



Chem-Dry® PowerHead® Domestic and International Owner's Manual

Manufactured Exclusively for



Model 700-041-105 (USA)
Model 700-041-205 (USA)
Model 700-041-206 (CE)
Model 700-041-122 (CSA)

MAN-33169 Rev. H
(P/N 000-182-064)

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1 - General Information

CONGRATULATIONS,

You now own a piece of equipment that incorporates the latest in carpet cleaning technology. The Chem-Dry PowerHead's features will almost certainly increase the productivity of you and your business, while decreasing the fatigue factor that may have prevented you from going after some of the large cleaning jobs that are available to carpet cleaners and maintenance professionals today. With competition as strong as it is in most communities, you have invested in not only a cleaning tool, but a marketing tool that will enhance your professional image in every way.

The Chem-Dry PowerHead is REVOLUTIONARY. Your foresight in purchasing this ultimate "cleaning machine" will be rewarded with the knowledge that you care enough to give your customer the maximum cleaning effectiveness.

Using the PowerHead in your business will turn you into a professional carpet cleaning operator, rather than a professional laborer.

Once again, congratulations to another Chem-Dry cleaning professional who will not wait for tomorrow, and who will not have to compete against the PowerHead. The competition will have to compete with you!

AN EVOLUTION THAT HAD TO HAPPEN

Your new PowerHead has been precision engineered to bring you to the state-of-the-art in carpet cleaning. In the past, a wand technician had to supply all the pressure and motion to do the cleaning. The PowerHead's weight distribution and rotary motion enable the technician to maneuver the unit easily with less fatigue and without back strain.

The PowerHead's electric motor drives its precision transmission which, in turn, rotates the cleaning head assembly. The Natural® cleaning solution is injected through the center of the stainless steel gear box shaft directly to the five spray jets. Soiled solution is then extracted from the carpet by five stainless steel extraction cleaning heads and drawn through the aluminum exhaust manifold to the cleaning unit's recovery tank.

CONSTRUCTION

The base, manifolds, handle, gear box housing, and cleaning heads are all cast aluminum. Other parts are either metal, stainless steel or high impact plastic.

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CSA Approved (Applicable to Canada only)

Your machine has been designed and tested to comply with the Canadian standard for this class of equipment. It has been tested under the following standard:

CAN/CSA-E335 - 1/3E-94 Safety of Household and
Similar Electrical Appliances Part 1: General Requirements
(Adopted IEC 335-1 (1991) (3rd Edition), with modifications)

If it is necessary to provide verification, your machine is labeled with an ETL mark.

CAUTION

Do not remove or tamper with any part of the PowerHead; this may result in a non-compliance with the above standard.

For additional information please contact:
ChemDry Canada LTD.- 8472 Harvard Place, Chilliwack, BC, Canada, V2P 7Z5
Tel: (604) 795-9918 Toll Free: 1-800-665-9090 Fax: (604) 795-7071

CONTACT INFORMATION

If you have any questions regarding the operation, maintenance or repair of this machine, please contact your local distributor.

When calling your distributor, be sure to reference the serial number and date of purchase.

FOR YOUR REFERENCE:

Serial No. _____

Date of Purchase: _____

Purchased From (Distributor): _____

WARNINGS, CAUTIONS AND NOTICES

⚠ WARNING

The manufacturer uses this WARNING symbol throughout the manual to warn of possible injury or death.

CAUTION

This CAUTION symbol is used to warn of possible equipment damage.

NOTICE

This NOTICE symbol indicates that federal or state regulatory laws may apply, and also emphasizes supplemental information.

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2- Machine Specifications

	USA Domestic and CSA Certified	USA Domestic and CE Certified	
	700-041-105 (USA) 700-041-122 (CSA)	700-041-205 (USA) 700-041-206 (CE)	
Length	23" (58.4 cm)	58.4 cm (23")	
Width	21.0" (53.3 cm)	53.3 cm (21.0")	
Height	43" (109.2 cm)	109.2 cm (43")	
Weight	76 lbs (34.5 kg)	34.5 kg (76 lbs)	
Motor	1/2 HP Totally Enclosed Fan-Cooled	1/2 HP Totally Enclosed, Fan-Cooled	
Voltage	115VAC/60Hz	220VAC/50 Hz or 60 Hz	
Gear Box	1,725 rpm Input 130 rpm Output Permanently Lubricated Helical Gear Drive	220V/50 Hz	220V/60 Hz
		1,450 rpm Input 109 rpm Output Permanently Lubricated Helical Gear Drive	1,725 rpm Input 130 rpm Output Permanently Lubricated Helical Gear Drive
Oil Capacity	0.34 kg (0.35 liter or 12 oz)	0.34 kg (0.35 liter or 12 oz)	
Star Head Plate	Replaceable, Spring Steel Arms	Replaceable, Spring Steel Arms	
Cleaning Heads	Five Cast Aluminum	Five Cast Aluminum	
Solution Jets	Five Stainless Steel, 95015	Five Stainless Steel, 95015	
Solution Valve	Stainless Steel, High Pressure	Stainless Steel, High Pressure	
Cleaning Rate	Five Heads Rotating at 130 rpm = 650 Cleaning Passes/ Minute	220V/50 Hz	220V/60 Hz
		Five Heads Rotating at 109 rpm = 545 Cleaning Passes/Minute	Five Heads Rotating at 130 rpm = 650 Cleaning Passes/Minute
Noise Emission	84 dBA Ground Level, 79 dBA at Handle Height		
Vibration Emission	1.5 m/s ²		

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	USA Domestic and CSA Certified	USA Domestic and CE Certified
	700-041-105 (USA) 700-041-122 (CSA)	700-041-205 (USA) 700-041-206 (CE)
Handle Assembly*	Foam Grips, Adjustable Height	Foam Grips, Adjustable Height
Transportation Wheels	8" diameter (20.32 cm) 1-1/2" Wide (3.81 cm) Gray, Non-Marking	20.32 cm (8" diameter) 3.81 cm (1-1/2" Wide) Gray, Non-Marking
Electric Cord	50 ft (15.24 m), 14/3	15.24 m (50 ft) w/ M-F IEC Ends 220V
Storage Rack (Optional)	Part Number: 000-163-094, Powder Coated Steel	

NOTICE

The operating temperature and pressure of the cleaning solution as well as the vacuum power depend entirely on the type of cleaning tool you use.

CONFIGURATION









When selecting your POWERHEAD, you have these models from which to choose:

If you want this configuration:	Order this P/N:
POWERHEAD 115VAC/60HZ	700-041-105
POWERHEAD 220VAC/60HZ	700-041-205
POWERHEAD 220VAC/50HZ CE CERTIFIED	700-041-206
POWERHEAD 115VAC/60HZ CSA CERTIFIED	700-041-122

See detailed parts list for all configurations.

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SYMBOLS ON THE UNIT

Symbol	Description
 BYPASS	Once the head rotation has been initiated, the Bypass switch may be depressed and held allowing you to remove your hand from the right hand trigger temporarily to move hoses and cords. The Operator must depress and hold the right hand trigger prior to using bypass switch.
 ROTARY	Depressing the right hand trigger in conjunction with the start switch starts and stops the rotation of the star assembly.
 SOLUTION	Depressing the left hand trigger starts and stops the flow of the cleaning solution through the star assembly.
 START	The operator must depress and hold this switch while simultaneously depressing the right side trigger to initiate the head rotation during start of the machine. Once the machine has started, the operator can release the start switch.
	CE: Meets safety requirements for sale and use in Europe.
	CSA: Meets safety requirements for sale and use in Canada.
	CB: Meets the safety requirements for 33 member countries and meets requirements for Australia and New Zealand.
	RCM: Meets the safety requirements for sale and use in Australia and New Zealand.

3 - Assembly Instructions

To prepare your POWERHEAD for use, follow these instructions:

1. Remove the machine from the packaging.
2. Inspect the machine carefully for any damage that may have occurred during shipping.
3. Check the gear box lubricant level (see page 6-3 of this Owner's Manual).
4. Attach the cleaning head to the base.
 - a. Lean the machine back and rest it on the handle.
 - b. Thread the star assembly (cleaning head) onto the exposed shaft in a counterclockwise direction.

⚠ WARNING

The operator must be able to lift 80 lbs (37 Kg) in order to lift the unit.

CAUTION

Remove the motor shroud and the solid shipping plug from the top of the gear box and replace it with the vented plug provided (see Figure 3-1 and Figure 3-2). Failure to follow these directions may result in damage to the gear box and seal.

5. Re-attach the motor shroud onto the PowerHead. Your POWERHEAD is now ready to operate.



Figure 3-1. Base with Cover

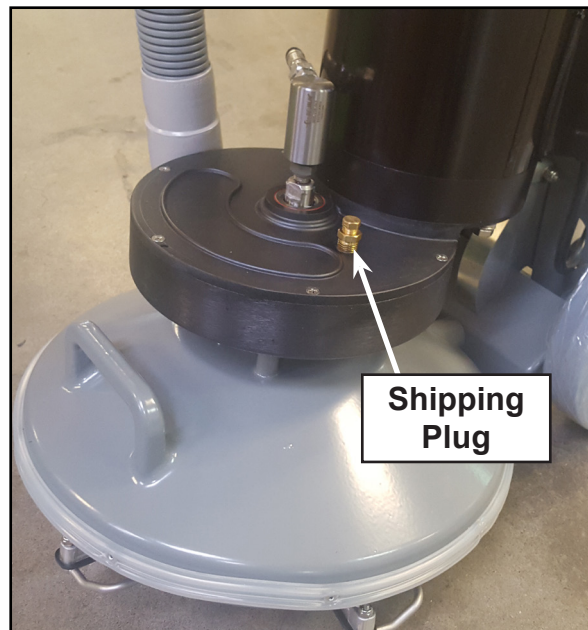


Figure 3-2. Base without Cover

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4 - Operating Instructions

⚠ WARNING

This appliance is intended for use by industry trained professional cleaning personnel for indoor use only and is compatible with cleaning solutions and detergents formulated in accordance with Harris Research, Inc standards. It is not intended for use by persons (including children) with reduced physical (must be able to lift 80 lbs (37 kg.), sensory or mental capabilities, or lack of experience and knowledge unless they have been given supervision or instructions concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. Only use the auxiliary equipment provided by the OEM. The use of other auxiliary equipment may impair safety.

PREPARATION

Handle Adjustment

Pull Tee knob up to release handle. Adjust the handle to a comfortable height. Release Tee knob to lock in place.

NOTICE

Most technicians have found better control and less fatigue when the handle is in a low position - just around the hip line. There is an ideal position for each person which will ensure the PowerHead will do the work for you.



Figure 4-1. Solution and Vacuum Hose Connections

Solution and Vacuum Hose Connections

Your PowerHead is equipped with one 440 stainless steel male quick connect for the solution hose and an 1 ½ in. (38 mm) vacuum hose outlet (refer to Figure 4-1). The vacuum inlet requires a 1 ½ in. (38 mm) I.D. and a 2 in. (51 mm) O.D. vacuum hose for proper air flow.

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NOTICE

The vacuum hose must be in good condition to ensure maximum airflow.

Electrical Cord Connection

The 50 ft (15m) electrical cord on your PowerHead is a detachable three-prong grounded line (CSA) or male/female IEC plug (CE) requiring a three-prong, 15 Amp receptacle CSA or other appropriate plugs (CE). A three-prong to two-prong adapter may be used, providing its ground wire is properly attached to a grounded terminal.

⚠ WARNING

Do not, under any circumstances, remove the ground prong from your PowerHead power cord. Serious injury or death may result.

⚠ WARNING

DO NOT OPERATE THE MACHINE UNLESS YOU HAVE BEEN ADEQUATELY INSTRUCTED AND UNDERSTAND THE OPERATION INSTRUCTIONS PROVIDED

CONTROL FUNCTIONS

There are control triggers located on each side of the handle under the rubber hand grips. As you operate the PowerHead, the trigger on your right-hand side controls the electric motor that drives the cleaning heads. The Safety switch located on the top right hand side of the handle must be depressed while the trigger is pulled. Once the motor is running, the safety switch can be released. This must be done each time the trigger is released and the motor is restarted. This lockout will prevent accidental starting of the motor. On the left hand side, the trigger controls the low pressure carbonating solution spray. The push button located on the top left hand side will allow the motor to continue running as long as it is depressed and held prior to releasing the right hand trigger. The purpose of this function is to allow the operator to temporarily use his or her right hand to move the cord and hoses, while the head is rotating. The air flows constantly while the PowerHead is in operation.

MANEUVERING THE POWERHEAD

Your PowerHead maneuvers like a buffer (see Figure 4-2).

1. To move the PowerHead to the right, lift the handle slightly. The more you lift or lower the handle, the faster the PowerHead will move.



Figure 4-2. PowerHead Maneuvers Like a Buffer

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2. To move forward and backward, position the handle so that the unit remains stationary, then push forward or pull back. To familiarize yourself with your PowerHead, practice on an open carpeted area. Depress both the solution trigger and motor trigger and move the PowerHead slowly in a 3-5 ft (1-2 m) arc, as shown in Section 5 of this manual.

CAUTION

Do not operate your PowerHead on dry carpets. The friction generated by the revolving cleaning heads may damage fibers in the carpet.

Once you have become familiar with the speed and movement of the machine, practice making it hover in one spot. (The hovering maneuver is useful for removing stubborn stains, as well as removing furniture indentations.)

CAUTION

Do not tilt machine sideways while moving forward and backward (see Figure 4-3). A loss of control may result in damage to the unit or location.

EDGING TOOL

The edging tool is located on the front right-hand side of the PowerHead.

1. To remove, pull the edging tool upward until the dovetail exits the slot.
2. Pull the tool away from the PowerHead and it is ready to use.
3. When attaching it back onto the machine, rest the end of the tool on the lower elbow and slide the dovetail into the slot.
4. Gently push the edging tool into the elbow until it is snug.

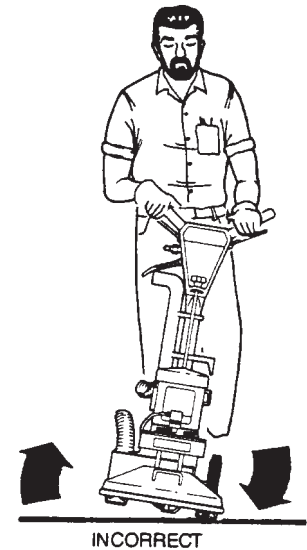


Figure 4-3. Incorrect Use of the Machine

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SAFE HANDLING AND OPERATION

If the unit is operating abnormally due to entanglement, damaged while in use, faulty chemical delivery, rotary unit oil leak, or the motor is not operating:

1. Stop the unit by releasing the Electric Motor Trigger (Right Trigger) and the Solution Trigger (Left Trigger).
2. Disconnect the unit from power source
3. Disconnect the unit from the chemical solution source.
4. Disconnect the unit from vacuum source.
5. Squeeze the Solution Trigger (Left Trigger) three times (3x) to release the pressure.
6. Follow the instructions provided in sections 6 and 9 to resolve the more common causes, and contact your local distributor or Hydramaster for additional support.

5 - Cleaning Information

CLEANING PATTERNS

For regular carpet cleaning, use an overlapping arc pattern, two times over the same area (one pass with solution and one pass for drying). When cleaning carpets, first clean in circular pattern, then use the overlapping arc pattern to dry the area (see Figure 5-1).

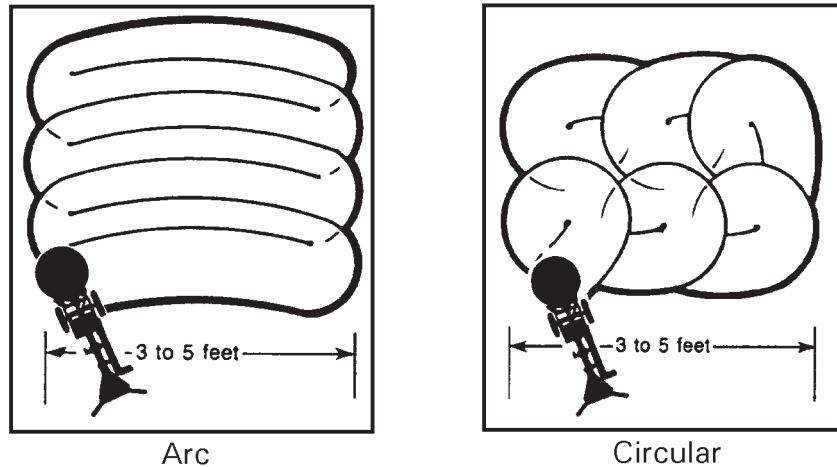


Figure 5-1. Recommended Cleaning Patterns

NOTICE

Dirtiest areas may require two or more cleaning passes. Using either pattern, you should develop a comfortable rhythm. To obtain maximum performance from your PowerHead, move it slowly and deliberately with a 50% overlap, giving it time to clean and extract. (Unlike a manual wand, the PowerHead is doing the work you had to do in the past) A steady pace rather than a frenzied one will increase efficiency and production and decrease fatigue.

The following cautions should be observed while cleaning:

CAUTION

DO NOT operate your PowerHead over metal floor moldings. Damage to both the molding and the cleaning head will result.

CAUTION

DO NOT operate your PowerHead on hardwood floors. Damage to the floor could result.

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CAUTION

DO NOT operate your PowerHead over loose or unraveled carpet seams. The cleaning head may catch and cause further damage.

CAUTION

DO NOT operate your PowerHead on concrete floors. Sharp edges will develop on the extraction heads which will damage carpet fibers.

CAUTION

DO NOT clean over the edge of a loose carpet. Instead, clean only up to the edge. Damage may occur if the extraction heads catch the loose carpet.

CAUTION

DO NOT allow the supply cord to come into contact with the rotating star assembly and brush.

SPECIAL INFORMATION

During the cleaning of some plush carpets, you may notice a “pilling” effect. (Pilling occurs when fluffy particles appear on carpet surfaces; it is caused by fibers that loosen because of weak twist or snags.)

With a PowerHead, loose yarns form balls and are kicked aside as the cleaning heads revolve. This is normal when aggressive cleaning or even normal vacuuming takes place, as evidenced by a number of dead, loose yarns in the vacuum cleaner bag.

These loose yarns, in most cases, are short staple yarns or filler yarns used to give the carpet a denser appearance. Because your PowerHead weighs approximately 80 lbs (37 kg.) and rests on five 4” (10.2 cm) cleaning heads, the yarns are not sucked up into the vacuum heads as they are with a vacuum cleaner or old-style cleaning wand.

CAUTION

The PowerHead may cause further damage to older, rubber-backed, glued down carpets that may be delaminating with age. When in doubt, DO NOT use your PowerHead.

CLEANING HINTS

1. Most cleaners customarily clean their way out of an area or room. With the PowerHead, it is possible to clean into an area or room, as shown in Figure 5-2, so that the hoses are dragged behind you during the cleaning process rather than kicked out of the way as you back out of an area. The “cleaning into” method works especially well in hallways or confined areas.
2. The PowerHead is a very aggressive carpet cleaning machine and will leave the carpet with a freshly-cleaned appearance. The carpet should be brushed or groomed after the cleaning process to remove any swirl marks left behind.
3. The PowerHead has been very successful in restoring badly matted traffic lanes in front of doorways and sofas. Even pivot areas can be brought back to life again, in most cases. “Cornrowing” in hallways can also be eliminated with minimal effort.

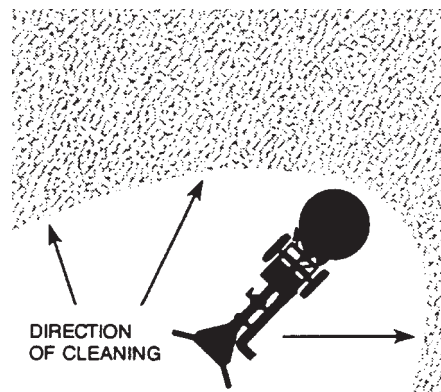


Figure 5-2. Clean into an Area or Room

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6 - Machine Maintenance

Good care and regular maintenance of your PowerHead will result in a long, dependable life for the unit. Keep in mind that your PowerHead will be in full view of your customer. A PowerHead that is dirty and unkempt in appearance can cause your business or professional image to suffer. You are offering your customer the latest in cleaning technology. Therefore, it is important that your company image reflect your desire to give your customer the best.

The surface finish on your PowerHead is a durable, baked on powder coating and is easily cleaned with a damp cloth. To further protect the finish, a light coat of good silicon base polish should be applied periodically.

Lubrication and maintenance play a key role in the life of your PowerHead. Hence, the following daily and periodic maintenance steps must be followed. Train yourself to maintain your unit on a regular schedule until it becomes habitual.

⚠ WARNING

Disconnect the POWERHEAD from its power source during cleaning or maintenance.

⚠ WARNING

The operator must be able to lift 80 lbs (37 Kg) in order to lift the unit.

CAUTION

Wear personal protective equipment such as safety glasses, cut resistant gloves when handling sharp objects, chemical resistant gloves when handling oils and chemicals.

DAILY MAINTENANCE

1. Inspect the power cord for cuts, breaks, etc. Repair or replace as needed.
2. Inspect the vacuum hoses for breaks or tears. Repair or replace as necessary.
3. Visually inspect your PowerHead for water leaks, wear damage to the cleaning heads and so forth. Repair or replace as necessary.
4. Check the jet spray for evenness (see Figure 6-1). An uneven spray will cause improper flow of the cleaning solution.

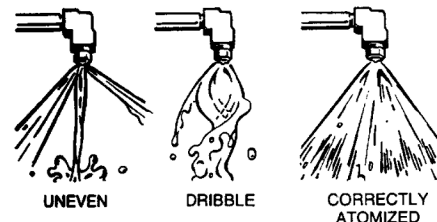


Figure 6-1. Check Jet Spray for Evenness

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⚠ WARNING

Do NOT spray the high pressure solution in your face or eyes. Bodily injury can result.

5. Remove the cleaning head (see Figure 6-2). It unscrews in the same direction it turns during operation (or clockwise when looking at it from the underside).
6. Once you have loosened the assembly, spin it off with your hands. If the cleaning head is difficult to remove, you may use a 3/4" socket wrench on the exposed center nut located in the center of the star or head assembly. To prevent the gear box from turning, remove the gear box cover to expose the output shaft. The output shaft will accept a 5/8" wrench just below the rotary union.
7. Wash the cleaning heads and shroud assembly with a garden hose, being careful not to wet the electric motor assembly.
8. Clean any lint buildup from the cleaning heads and vacuum hoses (lint buildup will restrict proper air flow and prolong drying time).

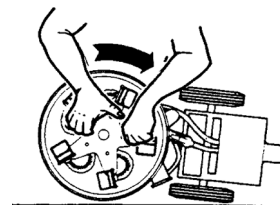


Figure 6-2. Remove Cleaning Head

NOTICE

Before cleaning the head assembly, place the rubber stopper (available in the Harris Service Kit) inside the threaded bore of the hub. This will prevent debris from entering the solution lines and clogging the spray jets.

9. Clean off any debris that may have accumulated on the gear box shaft or the inside threaded bore of the hub (see Figure 6-3).
10. Lubricate the felt vacuum seal on top of the hub with a quality, 30 weight SAE motor oil (see Figure 6-4). Also, put a few drops into the hub threads.

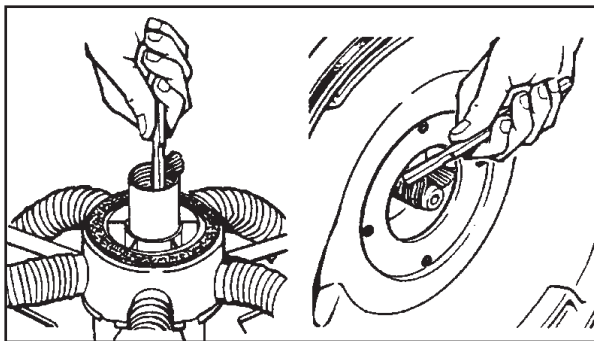


Figure 6-3. Remove Debris

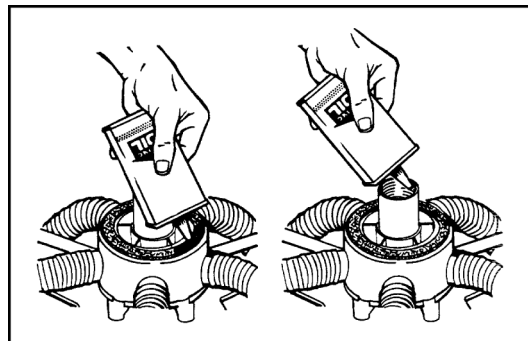


Figure 6-4. Lubricate Felt Vacuum Seal

11. Coat the shaft with TKX® All-Purpose lubricant (HydraMaster P/N 000-087-006 – see Figure 6-5). Re-install the vacuum head assembly onto the shaft by rotating it counterclockwise.

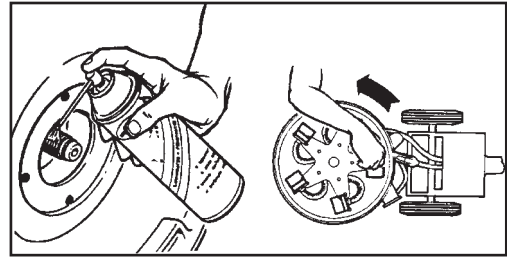


Figure 6-5. Lubricate the Shaft

CAUTION

An accumulation of debris in the gear box, if not removed, may damage the gear box oil seal. This will result in loss of oil in the gear box. If the gear box is operated without oil, severe damage may occur.

CAUTION

While rotating the vacuum head assembly in the counterclockwise position, make sure that it spins freely all the way down. If it begins to require the slightest finger tip pressure, unscrew it and brush off the threads. All it takes is the slightest grain of dirt or sand to obstruct the threads. If you turn too far onto a grain of dirt, the hub may become locked onto the shaft of the gear box.

PERIODIC MAINTENANCE

Oil Level

Check the oil level in the gear box on a monthly basis.

This is a permanently lubricated gear box. You do not need to change the oil. However, maintaining the proper oil level is important.

1. To check the oil level, remove the vent plug and look into the gear box.
2. Turn the cleaning head until you can see the inspection hole in the gear.
3. With the PowerHead sitting flat on a table or the floor, the oil level should be up to, but not above, the middle of the gear.
4. If oil needs to be added, use a quality 80-90 weight gear oil.

NOTICE

When checking the oil level in the gear box, use a toothpick as a dip stick. The oil level should read 3/8" (10mm) deep.

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TRANSPORT AND/OR STORAGE

⚠ WARNING

Disconnect the POWERHEAD from its power source for transportation and storage.

⚠ WARNING

The operator must be able to lift 80 lbs (37 Kg) in order to lift the unit.

CAUTION

This Machine shall be stored indoors only.

Whenever your POWERHEAD is transported or stored, it is recommended that you remove the star assembly (cleaning head). The machine will then sit flat on the floor and remain more stable, especially during transport.

1. Lay the unit back on its handle to access and remove the star assembly. (Figure 6-6)



Figure 6-6. Removing the Star Assembly before Transport

2. Lift the unit back up and place it flat on the ground.

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3. Using the handles on the front and rear of the bell housing, lift the unit up to the van's floor. (Figure 6-7)



Figure 6-7. Lifting Handles on the Front (left) and Rear (right) of the Bell Housing

4. Maneuver the unit close to the location of the storage bracket and lift the unit into the storage bracket. Once the unit is in the storage bracket it is safe for transport. (Figure 6-8)



Figure 6-8. Properly Stored Unit in the Storage Bracket

FREEZE WARNING AND PROTECTION

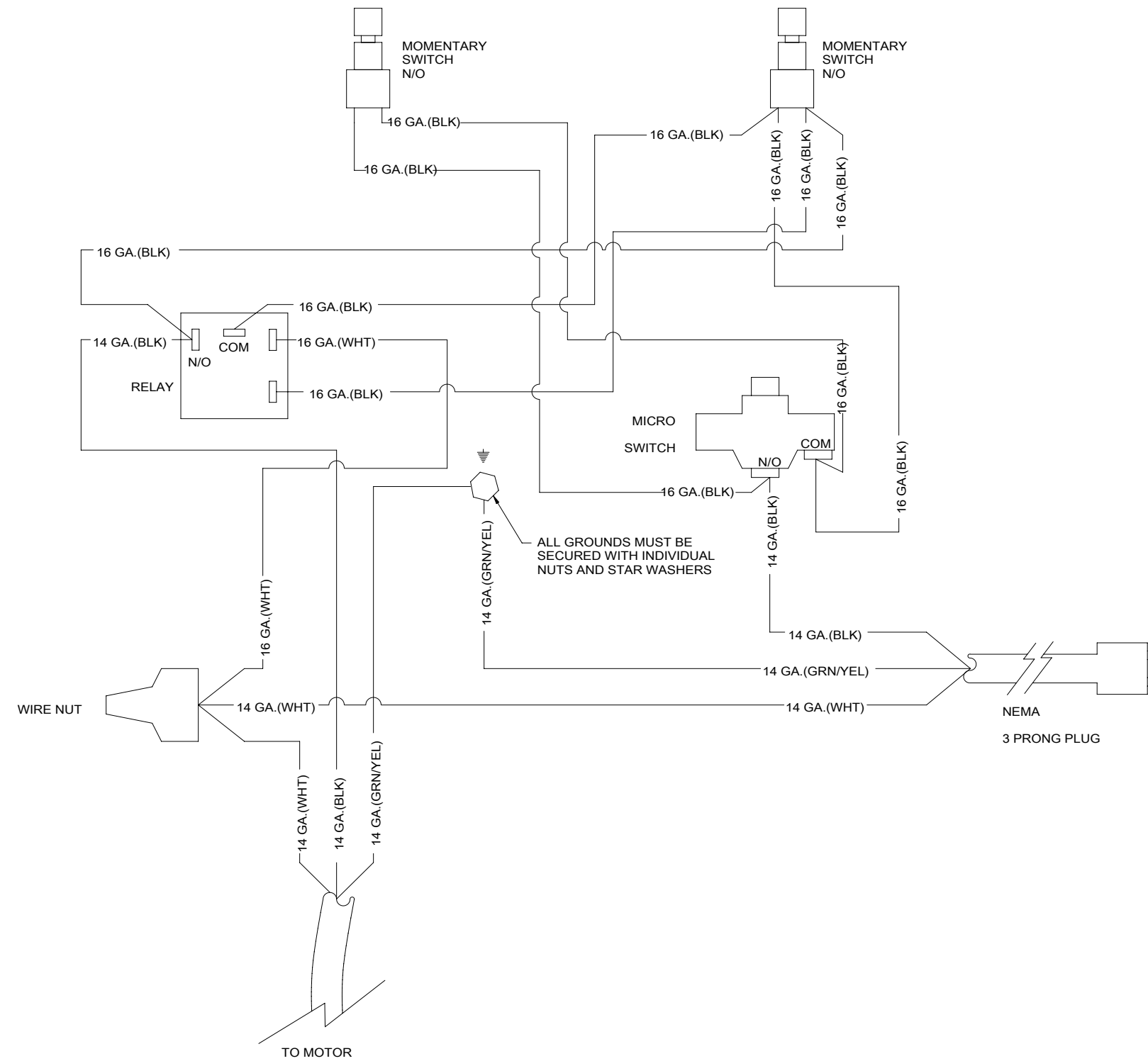
Your POWERHEAD can suffer damage from freezing, as can any equipment that functions with the use of water. Care must be taken to protect this machine from freezing just as you do your other equipment.

To protect it from freezing, use compressed air from an air hose to blow through the solution quick connect with the valve open. This eliminates water from the valve, solution line, rotary union and jet assembly.

Open and close the valve several times to ensure that all water is removed.

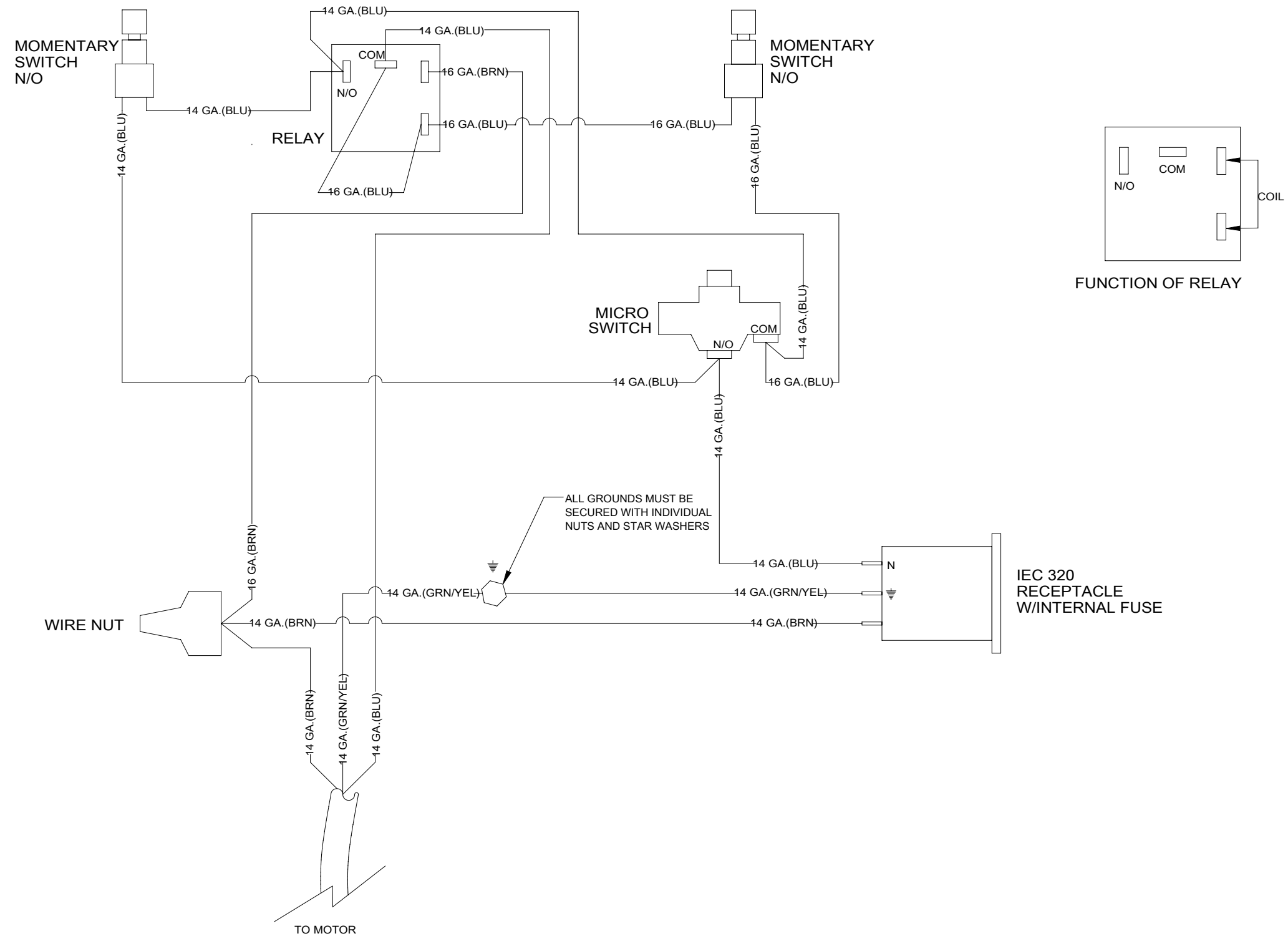
7- Electrical Diagrams

Figure 7-1. Wiring Diagram 115v Units
000-179-105 Rev A



7- Electrical Diagrams

Figure 7-1. Wiring Diagram 220v Units
000-179-104 Rev A



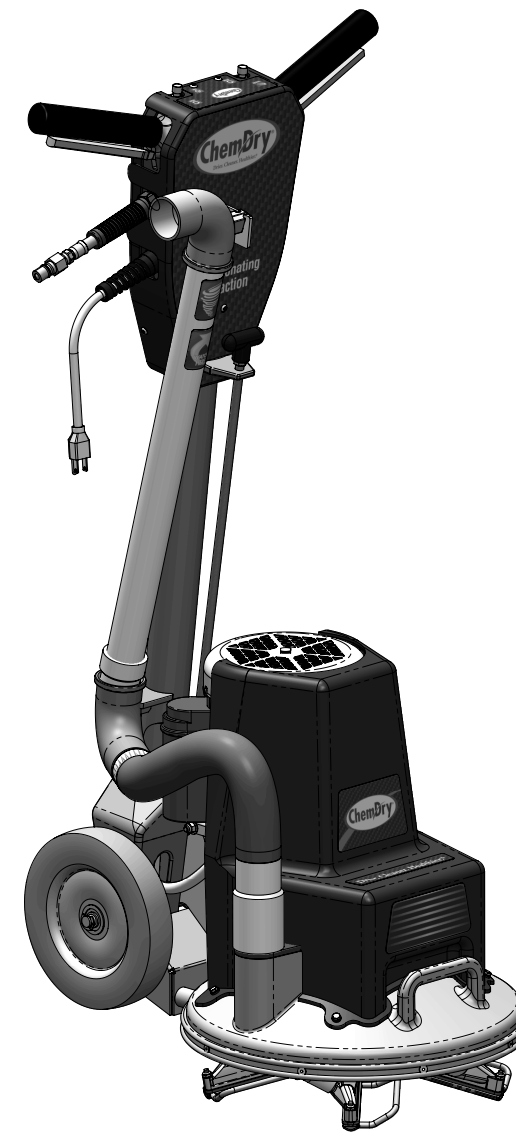
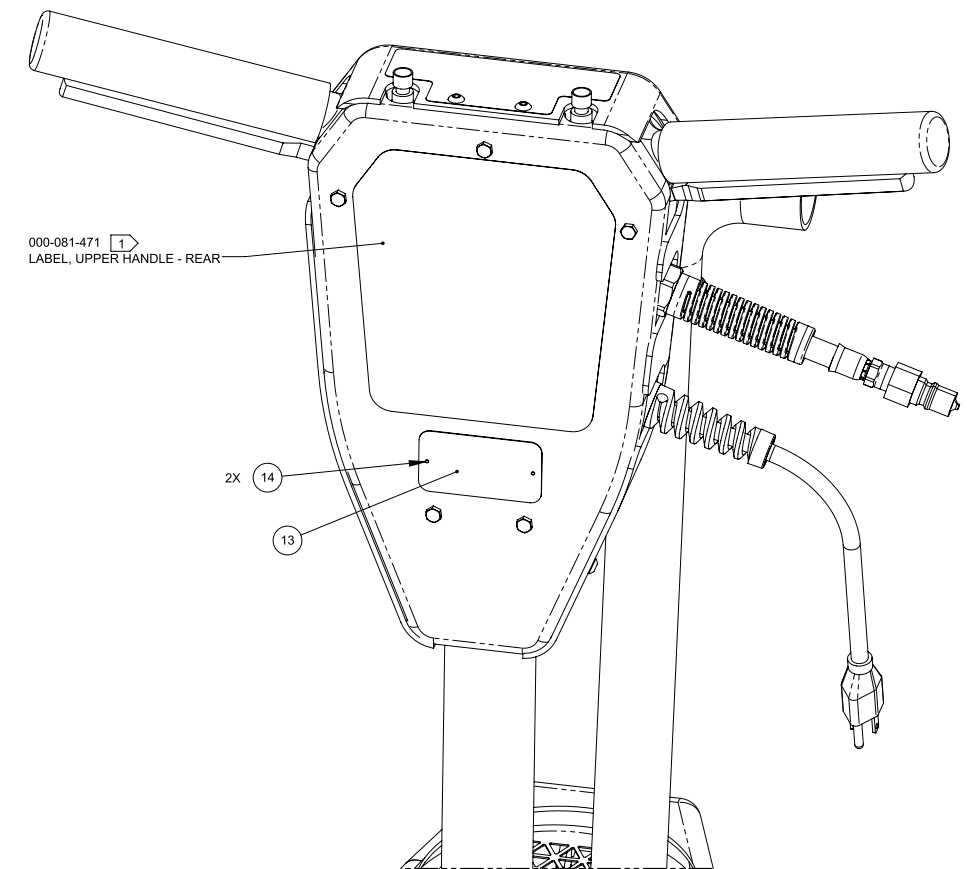
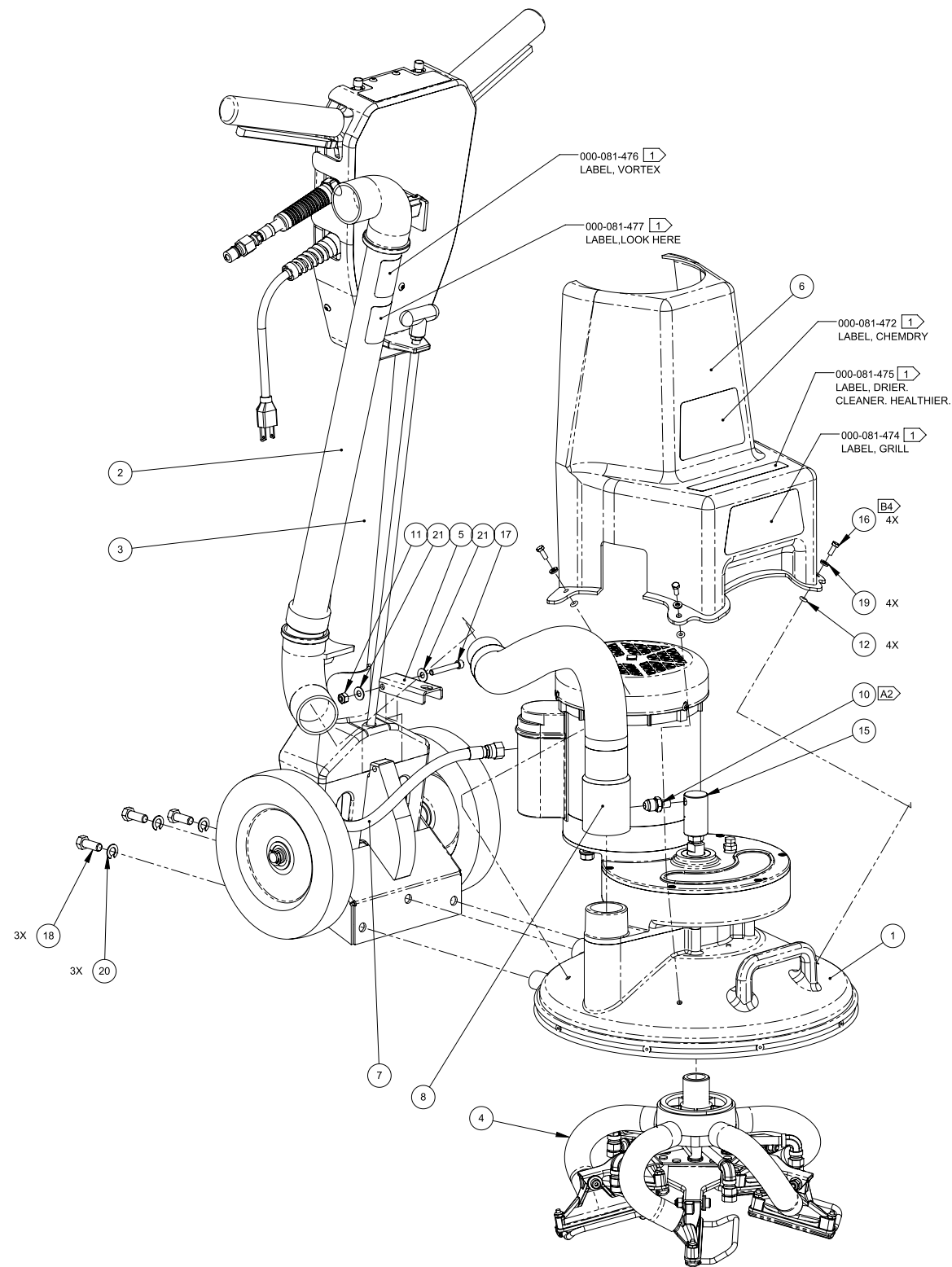
8 - Assemblies and Parts Lists

The following Chem-Dry PowerHead major assemblies are detailed in this section:

	Page
■ PowerHead Final Assembly Parts List.....	8-3
■ Base and Drivetrain Assembly Parts List.....	8-12
■ Upper and Lower Handle Assembly Parts List	8-22
■ Vacuum Head Assembly Parts List.....	8-38
■ Valve Stem Assembly Parts List	8-39
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Chem-Dry® PowerHead®

Figure 8-1. PowerHead Final Assembly 110V 60Hz
604-999-105 Rev. C



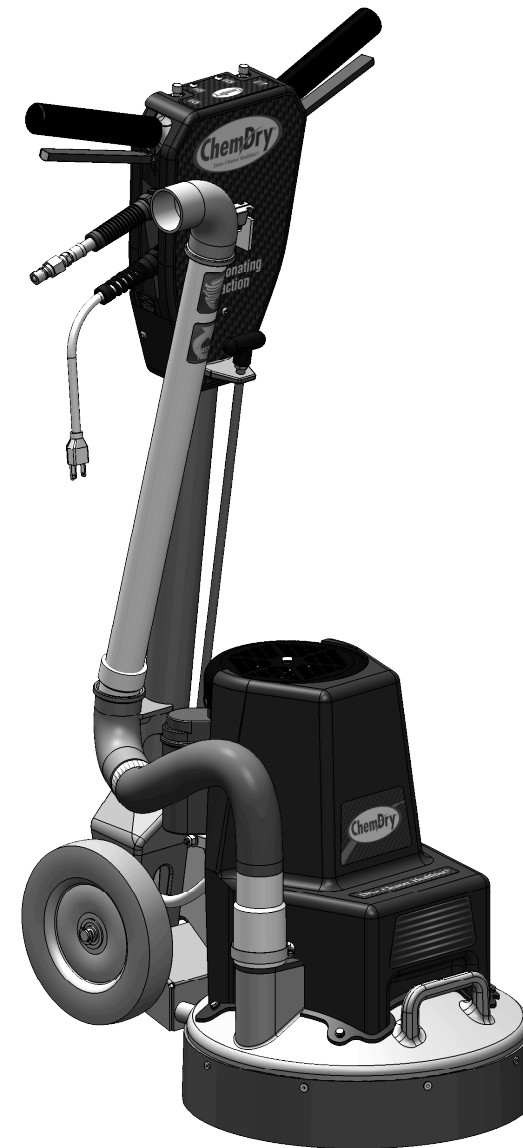
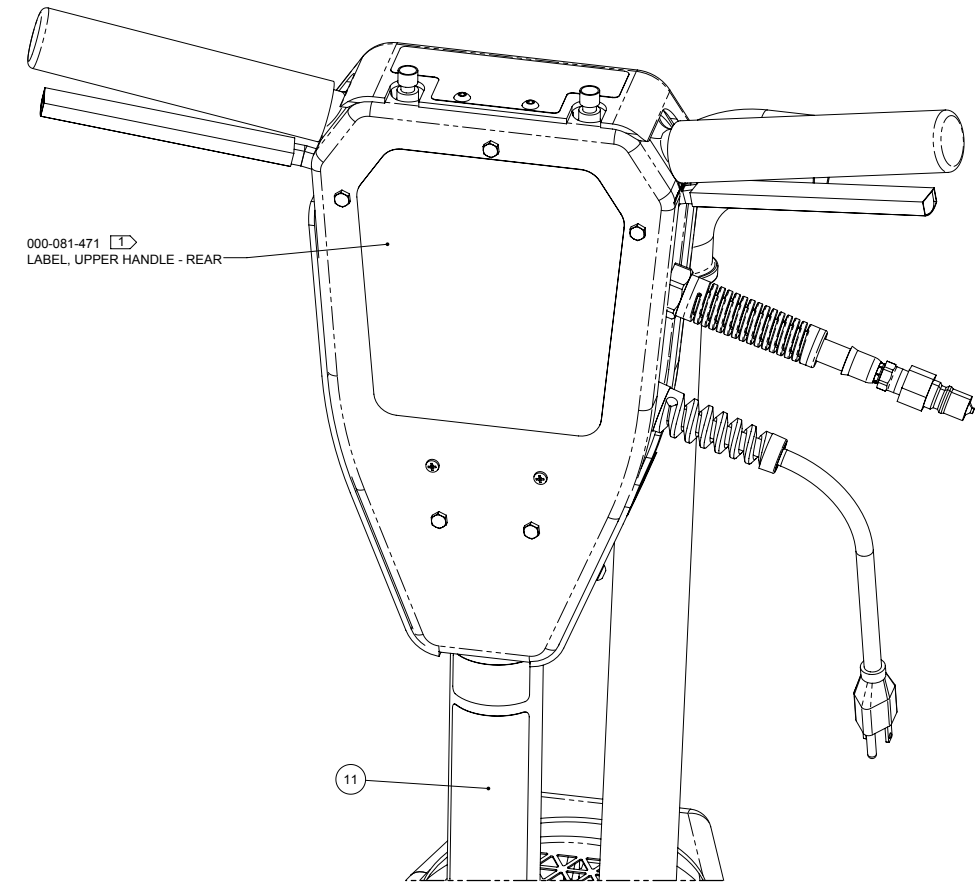
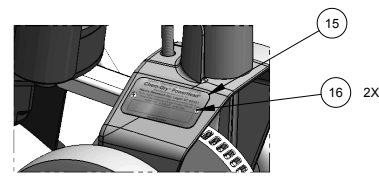
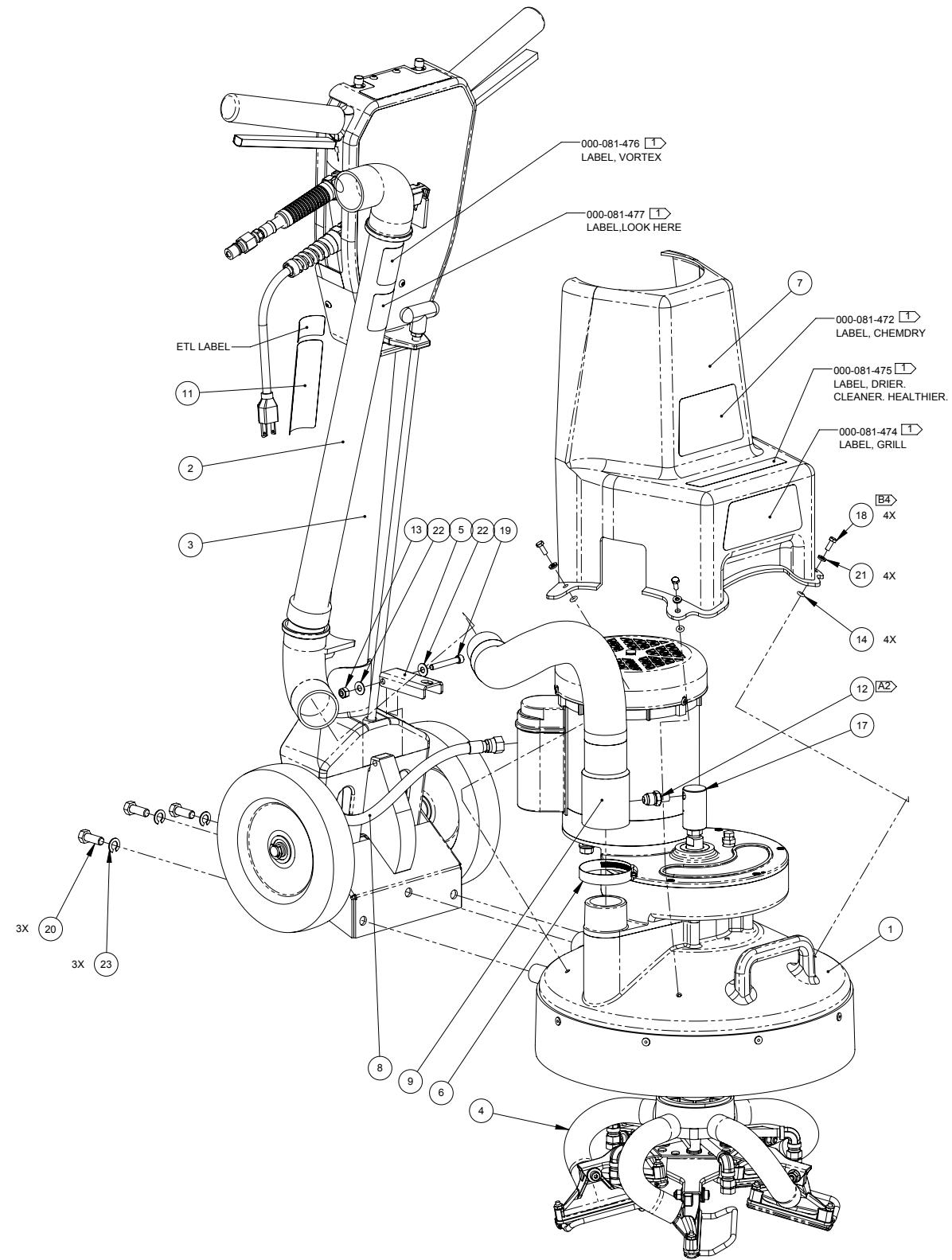
PowerHead Final 110V 60Hz Assembly Parts List

Item	Part Number	Description	Qty
1	604-054-105	ASSEMBLY, BASE & DRIVETRAIN - 120/220V 60HZ 2017	1
2	000-163-151	ASSEMBLY, EDGING TOOL - NO RELIEF	1
3	604-051-105	ASSEMBLY, UPPER & LOWER HANDLE	1
4	604-053-004	ASSEMBLY, VACUUM HEAD - HARRIS	1
5	000-015-1324	BRACKET, BASE STABILIZING - COATED	1
6	000-041-897	COVER, GEARBOX	1
7	000-068-1088	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) X 45.5" LG.	1
8	000-068-041	HOSE, BASE OUT RX-CD	1
9	000-081-478	LABEL SET, RX-CD 2017	1
10	000-052-521	NIPPLE, 1/8" NPT x 1/4" JIC	1
11	000-094-009	NUT, 1/4"-20UNC NYLOCK	1

Item	Part Number	Description	Qty
12	000-097-010	O-RING,H/M VALVE PLUNGER- LARGE	4
13	000-105-018-1	PLATE, RX-CD SERIAL I.D.	1
14	000-140-003	RIVET, 1/8" x 5/16" LG. (GRIP RANGE 0.251" - 0.312")	2
15	000-052-522	ROTARY UNION, 1/8" NPT S.STEEL	1
16	000-143-126	SCREW, #10-24UNC x 0.50" LG. HEX HEAD	4
17	000-143-008	SCREW, 1/4"-20UNC x 1.75" LG. SOCKET HEAD	1
18	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
19	000-174-036	WASHER, #10 FLAT RUBBER BACKED	4
20	000-174-057	WASHER, 3/8" LOCK	3
21	000-174-003	WASHER, 1/4" FLAT S/S	2

Chem-Dry® PowerHead®

Figure 8-2. PowerHead Final Assembly 115V/60Hz CSA
604-999-114 Rev. A



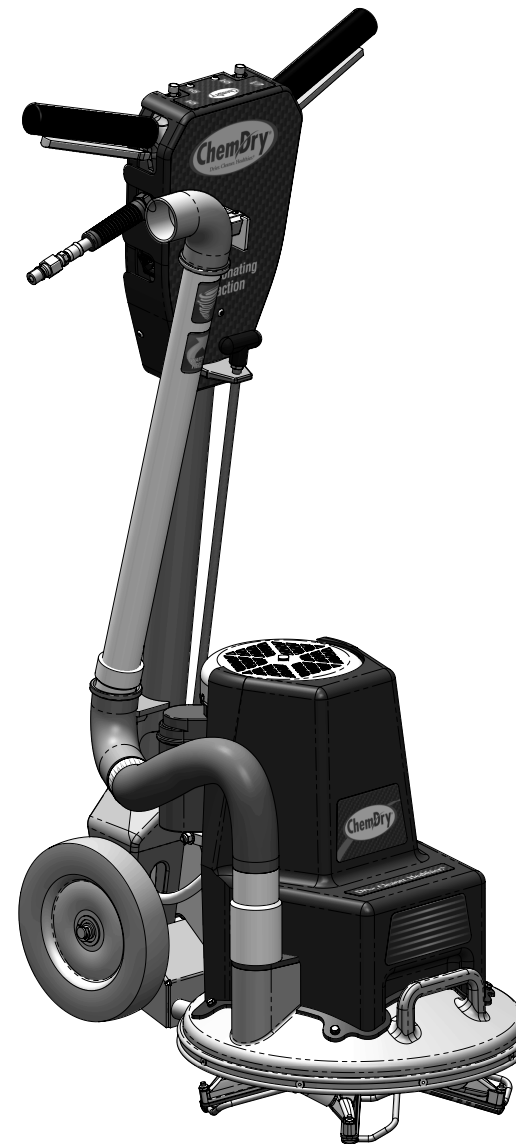
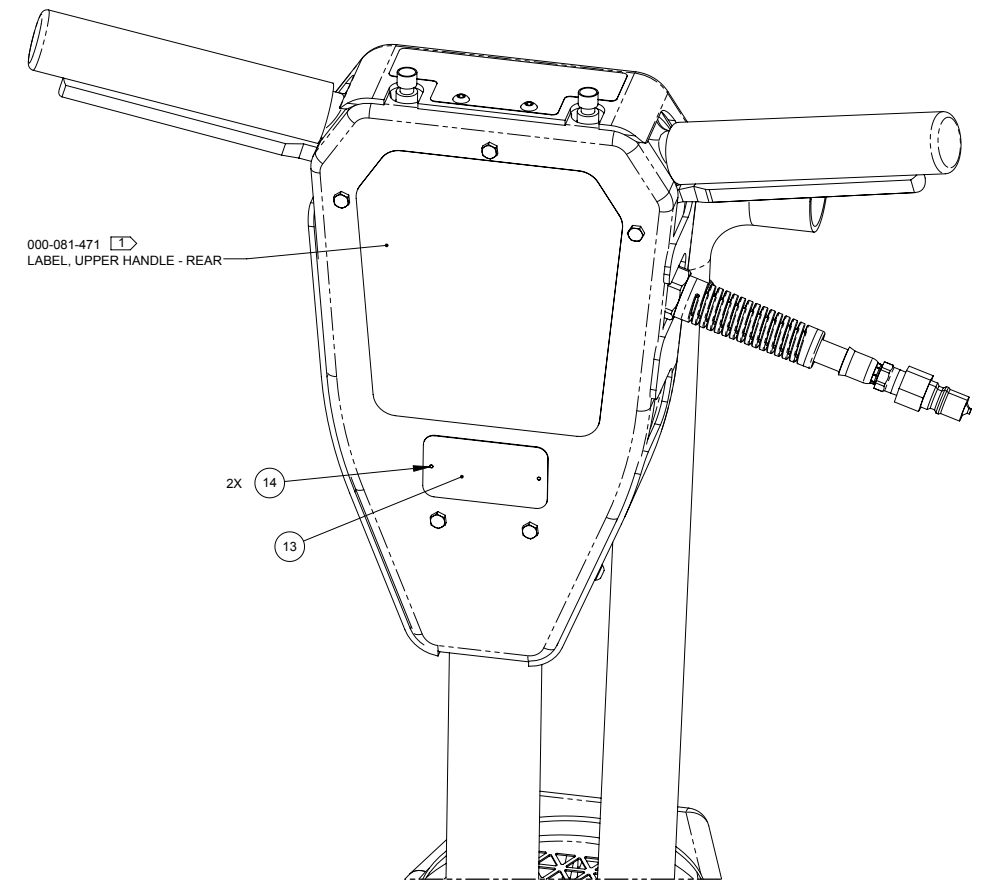
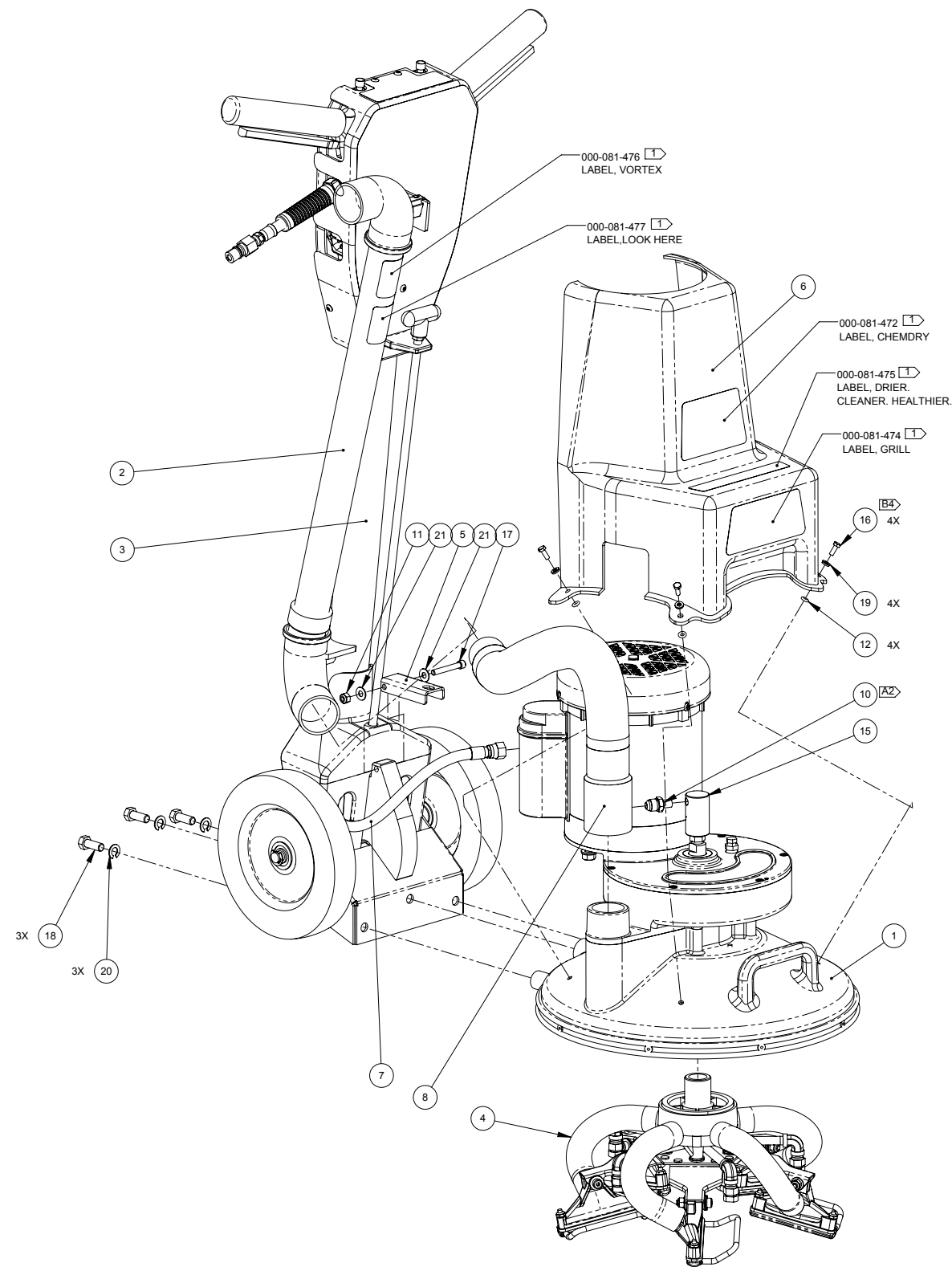
PowerHead Final Assembly 115V/60Hz CSA Parts List

Item	Part Number	Description	Qty
1	604-054-114	ASSEMBLY, BASE & DRIVETRAIN - 115V/60HZ 2017 CSA	1
2	000-163-151	ASSEMBLY, EDGING TOOL - NO RELIEF E13	1
3	604-051-114	ASSEMBLY, UPPER & LOWER HANDLE - 115V 2017 CSA	1
4	604-053-004	ASSEMBLY, VACUUM HEAD - HARRIS	1
5	000-015-1324	BRACKET, BASE STABILIZING - COATED	1
6	000-033-010	CLAMP, SIZE #32 HOSE	1
7	000-041-897	COVER, GEARBOX	1
8	000-068-1088	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) X 45.5" LG.	1
9	000-068-041	HOSE, BASE OUT RX-CD	1
10	000-081-478	LABEL SET, RX-CD 2017	1
11	000-081-499	LABEL, 115V 60HZ RX-CD - CSA	1
12	000-052-521	NIPPLE, 1/8" NPT x 1/4" JIC	1

Item	Part Number	Description	Qty
13	000-094-009	NUT, 1/4"-20UNC NYLOCK	1
14	000-097-010	O-RING,H/M VALVE PLUNGER- LARGE	4
15	000-105-018-1	PLATE, RX-CD SERIAL I.D.	1
16	000-140-003	RIVET, 1/8" x 5/16" LG. (GRIP RANGE 0.251" - 0.312")	2
17	000-052-522	ROTARY UNION, 1/8" NPT S.STEEL	1
18	000-143-126	SCREW, #10-24UNC x 0.50" LG. HEX HEAD	4
19	000-143-008	SCREW, 1/4"-20UNC x 1.75" LG. SOCKET HEAD	1
20	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
21	000-174-036	WASHER, #10 FLAT RUBBER BACKED	4
22	000-174-003	WASHER, 1/4" FLAT S/S	2
23	000-174-057	WASHER, 3/8" LOCK	3

Chem-Dry® PowerHead®

Figure 8-3. PowerHead Final Assembly 220V 60Hz
604-999-205 Rev. A



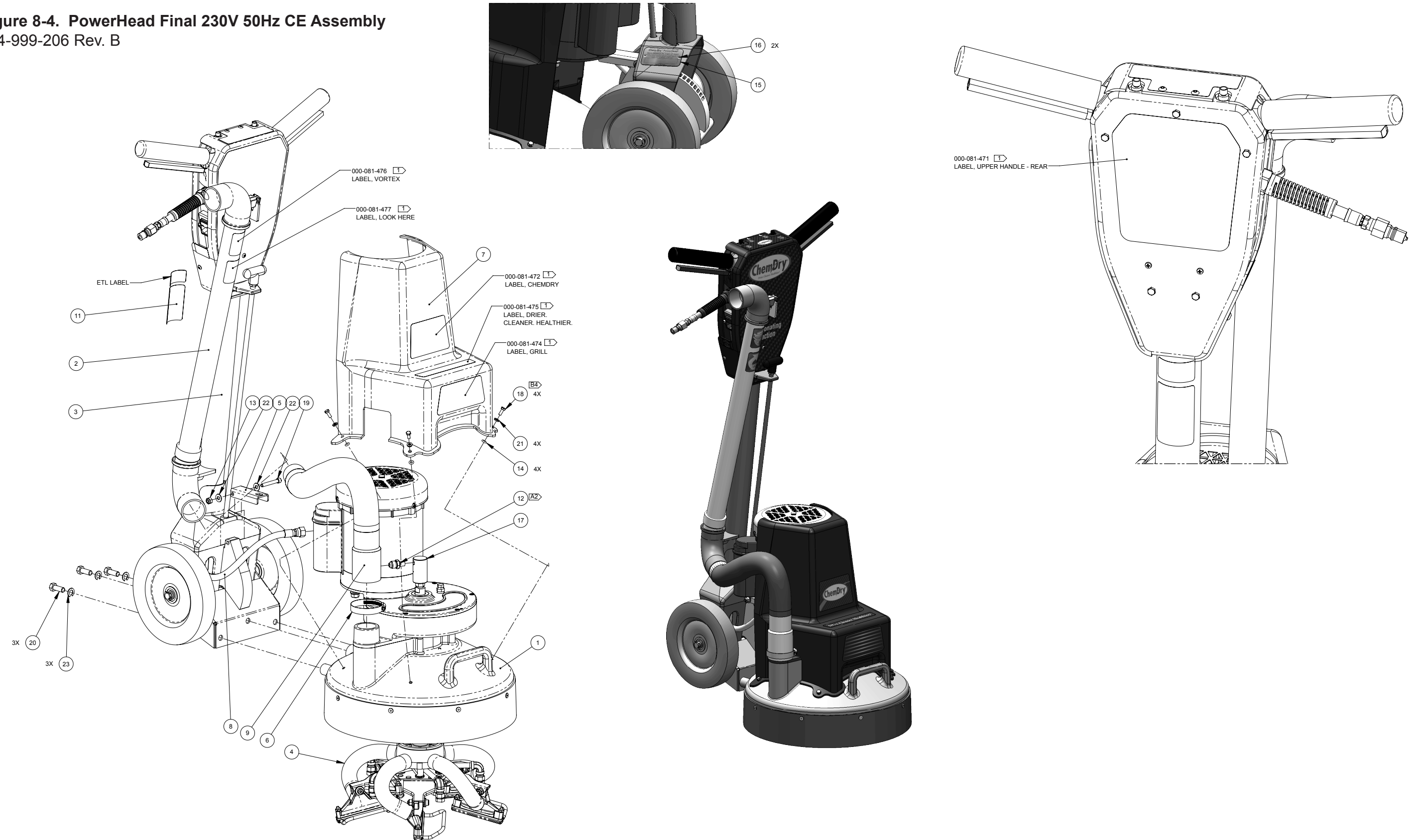
PowerHead Final 220V 60Hz Assembly Parts List

Item	Part Number	Description	Qty
1	604-054-105	ASSEMBLY, BASE & DRIVETRAIN - 120/220V 60HZ 2017	1
2	000-163-151	ASSEMBLY, EDGING TOOL - NO RELIEF E13	1
3	604-051-205	ASSEMBLY, UPPER & LOWER HANDLE - 220V	1
4	604-053-004	ASSEMBLY, VACUUM HEAD - HARRIS	1
5	000-015-1324	BRACKET, BASE STABILIZING - COATED	1
6	000-041-897	COVER, GEARBOX	1
7	000-068-1088	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) X 45.5" LG.	1
8	000-068-041	HOSE, BASE OUT RX-CD	1
9	000-081-478	LABEL SET, RX-CD 2017	1
10	000-052-521	NIPPLE, 1/8" NPT x 1/4" JIC	1
11	000-094-009	NUT, 1/4"-20UNC NYLOCK	1

Item	Part Number	Description	Qty
12	000-097-010	O-RING,H/M VALVE PLUNGER- LARGE	4
13	000-105-018-1	PLATE, RX-CD SERIAL I.D.	1
14	000-140-003	RIVET, 1/8" x 5/16" LG. (GRIP RANGE 0.251" - 0.312")	2
15	000-052-522	ROTARY UNION, 1/8" NPT S.STEEL	1
16	000-143-126	SCREW, #10-24UNC x 0.50" LG. HEX HEAD	4
17	000-143-008	SCREW, 1/4"-20UNC x 1.75" LG. SOCKET HEAD	1
18	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
19	000-174-036	WASHER, #10 FLAT RUBBER BACKED	4
20	000-174-057	WASHER, 3/8" LOCK	3
21	000-174-003	WASHER, 1/4" FLAT S/S	2

Chem-Dry® PowerHead®

Figure 8-4. PowerHead Final 230V 50Hz CE Assembly
604-999-206 Rev. B



PowerHead Final 230V 50Hz CE Assembly Parts List

Item	Part Number	Description	Qty
1	604-054-206	ASSEMBLY, BASE & DRIVETRAIN - 230V 50Hz 2017 CE	1
2	000-163-151	ASSEMBLY, EDGING TOOL - NO RELIEF E13	1
3	604-051-214	ASSEMBLY, UPPER & LOWER HANDLE - 230V 50Hz CE	1
4	604-053-004	ASSEMBLY, VACUUM HEAD - HARRIS	1
5	000-015-1324	BRACKET, BASE STABILIZING - COATED	1
6	000-033-010	CLAMP, SIZE #32 HOSE	1
7	000-041-897	COVER, GEARBOX	1
8	000-068-1088	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) X 45.5" LG.	1
9	000-068-041	HOSE, BASE OUT RX-CD	1
10	000-081-478	LABEL SET, RX-CD 2017	1
11	000-081-469	LABEL, 230V 50Hz RX-CD 2017 - CE	1
12	000-052-521	NIPPLE, 1/8" NPT x 1/4" JIC	1

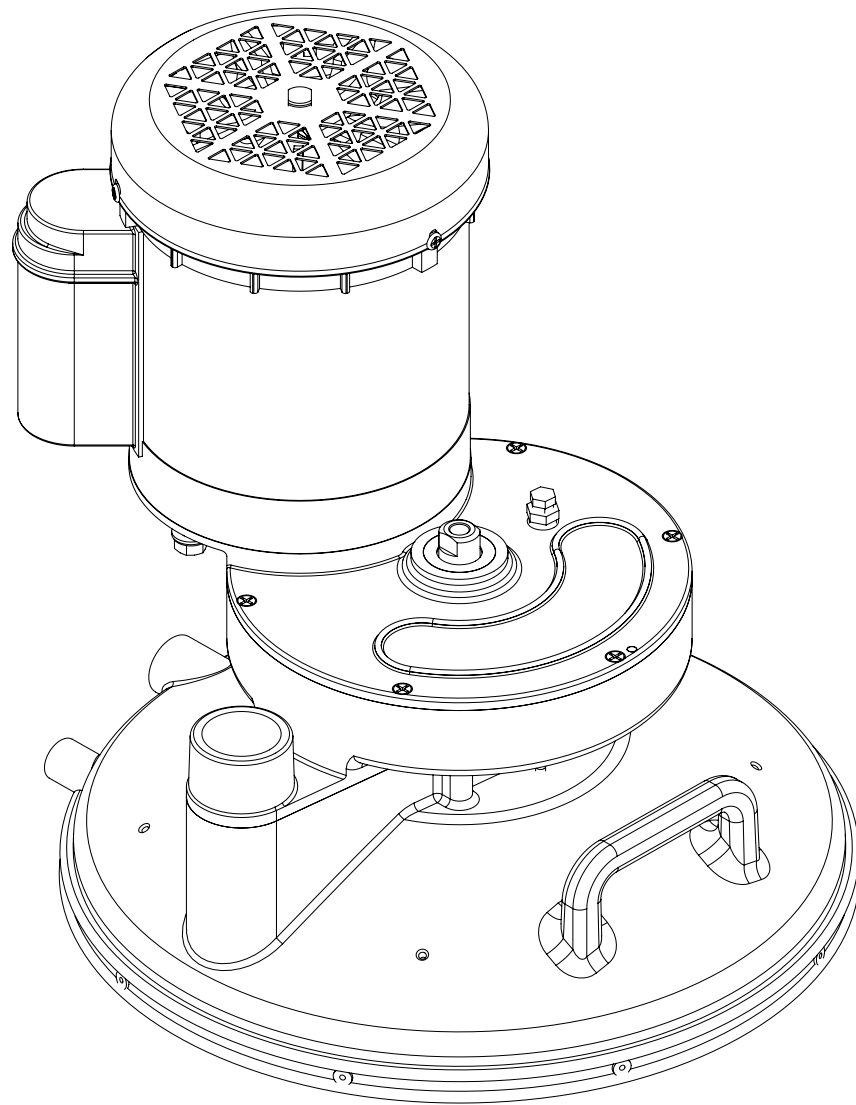
Item	Part Number	Description	Qty
13	000-094-009	NUT, 1/4"-20UNC NYLOCK	1
14	000-097-010	O-RING,H/M VALVE PLUNGER- LARGE	4
15	000-105-018-1	PLATE, RX-CD SERIAL I.D.	1
16	000-140-003	RIVET, 1/8" x 5/16" LG. (GRIP RANGE 0.251" - 0.312")	2
17	000-052-522	ROTARY UNION, 1/8" NPT S.STEEL	1
18	000-143-126	SCREW, #10-24UNC x 0.50" LG. HEX HEAD	4
19	000-143-008	SCREW, 1/4"-20UNC x 1.75" LG. SOCKET HEAD	1
20	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
21	000-174-036	WASHER, #10 FLAT RUBBER BACKED	4
22	000-174-003	WASHER, 1/4" FLAT S/S	2
23	000-174-057	WASHER, 3/8" LOCK	3

Chem-Dry® PowerHead®

Figure 8-5. Base and Drivetrain 120/220V 60Hz Assembly - View 1 of 2
604-054-105 Rev. A

NOTICE

Prior to operating the machine, replace the shipping plug (P/N 000-106-001) with the vented plug (P/N 000-106-014). See page 3-1 in this manual for more information.



This is part of motor
P/N 000-091-015.

This is part of motor
P/N 000-091-015.

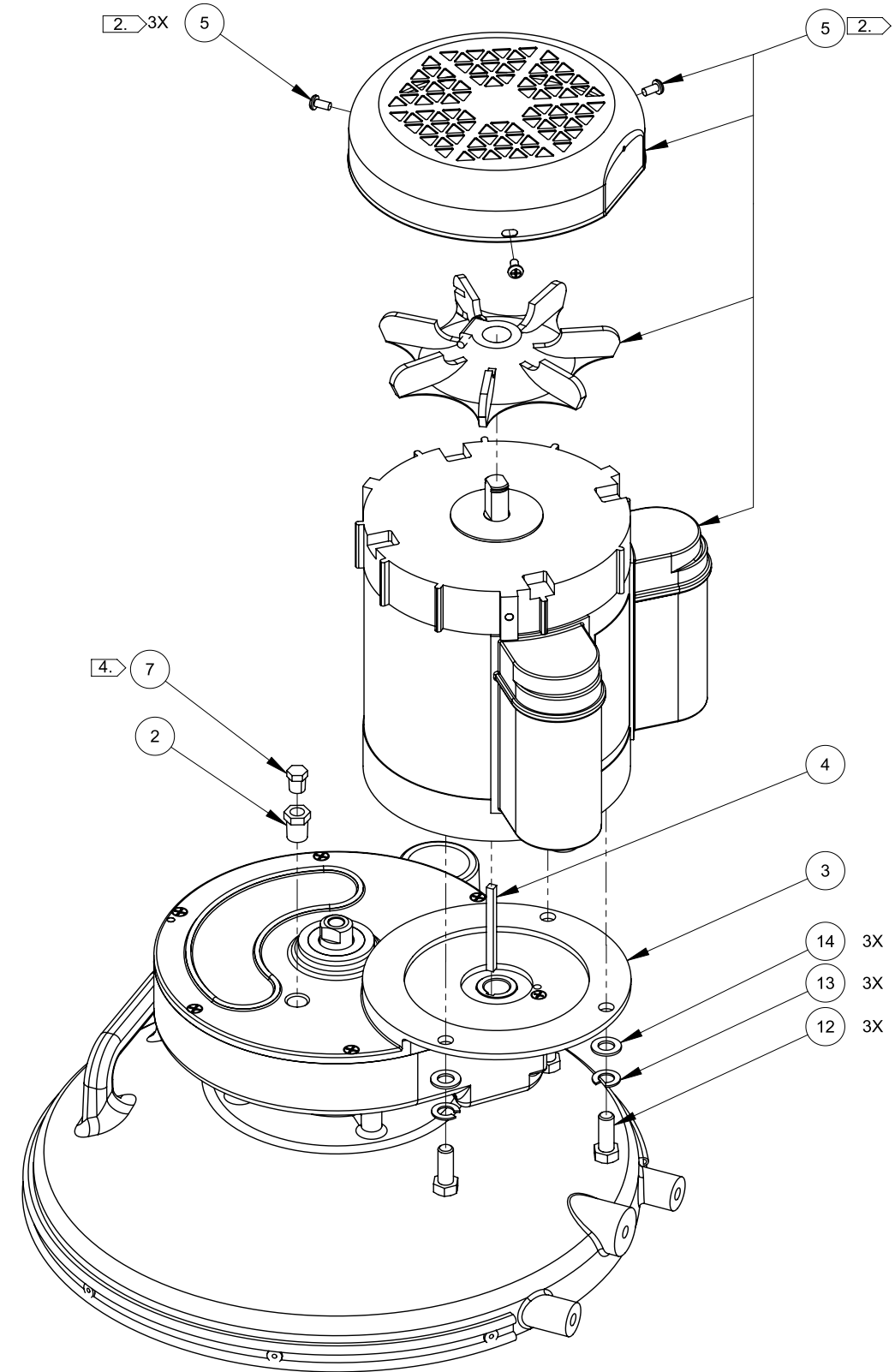
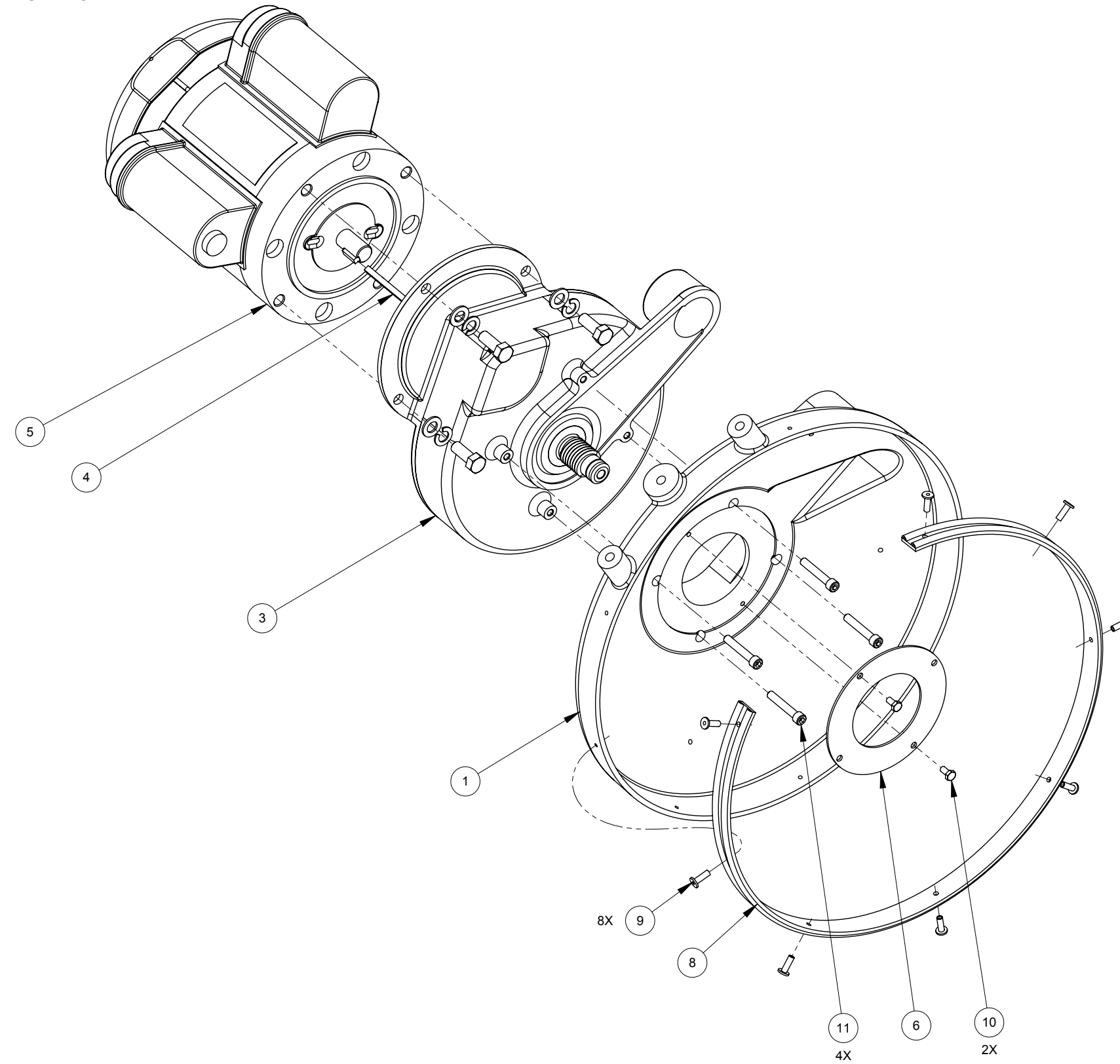


Figure 8-6. Base and Drivetrain 120/220V 60Hz Assembly - View 2 of 2
604-054-105 Rev. A



Base and Drivetrain 120/220V 60Hz Assembly - Parts List

Item	Part Number	Description	Qty
1	000-006-011	BASE W/ HANDLE - COATED E-13	1
2	000-052-059	BUSHING, 1/4" MPT x 1/8" FPT	1
3	000-059-001	GEAR BOX - COMPLETE	1
4	000-077-012	KEY, 3/16" x 2.5" LG. CLASS 2 FIT	1
5	000-091-055	MOTOR, 1/2HP 120/220V 60HZ 2017	1
6	000-105-008	PLATE, SEAL	1
7	000-106-001	PLUG, 1/8" NPT	1

Item	Part Number	Description	Qty
8	000-108-205	PROTECTOR, SHROUD X 36" LG.	1
9	000-140-005	RIVET, 3/16" x 0.50" LG. POP (AB6-6A)	8
10	000-143-166	SCREW, #10-24UNC x 0.375" LG. HEX HEAD	2
11	000-143-075	SCREW, 1/4"-20UNC x 1.50" LG. SOCKET HEAD	4
12	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
13	000-174-055	WASHER, 3/8" I.D. x 0.628 O.D. x 0.03 THK.	3
14	000-174-057	WASHER, 3/8" LOCK	3

NOTICE

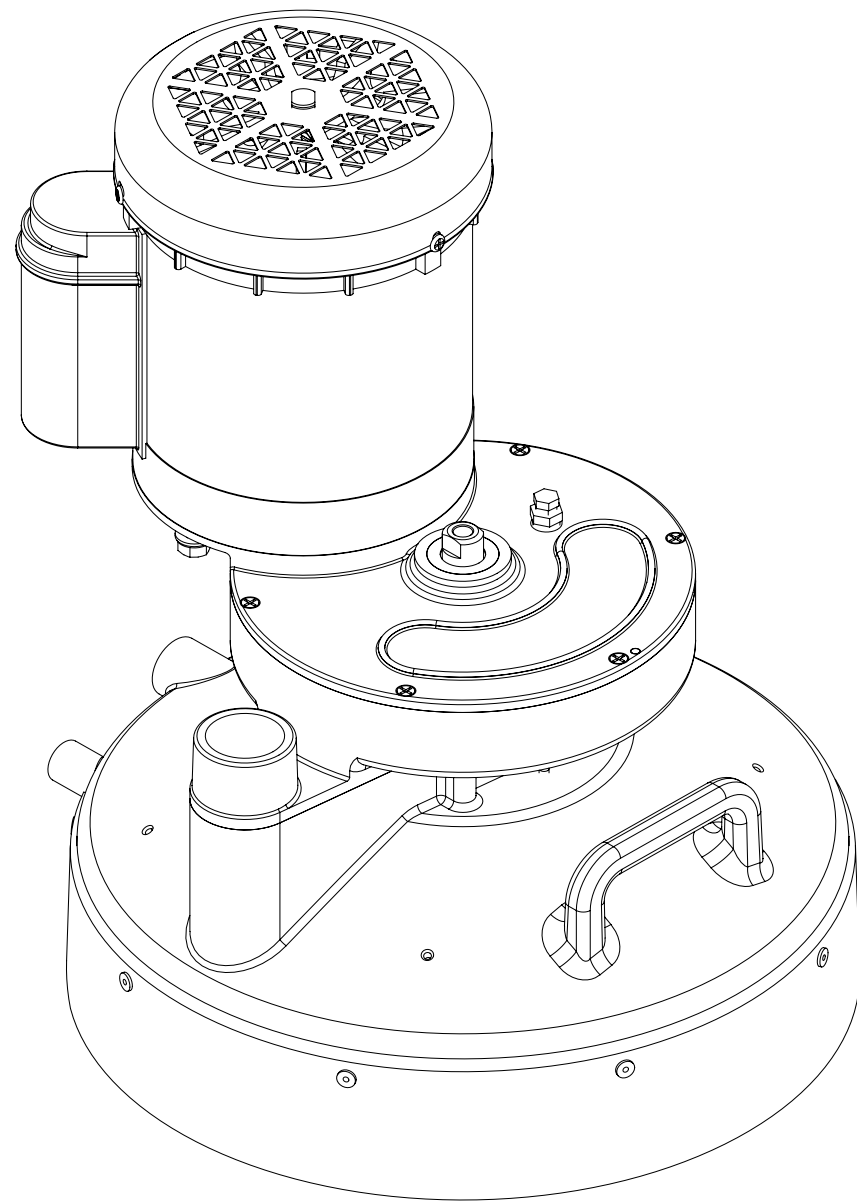
* Prior to operating the machine, replace the shipping plug (P/N 000-106-001) with the vented plug (P/N 000-106-014). See page 3-1 in this manual for more information.

Use clear silicon to attach item 4 to item 1.

Figure 8-7. Base and Drivetrain 115V/60Hz CSA Assembly - View 1 of 2
604-054-114 Rev. A

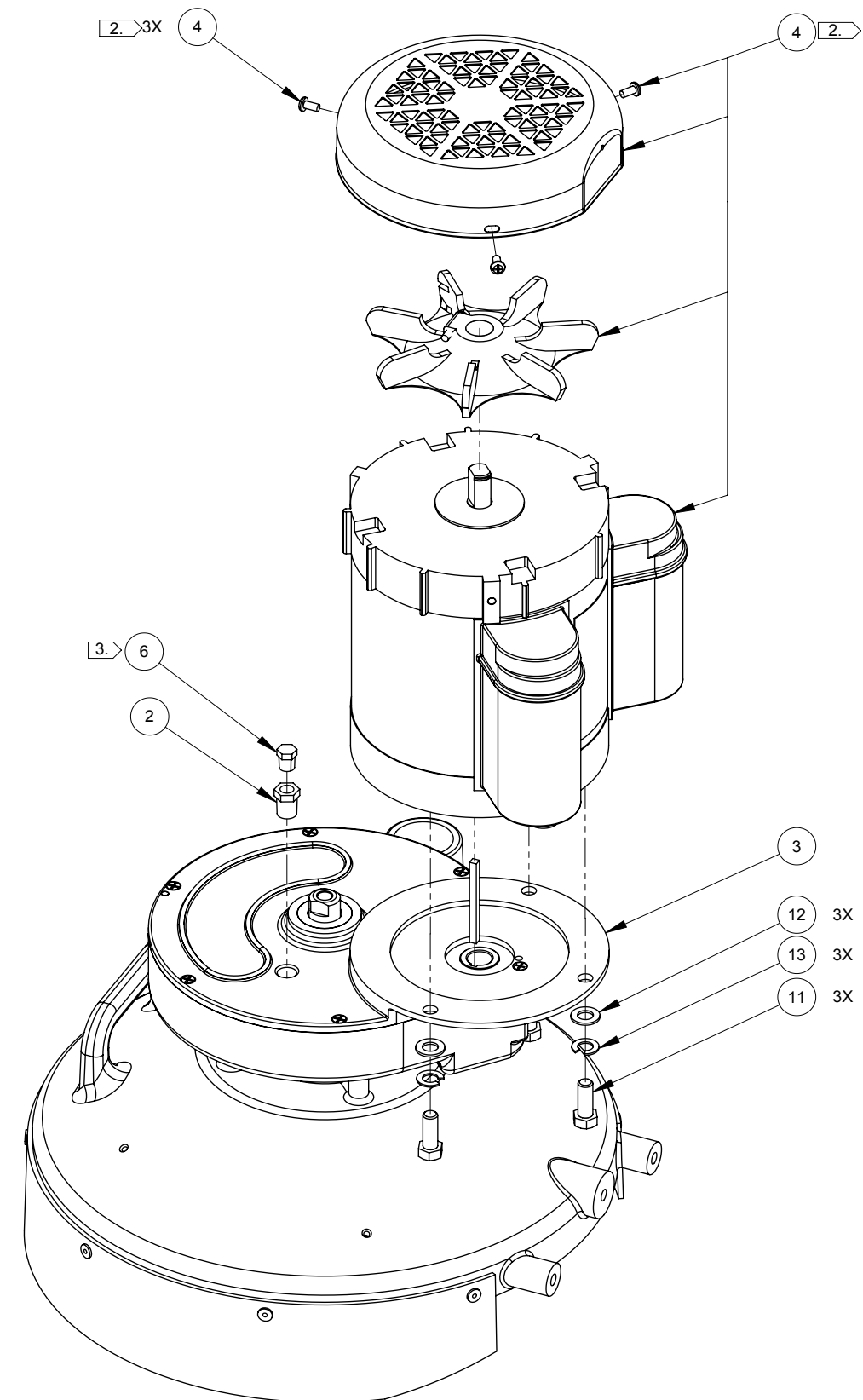
NOTICE

Prior to operating the machine, replace the shipping plug (P/N 000-106-001) with the vented plug (P/N 000-106-014). See page 3-1 in this manual for more information.



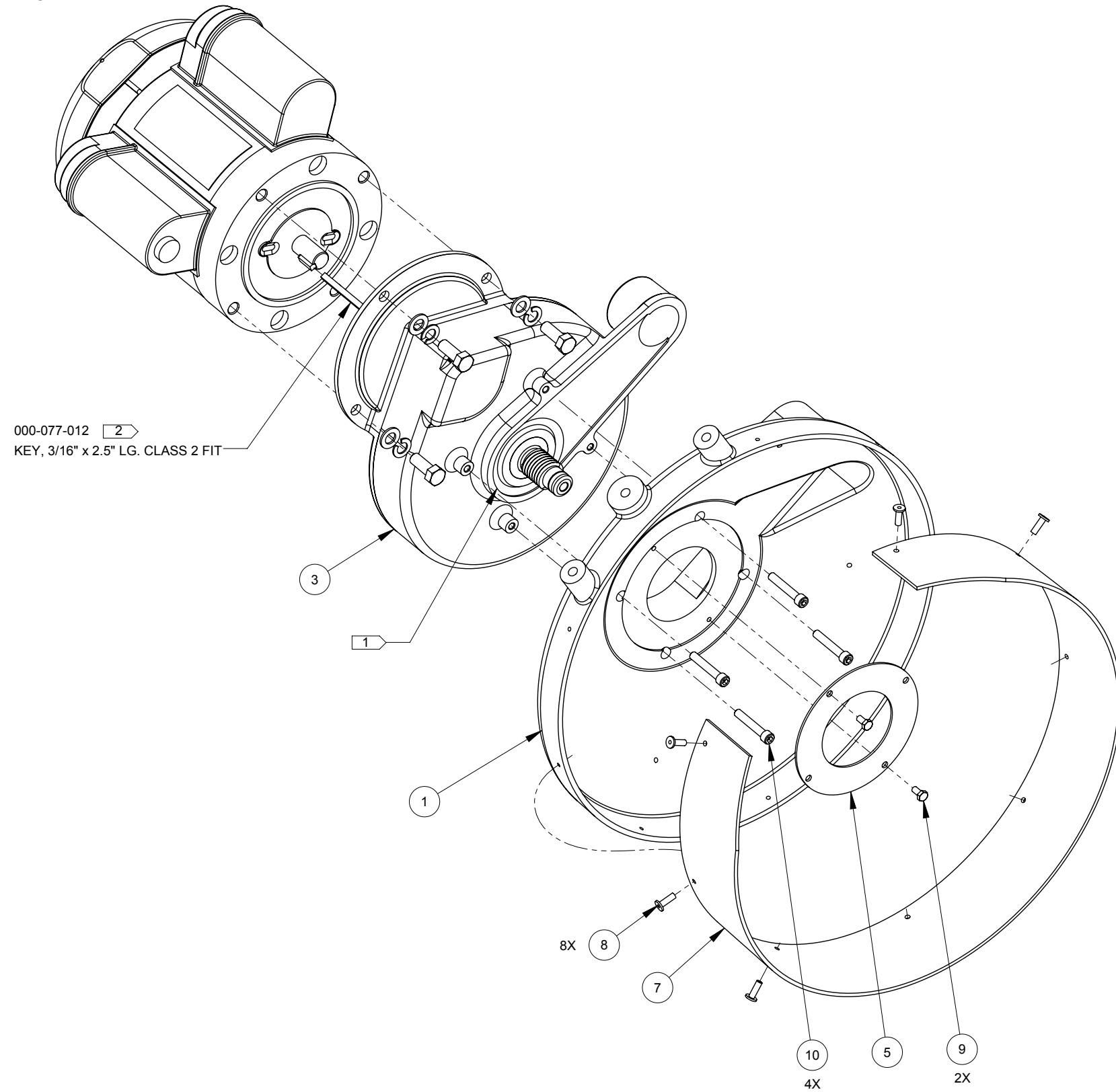
This is part of motor
P/N 000-091-015.

This is part of motor
P/N 000-091-015.



Chem-Dry® PowerHead®

Figure 8-8. Base and Drivetrain 115V/60Hz CSA Assembly - View 2 of 2
604-054-114 Rev. A



Base and Drivetrain 115V/60Hz CSA Assembly - Parts List

Item	Part Number	Description	Qty
1	000-006-011	BASE W/ HANDLE - COATED E-13	1
2	000-052-059	BUSHING, 1/4" MPT x 1/8" FPT	1
3	000-059-001	GEAR BOX - COMPLETE	1
4	000-091-055	MOTOR, 1/2HP 120/220V 60HZ 2017	1
5	000-105-008	PLATE, SEAL	1
6	000-106-001	PLUG, 1/8" NPT	1
7	000-108-205	PROTECTOR, BASE SPLASH	1

Item	Part Number	Description	Qty
8	000-140-005	RIVET, 3/16" x 0.50" LG. POP (AB6-6A)	8
9	000-143-166	SCREW, #10-24UNC x 0.375" LG. HEX HEAD	2
10	000-143-075	SCREW, 1/4"-20UNC x 1.50" LG. SOCKET HEAD	4
11	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
12	000-174-055	WASHER, 3/8" I.D. x 0.628 O.D. x 0.03 THK.	3
13	000-174-057	WASHER, 3/8" LOCK	3

NOTICE

* Prior to operating the machine, replace the shipping plug (P/N 000-106-001) with the vented plug (P/N 000-106-014). See page 3-1 in this manual for more information.

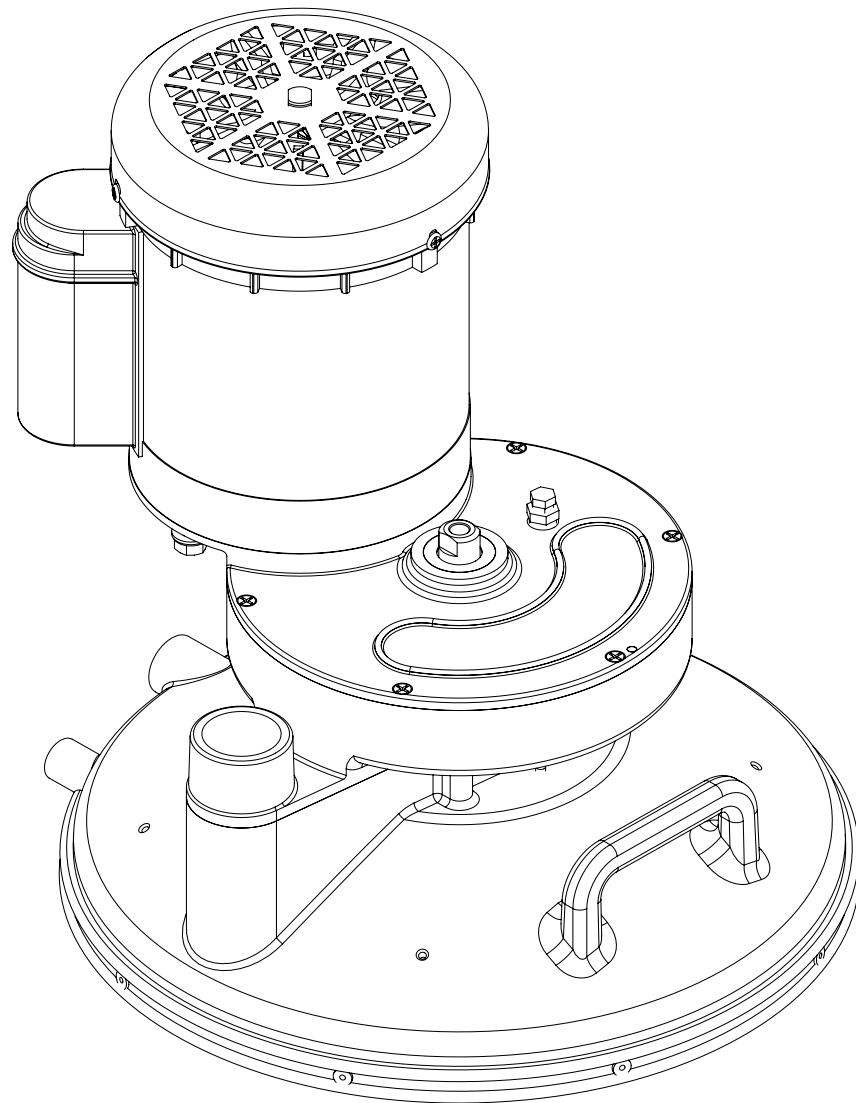
Use clear silicon to attach item 4 to item 1.

Chem-Dry® PowerHead®

Figure 8-9. Base and Drivetrain 230V 50Hz CE Assembly - View 1 of 2
604-054-206 Rev. B

NOTICE

Prior to operating the machine, replace the shipping plug (P/N 000-106-001) with the vented plug (P/N 000-106-014). See page 3-1 in this manual for more information.



This is part of motor
P/N 000-091-015.

This is part of motor
P/N 000-091-015.

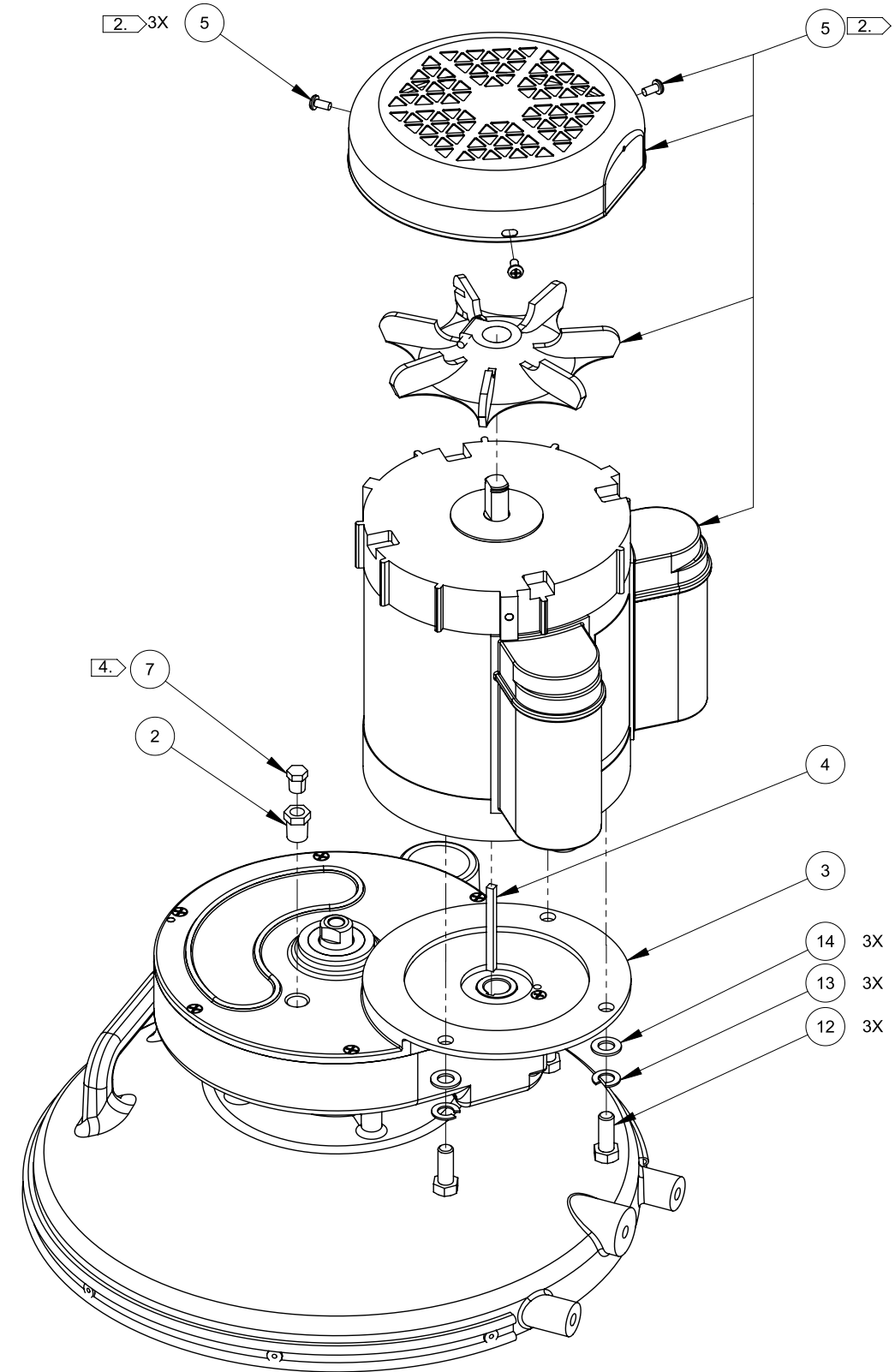
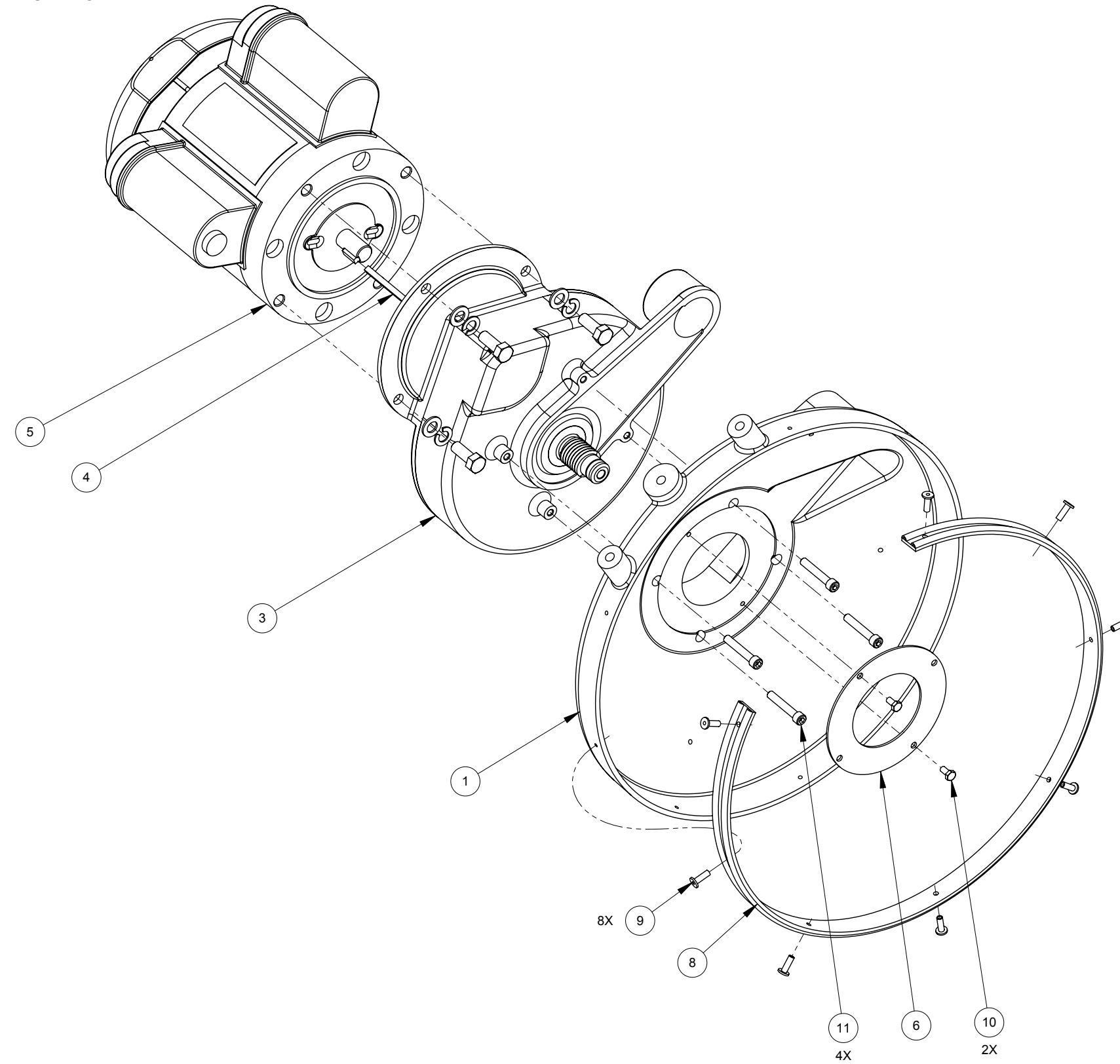


Figure 8-10. Base and Drivetrain 230V 50Hz CE Assembly - View 2 of 2
604-054-206 Rev. B



Base and Drivetrain 230V 50Hz CE Assembly - Parts List

Item	Part Number	Description	Qty
1	000-006-011	BASE W/ HANDLE - COATED E-13	1
2	000-052-059	BUSHING, 1/4" MPT x 1/8" FPT	1
3	000-059-001	GEAR BOX - COMPLETE	1
4	000-077-012	KEY, 3/16" x 2.5" LG. CLASS 2 FIT	1
5	000-091-056	MOTOR, 1/2HP 220V 50HZ 2017	1
6	000-105-008	PLATE, SEAL	1
7	000-106-001	PLUG, 1/8" NPT	1

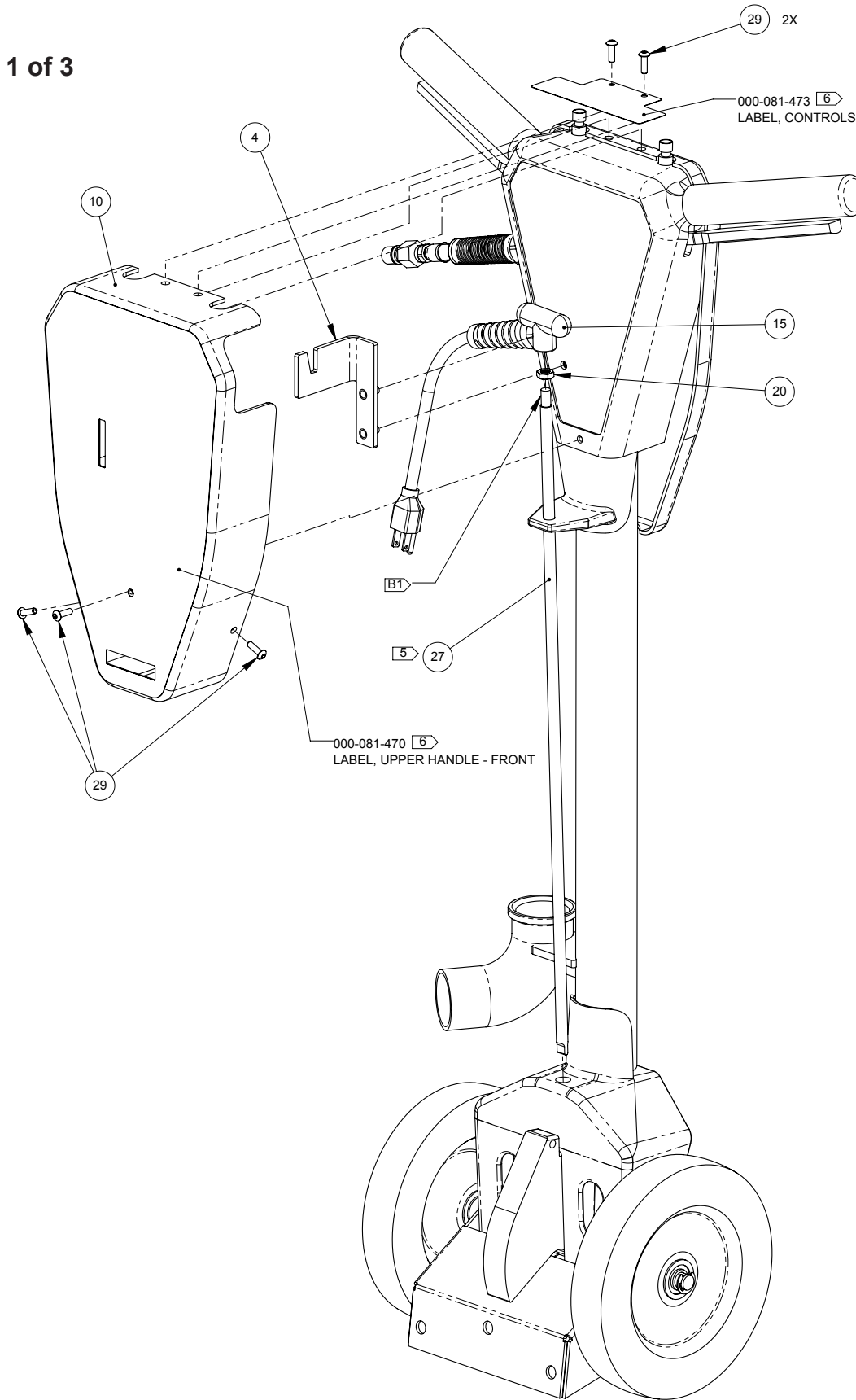
Item	Part Number	Description	Qty
8	000-108-126	PROTECTOR, BASE SPLASH	1
9	000-140-005	RIVET, 3/16" x 0.50" LG. POP (AB6-6A)	8
10	000-143-166	SCREW, #10-24UNC x 0.375" LG. HEX HEAD	2
11	000-143-075	SCREW, 1/4"-20UNC x 1.50" LG. SOCKET HEAD	4
12	000-143-096	SCREW, 3/8"-16UNC X 1.00" LG. HEX HEAD	3
13	000-174-055	WASHER, 3/8" I.D. x 0.628 O.D. x 0.03 THK.	3
14	000-174-057	WASHER, 3/8" LOCK	3

NOTICE

* Prior to operating the machine, replace the shipping plug (P/N 000-106-001) with the vented plug (P/N 000-106-014). See page 3-1 in this manual for more information.

Use clear silicon to attach item 4 to item 1.

Figure 8-11. Upper and Lower Handle 110V/60Hz Assembly - View 1 of 3
604-051-105 Rev. C



Chem-Dry® PowerHead®

Figure 8-12. Upper and Lower Handle 110V/60Hz Assembly - View 2 of 3
604-051-105 Rev. C

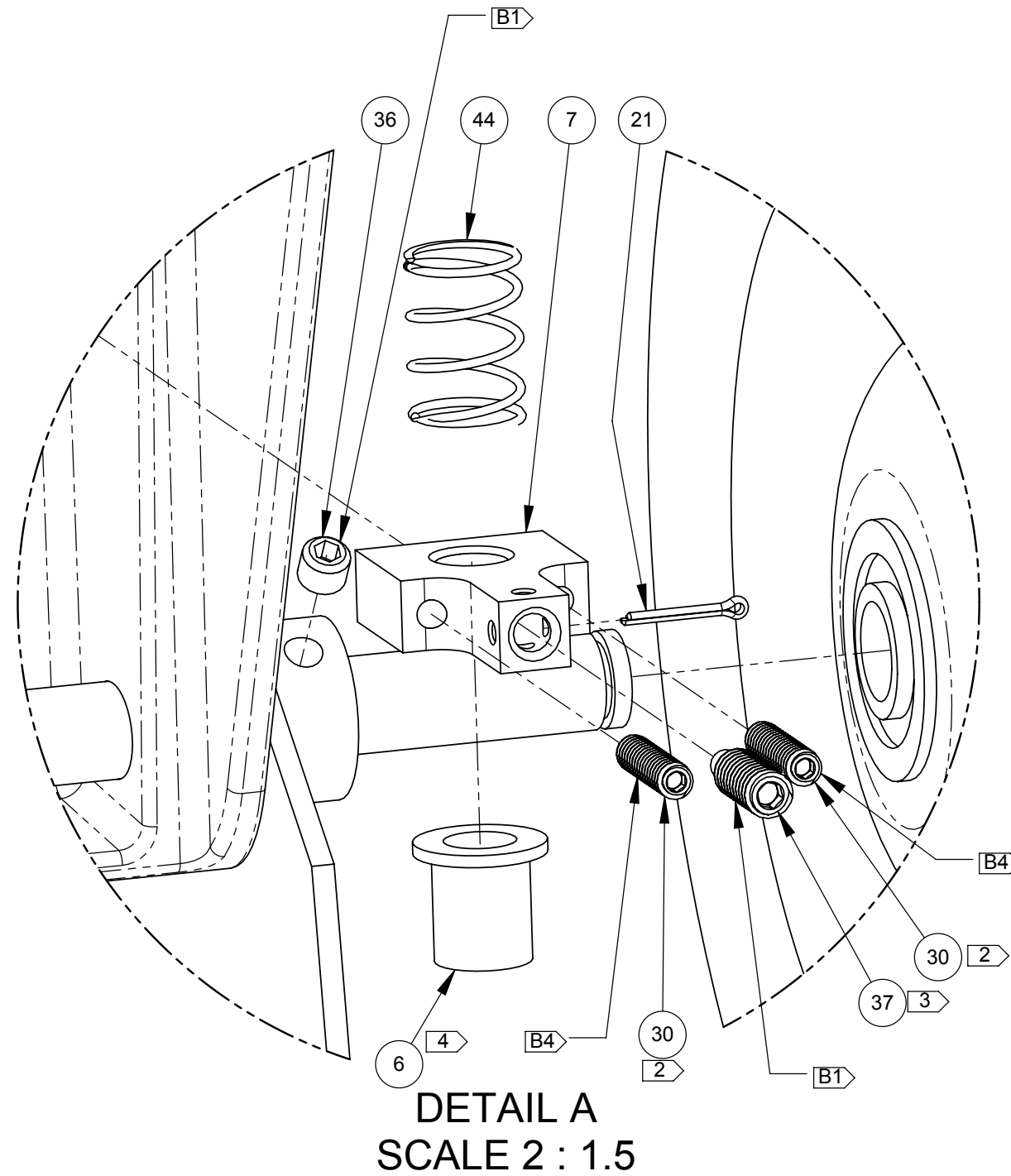
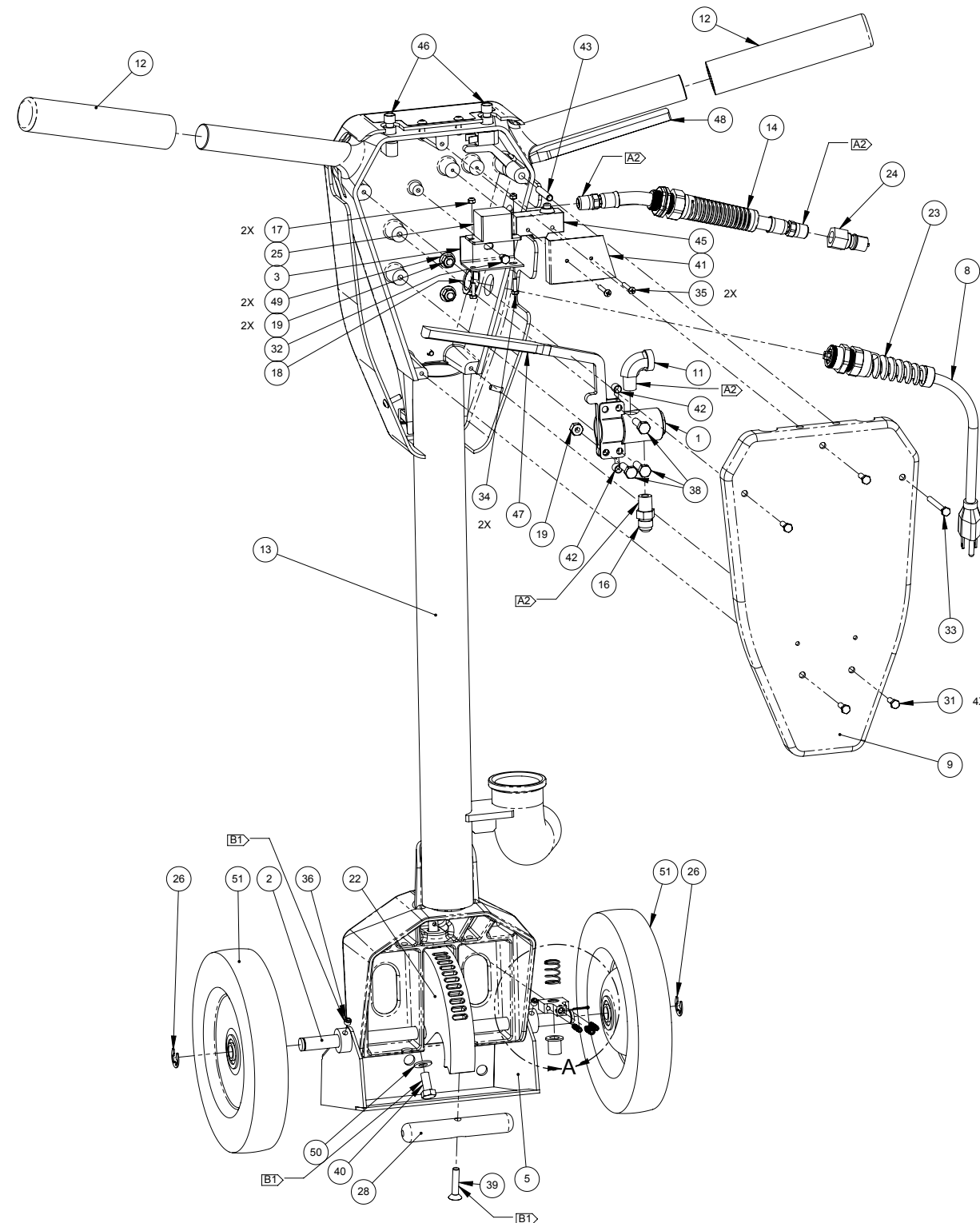


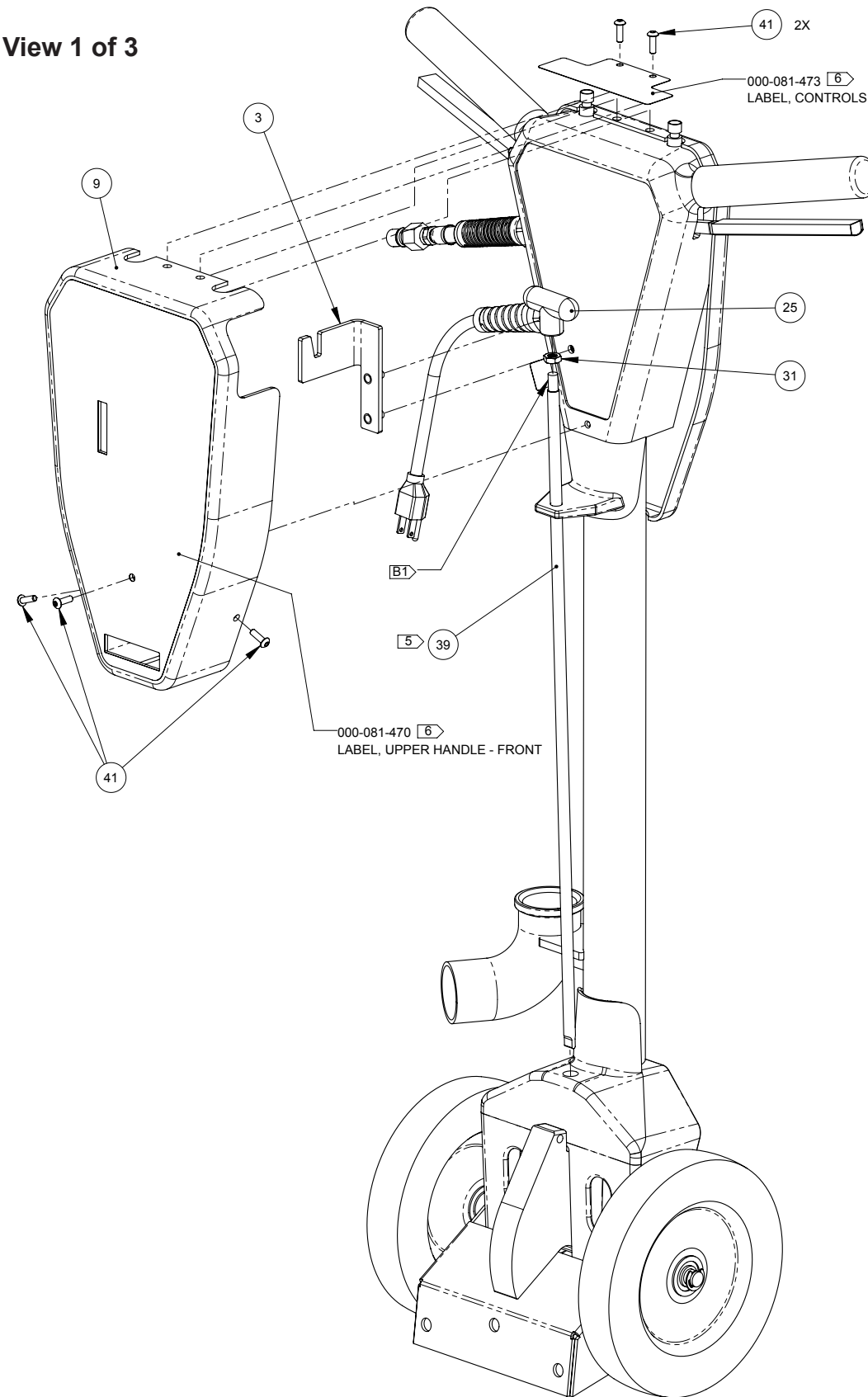
Figure 8-13. Upper and Lower Handle 110V/60Hz Assembly - View 3 of 3
604-051-105 Rev. C



Upper and Lower Handle 110V/60Hz Assembly Parts List

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	000-169-047	ASSEMBLY, VALVE, SOLUTION - S. STEEL	2	27	000-141-052	ROD, HANDLE ADJUSTING	1
2	000-141-004	AXLE, WHEEL - RX	1	28	000-141-056	ROD, LIFTING HANDLE - COATED - RX-CD 2017	1
3	000-015-190	BRACKET, AC RELAY - FABRICATED	2	29	000-143-128	SCREW, #10-24UNC X 0.625" LG. BUTTON HEAD	1
4	000-015-1330	BRACKET, CREVIS TOOL MOUNTING - COATED	1	30	000-143-734	SCREW, #10-24UNC X 3/4" LG. SET BRASS TIP	1
5	000-015-1327	BRACKET, HANDLE TO BASE - RX-CD 2017 - COATED	1	31	000-143-736	SCREW, #10-24UNC X 5/8" LG. HEX HEAD S/S	1
6	000-020-077	BUSHING, 1/2" OD X 5/8" LG. BRONZE FLANGE	2	32	000-143-166	SCREW, #10-24UNC x 0.375" LG. HEX HEAD	1
7	000-020-076	COLLAR, ROD LOCKING - RX20	1	33	000-143-738	SCREW, #10-24UNC x 2.00" LG. HEX HEAD S/S	3
8	000-178-046	CORD, POWER 14/3 GRAY x 31" W/ MALE	1	34	000-143-575	SCREW, #6-32UNC x 0.50" LG. HEX HEAD	1
9	000-041-896	COVER, HANDLE BACK	1	35	000-143-048	SCREW, #6-32UNC x 1.00" LG. PAN HEAD PHILLIPS	2
10	000-041-898	COVER, HANDLE FRONT	2	36	000-143-737	SCREW, 1/4"-20UNC X 1/4" SET STEEL	1
11	000-052-691	ELBOW, 1/4" NPT STREET S/S	1	37	000-143-735	SCREW, 1/4"-20UNC X 3/4" LG. DOG POINT SET	1
12	000-061-004	GRIP, FOAM - HANDLE	1	38	000-143-002	SCREW, 1/4"-20UNC x 1.00" LG. HEX HEAD	1
13	000-061-199	HANDLE, 110V - COATED E-13	1	39	000-143-740	SCREW, 1/4"-20UNC x 1.25" LG. FLAT HEAD SOCKET	1
14	000-068-1085	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) x 9" LG. S/S	3	40	000-143-012	SCREW, 5/16"-18UNC x 3/4" LG.	2
15	000-061-201	KNOB, RX PULL HANDLE	1	41	000-108-014	SHIELD, MICRO SWITCH	1
16	000-052-506	NIPPLE, 1/4" MPT X 9/16"	2	42	000-154-001	SPACER, 1/4" x 5/16" - S/S SOLUTION VALVE	1
17	000-094-063	NUT, #6-32UNC HEX NYLOCK	2	43	000-154-223	SPACER, TRIGGER PIVOT	1
18	000-094-036	NUT, 1/2" NPT PIPE PLASTIC	2	44	000-155-107	SPRING, 0.60" OD X 7/8" LG COMPRESSION	1
19	000-094-009	NUT, 1/4"-20UNC NYLOCK	1	45	000-157-032	SWITCH, MICRO - RX	1
20	000-094-134	NUT, 5/16"-18UNC JAM S/S	1	46	000-157-169	SWITCH, MOMENTARY P26	1
21	000-103-021	PIN, 1/16" x 1/2" LG. COTTER S/S	4	47	000-167-041	TRIGGER, HANDLE - LEFT HAND	1
22	000-105-764	PLATE, HANDLE ADJUSTING	2	48	000-167-042	TRIGGER, HANDLE - RIGHT HAND	1
23	000-108-012	PROTECTOR, POWER CORD RELIEF	5	49	000-174-003	WASHER, 1/4" FLAT S/S	1
24	000-052-516	QUICK CONNECT, 440 MALE W/ VITON STD	1	50	000-174-049	WASHER, 5/16" FLAT	1
25	000-157-149	RELAY, AC RELAY 120V	1	51	000-177-034	WHEEL, 8"	1
26	000-139-009	RING, E-CLIP x 1/2"	2				

Figure 8-14. Upper and Lower Handle 115V/60Hz CSA Assembly - View 1 of 3
604-051-114 Rev. A



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Figure 8-15. Upper and Lower Handle 115V/60Hz CSA Assembly - View 2 of 3
604-051-114 Rev. A

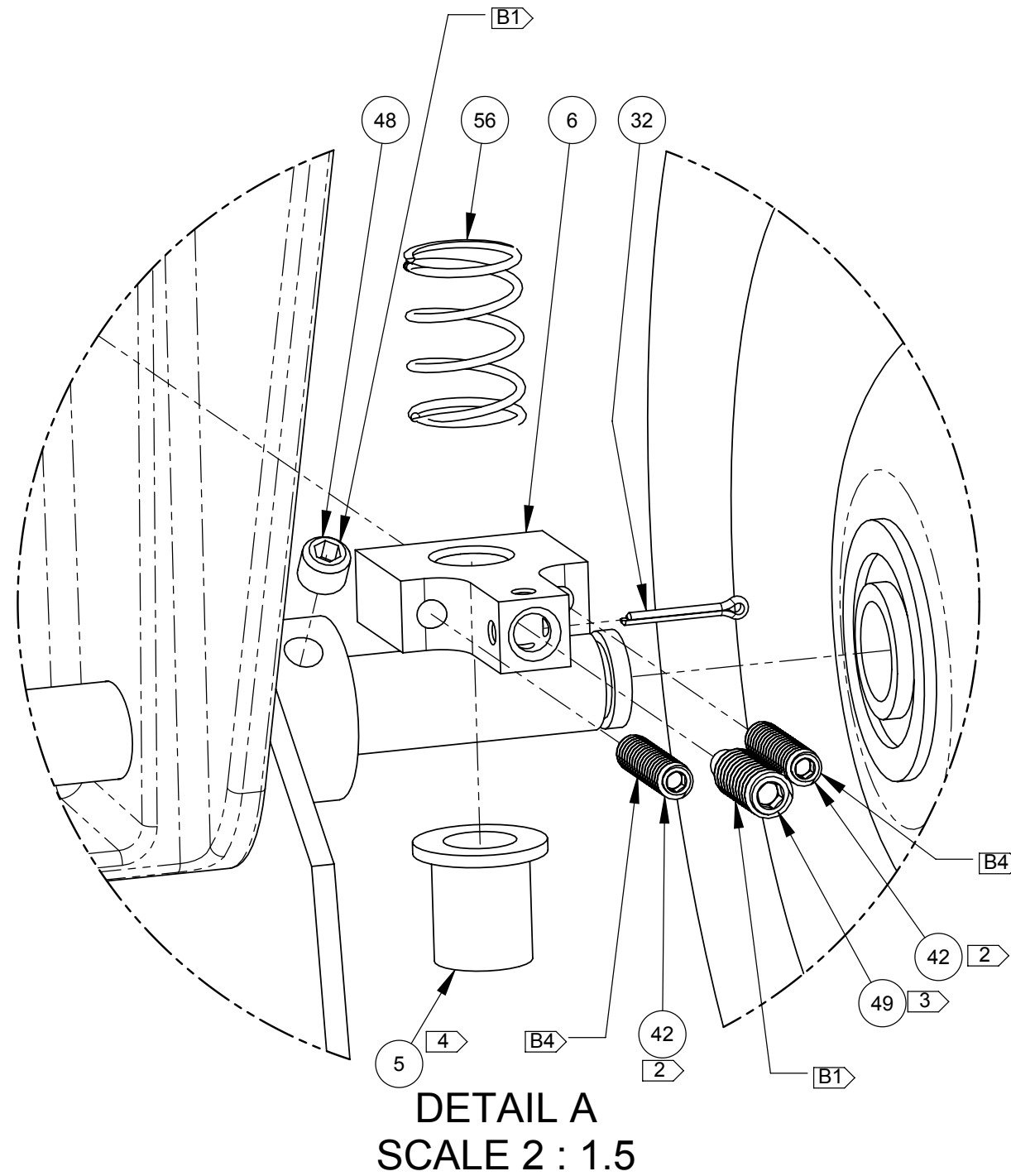
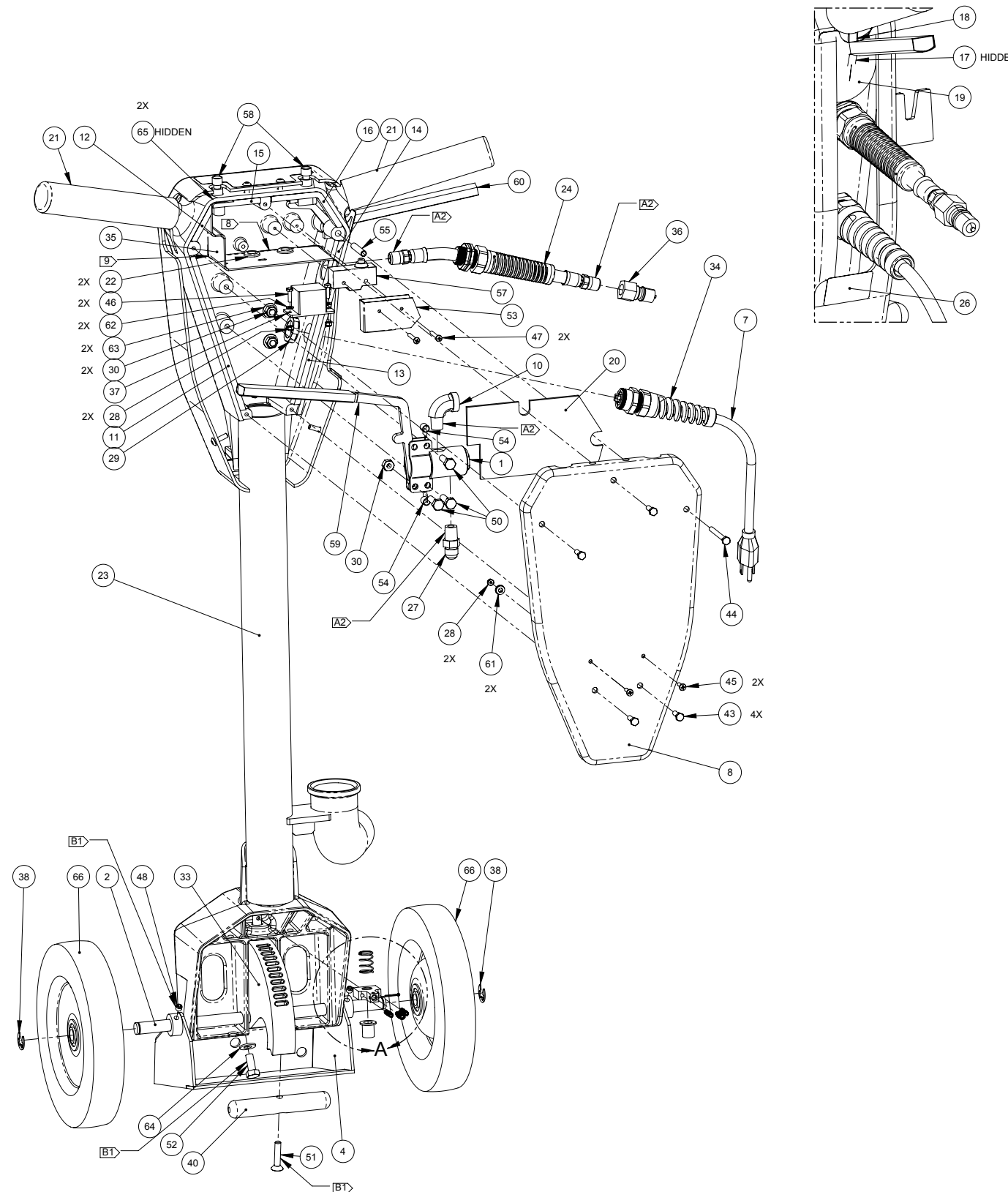


Figure 8-16. Upper and Lower Handle 115V/60Hz CSA Assembly - View 3 of 3
604-051-114 Rev. A



Upper and Lower Handle 115V/60Hz CSA Assembly Parts List

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	000-169-047	ASSEMBLY, VALVE, SOLUTION - S. STEEL	1	29	000-094-036	NUT, 1/2" NPT PIPE PLASTIC	1
2	000-141-004	AXLE, WHEEL - RX	1	30	000-094-009	NUT, 1/4"-20UNC NYLOCK	3
3	000-015-1330	BRACKET, CREVIS TOOL MOUNTING - COATED	1	31	000-094-134	NUT, 5/16"-18UNC JAM S/S	1
4	000-015-1327	BRACKET, HANDLE TO BASE - COATED	1	32	000-103-021	PIN, 1/16" x 1/2" LG. COTTER S/S	1
5	000-020-077	BUSHING, 1/2" OD X 5/8" LG. BRONZE FLANGE	1	33	000-105-764	PLATE, HANDLE ADJUSTING	1
6	000-020-076	COLLAR, ROD LOCKING - RX20	1	34	000-108-012	PROTECTOR, POWER CORD RELIEF	1
7	000-178-046	CORD, POWER 14/3 GRAY x 31" W/ MALE	1	35	000-108-228	PROTECTOR, SWITCH - CSA/CE	1
8	000-041-896	COVER, HANDLE BACK	1	36	000-052-516	QUICK CONNECT, 440 MALE W/ VITON STD	1
9	000-041-898	COVER, HANDLE FRONT	1	37	000-157-149	RELAY, AC RELAY 120V	1
10	000-052-691	ELBOW, 1/4" NPT STREET S/S	1	38	000-139-009	RING, E-CLIP x 1/2"	2
11	000-057-263	GASKET, REAR COVER LEFT LOWER	1	39	000-141-052	ROD, HANDLE ADJUSTING	1
12	000-057-264	GASKET, REAR COVER LEFT UPPER	1	40	000-141-056	ROD, LIFTING HANDLE - COATED	1
13	000-057-268	GASKET, REAR COVER RIGHT LOWER	1	41	000-143-128	SCREW, #10-24UNC X 0.625" LG. BUTTON HEAD	5
14	000-057-267	GASKET, REAR COVER RIGHT UPPER	1	42	000-143-734	SCREW, #10-24UNC X 3/4" LG. SET BRASS TIP	2
15	000-057-265	GASKET, REAR COVER TOP LEFT	1	43	000-143-736	SCREW, #10-24UNC X 5/8" LG. HEX HEAD S/S	4
16	000-057-266	GASKET, REAR COVER TOP RIGHT	1	44	000-143-738	SCREW, #10-24UNC x 2.00" LG. HEX HEAD S/S	1
17	000-057-261	GASKET, TRIGGER - LOWER	1	45	000-143-539	SCREW, #6-32UNC x 0.50" LG. BUTTON HEAD	2
18	000-057-262	GASKET, TRIGGER - UPPER	1	46	000-143-575	SCREW, #6-32UNC x 0.50" LG. HEX HEAD	2
19	000-057-269	GASKET, TRIGGER EXTERNAL	1	47	000-143-048	SCREW, #6-32UNC x 1.00" LG. PAN HEAD PHILLIPS	2
20	000-057-259	GASKET, UPPER HANDLE - RX20 CSA/CE	1	48	000-143-737	SCREW, 1/4"-20UNC X 1/4" SET STEEL	2
21	000-061-004	GRIP, FOAM - HANDLE	2	49	000-143-735	SCREW, 1/4"-20UNC X 3/4" LG. DOG POINT SET	1
22	000-060-021	GROMMET, 3/8" ID X 1/16" GROOVE	2	50	000-143-002	SCREW, 1/4"-20UNC x 1.00" LG. HEX HEAD	3
23	000-061-199	HANDLE, 110V - COATED E-13	1	51	000-143-740	SCREW, 1/4"-20UNC x 1.25" LG. FLAT HEAD SOCKET	1
24	000-068-1085	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) x 9" LG. S/S	1	52	000-143-012	SCREW, 5/16"-18UNC x 3/4" LG.	1
25	000-061-201	KNOB, RX PULL HANDLE	1	53	000-108-014	SHIELD, MICRO SWITCH	1
26	000-081-497	LABEL, HOT INCOMING SOLUTION	1	54	000-154-001	SPACER, 1/4" x 5/16" - S/S SOLUTION VALVE	2
27	000-052-506	NIPPLE, 1/4" MPT X 9/16"	1	55	000-154-223	SPACER, TRIGGER PIVOT	1
28	000-094-063	NUT, #6-32UNC HEX NYLOCK	4	56	000-155-107	SPRING, 0.60" OD X 7/8" LG COMPRESSION	1

Upper and Lower Handle 115V/60Hz CSA Assembly Parts List

Item	Part Number	Description	Qty
57	000-157-032	SWITCH, MICRO - RX	1
58	000-157-169	SWITCH, MOMENTARY P26	2
59	000-167-043	TRIGGER, LEFT - INSULATED	1
60	000-167-044	TRIGGER, RIGHT - INSULATED	1
61	000-174-036	WASHER, #10 FLAT RUBBER BACKED	2

Item	Part Number	Description	Qty
62	000-174-045	WASHER, #6 S/S FLAT	2
63	000-174-003	WASHER, 1/4" FLAT S/S	2
64	000-174-049	WASHER, 5/16" FLAT	1
65	000-174-046	WASHER, SWITCH LOCK	2
66	000-177-034	WHEEL, 8"	2

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Figure 8-17. Upper and Lower Handle 220V/60Hz Assembly - View 1 of 3
604-051-205 Rev. B

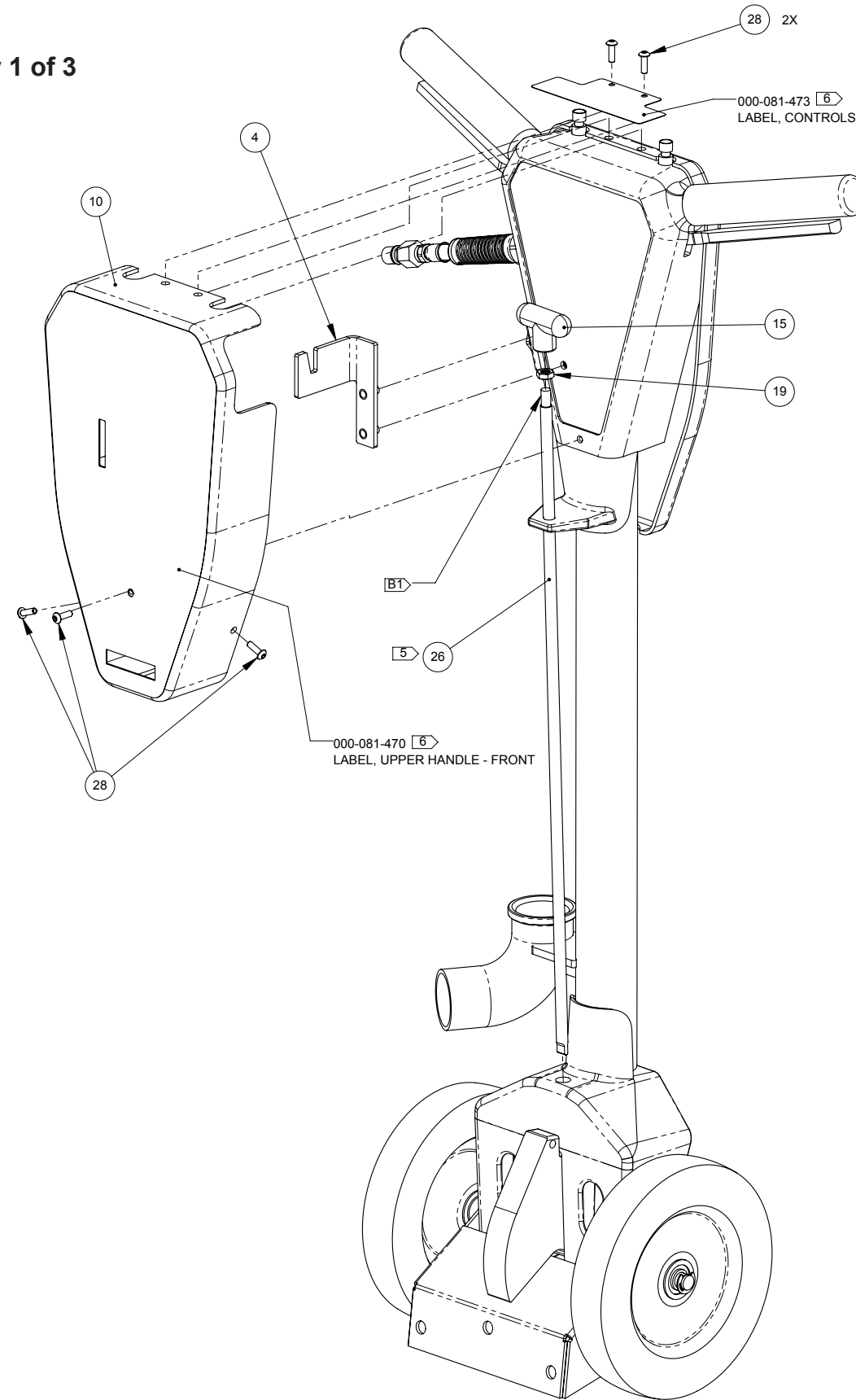
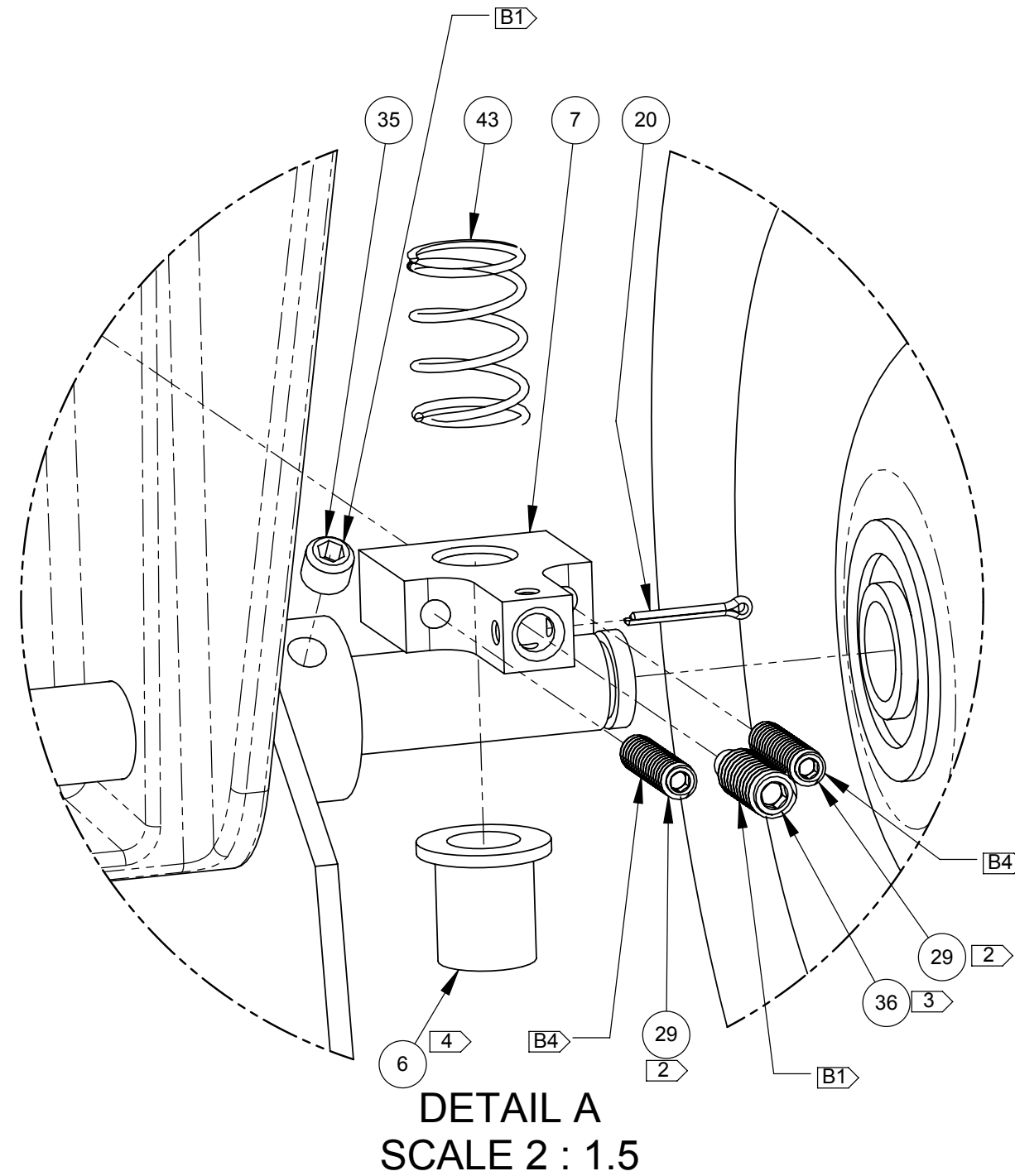
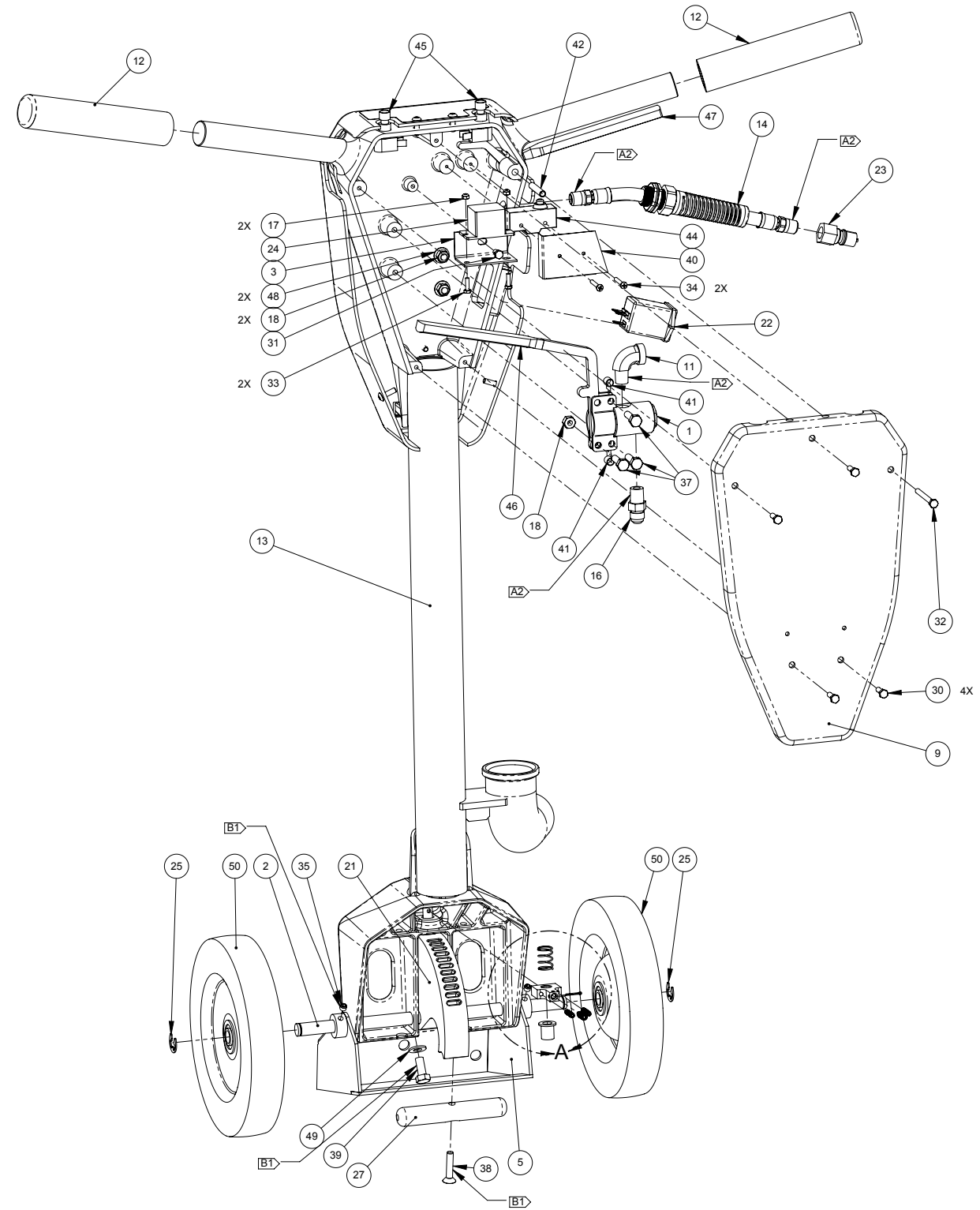


Figure 8-18. Upper and Lower Handle 220V/60Hz Assembly - View 2 of 3
604-051-205 Rev. B



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Figure 8-19. Upper and Lower Handle 220V/60Hz Assembly - View 3 of 3
604-051-205 Rev. B



Upper and Lower Handle 220V/60Hz Assembly Parts List

Item	Part Number	Description	Qty
1	000-169-047	ASSEMBLY, VALVE, SOLUTION - S. STEEL	1
2	000-141-004	AXLE, WHEEL - RX	1
3	000-015-190	BRACKET, AC RELAY - FABRICATED	1
4	000-015-1330	BRACKET, CREVIS TOOL MOUNTING - COATED	1
5	000-015-1327	BRACKET, HANDLE TO BASE - RX-CD - COATED	1
6	000-020-077	BUSHING, 1/2" OD X 5/8" LG. BRONZE FLANGE	1
7	000-020-076	COLLAR, ROD LOCKING - RX20	1
8	000-178-054	CORD, 50' W/ MALE/FEMALE IEC ENDS 220V	1
9	000-041-896	COVER, HANDLE BACK	1
10	000-041-898	COVER, HANDLE FRONT	1
11	000-052-691	ELBOW, 1/4" NPT STREET S/S	1
12	000-061-004	GRIP, FOAM - HANDLE	2
13	000-061-204	HANDLE, 220V - COATED E-13	1
14	000-068-1085	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) x 9" LG. S/S	1
15	000-061-201	KNOB, RX PULL HANDLE	1
16	000-052-506	NIPPLE, 1/4" MPT X 9/16"	1
17	000-094-063	NUT, #6-32UNC HEX NYLOCK	2
18	000-094-009	NUT, 1/4"-20UNC NYLOCK	3
19	000-094-134	NUT, 5/16"-18UNC JAM S/S	1
20	000-103-021	PIN, 1/16" x 1/2" LG. COTTER S/S	1
21	000-105-764	PLATE, HANDLE ADJUSTING	1
22	000-106-109	PLUG, 220V IEC W/FUSE - RECEPTACLE	1
23	000-052-516	QUICK CONNECT, 440 MALE W/ VITON STD	1
24	000-157-170	RELAY, 220V 40A	1
25	000-139-009	RING, E-CLIP x 1/2"	2

Item	Part Number	Description	Qty
26	000-141-052	ROD, HANDLE ADJUSTING	1
27	000-141-056	ROD, LIFTING HANDLE - COATED - RX-CD	1
28	000-143-128	SCREW, #10-24UNC X 0.625" LG. BUTTON HEAD	5
29	000-143-734	SCREW, #10-24UNC X 3/4" LG. SET BRASS TIP	2
30	000-143-736	SCREW, #10-24UNC X 5/8" LG. HEX HEAD S/S	4
31	000-143-166	SCREW, #10-24UNC x 0.375" LG. HEX HEAD	1
32	000-143-738	SCREW, #10-24UNC x 2.00" LG. HEX HEAD S/S	1
33	000-143-575	SCREW, #6-32UNC x 0.50" LG. HEX HEAD	2
34	000-143-048	SCREW, #6-32UNC x 1.00" LG. PAN HEAD PHILLIPS	2
35	000-143-737	SCREW, 1/4"-20UNC X 1/4" SET STEEL	2
36	000-143-735	SCREW, 1/4"-20UNC X 3/4" LG. DOG POINT SET	1
37	000-143-002	SCREW, 1/4"-20UNC x 1.00" LG. HEX HEAD	3
38	000-143-740	SCREW, 1/4"-20UNC x 1.25" LG. FLAT HEAD SOCKET	1
39	000-143-012	SCREW, 5/16"-18UNC x 3/4" LG.	1
40	000-108-014	SHIELD, MICRO SWITCH	1
41	000-154-001	SPACER, 1/4" x 5/16" - S/S SOLUTION VALVE	2
42	000-154-223	SPACER, TRIGGER PIVOT	1
43	000-155-107	SPRING, 0.60" OD X 7/8" LG COMPRESSION	1
44	000-157-032	SWITCH, MICRO - RX	1
45	000-157-169	SWITCH, MOMENTARY P26	2
46	000-167-041	TRIGGER, HANDLE - LEFT HAND	1
47	000-167-042	TRIGGER, HANDLE - RIGHT HAND	1
48	000-174-003	WASHER, 1/4" FLAT S/S	2
49	000-174-049	WASHER, 5/16" FLAT	1
50	000-177-034	WHEEL, 8"	2

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Figure 8-20. Upper and Lower Handle 230V/50Hz CE Assembly - View 1 of 3
604-051-214 Rev. A

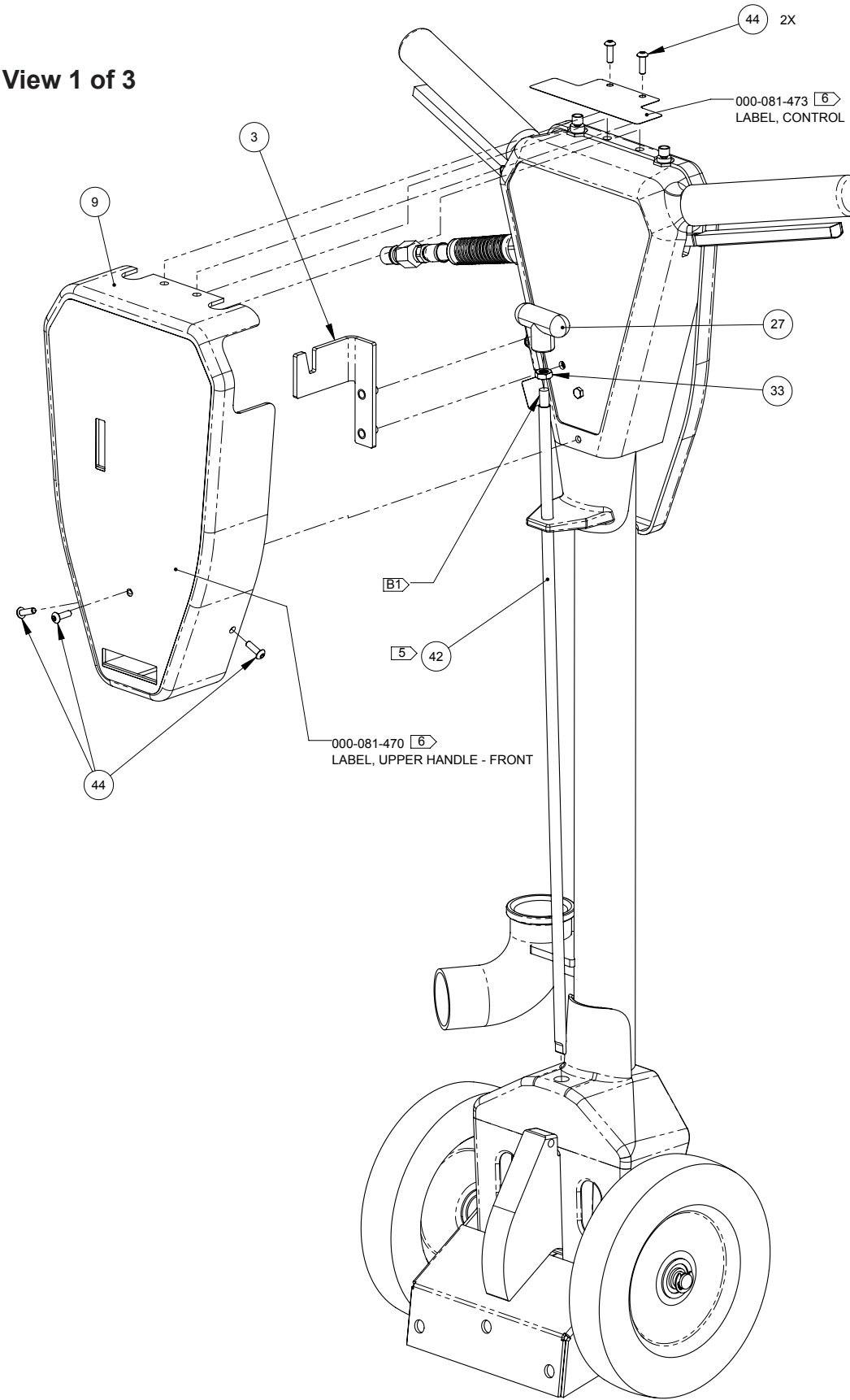
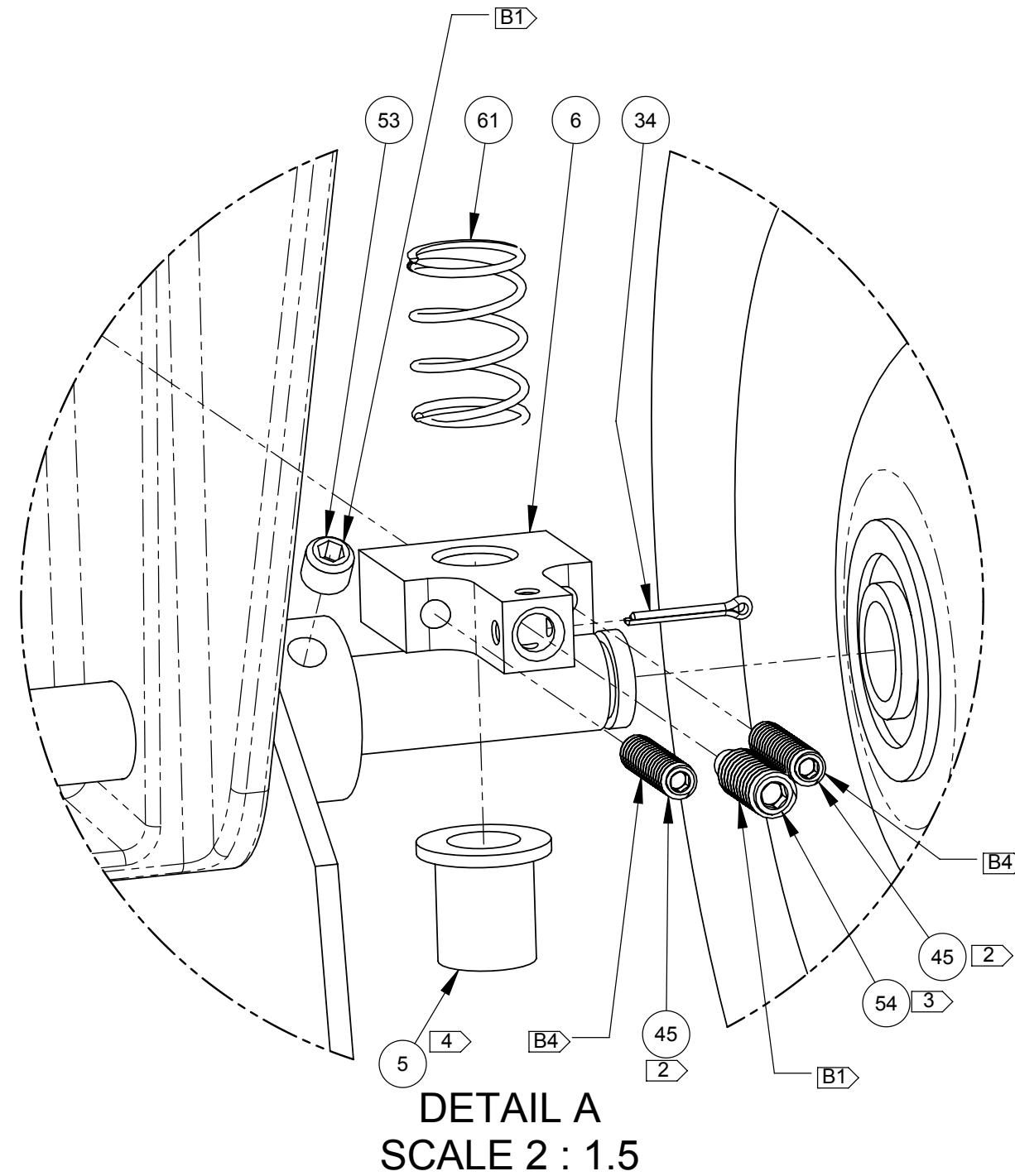
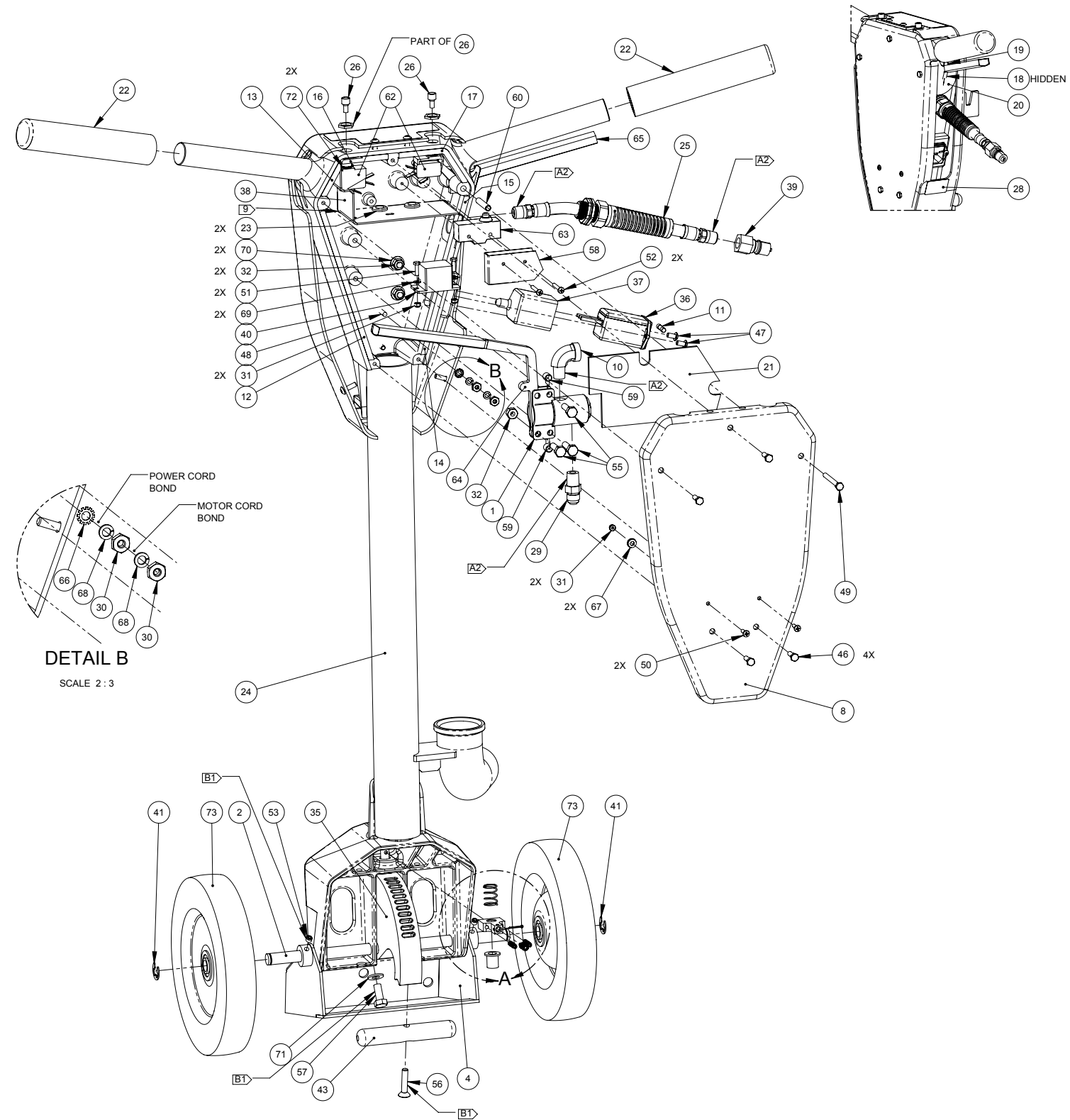


Figure 8-21. Upper and Lower Handle 230V/50Hz CE Assembly - View 2 of 3
604-051-214 Rev. A



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Figure 8-22. Upper and Lower Handle 230V/50Hz CE Assembly - View 3 of 3
604-051-214 Rev. A



Upper and Lower Handle 230V/50Hz CE Assembly Parts List

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	000-169-047	ASSEMBLY, VALVE, SOLUTION - S. STEEL	1	29	000-052-506	NIPPLE, 1/4" MPT X 9/16"	1
2	000-141-004	AXLE, WHEEL - RX	1	30	000-094-027	NUT, #10-24UNC HEX	2
3	000-015-1330	BRACKET, CREVIS TOOL MOUNTING - COATED	1	31	000-094-063	NUT, #6-32UNC HEX NYLOCK	4
4	000-015-1327	BRACKET, HANDLE TO BASE - COATED	1	32	000-094-009	NUT, 1/4"-20UNC NYLOCK	3
5	000-020-077	BUSHING, 1/2" OD X 5/8" LG. BRONZE FLANGE	1	33	000-094-134	NUT, 5/16"-18UNC JAM S/S	1
6	000-020-076	COLLAR, ROD LOCKING - RX20	1	34	000-103-021	PIN, 1/16" x 1/2" LG. COTTER S/S	1
7	000-178-054	CORD, 50' W/ MALE/FEMALE IEC ENDS 220V	1	35	000-105-764	PLATE, HANDLE ADJUSTING	1
8	000-041-896	COVER, HANDLE BACK	1	36	000-106-183	PLUG, 220V FUSE/LEADS RECP CSA	1
9	000-041-898	COVER, HANDLE FRONT	1	37	000-108-229	PROTECTOR, PLUG 220V RECEPTACLE	1
10	000-052-691	ELBOW, 1/4" NPT STREET S/S	1	38	000-108-228	PROTECTOR, SWITCH - CSA/CE	1
11	000-056-009	FUSE, 6.3 AMP 5MM X 20MM	1	39	000-052-516	QUICK CONNECT, 440 MALE W/ VITON STD	1
12	000-057-263	GASKET, REAR COVER LEFT LOWER	1	40	000-157-170	RELAY, 220V 40A	1
13	000-057-264	GASKET, REAR COVER LEFT UPPER	1	41	000-139-009	RING, E-CLIP x 1/2"	2
14	000-057-268	GASKET, REAR COVER RIGHT LOWER	1	42	000-141-052	ROD, HANDLE ADJUSTING	1
15	000-057-267	GASKET, REAR COVER RIGHT UPPER	1	43	000-141-056	ROD, LIFTING HANDLE - COATED	1
16	000-057-265	GASKET, REAR COVER TOP LEFT	1	44	000-143-128	SCREW, #10-24UNC X 0.625" LG. BUTTON HEAD	5
17	000-057-266	GASKET, REAR COVER TOP RIGHT	1	45	000-143-734	SCREW, #10-24UNC X 3/4" LG. SET BRASS TIP	2
18	000-057-261	GASKET, TRIGGER - LOWER	1	46	000-143-736	SCREW, #10-24UNC X 5/8" LG. HEX HEAD S/S	4
19	000-057-262	GASKET, TRIGGER - UPPER	1	47	000-143-107	SCREW, #10-24UNC x 0.375" LG. BH SKT DRV GRD. 8	2
20	000-057-269	GASKET, TRIGGER EXTERNAL	1	48	000-143-132	SCREW, #10-24UNC x 0.75" LG. HEX HEAD	1
21	000-057-259	GASKET, UPPER HANDLE - RX20 CSA/CE	1	49	000-143-738	SCREW, #10-24UNC x 2.00" LG. HEX HEAD S/S	1
22	000-061-004	GRIP, FOAM - HANDLE	2	50	000-143-539	SCREW, #6-32UNC x 0.50" LG. BUTTON HEAD	2
23	000-060-021	GROMMET, 3/8" ID X 1/16" GROOVE	2	51	000-143-575	SCREW, #6-32UNC x 0.50" LG. HEX HEAD	2
24	000-061-204	HANDLE, 220V - COATED E-13	1	52	000-143-048	SCREW, #6-32UNC x 1.00" LG. PAN HEAD PHILLIPS	2
25	000-068-1085	HOSE ASSEMBLY, 5/16" PTFE (TEFLON) x 9" LG. S/S	1	53	000-143-737	SCREW, 1/4"-20UNC X 1/4" SET STEEL	2
26	000-061-119	KNOB, PUSH BUTTON	2	54	000-143-735	SCREW, 1/4"-20UNC X 3/4" LG. DOG POINT SET	1
27	000-061-201	KNOB, RX PULL HANDLE	1	55	000-143-002	SCREW, 1/4"-20UNC x 1.00" LG. HEX HEAD	3
28	000-081-497	LABEL, HOT INCOMING SOLUTION	1	56	000-143-740	SCREW, 1/4"-20UNC x 1.25" LG. FLAT HEAD SOCKET	1

Upper and Lower Handle 230V/50Hz CE Assembly Parts List

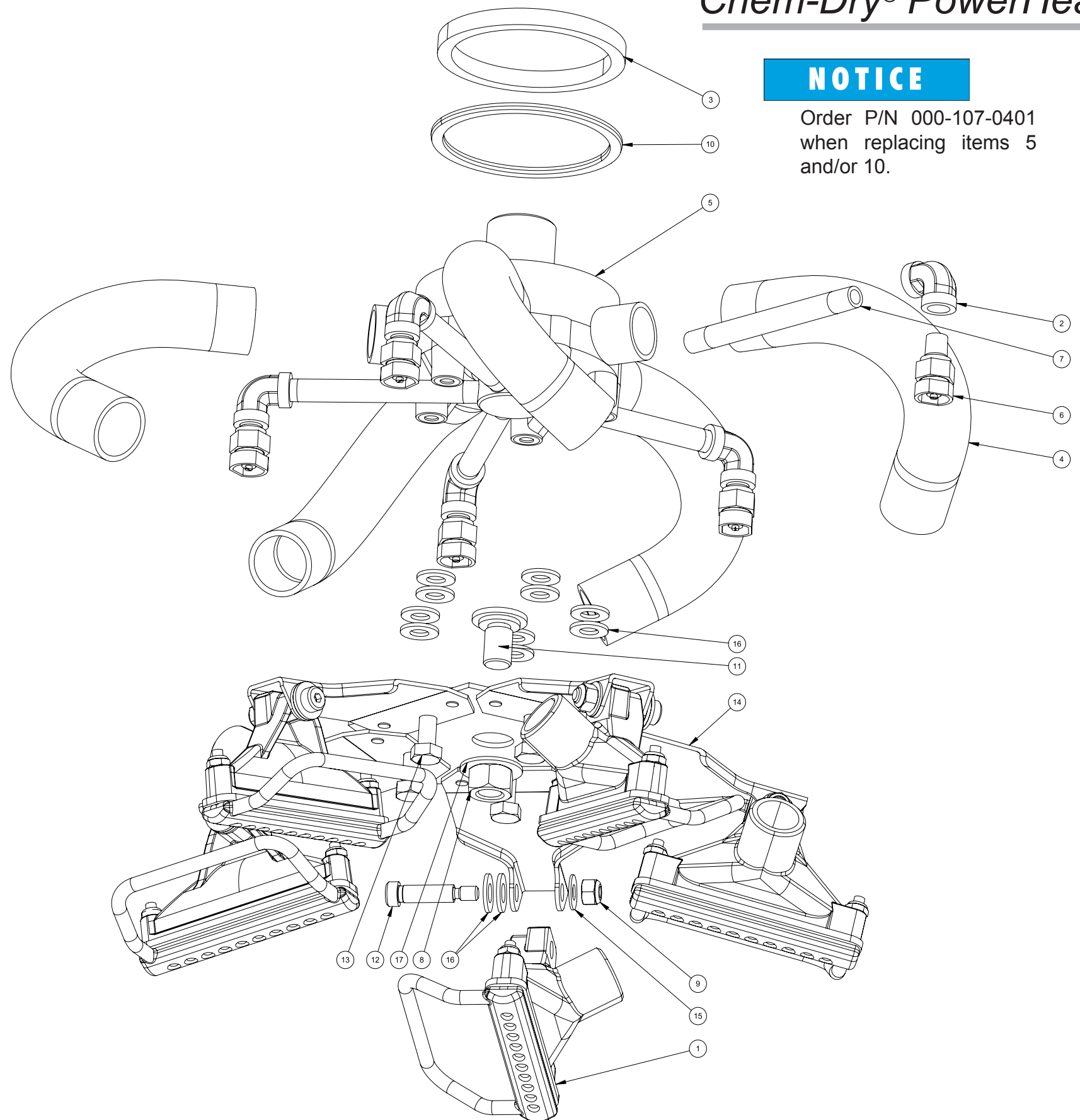
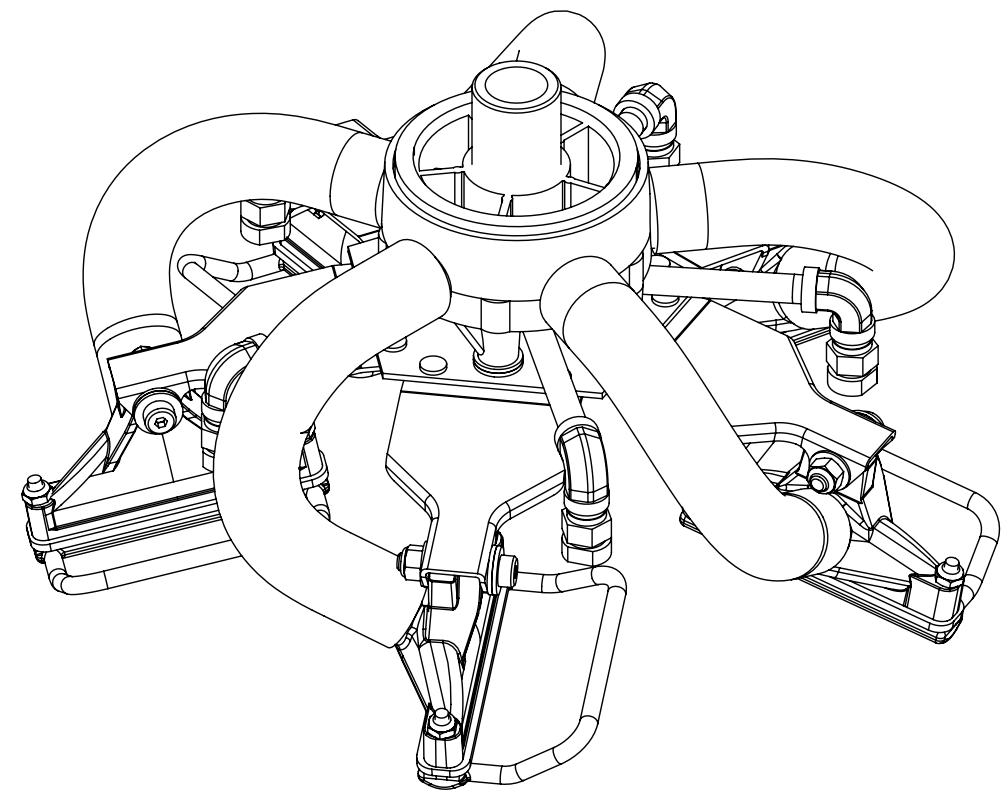
Item	Part Number	Description	Qty
57	000-143-012	SCREW, 5/16"-18UNC x 3/4" LG.	1
58	000-108-014	SHIELD, MICRO SWITCH	1
59	000-154-001	SPACER, 1/4" x 5/16" - S/S SOLUTION VALVE	2
60	000-154-223	SPACER, TRIGGER PIVOT	1
61	000-155-107	SPRING, 0.60" OD X 7/8" LG COMPRESSION	1
62	000-157-134	SWITCH, 220V MOMENTARY	2
63	000-157-032	SWITCH, MICRO - RX	1
64	000-167-043	TRIGGER, LEFT - INSULATED	1
65	000-167-044	TRIGGER, RIGHT - INSULATED	1

Item	Part Number	Description	Qty
66	000-174-015	WASHER, #10 EXTERNAL STAR	1
67	000-174-036	WASHER, #10 FLAT RUBBER BACKED	2
68	000-174-014	WASHER, #10 LOCK	2
69	000-174-045	WASHER, #6 S/S FLAT	2
70	000-174-003	WASHER, 1/4" FLAT S/S	2
71	000-174-049	WASHER, 5/16" FLAT	1
72	000-174-046	WASHER, SWITCH LOCK	2
73	000-177-034	WHEEL, 8"	2

Figure 8-23. Vacuum Head Assembly
604-053-004 Rev. B

NOTICE

Order P/N 000-107-0401
when replacing items 5
and/or 10.



Vacuum Head Assembly Parts List

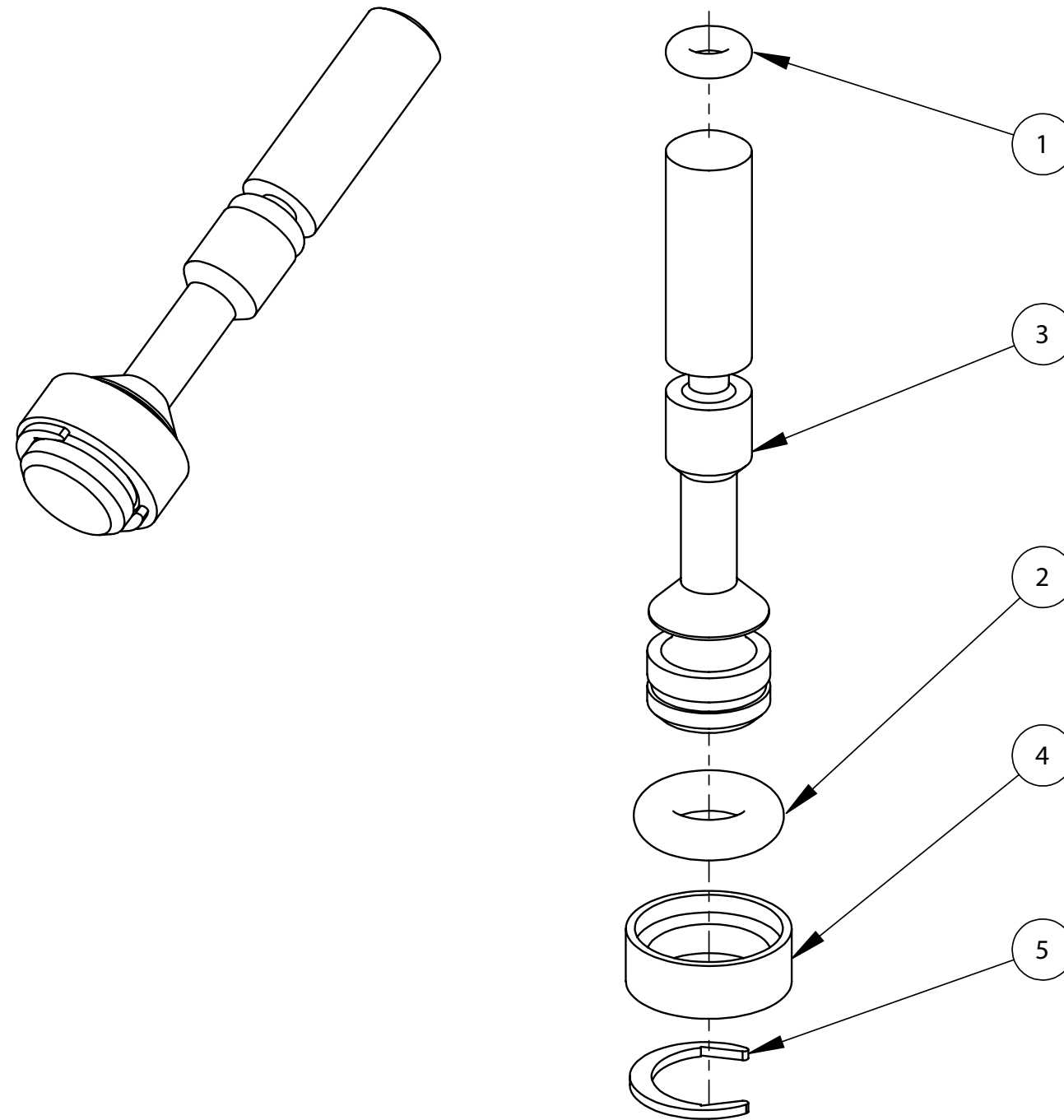
Item	Part Number	Description	Qty
1	000-064-022	Vacuum Shoe and Skid	5
2	000-052-513	Elbow, 1/8" F X F	5
3	000-057-047	Gasket, Felt	1
4	000-068-174	Hose, 1" Vacuum - Gray	5
5	000-107-040	Hub, Vacuum, Stainless, 5 Ports, Dual Lead Insert	1
6	000-076-079	Jet, Quick Release	5
7	000-052-515	Nipple, 1/8" NPT X 4" Lg.	5
8	000-094-019	Nut, 1/2"-13UNC Hex	1
9	000-094-009	Nut, 1/4"-20UNC Nylock	5

Item	Part Number	Description	Qty
10	000-139-001	Ring Plastic	1
11	000-143-045	Screw, 1/2" Modified Star Removal Bolt	1
12	000-143-162	Screw, 5/16" X 1" Lg. Stripper - 1/4"-20UNC	5
13	000-143-012	Screw, 5/16"-18UNC X 3/4" Lg.	5
14	000-107-089	Star, Assembly	1
15	000-174-003	Washer, 1/4" Flat	5
16	000-174-049	Washer, 5/16" Flat	20
17	000-174-006	Washer, 7/16" Flat	1

NOTICE

* Order P/N 000-107-0401 when replacing items 5 and/or 10.

Figure 8-24. Valve Stem Assembly
600-012-003 Rev. A

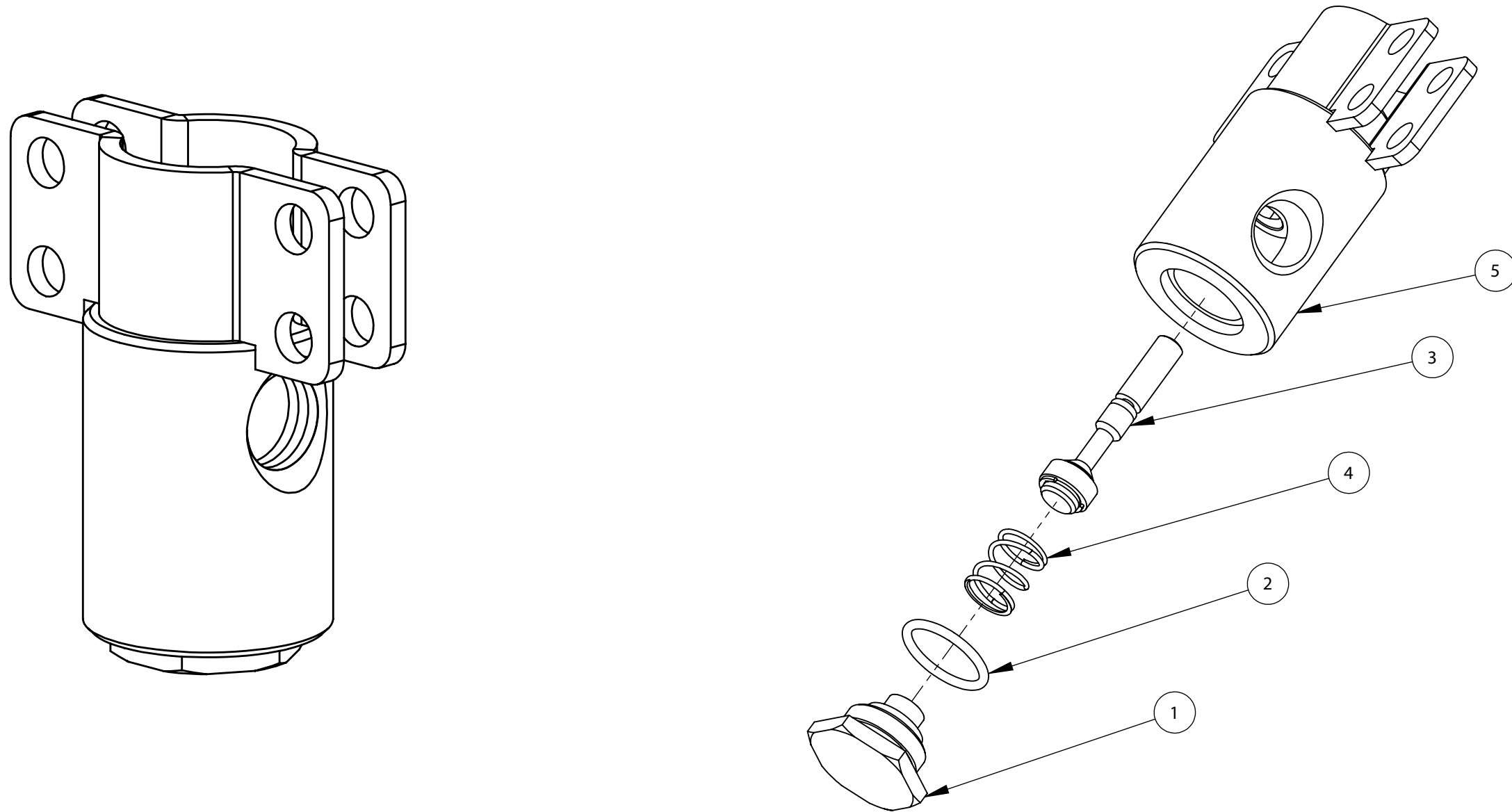


Valve Stem Assembly Parts List

Item	Part Number	Description	Qty
1	000-097-022	O-Ring, 3/32"X 1/16"	1
2	000-097-010	O-Ring, Valve Plunger- Large	1
3	000-107-129	Plunger, Solution Valve	1
4	000-139-024	Ring, Solution Valve Keeper - S/S	1
5	000-139-004	Ring, Solution Valve Stem - Snap Ring- S/S	1

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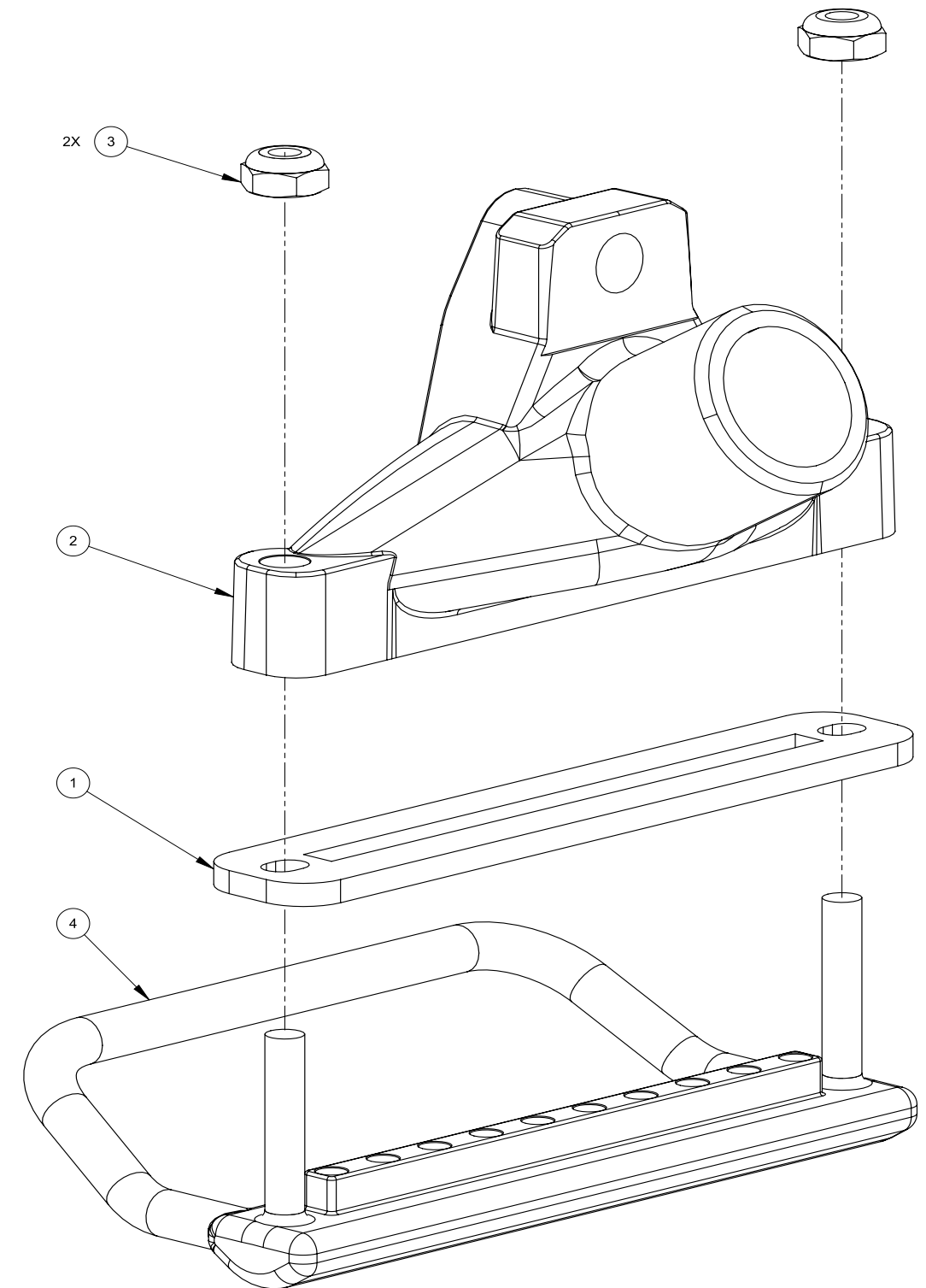
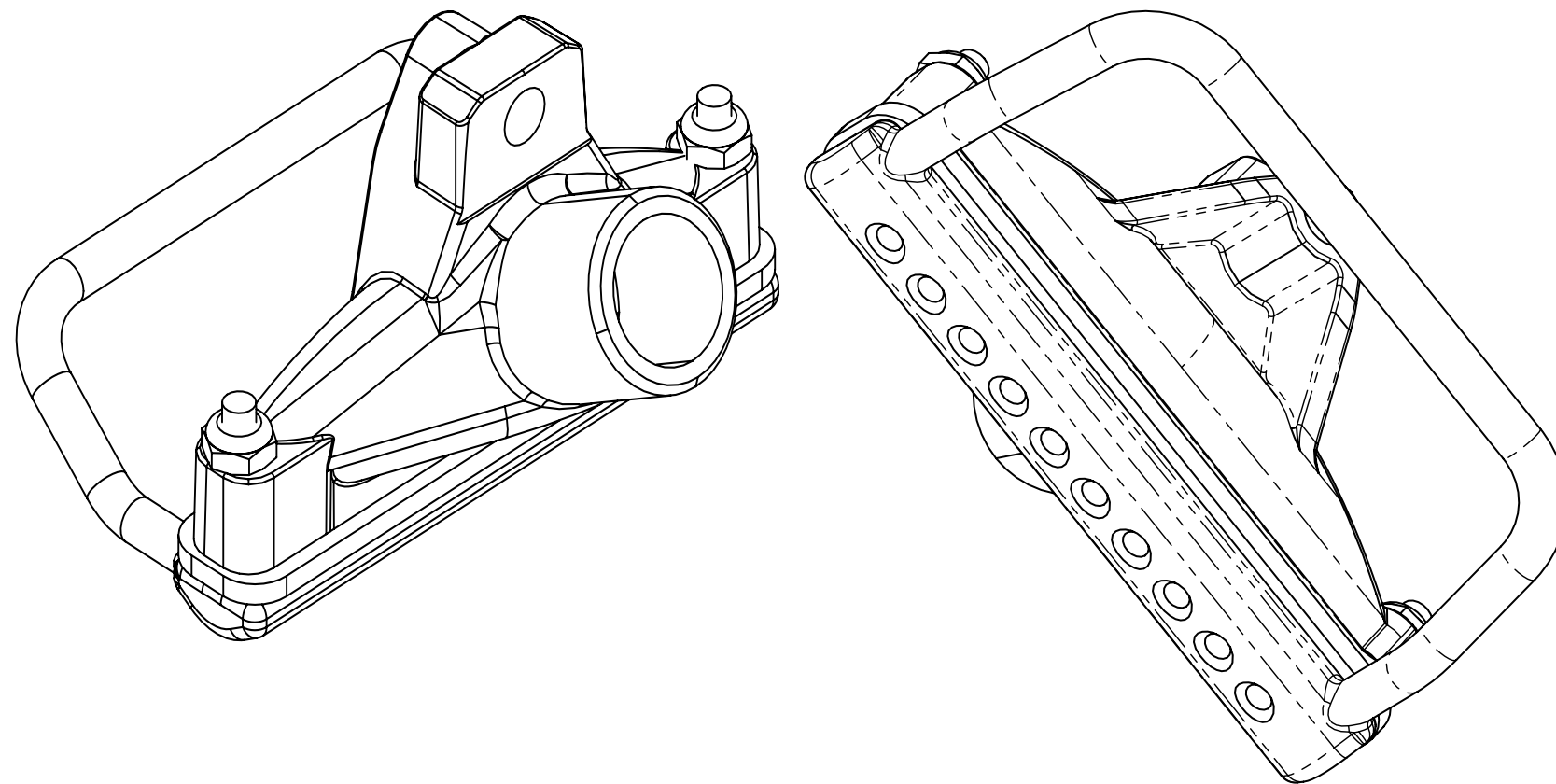
Figure 8-25. Solution Valve Assembly
000-169-047 Rev. C



Solution Valve Assembly Parts List

Item	Part Number	Description	Qty
1	000-027-026	Cap, Solution Valve - S/S	1
2	000-097-011	O-Ring, 5/8"X1/16" W	1
3	600-012-003	Assembly, Valve Stem - S/S	1
4	000-155-003	Spring, Solution Valve	1
5	600-012-001	Valve, Body - Welded	1

Figure 8-26. Vacuum Shoe and Skid Assembly
000-064-022 Rev. C

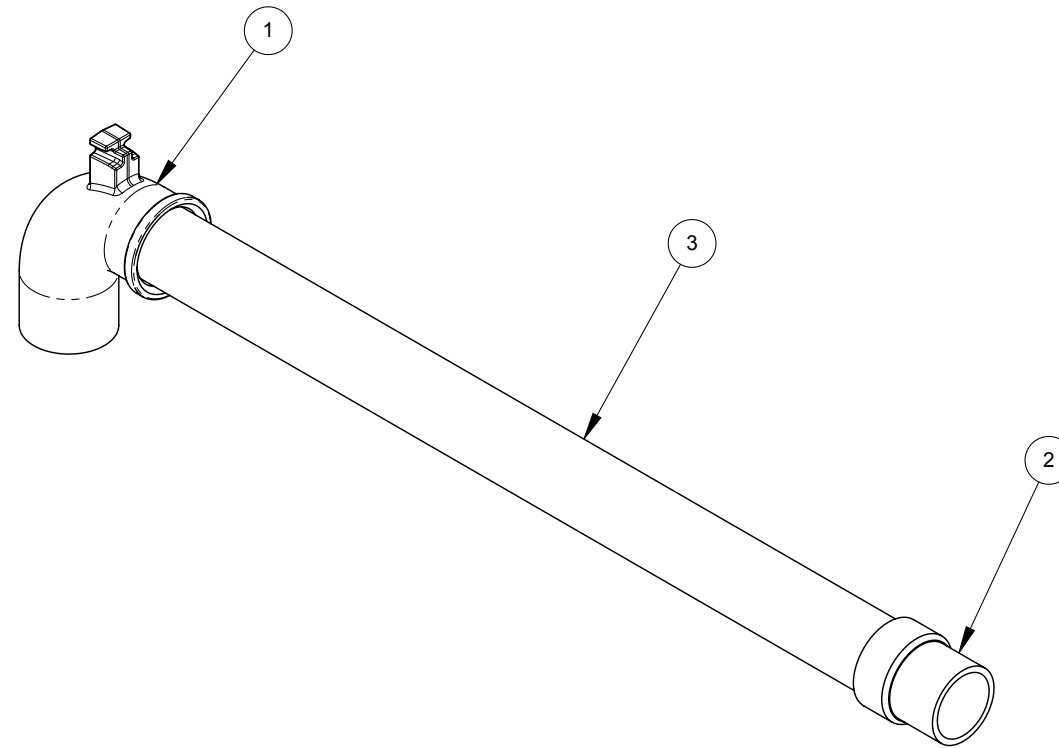


Vacuum Shoe and Skid Assembly Parts List

Item	Part Number	Description	Qty
1	000-057-048	Gasket, Vacuum Head	1
2	000-064-030	Head, Shoe, 4" Cast, One Piece	1
3	000-094-058	Nut, #10-32UNF Nylock	2
4	000-107-049-07	Skid, Vented	1

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Figure 8-27. Edging Tool Assembly
000-163-151 Rev. C



Edging Tool Assembly Parts List

Item	Part Number	Description	Qty
1	000-001-181	ADAPTER, EDGING - COATED	1
2	000-052-432	CUFF, 1-1/2" X 2-1/8	1
3	000-125-949	TUBE, EDGING TOOL - NO RELIEF	1

9 - Repair and Replacement

⚠ WARNING

Disconnect the POWERHEAD from its power source during repairs and replacements.

⚠ WARNING

The operator must be able to lift 80 lbs (37 Kg) in order to lift the unit.

CAUTION

Wear personal protective equipment such as safety glasses, cut resistant glove when handling sharp objects, chemical resistant gloves when handling oils and chemicals.

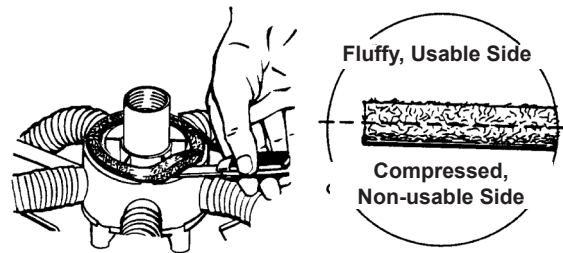


Figure 9-1. Carefully Pry Seal Up and Lift Out

FELT VACUUM SEAL

The felt vacuum seal plays an important part in the optimum performance of your Chem-Dry PowerHead. If the part is worn or unlubricated, it will not form a proper seal. Lack of a proper seal will impair the vacuuming capabilities of the unit and therefore leave behind more water in the carpet than is desirable.

To replace the vacuum seal:

1. First, remove the vacuum head assembly as previously described.
2. Using a pocket knife or similar tool, carefully pry the seal up and lift it out. If the seal appears worn or glazed so that it will not lubricate well, turn it over (see Figure 9-1). If that does not work, or if it is damaged, replace it with a new seal.
3. Chem-Dry recommends changing the felt seal after 10 hours of use. Replace it with a seal that has been pre-soaked in a quality 30 weight SAE motor oil .
4. Press the seal in place and saturate it with the motor oil. If a flattened seal will be re-used, place the used seal in an oil bath to rejuvenate it.

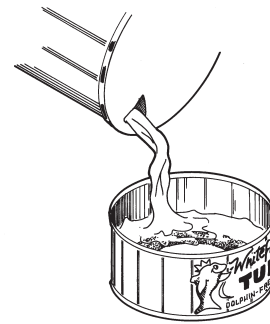


Figure 9-2. Use Can to Hold Oil for Seal

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NOTICE

For the seal's oil bath, use a small receptacle the size and shape of a tuna fish can (see Figure 9-2; a plastic container for this purpose is included in the Harris Research Service Kit).

HIGH PRESSURE VALVE ASSEMBLY

In the event that the valve assembly needs to be replaced, follow this procedure (see Figure 9-3).

1. Remove the 440 male quick connect (A) with a wrench.
2. Remove the five hex head screws (B) in the back plate on the handle and lift the back panel off.
3. Disconnect the stainless steel hose from the bottom of the valve assembly (C).
4. Remove the bolt (D) holding the trigger.
5. Remove the two bolts (E) holding the valve assembly in the handle.
6. The valve may now be rebuilt or replaced.

NOTICE

If the valve has been frozen, inspect it for leakage before re-installing the back plate.

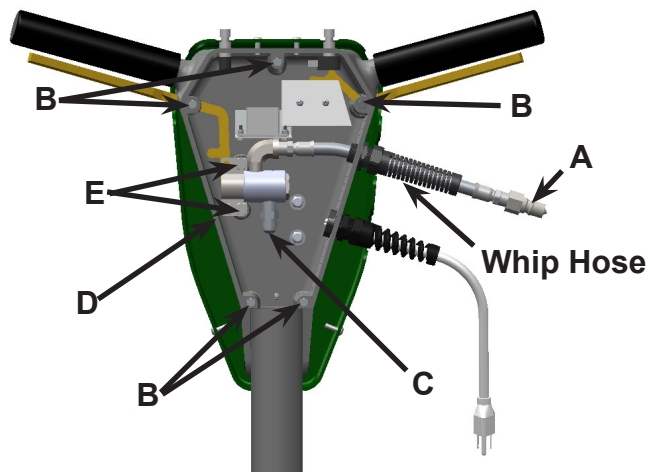


Figure 9-3. Valve Assembly Parts

Locking Mechanism (Bushing Replacement)

If the locking mechanism becomes loose, tighten it by following these simple steps:

1. Remove the cotter pin and dog point set screw from the lock collar. (see Figure 9-4)
2. Hold onto the lock collar and spring while sliding the pull rod out of the handle.

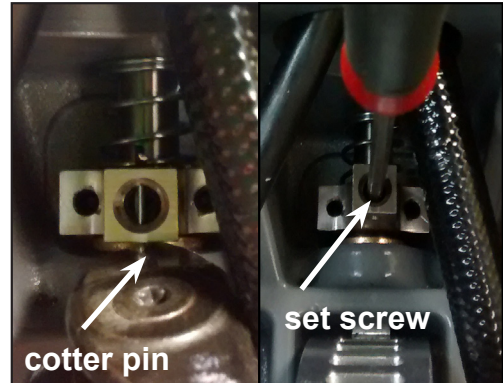


Figure 9-4. Remove cotter pin and remove dog point set screw

⚠ WARNING

THE SPRING, 0.60OD X 7/8”LG COMPRESSION (000-155-107) HAS STORED ENERGY FROM BEING COMPRESSED. USE EXTREME CAUTION WHEN REMOVING AND INSTALLING IT

3. Carefully remove the SPRING, 0.60OD X 7/8”LG COMPRESSION (000-155-107) and COLLAR, ROD LOCKING – RX-CD 2017 (000-020-076) from their cavity in the lower handle casting.
4. Using a flat blade screw driver between the flange and the casting, remove the bushing.
5. Install a replacement bushing by carefully aligning the bushing in the hole and slowly pressing it in using a flat washer to protect the flange and a pry-bar to push the bushing into place or by using a 5/16” bolt, nut, and flat washers to pull it into place.
6. Temporarily insert the ROD, HANDLE ADJUSTING ASSEMBLY through the hole in the upper rod support bracket, through the clearance hole in the lower casting and through the bore of the bushing installed in step 6. Ensure that the rod slides completely through and smoothly in the bore without binding. If the rod does not slide smoothly in the bore or will not slide completely through the bore, remove the ROD, HANDLE ADJUSTING ASSEMBLY and carefully and lightly ream the bushing bore until the rod assembly slides through it without binding.

CAUTION

DO NOT REMOVE MORE MATERIAL FROM THE BORE THAN NECESSARY FOR THE ROD TO SLIDE SMOOTHLY.

7. Remove any debris from reaming the bores and place SPRING (000-155-107) and COLLAR, ROD LOCKING – RX-CD 2017 in the pocket of the lower handle, above the bushing flange and approximately centered them with the bushing bore.
8. Re-install the spring and lock collar in the casting and reinstall the rod into the handle until it fully “seats” into one of the pockets in the latch plate.

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CAUTION

Ensure the rod is fully seated in the pocket of the LATCH PLATE.

9. Apply Loctite(B1) to the threads of the SCREW, 1/4-20 UNC DOG POINT SET (000-143-735) and thread the screw into the center hole of the COLLAR, ROD LOCKING – RX-CD 2017 (000-020-076) ensuring that the dog point of the set screw completely enters the blind hole in the rod. Torque the set screw to 45-55 In-lbs. (see Figure 9-5)
10. Actuate the locking mechanism several times by pulling up on the knob and releasing it to ensure it operates smoothly without binding.
11. Using a pair of needle nose pliers, insert a PIN 1/16" X 1/2" LG COTTER S/S (000-103-021) into one of the two holes in the center tower of the COLLAR, ROD LOCKING – RX-CD 2017 (000-020-076) to lock the SCREW, 1/4-20UNC DOG POINT SET (000-143-735) into the COLLAR. The two holes are different distances from the rear of the set screw. Use whichever hole is closest to the rear of the set screw, but will allow the cotter pin to be inserted all the way through the lock collar. Once installed, bend the ends of the cotter pin over so it will not fall out.



Figure 9-5. Reinstall dog point set screw

TRANSPORT AND/OR STORAGE

Whenever your PowerHead is transported or stored, it is recommended that the cleaning head (star assembly) be removed. The machine will then sit flat on the floor and remain more stable, especially during transport.

FREEZE WARNING AND PROTECTION

Your PowerHead can sustain damage from freezing, as can any equipment that functions with the use of water. Care must be taken to protect this tool from freezing just as you do your other equipment.

To protect it from freezing, simply blow air from a gas station air hose through the solution quick connect with the valve open.

This will blow all water from the valve, solution line, rotary union and jet assembly. Open and close the valve several times to ensure that all water is removed.

HANDLE LATCH ASSEMBLY: LATCH PLATE REPLACEMENT AND ADJUSTMENT INSTRUCTIONS

Refer to HydraMaster Engineering Assembly Drawings: 604-051-105 and 604-999-105 for complete details

CAUTION

PROPERLY SUPPORT THE OPERATOR HANDLE DURING THE REMOVAL AND INSTALLATION OF THE LATCH ASSEMBLY SO IT DOES NOT FALL AND CAUSE INJURY.

CAUTION

ALL NECESSARY PERSONNEL PROTECTIVE EQUIPMENT - INCLUDING SAFETY GLASSES - SHALL BE WORN WHILE PERFORMING THE FOLLOWING SERVICE

1. Using an Allen head wrench or Allen head socket, remove the SCREW, ¼-20UNC X 1.50" FLAT HEAD SOCKET (000-143-709) and the ROD, LIFTING HANDLE COATED (000-140-056) from the rear of the PLATE, HANDLE ADJUSTING (000-105-764). Set the screw and the rod aside to be reused during reassembly.
2. Using an plyers and flat blade screw driver or a mechanics pick, remove both of the RING, E-CLIP X ½" (000-139-009) from each end of the AXLE, WHEEL RX-CD-2017 (000-177-034).

⚠ WARNING

THE RING, E-CLIP X ½" (000-139-009) HAS STORED ENERGY FROM TENSION. USE EXTREME CAUTION WHEN REMOVING AND INSTALLING THEM

3. Remove each WHEEL, from the AXLE, WHEEL RX-CD-2017 (000-177-034) and set them aside for reassembly.
4. Using an Allen wrench, remove both SCREW, ¼-20UNC X ¼" SET (000-143-737) from the lock collars on each side of the BRACKET, HANDLE TO BASE-RX-CD 2017 COATED(000-015-1327). Set them aside for re-use during re-assembly.
5. Using a ½" wrench or socket and socket wrench, remove the SCREW 5/16-18UNC X ¾" LG (000-143-012) and WASHER 5/16 FLAT (000-174-049) from the PLATE, HANDLE ADJUSTING (000-105-764). Set them aside for re-use during re-assembly.
6. Using a Allen wrench or Allen socket and a 7/16 wrench or socket, remove SCREW, ¼-20UNC X 1.75"LG SOCKET HEAD (000-143-008) and NUT, ¼-20 NYLOCK (000-094-009) and set them aside for re-use during re-assembly.

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7. Slide the axle out of the BRACKET, HANDLE TO BASE-RX-CD 2017 COATED (000-015-1327) through the side of the lower handle casting, and all the way through the PLATE, HANDLE ADJUSTING (000-105-764). It may be necessary to rotate the axle as you slide it and / or to wiggle the PLATE, HANDLE ADJUSTING (000-105-764) so the axle will pass through and free it from the assembly. Once free of the axle, you may replace the PLATE, HANDLE ADJUSTING (000-105-764) with a new one, orientating it so the pockets face up and the mounting hole is toward the motor and gear box.

CAUTION

Ensure the rod is fully seated in the pocket of the LATCH PLATE.

8. Slide the axle back through the lower handle casting and through the lock collar in the BRACKET, HANDLE TO BASE-RX-CD 2017 COATED (000-015-1327) and allow it to protrude far enough to place the wheel's on.
9. Align the PLATE, HANDLE ADJUSTING (000-105-764) mounting hole with its corresponding mounting hole in the BRACKET, HANDLE TO BASE-RX-CD 2017 COATED(000-015-1327). Apply LOCTITE (B1) to the threads of the SCREW 5/16-18UNC X 3/4" LG (000-143-012), place the WASHER 5/16 FLAT (000-174-049) on the screw and insert the screw through the bracket and into the plate. Tighten the screw using a 1/2" wrench or socket.
10. Reinstall the WHEEL, 8" on each end of the axle.

⚠ WARNING

THE RING, E-CLIP X 1/2" (000-139-009) HAS STORED ENERGY FROM TENSION. USE EXTREME CAUTION WHEN REMOVING AND INSTALLING THEM

11. Reinstall the two RING, E-CLIP X 1/2" (000-139-009) – one on each end of the axle using a pair of pliers.
12. Apply LOCTITE (B1) to both SCREW, 1/4-20UNC X 1/4" SET (000-143-737) and install them into the lock collars on each side of the BRACKET, HANDLE TO BASE-RX-CD 2017 COATED(000-015-1327). Tighten them using an Allen wrench.
13. Actuate the locking mechanism several times by pulling up on the knob and releasing it to ensure it operates smoothly without binding.
14. Apply LOCTITE (B1) to the SCREW, 1/4-20UNC X 1.50" FLAT HEAD SOCKET (000-143-709). Insert the screw through the hole in the ROD, LIFTING HANDLE COATED (000-140-056) and into its mounting hole in the rear of the PLATE, HANDLE ADJUSTING (000-105-764). Use an Allen wrench to snug the screw. Do not over tighten.

10 - Troubleshooting

1.0 LOW VACUUM FLOW AT THE CLEANING HEADS

Possible Cause		Solution
1.1	Hub not sealing properly.	Replace felt seal with a lubricated one.
1.2	Restricted air flow.	Remove cleaning head and clear all vacuum lines and heads of debris.
1.3	Low vacuum flow from power	Refer to the Troubleshooting section of the source equipment manual.

2.0 LOW WATER FLOW AT CLEANING HEADS (INDICATED BY IRREGULAR WATER TEMPERATURE)

Possible Cause		Solution
2.1	Restricted jets.	Remove jets and clear them of debris.
2.2	Kinked or clogged solution hose	Remove hose. Repair or replace.
2.3	Cleaning hub not properly threaded	Remove cleaning hub from shaft. to shaft. Clean and rethread onto shaft.

3.0 WATER LEAK AT ROTARY UNION

Possible Cause		Solution
3.1	Foreign matter in rotary union seal.	Dismantle rotary union. Clean. Re-assemble and install.

4.0 WATER LEAK AT VALVE

Possible Cause		Solution
4.1	Ruptured plunger or valve O-ring.	Repair or replace damaged plunger, O-ring, seal. Check for freeze damage.

5.0 LOSS OF OIL FROM GEAR BOX

Possible Cause		Solution
5.1	Loose or ruptured oil seal.	Replace damaged oil seal. Refill gear box with oil.

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6.0 NO POWER

Possible Cause		Solution
6.1	PowerHead wiring or power source.	Have an electrician inspect unit for possible wiring or motor problems.
6.2	Overloaded power source	Locate an unused power source.
6.3	Gear box	Repair or replace gear box

7.0 HEAD WOBBLES DURING OPERATION

Possible Cause		Solution
7.1	One leg of cleaning head is bent.	Straighten leg

11 - Limited Warranty Plan

Harris Research, Inc (HRI) warrants PowerHead machines of its manufacture to be free from defects in material and workmanship if properly installed, maintained, and operated under normal conditions with competent supervision. No person, agent, representative or dealer is authorized to give any warranties on behalf of HRI, nor to assume for HRI any other liability in connection with any HRI products. This warranty shall extend to the original purchaser of said equipment for the periods listed below from date of installation. If repairs or replacements are made by the Chem-Dry Franchisee (owner) without the written consent of HRI, HRI's warranty shall cease to be in effect.

Machinery, equipment and accessories furnished by Harris Research, Inc., but manufactured by others, are warranted only to the extent of the original manufacturer's warranty to Harris Research, Inc. unless otherwise specified in the listing below.

HRI agrees, at its option, to repair at the point of shipment, or to replace without charge, any parts or parts of products of HRI manufacture, which within the specified warranty period shall be proved to HRI satisfaction to have been defective when shipped, provided the Chem-Dry Franchisee (owner) promptly notifies HRI, in writing, of such alleged defect. HRI will pay all freight and transportation charges within the United States, via normal ground shipping means, for replacement of parts covered under this warranty.

This warranty covers parts, as specified, and does not cover labor which may be necessary in completing repairs. HRI's liability to the Chem-Dry Franchisee (owner), whether in contract or in tort arising out of warranties, representation, instructions, or defects from any cause shall be limited to repairing or replacing the defective part or parts. To qualify for warranty coverage, defective parts must be returned to HRI within 30 days. No warranty liability whatsoever shall attach to HRI unless and until HRI has received payment in full for the warranted machine or part.

Except as stated in this section and in the proceeding section and except as to title, there are no guarantees or warranties of merchantability, fitness, performance or otherwise, express, implied or statutory, and HRI shall have no liability for consequential, incidental or other damages howsoever caused.

All components not specifically referenced in the schedule below are covered under this warranty for a period of one (1) year, excepting those parts which are considered, by HRI, to be expendable in normal use, including, but not limited to paint, labels and other cosmetic parts or features.

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Freezing of any water or chemical-related component will VOID all warranties on water or chemical related components, internal or external, of this equipment.

Deposits and buildup in the water or chemical systems due to hardness in the water used or chemicals which results in deposits, will VOID all warranties on affected components.

All recommended maintenance must be performed by authorized service personnel.

Records of periodic maintenance must be kept and copies may be required to be furnished to HRI before this warranty is honored.

Coverage Schedule

Frame, Handle, Body	3 years
Gearbox.....	1 year
Motor	1 year
Valves, Hoses.....	1 year

