

# HOSS 700



## Service and Operation Manual




2604 Liberator Dr., Prescott, AZ 86301 1-928-445-3030

**Congratulations** on your purchase of the **HOSS 700<sup>®</sup>** Rotary Cleaning Tool from **SAPPHIRE SCIENTIFIC!**

This instruction/parts manual is a guide for operating and servicing your Rotary Cleaning Tool.

Proper operation and service are necessary to ensure the outstanding performance of this product. The following service methods outlined in this manual are detailed in a manner that operation and servicing may be performed properly and safely. Because service levels vary due to the skill of the mechanic, tools and parts availability, ensure that prior to attempting any repair, you are familiar with this equipment and have the proper tools. Any questions regarding the operation, service, or repair of this unit should be directed to your nearest **SAPPHIRE SCIENTIFIC** dealer.

The headings **WARNING** and **CAUTION** are utilized to warn you that steps must be taken to prevent personal injury or damage to the equipment. Please make sure that you have read and understand these instructions entirely before proceeding with the operation of this unit.

 **WARNING!** Do not alter or modify your **HOSS 700** in any way. Use only replacement parts authorized by **SAPPHIRE SCIENTIFIC, Inc.** Modifications or use of unapproved parts could create a hazard and will void your warranty. Contact your authorized Sapphire dealer for assistance.

BE SURE TO FILL OUT THE WARRANTY CARD ONLINE AT:

[www.sapphirescientific.com](http://www.sapphirescientific.com)

Record your units' serial number here for future reference or if you should need to contact the factory in the future for any reason.

S/N:

This service and operations manual is written specifically for **SAPPHIRE SCIENTIFIC HOSS 700<sup>®</sup>** Rotary Cleaning Tool manufactured by:

**SAPPHIRE SCIENTIFIC**  
2604 Liberator  
Prescott, AZ 86301  
USA

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**MODEL HOSS 700<sup>®</sup> MANUAL**  
**PART# 49-075**

# **SAPPHIRE SCIENTIFIC LIMITED WARRANTY**

## **HOSS 700 Rotary Cleaning Tool**

### **What Does This Warranty Cover?**

This warranty is provided to the original purchaser only.

### **How Long Does This Warranty Last?**

We limit all implied warranties to

- One (1) year from the date of purchase on parts and labor;
- Three (3) years on the housing.

### **What Sapphire Scientific Will Do:**

If a defect in materials or workmanship occurs within the warranty period, Sapphire Scientific at its election will repair or replace the defective part at no charge.

### **What This Warranty Does Not Cover:**

This warranty does not cover or apply to defects due directly or indirectly to misuse, abuse, disassembly, alteration, corrosive chemicals, improper voltage, fire, flood, negligence, accident, improperly or incorrectly performed maintenance or repair, or failure to perform necessary or recommended maintenance or repair (see your Owner's Manual) or if the use of this product is not in compliance with the instructions and specifications for its use.

OTHER THAN THE WARRANTIES PROVIDED HEREIN, SAPPHIRE SCIENTIFIC MAKES NO EXPRESS OR IMPLIED, ORAL OR WRITTEN WARRANTIES WITH RESPECT TO THIS PRODUCT OR WORKMANSHIP AND ALL WARRANTIES IMPLIED BY LAW INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. WE SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM USE OF OUR PRODUCTS. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

### **How Do I Get Service?**

In order to be eligible for service under this warranty you MUST do the following: (a) visit [warranty.sapphirescientific.net](http://warranty.sapphirescientific.net) and register your purchase to ensure you receive any important product releases; (b) write or call for a return material authorization (RMA); and (c) have the serial number and original proof of purchase available. Contact us at:

Sapphire Scientific  
2604 Liberator  
Prescott, AZ 86301  
886-445-3030

We will inspect the product without charge and contact you within 72 hours of our receipt of the product to give you the results of our inspection. If our inspection uncovers a defect we will repair or replace the product, at our election. If the product is returned to us on or before ninety (90) days from the date of purchase, we will pay for the cost of shipping it to Sapphire Scientific and the cost to return it to you. If the product is returned to us after the expiration of ninety (90) days from the date of purchase, all shipping costs shall be paid by the purchaser.

If it is determined that there is no defect in the product, or that the defect resulted from causes not within the scope of our warranty, then the product will be repaired or replaced only at your request and at your expense and you must bear all shipping costs.

### **How Does State Law Apply?**

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

49-071, Rev A 2011-04

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# **SECTION 1:** **GENERAL INFORMATION**

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## **2. INTRODUCTION TO YOUR HOSS 700 ROTARY CLEANING TOOL**

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# 1. SAFETY

## **WARNINGS FOR YOUR SAFETY!**

1. **Read through the operation portion of this manual before using your unit.** Failure to adhere to instructions could result in personal injury or could be fatal.
2. **WARNING! Do not alter or modify your HOSS 700 in any way.** Use only replacement parts authorized by **SAPPHIRE SCIENTIFIC**, Inc. Modifications or use of unapproved parts could create a hazard and will void your warranty. Contact your authorized Sapphire dealer for assistance.
3. **The HOSS 700 is shipped with the handle and electrical cord unassembled.** Follow the full assembly instructions in this manual before attempting to use or plug in the unit.
4. **WARNING! Electric shock hazard, rotating parts, hot surface hazards.** Unplug unit before opening cover for cleaning or service. Unit must be properly grounded.
5. **Inspect power cord before use.** If cord is damaged, do not use. Always grasp the plug (not the cord) to unplug.
6. **The unit must be operated on a 110V/60Hz circuit.**
7. **Do not operate in standing water.**
8. **Do not operate in rain or snow.** If electrical components become wet, allow them to dry before using.
9. **Do not attempt to repair the unit.** For technical support, see an authorized Sapphire Scientific dealer or call Sapphire Scientific Service Department at 866-445-3030.

**NOTE: Protect from freezing during storage and transport.** Damage caused by freezing is not covered by the product warranty.

## **2. INTRODUCTION**

The HOSS 700 Rotary Cleaning Tool greatly improves the cleaning performance and efficiency on a wide variety of carpet types.

- High-flow solution orifices and high efficiency vacuum plates
- 1/2 HP 1725 RPM motor
- Sealed low-maintenance gear box
- 6 inch non-scuffing wheels for easy transport
- Fully adjustable handle for maximum operator comfort and control

### **ACCEPTANCE OF SHIPMENT**

When receiving your HOSS 700 unit, please make the following acceptance check:

- The unit should not show any signs of damage. If there is damage, notify the common carrier immediately.
- Carefully check your equipment and packaging list. Please see SECTION 5: PARTS LISTING in this manual for a full list of components.

# **SECTION 2:** **UNIT ASSEMBLY**

<b>1. ASSEMBLY</b>
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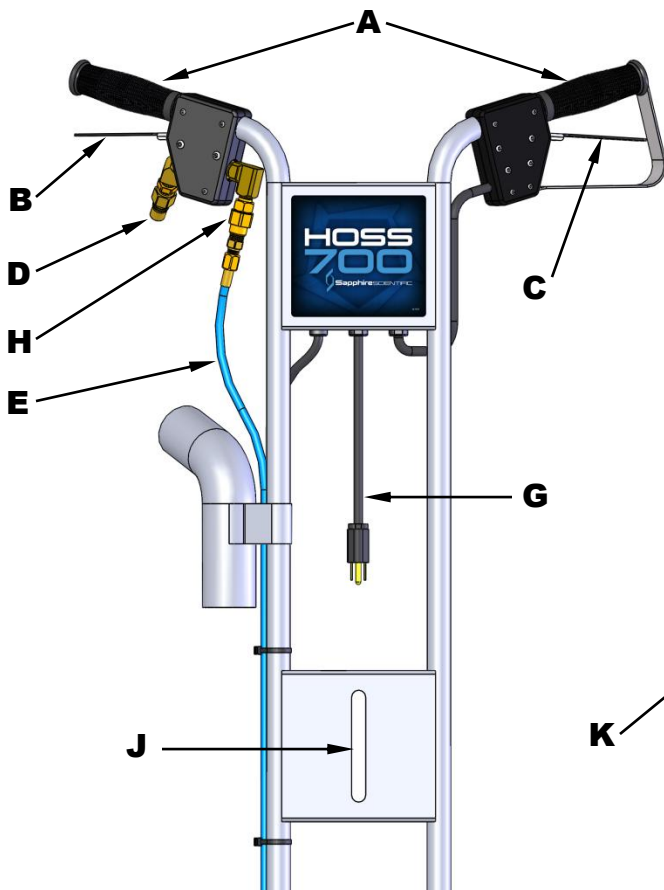


### 3. ASSEMBLY

#### PART IDENTIFICATION

**Figure II.**

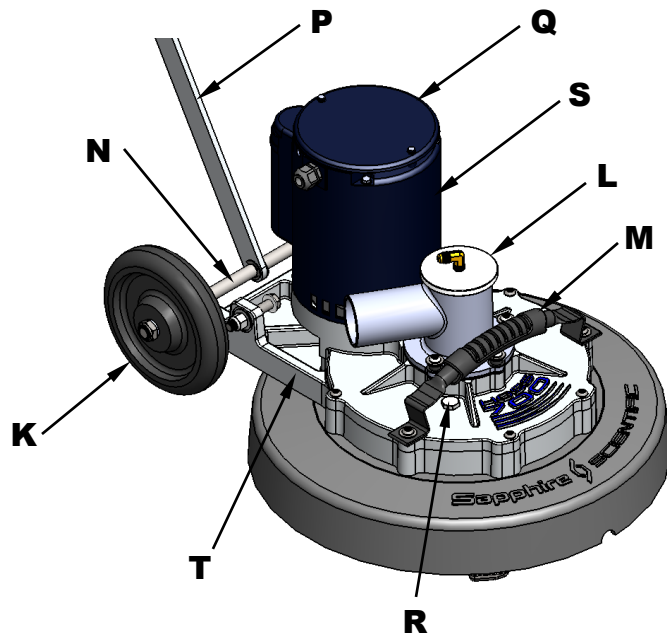
- A. Handle Assembly
- B. Solution Control Lever
- C. Motor Control Lever
- D. Solution Line Inlet Connection
- E. Connection For Rotary Head Solution Line
- F. Vacuum Hose Attachment
- G. Power Cord Connection
- H. Inline Solution Filter
- J. Handle Height Adjustment Slot



**Figure I**

**Figure II.**

- K. Transport Wheels
- L. Vacuum Inlet Cap
- M. Carry Handle
- N. Axle
- P. Handle Brace
- Q. Junction Cover Plate
- R. Gear Box Plug
- S. Motor Housing
- T. Gear Box Frame



**Figure II**

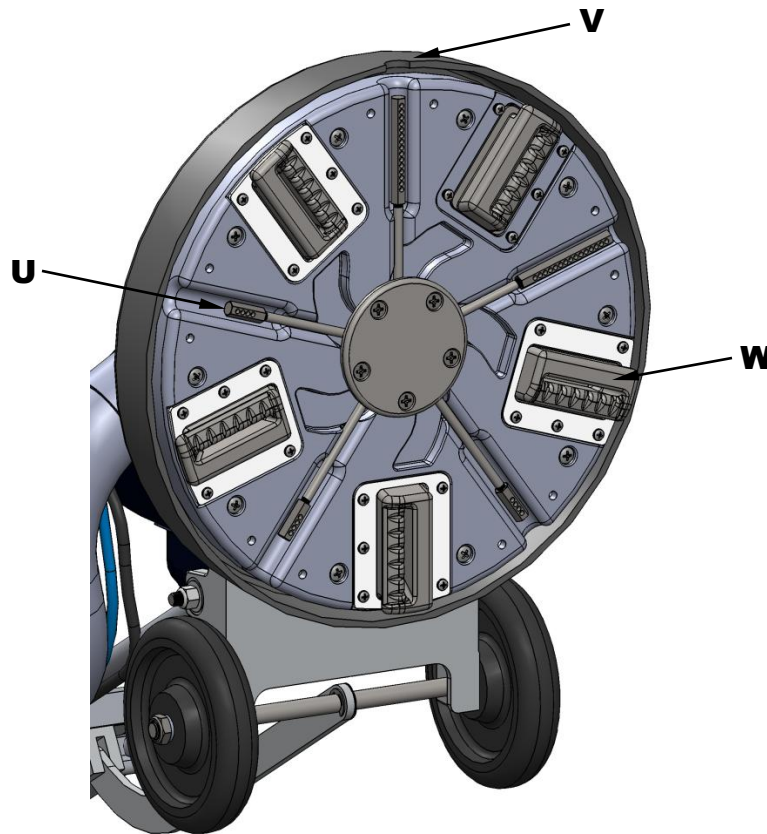
**PART IDENTIFICATION (CONTINUED)**

**Figure III.**

U. Solution Orifices (5X)

V. Access Notch

W. Vacuum Feet (5X)



**Figure III**

## REQUIRED TOOLS

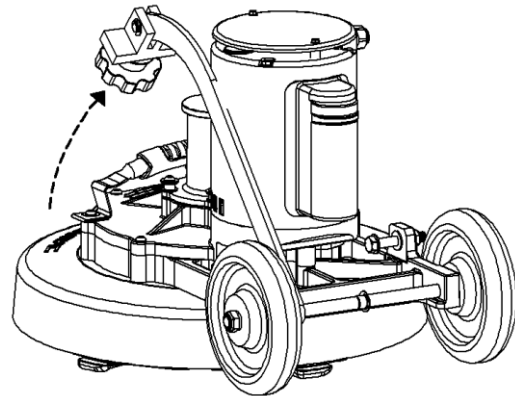
- Pliers
- Phillips Head Screwdriver
- 1/4 inch ratchet
- Two 9/16 inch wrenches

**⚠ WARNING!** Complete entire Assembly Instructions before attempting to plug in or use the HOSS 700 for the first time!

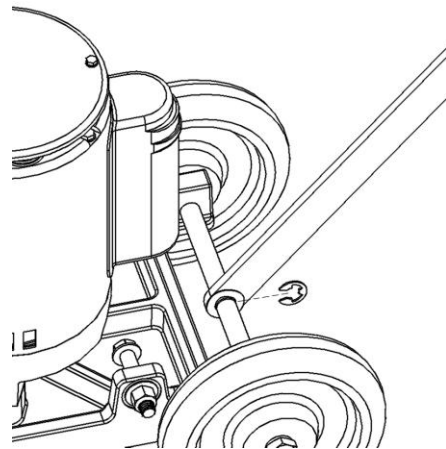
## ASSEMBLY INSTRUCTIONS

1. Lift the handle brace and rotate it to the back side of the unit (Figure 1.). You will need to flex the handle brace slightly around the motor housing.
2. Slide the handle brace to the center of the axle and attach the E clip (a) retaining ring to the axle (Figure 2.). Make sure the wave washer (b) is located between the handle brace and the E clip slot.

Tip: Pliers may be needed to compress the wave washer (b) against the handle brace to fit the E clip (a) into the slot.



**Figure 1.**



**Figure 2.**

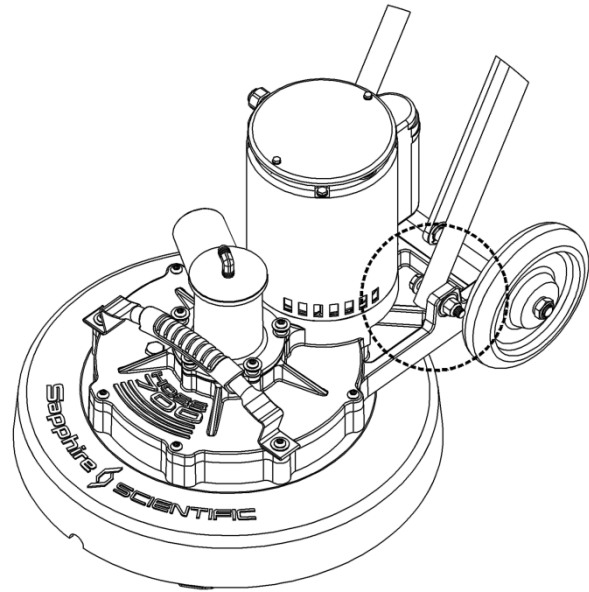
## ASSEMBLY INSTRUCTIONS (CONTINUED)

### 3. Attach the Handle Assembly to the Gear Box Frame (Figure 3. and Figure 4.)

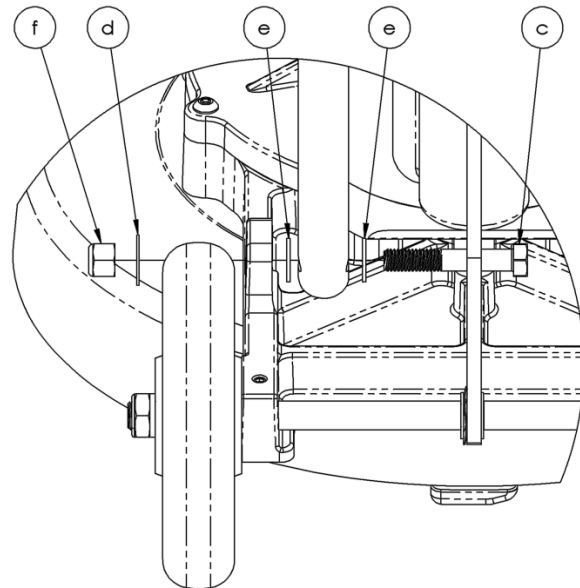
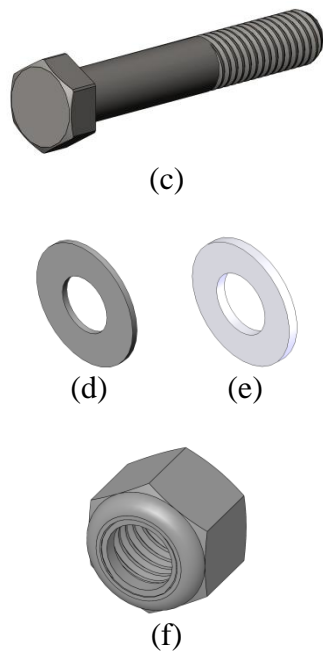
Attach one side of the handle assembly to the gear box frame using one 3/8-16 x 2-1/4 inch hex head bolt (c), one 3/8 inch stainless steel washer (d), two 3/8 nylon washers (e) and one 3/8-16 stainless steel lock nut (f) as shown (Figure 3.).

Place one nylon washer (e) on either side of the handle bar with the stainless steel washer (d) on the outside under the lock nut (f) (Figure 4.).

Repeat this step to attach the opposite side of the handle assembly.



**Figure 3.**



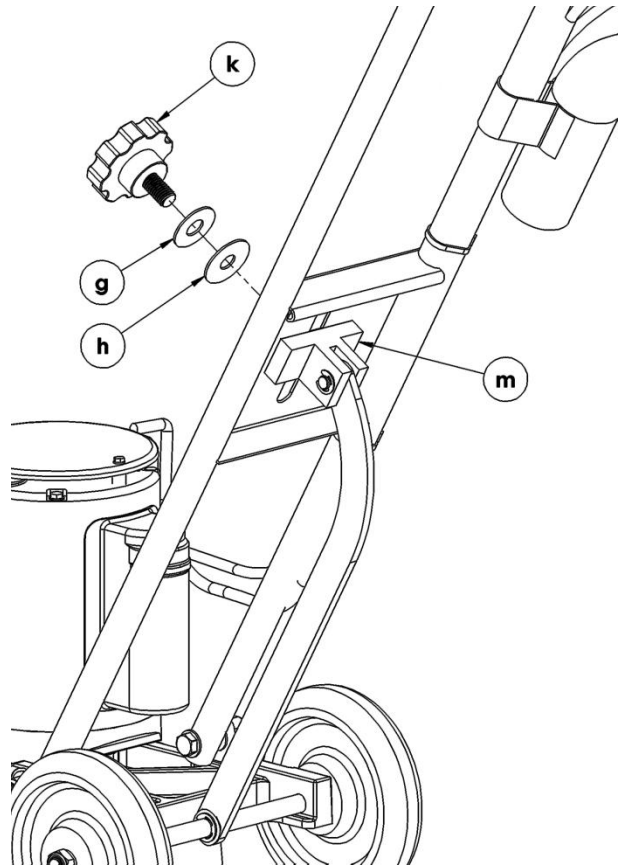
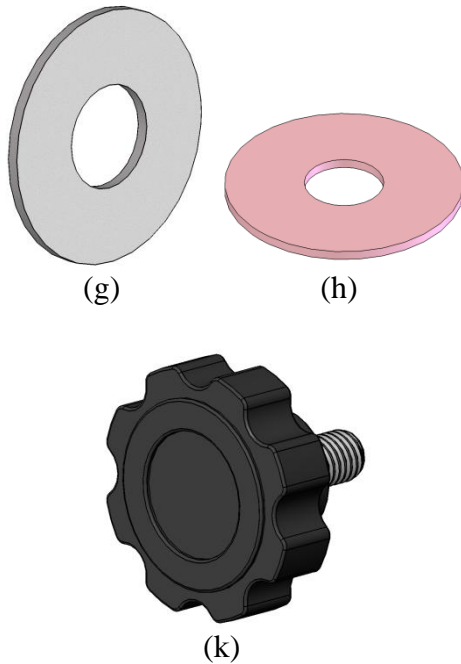
**Figure 4.**

## **ASSEMBLY INSTRUCTIONS (CONTINUED)**

### **4. Attach the Handle Brace to the Handle Assembly** (Figure 5.).

Place one 9/16 x 1-3/8 inch stainless steel flat washer (g) and one 1/2 x 1-1/2 inch rubber washer (h) on the threaded shaft of the adjustment knob (k).

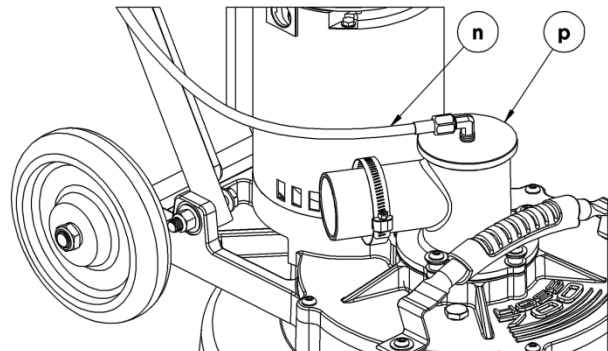
Insert the adjustment knob through the adjustment slot in the handle and thread into the T-bracket (m) located at the end of the handle brace.



**Figure 5.**

### **5. Attach the Solution Line** (Figure 6.)

Attach the blue solution line (n) to the top of the vacuum inlet cap (p).



**Figure 6.**

## **ASSEMBLY INSTRUCTIONS (CONTINUED)**

### **6. Power Cord Assembly**

(Figure 7.)

Insert the power cord through the strain relief nut, rubber gasket and retaining ring as shown in Figure 7.

Feed each wire through one at a time, starting with the black wire, then the white wire, then the green wire. After inserting the wires, reseal the rubber gasket against the retaining ring.



**Figure 7.**

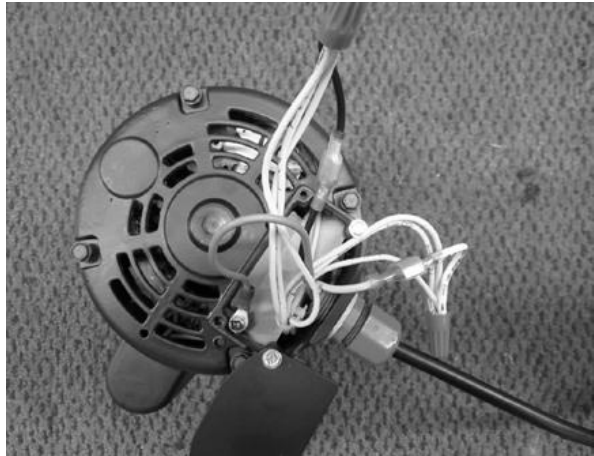
### **7. Attach the Power Cord Wires**

(Figure 8.)

On the motor, loosen both junction cover plate screws and rotate the plate away from the junction cavity as shown in Figure 8.

Insert the end of the power cord through the threaded hole in the side of the motor, starting with the black wire, then the white wire, then the green wire.

Connect black to black and white to white with the blade connectors. Attach the green ground wire to the ground screw.

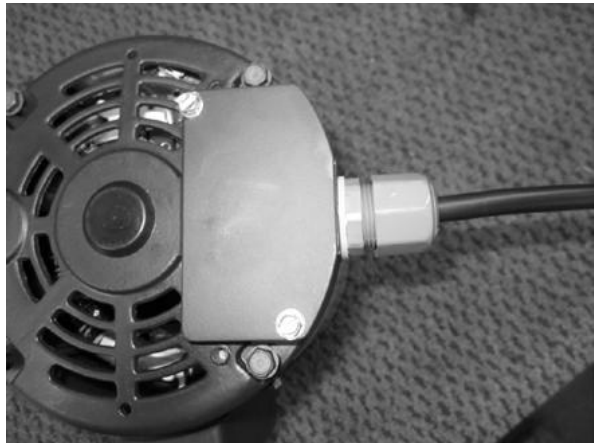


**Figure 8.**

### **8. Final Power Cord to Motor Assembly**

(Figure 9.)

Thread the strain relief nut over the fitting and tighten. Carefully coil wires and tuck into junction cavity and rotate junction cover plate back into place as shown in Figure 9. Tighten screws.



**Figure 9.**

## ASSEMBLY INSTRUCTIONS (CONTINUED)

### 9. Install Motor Cover Plate

Attach the motor cover plate (r) with two 8-32 x 7/8 inch long screws (s) and 5/8 inch long plastic spacers (t) as shown in Figure 10.

### 10. Install the Vent Plug

Replace the temporary gear box plug (u) with the supplied vent plug (v) as shown in Figure 11.

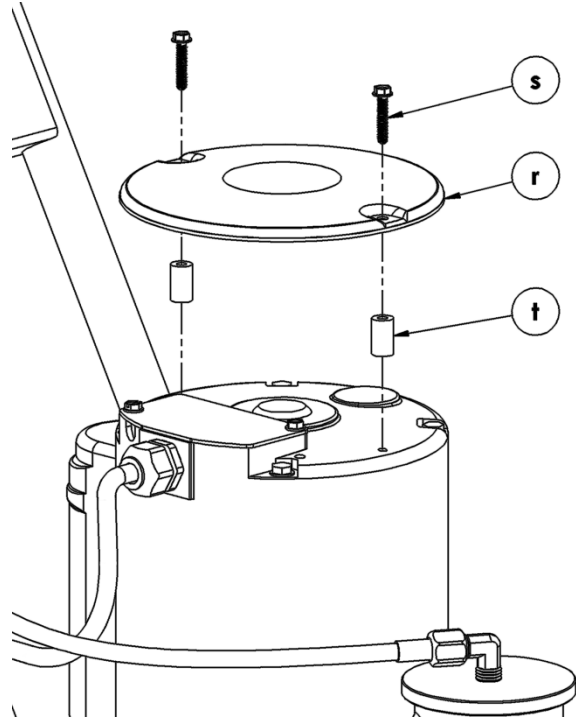


Figure 10.

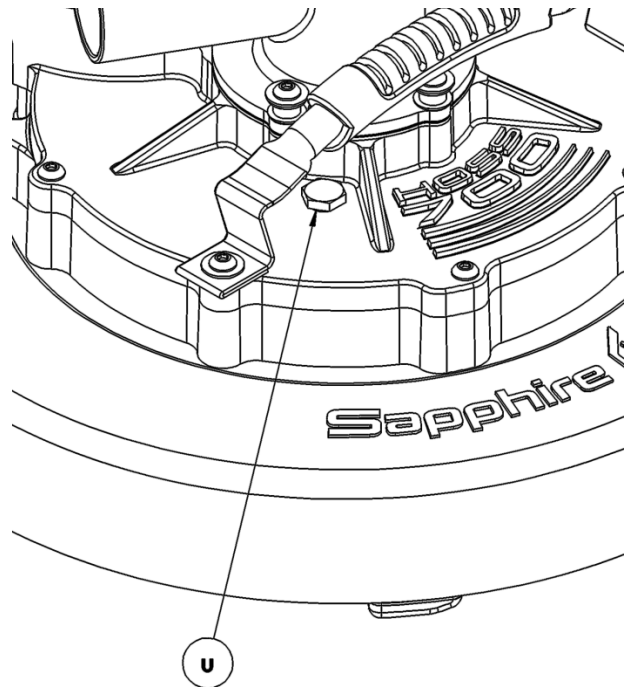


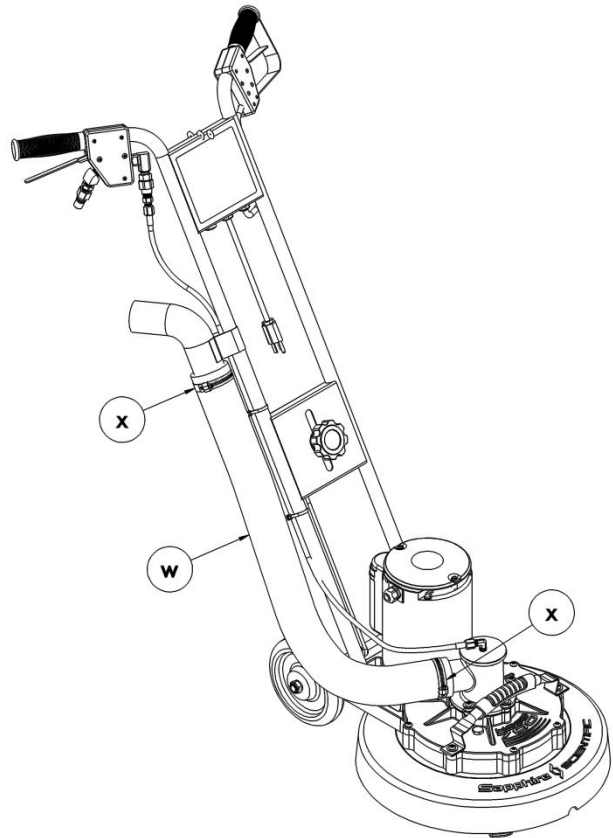
Figure 11.

## **ASSEMBLY INSTRUCTIONS (CONTINUED)**

### **11. Connect the Vacuum Hose**

Slide one end of the 2 inch vacuum hose (w) over the vacuum port on the gear box and the other end onto the vacuum tube on the handle as shown in Figure 12.

Using two #32 hose clamps (x), secure the hose to the vacuum port and the vacuum tube.



**Figure 12.**



# **SECTION 3:** **SETUP AND OPERATION**

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## **11. OPERATION**

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## 4. SETUP

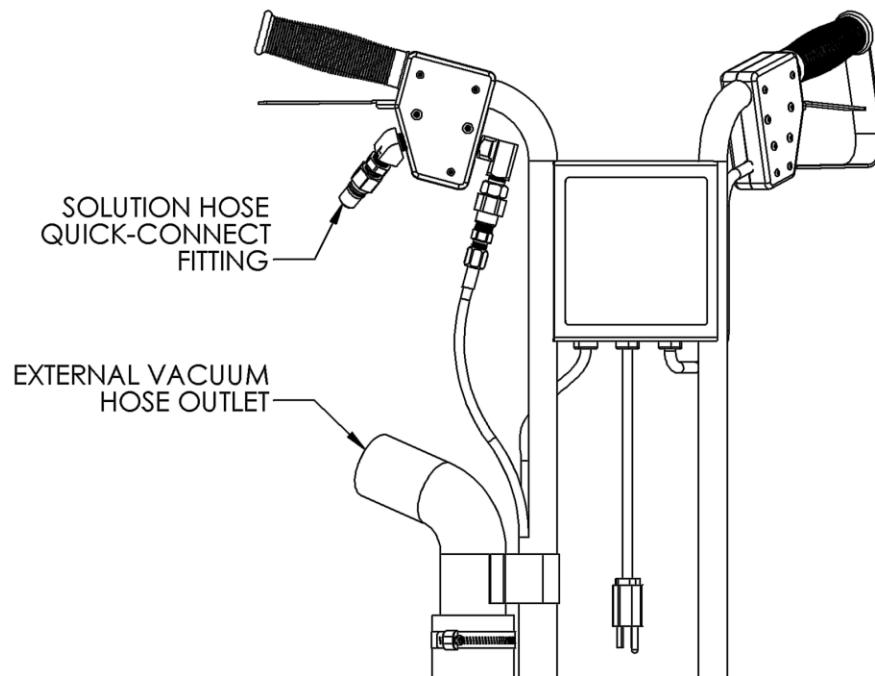
### SETUP INSTRUCTIONS

1. Adjust handle height for operator comfort. Loosen black knob, move handle up or down to desired height and retighten knob.

**TIP:** To maximize control and operator comfort, position the handles at hip height.

2. Attach vacuum hose to vacuum outlet. The HOSS 700 is fitted with a 2 inch OD vacuum outlet.
3. Attach your solution hose to the quick-connect fitting.
4. Plug in to power source. Use an extension cord no smaller than 14 gauge and not exceeding 50 feet in length. Attach to a suitable 110V/15 amp supply.

**⚠ WARNING!** **Electrical shock hazard.** Unit must be properly grounded. Do not remove grounding prong or otherwise alter the grounding system.



## **5. OPERATION**

**⚠ WARNING!** Rotating parts. Keep hands, feet and all cords and hoses clear. Make sure the area to be cleaned is free from obstructions and place power cords and hoses well away from the unit.

### **STARTING THE UNIT**

1. Turn on the carpet cleaning extractor vacuum and solution pump.
2. Start the flow of solution first. Grasp handles firmly and squeeze right trigger.
3. Balance the unit with the head flat on the carpet. Then squeeze the left trigger to start the rotary head.

### **CONTROLLING THE UNIT**

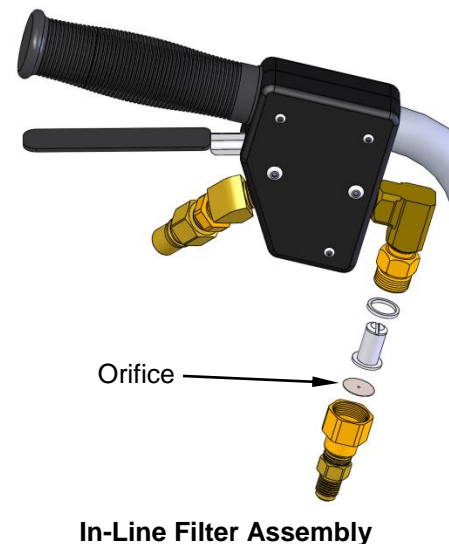
- To move to the right, LIFT the handle with both hands slightly.
- To move to the left, LOWER the handle with both hands slightly.

**TIP:** Only small adjustments in the handle position are needed to control the unit. If you are unfamiliar with maneuvering this cleaning tool, practice first in an open and unobstructed area.

**TIP:** Do not tip the unit to the left or right, as this will impair vacuum performance and make the unit difficult to control.

### **ADJUSTING THE SOLUTION FLOW**

The HOSS 700 is fitted with a .052 inch diameter orifice as part of the in-line filter assembly. This provides adequate solution flow and pressure for most cleaning applications. For other situations, .048 inch and .057 inch orifices are also provided. The orifice is easily changed by disassembling the in-line filter and changing out the orifice. Changing the orifice size allows the user to customize the flow rate according to soiling conditions and type of cleaning equipment used. The unit can also be operated without a restrictor where maximum flow is required for extra hard-to-clean jobs such as restaurants or apartments.



## **CLEANING AND OPERATIONAL TIPS**

Do not operate the HOSS 700 on dry carpet. Doing this may damage carpet fibers.

Do not operate the HOSS 700 on hard surfaces. Doing this may damage the vacuum heads and/or floor surface.

For best results, vacuum the carpet thoroughly before using the HOSS 700.

For best results, always groom the carpet after cleaning.

Always establish adequate drying conditions after cleaning.

# **SECTION 4:** **MAINTENANCE AND** **TROUBLESHOOTING**

## **12. MAINTENANCE**

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## **6. MAINTENANCE**

### **BEFORE EACH USE**



**WARNING!** Electrical shock hazard. Unplug the unit before performing ANY maintenance task.

- **Inspect the electrical cords for damage.** Look for fraying, cuts, et cetera. Do not use the unit if you find any damage to the electrical cords.
- **Inspect vacuum hoses, solution lines and all fittings for proper function.** Repair or replace as needed.
- **Check manifolds for proper flow.** With solution hose attached and pressurized, lay unit on its side and briefly squeeze the solution control lever. Solution should flow freely and equally from each manifold. If flow is reduced from any manifold, inspect for blockage. Remove the manifold, and with a sharp pointed object, clean the orifices. Take care not to damage the orifices.

### **AFTER EACH USE**

- **Rinse rotary head clean.**
- **Clear vacuum inlet.** Remove the vacuum inlet cap from the vacuum inlet housing and remove any debris. For best results, keep unit on the vacuum while withdrawing the inlet cap. Replace cap securely when finished.
- **Inspect rotary head and vacuum feet for damage.** Replace worn or damaged parts as needed.

## **MONTHLY**

Clean exterior housing. To maintain appearance, wipe down exterior surfaces with a clean damp cloth.

Check solution valve. Check for leaks and replace seals as necessary.

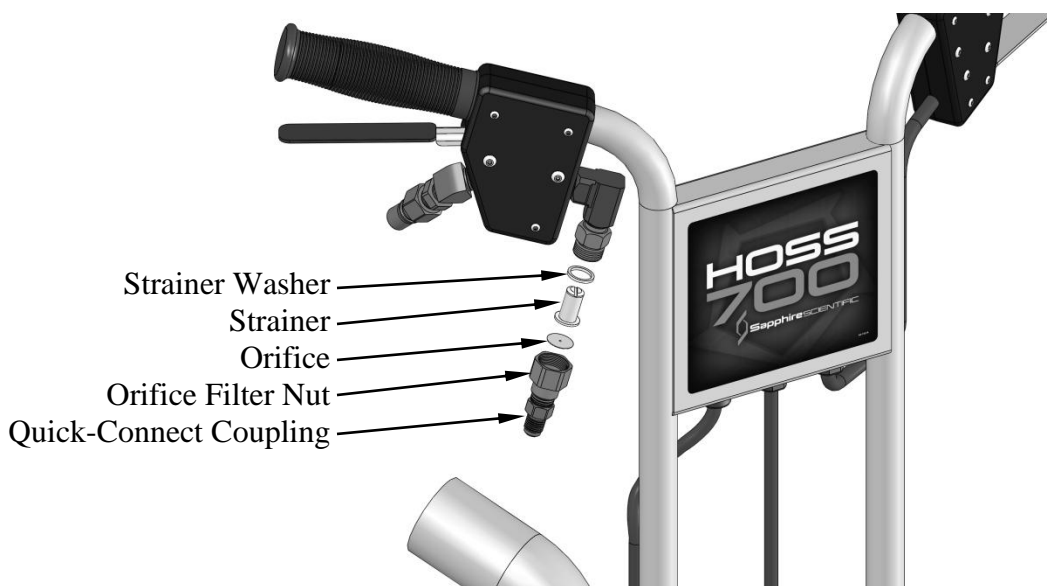
Check orifice and inline filter screen. Loosen the strainer assembly nut and remove the orifice, strainer and strainer washer. Rinse these items in clean water and reassemble. Take care not to over-tighten the strainer assembly nut.

Check gearbox oil levels. Remove vented gear case plug. While looking into vent plug hole, tilt unit back onto its wheels to allow the rotary head to be turned. Turn the head until the vent plug hole is visibly aligned with the hole in the gear web. Now place the unit flat of the floor or table and insert a screwdriver or similar tool to gauge the oil level. If the oil level is less than 1/8 inch, add Sapphire Scientific gear oil (part number 13-053). Do not overfill. Reinstall vent plug when finished.

## **AS NEEDED**

Lubricate the solution line quick-connect couplings. Use a small amount of rust-inhibiting oil such as LPS-3.

Clean inline strainer when solution flow is visibly reduced. To clean the filter, loosen the strainer assembly nut and remove the strainer and strainer washer. Rinse these items in clean water and reassemble the strainer. It is not normally necessary to replace the inline filter element. Be sure to include the nylon washer when reassembling. Take care not to over-tighten the strainer assembly nut.



## **TRANSPORT AND STORAGE**

**NOTICE: Handle the unit carefully.** Do not drop or place the unit where it could fall. Rough treatment can damage this equipment and may create a hazardous condition or void warranty.


- Do not expose electrical components to moisture when transporting in uncovered vehicles.
- Store and transport securely to avoid any damaging impact to internal parts.
- Protect from freezing. Store unit in heated area.



## **7. TROUBLESHOOTING**

### **TROUBLESHOOTING TABLE**

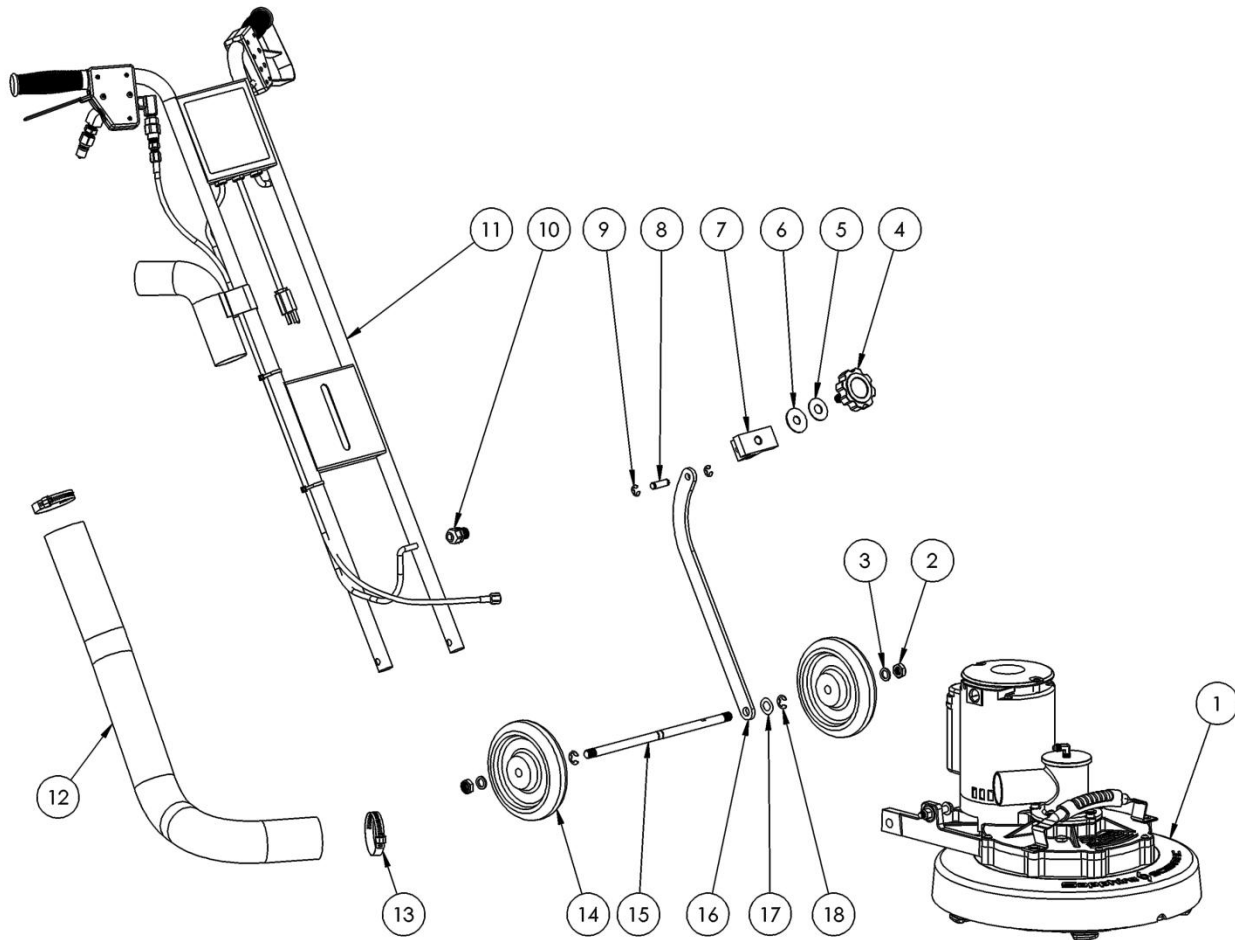
<b>FAULT</b>	<b>CAUSE</b>	<b>SOLUTION</b>
Unit does not operate	No power to machine. Supply circuit breaker tripped.	Reset supply circuit breaker.
Solution leaks at trigger control valve	Valve seal has failed	Install valve rebuild kit
Poor vacuum performance on carpet.	<ol style="list-style-type: none"> <li>1. Uptake tube clogged with debris.</li> <li>2. Vacuum slot feet gouged or damaged.</li> <li>3. Vacuum inlet clogged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove lower end and remove obstruction.</li> <li>2. Replace damaged vacuum slot feet.</li> <li>3. Remove vacuum inlet cap and remove debris.</li> </ol>
Inadequate solution output.	<ol style="list-style-type: none"> <li>1. Plugged strainer or orifice.</li> <li>2. Incorrect orifice installed</li> <li>3. Manifolds plugged or damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rinse strainer and/or orifice clean.</li> <li>2. Install correct orifice.</li> <li>3. Clean manifolds/replace damaged manifolds</li> </ol>
<i>If the problem you are experiencing is not listed here, call the Sapphire Service Department at 866-445-3030.</i>		

 **WARNING!** Do not alter or modify your **HOSS 700** in any way. Use only replacement parts authorized by **SAPPHIRE SCIENTIFIC**, Inc. Modifications or use of unapproved parts could create a hazard and will void your warranty. Contact your authorized Sapphire dealer for assistance.

# **SECTION 5:** **PARTS LISTING**

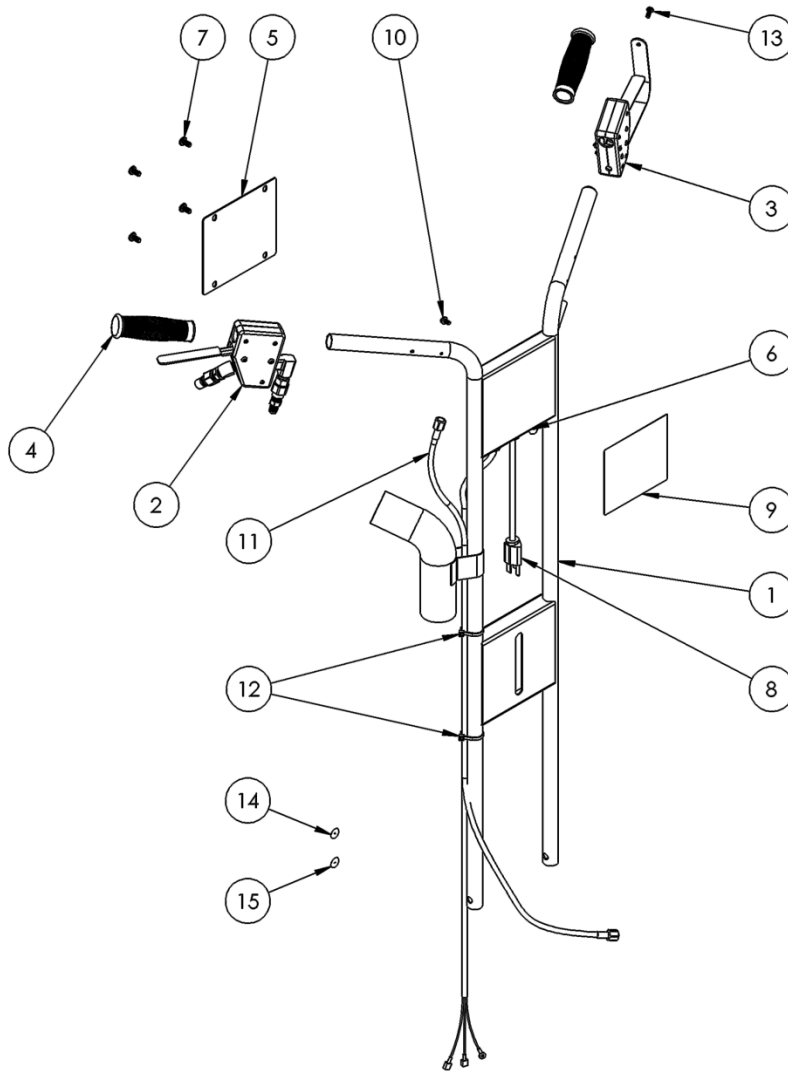
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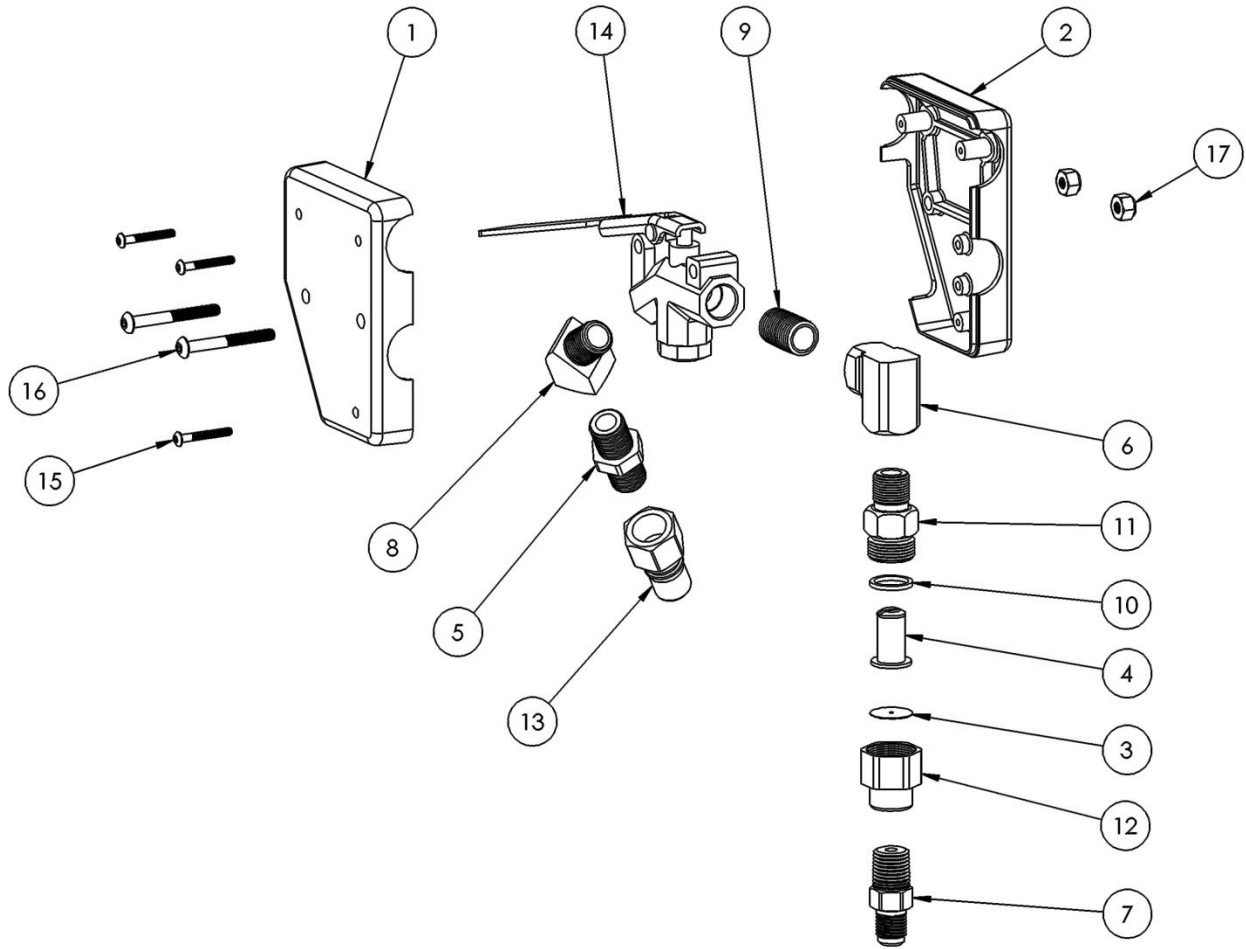
### 67-025, ASSEMBLY, HOSS 700

Item No.	Part Number	Qty	Description
1	69-299	1	ASSY, DRIVE HEAD
2	11-077	2	NUT, 1/2-20 THIN NYLOK SS
3	12-052	2	WASHER, FLT .505 ID X .75 OD X .093 THK NYLON
4	40-028	1	HANDLE, 2.5 IN DIA FLUTED
5	12-045	1	WASHER, .563 ID X 1.375 OD X .06 THK SS
6	41-116	1	WASHER, HANDLE ADJUSTMENT
7	66-309	1	CLEVIS, HANDLE ADJUSTMENT
8	66-310	1	PIN, SS GROOVED CLEVIS
9	15-036	2	E-CLIP, RETAINING RING .375 SS
10	31-208	1	CORD CONNECTOR
11	69-301	1	ASSY, HANDLE
12	16-106	1	HOSE, 2 IN CLEAR FLEX R-3
13	14-010	2	CLAMP, HOSE #32 SS
14	42-011	2	WHEEL, 6 IN X 1-1/4 W X 1/2 BORE DELRIN
15	66-303	1	AXLE
16	58-487	1	BAR, HANDLE ADJUSTMENT
17	12-064	1	WASHER, WAVE 1/2 SS
18	15-040	2	E-CLIP, RETAINING RING



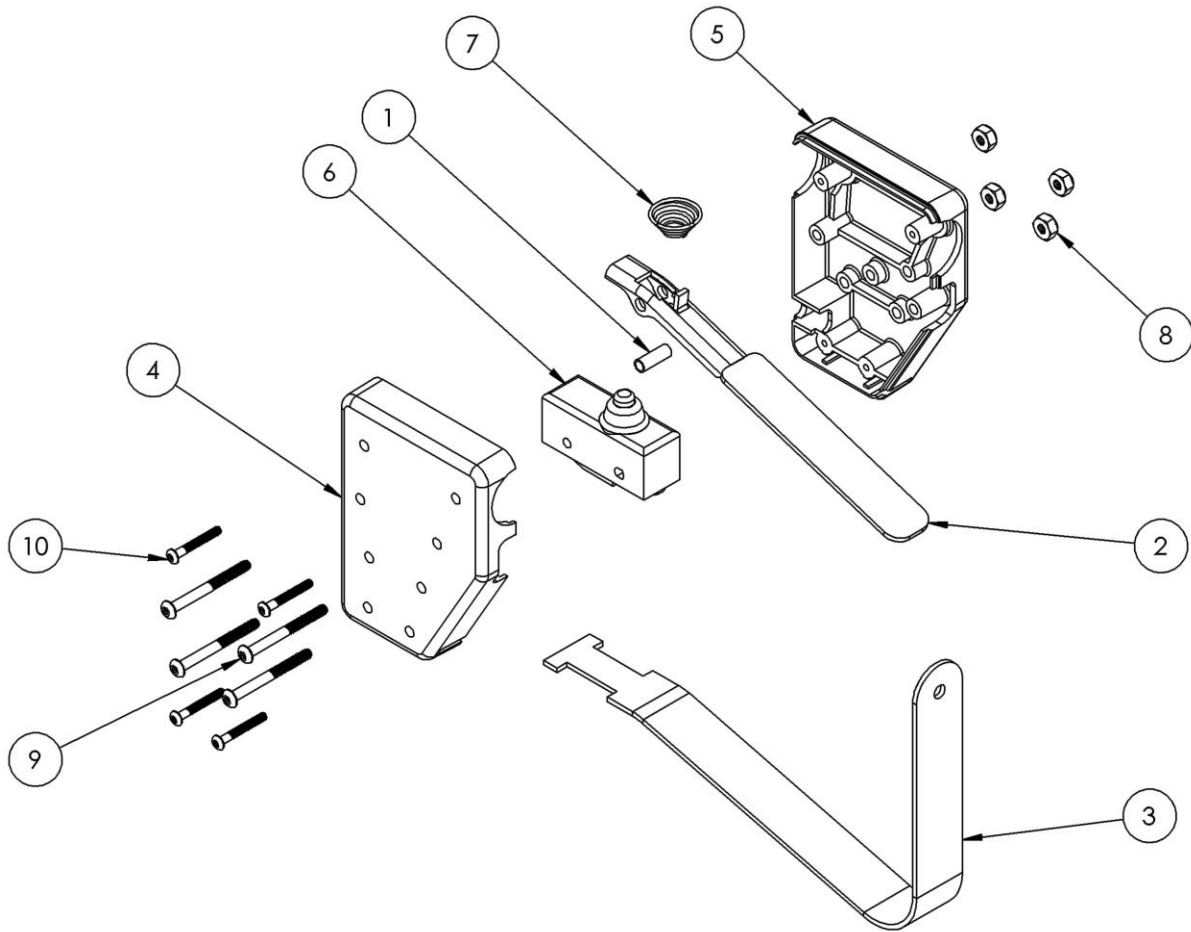
**69-301, ASSEMBLY, HANDLE**

Item No.	Part Number	Qty	Description
1	61-675	1	WELDMENT, HANDLE ELECTROPOLISHED
2	69-334	1	ASSY, ANGLE VALVE WITH COVERS
3	69-335	1	ASSY, MOTOR SWITCH WITH COVERS
4	40-029	2	GRIP, CUSHIONED .875 ID X 4.562 LG
5	58-507	1	COVER, ELECTRICAL BOX ELECTROPOLISHED
6	31-200	3	CORD BUSHING
7	10-195	4	SCRWE, MACH 1/4-20 X 1/2 PHP SL SS
8	30-076	1	POWER CORD SET
9	44-112	1	DECAL, PRODUCT HOSS 700
10	10-204	1	SCREW, 4-WAY HEAD 10-32 X 3/8 GROUND
11	18-215-20	1	HOSE, ASSY FJIC X FJIC W/SS & COVER
12	14-040	2	TIE WIRE 8 IN BLACK
13	10-196	1	SCREW, MACH 10-32 X 1/2 PHP SL SS
14	20-035	1	ORIFICE, .057 DIAMETER SS
15	20-044	1	ORIFICE, .048 DIAMETER SS



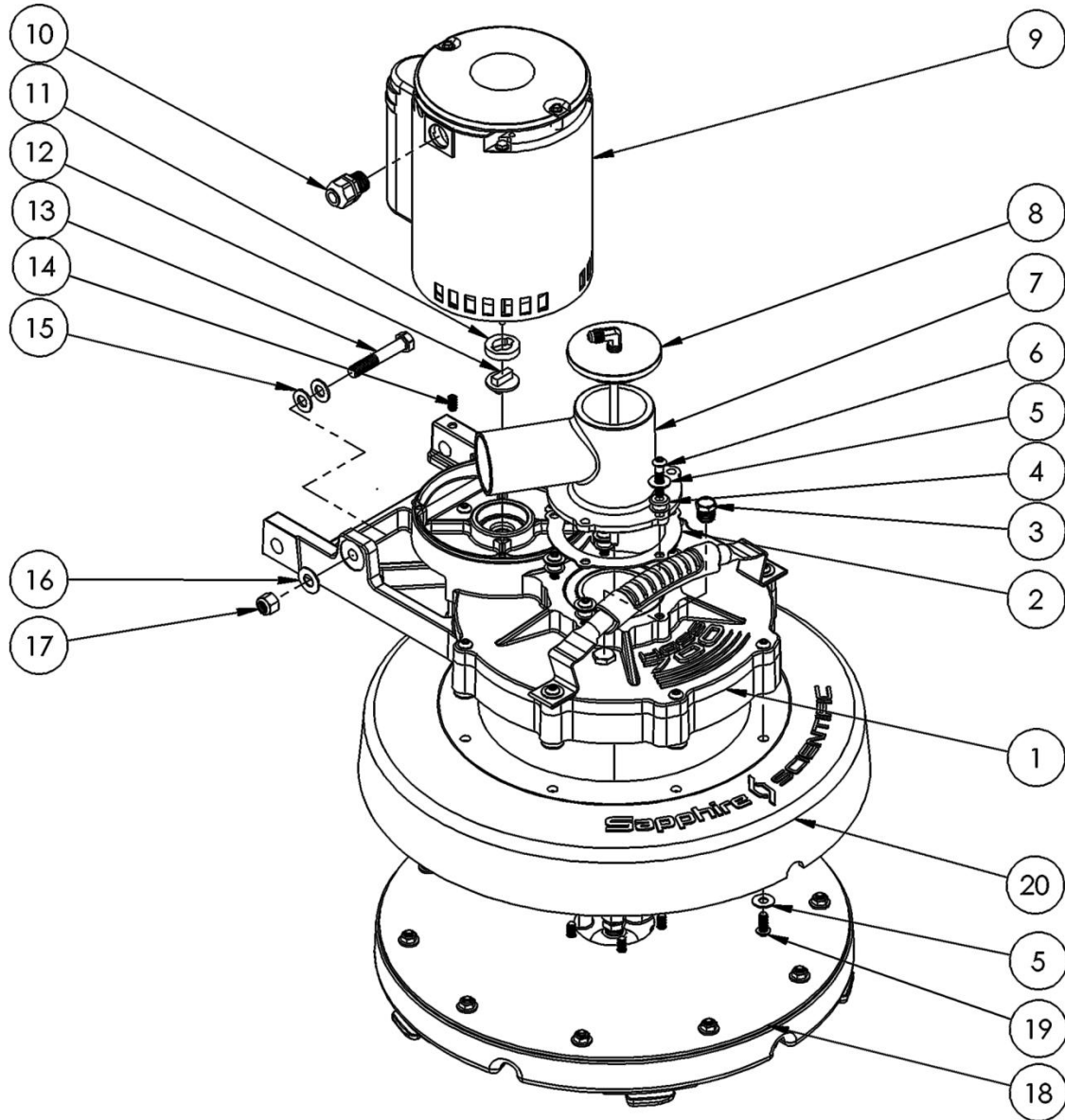
**69-334, ASSEMBLY, ANGLE VALVE HANDLE**

Item No.	Part Number	Qty	Description
1	51-046	1	MOLDING, VALVE COVER TOP
2	51-045	1	MOLDING, VALVE COVER BOTTOM
3	20-041	1	ORIFICE, .052 DIAMETER SS
4	20-037	1	STRAINER, JET 100 MESH
5	21-026	1	NIPPLE, 1/4 NPT HEX BRASS
6	21-037	1	FITTING, ELBOW 1/4 NPT BRASS
7	21-050	1	CONN, 1/4 NPT X 1/4 JIC BRASS
8	21-060	1	ELL, STREET 1/4 NPT 45 DEG BRASS
9	21-417	1	NIPPLE, 1/4 NPT CLOSE BRASS
10	24-002	1	WASHER, NYLON
11	24-004	1	FITTING, CONN 1/4 NPT X 11/16 BRASS
12	24-014	1	FITTING, CONN 1/4 FNPT X 11/16 F BRASS
13	25-000	1	QUICK DISCONNECT, 1/4 NPT 1/4 PLUG BRASS
14	27-013	1	BRASS ANGLE VALVE
15	10-227	3	SCREW, MACH 4-40 X 7/8 BHSCS SS
16	10-229	2	SCRWE, MACH 8-32 X 1-1/2 BHSCS SS
17	11-047	2	NUT, 8-32 SS NYLOK



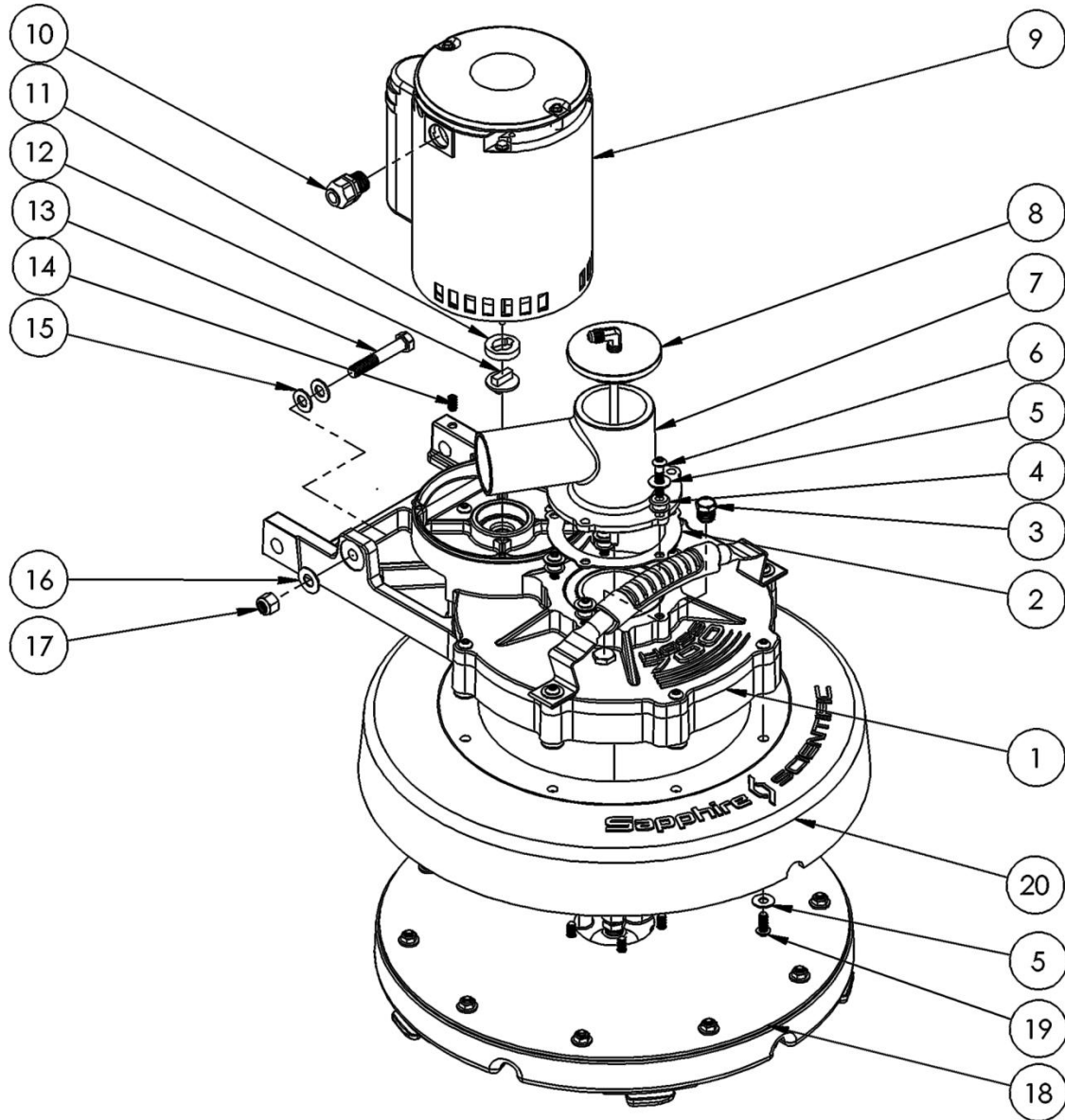
**69-335, ASSEMBLY, MOTOR SWITCH HANDLE**

Item No.	Part Number	Qty	Description
1	66-342	1	TUBE, HANDLE SUPPORT
2	66-323	1	HANDLE, MOTOR SWITCH
3	58-503	1	PANEL, SWITCH GUARD
4	51-048	1	MOLDING, SWITCH COVER TOP
5	51-047	1	MOLDING, SWITCH COVER BOTTOM
6	29-053	1	SWITCH, 25 AMP LARGE PLUNGER
7	15-045	1	SPRING, CONICAL
8	11-038	4	NUT, 6-32 SS NYLOK
9	10-228	4	SCREW, MACH 6-32 X 1-1/2 BHSCS SS
10	10-227	4	SCREW, MACH 4-40 X 7/8 BHSCS SS



**69-299, ASSEMBLY, DRIVE HEAD, 1-10**

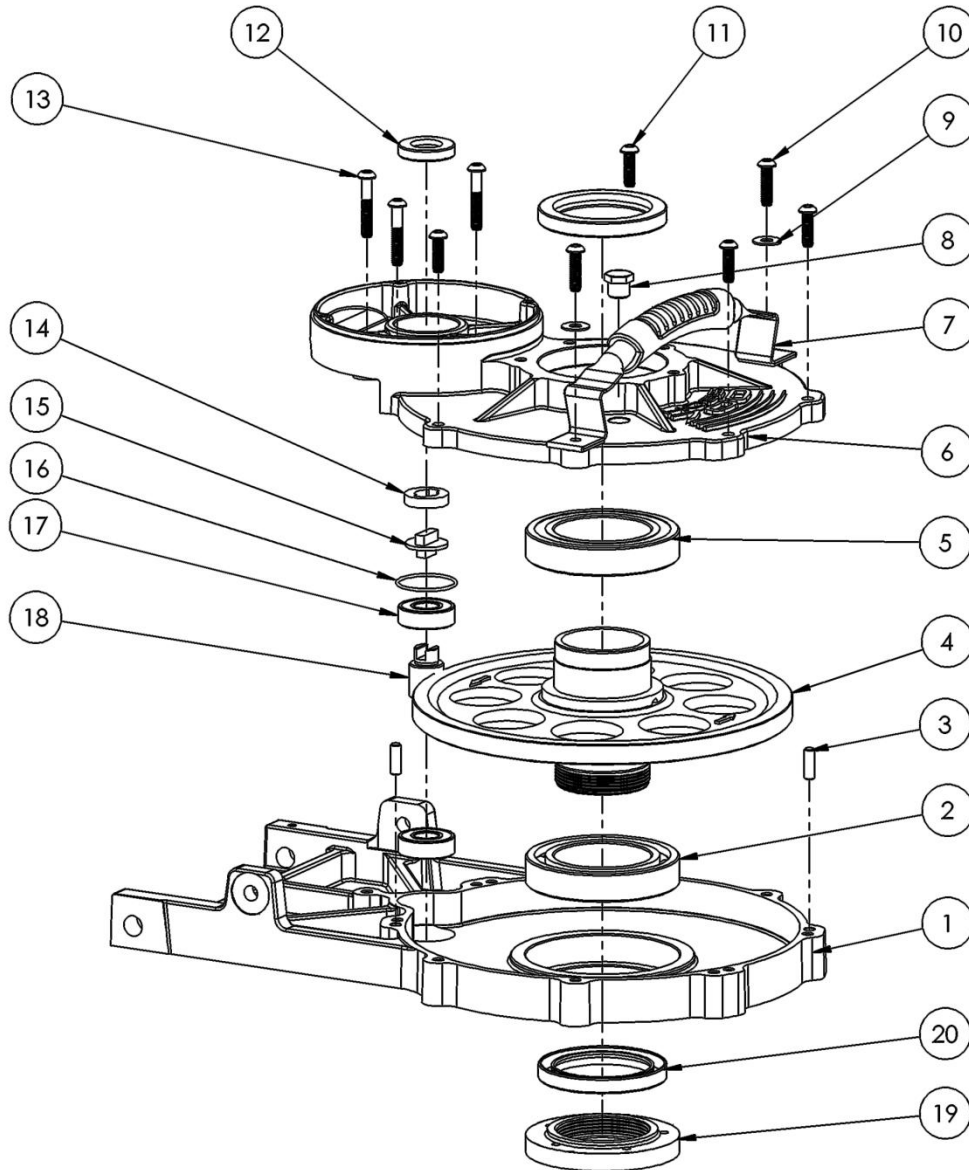
Item No.	Part Number	Qty	Description
1	69-302	1	ASSY, GEAR BOX
2	41-105	1	GASKET, VACUUM INLET
3	20-042	1	VENT PLUG, 1/4 NPT
4	41-114	5	GROMMET, 5/8 OD X 1/4 ID X 1/4 PANEL
5	12-059	13	WASHER, .285 ID X .687 OD X .04 THK SS
6	10-226	5	SCREW, MACH 1/4-20 X 1-1/4 BHSCS SS
7	51-039	1	MOLDING, VACUUM INLET
8	69-337	1	ASSY, VACUUM INLET CAP
9	45-027	1	MOTOR, .5 HP ELECTRIC
10	31-208	1	CORD CONNECTOR



**69-299, ASSEMBLY, DRIVE HEAD, 11-20**

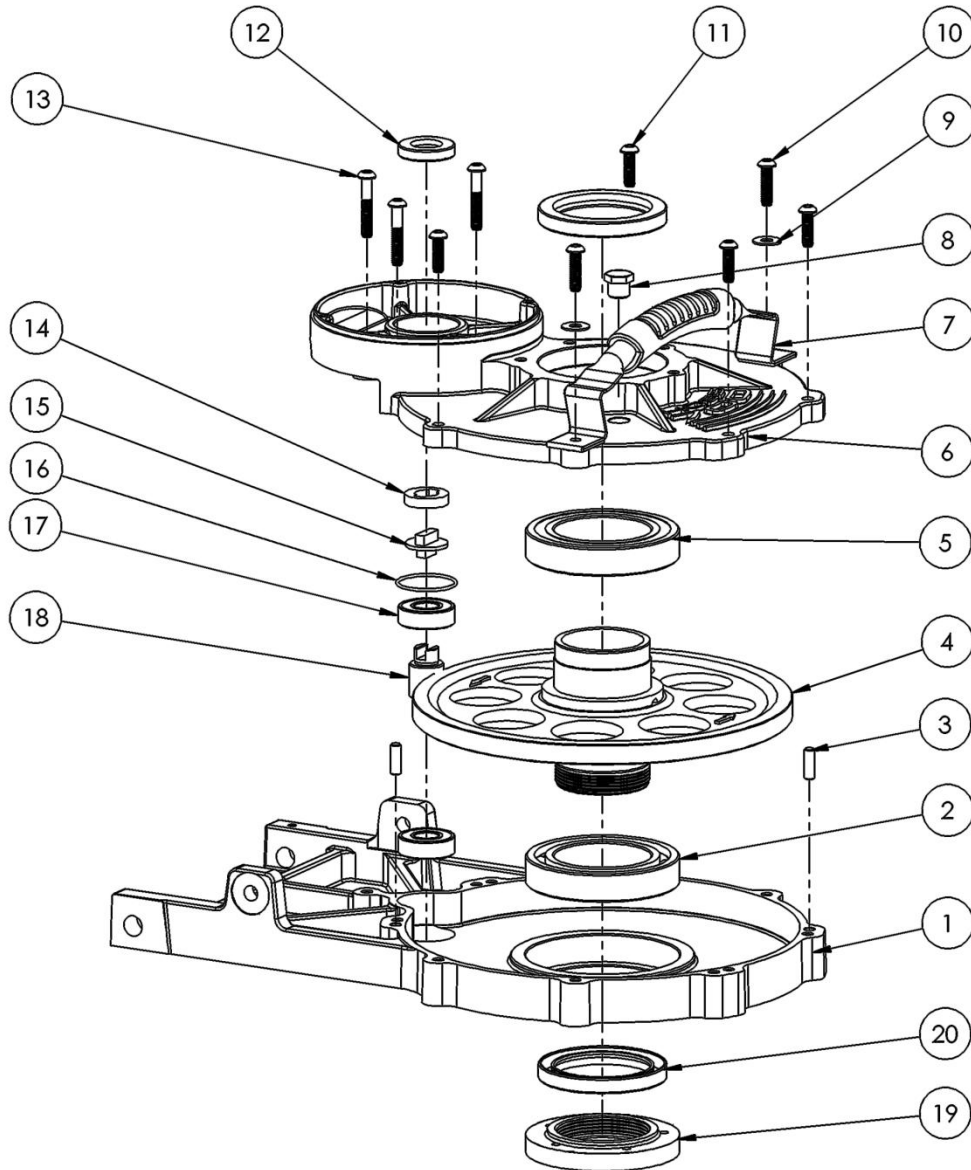
Item No.	Part Number	Qty	Description
11	39-045	1	RETAINER, MOTOR COUPLING
12	39-044	1	COUPLING, MOTOR
13	10-096	2	BOLT, 3/8-16 X 2-1/4 HHCS SS
14	10-237	1	SCRWE, SET 1/4-20 X 1/2 SSSCP
15	41-107	4	WASHER, .375 ID X .750 OD X .060 NYLON
16	12-060	2	WASHER, FLAT 3/8 SS
17	11-035	2	NUT, 3/8-16 NYLOK SS
18	69-300	1	ASSY, VACUUM HEAD
19	10-194	8	SCREW, MACH 1/4-20 X 5/8 BHSCS SS
20	51-040	1	COVER, THERMOFORMED





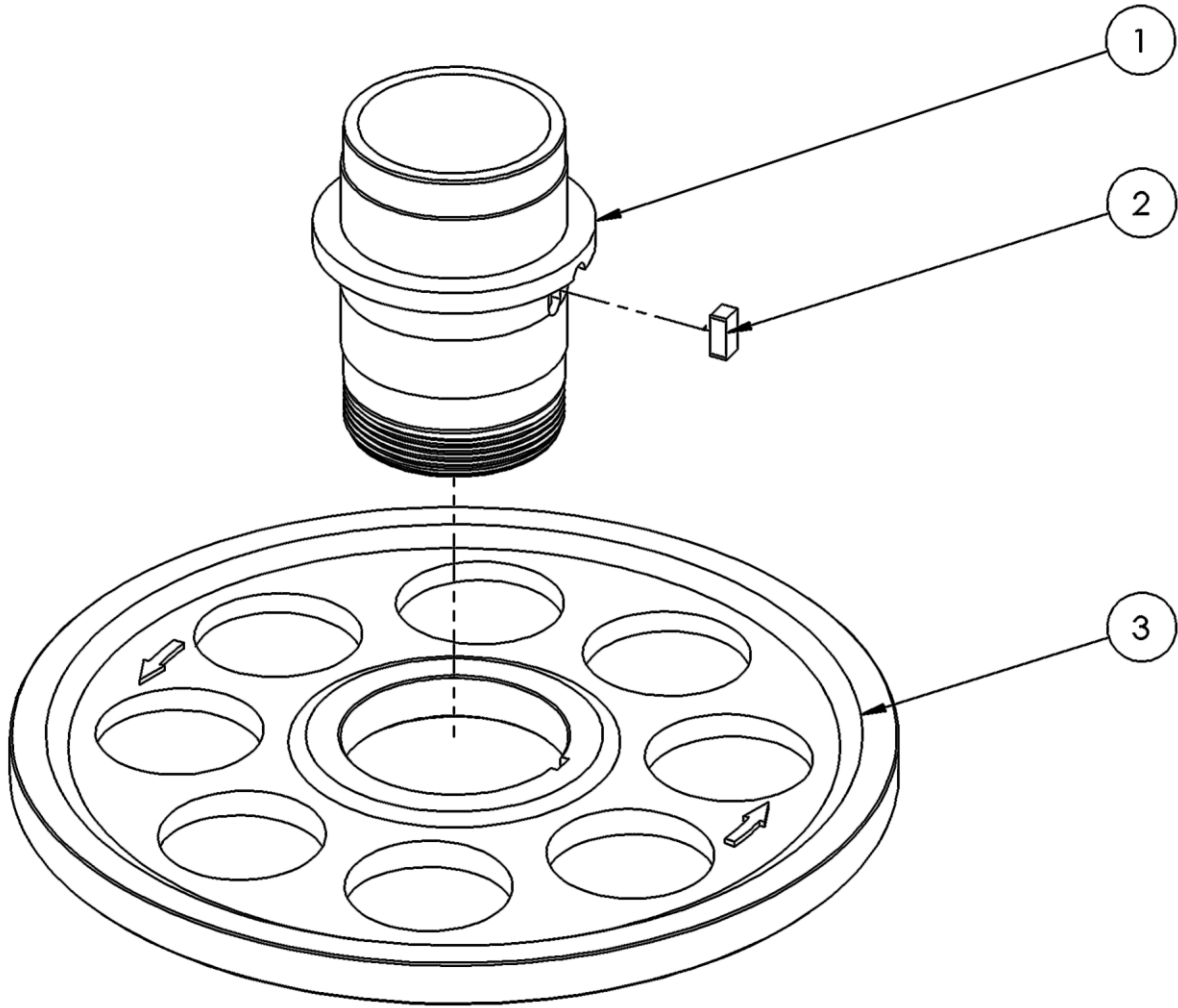
**69-302, ASSEMBLY, GEAR BOX, 1-10**

Item No.	Part Number	Qty	Description
1	66-299-01	1	BASE FRAME, MACHINED
2	39-038	1	BEARING, 6012 C3
3	15-041	2	PIN, DOWEL 1/4 X 3/4 SS
4	69-378	1	ASSY, OUTPUT SHAFT AND GEAR
5	39-057	1	BEARING, 6012-2RS
6	66-300-01	1	GEAR BOX COVER, MACHINED
7	40-033	1	HANDLE, LIFTING
8	21-426	1	PLUG, 1/4 NPT HEX HEAD PLASTIC
9	12-059	2	WASHER, .285 ID X .687 OD X .04 THK SS
10	10-203	2	SCREW, MACH 1/4-20 X 1 BHSCS SS



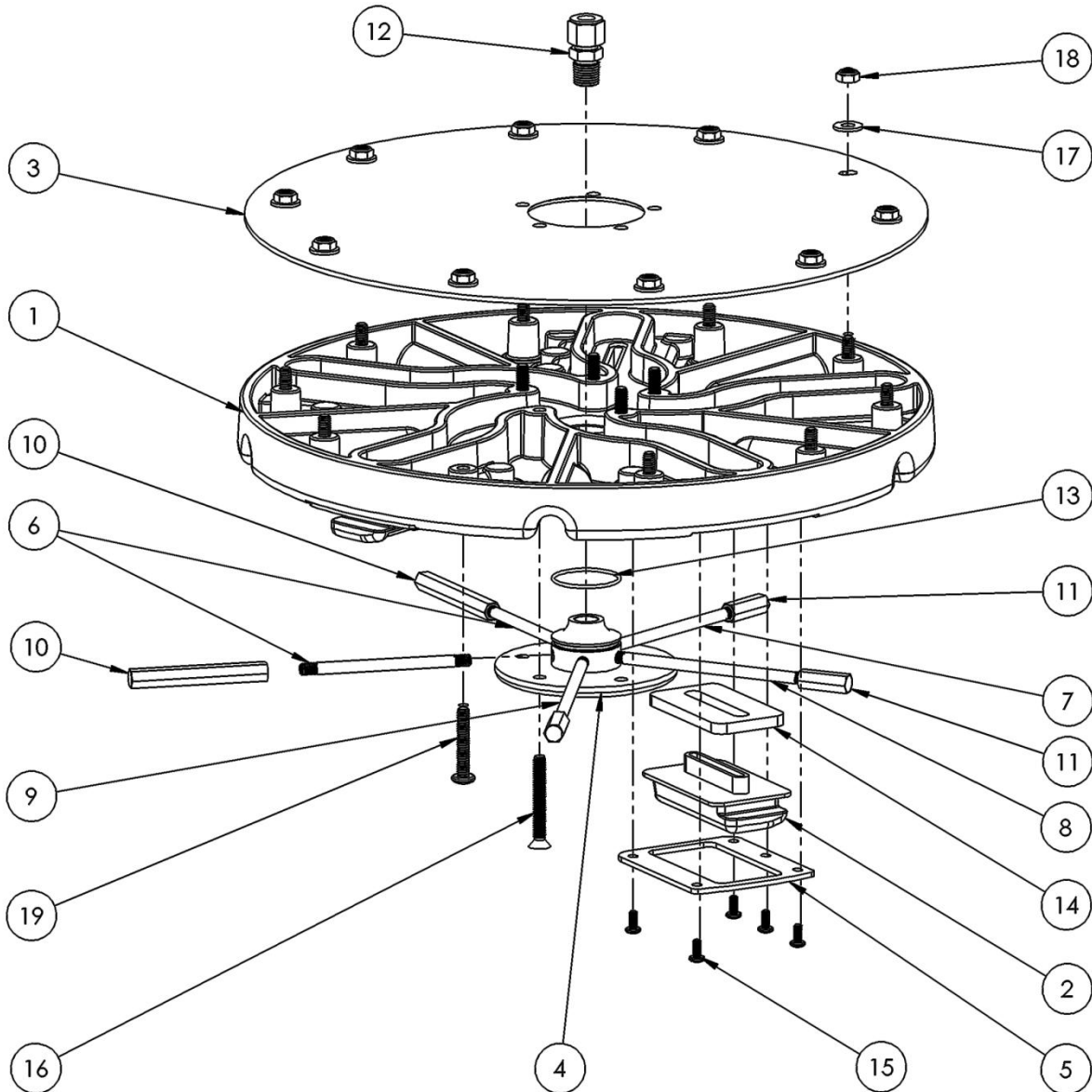
**69-302, ASSEMBLY, GEAR BOX, 11-20**

11	10-192	4	SCREW, MACH 1/4-20 X 7/8 BHSCS SS
12	39-058	1	SEAL, OIL CR 6640
13	10-197	3	SCREW, MACH 1/4-20 X 1-1/2 BHSCS SS
14	39-045	1	RETAINER, MOTOR COUPLING
15	39-044	1	COUPLING, MOTOR
16	41-102	1	O-RING, AS568A-028 BROWN VITON
17	39-039	2	BEARING, 6202-2RS
18	39-046	1	PINION, HELICAL 14 TEETH
19	66-314	1	FLANGE, HEAD MOUNTING
20	39-040	2	SEAL, OIL



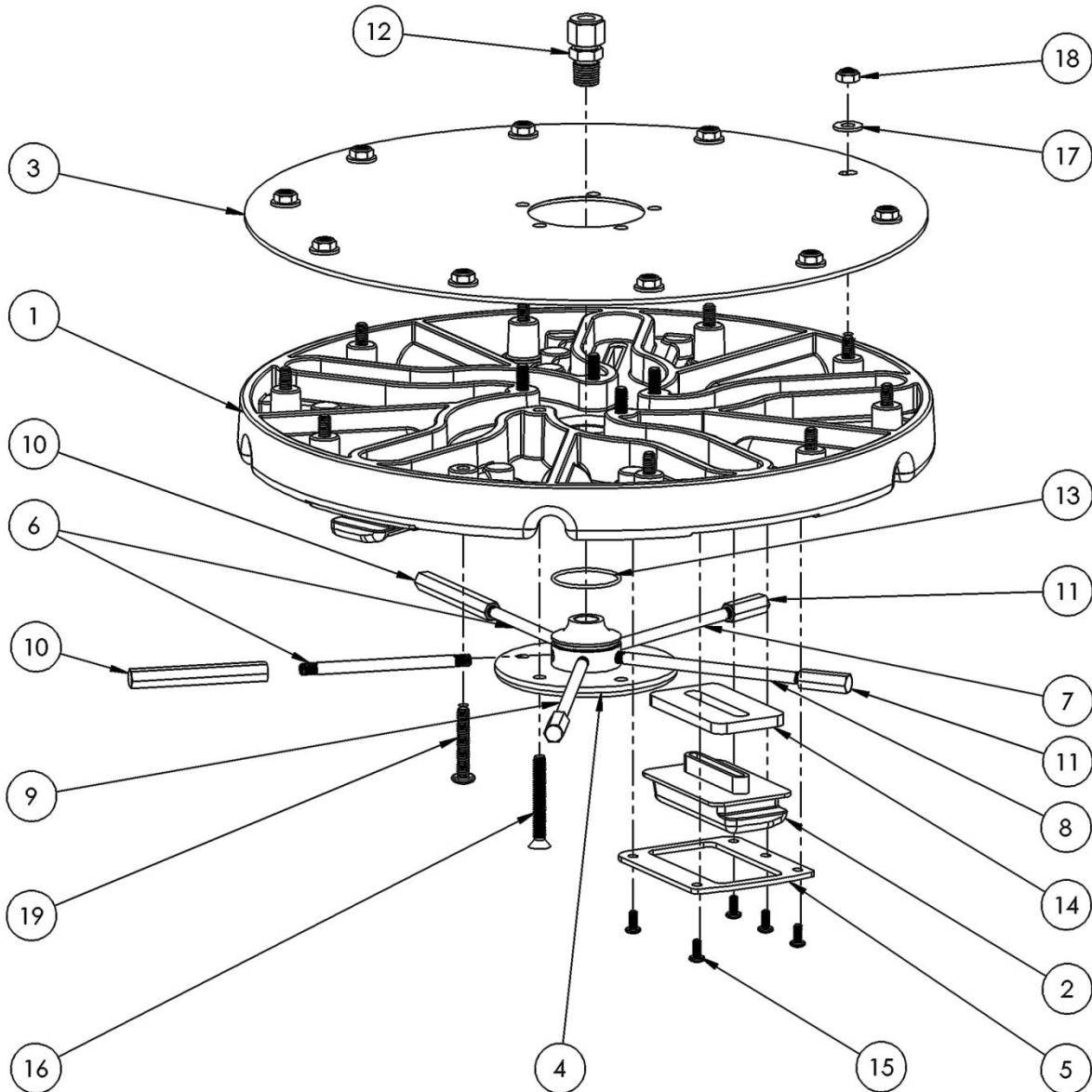
**69-378, ASSEMBLY, OUTPUT SHAFT & GEAR**

Item No.	Part Number	Qty	Description
1	66-301	1	SHAFT, OUTPUT
2	66-335	1	MACHINED KEY, OUTPUT SHAFT
3	39-047	1	GEAR, HELICAL 172 TEETH



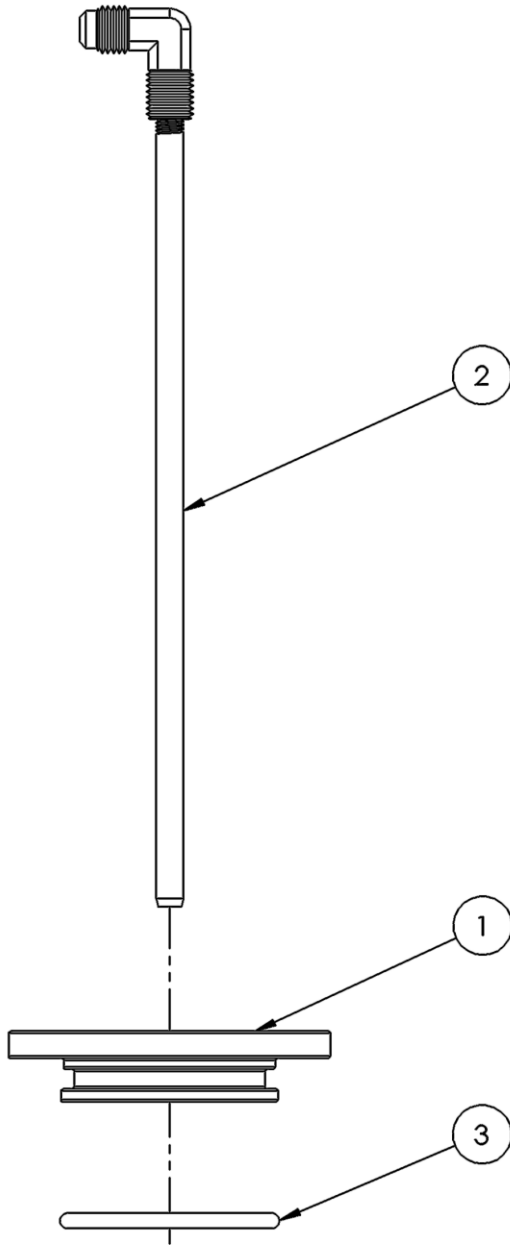
**69-300, ASSEMBLY, VACUUM HEAD, 1-10**

Item No.	Part Number	Qty	Description
1	51-049	1	ROTARY TOOL HEAD
2	51-041	5	CASTING, VACUUM SHOE
3	58-505	1	PLATE, VACUUM CHAMBER COVER
4	66-304	1	HUB, HEAD MOUNTING
5	58-520	5	PLATE, SHOE COVER
6	66-308-01	2	TUBE, SPRAY HEAD
7	66-308-02	1	TUBE, SPRAY HEAD
8	66-308-03	1	TUBE, SPRAY HEAD
9	66-308-04	1	TUBE, SPRAY HEAD
10	66-362	2	HEAD, SPRAY NOZZLE (15) HOLE



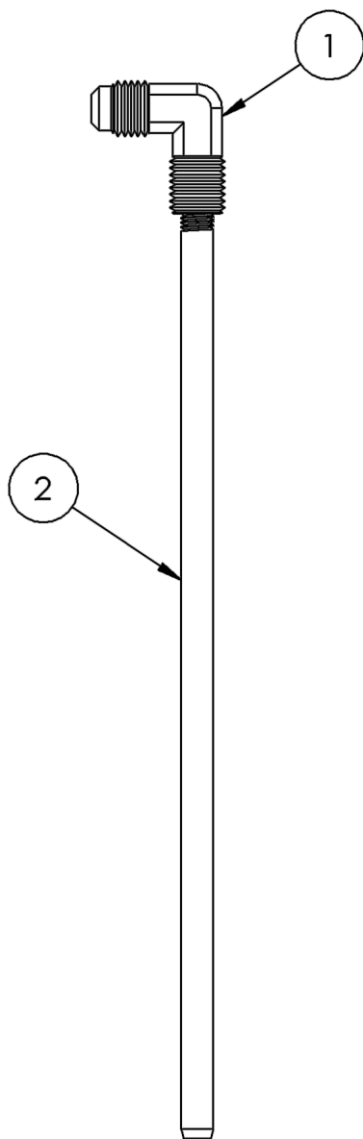
**69-300, ASSEMBLY, VACUUM HEAD, 11-19**

11	66-361	3	HEAD, SPRAY NOZZLE (4) HOLE
12	69-304	1	ASSY, COMPRESSION FITTING
13	41-102	1	O-RING, AS568A-028 BROWN VITON
14	41-106	5	GASKET, VACUUM SHOE
15	10-199	25	SCREW, MACH 8-32 X 3/8 PHP SS
16	10-200	5	SCREW, MACH 1/4-20 X 2.0 FHP SS
17	12-002	10	WASHER, FLAT 1/4 SS ANC
18	11-086	10	NUT, 1/4-20 SS THIN NYLOK
19	10-198	10	SCREW, MACH 1/4-20 X 1-1/2 PHP SS



**69-337, ASSEMBLY, VACUUM INLET CAP**

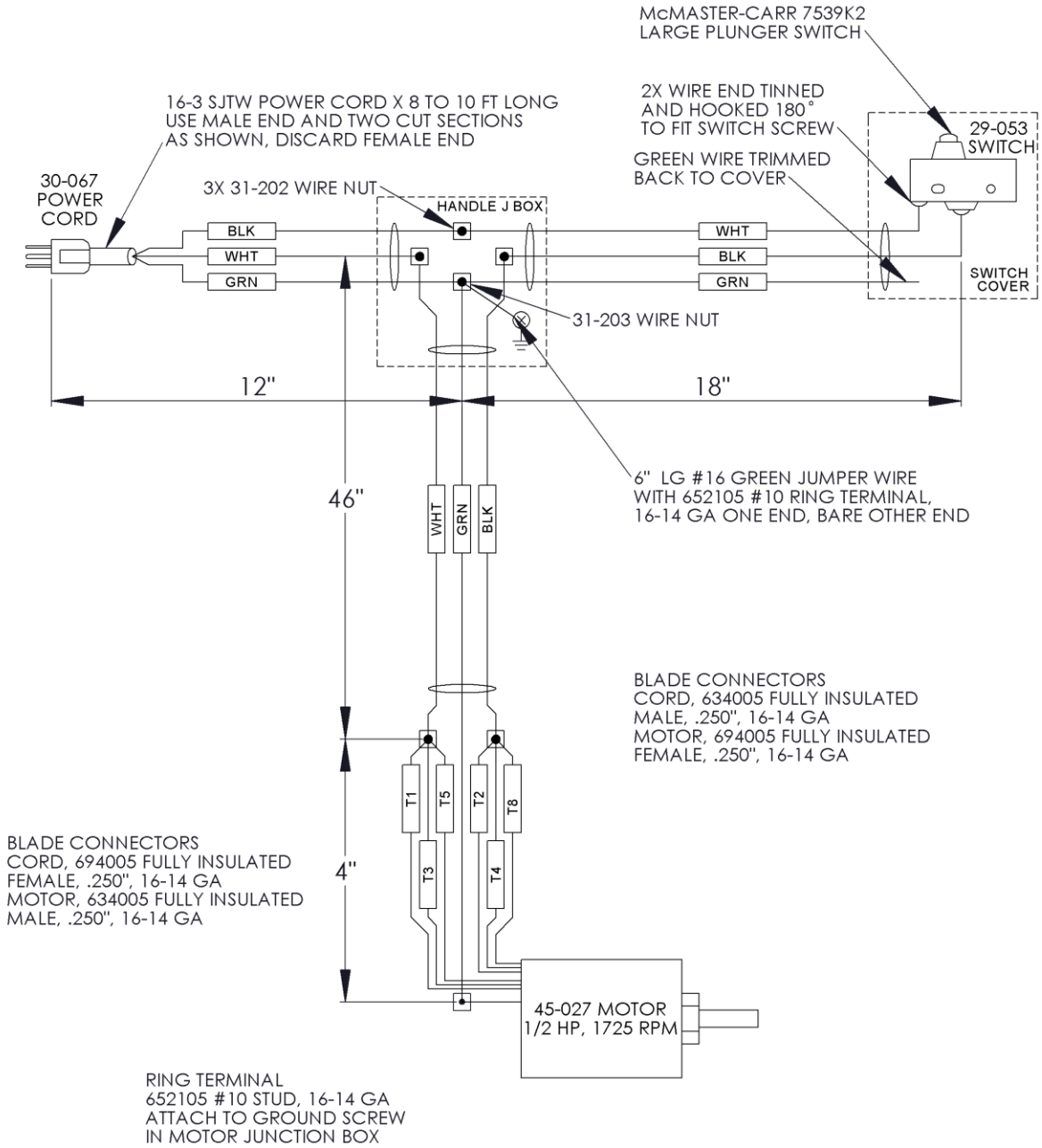
Item No.	Part Number	Qty	Description
1	51-050	1	MOLDING, VACUUM INLET CAP
2	69-346	1	ASSY, SOLUTION TUBE INLET
3	41-103	1	O-RING, AS568A-222 BROWN VITON



**69-346, ASSEMBLY, SOLUTION INLET TUBE**

<b>Item No.</b>	<b>Part Number</b>	<b>Qty</b>	<b>Description</b>
1	66-319	1	FITTING, SOLUTION INLET
2	66-318	1	TUBE, SOLUTION INLET

# Wiring Schematic



CONNECTOR PART NUMBERS SHOWN  
CAN BE PURCHASED FROM DEL CITY WIRE



# **SECTION 6:** **REFERENCE INFORMATION**

<b>1. REFERENCE</b>
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HOSS 700 Specifications.....	39
Service Record.....	39

## **WARRANTY REGISTRATION**

Warranty information is included in this manual and also available from your dealer or at [www.sapphirescientific.com](http://www.sapphirescientific.com).

To register your purchase visit [warranty.sapphirescientific.com](http://warranty.sapphirescientific.com). Registration allows us to better assist you with using, maintaining or servicing your equipment, as well as to contact you in case we have important safety information concerning your HOSS 700. If you determine service is required, have your model, serial number and original proof of purchase available and call your distributor for assistance with obtaining a return material authorization (RMA).

## **CONTACT US**

Sapphire Scientific  
2604 Liberator  
Prescott, AZ 86301

Phone: 866-445-3030  
Fax: 928-445-1946

## **HOSS 700 SPECIFICATIONS**

Model	HOSS 700 Rotary Cleaning Tool
Cleaning width	15 inches / 38 cm head diameter
Use weight	75 lbs / 31 kg
Power	110V / 60Hz
Motor	1/2 HP 1725 RPM
Construction	Lightweight machined aluminum gear box. Stainless steel handle. 6 inch non-scuffing wheels.
Rotary system	Gear-driven rotor with five replaceable long life floating heads
Vacuum system	2 inch tube with clear view vacuum inlet cap.
<i>Specifications are subject to change without notice. Some values may be approximate.</i>	

**SERVICE RECORD**

Purchase date: \_\_\_\_\_

Serial number: \_\_\_\_\_

Distributor: \_\_\_\_\_

Tel. \_\_\_\_\_

**MAINTENANCE**

DATE	SERVICE PERFORMED	PERFORMED BY