

# SUPER ELECTROLIFT MODEL U-13

## DIAGNOSIS CHART

	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MOTOR DOES NOT OPERATE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">WONT RAISE - MOTOR RUNS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">WONT LOWER</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PLOW WONT ANGLE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CABLES NOT STAYING IN ADJUST.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">AIR IN RAMS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">ICE CRYSTALS IN OIL</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MOTOR RUNS CONTINUOUSLY</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOP CAP LEAKING</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">FOAMING OF OIL</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">LEAKS BETWEEN MOTOR &amp; PUMP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">LEAKS BETWEEN BASE &amp; PUMP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">LIFTS SLOWLY - ANGLES SLOWLY</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MOTOR OVERHEATS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PLOW WONT HOLD ANGLE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PLOW CREEPS DOWN</div> </div>													
CHECK BATTERY	1	2									2	3		
ELECTRICAL CONN.	2	3									3	4		
R & R MOTOR SOL.	3					2								
CONTROL SWITCH	4					1								
CONTROL CABLE ADJUST.	5	4	1	2							4		1	1
R & R MOTOR	6										5	6		
CHECK FLUID LEVEL		1			4						1	1		
BINDING OF RAM			2											
PACKING CUP														2
CYLINDER O-RING														3
SCORED CYLINDER														4
BAD BASE									3	3				5
COUPLER ENGAGEMENT				1										
MECHANICAL BIND				3										
REPLACE SET SCREWS IN BOX					1									
CABLES BINDING		5		4										
CHECK VALVE CNTRNG. SPRING														6
TIGHTEN GLAND NUT					1			1						
LEAKING FITTINGS					2			2						
BLEED P. A. RAMS					3			3						
REPLACE PACKING					5									
DRAIN & REFILL						1		4						
CHECK RAM-PITTING-SCORING								1						
REPLACE O-RING								2		1	1			
REPLACE WIPER								3						
REPLACE NYLON SLEEVE								4						
REPLACE SHAFT SEAL									1					
REPLACE PUMP									2	2		7	5	
REPLACE VALVE BODY											2			
PUMP RELIEF VALVE - P.S.I.											6	2		
CROSSOVER RELIEF													2	
REPLACE BRUSHES												7		
COUPLER													3	

**MEYER** *Super-ELECTROLIFT*

- OVERHAUL AND SERVICE INSTRUCTIONS
- Model U-13 & U-13H...12 Volt, Electric Hydraulic Power Unit
- Single Valve Type • Dual Valve Type

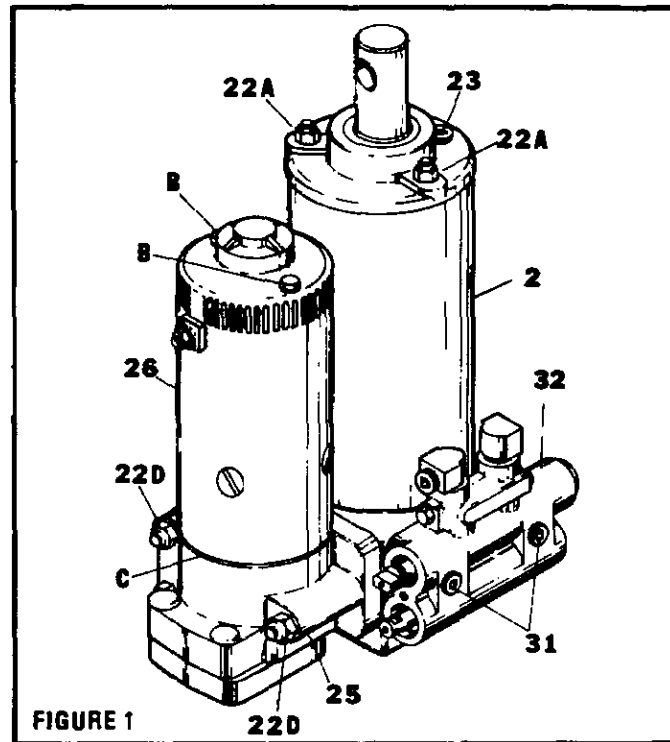


FIGURE 1

**NOTE:** Before the Super Electrolift unit is disassembled for repairs, make certain that all other possibilities of trouble shooting have been checked. Refer to trouble shooting information in Form Numbers 1-412, 1-413 and 4-222. This information may indicate the possible trouble and eliminate the necessity for disassembly of the Super Electrolift.

**SUPER ELECTROLIFT SEAL KIT**

If Super Electrolift is to be disassembled and repaired, it is recommended that a Seal Kit (Part No. 20 15252 or 20 15254) be purchased beforehand. This Seal Kit contains all the necessary seals to rebuild the unit.

**NOTE:** Seal Kit No. 20 15252 should be purchased for Super Electrolift Nos. 20 15020, 20 15021, 20 15022 and 20 15023 (with stepped type 1-1/2" diameter Ram having 2 turned diameters in the upper portion). (See Fig. 2 & 3).

Seal Kit No. 20 15254 should be purchased for Super Electrolift Nos. 20 15224, 20 15225, 20 15226, and 20 15227 (with straight type 1-1/8" diameter Ram). (See Fig. 3).

**DISASSEMBLY AND INSPECTION OF UNIT**

**NOTE:** The following instructions includes disassembly of the unit and inspection of components by subassemblies and reassembly of unit. Remove filler plug (23) (See Fig. 1) and drain oil from reservoir. Clamp base in vise before doing any disassembly. Subassemblies can be removed without taking the unit completely apart. Removal of the subassemblies is as follows:

1. **COVER ASSEMBLY, TANK, RAM AND CYLINDER PARTS (See Fig. 1)**  
Remove the three locknuts (22-A) reservoir top.
2. **MOTOR FROM PUMP (See Fig. 1)**  
Loosen the two Hex. Head Bolts at "B" top of motor.  
**NOTE:** Make certain that the motor end plate "C" is held in place during and after removal of motor from pump.
3. **PUMP FROM BASE (See Fig. 1)**  
Remove the three locknuts (22-D) side of pump.
4. **VALVE FROM BASE (See Fig. 1)**  
Remove the two socket head cap screws (31) top of valve.

## SUBASSEMBLIES

DISASSEMBLY  
AND INSPECTION

### PUMP ASSEMBLY (25)

Do not at any time disassemble this unit. To do so will void the warranty. Proper assembly adjustment cannot be accomplished without special tools and instruments.

### MOTOR (26)

Do not at any time disassemble this unit. To do so will void the warranty. Assembly cannot be accomplished without special tools. Motor should be taken to authorized Prestolite Service Station.

### COVER ASSEMBLY, TANK, RAM AND CYLINDER PARTS (See Fig. 2 & 3)

Check reservoir top cover (19a) and base (3) castings for cracks, damage or worn mounting holes. Inspect wiper seal (20) pressed in cover (19a) for cuts and nicks on the sealing lip. Inspect nylon sleeve (21) and cast iron guide (10) in Displacement Type Super Electrolift Units or nylon sleeve (21), piston (12) and piston follower (14) in Cup Type Super Electrolift Units for excessive wear. Inspect cylinder (8) for excessive scoring and pitting in bore and tank cylinder (9) for damaged surfaces. Inspect ram (16) for nicks and rust. Inspect piston packing cup (13) on Cup Type Super Electrolift Units for excessive wear or cut sealing lip. Replace parts if any of these conditions exist. "O" Rings (6), (7), (11) and (18) should be replaced.

**NOTE:** The top cover (19a) is available only with the wiper seal (20) pressed in place. Seal is available separately, and in seal kits (Part No. 20 15252 or 20 15254).

### VALVE ASSEMBLY (SINGLE) (32) See Fig. 4)

Remove snap ring (58). Remove bushing (57) and spring (43). Spool (56) with "O" Ring (40) and Back up Ring (54) in place can be removed from bore. Remove end cap (53) and pipe plug (55). All the release valve parts (48) thru (52) can be removed.

### VALVE ASSEMBLY (DUAL) (32) (See Fig. 5) LIFT SPOOL

Remove snap ring (58). Remove bushings (57) and spring (43). Spool (56) with "O" Ring (40) and Back up Ring (54) in place can be removed from bore. Remove end cap (53) and pipe plug (55). All the release valve parts (48) thru (52) can be removed.

### POWER ANGLING SPOOL (P.A.)

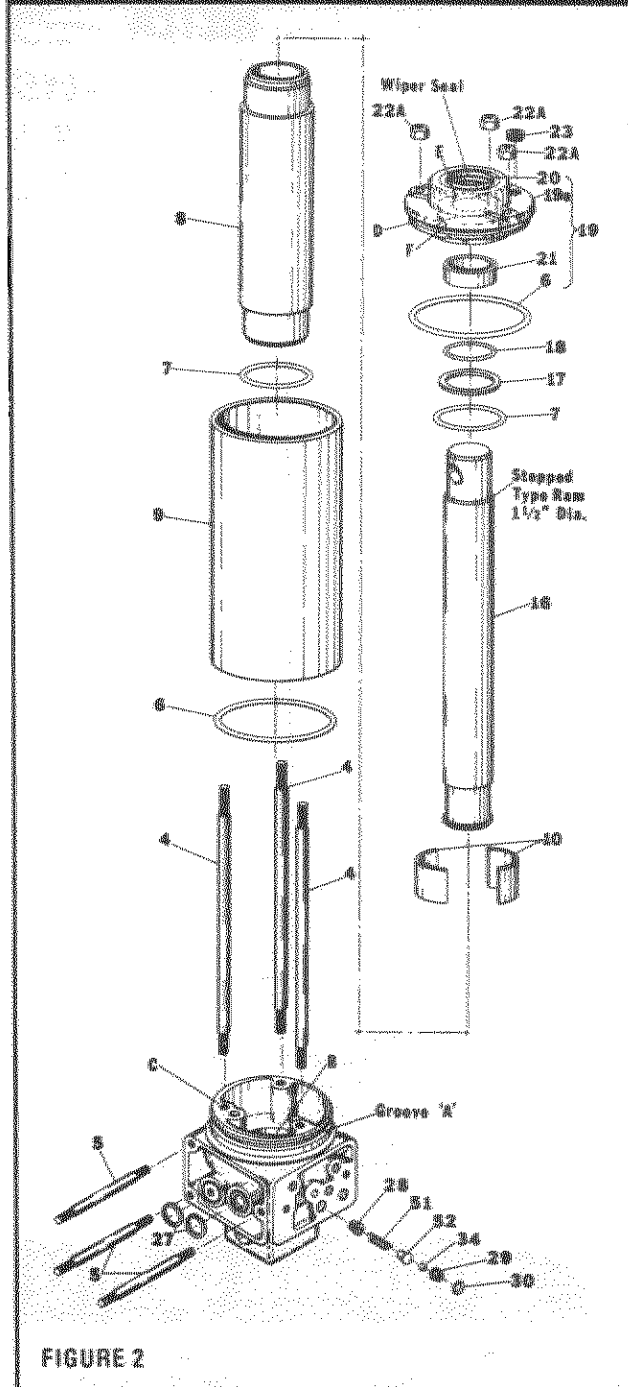
Remove end cap (47). Push spool in bore from the opposite end until it stops. Hold flat end of spool while removing nut (45) and washer (44) from the other end. Remove bushings (42) and spring (43) from this end. Spool (39) can be removed from bore.

### CROSS OVER RELIEF VALVE

Remove end cap (38). Pull out spring (36), guide (35) and ball (34). Follow the same procedure for removal

## U-13 Super Electrolift

DISPLACEMENT TYPE  
TANK/RAM/BASE



of other cross over relief valve. Remove pipe elbows (59) and fittings if any. Inspect valve bodies (33) single or dual for cracks, damage or scored bores. Spools must be free from indents or deep scratches. Seat (48) should be inspected for imperfections such as ovality or scratches. Replace any part if these conditions exist. "O" Rings and Back up Rings should always be replaced when re-assembling.

# U-13 & U-13H Super Electrolift

CUP TYPE  
TANK/RAM/BASE

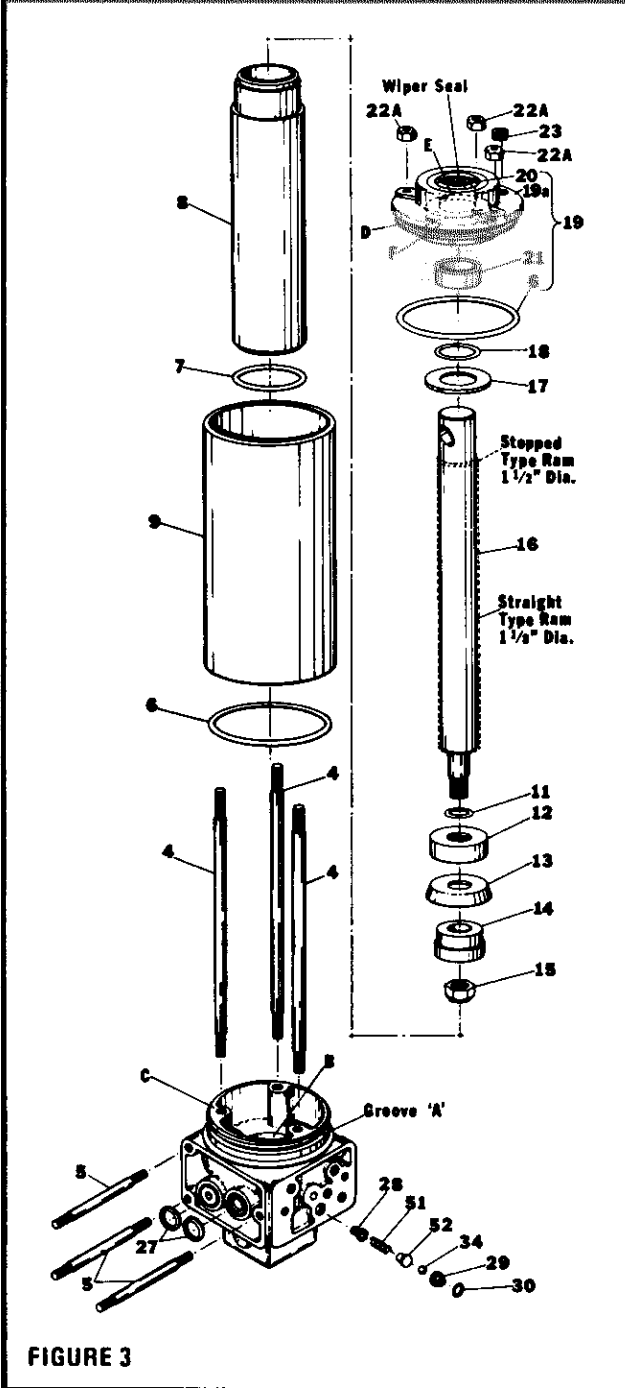


FIGURE 3

## SUPER ELECTROLIFT UNIT REASSEMBLY

**NOTE:** Before assembling Super Electrolift, make certain that all components and subassemblies are clean and void of all dirt and other foreign material. Use new seals during reassembly. Also apply a good quality of sealing compound (Permatex Form-A-Gasket #1 or equivalent) to all joints that do not have an "O" Ring but require sealing, as at elbow (59), nuts (22), and filler

plug (23). This will serve as an added precaution against oil leakage (avoid excess). All ball seats must be seated with their respective ball. The following instructions contain an outline of procedures that must be followed when reassembling Super Electrolift.

### TANK, RAM AND SUMP (DISPLACEMENT TYPE) (See Fig. 2)

Assemble "O" Ring (6) in Groove "A" and "O" Ring (7) in Location "B". Thread three studs (4) in Location "C". Assemble tank (9) onto base (3) and cylinder (8) in Location "B". Insert bearing guide (10) in groove on ram (16). This subassembly can now be put into cylinder (8).

### TANK, RAM AND SUMP (CUP TYPE) (See Fig. 3)

Assemble "O" Ring (6) in Groove "A" and "O" Ring (7) in Location "B". Thread three studs (4) in Location "C". Assemble tank (9) onto base (3). Assemble "O" Ring (11), piston (12), packing cup (13) and piston follower (14) onto small end of ram (16). Thread nut (15) onto ram (16) and tighten. This subassembly can now be assembled into cylinder (8). Start end of ram (16) with hole into the end of cylinder (8) that has two turned diameters. This subassembly can now be assembled in Location "B".

### TOP COVER (DISPLACEMENT TYPE) (See Fig. 2)

Assemble "O" Ring (6) in Groove "D". Assemble nylon sleeve (21) and "O" Ring (18) in bore "E". Assemble washer (17) and "O" Ring (7) in bore "F".

**NOTE:** Coat inside of cover Lithium base grease to keep assembled parts in place.

### TOP COVER (CUP TYPE) (See Fig. 3)

Assemble "O" Ring (6) in Groove "D". Assemble nylon sleeve (21) and "O" Ring (18) in bore "E". Assemble washer (17) with slots facing away from wiper seal (20) in bore "F".

**NOTE:** Coat inside of cover with Lithium base grease to keep assembled parts in place.

Thread in by hand three short studs (5) to base (3). (See Figs. 2 or 3).

### SINGLE VALVE (See Fig. 4)

Assemble the release valve parts (48), (49) and (50) into threaded bore "A". Assemble "O" Ring (46) in groove "B" on end cap (53). Place spring (51) and guide (52) in bore "C".

**NOTE:** Coat parts with Lithium base grease to keep in place during assembly.

Thread in end cap subassembly and tighten. Thread pipe plug (55) into end cap. Assemble "O" Ring (40) and Back up Ring (54) onto spool (56). Insert this spool assembly into bore. Now place bushings (57) and spring (43) over spool and into bore. Coat with lubricant oil.

Insert snap ring (sharp edge of snap ring out) (58) into its groove. To simplify assembly of snap ring, use the proper size snap ring pliers. Spool must work freely in bore.

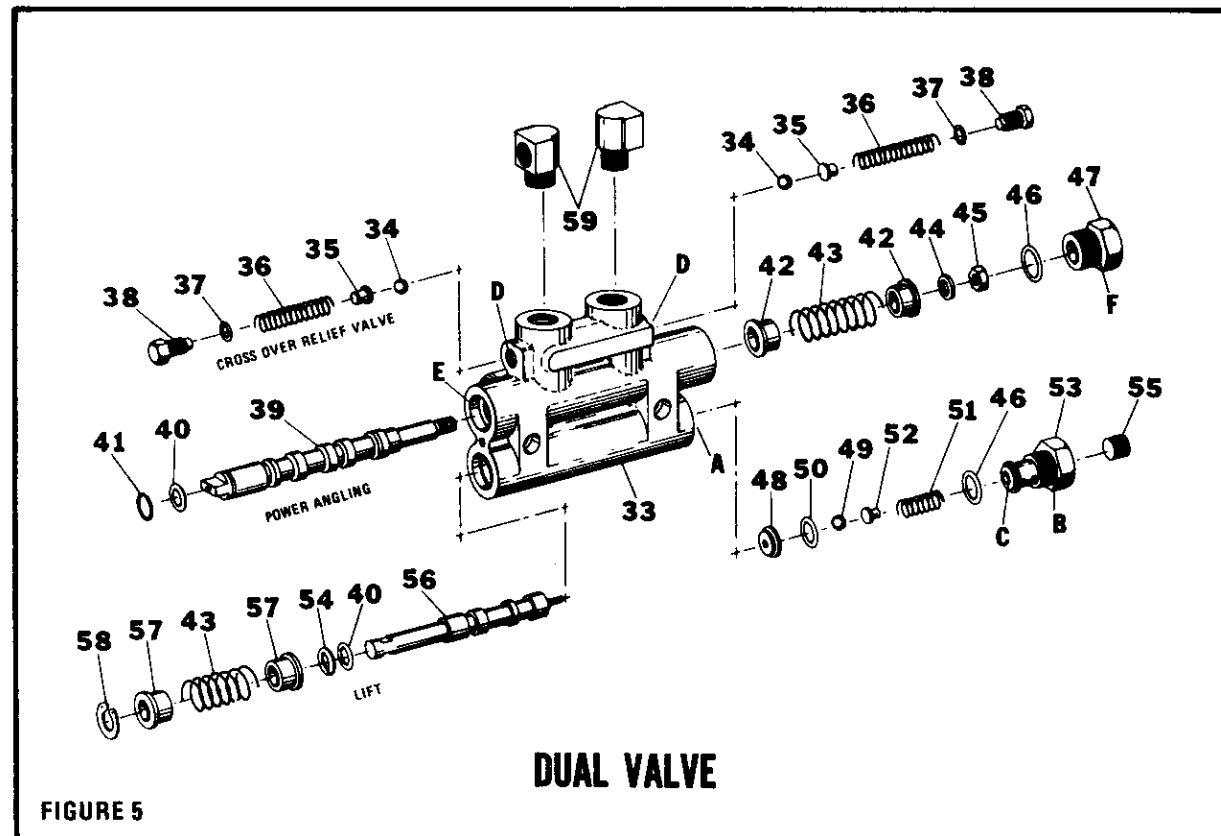
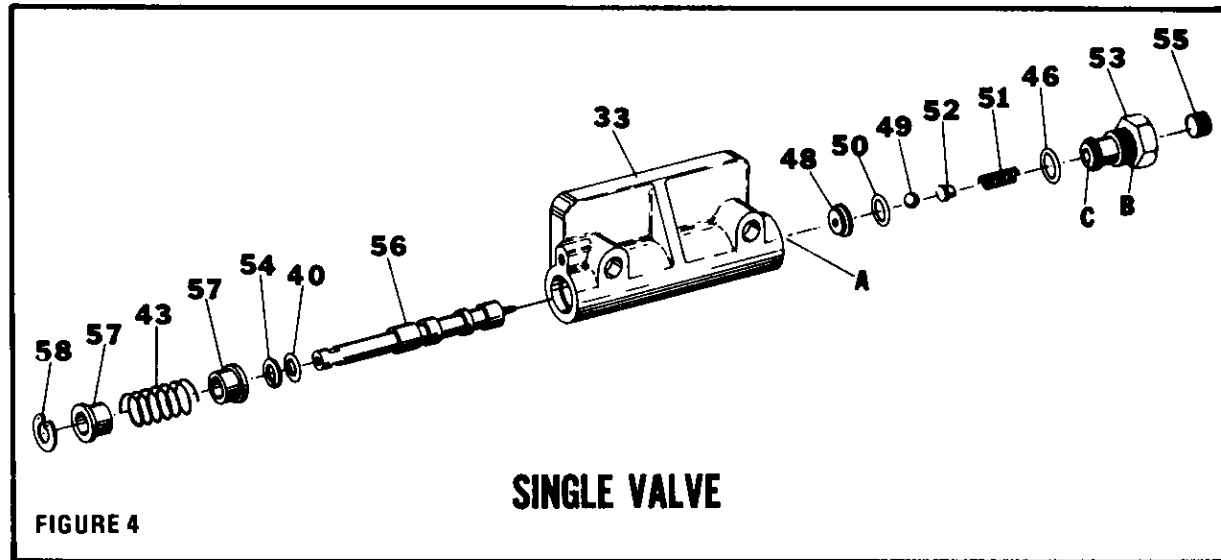
the same procedure for the opposite side.

#### POWER ANGLING SPOOL (P.A.)

Assemble "O" Ring (40) and snap ring (41) onto spool (39). Insert the spool into bore "E" as far as it will go. Hold flat end of spool while you insert parts (42) thru (44) in opposite end and fasten with locknut (45). Assemble "O" Ring (46) in Groove "F" on end cap (47). Thread in end cap subassembly and tighten. Spool must work freely in bore.

#### DUAL VALVE (See Fig. 5) CROSS-OVER RELIEF VALVE

Assemble parts (34) thru (36) in bore "D" as shown. Assemble "O" Ring (37) in groove on end cap (38). Thread end cap (38) in bore and tighten. Repeat



# PARTS LIST

ITEM NO.	PART NUMBER								QTY.	DESCRIPTION
	U-13		U-13H		U-13		U-13H			
	1-1/2" Ram x 8" Stroke		1-1/2" Ram x 8" Stroke		1-1/8" Ram x 6" Stroke		1-1/8" Ram x 8" Stroke			
	Displacement Type		Cup Type		Cup Type		Cup Type			
	Single	Dual	Single	Dual	Single	Dual	Single	Dual		
1	2015021	2015020	2015023	2015022	2015225	2015224	2015227	2015225	1	Super Electrofit Assembly
2	2015155	2015180	2015169	2015182	2015191	2015190	2015193	2015192	1	Tank, Ram & Sump Assembly
3	2015041		2015141						1	Sump Base
4	2015042		2015164		2015042		2015203		3	Stud
5			2015043						3	Stud
6			2015131						2	"O" Ring
7	2015140 (2)		2015163 (1)						1	"O" Ring
8	2015044		2015157		2015207		2015205		1	Cylinder
9	2015045		2015156		2015045		2015204		1	Cylinder, Tank
10	2015048		-----		-----		-----		1	Sleeve, Split Bushing
11					2015125				1	"O" Ring
12					2015158				1	Piston
13					2015162				1	Packing Cup
14			2015159		2015219				1	Follower
15					2020307				1	Nut, 1/2-13
16	2015047		2015160		2015208		2015206		1	Ram
17	2015048		2015161				2015209		1	Washer
18			2015132				2015198		1	"O" Ring
19	2015029		2015171				2015194		1	Cover Assembly
19a	2015095		2015195				2015196		1	Cover
20			2015096				2005119		1	Seal, Wiper
21			2015097				2015199		1	Sleeve, Bushing
22					2020697				6	Nut, 5/16-24
23					2021275				1	Filler Plug
24					2015153				1	Pump & Motor Assembly
25					2015026				1	Pump Assembly
26					2015054				1	Motor
27					2015127				2	"O" Ring
28					2015116				1	Retainer, Check Valve
29					2015051				1	Seat
30					2015124				1	"O" Ring
31					2021283				2	Socket Head Capscrew

ITEM NO.	PART NUMBER		QTY.	DESCRIPTION
	SINGLE VALVE	DUAL VALVE		
32	2015025	2015024	1	Valve Assembly
33	2015099	2015055	1	Valve Body
34	2015052 (1)	2015052 (3)	1	Ball (3/16 Dia.)
35	-----	2015144	2	Cushion Valve Spring Guide
36	-----	2015057	2	Cushion Valve Spring
*37	2015122 (4)	2015122 (6)	1	"O" Ring
38	-----	2015058	2	End Plug
39	-----	2015058	1	Spool (Upper)
*40	2015123 (1)	2015123 (2)	1	"O" Ring
41	-----	2015060	1	Snap Ring
42	-----	2015061	2	Bushing
43	2015239 (1)	2015239 (2)	1	Spring
44	-----	2015063	1	Washer
45	-----	2021284	1	Nut, No. 8-32
*46	2015126 (1)	2015126 (2)	1	"O" Ring
47	-----	2015065	1	End Cap
48	2015066		1	Valve Seat
49	2015078		1	Ball (5/32 Dia.)
*50	2015125		1	"O" Ring
51	2015111		2	Spring
52	2015110		2	Spring Guide
53	2015067		1	End Cap
*54	2015133		1	Back up Ring
55	2021274		1	Pipe Plug 1/8"
56	2015068		1	Spool (Lower)
57	2015093		2	Bushing
58	2021281		1	Snap Ring
59	-----	2021282	2	Pipe Elbows, 1/4"
*60	2015255		1	"O" Ring

\* Parts included in Seal Kit 20 15252 or 20 15254

PARTS INDENTED ARE INCLUDED IN THE ASSEMBLY UNDER WHICH THEY ARE INDENTED.

IMPORTANT: When ordering parts, furnish Part No., Name and Description. Also furnish Model and Year, Type of Lift and Plow Size.

Meyer Products, Inc., reserves the right, under its continuing product improvement program, to change construction or design details, specifications and prices without notice or without incurring any obligation.

## SUPER ELECTROLIFT REASSEMBLY

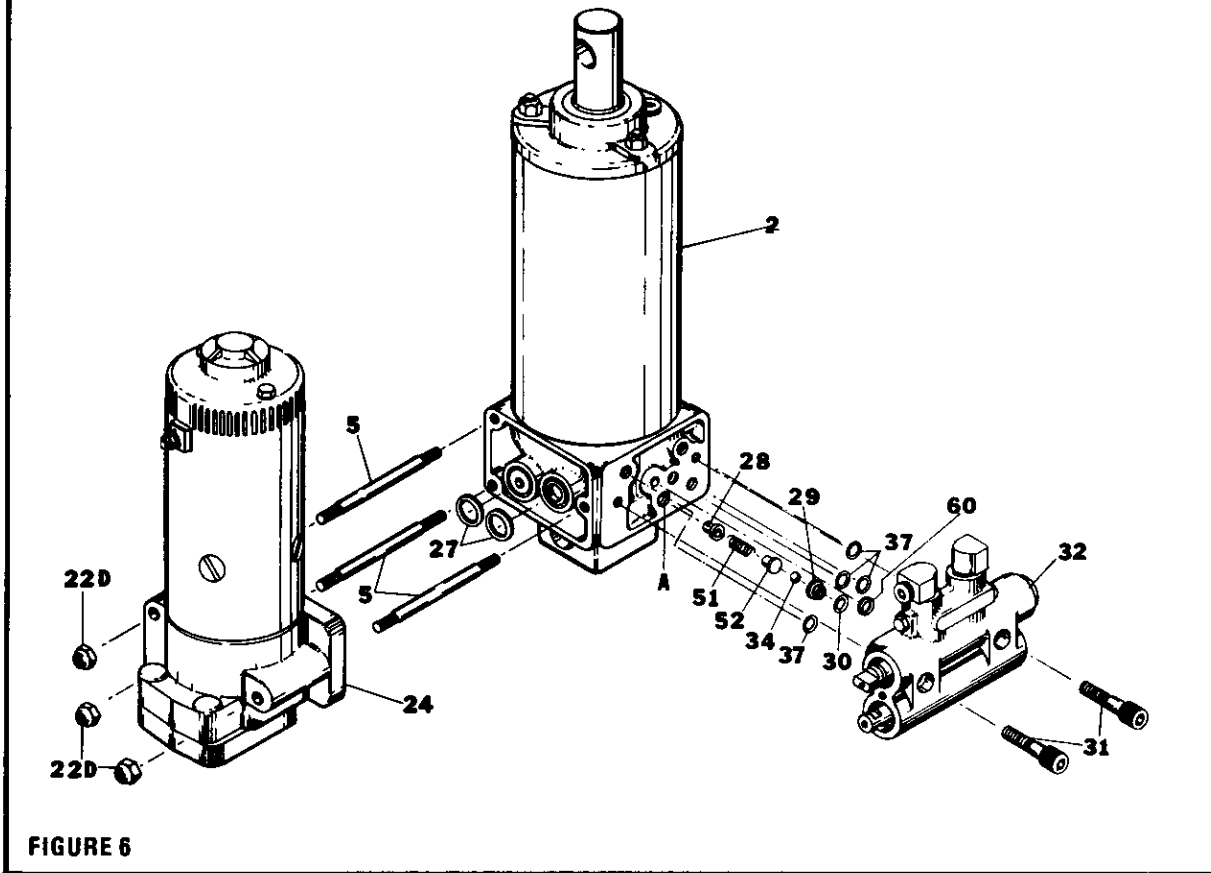


FIGURE 6

### LIFT SPOOL

Assemble the release valve parts (48), (49) and (50) into threaded bore "A". Assemble "O" Ring (46) in Groove "B" on end cap (53). Place spring (51) and guide (52) in bore "C".

**NOTE:** Coat parts with Lithium base grease to keep in place during assembly.

Thread in end cap subassembly and tighten. Thread pipe plug (55) into end cap. Assemble "O" Ring (40) and Back up Ring (54) onto spool (56). Insert this spool assembly into bore. Now place bushings (57) and spring (43) over spool and into bore. Coat with lubricant oil. Insert snap ring (sharp edge of snap ring out) (58) into its groove. To simplify assembly of snap ring, use the proper size snap ring pliers. Screw in the pipe elbows (59) and fittings. Spool must work freely in bore.

### PUMP AND MOTOR (See Fig. 6)

Assemble pump to base and fasten with three (3) locknuts (22-D). Make certain that you have placed the two "O" Rings (27) in their grooves between

base and pump. Before assembling new motor to pump, remove the two nuts from the long bolts. Make certain that the motor end plate is held in place after nuts are removed. Assemble motor to pump and torque bolts from 35 to 50 inch pounds maximum.

### VALVE TO BASE (See Fig. 6)

Assemble check valve parts (28), (51), (52), (34), (29), and (30) in Location "A". Place four "O" Rings (37) in their respective grooves. Mount valve assembly with "O" Ring (60) to base with two socket head capscrews (31).

**NOTE:** Make certain that you have placed all the necessary "O" Rings in their grooves between valve and base for mounting valve.

With Ram fully lowered, fill reservoir with Meyer Super Electrolift Oil to one inch below the bottom of the cover. (28 ozs. approximately). Tighten filler plug (23). Unit is now assembled complete and ready for use.



# INSTALLATION & OPERATING INSTRUCTIONS

Form No. 1-459R

12-13-72

## MEYER *Super* ELECTROLIFT®

12 volt, Electric Hydraulic Power Unit  
Dual Valve

Model U-13 Standard Duty  
Model U-13H Heavy Duty

BEFORE BEGINNING THE INSTALLATION, CHECK THE PARTS IN THE KIT AGAINST THE PARTS LIST TO DETERMINE ALL ARE CORRECT AND INCLUDED: AND ALSO TO FAMILIARIZE YOURSELF WITH THEM.

### PARTS LIST

ITEM	PART NO.			QTY	DESCRIPTION	ITEM	PART NO.			QTY	DESCRIPTION
	U-13		U-13H				U-13		U-13H		
	1.5 x 10	1.5 x 12	2 x 12				1.5 x 10	1.5 x 12	2 x 12		
	2015462	2015463	2015464	1	P.A. ASSEMBLY	22	2020003	2020003	2020003	4	• Bolt H 1/4 - 20 x 3/4"
1	2015466	2015466	2015467	1	-Super Electrolift (Complete Kit)	23	2020312	2020312	2020312	4	• Locknut 1/4 - 20
2	2005024	2005024	2005024	2	•Lift and P.A. Assy.	24	2020323	2020323	2020323	1	• Lockwasher, #10
3	2015102	2015102	2015102	1	•Cable Electrolift	25	2020525	2020525	2020525	2	• Finish Nut H 5/16 - 18
4	2021400	2021400	2021400	1	•Bolt 5/16 - 18 x 1/2	26	2021272	2021272	2021272	6	• Set Screw H. Soc. Cup Pt. 1/4 - 28 x 1/4"
5	2015300	2015300	2015300	1	•Washer - 5/16 Int/Ext. Tooth	27	2021279	2021279	2021279	1	• Screw, Fil. Hd. 10-24 x 5/8"
6	2015291	2015291	2015291	1	•Control Assy.	28	2021392	2021392	2021392	4	• Screw, Self Top #8 x 1/2
7	2015289	2015289	2015289	1	•Cover - Control Assy.	29	2021399	2021399	2021399	2	• Locknut 7/16 - 20
8	2015314	2015314	2015314	2	•Mounting Angle - Control	30	2021691	2021691	2021691	2	• Nut, Push on 1/4"
9	2015308	2015308	2015308	1	•Conduit Assy. 36"	31	2021819	2021819	2021819	4	• Grommet 7/16 ID - 9/16 OD
10	2015309	2015309	2015309	1	•Push-Pull Control - Raise	32	2021829	2021829	2021829	4	• Screw Self Top RH #10-32 x 3/8"
11	2005032	2005032	2005032	1	•Push-Pull Control - Angle		2007748	2007756	2007758	1	• Ram R.H. w/Fittings
12	2005023	2005023	2005023	1	•Solenoid 12V		2007749	2007755	2007757	1	• Ram L.H. w/Hose and Fittings
13	2005025	2005025	2005025	1	•Cable - Motor	33	2005810	2005437	2005752	1	• Ram
14	2015243	2015243	2015243	1	•Cable - Start	34	2021848	2021848	2021848	1	• Coupler 1/4 Male (LH)
15	2020027	2020027	2020027	1	•Parts Group	35	2021847	2021847	2021847	1	• Coupler 1/4 Female (RH)
16	2020304	2020304	2020304	1	• Bolt H 5/16 - 18 x 1"	36	2021857	2021857	2021857	1	• Ell Rigid 1/4 x 90 (RH)
17	2021400	2021400	2021400	1	• Locknut 5/16 - 18	37	2021856	2021856	2021856	1	• Ell Rigid 1/4 x 90 (LH)
	2021398	2021398	2021398	2	• Lockwasher Int/Ext. 5/16		2008363	2008364	2008364	1	• HARDWARE BAG - PA 15
18	2015304	2015304	2015304	1	• Screw Self Top #14-10 x 3/4	38	2020149	2020149	2020149	4	• Bolt H 5/8 - 11 x 4"
19	2005774	2005774	2005774	2	• HARDWARE BAG - CONTROL		2020147	-----	-----	4	• Bolt H 5/8 - 11 x 3 1/2"
20	2015100	2015100	2015100	1	• Dashboard Bracket	39	2020318	2020318	2020318	4	• Locknut 5/8 - 11
21	2015278	2015278	2015278	2	• Clamp Bar	40	-----	2020357	2020357	2	• Washer Flat 5/8
22	2015318	2015318	2015318	2	• Swivel Post						
					• Conduit Nut						

Parts identified are included in the carton, bag or assembly under which they are identified.

**IMPORTANT:** When ordering parts, furnish Part No., Name and Description.

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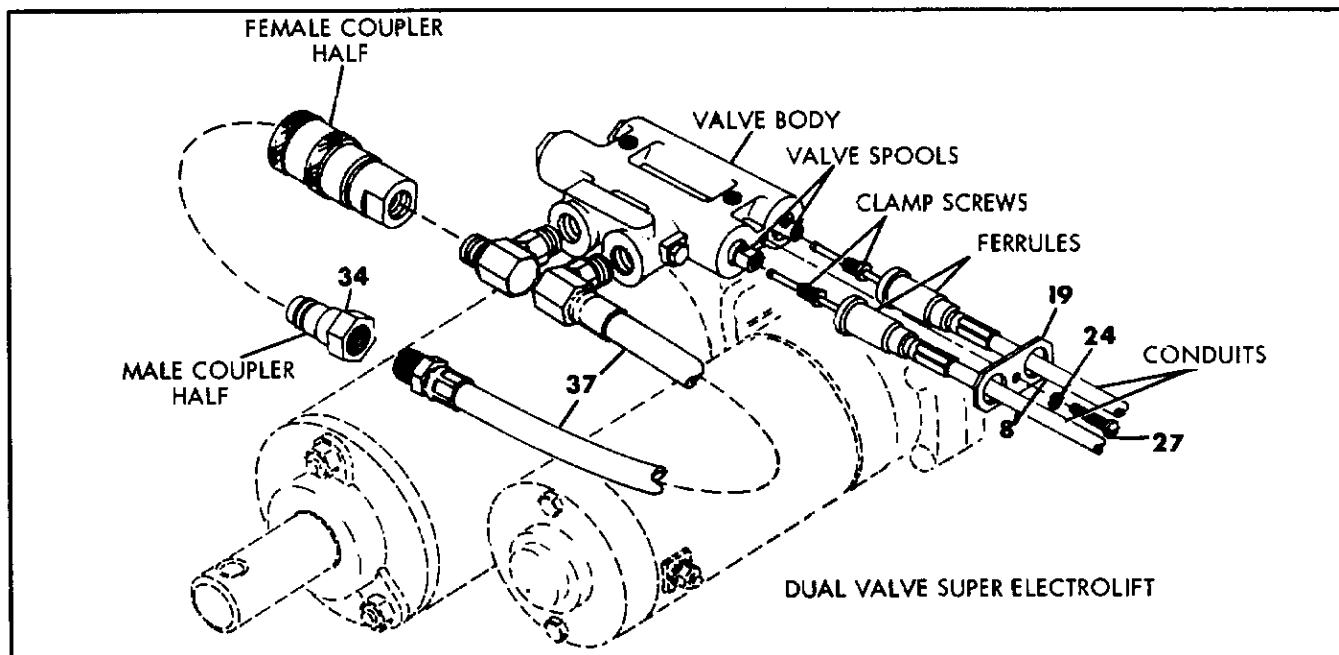


Figure 1

**MEYER PRODUCTS, INC.**

18513 Euclid Ave. • Cleveland, Ohio 44112  
Phone: 486-1313 (Area Code 216)



**CAUTION:** Always disconnect battery before installation.

The Super Electrolift has been carefully assembled and tested and is ready for installation. **USE ONLY ON VEHICLES WITH 12 VOLT ELECTRICAL SYSTEMS.**

### SUPER ELECTROLIFT PREPARATION PRIOR TO INSTALLATION ON THE LIFT FRAME

**NOTE:** Refer to Figure 1.

- Position Super Electrolift on flat work surface with valve body facing upward.
- Thread the Clamp Screws into the valve spools. **CAUTION:** Do not over-torque.
- Slide the Clamp Bar (19) over the opposite ends of the Conduit Assembly (8).
- Pack the Ferrules with "Lubriplate" or equivalent in order to seal out moisture.
- Firmly seat the Conduit Ferrules into the valve body and clamp in place with the Clamp Bar, Fillister Head Screw and Lockwasher (19, 27 and 24).

### ATTACHMENT OF SUPER ELECTROLIFT TO LIFT FRAME

**NOTE:** The entire snow plow mounting, including the Lift Frame, should already be installed per separate instructions.

**NOTE:** Refer to Figure 2.

- Attach Super Electrolift to Lift at "Z" and to Lift Arm at "Y" using 5/8 x 3" bolts and locknuts.

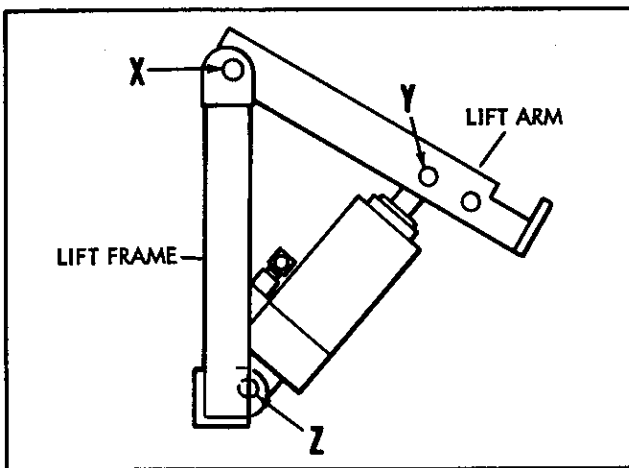


Figure 2

### LOCATION AND INSTALLATION OF CONTROL ASSEMBLY

**NOTE:** Refer to Figure 3 and 4.,

- Determine the proper routing of the 3/6" Conduit Assembly (8) and the proper location of the Control Assembly (5) under the hood taking the following into consideration.

1. The Conduit Assemblies cannot be lengthened or shortened. Therefore, the installed length of the Conduits determines the position of the Control Assembly in the engine department.
2. The Conduit Assemblies must be routed without sharp bends.

**NOTE:** When routing the Conduit Assemblies thru the grille causes unnecessary bends or excessively sharp bends, furnished Grommets (31) can be used to route the Conduit Assemblies thru front sheet metal.

3. Control Assembly (5) must be mounted on a flat surface to prevent distortion.

**NOTE:** In locating the Control Assembly, the proper vertical position also needs to be considered. Mounting it too low or too high causes unnecessary bends in the Conduit Assemblies.

- Route the Conduit Assemblies (8) as planned thru the grille or front sheet metal to the left side of the engine compartment.

**NOTE:** When routing the Conduit Assemblies thru the front sheet metal, locate and drill 9/16" holes and install Grommets (31).

- When necessary, install the Mounting Angle (7) or custom mounting bracket in the engine compartment at the planned location using two (2) 1/4 x 3/4" bolts and locknuts (22 and 23).
- Install the Control Assembly (5) at the planned location using two (2) 1/4 x 3/4" bolts and locknuts (22 and 23), inserting the bolt at point "A" thru the switch ground wire terminal.

**NOTE:** Hold bolt at point "A" stationary while tightening the locknut to prevent rotation of and possible damage to the switch ground wire.

- Place the control valves in the center (hold) position.
- NOTE:** Refer to Figure 3 - Detail "D" for next two steps.
- Measure the length of the Control Wires extending beyond the end of the Conduits.
  - If necessary, cut the exposed control wires off to a maximum length of 1-1/8".

- Insert the Control Wire connected to the bottom valve spool on the Super Electrolift into the "Raise" Control Spool and attach the Conduit to the Control Assembly Housing with a 5/16" finish nut (25).

- Insert the socket set screws at points "C" but do not tighten.

**NOTE;** Refer to Figure 3 - Detail "D".

- "Raise" Control Spool has approximately 7/64" free travel (no spring pressure to overcome). Pull the "Raise" Lever to position the "Raise" Control Spool at the back of this free travel (Dimension "B" will be approximately 7/64").

- Tighten the socket set screws at points "C".

- Attach the Conduit Assembly (8) connected to the top spool on the Super Electrolift to the "Angle" Control Spool with a 5/16" finish nut (25).

- Insert socket set screws at points "C" with both the valve spool and control spool in the center (hold) position, tighten the set screws.

**NOTE:** Refer to Figures 4, 5 and 6 for the following steps.

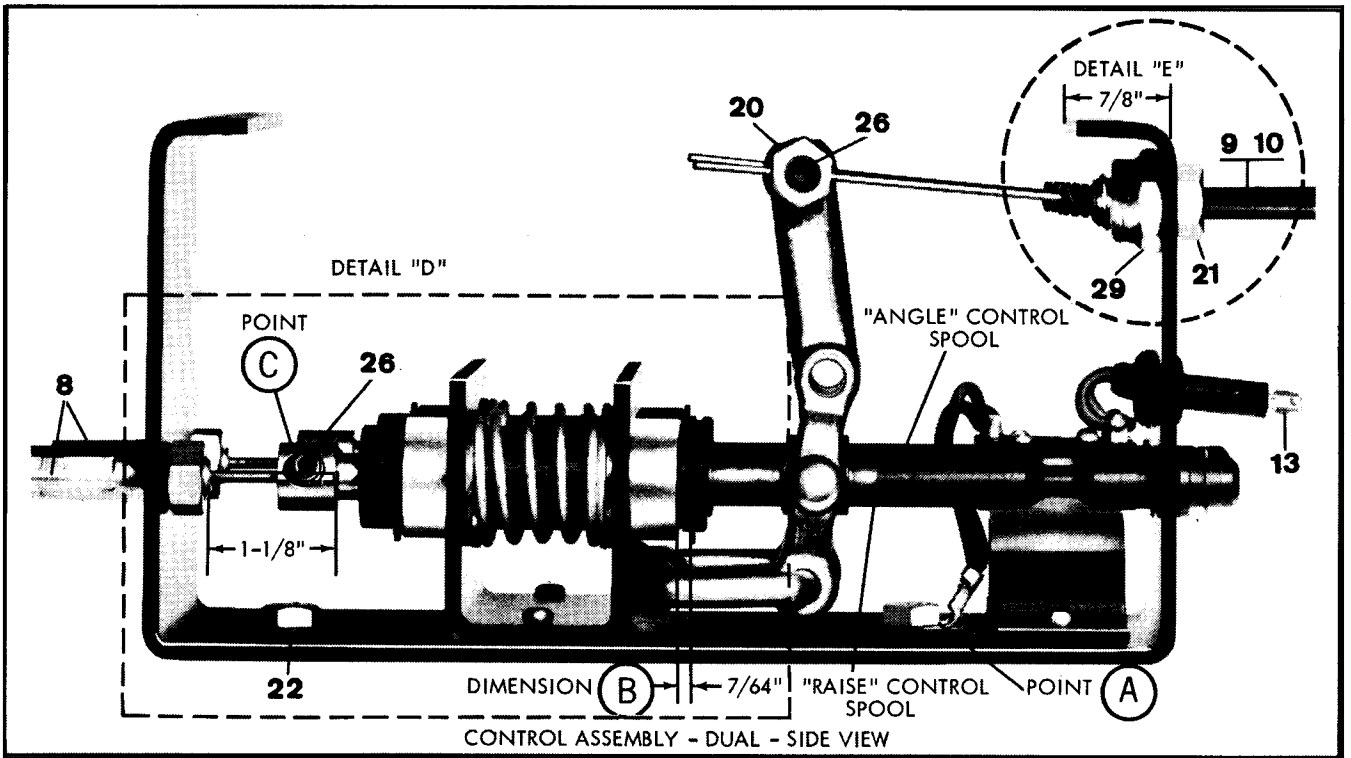


Figure 3

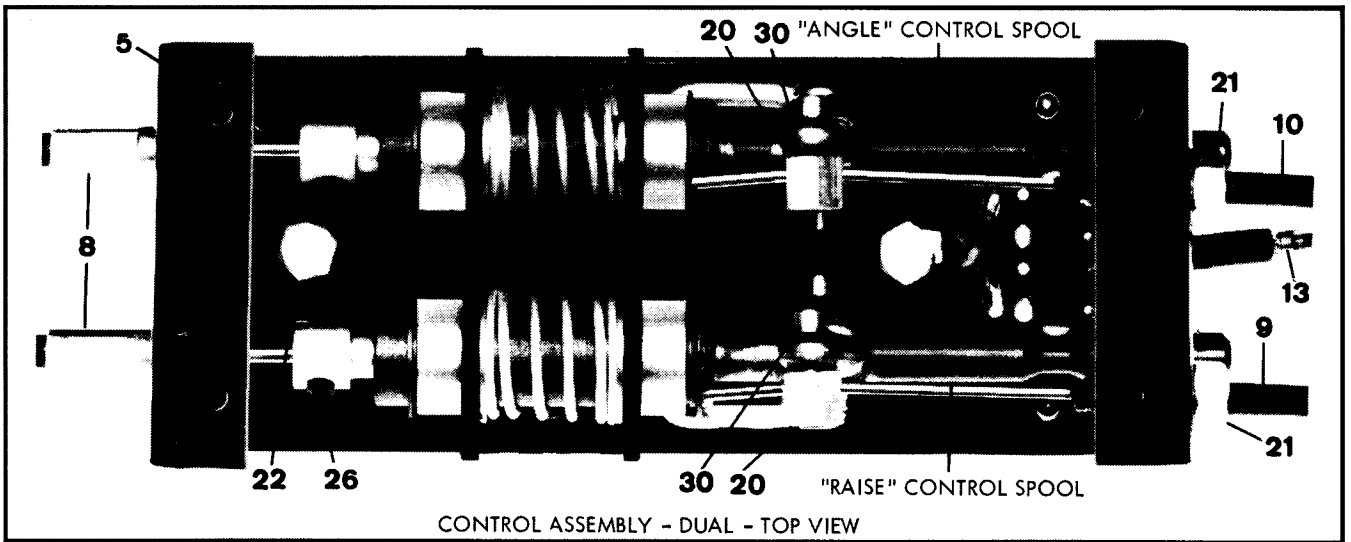


Figure 4

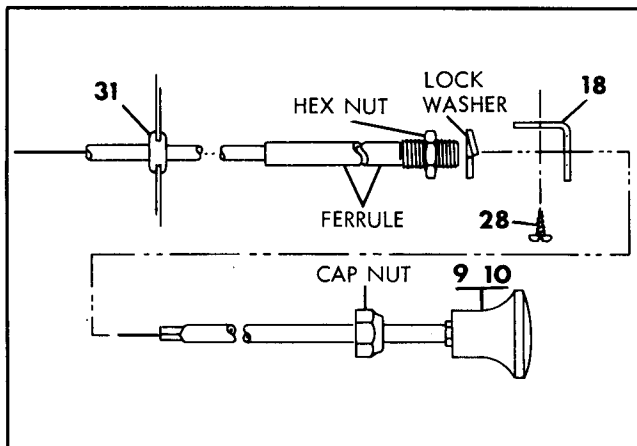


Figure 5

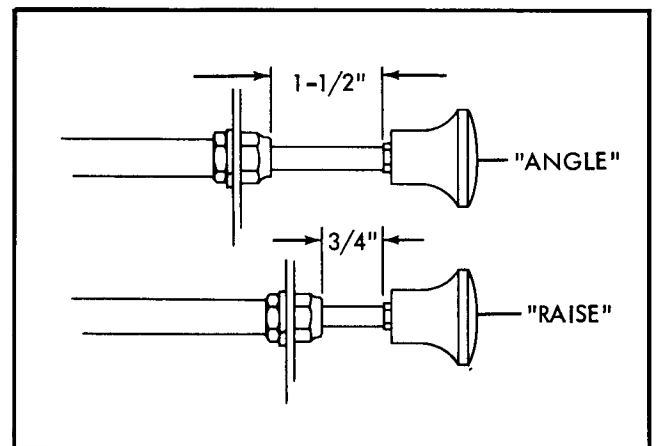


Figure 6

- Determine the proper routing of the Push-Pull Control Assemblies (9 and 10) taking the following into consideration:

1. Avoid sharp bends and interference under the dashboard and in the engine compartment.
2. Determine whether Dashboard Brackets (18) will be used as opposed to locating the Dash Conduit Assemblies in the dashboard.

- As planned, install the Dashboard Brackets (18) or drill holes in the dashboard for direct mounting as follows:

**Dashboard Brackets:**

1. Use Dashboard Brackets as templates to locate attaching holes on bottom of dashboard.
2. Drill 1/8" diameter holes.
3. Install Dashboard Brackets using #8 x 1/2 self-tapping screws (28).

**Direct Mounting:**

1. Locate and drill 1/2" diameter holes thru the dashboard being cautious not to hit wiring or other components under the dashboard.

- Temporarily remove Knob and Wire Assemblies from the conduits. Also, remove the cap nuts from conduit ferrules.

- Insert Conduits thru firewall and insert Conduit ferrules into Dashboard Brackets (18) or dashboard from underneath.

- Reinstall cap nuts and tighten. Tighten hex nuts and lock washers.

NOTE: Refer to Figure 3 - Detail "E" for following steps.

- Insert Conduits thru the holes in the Control Housing and cut off to 7/8" dimension.

- Temporarily pull conduits out of Control Housing and thread Conduit Nuts (21) into Conduits to 7/8" dimension. Reinsert into Housing and thread on and tighten 7/16" thin locknuts (29).

NOTE: Refer to Figure 4 for the following steps.

- Reinsert Knob and Wire Assembly marked "Raise" into conduit leading to "Raise" Control Spool.

- Reinsert Knob and Wire Assembly marked "Angle" into Conduit leading to "Angle" Control Spool.

- Install Swivel Posts and Push-on Nuts (20 and 30).

NOTE: Refer to Figure 6 for the following steps.

- Insert "Raise" Control Wire through Swivel Post (20) and position the knob to the 1-1/2" dimension and tighten Set Screw (26).

- Cut Control Wires off 1/2" beyond Swivel Posts to provide for possible future adjustment.

**ELECTRICAL GROUP**

NOTE: Refer to Figure 7 for the following steps:

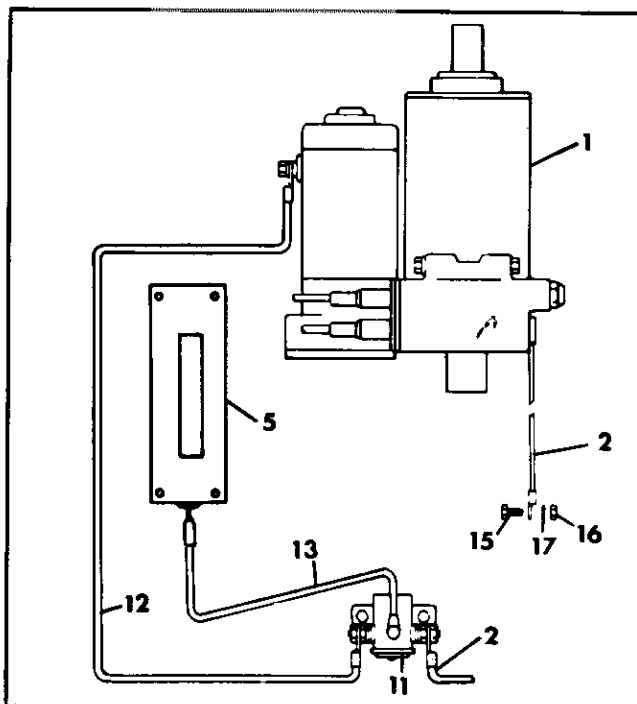


Figure 7

- Select a location under the hood for the Solenoid (11) that will enable the furnished cables to reach their connections.

- Use Solenoid for proper hole locations, drill 3/16" diameter holes and attach the Solenoid (11) using two (2) Self Tapping Screws (17).

- Route the Start Cable (13) to the Control Assembly (5) and plug the opposite end into the receptacle.

- Connect one end of the Electrolift Cable (2) to the Solenoid terminal marked "Battery". Connect the opposite end to the "Positive" battery terminal. Coat the battery terminal with grease to prevent corrosion.

- Connect one end of the Motor Cable (12) to the remaining terminal on the Solenoid. Route the Motor Cable thru the vehicle grille and connect the opposite end to the terminal on the Super Electrolift's motor.

- The Electrolift Cable (Ground) (2) is already attached to the Super Electrolift. Connect the opposite end to the vehicle frame with a 5/16" x 1" bolt, washer and locknut (14, 15 and 16).

NOTE: Place the Washer between the cable lug and vehicle frame.

NOTE: Unless the vehicle is so equipped, install a #6 gauge, or heavier, ground cable between engine block and vehicle frame to prevent possible electrical system damage.

- Tighten all bolts and connections. Reconnect battery. The Super Electrolift is now operational.

**POWER ANGLING**

NOTE: Refer to Figure 8 for the following steps.

- Bolt the base ends of the Power Angling Cylinders (33) to the A-Frame at points "F" using bolts and locknuts (38 and 39).

- Pass hose through guard on A-Frame.

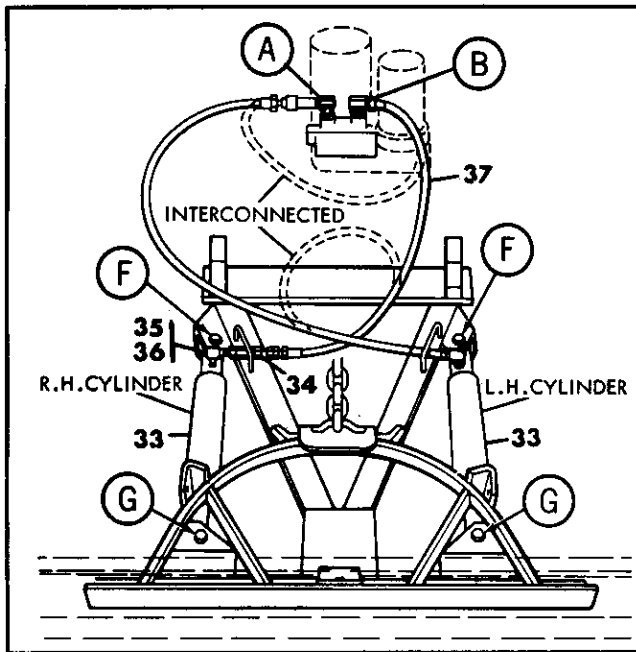


Figure 8

- Temporarily interconnect the P.A. cylinders by coupling the hose leading from the L.H. Cylinder to the R.H. Cylinder Coupler half.
- Bolt each cylinder rod to the Sector at points "G" using bolts and locknuts (38 and 39).
- Uncouple hose at R.H. Cylinder and uncouple the hose at Port "A" on the Super Electrolift.
- Couple hose leading from Port "B" to the R.H. Cylinder. Couple hose leading from the L.H. Cylinder to Port "A".

#### POWER ANGLING CYLINDERS.

- Power Angling Cylinders furnished with the Super Electrolift have been factory filled with proper amount of FLUID and are ready for operation. If for any reason it is necessary to add fluid to Reservoir or to bleed the Power Angling Cylinders, proceed as follows:

- Remove Filler Plug from Lift (1) reservoir to enable Fluid to be added during charging and Bleeding. (Hydraulic Fluid may be purchased under Part No. 2015134).

NOTE: Hydraulic Fluid contains an Anti-Freeze additive which is effective for one season of use. Usage of other oils or fluids will "VOID" the Meyer Warranty.

- Maintain a continual check on fluid level.
- Temporarily loosen the Female Coupler (35) at the R.H. Cylinder and Hose - at the L.H. Cylinder. Base end of Cylinders must be higher than rod end, to enable trapped air to escape. This may be accomplished by using a floor jack to raise front of vehicle or run front wheels of vehicle up blocks.
- Angle the plow in both directions repeatedly until Fluid leaks out at both points in a steady flow.
- Retighten the Coupler (35) and Hose.

- Proper fluid level is one inch below top of filler hole. It must be checked with Lift Ram full retracted. Over or under filling may cause damage and will impede performance of the Super Electrolift.

- Reinsert Filler Plug and tighten. Do not over torque.

- Check Super Electrolift and controls for proper operation. Readjust if necessary.

- Install Control Cover (6) using four screws (32). This completes installation of the Super Electrolift.

#### OPERATING INSTRUCTIONS:

CAUTION: EMPLOY ADEQUATE SAFETY PRECAUTIONS WHILE OPERATING THE SUPER ELECTROLIFT AND WHEN THE PLOW IS RAISED. ALWAYS LOWER PLOW TO GROUND WHEN VEHICLE IS PARKED.

#### "RAISE" CONTROL

PULL TO RAISE PLOW

RETURN TO CENTER TO HOLD PLOW IN RAISED POSITION

PUSH TO LOWER PLOW AND PUT INTO FLOAT

#### "ANGLE" CONTROL

PULL TO ANGLE PLOW TO RIGHT

RETURN TO CENTER TO HOLD PLOW IN DESIRED POSITION

PUSH TO ANGLE PLOW TO LEFT

NOTE: In the event the Super Electrolift fails to function as described, refer to Section "C" TROUBLESHOOTING AND MAINTENANCE.

#### SUPER ELECTROLIFT FEATURES -- HOW TO MAKE THE BEST OF THEM

RAISING THE PLOW -- For maximum efficiency while plowing, raise the Plow only enough to clear the ground.

FLOAT POSITION -- Allows the lift ram to freely move up and down. This enables the Plow to fully follow uneven ground contour.

POWER ANGLING -- For best results, always raise the Plow clear of the snow before Power Angling.

SAFETY SYSTEM -- Protects the Plow, vehicle and operator from harm should the Plow impact with an obstruction. The integral safety system does so by allowing the force of impact to change the positions of the P.A. Cylinders. As a result, the Cylinders act as shock absorbers. Should the Safety System be actuated while plowing, merely Power Angle the Plow back to the desired position.

HYDRAULIC COUPLERS -- Allow fast and easy Plow attachment and detachment from the vehicle. The Coupler halves self-seal when separated. Always interconnect as shown by dotted lines in Figure 8 when the Plow is detached from the vehicle, to seal the hydraulic system against contamination. Interconnection will also make possible manual angling of the Plow.

# TROUBLE SHOOTING & MAINTENANCE

## 1. TROUBLE SHOOTING GUIDE

Every Super Electrolift is fully tested before it leaves the factory. Therefore, in the event the Super Electrolift fails to function properly upon completion of its installation, very likely the area of difficulty is the installation. The Trouble Shooting Guide is intended to assist in pinpointing what area of the installation may be causing the malfunction.

TROUBLE	POSSIBLE CAUSE	REMEDY
Motor will not operate	1. Loose electrical connection	1. Check all connections for tightness
	2. Control Assembly Switch not closing	2. Check for incorrect installation and/or adjustment of Control Ass'y and Control Cables
	3. Solenoid inoperative	3. Check for incorrect connections at Solenoid
Motor operates but Plow will not raise	1. Low Fluid level	1. With Lift Ram fully retracted, fill Reservoir to one inch below top of Filler Hole with Hydraulic Fluid.
	2. Control Valve not opening or opening incompletely	2. Check for incorrect installation and/or adjustment of Control Ass'y. and Control Cables
Plow does not lower or lowers slowly	1. Control Valve not opening or opening incompletely.	1. Check for incorrect installation and/or adjustment of Control Ass'y. and Control Cables
Plow will not hold in raised position	1. Control Valve not being completely closed	1. Check for incorrect installation and/or adjustment of Control Ass'y. and Control Cables
Motor operates but Plow will not angle in one direction	1. One or both Hydraulic Couplers not completely engaged	1. Check Couplers for proper engagements
	2. P.A. Cylinders not charged and bled properly	2. Recharge and rebleed P.A. Cylinders
	3. Control Valve not opening or opening incompletely	3. Check for incorrect installation and/or adjustment of Control Ass'y. and Control Cables
Plow does not hold in desired angled position	1. Control Valve not being completely closed	1. Check for incorrect installation and/or adjustment of Control Ass'y. and Control Cables

## 2. GENERAL MAINTENANCE

a. Maximum performance and efficiency require that the vehicle's electrical system functions properly. Check the following periodically or when there are electrical problems.

1. Battery terminals must be clean.
2. All electrical connections must be tight.
3. The battery cannot have a weak or dead cell.
4. The alternator (or generator) and regulator must be functioning according to specifications.

a. After the snow plowing season (annually) do the following:

1. Drain and replace the Hydraulic Fluid. NOTE: Hydraulic Fluid contains a chemical which absorbs and holds moisture. The chemical is effective for approximately one season of use.
2. Fully extend the lift ram, coat with grease and leave in this position. The fully extended position fills the cylinder with oil which prevents internal rust and corrosion. The grease also prevents rust and corrosion.
3. When the Plow is equipped with Power Angling, coat the exposed portions of the P.A. Cylinder rods with grease to prevent rust and corrosion.

## 3. POST-SEASON MAINTENANCE

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**MEYER PRODUCTS, INC.**

18513 Euclid Ave. • Cleveland, Ohio 44112  
Phone: 486-1313 (Area Code 216)