty Department, MAXON Lift Corp.
5920 Alameda St., Huntington Park, CA. 90255**

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

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

Warranty and Technical Information is available by calling MAXON's Customer Service Department.

INDEX

DESCRIPTION	PAGE NO.
WARNING AND PERIODIC MAINTENANCE	PG. 1-2
DECALS	PG. 3
PLATFORM MAINTENANCE	PG. 4-5
ASSEMBLY PARTS BREAKDOWN	PG. 6-8
GRAVITY DOWN SECTION	PG. 9-16
POWER DOWN SECTION	PG. 17-24
TROUBLE SHOOTING	PG. 25-27

WARNING!

1. Read the **Maintenance Manual** and understand it thoroughly before any maintenance of this unit is done.
2. Read the **RED** 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 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 the unit.
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
1960 Slauson Ave., Huntington Park, Ca. 90255
Phone: (213) 589-7321

MONTHLY MAINTENANCE CHECK LIST

1. Check the oil level in the Pump Reservoir. With the platform lowered to the ground, the oil (Grade ISO-(32) Hydraulic Fluid), should be approx. 1" below the top of the reservoir.
* See below for cold weather operation.
2. Check hoses and fittings for scuffing and leaks. Replace if necessary.
3. Check the electrical wiring for worn insulation, and the terminals for corrosion and secure fit.
4. Visually check the complete unit for excessive wear, worn parts or broken welds. For parts replacement see the breakdown drawings.
5. Check all bolts for tightness.
6. Check that all Warning Decals are in place and readable.
7. Check that all roll pins are properly installed. Replace if necessary.

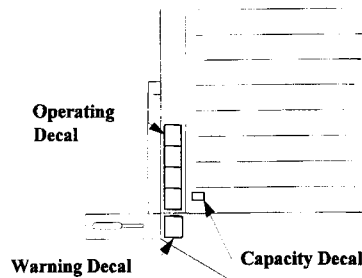
* **COLD WEATHER OPERATION**

HYDRAULIC FLUID CHART	
VENDOR NAME	VENDOR PART NO.
ROSEMEAD OIL	ROSEMEAD MV 150 (32)
MOBIL OIL	MOBIL DTE 13M
CHEVRON OIL	CHEVRON AW MV32

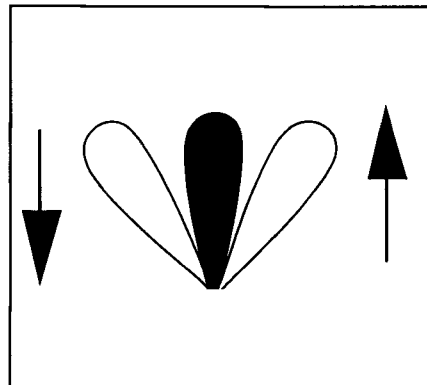
OIL SPECIFICATIONS:

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

These Decals are located on the rear corner post of the vehicle, at the control position. They should be read completely and understood before operating the Lift Gate. 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 Dept.



SUGGESTED DECAL LOCATIONS



P/N 250993

**URGENT WARNING
ELEVATING GATE INSTRUCTIONS**

Before Operating Lift, be sure you understand

1. 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, as appropriate, before you attempt to operate the lift.
2. Be certain that the vehicle is properly and securely braked before using the lift.
3. 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. Do not attempt your own repairs, unless you are specifically trained.
4. Do not overload. See the Mfg. Literature for the rated load. Remember that this limit applies to both raising and lowering operations.
5. Each load should be placed in a stable position as near as possible to the center of the platform.
6. Never stand in or move through or allow anyone else to stand in or move through the area in which the lift may operate or into which an upset load might fall.
7. This is not a passenger lift. Do not ride the lift with unstable loads or in such a manner that a failure would endanger you. The lift is not equipped with a back-up system to prevent falling in the event of a failure.

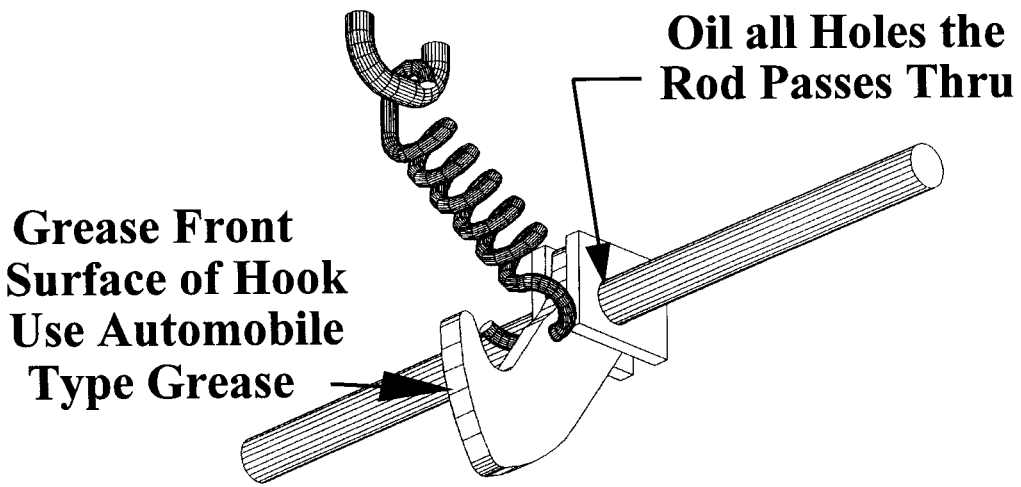
PART NO. 50159

Operating Instructions TUK-A-WAY Units	
Depress Handle & Activate Toggle Switch to Lower Stowed Lift Gate ① This Point Must Touch Ground	
Open Platform ②	
Open Flipover ③	
Activate Toggle Switch to Raise or Lower Platform ④	
⑤ To Tuck Unit Away After Use, Reverse Steps ①② & ③	
MAXON <small>MAXON LIFT CORP. Los Angeles, Ca.</small>	
251867	

THE MAXIMUM CAPACITY
OF THIS LIFT IS
1500 POUNDS
WHEN THE LOAD IS
CENTERED ON THE LOAD
CARRYING PLATFORM

THE MAXIMUM CAPACITY
OF THIS LIFT IS
2000 POUNDS
WHEN THE LOAD IS
CENTERED ON THE LOAD
CARRYING PLATFORM

SAFETY HOOK



When the Platform is raised to full "Stowed" position, there should be a loud audible snap of the **Safety Hook** engaging the **Platform Loop**. Visually check to see that the loop is positioned over the Safety Hook. To insure that the Safety Hook is seated as described, test by activating the Toggle Switch in the "Down" mode. Gate should be held by the Safety Hook. If not, adjust the loop as shown in **Figure 1**, to achieve adjustment shown in **Figure 2**.

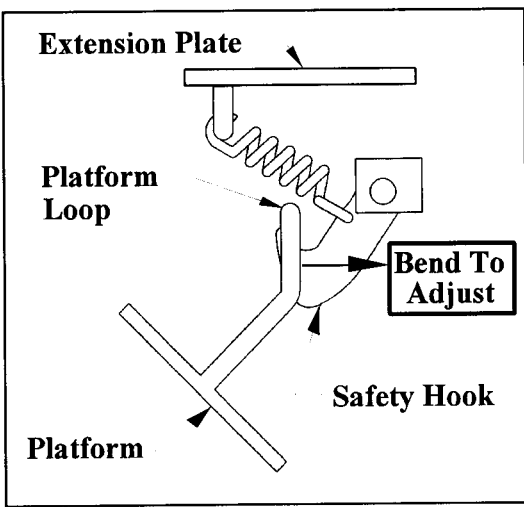


Figure 1
INCORRECT

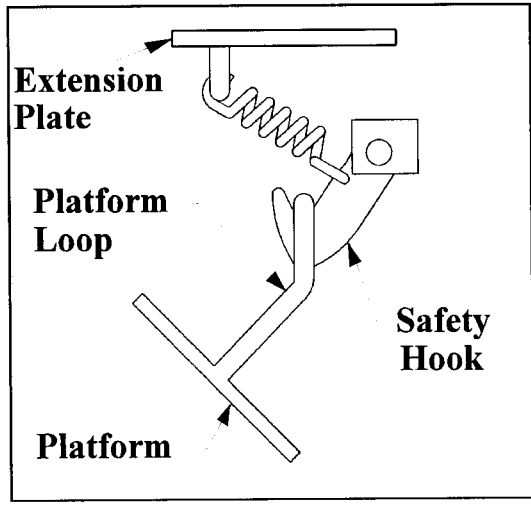
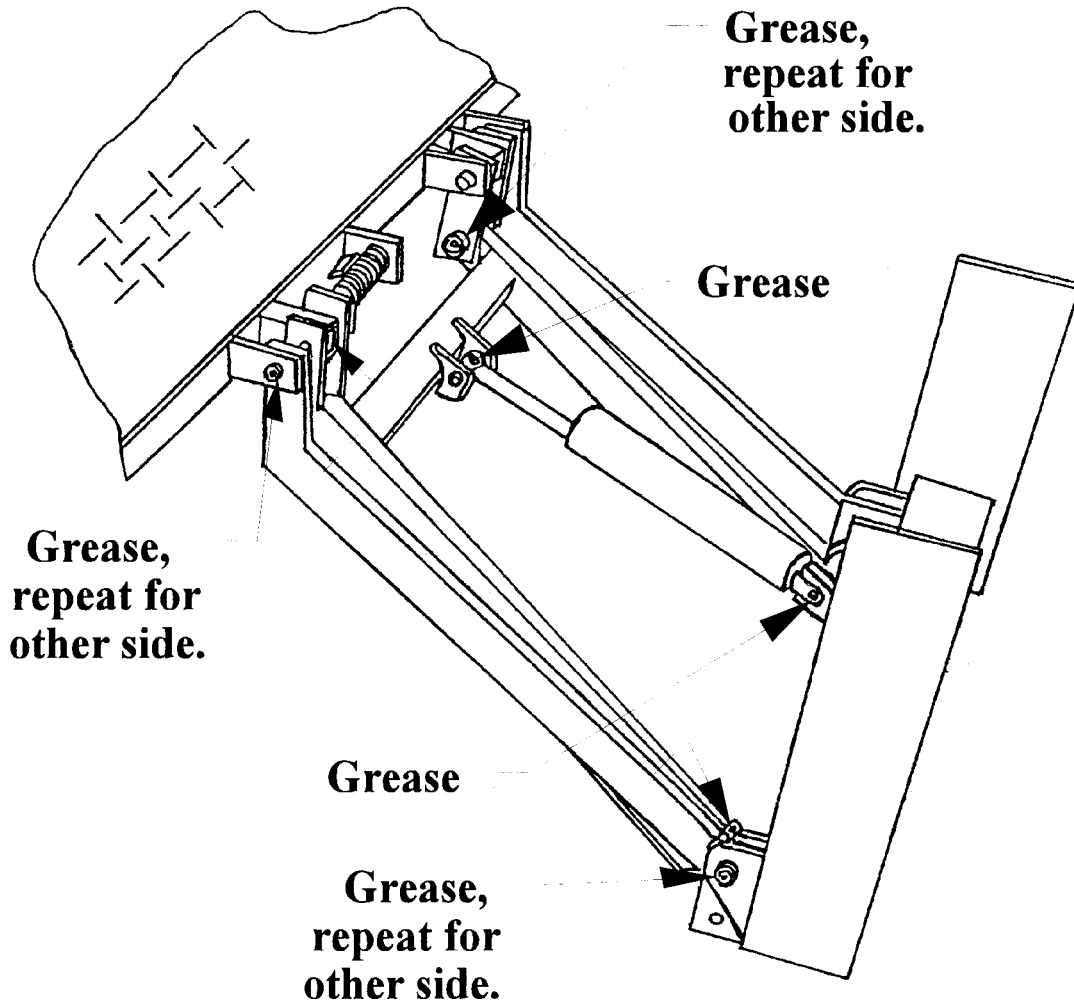


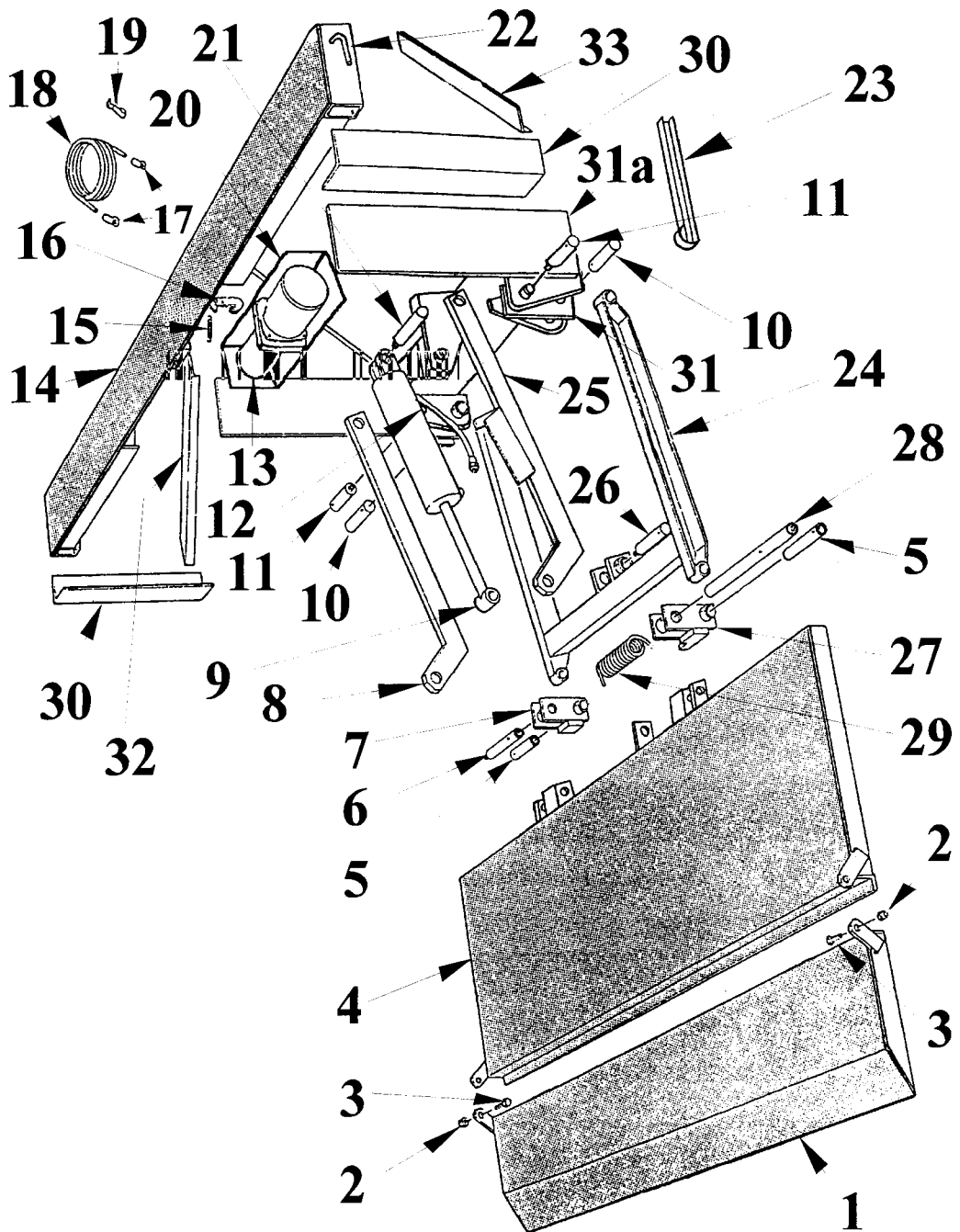
Figure 2
CORRECT

LUBRICATION

Lubricate monthly. Use Automobile type grease. Grease at points illustrated.



72-150B ASSEMBLY
TE-20B ASSEMBLY



**72-150B ASSEMBLY
TE-20B ASSEMBLY**

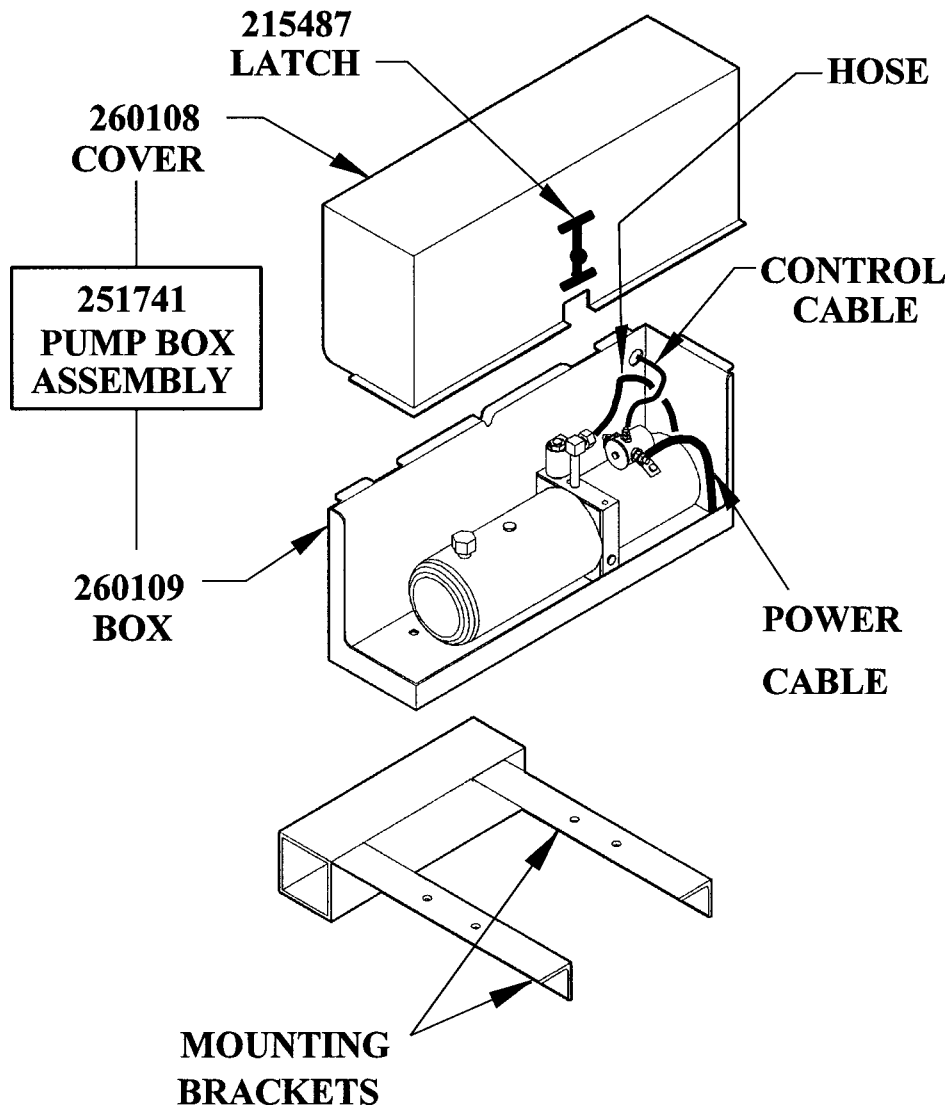
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	205012	FLIPOVER ASSEMBLY, RAMP END (Shown)
		205015	FLIPOVER ASSY., BUTT END (Not Shown)
2	2	203869	NUT, HEX HEAD ELASTIC
3	2	40472	BOLT, 1/2-20UNF x 1-1/4"(GRADE 5)
4	1	224610-01	PLATFORM ASSEMBLY 72"
		224610-02	PLATFORM ASSEMBLY 84"
5	2	225301	PIN, LIFT FRAME
6	1	205106-9	PIN, PARALLEL ARM L.H.
7	1	226536-01	SHACKLE ASSEMBLY LH
8	1	206337	PARALLEL ARM, LH
9	1	225642	CYLINDER 3"x 10" (72-150)
		A	225642-SK SEAL KIT
		225643	CYLINDER 3-1/2"x 10" (TE-20)
		B	225643-SK SEAL KIT
10	2	203405-2	PIN, LIFT FRAME
11	2	205106-8	PIN, PARALLEL ARM
12	1	201695	AIR BREATHER, (POWER DOWN ONLY)
13	1	250100	PUMP, 3 QUART STANDARD DUTY
		253473	PUMP, 3 QUART POWER DOWN
14	1	204090	EXTENSION PLATE ASSEMBLY
15	1	215345	SPRING, SAFETY HOOK

CONT'D. NEXT PAGE

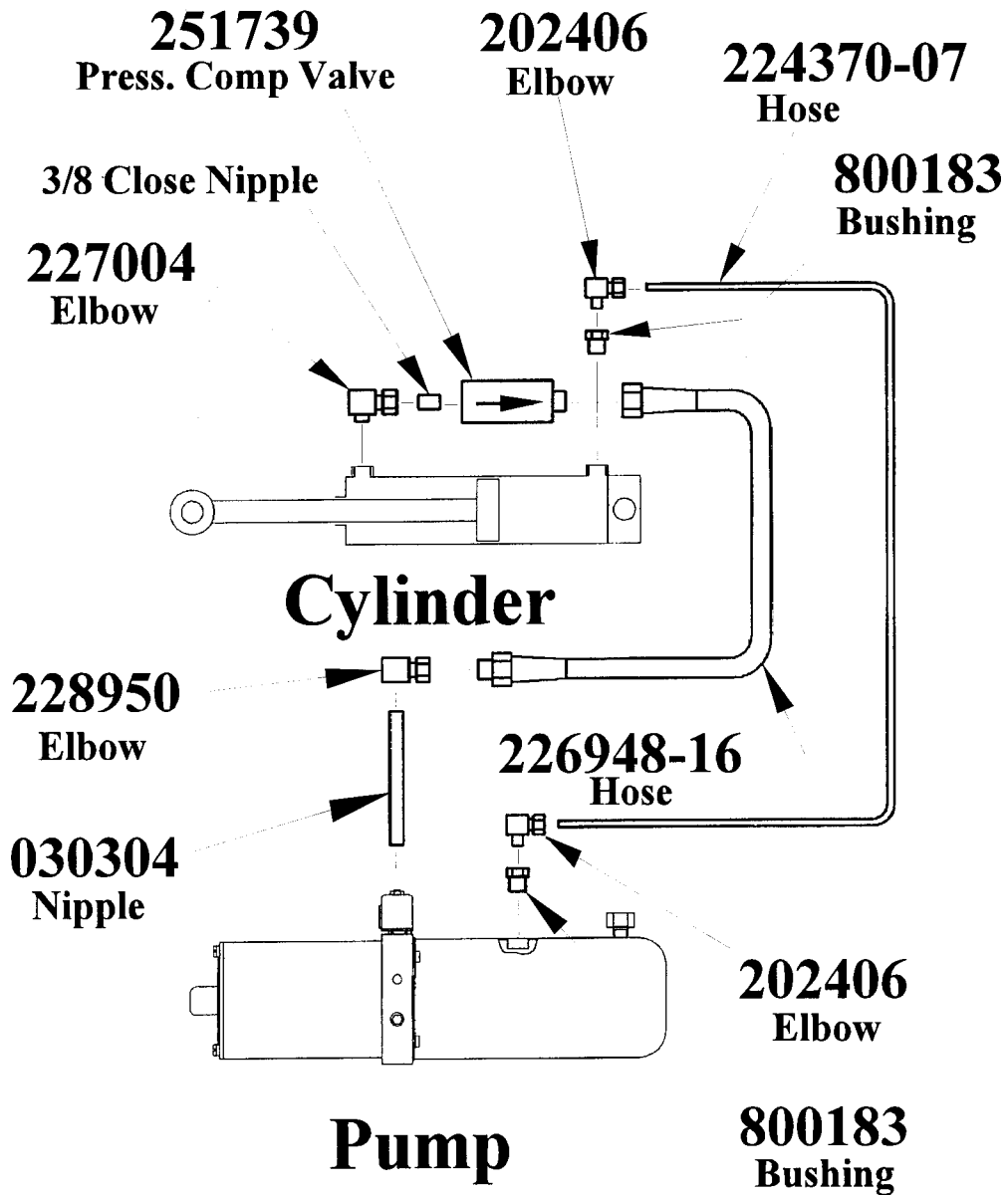
**72-150B ASSEMBLY
TE-20B ASSEMBLY**

ITEM	QTY.	PART NO.	DESCRIPTION
16	1	215341	SAFETY HOOK ASSEMBLY
17	4	226778	CABLE END, #2
18	1	251871	CABLE, #2 x 32 FT. LONG
19	7	050079	CABLE FRAME CLIP
20	1	251741	PUMP BOX
21	1	226016	PIN CYLINDER CLEVIS END
22	1	201606	HANDLE, HOOK RELEASE
23	1	226046	PLATFORM OPENER
24	1	224830-01	LIFT FRAME ASSEMBLY
25	1	225948	PARALLEL ARM ASSEMBLY RH
26	1	205031	PIN, CYLINDER ROD END
27	1	226536-02	SHACKLE ASSEMBLY RH
28	1	205106-7	PIN, PARALLEL ARM RH
29	1	201640	TORSION SPRING
30	2	201638	DOCK BUMPER OPTION
31	1	251876	MAIN FRAME ASSEMBLY
31a	2	227323	MOUNT PLATE x 17-1/4"
32	1	205123-01	SUPPORT ANGLE LH (OPTIONAL)
33	1	205123-02	SUPPORT ANGLE RH (OPTIONAL)
34	1	203411	LATCH HANDLE, ST. SIDE OPTION (NOT SHOWN)
35	1	203410	RUBBER DOCK BUMPER OPTION (NOT SHOWN)
36	1	203417	RENTAL LOCK DEVICE (NOT SHOWN)

PUMP ENCLOSURE



HYDRAULIC ASSEMBLY

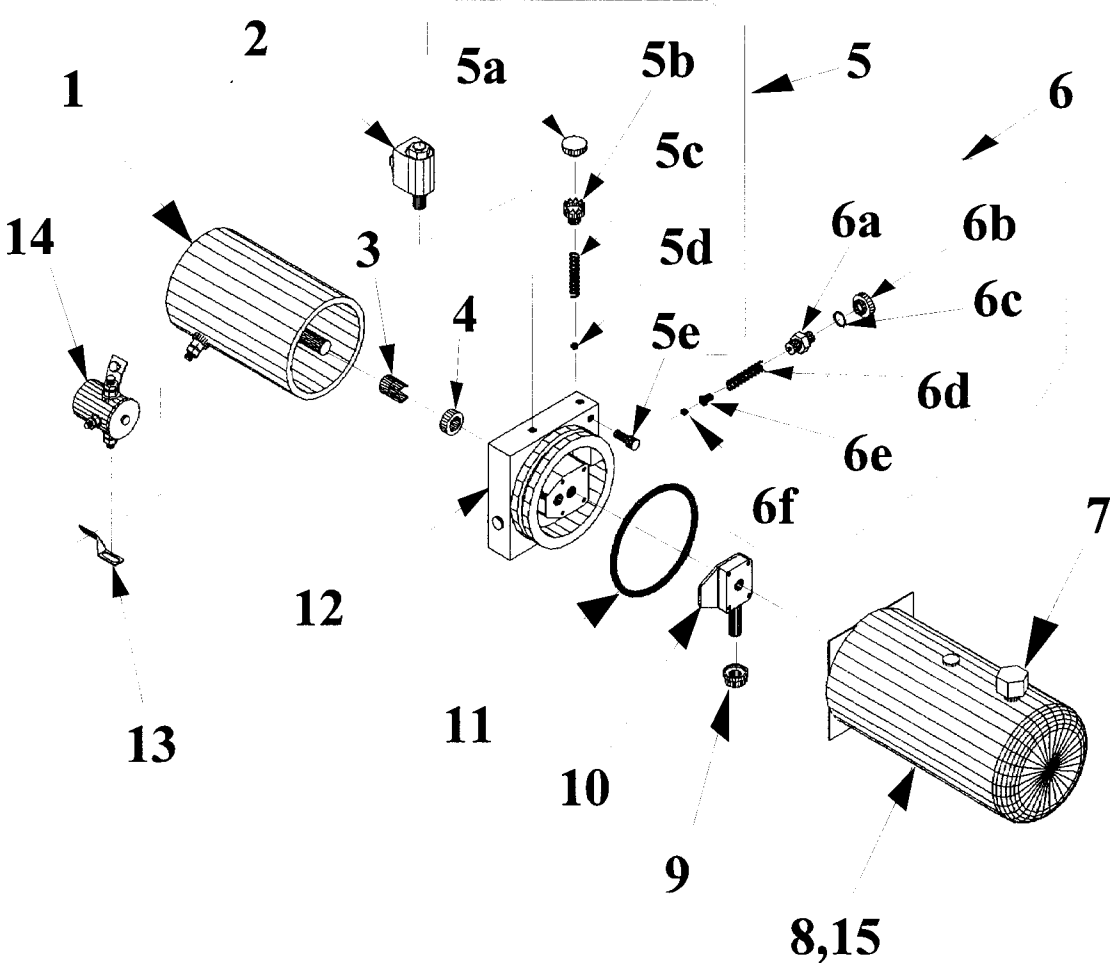


250100 STANDARD DUTY PUMP ASSEMBLY

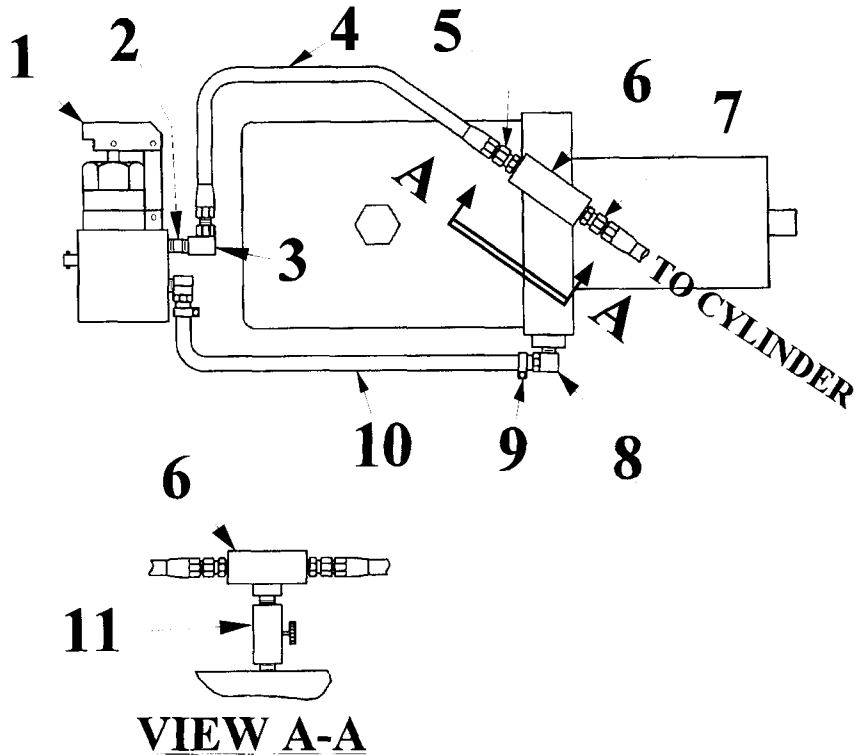
ITEM No.	QTY.	PART NO.	DESCRIPTION
1	1	229272	MOTOR 12 VOLTS DC (39200388)
2	1	253353	VALVE, SOLENOID 2 WAY (38502407)
*2a	1	226594	O-RING KIT, 2-WAY VALVE
3	1	229200	COUPLING (37901000)
4	1	260261	OIL SEAL (60200077)
5	1	251885	CHECK VALVE KIT (10902019)
5a	1	260234	VALVE CAP (35901127)
5b	1	260255	RETAINER (34301041)
5c	1	260231	SPRING (37502092)
5d	1	260230	STEEL BALL (63800250)
5e	1	260256	SOCKET HD CAP SCREW (65914100)
6	1	260229	RELIEF VALVE KIT (10901282)
6a	1	260232	ADJUSTING SCREW (36101080)
6b	1	260234	VALVE CAP (35901127)
6c	1	260235	O-RING (60108905)
6d	1	260231	SPRING (37502092)
6e	1	260233	SPRING GUIDE (34301061)
6f	1	260230	STEEL BALL (63800250)
7	1	229193	FILLER BREATHER CAP (69420006)
8	1	251882	RESERVOIR, 3 QT. (32301171)
9	1	260250	FILTER (37201037)
10	1	260272	PUMP ASSEMBLY (20001794)
11	1	251884	O-RING (60120041)
12	1	260273	DRIVEPLATE ASY 5" (20002928)
13	1	229199	BUS BAR (38901061)
14	1	260270	SOLENOID SWITCH (39002122)
*15	4	229202	HEX WASHER HD. CAPSCREW (66700900)

* NOT SHOWN

**250100 STANDARD DUTY
PUMP ASSEMBLY**



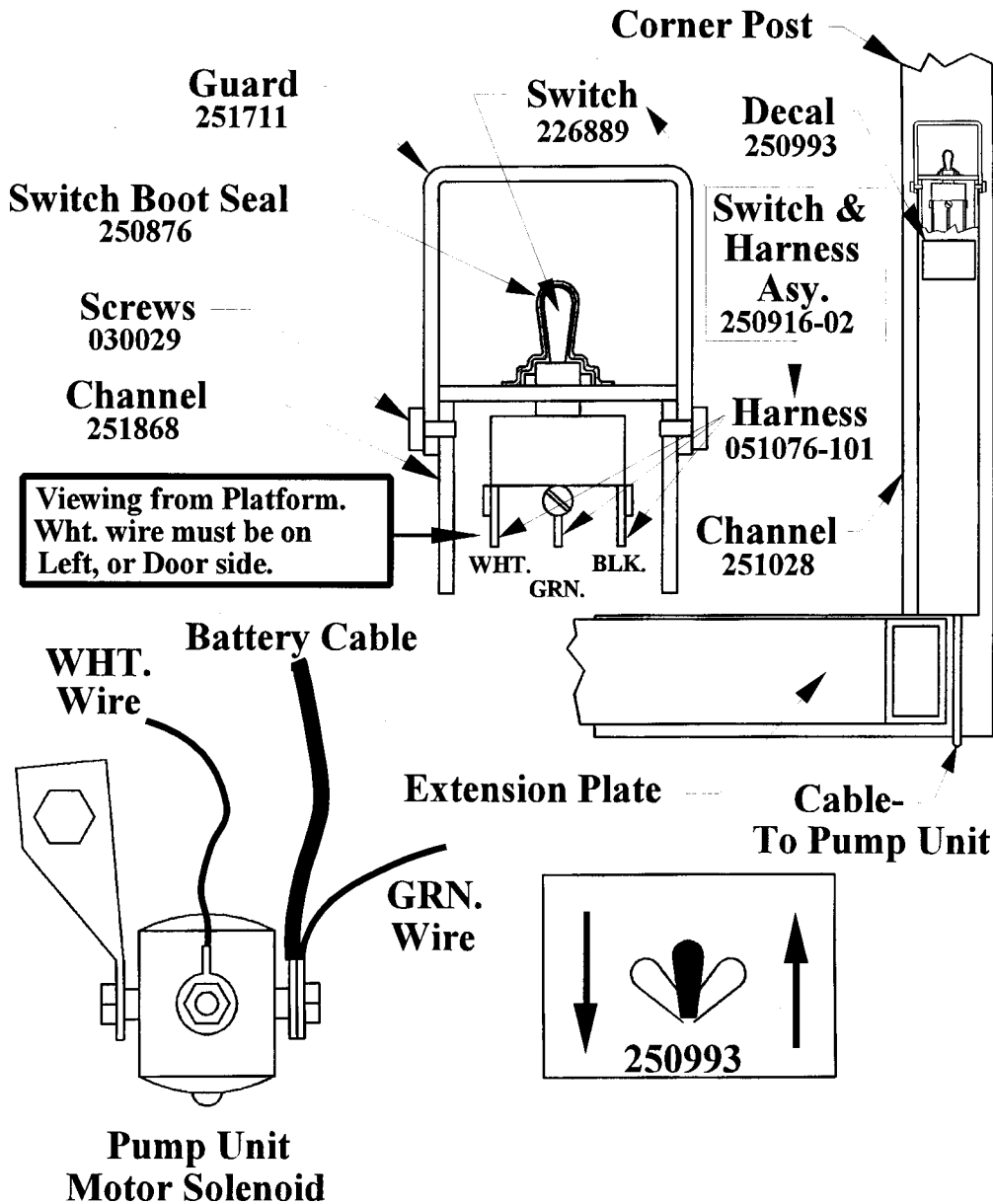
HAND PUMP, STD.



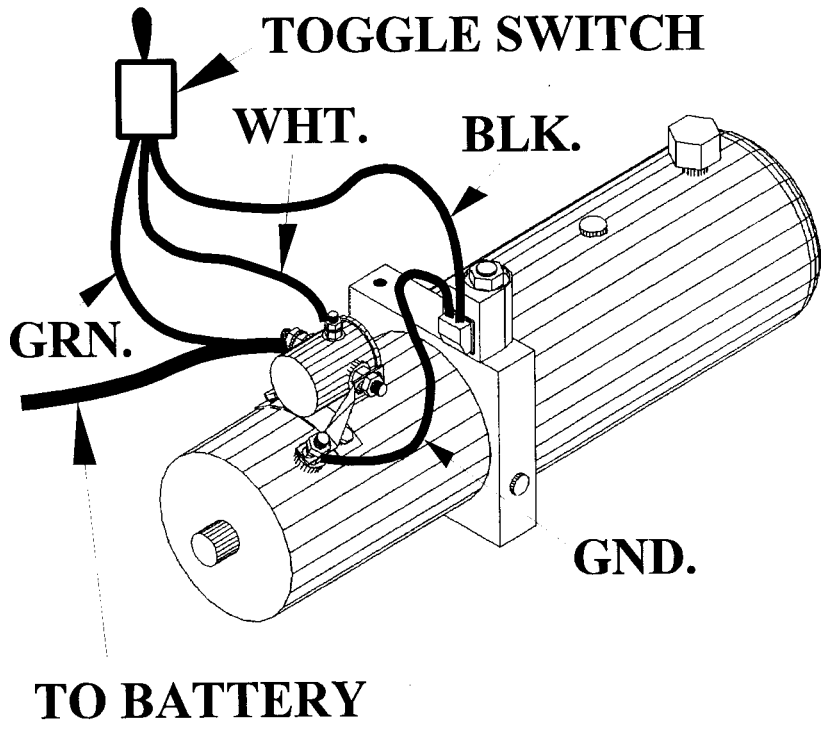
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	251407	HAND PUMP W/HANDLE
2	1	030282	NIPPLE, 1/4" x 1-1/2" LG.
3	1	226063	ELBOW, 90 DEG. 1/4" F-F
4	1	226948-09	HOSE ASY. H.P. 1/4" x 18-1/2" LG.
5	1	251852	FITTING STRAIGHT, 3/8M x 1/4F SWIVEL
6	1	251851	TEE 3/8M-3/8(F-F)
7	1	228151	FITTING STRAIGHT, 3/8M x 3/8F SWIVEL
8	2	251853	ELBOW, 90 DEG. 1/4"M x 3/8" PUT ON
9	2	251854	CLAMP, GEAR TYPE
10	1	251856	HOSE, 3/8"L.P. x 20" LG.
11	1	251850	VALVE, NEEDLE 3/8"M-F

CONTROL SWITCH

Assemble Switch in Mount Bracket as shown. When mounting bracket on Channel, note the location of White and Black wires.

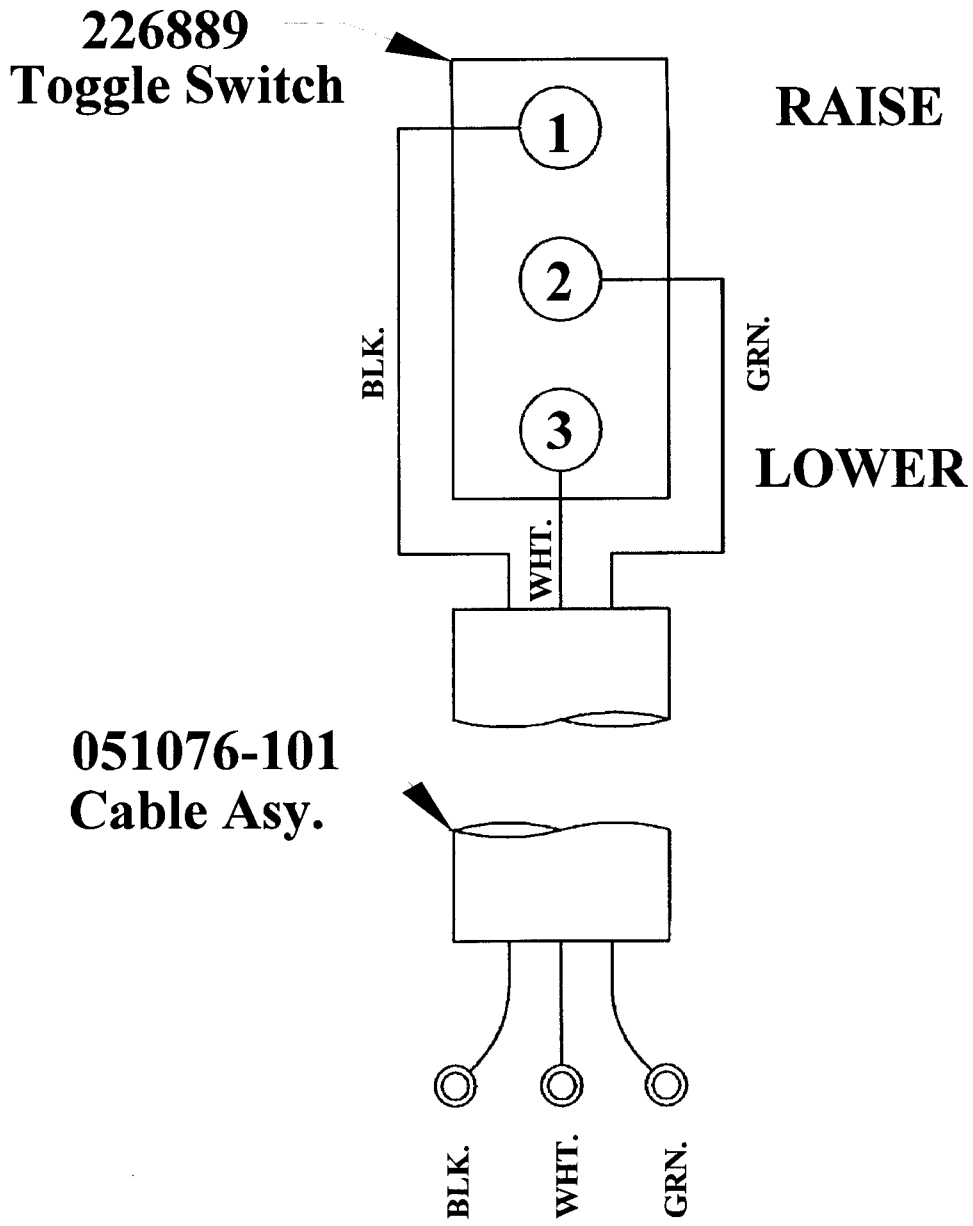


**GRAVITY DOWN
WIRE CONNECTIONS**



	POWER TO
UP	GRN. & WHT.
DOWN	GRN. & BLK.

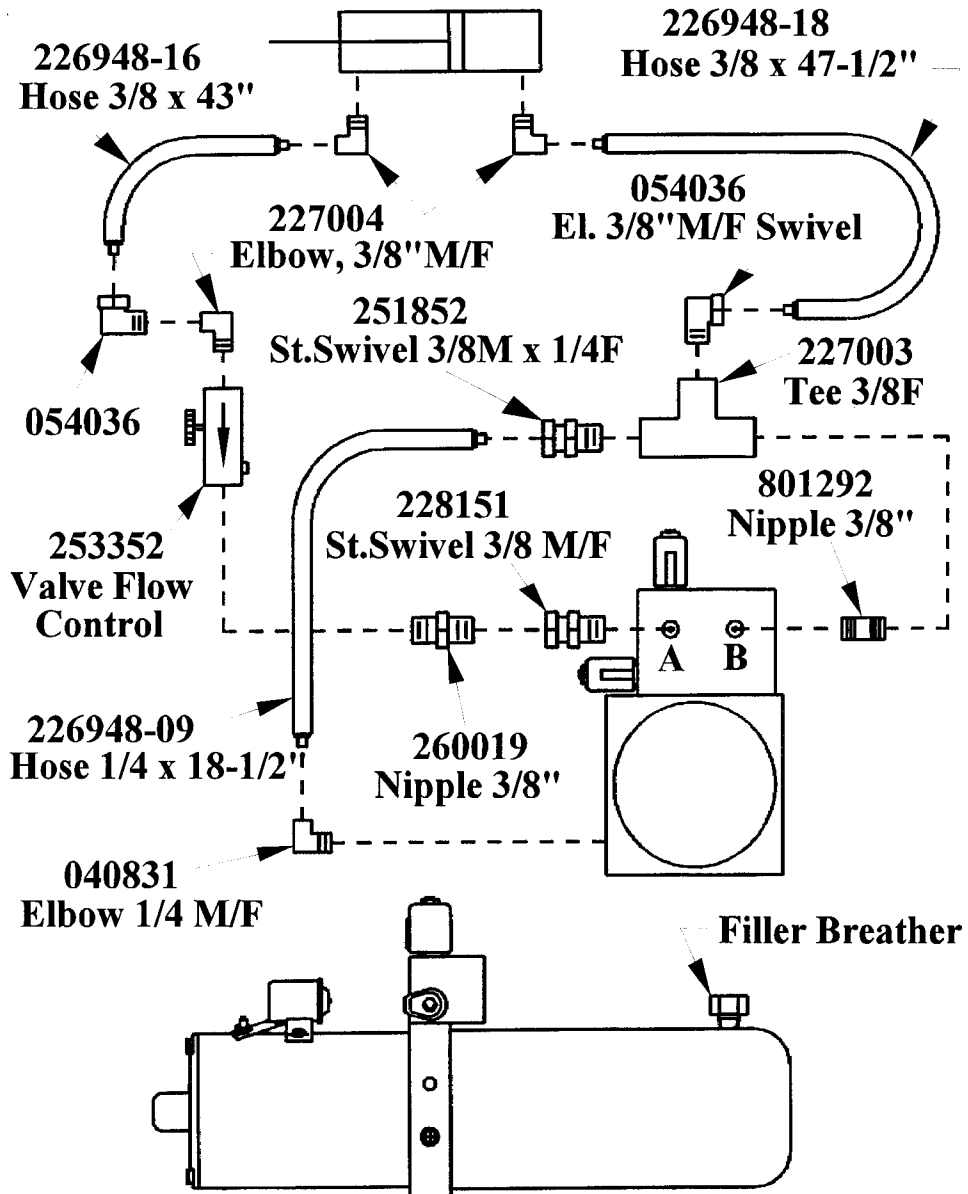
**HARNES & SWITCH ASY.
GRAVITY UP/DOWN
250916-02**



**POWER-UP
POWER-DOWN
SECTION**

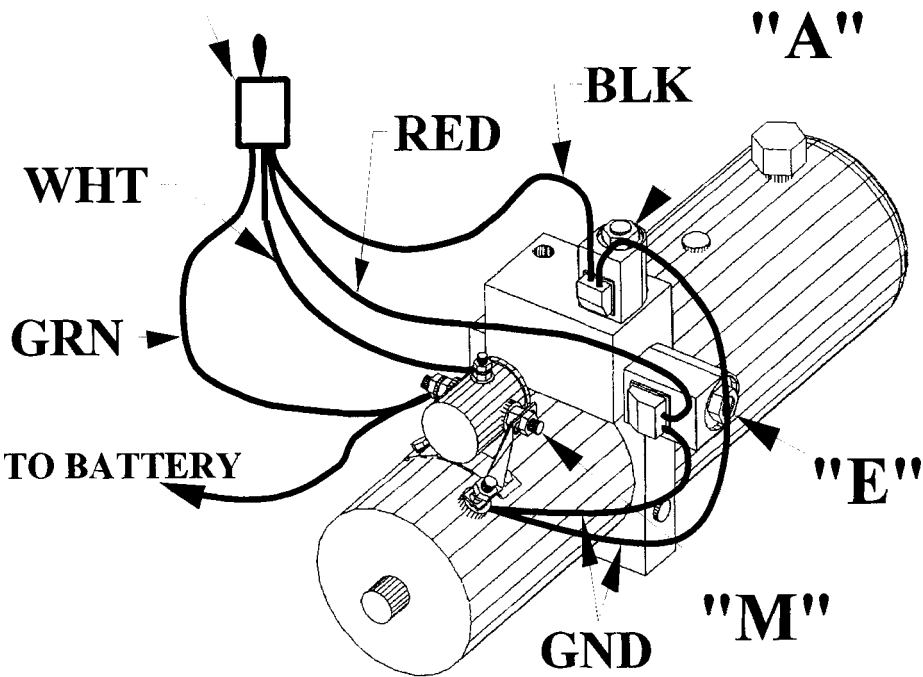
**TUK-A-WAY
72-150 B
TE-20 B**

POWER UP/POWER DOWN



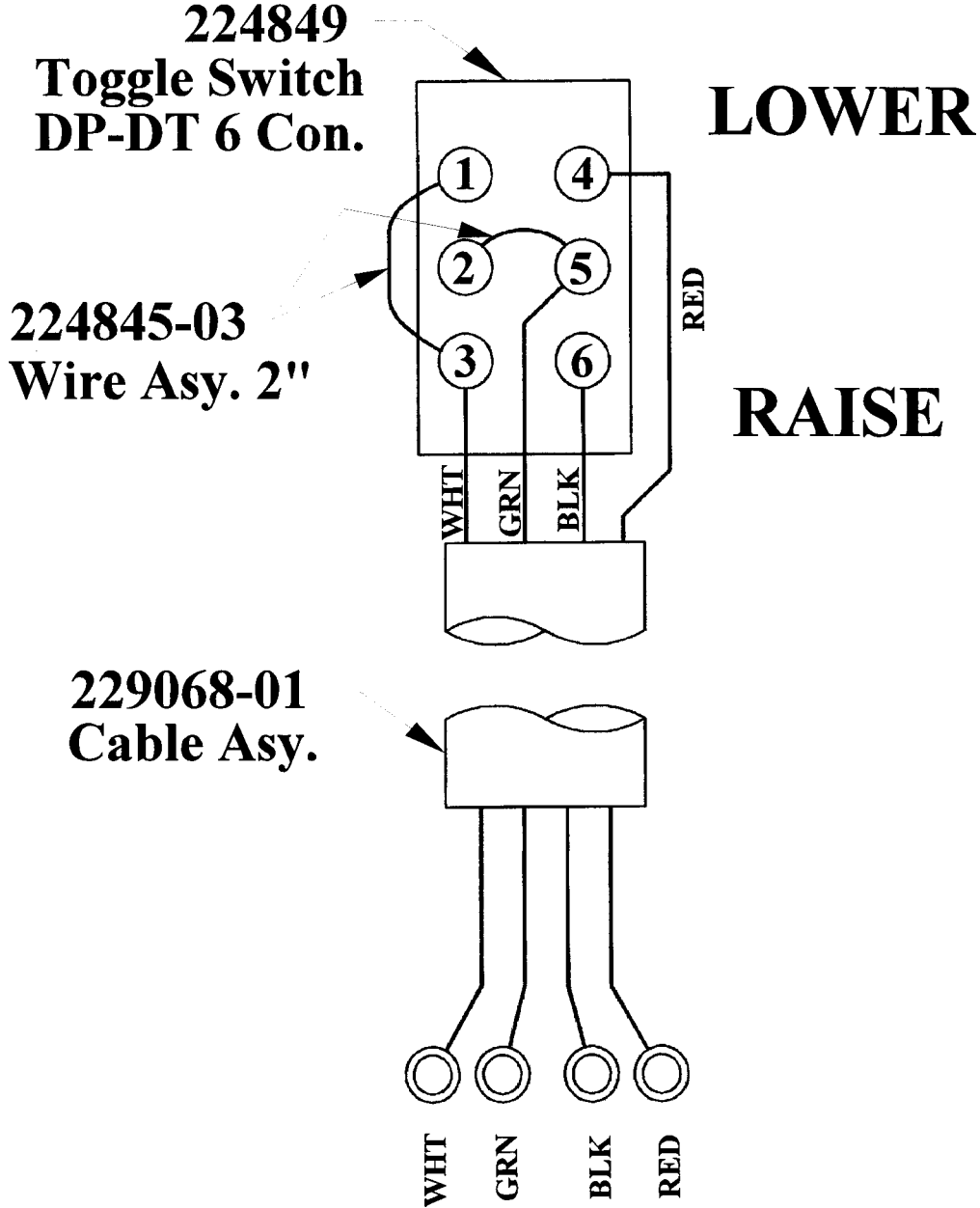
CONTROL WIRE CONNECTIONS

TOGGLE SWITCH CONTROL STATION



	POWER TO
UP	M & E
DOWN	M & A

**HARNES & SWITCH ASY.
POWER UP/DOWN
252561**

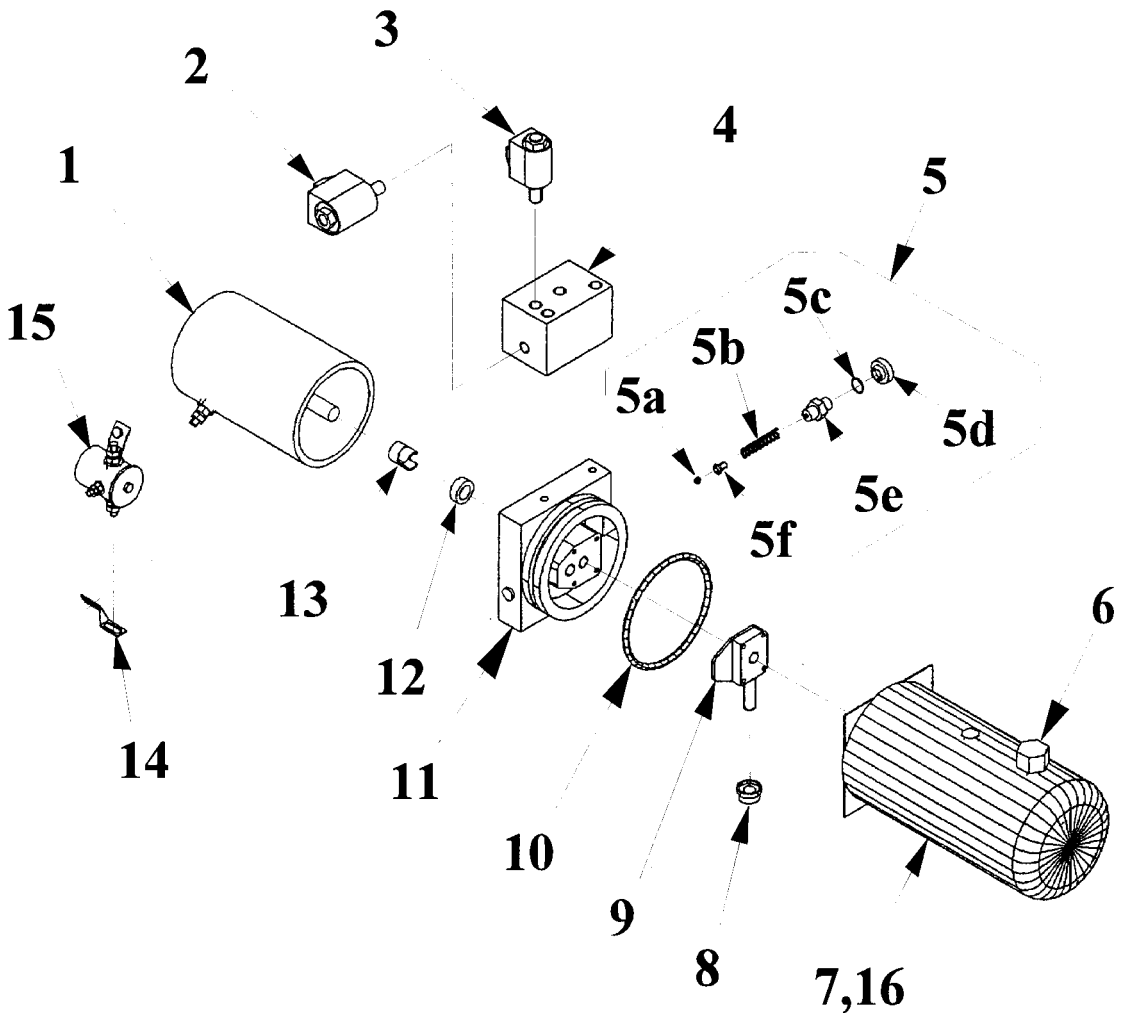


253473 POWER DOWN PUMP ASSEMBLY

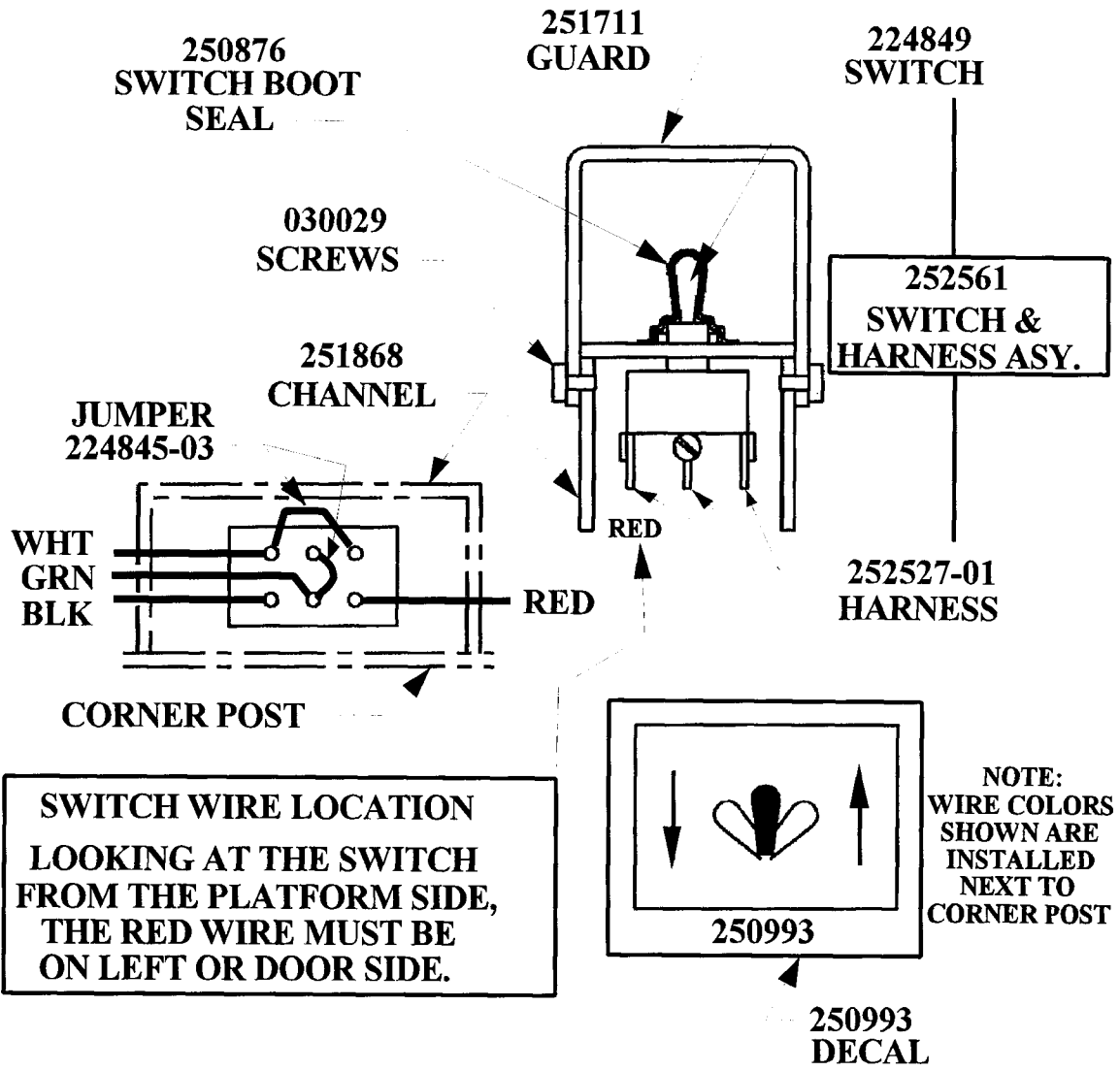
ITEM No.	QTY.	PART NO.	DESCRIPTION
1	1	229272	MOTOR 12 VOLTS DC (39200388)
2	1	260276	VALVE, SOLENOID (4 WAY) (38500040)
*2a	1	226595	O-RING KIT, 4-WAY VALVE
3	1	253353	VALVE, SOLENOID (2 WAY) (38502407)
*3a	1	226594	O-RING KIT, 2-WAY VALVE
4	1	260280	MANIFOLD BLOCK ASY. (28600354)
5	1	260229	RELIEF 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, 3 QT. (32301171)
8	1	260250	FILTER (37201037)
9	1	260281	PUMP ASSEMBLY (20001815)
10	1	251884	O-RING (60120041)
11	1	260274	DRIVEPLATE ASY 5" (20002923)
12	1	260261	OIL SEAL (60200077)
13	1	229200	COUPLING (37901000)
14	1	229199	BUS BAR (38901061)
15	1	260270	SOLENOID SWITCH (39002122)
*16	4	229202	HEX WASHER HD. CAPSCREW (66700900)

* NOT SHOWN

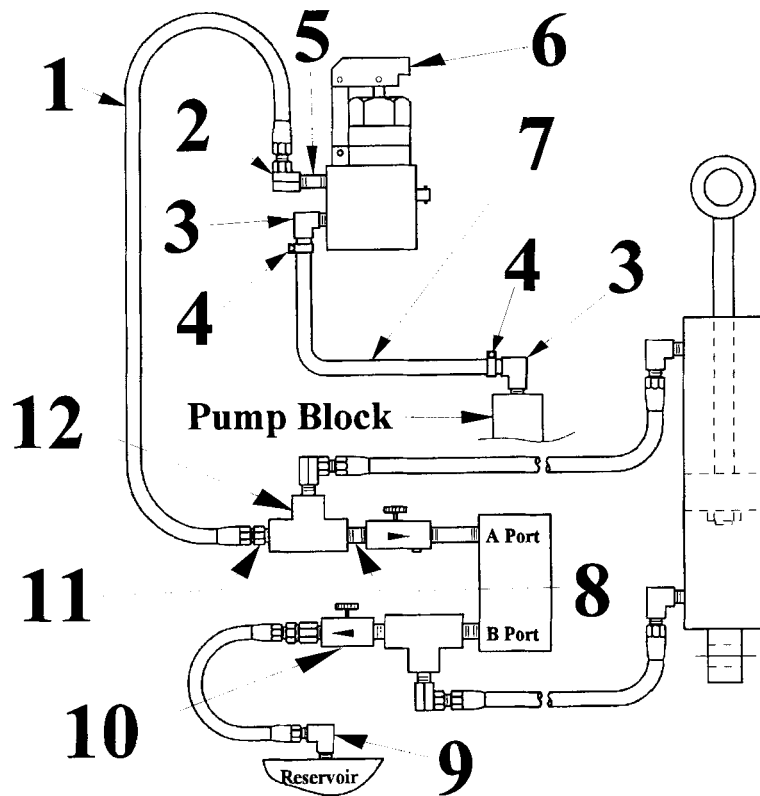
**253473 POWER DOWN
PUMP ASSEMBLY**



CONTROL SWITCH POWER UP/DOWN



HAND PUMP, POWER DOWN

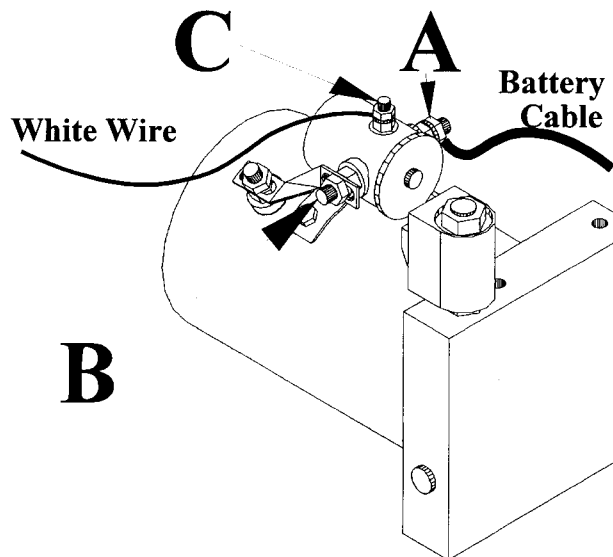


ITEM	QTY.	PART NO.	DESCRIPTION
1	1	226948-09	HOSE ASY. H.P. 1/4 x 18-1/2" LG.
2	1	226063	ELBOW, 90 DEG. 1/4 (F-F) SWIVEL
3	2	251853	ELBOW 90 DEG. 1/4M x 3/8 PUT-ON
4	2	251854	CLAMP, GEAR TYPE
5	1	030282	NIPPLE, 1/4" x 1-1/2" LG.
6	1	251407	HAND PUMP W/HANDLE
7	1	251856	HOSE, 3/8" L.P. 20" LG.
8	1	801292	NIPPLE, CLOSE 3/8"NPT
9	1	050206	ELBOW 90 DEG. 3/8M x 1/4F
10	1	251850	VALVE, NEEDLE 3/8"(M-F)
11	1	800183	BUSHING, 3/8 x 1/4
12	1	227003	TEE, 3/8"(F-F)

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.

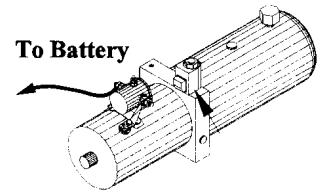


TROUBLE SHOOTING

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

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

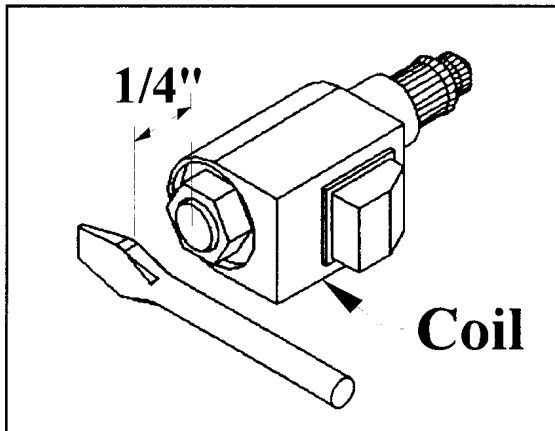


Figure 1

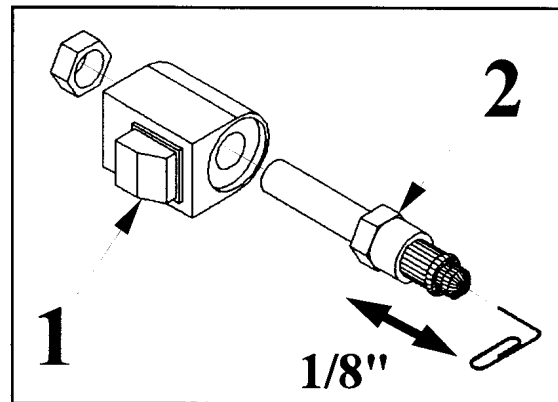


Figure 2

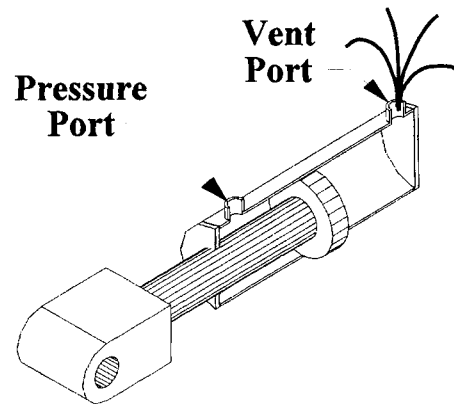
7. To check the valve itself, remove the **Coil Assembly**, (Item 1), then unscrew the **Valve** (Item 2), from the Pump. Using a Paper Clip, push on the plunger inside the valve. (Figure 2). It should move freely approximately 1/8". If not, clean or replace the Valve as needed.

TROUBLE SHOOTING

PLATFORM RAISES BUT LEAKS DOWN

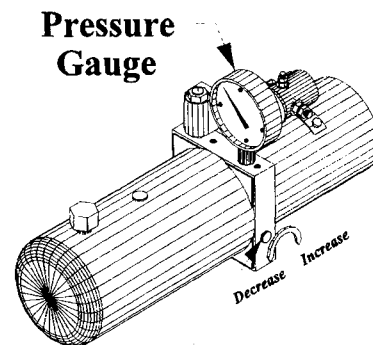
8. Check solenoid valve as noted on item #7. Inspect "O- Ring" for damage and wash the Valve in solvent to remove any foreign substances inside the **Valve**. If the plunger still does not move freely approximately 1/8", then replace the **Valve**.

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.

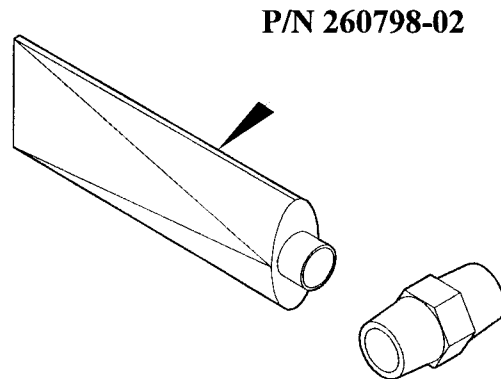


Relief Valve

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 PROCEDURE

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 valve.
5. Check for leakage. If leakage exists remove 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.