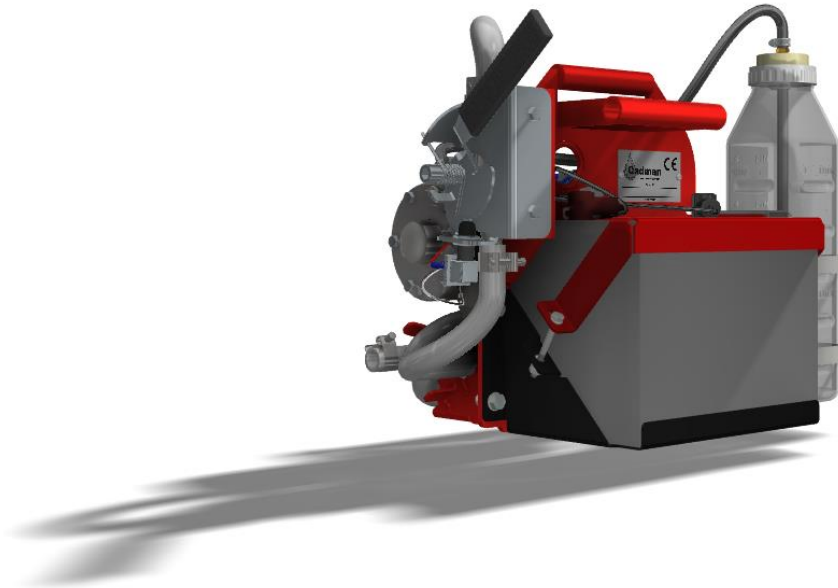




PORTABLE POWER PRIMER



OPERATOR'S and MAINTENANCE MANUAL 2015 Edition



Table of contents

Warranty Policy..... 3

When Applying Liquid Manure 4

Safety Precautions..... 5

Using your Cadman Portable Power Primer..... 6

Parts Section..... 10

Required Maintenance..... 20

Useful Information 24

Revision History..... 25

Portable Power Primer

We would like to thank you for purchasing your new Cadman Portable Power Primer (shown with optional oiling system). You have purchased a product of superior quality that will serve your needs for a long time as long as you follow this manual and safety procedures.

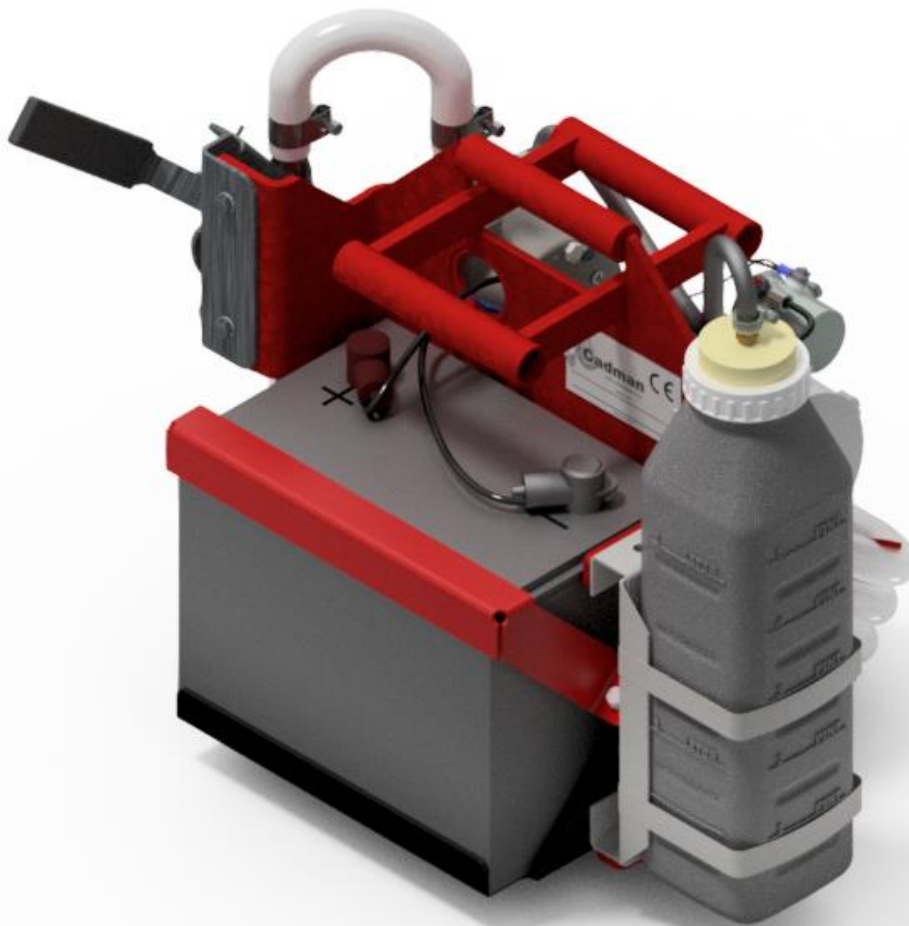


Figure 1 – Cadman Portable Power Primer

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BEFORE operating your new **Cadman Portable Power Primer**, inspect the machine for any damage or parts that may have come loose during shipping.
REPORT ANY DAMAGE TO CADMAN POWER EQUIPMENT LIMITED OR YOUR LOCAL DEALER IMMEDIATELY



Warranty Policy

CADMAN POWER EQUIPMENT LIMITED warrants that each machine it manufactures shall be free from defects in materials and workmanship. The terms of this warranty are as follows:

- All components manufactured by **CADMAN POWER EQUIPMENT LIMITED** shall be warranted for a period of one (1) year from the date of delivery, except the frame and hose drum structures which shall be warranted for a period of three (3) years.
- **CADMAN POWER EQUIPMENT LIMITED** makes no warranty whatsoever in regard to tires, engines, and other trade accessories used on its equipment. The customer shall rely solely on the warranties offered (if any) by the respective manufacturer of these trade accessories.

The sole obligation to **CADMAN POWER EQUIPMENT LIMITED** under this warranty is limited to the repair or replacement of any part it manufactured, which, in the judgment of **CADMAN POWER EQUIPMENT LIMITED**, failed under normal and proper use and maintenance due to defective materials or workmanship. All freight charges incurred shall be the sole responsibility of the customer.

CADMAN POWER EQUIPMENT LIMITED and its dealers (**who are neither authorized nor qualified to undertake any obligations on behalf of CADMAN POWER EQUIPMENT LIMITED**) **DO NOT**, under any circumstances, accept any responsibility for any losses or costs incurred due to parts failure and/or delays during the parts replacement process.

This warranty will be considered void if any alterations or modifications have been made to the machine without the express written consent of **CADMAN POWER EQUIPMENT LIMITED** outlining the nature and the extent of such modifications. **CADMAN POWER EQUIPMENT LIMITED** will not provide any warranty express or implied to any overdue accounts.

CADMAN POWER EQUIPMENT LIMITED, whose policy is one of continuous improvement, reserves the right to change specifications and designs without notice or incurring obligation.

The warranties expressed herein are non-transferable and replace any other warranties, either written or verbal, which may have been given or implied.

When Applying Liquid Manure

Current and pending laws in agricultural regions of North America change the ways in which the agricultural community needs to manage their liquid animal waste products. As a manufacturer of agricultural equipment, we feel it necessary to make you aware that the municipal, regional and state governing bodies in your area may have created new laws or updated current laws for nutrient handling practices and procedures. The changes in these laws typically target run-off prevention and soil nutrient loading.

Run off may result from several factors. Some (but not all) of the factors are:

- Incorrect application
- Difficult application areas containing steep hills or other features that may make run off more likely to happen
- Changes in weather that would allow run off to happen (sudden storms just before or just after applying, ground frost, etc....)

Constant watch must be kept and immediate action taken when needed to prevent run off from happening.

Soil nutrient loading depends on several variables. Some (but not all) of these variables are:

- The type of crop(s) being grown
- The type of soil the crop(s) are growing in
- Nutritional value of what you are applying
- Nutritional needs of the crop(s) and soil they are growing in

Application timing, nutritional value of what you are applying, and the type of soil will determine the intake rate at which liquid may be applied. Soil analysis taken at appropriate times will help you create a correct application plan for your crop(s). In addition; local colleges, universities, and agricultural extension services are a good source of information. They may be able to help you create an application program that will help prevent problems with your application.

CADMAN POWER EQUIPMENT LIMITED is unable to provide up-to-date recommendations for the laws you must follow in your area. It is your responsibility to make yourself aware of and follow the law in your area. Please contact your local agricultural representative to obtain the latest information for legal handling and application of nutrient.

Safety Precautions

Please take the time to read and understand this manual to avoid errors and unnecessary risks. If you have any questions or concerns, please contact **CADMAN POWER EQUIPMENT LIMITED** or your local dealer/distributor.

FAILURE TO FOLLOW ALL SAFETY INSTRUCTIONS CAN RESULT IN DEATH OR SERIOUS INJURY FOR YOU AND/OR ANY SPECTATORS.

- **DO NOT** move or operate this machine until you have read and understand these instructions in this manual.
- **NEVER** allow untrained persons to operate this machine.
- **DO NOT** attempt to service this machine while it is in operation.
- **MAKE SURE** all mechanical and hydraulic tension has been released before attempting any service on the machine.
- **CHECK** all fasteners (nuts and bolts) regularly for tightness.
- **PERFORM REQUIRED MAINTENANCE** as prescribed or as necessary to keep this machine in safe operating condition.
- **KEEP ALL SPECTATORS** at a safe distance.
- **CHECK** all connections before starting the power primer to make sure that they will remain secure during operating conditions.
- **DO NOT** remove or alter any shielding on this machine.
- **MAKE SURE** that the machine is securely anchored (using a tractor) before unwinding the hose.
- **KEEP CLEAR** of all moving parts.
- **REGULAR INSPECTION** of your pipe/hose couplings, tubing and gaskets should be a part of your regular set-up routine. Any defective parts **MUST** be replaced or repaired before the machine is put into service.



This symbol, the **safety-alert symbol**, indicates a hazard. When you come across the safety-alert symbol in this manual, make sure you fully understand and abide by the given instructions or warnings.

Using your Portable Power Primer

Power Primer orientation

Orient your power primer so that the discharge port is facing downward so that it will drain correctly. Do not mount your power primer with the discharge port facing upwards.

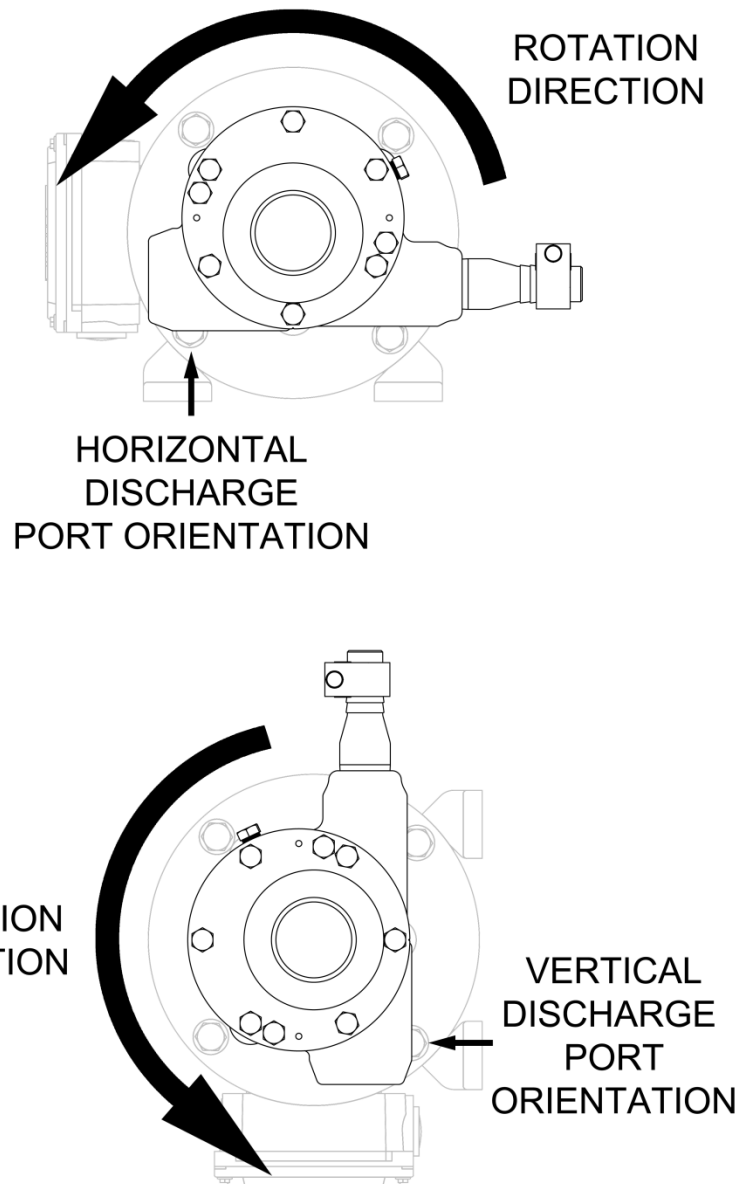


Figure 2 – Rotation Direction

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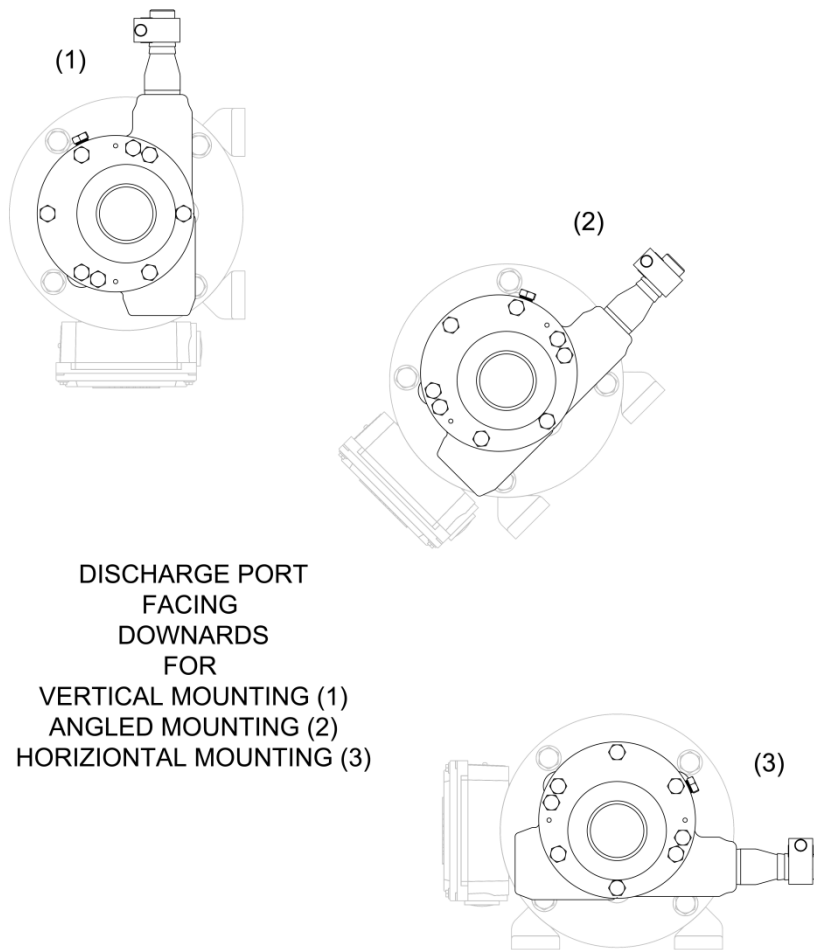


Figure 3 – Power Primer Orientation

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Failing to correctly align your power primer suction port will result in the power primer being unable to self drain after use. This will result in damage to your power primer

Hose orientation using moisture trap

BALL VALVE MUST
BE CLOSED AFTER
PRIMING

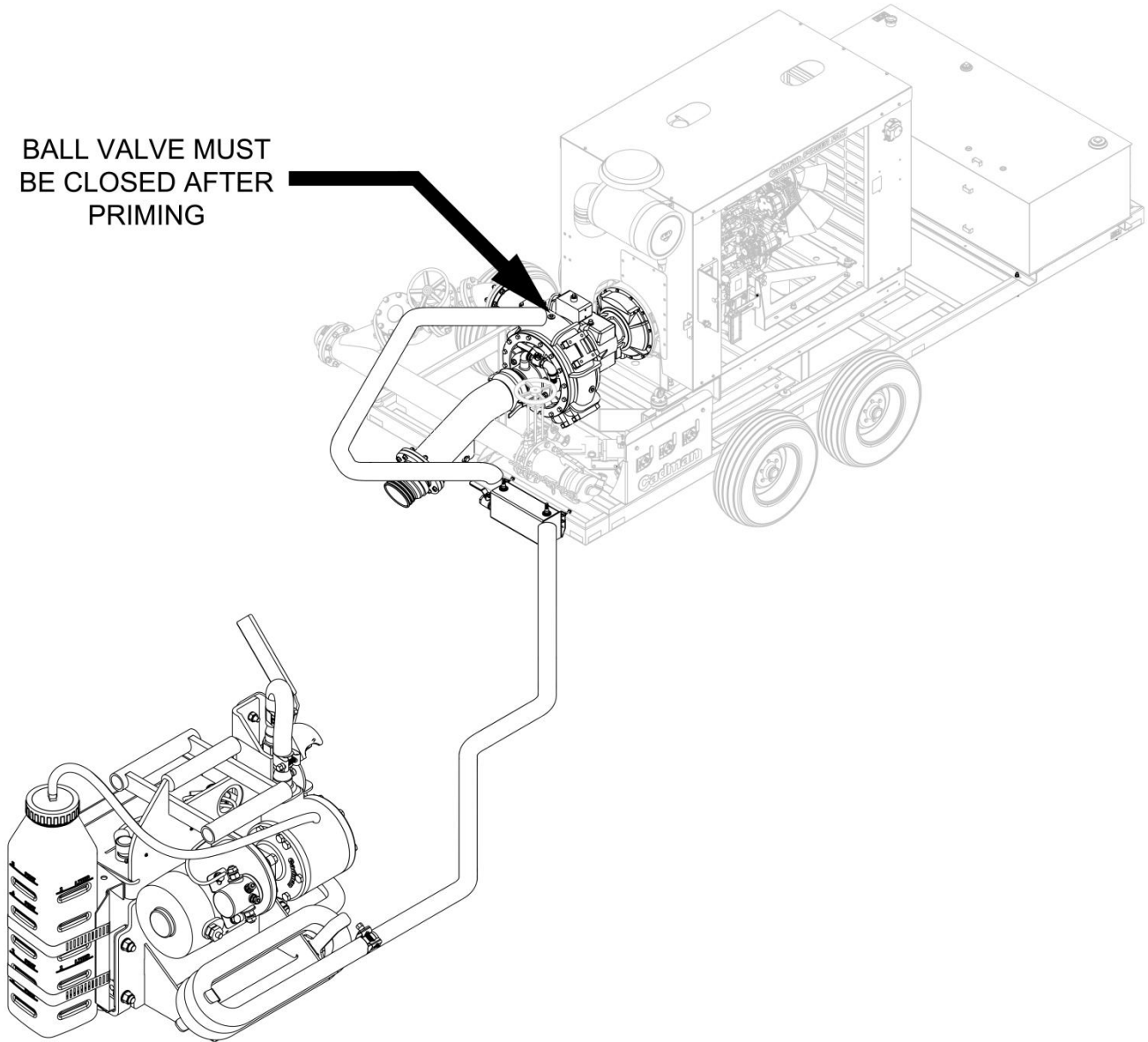


Figure 4 – Hose Layout for Moisture Trap

img-01406

Any connections that are made while using the portable power primer must be firmly secured.



Failing to firmly secure all connections before using the portable power primer will result in uncontrolled high pressure spray in the immediate area. This may result in injury to operators and/or spectators. This will also damage the portable power primer and may damage nearby objects.

Turn on the portable power primer by pulling down on the on/off switch and holding it in the on position. Do not use the power primer for more than 45 to 60 seconds at one time, and do not attempt to run the power primer if it is not cool to the touch

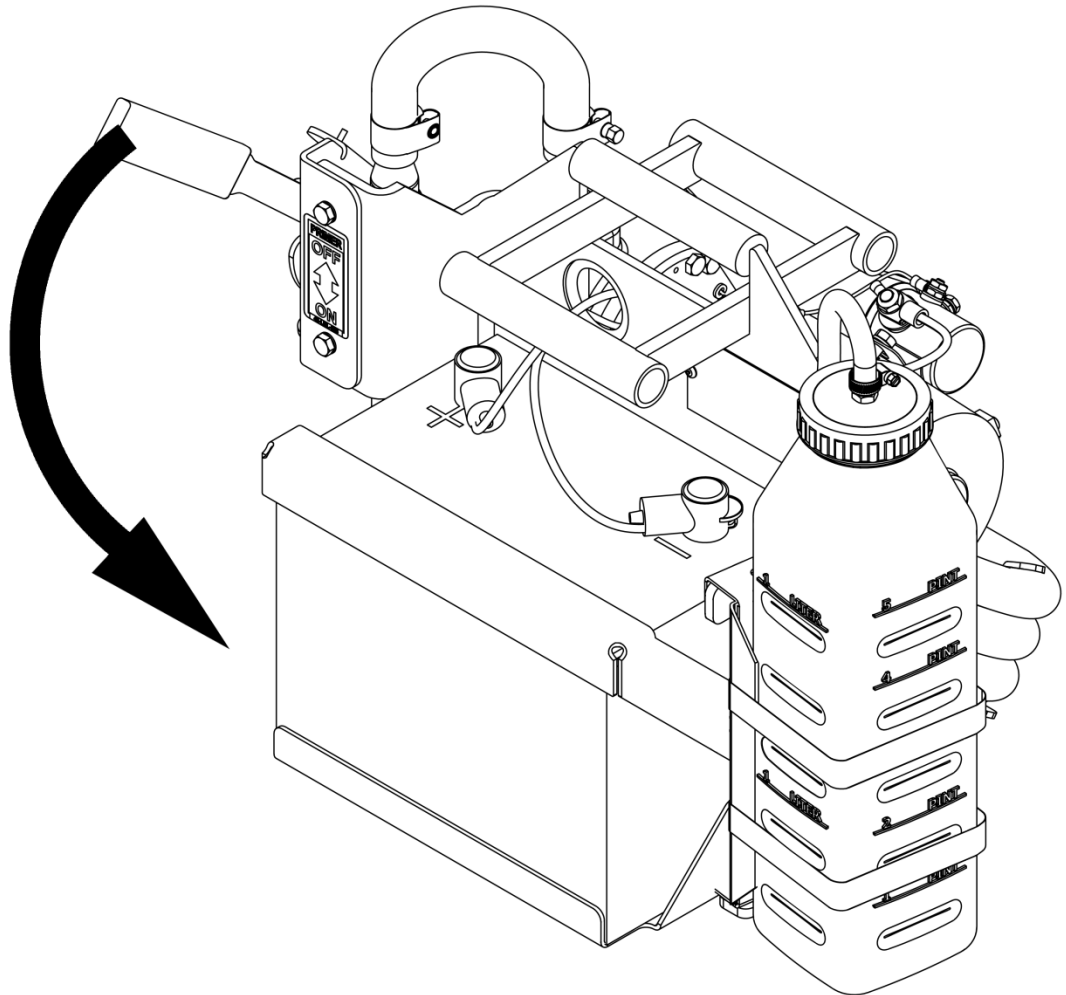


Figure 5 – Turning Power Primer On

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Failing to allow the portable power primer to cool between uses or using the portable power primer for more than 45 to 60 seconds at one time will result in overheating. This will damage the portable power primer and may render it inoperable

Electrical Connections

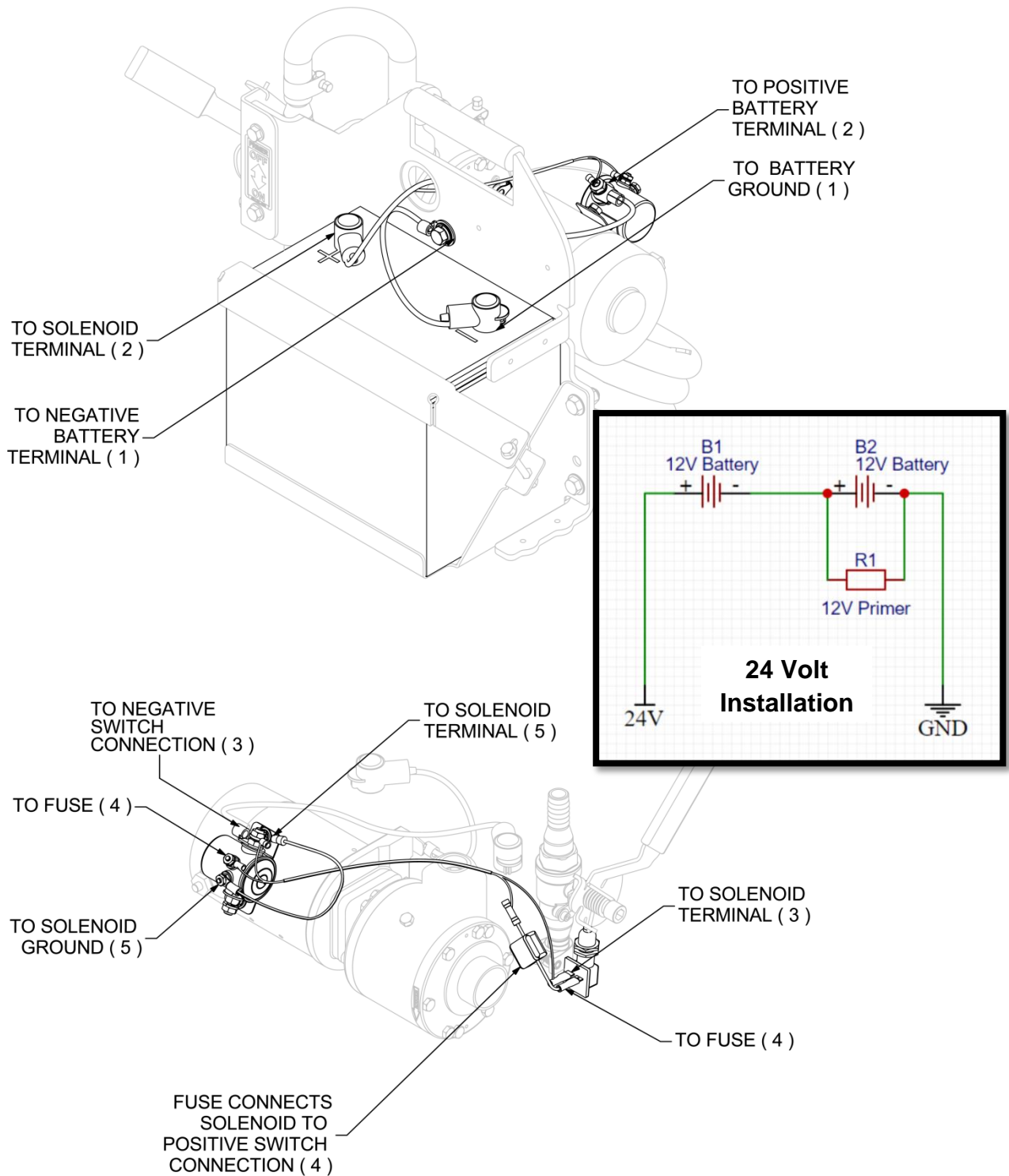


Figure 6 – Electrical Connections

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Parts Section

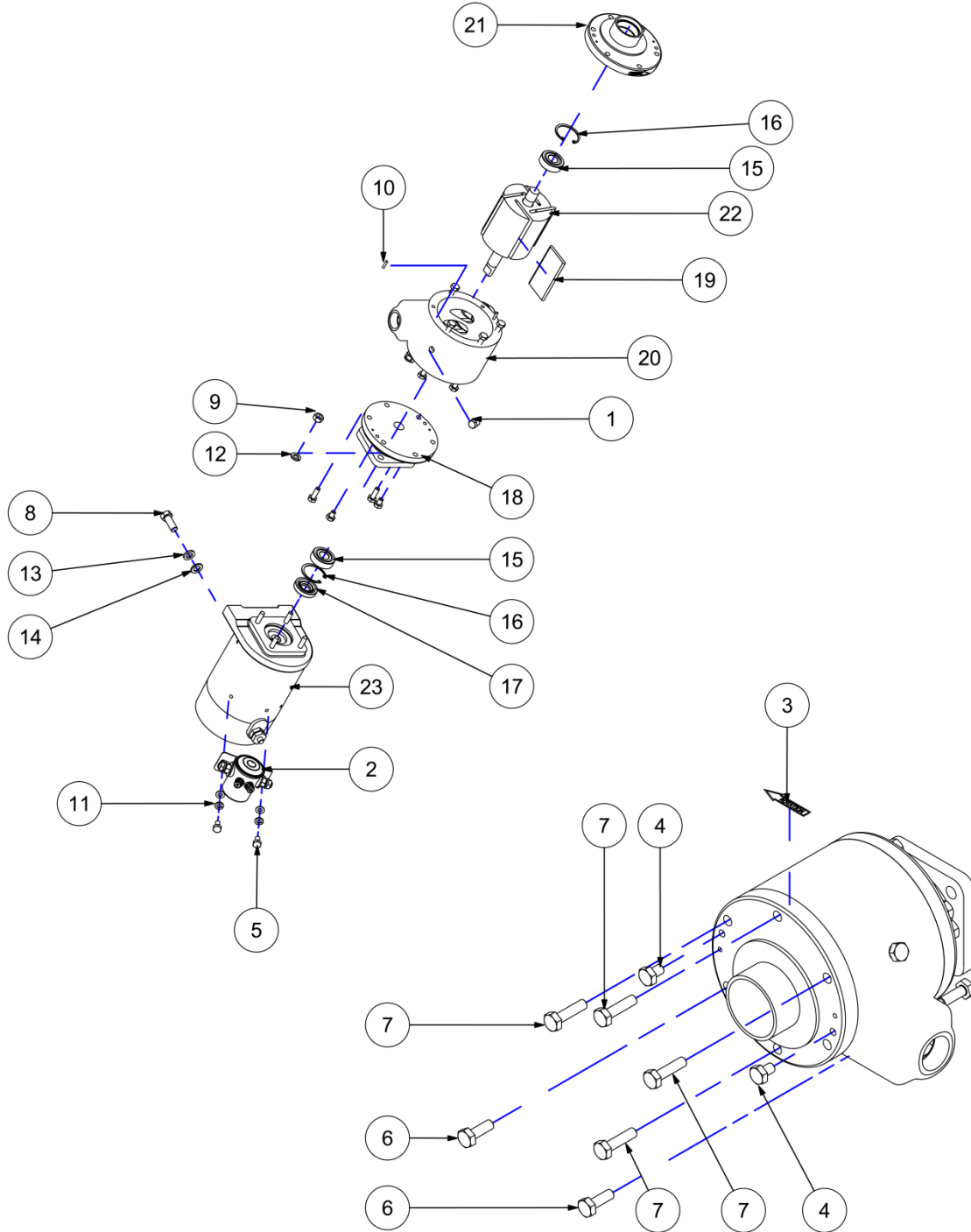
12 Volt DC Power Primer Assembly 12

110-230 Volt, 460-575 Volt Power Primer Assembly 14

Power Primer Frame Assembly 16

Power Primer Electrical Assembly, Optional Oiling Assembly..... 18

12 Volt DC Power Primer Assembly

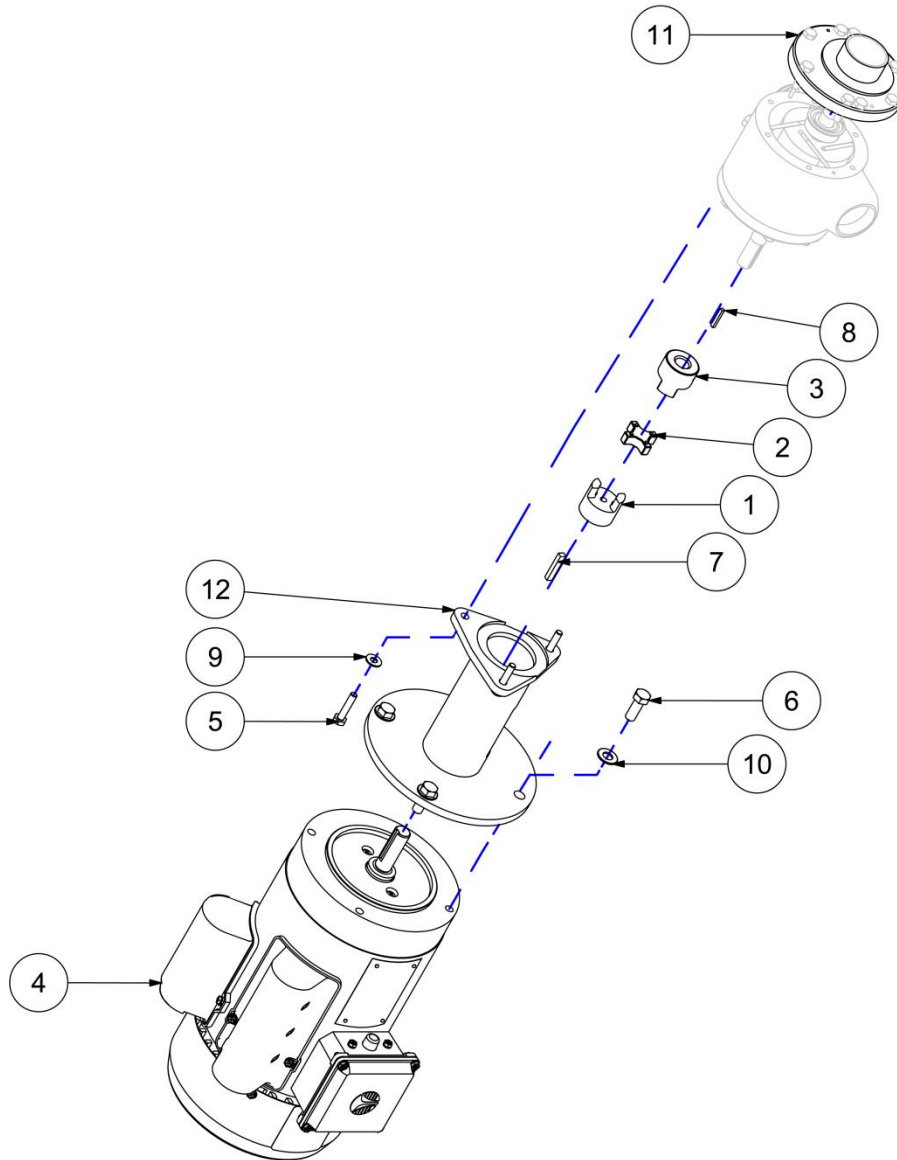




12 Volt DC Power Primer Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY
1	1/8" NPT BRASS PLUG	25-WHD-3152X2	1
2	WEATHERPROOF SOLENOID	40-337-WP	1
3	ROTATION DIRECTION LABEL	42-LBL-082	1
4	BOLT, 1/4"-20 X 3/8" LG.	90-BLT-02520X038	4
5	BOLT, 1/4"-20 X 1/2" LG.	90-BLT-02520X050	2
6	BOLT, 1/4"-20 X 3/4" LG.	90-BLT-02520X075	4
7	BOLT, 1/4"-20 X 1" LG.	90-BLT-02520X100	8
8	BOLT, 3/8"-16 X 1" LG.	90-BLT-03816X100	2
9	HEX NUT, 5/16"-18	90-NUT-HEX031-18	4
10	TAPERED PIN, #4	90-PIN-TP4	2
11	LOCK WASHER, 1/4"	90-WSR-LOC025	2
12	LOCK WASHER, 5/16"	90-WSR-LOC031	4
13	LOCK WASHER, 3/8"	90-WSR-LOC038	2
14	SAE WASHER, 3/8"	90-WSR-SAE038	2
15	6202 15X35X7 BALL BEARING	IR-PMR-0030014	2
16	6202 BEARING INTERNAL RETAINING RING	IR-PMR-0030015	2
17	BEARING SEAL	IR-PMR-0030027	2
18	PRIMER DRIVE PLATE	IR-PMR-C001-B	1
19	PRIMER VANE	IR-PMR-C027-A	4
20	PRIMER HOUSING	IR-PMR-C003-A	1
21	PRIMER END PLATE	IR-PMR-C004-A	1
22	ROTOR	IR-PMR-C007-B	1
23	CADMAN DRY/WET POWER PRIMER MOTOR	IR-PMR-C008	1

110-230 Volt, 460-575 Volt Power Primer Assembly

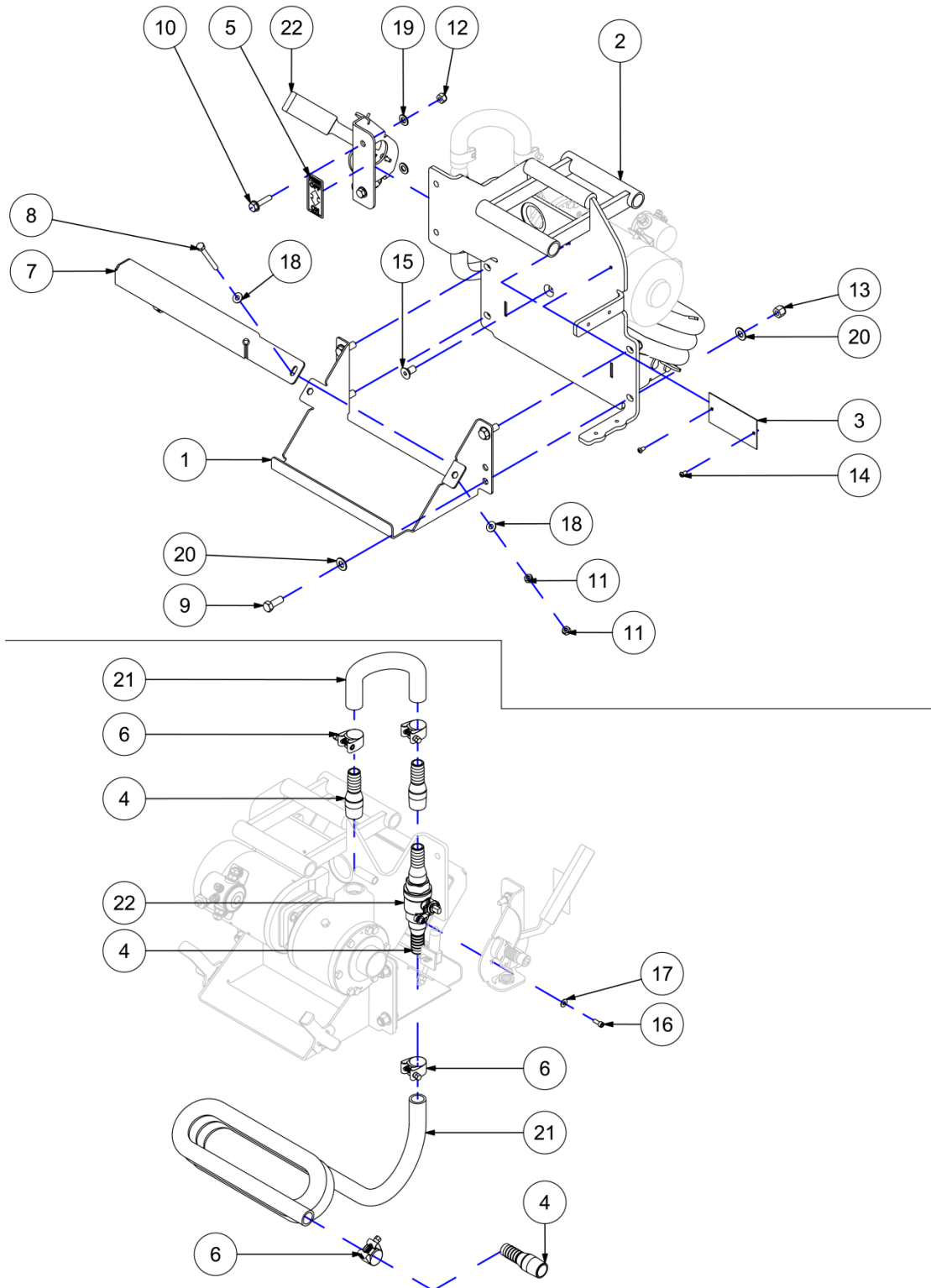




110-230 Volt, 460-575 Volt Power Primer Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	MODEL
1	LOVEJOY L070 5/8" DIA. BORE HUB	42-673	1	
2	LOVEJOY L070 5/8" DIA. BORE INSERT	42-674	1	
3	LOVEJOY L070 9/16" DIA. BORE HUB	42-684	1	
4	1.5 HP ELECTRIC MOTOR	42-ELC-074	1	110 V – 230 V
		42-ELC-127	1	460 V - 575 V
5	BOLT, 1/4"-20 X 1 1/4" LG.	90-BLT-02520X125	3	
6	BOLT, 3/8"-16 X 1" LG.	90-BLT-03816X100	4	
7	KEY, 3/16" X 1/4" X 1 1/4" LG.	90-KEY-019X025X125	1	
8	KEY, 1/8" SQ. X 7/8" LG.	90-KEY-SQ013X088	1	
9	SAE WASHER, 1/4"	90-WSR-SAE025	3	
10	SAE WASHER, 3/8"	90-WSR-SAE038	4	
11	PRIMER END PLATE	IR-PMR-C004-A	2	
12	PRIMER MOTOR MOUNT	IR-PMR-C014-A	1	

Power Primer Frame Assembly

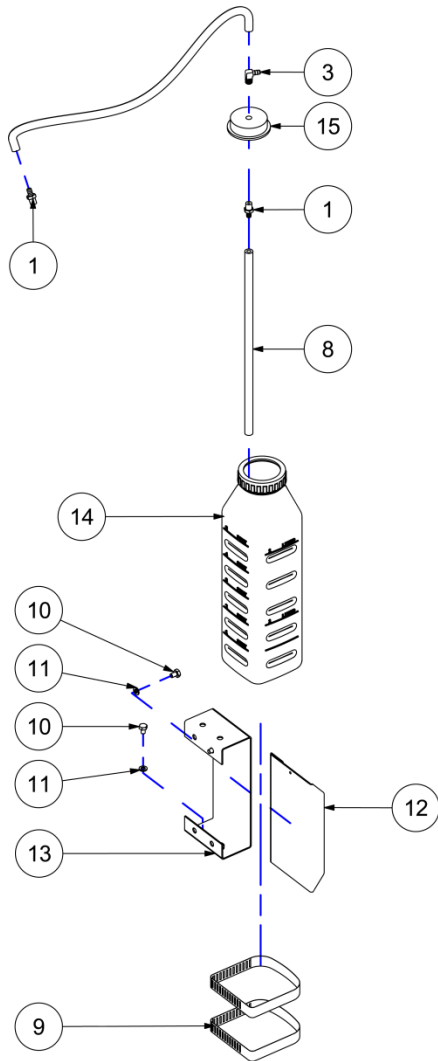




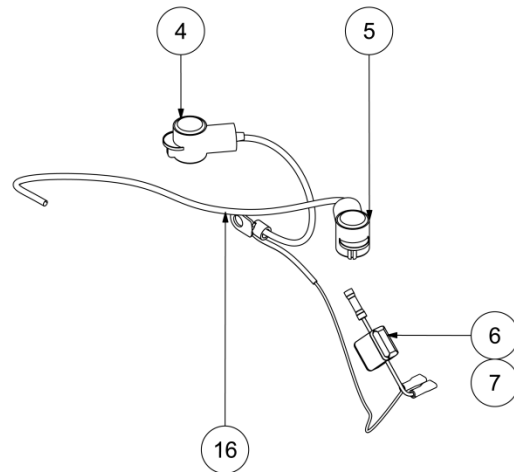
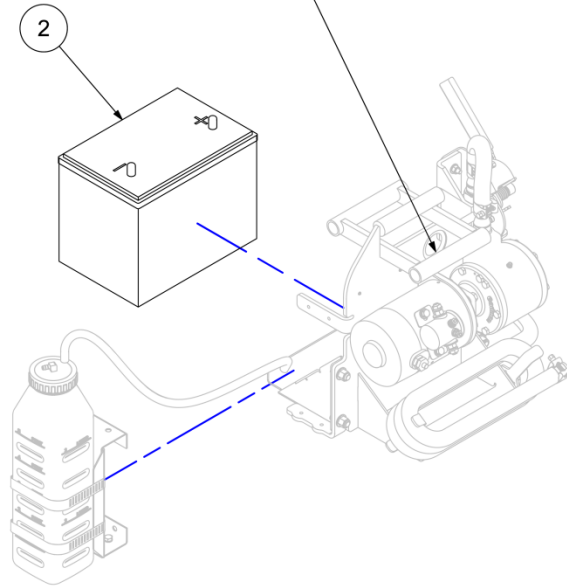
Power Primer Frame Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY
1	BATTERY BOX	09-644-A-BLACK	1
2	PORTABLE PRIMER WELDMENT	18-818-C	1
3	CADMAN SERIAL NUMBER TAG	40-238-B	1
4	HOSE BARB, 3/4" X 3/4" NPT, GALVANIZED	40-NPT-BRB075G	4
5	LABEL - PRIMER VALVE SWITCH	42-LBL-068	1
6	3/4" DIA. HD HOSE CLAMP	50-060	4
7	BATTERY HOLD DOWN	60-458-BLACK	1
8	BOLT, 1/4"-20 X 2 1/2" LG.	90-BLT-02520X250	2
9	BOLT, 3/8"-16 X 1" LG.	90-BLT-03816X100	5
10	FLANGE HEAD BOLT - 5/16-18 X 1 1/4" LG.	90-BLT-F03118X125	2
11	HEX NUT, 1/4"-20	90-NUT-HEX025-20	4
12	LOCK NUT, 5/16"-18	90-NUT-LOC031-18	2
13	LOCK NUT, 3/8"-16	90-NUT-LOC038-16	4
14	RIVET, 3/16" X 5/16" LG.	90-RIV-019X031	2
15	FLAT HEAD SCREW, 3/8" X 3/4" LG.	90-SCR-FH03816X075	1
16	SOCKET CAP SCREW, #10-24 X 1/2" LG.	90-SCR-SH01024X050	1
17	SAE WASHER, #10	90-WSR-SAE010	1
18	SAE WASHER, 1/4"	90-WSR-SAE025	4
19	SAE WASHER, 5/16"	90-WSR-SAE031	2
20	SAE WASHER, 3/8"	90-WSR-SAE038	9
21	3/4" DIA. SUCTION HOSE	IR-HOZ-SUC075HD	2
22	PRIMER HANDLE/SWITCH	IR-PMR-100-A	1

Power Primer Electrical Assembly, Optional Oiling Assembly



WIRING HARNESS LOCATION





Power Primer Electrical Assembly, Optional Oiling Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	MODEL
1	1/8" NPT-M X 1/4" HOSE BARB	25-WHD-125-4A	2	OPTIONAL
2	12 V BATTERY	40-880	1	OPTIONAL
3	#2 NPT-M X #4 BARB X 90 DEG. ELBOW	41-BFF-013X025X90X047	1	OPTIONAL
4	BATTERY BOOT – BLACK, 18-10G	42-315	1	
5	BATTERY BOOT – RED, 18-10G	42-316	1	
6	WIRE – 14 GA. BLADE FUSE HOLDER	42-700	1	
7	30 AMP ATM FUSE	42-ELC-143	1	
8	1/4" DIA. PUSH-ON HOSE	50-059	2	OPTIONAL
9	PRIMER RESERVOIR GEAR CLAMP	50-145	2	OPTIONAL
10	BOLT, 1/4"-20 X 3/8" LG.	90-BLT-02520X038	4	OPTIONAL
11	LOCK WASHER, 1/4"	90-WSR-LOC025	4	OPTIONAL
12	TANK HOLDER	IR-PMR-001-A	1	OPTIONAL
13	TAK HOLDER BRACKET	IR-PMR-002-A	1	OPTIONAL
14	OIL RESERVOIR WITH CAP	IR-PMR-0030023	1	OPTIONAL
15	OIL RESERVOIR TAPPED CAP	IR-PMR-C019	1	OPTIONAL
16	PRIMER WIRING HARNESS	IR-PMR-C023	1	

Required Maintenance

To make sure your Portable Power Primer performs as intended it is important to follow the maintenance schedule in this manual.



Maintenance must be done only when the Power Primer is shut down and is in a non-loaded condition. This means that all electrical connections are disconnected as well as all mechanical and hydraulic tension being released from the Power Primer

Performing maintenance on the power primer while it is operating may result in serious injury and/or death to operators

When required

Your power primer will need new primer vanes periodically, and will require oil refills if equipped with the optional oiling system. No other maintenance is needed.

Troubleshooting

PROBLEM	RESOLUTION
Power primer won't start	Check electrical connections
	Check pump for foreign material
Power primer won't create suction	Check hoses and connections
	Damaged vanes, replace as needed

Vane Replacement

Step 1

Remove all 1/4" bolts from end plate. Then use bolts in sacking holes to remove end plate.

Step 2

Clean the housing interior and remove any debris. Once the housing interior is clean, remove the old rotor vanes and inspect the rotor to make sure it is clean as well.

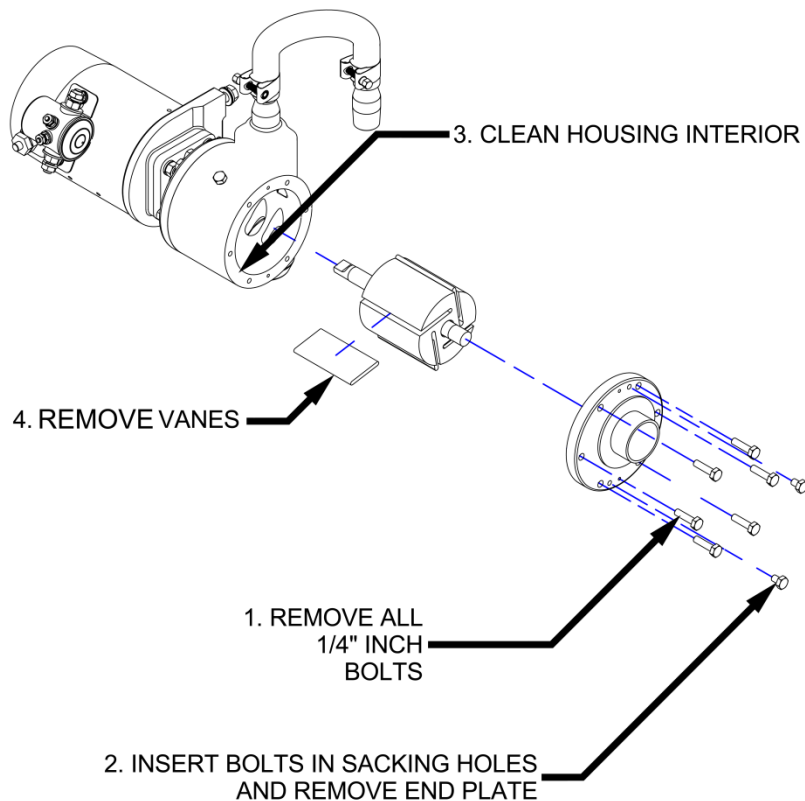


Figure 7 – Vane Removal

img-01409

Step 3

Apply silicone on the pump housing face after cleaning out pump housing and removing any old silicone. Make sure that silicone is on the outside of the pump housing edge to avoid debris inside the housing from dried silicone after assembly.

5. APPLY 1/16"
SILICONE BEAD
CLOSE TO OUTER
EDGE OF
PUMP HOUSING

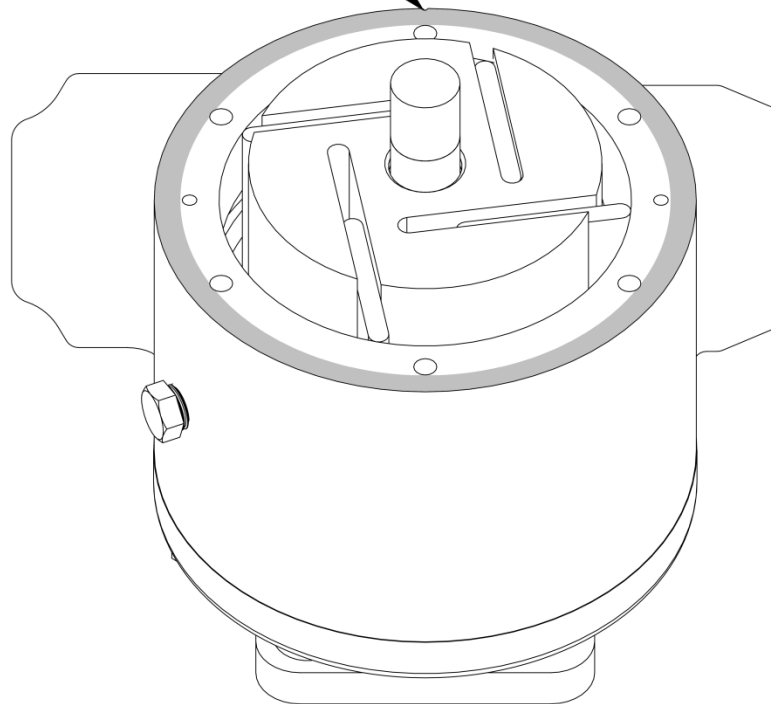


Figure 8 – Apply Silicone

img-01410

Step 4

Insert new primer vanes into the rotor. Then line up dowels on end plate with matching holes on pump housing before bolting the end plate onto the pump housing. Verify that all bolts have been tightened securely.

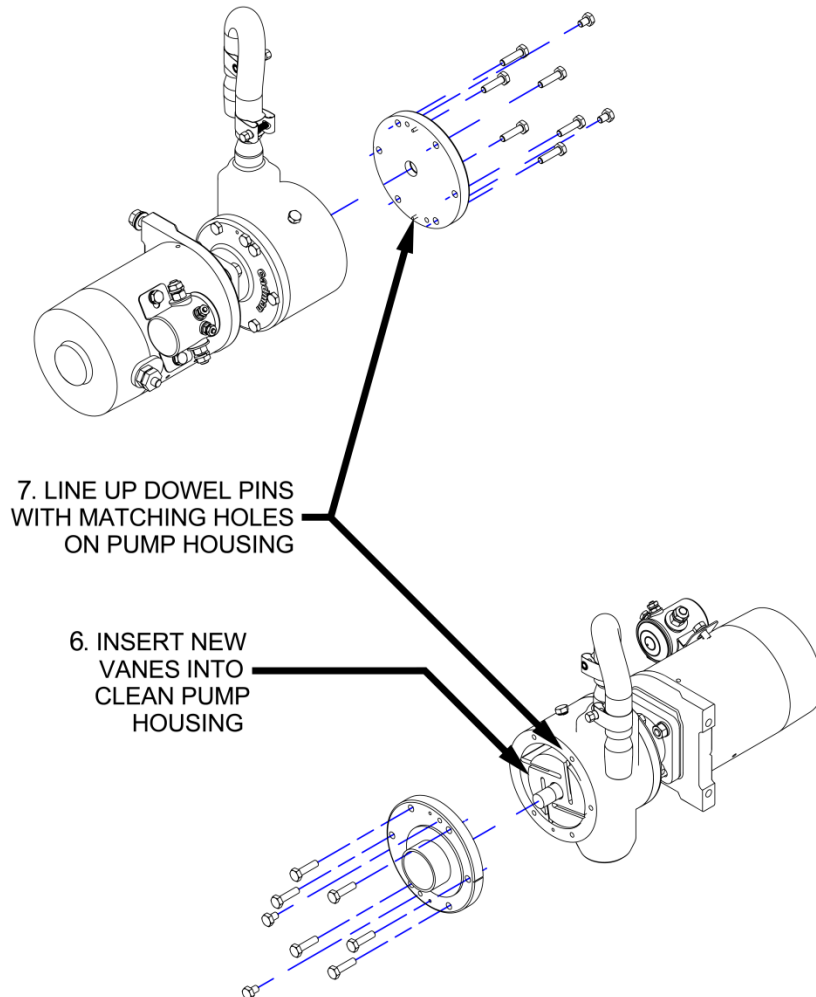


Figure 9 – Reassemble Portable Power Primer

img-01411



Failing to verify that the portable power primer has been securely bolted back together will result in the unit coming apart during operation. This may cause injury to operators and/ or spectators. This will also damage the portable power primer pump



Useful Information

LENGTH

1 FOOT	= 12	Inches	1 METER	= 39.37	Inches
	= 0.3048	Meter		= 3.2808	Feet
1 ROD	= 198	Inches	1 MILE	= 5280	Feet
	= 16.5	Feet		= 1760	Yards
	= 5.5	Yards		= 320	Rods
	= 5.029	Meters		= 1609	Meters

AREA

1 SQUARE FOOT	= 144	Square Inches		
	= 0.0929	Square Meters		
1 SQUARE YARD	= 1296	Square Inches		
	= 0.8361	Square Meters		
1 SQUARE METER	= 1550	Square Inches		
	= 10.764	Square Feet		
1 ACRE	= 43560	Square Feet		
	= 4047	Square Meters		
	= 0.4047	Hectare		
1 HECTARE	= 107639	Square Feet		
	= 10000	Square Meters		
	= 2.47105	Acres		
1 SQUARE MILE	= 640	Acres		
	= 259	Hectares		

VOLUME

1 GALLON (US)	= 0.8327	Imperial Gallons		
	= 231	Cubic Inches		
	= 0.1337	Cubic Feet		
	= 8.345	Pounds		
1 CUBIC FOOT	= 1728	Cubic Inches		
	= 7.48	Gallons (US)		
	= 62.4	Pounds		
	= 28.32	Liters		
1 ACRE INCH	= 27154	Gallons (US)		
	= 254	Cubic Meters / Hectare		
AREA OF A CIRCLE		= Diameter x Diameter x 0.7854		
CYLINDER VOLUME (US GAL.)		= Diameter (ft.) x Diameter (ft.) x Length (ft.) x 5.8752		

