



BAR - LIFT BARRIER INSTALLATION AND OPERATION MANUAL

Job Number _____

Job Name _____

Serial Numbers _____

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WARRANTY

NOTE: The important safeguards and instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution and carefulness are factors which cannot be built into this, or any other, product. These factors must be supplied by the person/s caring for and operating the unit.

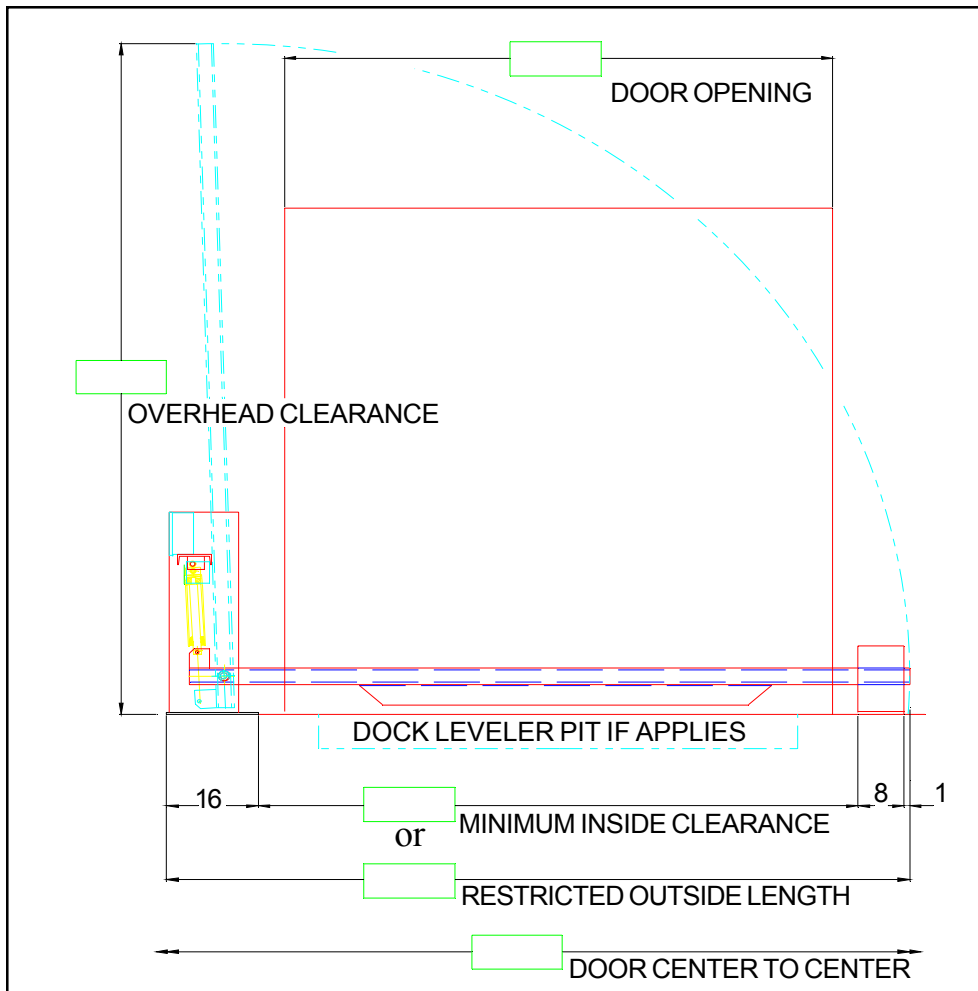
Systems, Inc. guarantees the materials, components and workmanship in your B-2-B Barrier to be of the best quality and to be free from defects in material and workmanship for a period of one (1) year from date of shipment. Any defective material, components or parts will be exchanged at our factory with replacement parts, shipped to you prepaid, if found to be defective from other than improper installation, operating contrary to instructions of beyond rated load capacity, abuse, careless or negligent use, or failure to maintain the unit as recommended by company maintenance schedules and guides.

There are no warranties, either express or implied, including any implied warranties of merchantability or fitness for a particular purpose which shall extend beyond the warranty periods indicated above. No responsibility is assumed for any incidental or consequential damages except for those allowed under existing state law. This limited warranty is valid only if unit is unaltered or unmodified from its original condition as installed or as delivered at or from the factory.

The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used herein.

SPECIFICATIONS - SAFETY BARRIER

Poweramp model B-2-B, Bar Lift Barrier is capable of withstanding a 5 ton impact at 4 miles per hour. Hydraulic activation by push button control will raise the barrier to allow loading/unloading. After loading/unloading is complete, push button control allows barrier to be lowered to its normal safe position. A yellow light will illuminate when ever the barrier is in transition from either its horizontal or vertical position. The barrier is equipped with deadman control which eliminates movement when the raise/lower push button is released. A 115/1/60, 1-1/2 HP power pack with push button control is standard. As an option, the unit may be 3 phase power and/or interlocked with any Poweramp hydraulic dock leveler.



PRODUCT REQUIREMENTS

- | | |
|---|---|
| <input type="checkbox"/> SINGLE PHASE | <input type="checkbox"/> OPTIONAL UNDER-RIDE GUARD |
| <input type="checkbox"/> 120 VOLT 60 HZ | |
| <input type="checkbox"/> 240 VOLT 60 HZ | <input type="checkbox"/> SPECIAL MECHANICAL (PAINT, ETC.) |
| <input type="checkbox"/> THREE PHASE | _____ |
| <input type="checkbox"/> 240 VOLT 60 HZ | _____ |
| <input type="checkbox"/> 480 VOLT 60 HZ | _____ |
| <input type="checkbox"/> SPECIAL ELECTRICAL | _____ |
| _____ | _____ |
| _____ | _____ |

INSTALLATION INSTRUCTIONS

1. Inspect components when received and report any damage or shortage to freight carrier.
2. Read and understand all instructions and drawings included with barrier before starting.
3. Barricade work area to prevent traffic during installation.
4. Pre assemble barrier arm into main body with pivot pin provided (see figure 1). Do not, at this time, hook up lift cylinder rod to barrier arm. Note: Removal of rear sheet metal cover from main body may help the assembly process. Lower pin cover plate and tighten screw to prevent pin movement.
5. In order to determine B-2-B Barrier mounting location, position the barrier so that it is centered in door opening. Reference figure 2. The barrier may be positioned at any desired distance from the wall. Note that 14" wall clearance is required if pin should ever require removal. Check overhead clearance with barrier in raised position to ensure that the barrier arm will not interfere with the overhead door or any other overhead objects.

Check that vertical barrier option (if so equipped) is centered over centerline of dockleveler/door opening.

6. Using the barrier pivot stanchion as a template, drill holes for concrete anchors (Rawl 5/8 Dia x 5" long supplied by Poweramp - Quantity 12).
7. If the floor is not square with respect to the mounting plates, metal shims should be inserted to prevent the plates from twisting during lagging to the floor.
8. Position and secure the barrier pivot stanchion.
9. Connect AC supply line to the control station per proper electrical drawings. Preferred method is to saw cut floor from base of wall under supply source to rear of barrier. Break out concrete and install one 1/2" conduit into trench. Feed electrical line from source to junction box on barrier and connect. Trench should be filled with epoxy or concrete and leveled with floor.
10. Remove pipe plug from filler port on reservoir and replace with breather cap provided. Check proper oil level per page 7 item 6.

CAUTION: FAILURE TO PERFORM ITEM 10 CAN RESULT IN EQUIPMENT DAMAGE.

11. Connect lifting cylinder rod to barrier arm using pin provided in cylinder. Grease arm pivot pin, per maintenance instruction in owner's manual at pivot tube (Figure 4). Replace rear cover if removed during installation.
12. Run barrier up and down several times to insure proper location of barrier storage weldment. Once positioned properly with double gusset (single anchor) side towards wall, use weldment as a template for drilling mounting holes. Repeat step 7 for storage weldment if required.
13. Test system to verify proper operation. Yellow light should be off when barrier arm is in the horizontal position (barrier in use) and in the vertical position (barrier stored). Depressing the raise button should cause the barrier arm to raise smoothly. Release the raise button which should stop barrier arm motion. Depressing the lower button should cause the barrier arm to lower smoothly. Releasing the lower button should stop barrier arm motion.

INSTALLATION INSTRUCTIONS

NOTE: All wiring is to be performed in accordance with local electrical codes by qualified personnel. Check with local authorities to determine requirements.

Do not operate barrier until you read and understand the operating instructions and become familiar with the equipment and controls.

TO RAISE BARRIER

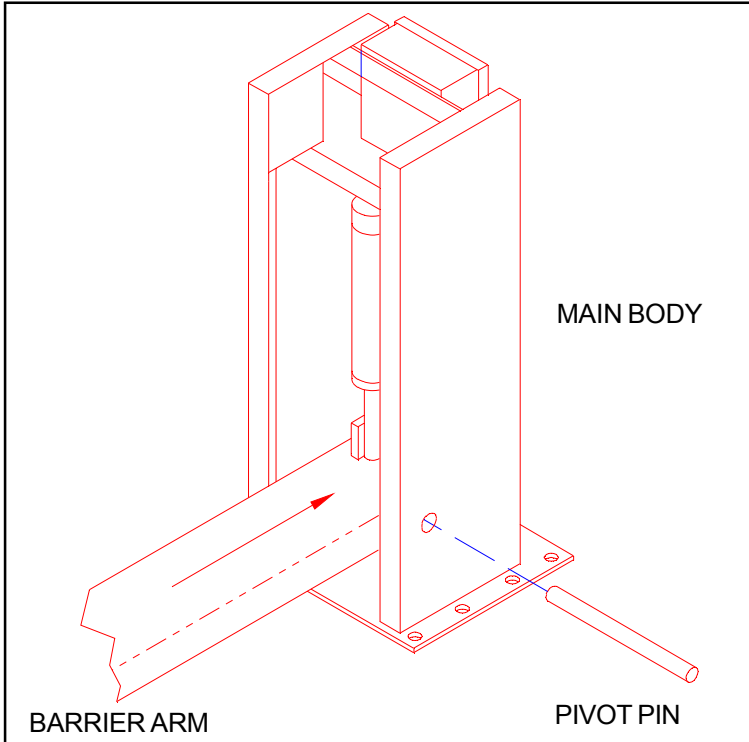


Figure 1

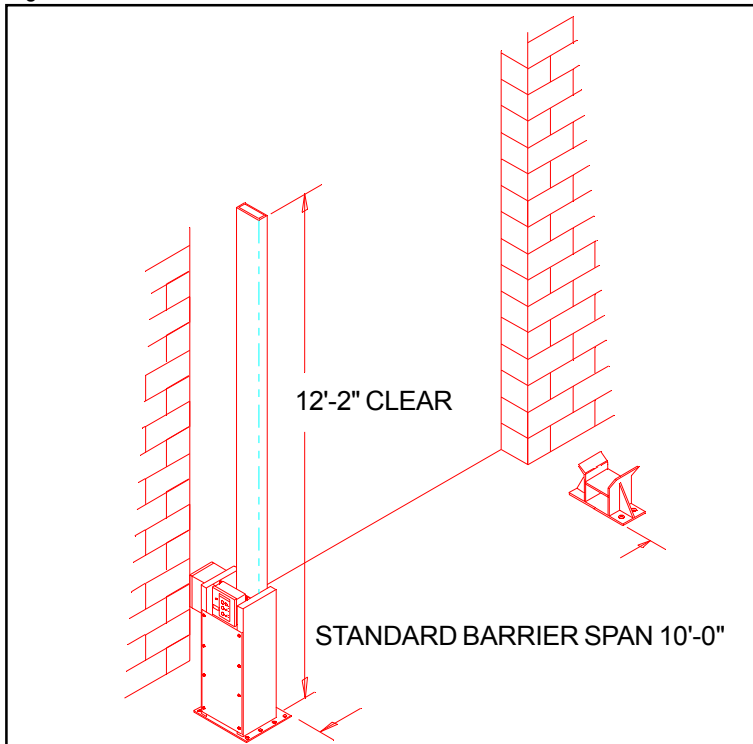


Figure 2 - Note: Consult factory for barrier spans other than 10'.

LIMIT SWITCH ROD ACTUATOR ABOVE PIN/SPACER AND ACTUATED WHEN CYLINDER RETRACTS

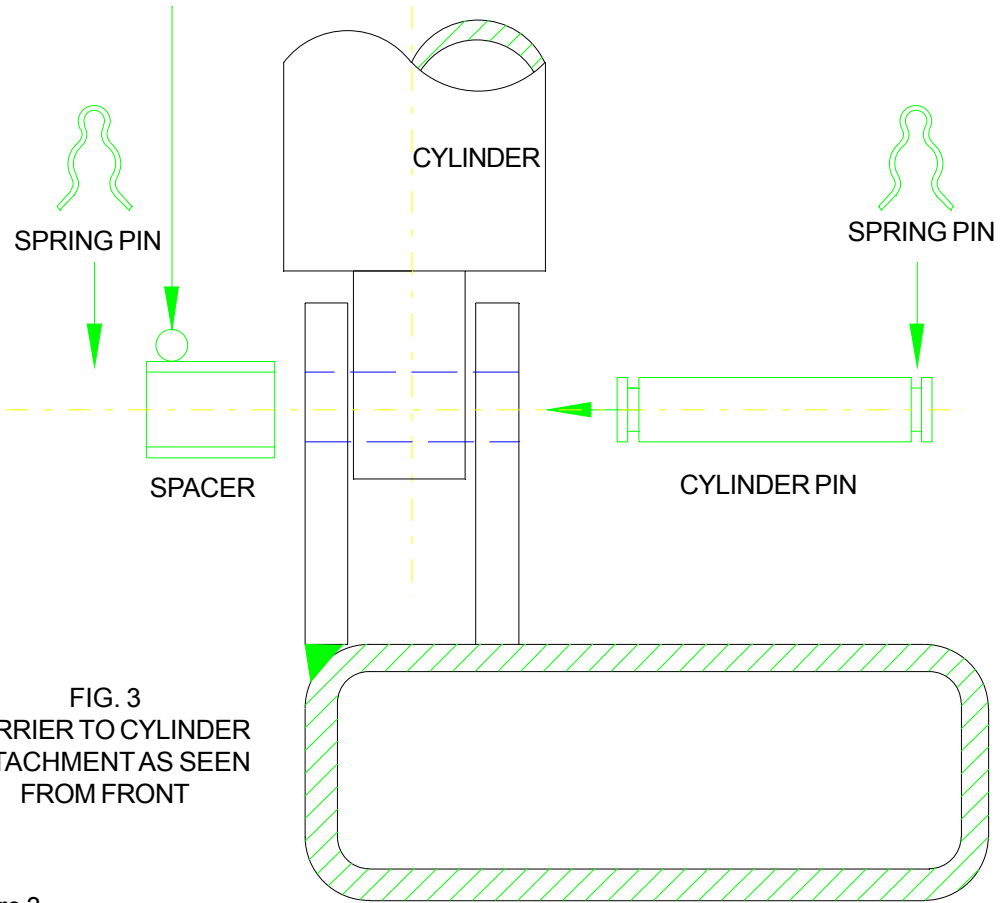


Figure 3

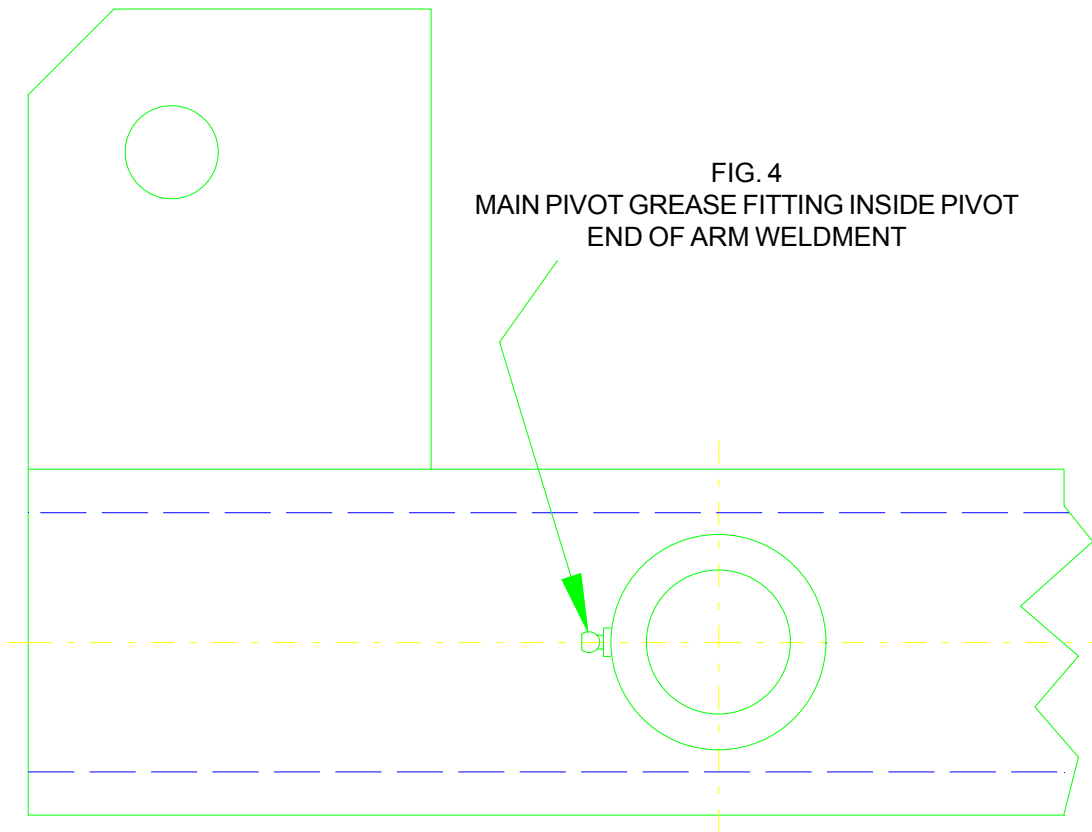


Figure 4

OPERATING INSTRUCTIONS

1. Visually check path of barrier travel to make sure it is clear of objects and personnel.
2. Press and hold "RAISE" push button.
3. Amber light will be on any time barrier is not fully stored either up or down.
4. When amber light goes "off", release "RAISE" push button.

TO LOWER BARRIER

1. Visually check path of barrier travel to make sure it is clear of objects and personnel.
2. Press and hold "LOWER" push button.
3. Amber light will be on any time barrier is not fully stored either up or down.
4. When amber light goes "off", release "LOWER" push button.

OTHER OPERATION

The above instructions are for the basic barrier configuration. Some applications will involve interfacing with other equipment such as docklevelers, restraints, overhead doors etc. Be sure to read the operating instructions supplied with the particular unit.

EVERY WEEK

1. Inspect unit to be free of debris and other foreign material which might hamper operation.
2. Run barrier through a full cycle to check operation. Check that the amber light is on in all positions except fully stored up or down.

PREVENTATIVE MAINTENANCE

EVERY TWO MONTHS

1. Barricade area to prevent unauthorized use of equipment while servicing.
 2. After checking barrier in lowered position, be sure power supply circuit is opened at main service box or circuit breaker. Failure to disconnect power supply could result in personal injury or death.
 3. If barrier must be serviced in the raised position, engage safety chain (Page 18, Item 33) to prevent arm from falling.
 4. Remove rear service panel (Page 18, Item 30).
 5. Using a good grade of lubricating oil, place a few drops on the hydraulic cylinder pivot pins.
 6. Check hydraulic fluid level with a wire probe through the filler/breather port (Pages 14-15, Item 2). Fluid level should be approximately 1-1/2" from the top of the reservoir when the barrier is in the lowered position. To assure normal operation of the barrier, the following fluids are recommended:
 - Aero Shell Fluid #4 code #60421 by Shell Oil Co.
 - Mobile Aero HFA Mil-H5606 by Mobil Oil.
 - Texaco Type BB
 - Filmite No. 530
 - Exxon "UNIVISJ13"
- Use of hydraulic fluids with equivalent specifications to those listed is acceptable.
7. Use grease zerk located inside barrier arm (Page 5, Fig 4) to lubricate the pivot pin. Use lubriplate No. 18339 Multi-purpose grease or equivalent.
 8. Reconnect power.
 9. Run unit through full cycle to check operation.
 10. Replace rear service panel.
 11. Release safety chain (if used).
 12. Return unit to service.

Designed by Poweramp to be efficient and dependable, your Barrier should seldom, if ever, need repairs. This is especially true if you practice the preventive maintenance program outlined on Page 7. For your use, a listing of possible operational malfunctions, possible causes and their probable remedies is as follows:

Adjustment is made to both limit switches by loosening the jam nut on the switch pivot, rotating the roller arm/whisker to the desired position and tightening the nut.

TROUBLESHOOTING THE ELECTRICAL SYSTEM

Limit switch LS1 should be set so that it is activated by the barrier arm when it becomes vertical and stored.

Limit switch LS2 should be set so that the hydraulic cylinders rod pin lifts and actuates the whisker as the barrier arm stores in the horizontal position.

TROUBLE	POSSIBLE CAUSE	PROBABLE REMEDY
1. With Push-button pressed, pump motor does not run; barrier does not raise.	1. No power.	1. Check voltage input at control.
	OR, blown fuses or overload open.	Check fuses, replace if necessary with correct type. Reset overload.
2. Barrier will not raise or lower, single phase motor running or humming.	2. Line voltage too low.	2. Check for low voltage. Increase wire size to correct voltage drop.
	OR, defective capacitor.	Disconnect capacitor from motor. Test. Replace if necessary.
	OR, open centrifugal switch at zero RPM.	Repair or replace centrifugal switch.
3. Barrier will not raise or lower, three phase motor running or humming.	3. Phase reversed, motor running.	3. Reverse any two legs at disconnect box.
	OR, Motor single-phasing (motor humming).	Check fuses, wiring and overload reset.
4. Barrier will not lower - motor running.	4. 4 way solenoid valve not being energized.	4. Use piece of ferris metal to check for magnetic pull when energized. Replace or find signal loss.
5. Amber light does not turn on.	5. Blown bulb.	5. Replace.
6. Amber light does not turn off when arm stores vertically.	6. Limit switch LS1 not opening	6. Adjust switches per page 9, figure 5.
7. Amber light does not turn off when arm stores horizontal.	7. Limit switch LS2 not opening.	7. Adjust switch per page 9, figure 6.

TROUBLESHOOTING THE ELECTRICAL SYSTEM

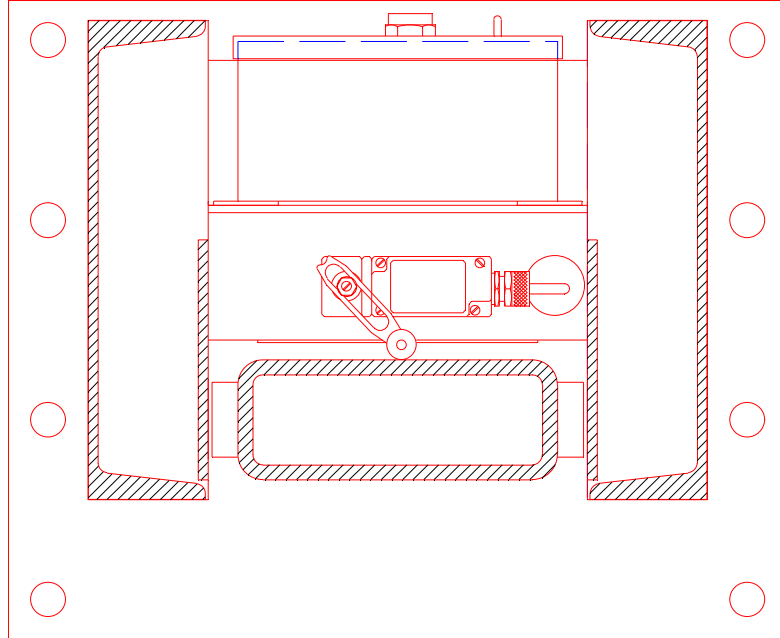


Figure 5
Raised Limit Switch
LS1

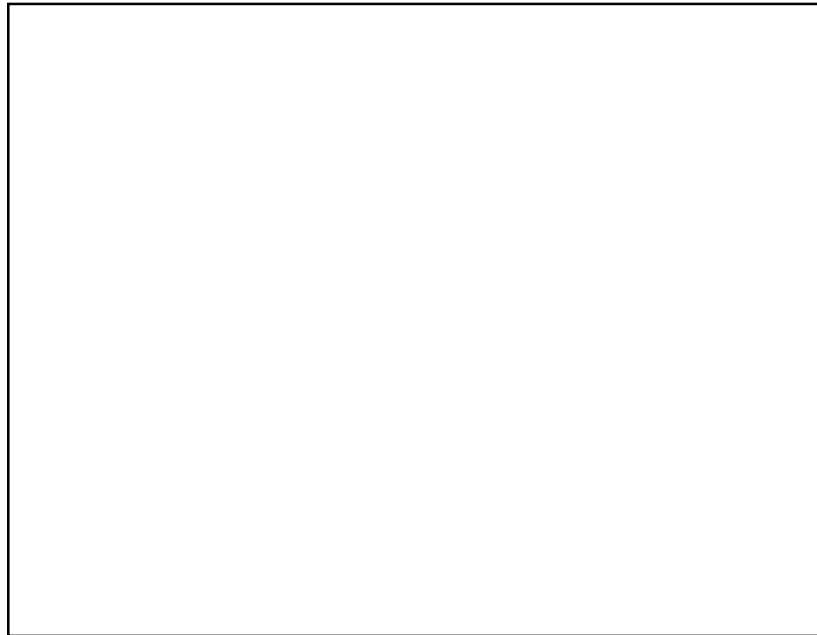


Figure 6
Lowered Limit Switch
LS2

Designed by Poweramp to be efficient and dependable, your Barrier should seldom, if ever, need repairs. This is especially true if you practice the preventive maintenance program outlined on Page 7. For your use, a listing of possible operational malfunctions, possible causes and their probable remedies is as follows:

TROUBLESHOOTING THE HYDRAULIC SYSTEM

TROUBLE	POSSIBLE CAUSE	PROBABLE REMEDY
1. Barrier will not raise.	1a. Load on barrier arm.	1. Remove load. Unit is designed to raise no more than its own weight as a safety feature.
	1b. 4 way valve stuck in "lower" position	1b. Locate solenoid. Remove coil from spool and spool from valve block. Check spool for contaminants and/or damage. Replace spool if damaged. Carefully wipe off spool with clean rag (do not damage "O" rings on spool) Check valve block for contaminants. Replace spool in block and coil on spool. DO NOT overtighten spool into block. Maximum tightening torque for spool is 35-40 lb/ft. DO NOT overtighten coil on spool. Operate the unit. Replace spool if problem persists and all other troubleshooting procedures performed.
2. Barrier raises very slowly.	2. Low hydraulic fluid.	2. Add hydraulic fluid as needed See Page 7, Item 6.
	OR, pump by-pass set too low.	OR, increase by-pass pressure. Page 14. Remove acorn nuts and washer back of nut. Back up jam nut and, with screwdriver, turn adjustment.
	OR, Pressure line filter plugged.	Inspect filter element and replace if needed.
3. Barrier will not lower, motor running.	3. 4 way valve (Page 17, Item 5) stuck in "raise" position.	3. Remove cartridge and inspect for contamination. Replace if needed. See page 14, items 20 & 21.
4. Barrier bounces while lowering.	4. Down speed control valve (Page 17, Item 14) set too fast.	4. Valve to about 1/2 turn from closed and adjust until barrier lowers smoothly. (NOTE: valve has locking set screw.

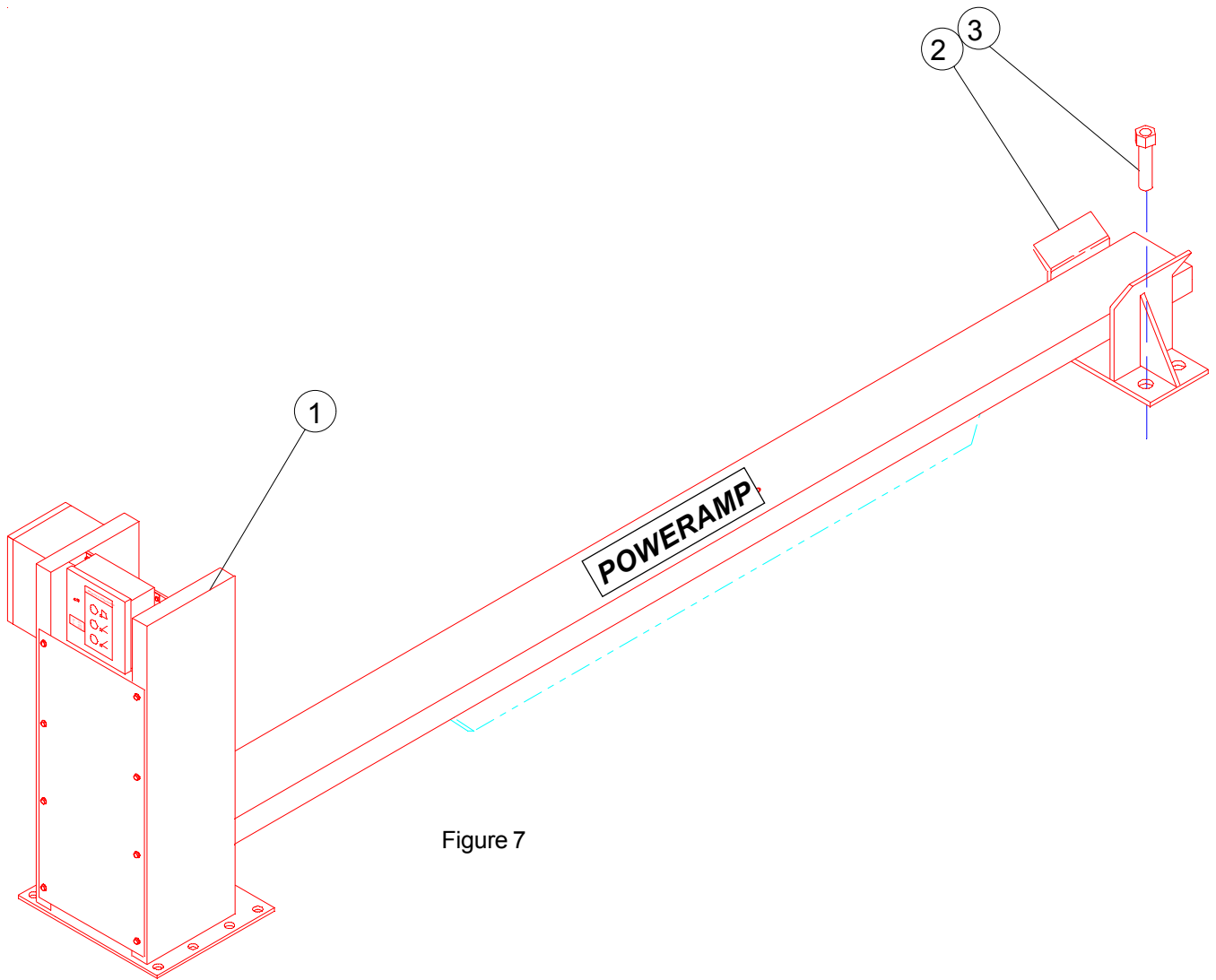


Figure 7

B2 FINAL ASSEMBLY PARTS LIST

Item	Qty	Part#	Description
1	1	9446-0001	Single Phase Base Assembly
	1	9446-0002	Three Phase Base Assembly
2	1	9445-0005	Receiver Assembly
3	11	2101-0108	Concrete Anchor Bolt

BASE ASSEMBLY

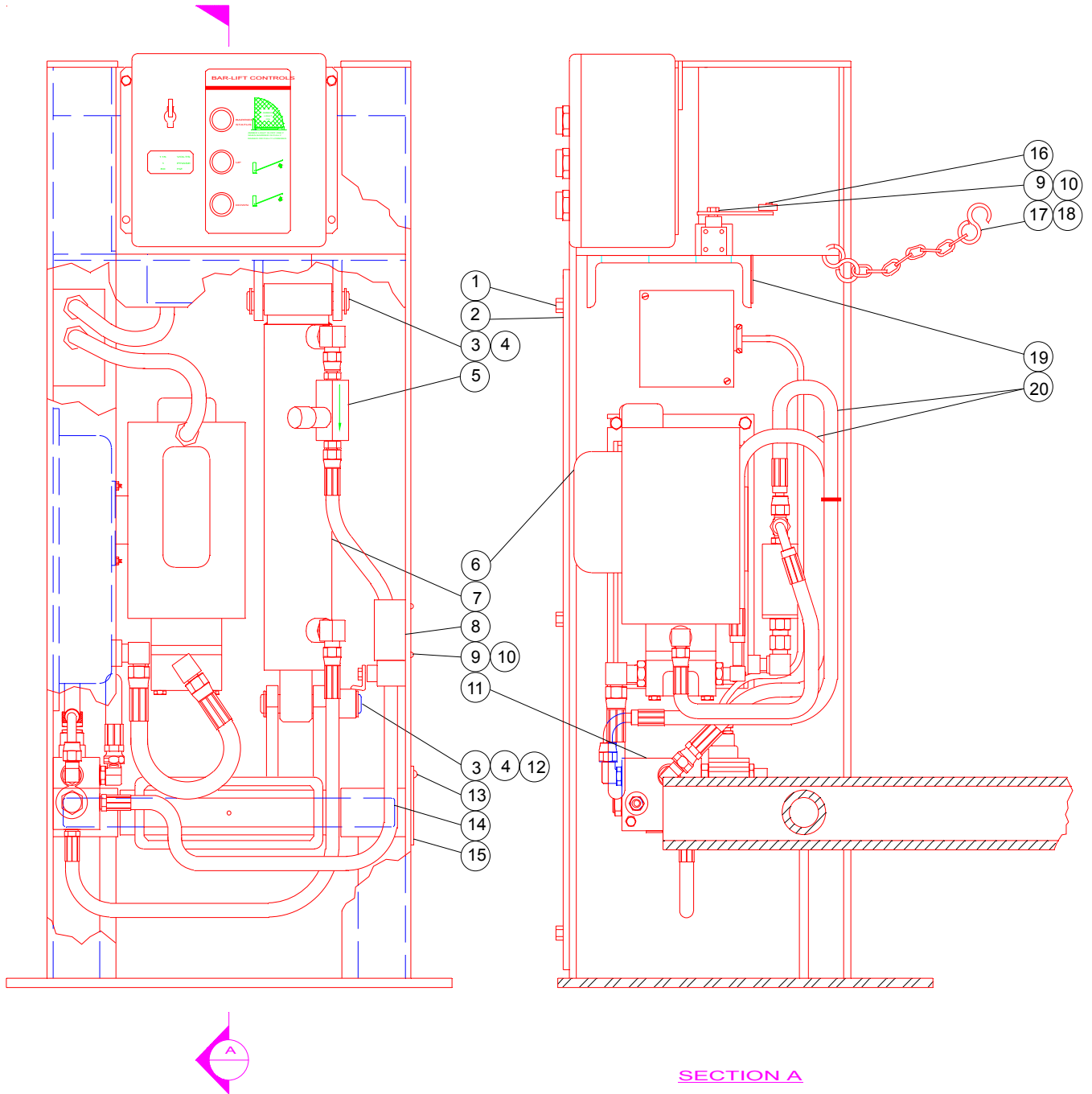


Figure 8

Item	Qty	Part#	Description
1	6	2101-0105	Screw - Self Tapping
2	1	9441-0002	Access Cover - Main
3	2	9202-0004	Pin
4	4	9201-0003	E-Ring
5	1	8581-0012	Flow Control Valve
6	1	9395-0048	Single Phase
	1	9395-0049	Three Phase
7	1	0525-0065	Cylinder
8	1	0615-0025	Limit Switch - Lower
9	4	2101-0150	Machine Screw
10	4	2101-0151	Hex Lock Nut
11	1	8585-0079	Valve Assembly
12	1	9442-0027	Spacer
13	1	2101-0026	Screw - Self Tapping
14	1	9442-0026	Pin
15	1	9411-0001	Access Cover
16	1	0615-0024	Limit Switch - Upper
17	1	R574-0100	Chain
18	2	4261-0002	"S" Hook
19	1	0191-0018	Rubber Stop
20	2	9904-0079	Hose Assembly

115 VOLT, 1 PHASE, 60 HZ - 9395-0048

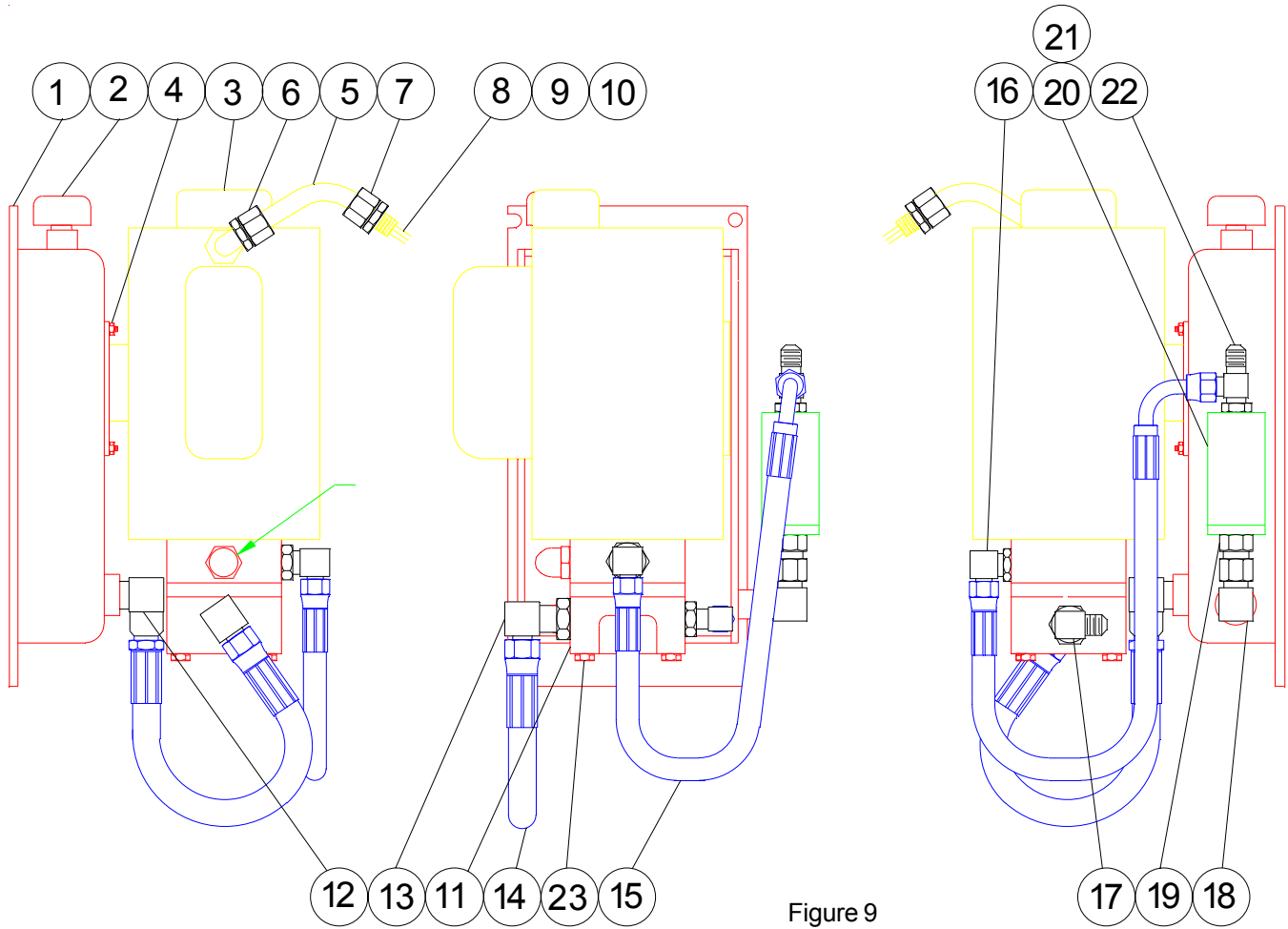


Figure 9

Item	Part#	Description
1	9303-0010	Reservoir
2	9301-0020	Breather Cap
3	3411-0008	Motor - Single Phase
4	2101-0039	Hex Nut 5/16 - 18 UNC
5	R586-0060	1/2" Flex Conduit x 6"
6	1431-0079	90 Degree Adaptor
7	1431-0078	Straight Adaptor
8	R518-0120	#12 Black Wire x 24"
9	R519-0120	#12 White Wire x 24"
10	R520-0120	#12 Green Wire x 24"
11	9301-0132	Pump Assembly 1-3/4 GPM
12	0521-0017	90 Degree Adaptor 6NPT - 8 JIC
13	9301-0116	90 Degree Adaptor 8 "O" Ring - 8 JIC
14	9904-0041	Hose Assembly - Suction
15	9904-0081	Hose Assembly - Pressure Relief
16	9301-0139	90 Degree Adaptor 4 "O" Ring - 6 JIC
17	9301-0113	90 Degree Adaptor 6 SAE - 6 JIC
18	0521-0044	90 Degree Adaptor 6NPT - 6 JIC
19	9301-0123	Swivel Female 6 SAE - 6 JIC
20	9301-0121	Filter Assembly
21	9301-0086	Filter Element
22	9301-0137	Run Tee 6 SAE - 6 JIC - 6 JIC
23	2101-0077	5/16 - 18 UNC x 3 Hex Head Cap Screw

240/280 VOLT, 3 PHASE, 60 HZ - 9395-0049

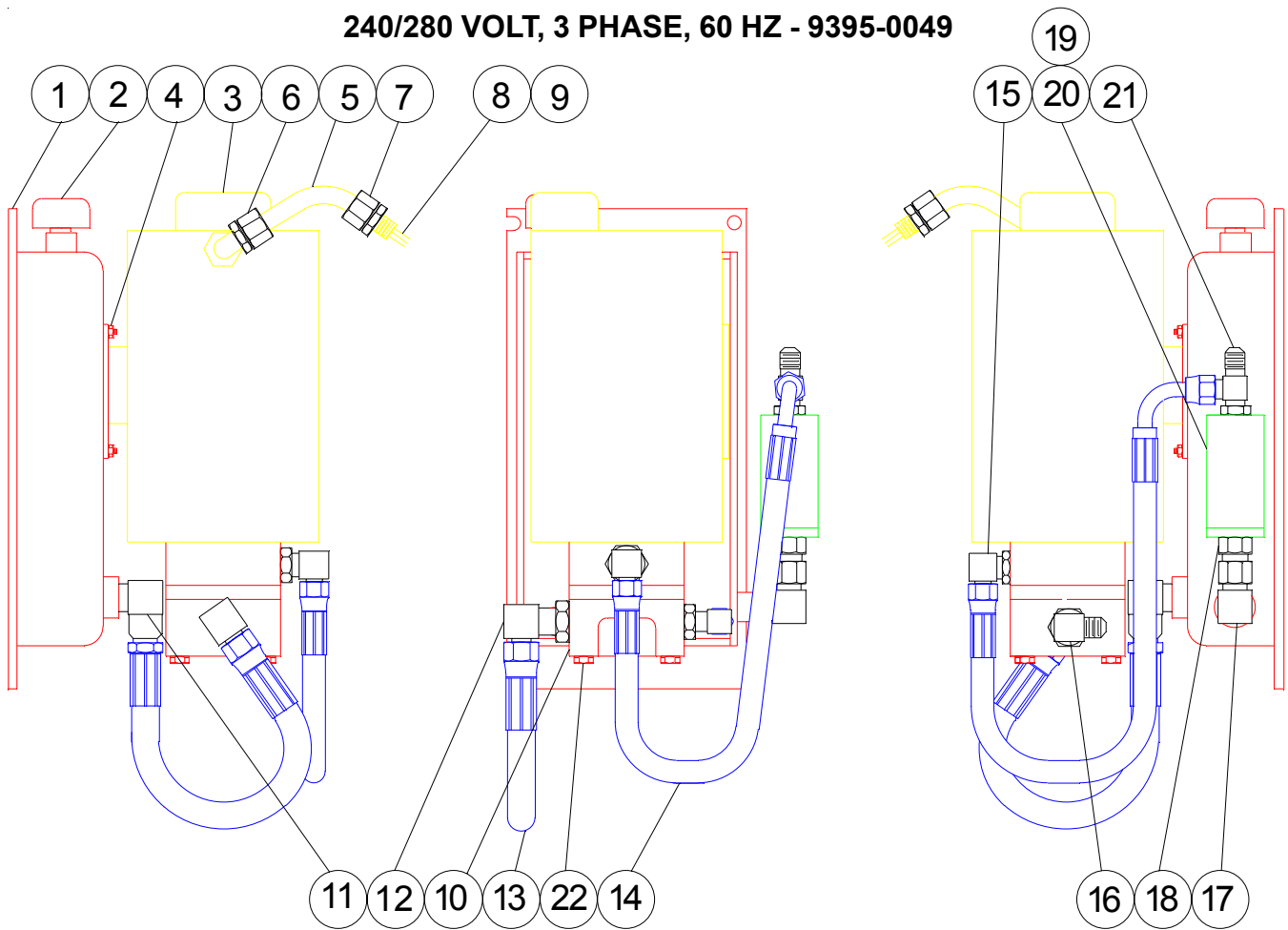
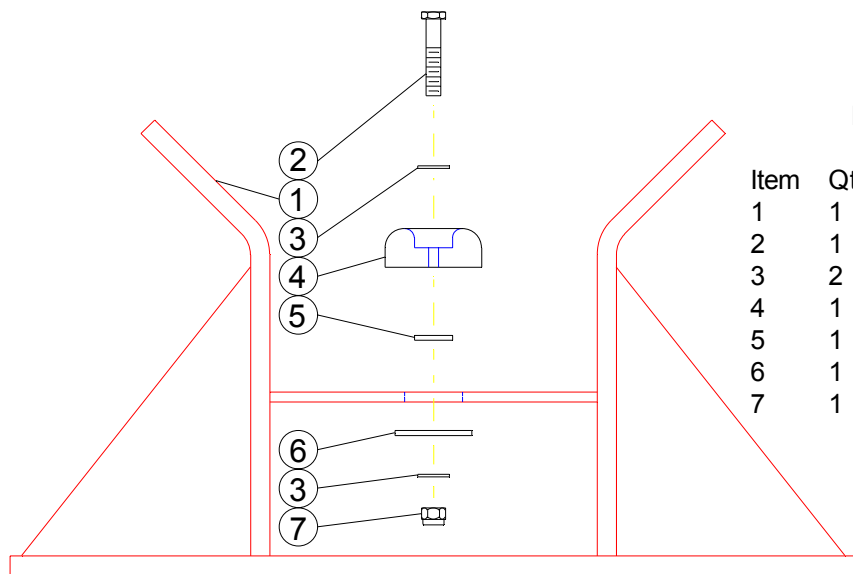


Figure 10

Item	Part#	Description
1	9303-0010	Reservoir
2	9301-0020	Breather Cap
3	3411-0008	Motor - Single Phase
4	2101-0039	Hex Nut 5/16 - 18 UNC
5	R586-0060	1/2" Flex Conduit x 6"
6	1431-0079	90 Degree Adaptor
7	1431-0078	Straight Adaptor
8	R518-0120	#12 Black Wire x 24"
9	R519-0120	#12 Green Wire x 24"
10	9301-0132	Pump Assembly 1-3/4 GPM
11	0521-0017	90 Degree Adaptor 6NPT - 8 JIC
12	9301-0116	90 Degree Adaptor 8 "O" Ring - 8 JIC
13	9904-0041	Hose Assembly - Suction
14	9904-0081	Hose Assembly - Pressure Relief
15	9301-0139	90 Degree Adaptor 4 "O" Ring - 6 JIC
16	9301-0113	90 Degree Adaptor 6 SAE - 6 JIC
17	0521-0044	90 Degree Adaptor 6NPT - 6 JIC
18	9301-0123	Swivel Female 6 SAE - 6 JIC
19	9301-0121	Filter Assembly
20	9301-0086	Filter Element
21	9301-0137	Run Tee 6 SAE - 6 JIC - 6 JIC
22	2101-0077	5/16 - 18 UNC x 3 Hex Head Cap Screw



RECEIVER ASSEMBLY PARTS LIST

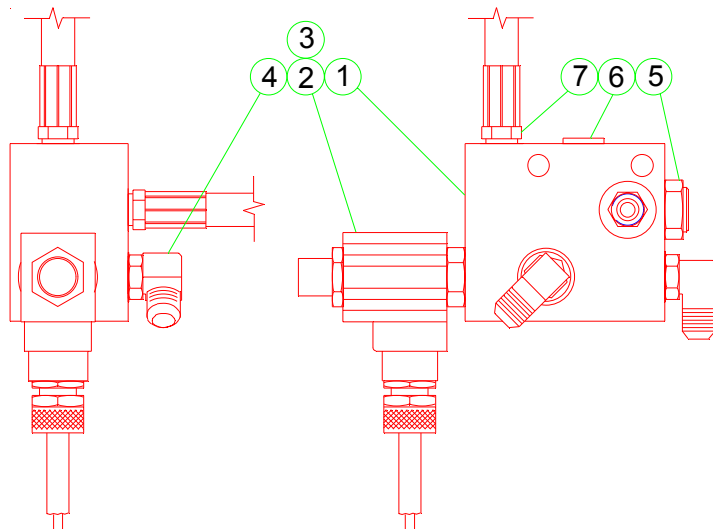
Item	Qty.	Part#	Description
1	1	9443-0006	Receiver Weldment
2	1	2101-0113	Hex Head Cap Screw
3	2	2101-0060	Washer
4	1	9951-0005	Bumper
5	1	2101-0079	Washer
6	1	2101-0132	Fender Washer
7	1	2101-0039	Hex Nut - Locking

Figure 11

CYLINDER ASSEMBLY PARTS LIST

Item	Qty.	Part#	Description
1	1	0524-0061	Tube Weldment
2	1	0524-0060	Piston Weldment
3	1	0522-0136	Gland
4	1	0521-0124	Seal-Step
5	1	0521-0109	Wear Ring - Piston
6	1	0521-0110	Seal-Piston
7	1	0521-0114	Wear Ring-Rod
8	1	0521-0115	Seal-Rod
9	1	0521-0116	O-Ring
10	1	0521-0117	Ring-Backup
11	1	0521-0026	Retaining Ring

Figure 12



VALVE ASSEMBLY PARTS LIST

Item	Qty.	Part#	Description
1	1	8582-0049	Valve Block
2	1	8593-5032	Solenoid Coil Assembly
3	1	8581-0084	Solenoid Valve
4	2	9301-0113	90 Degree Elbow
5	1	8581-0081	Check Valve
6	1	9301-0105	Plug
7	2	9904-0080	Hose Assembly

Figure 13

SYSTEMS, INC. WARRANTY

Model B2 Barrier

Systems, Inc., guarantees the materials, components, and workmanship in your Poweramp B2 Barrier to be of the highest quality and to be free of defects in material and workmanship for a full One (1) Year Base Warranty on all components. The Base Warranty includes replacement parts, labor, and freight.

Systems, Inc. further guarantees the hydraulic components on all B2 Barrier for a period of one (1) year from date of shipment. The electrical components carry a one (1) year warranty.

In the event of any defect covered by this guarantee, Systems, Inc. will remedy said defect by repairing or replacing all defective parts, bearing all of the costs for parts, labor and transportation.

All guarantee claims will be settled on a timely basis when defects are found to be from other than improper installation, operating contrary to instructions or beyond rated load capacities, abuse, careless or negligent use, or failure to maintain the unit as recommended by the owner's manual.

There are no guarantees, either expressed or implied, including any implied guarantees of merchantability or fitness for a particular purpose which shall extend beyond the guarantee periods indicated above. This guarantee is valid only if the unit(s) is unaltered from original condition as delivered from the factory and a survey is completed by a Poweramp representative.



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