



MARTATCH

Operator's Manual

MRS24 Series Rotary Sweepers - 2018



WWW.MARTATCH.COM

TABLE OF CONTENTS

Introduction, General Information.....	3
Owner and Operator Safety Information	4-6
Specifications	9-11
Mounting and Setup.....	12-13
Operation	14
Maintenance	
Grease Points.....	15
Wafer Replacement.....	17-24
Parts Illustrations.....	25-30
Trouble Shooting.....	31
Warranty Policy	32

MARTATCH ATTACHMENTS

4350 HESSEN STRASSE
R.R. #3
WELLESLEY, ON N0B 2T0
Canada
Phone: 1-800-698-5510
Email: sales@martatch.com
Website: www.martatch.com

INTRODUCTION

Congratulations on your purchase of a new Martatch MRS24 Series Rotary Sweeper. You or any other person, who will be assembling, operating, maintaining, or working with this product are required to read and completely understand the information and instructions contained in this manual. Contact Martatch Attachments at 1-800-698-5510 with any questions about this product. Keep this manual available for reference whenever this product is being handled or used. Provide this manual to any new owners and/or operators. This manual covers model(s):

- All MRS24 Series Rotary Sweepers

GENERAL INFORMATION

The purpose of this manual is to assist in assembling, mounting, operating, and maintaining your MRS24 Sweeper. Read this manual carefully to obtain valuable information and instructions that will help you achieve years of safe and dependable service. The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and/or production changes, this product may vary slightly in detail. Martatch Attachments reserves the right to redesign and/or change components as may be necessary without notification to anyone.

Throughout this manual, references may be made to:

Power source - The engine-driven machine to which this product is attached.

Right, Left Front, Rear - Directions are determined in relation to the operator of the equipment when seated in the normal operation position.

Important - Precautions that must be followed to prevent substandard performance.

Owner and Operator Safety Information

THINK SAFE, BE SAFE !



This symbol by itself or with a warning word throughout this manual is used to call your attention to instructions involving your personal safety or the safety of others. Failure to follow these instructions can result in injury or death



DANGER - This signal word is used where serious injury or death will result if the instructions are not followed properly.



WARNING - This signal word is used where serious injury or death could result if the instructions are not followed properly.



CAUTION - This signal word is used where minor injury could result if the instructions are not followed properly.



NOTICE - Notice indicates a property damage message

SAFETY PRECAUTIONS



WARNING! Read Manual Prior to Installation

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual, as well as all manuals related to the Power Source before beginning installation, operation, or maintenance.



WARNING! Read and Understand All Safety Statements

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all O.S.H.A. regulations, local laws, and other professional guidelines for your operation. Know and follow safe work practices when assembling, maintaining, repairing, mounting, removing, or operating this product.



WARNING! Know Your Equipment

Know your equipment's capabilities, controls and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to ensure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued, or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they are hard to read.



WARNING! Protect Against Flying Debris

Always wear proper safety glasses, goggles or a face shield when driving pins in or out, or when any operation causes dust, flying debris, or any other hazardous material.



WARNING! Lower or Support Raised Equipment

Lower attachment to the ground before leaving operator's station. Do not work under raised booms without taking the proper action to support them, or lower booms to ground level.



WARNING! Use Care When Working With Hydraulic Fluid Pressure

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your Power Source operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.
- If injured by fluid, see a doctor at once.
- Wear safety glasses, protective clothing when searching for hydraulic leaks. **DO NOT USE YOUR HANDS!**

SAFETY PRECAUTIONS



WARNING! DO NOT MODIFY MACHINE OR ATTACHMENTS

Modifications may weaken the integrity of the attachment and may impair the function, safety, life, and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Contact Martatch Attachments before modifications are made.



WARNING! SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing, or any accessories that can catch in moving parts.
- If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use the correct tool for the job at hand. Make sure they are in good condition for the task required.
- Wear the protective equipment specified by the tool manufacturer. (i.e. safety glasses, work gloves, protective shoes, hardhat etc.).



WARNING! SAFELY OPERATE EQUIPMENT

Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, and all safety requirements. See Power Source manual for these instructions.

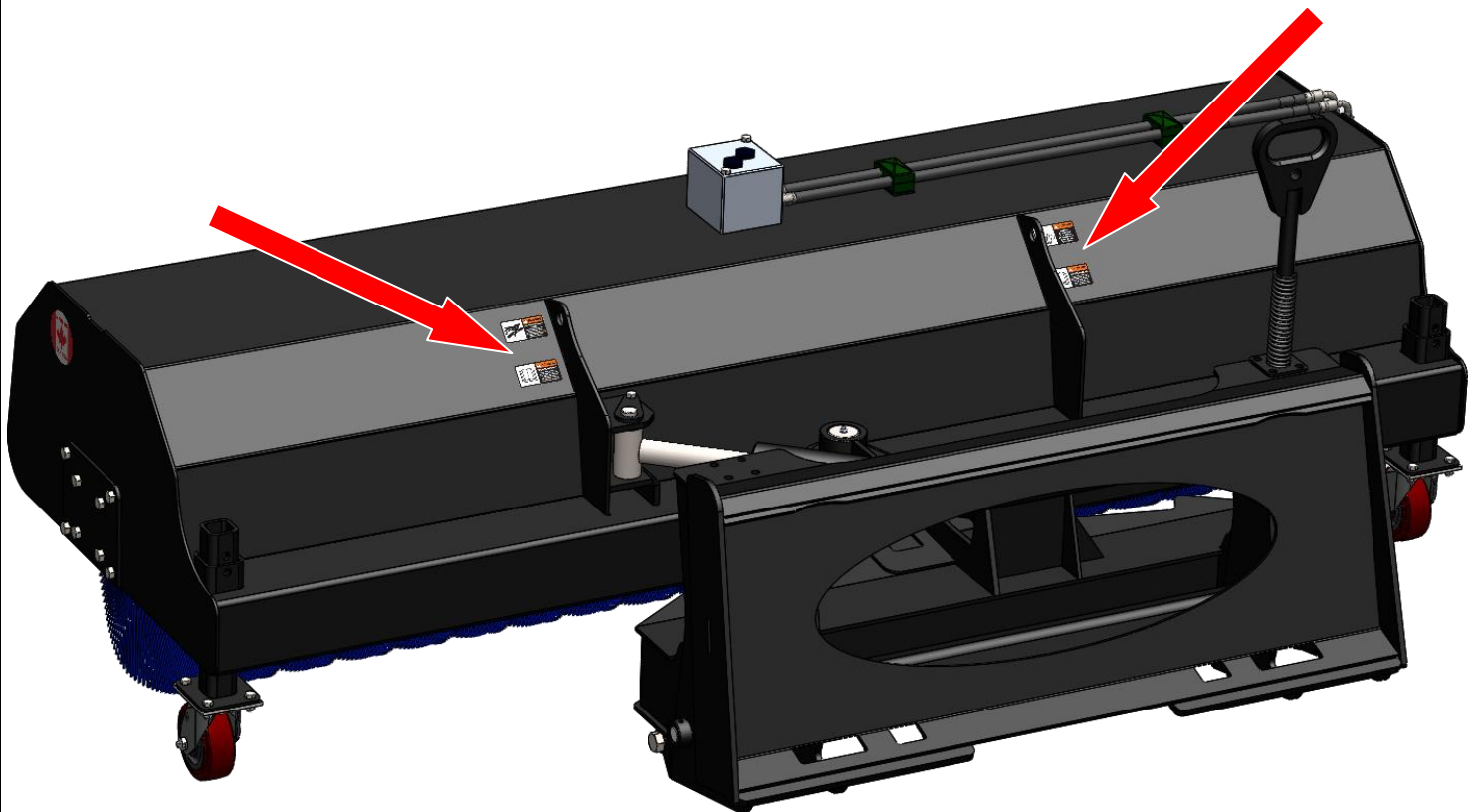
- Keep all step plates, grab bars, pedals, controls, etc. free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating..
- Do not allow riders on the attachment or the Power Source.
- Do not operate the equipment from anywhere other than the correct operators position.
- Never leave equipment unattended with the engine running or with attachment in a raised position.
- Do not alter or remove any safety feature from the Power Source or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

SAFETY DECALS AND LOCATION

The diagram on this page shows the location of the decals. The decals are identified by their part numbers, with reductions of the actual decals located on the next page. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the attachment. They contain information you need to know for both safety and product longevity.

INSTRUCTIONS

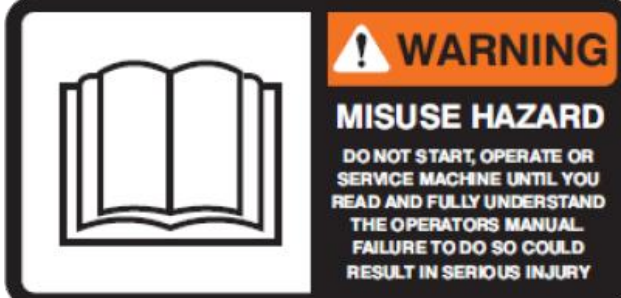
- Keep all safety decals clean and legible.
- Replace all missing or damaged safety decals.
- When replacing parts with safety decals attached, new parts must also have safety decals attached.
- Safety decals are available from Martatch Attachments.



MRS24 SERIES - SAFETY DECALS



! WARNING
HIGH PRESSURE FLUID HAZARD
RELIEVE PRESSURE BEFORE DISCONNECTING LINES. DO NOT USE HANDS TO CHECK FOR LEAKS. CONSULT PHYSICIAN IMMEDIATELY IF SKIN PENETRATION OCCURS.



! WARNING
MISUSE HAZARD
DO NOT START, OPERATE OR SERVICE MACHINE UNTIL YOU READ AND FULLY UNDERSTAND THE OPERATORS MANUAL. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY



! WARNING
PIVOTING ATTACHMENT STAY CLEAR OF ATTACHMENT WHEN MOTOR IS RUNNING.



! DANGER



Do not place any part of body or limb under raised loader arms, bucket, or attachments at any time.

MAR-008



! WARNING

OPERATOR MUST READ INSTRUCTION MANUAL BEFORE OPERATING MACHINERY TO AVOID INJURY OR DEATH

POWER SOURCE SPECIFICATIONS



IMPORTANT - Exceeding any of the maximum recommended power source specifications can result in damage to this product and void all warranties.

Recommended HP on Power Source

- MRS24-Series Rotary Sweepers are recommended for use with 30 - 100 HP Machines

Hydraulic specifications

- Hydraulic Flow Rating of Motor 12 to 22 GPM
- **Maximum** Hydraulic Pressure 4,000 psi

Electrical specifications

- 12Volt power for relay switch

To maintain required Power Source stability add Rear Counterweights.
Note: - See Power Source manuals for correct weight needed.
DO NOT EXCEED MAXIMUM WEIGHT LIMIT.

MRS24 ROTARY SWEEPER SPECIFICATIONS

Model	Overall Width	Overall Height	Replacement Wafers (Qty.)	Angle/Full Angled Width	Shipping Weight	Recommended HP Rating
MRS2448	60 3/4"	29"	24 Convo. + 2 Flat	0-29 Deg./75" (Bi-directional)	825Lbs	30 - 100
MRS2454	66 3/4"	29"	27 Convo. + 2 Flat	0-29 Deg./77" (Bi-directional)	838Lbs.	30 - 100
MRS2460	72 3/4"	29"	30 Convo. + 2 Flat	0-29 Deg./79"(Bi-directional)	850Lbs.	30 - 100
MRS2466	78 3/4"	29"	33 Convo. + 2 Flat	0-29 Deg./81"(Bi-directional)	885Lbs.	30 - 100
MRS2472	84 3/4"	29"	36 Convo. + 2 Flat	0-29 Deg./83"(Bi-directional)	950Lbs.	50 - 100
MRS2478	90 3/4"	29"	39 Convo. + 2 Flat	0-29 Deg./85"(Bi-directional)	980Lbs.	50 - 100
MRS2484	96 3/4"	29"	42 Convo. + 2 Flat	0-29 Deg./87"(Bi-directional)	1010Lbs.	50 - 100

***NOTE:** - Weights may vary with different mounts. Weights shown with standard Universal Quick Attach skid steer plate.

BOLT TORQUE SPECIFICATIONS

Diameter (Inches)	Wrench Size	MARKING ON BOLT HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383

Diameter & Thread Pitch (Inches)	Wrench Size	FINE THREAD MARKING ON HEAD			
		Metric 8.8		Metric 10.9	
		N-m	lbs-ft	N-m	lbs-ft
		6 x 1.00	10 mm	8	9
8 x 1.00	13 mm	21	16	29	22
10 x 1.25	16 mm	41	30	57	42
12 x 1.25	18 mm	75	55	103	76
14 x 1.50	21 mm	118	87	163	120
16 x 1.50	24 mm	181	133	250	184
18 x 1.50	27 mm	263	194	363	268
20 x 1.50	30 mm	367	270	507	374
22 x 1.50	34 mm	495	365	684	505
24 x 2.00	36 mm	623	459	861	635
30 x 2.00	46 mm	1258	928	1740	1285

Diameter & Thread Pitch (Inches)	Wrench Size	COARSE THREAD MARKING ON HEAD			
		Metric 8.8		Metric 10.9	
		N-m	lbs-ft	N-m	lbs-ft
		6 x 1.00	10 mm	8	9
8 x 1.25	13 mm	20	15	27	20
10 x 1.50	16 mm	39	29	54	40
12 x 1.75	18 mm	68	50	94	70
14 x 2.00	21 mm	109	80	151	111
16 x 2.00	24 mm	169	125	234	173
18 x 2.50	27 mm	234	172	323	239
20 x 2.50	30 mm	330	244	457	337
22 x 2.50	34 mm	451	332	623	460
24 x 3.00	36 mm	571	421	790	583
30 x 3.00	46 mm	1175	867	162	1199

MOUNTING & SET UP



WARNING! - READ MANUAL PRIOR TO INSTALLATION

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual, as well as all manuals related to this equipment and the Power Source thoroughly before beginning installation, operation, or maintenance. **FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE POWER SOURCE MANUAL(S).**

1. Inspect the attachment for shipping damage. If damage does exist, do not operate until the damaged parts have been replaced or repaired.
2. Place this product on a firm, level surface that is large enough to safely accommodate this product, your prime mover and all workers involved in the mounting process.
3. Refer to the Power Source operator's manual(s) for your loader and quick-attach and follow the mounting instructions contained therein.
4. When shipped the hydraulic cylinder(s) on this product may contain air, or an air-fluid mixture. Failure to remove all the air from the hydraulic cylinder(s) can cause uneven, jerky cylinder movement when the hydraulic controls are being operated and unwanted cylinder movement when the controls are not being operated.

*See Maintenance section for annual maintenance and Wafer replacement.

MOUNTING & SET UP (CONT.)



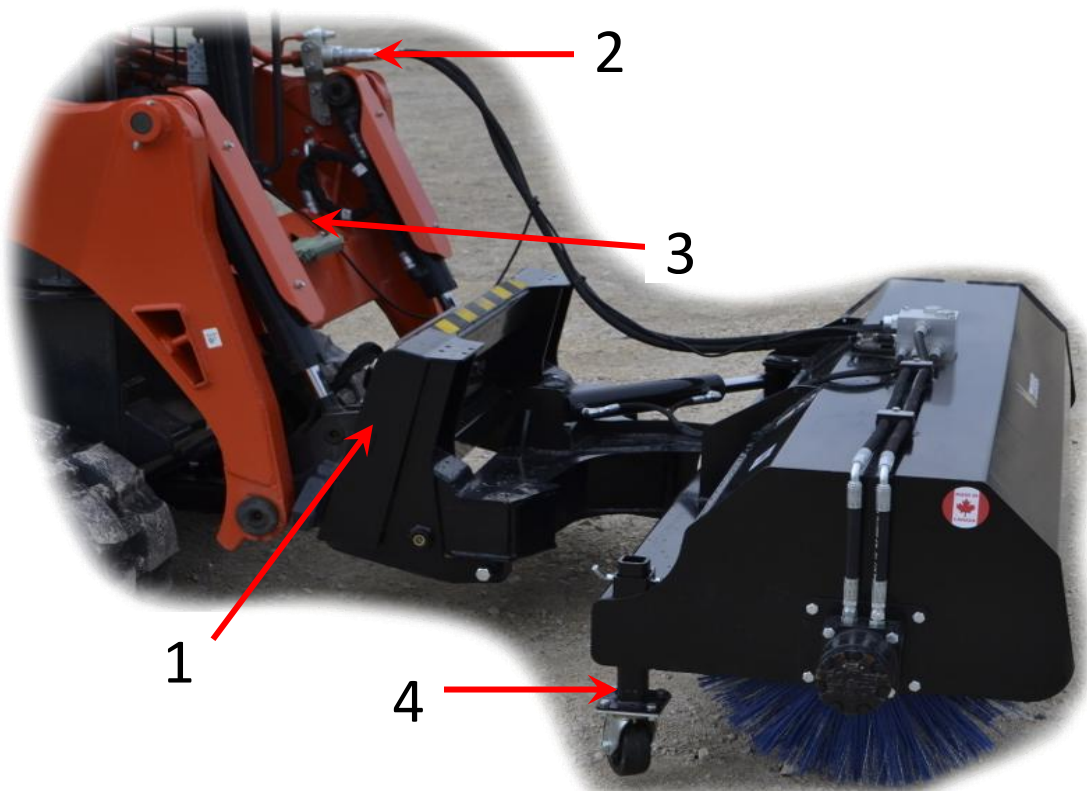
READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals before beginning any setup. Know and obey all O.S.H.A. regulations, local laws, and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing, or operating this equipment.

- **WARNING!** Failure to obey the following procedures could result in death or serious injury.
- Never operate this product where visibility is obstructed the operated view.
- Always operate at a safe operating speed for the surrounding conditions.
- **IMPORTANT** - Striking objects or sweeping materials other than aggregate can result in damage to this product and may void warranties.

Set up

1. Complete mounting procedure as specified on previous page.
2. Connect hydraulic hoses with quick couplers to available ports.
3. Connect 12v plug to power source.
4. Adjust casters to desired sweeping aggressiveness.



ROTARY SWEEPER OPERATION

Basic operation

With the mounting and set up done, you are ready to use your sweeper.

The MRS24 is equipped with a spring loaded mount plate. Tipping the mount plate forward will allow downward pressure without adding too much stress to the brush head. Concurrently, it has stops when tipping back to allow for lifting of the entire unit.

1. Begin with sweeper slightly above the ground before engaging sweeper brush.
2. Engage sweeper brush and lower slowly onto desired surface.
3. The 12v switch (located in the cab) will allow you to angle left and right while brush is in motion. This will allow you to angle your brush without having to stop the rotation - **See Fig. 1- 4**



Fig. 1



Fig. 2



Fig. 3



Fig. 4

MAINTENANCE

This section covers regular maintenance. Regular maintenance is required to insure that your rotary sweeper performs as it should and stays in good operating condition.

BEFORE EACH USE

- Make sure that all other fasteners are in place and are performing their specified function.
- Make sure that all hydraulic fittings are tightened and that there are no leaks in any fittings or hoses.
- Make sure that all safety decals are in place, are clean, and are legible. (See the safety decals and location)
- Check all wear parts, replace any damaged or excessively worn parts.
- Apply grease at grease points if necessary (See below)

GREASE POINTS

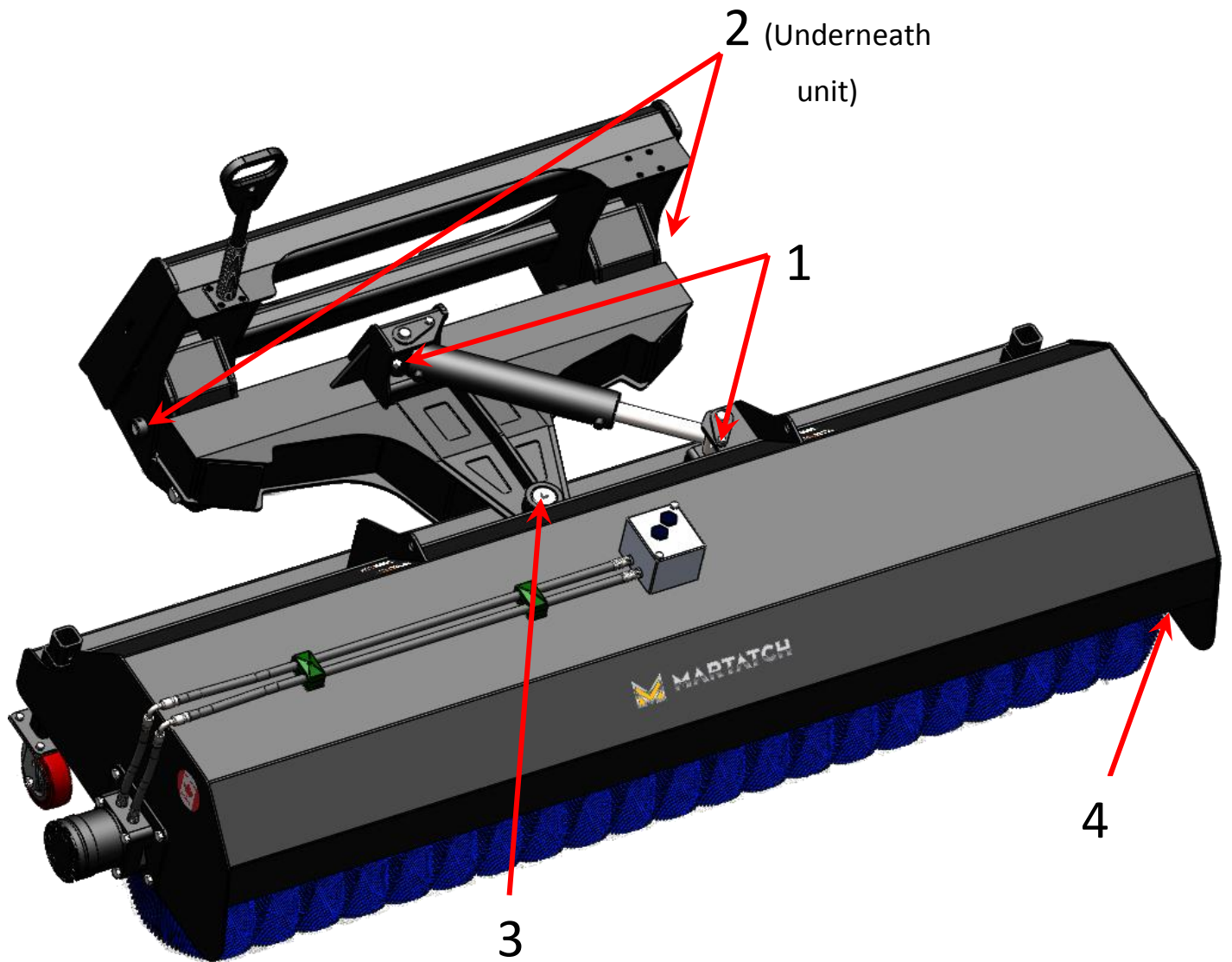
Grease points are usually equipped with a grease nipple; via a greaseable pin or Bushing. Grease should be applied to the grease points after every 20 hours of use. Always check to make sure that all components at grease points are moving with ease and there is no friction or visible rust forming.

Grease points will be found in the following locations.

(As shown in the diagram on the next page)

- 1. At each Hydraulic cylinder end**
- 2. At rear pivot points bushings (underneath)**
- 3. Center pivot pin**
- 4. Sealed bearing, opposite the motor**

GREASE POINT DIAGRAM



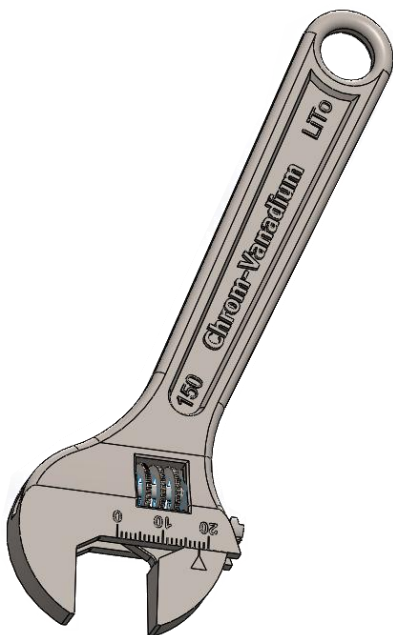
MAINTENANCE (Cont.)

WAFER REPLACEMENT

After some time, the brushes on your MRS24 will get worn. At which point it is time to replace them. This is normal and expected after significant use. The brushes on the brush head are made up of wafers. The total of replacement wafers is noted in the specification section (Pg. 10) of this manual for specific model lengths. The following steps will guide you through the wafer replacement process.

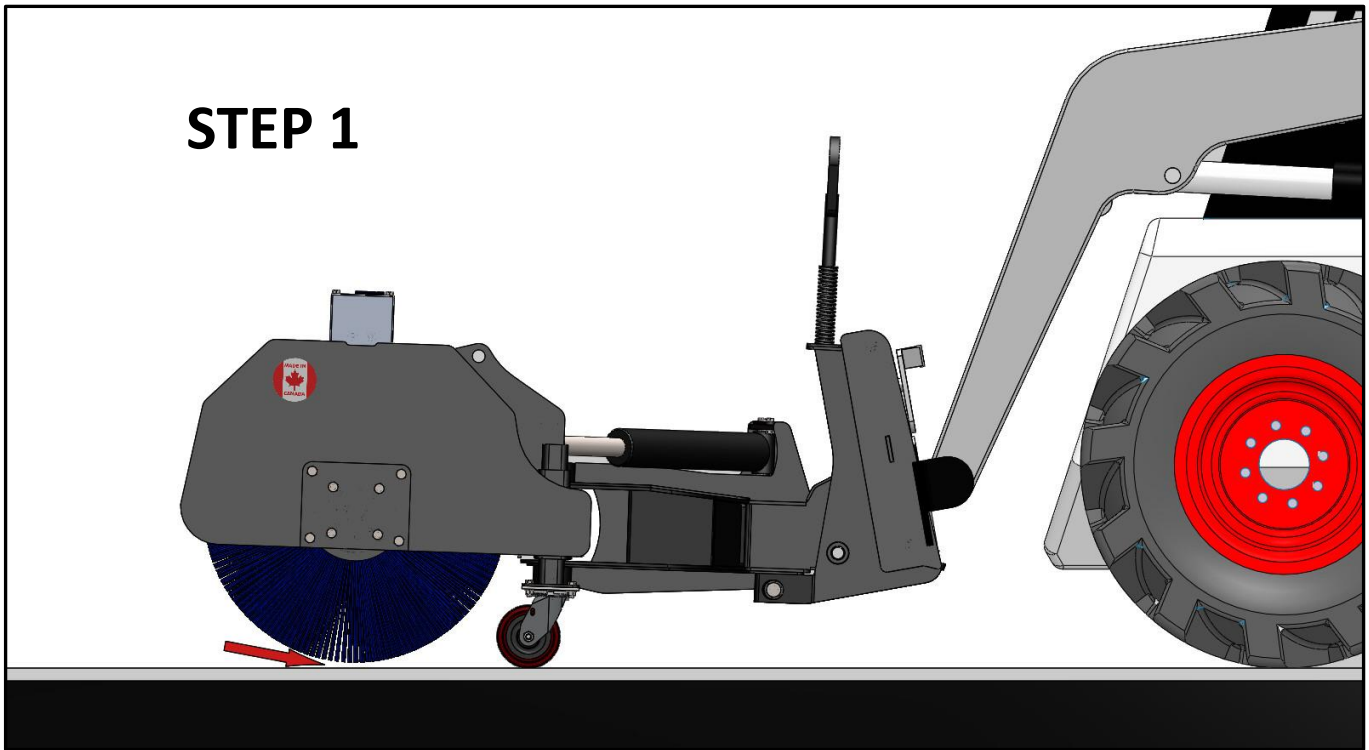
Tools Required -

- **Cordless Drill or equivalent**
- **Socket(s) & driver adapter**
- **Combination wrenches or Adjustable wrench**



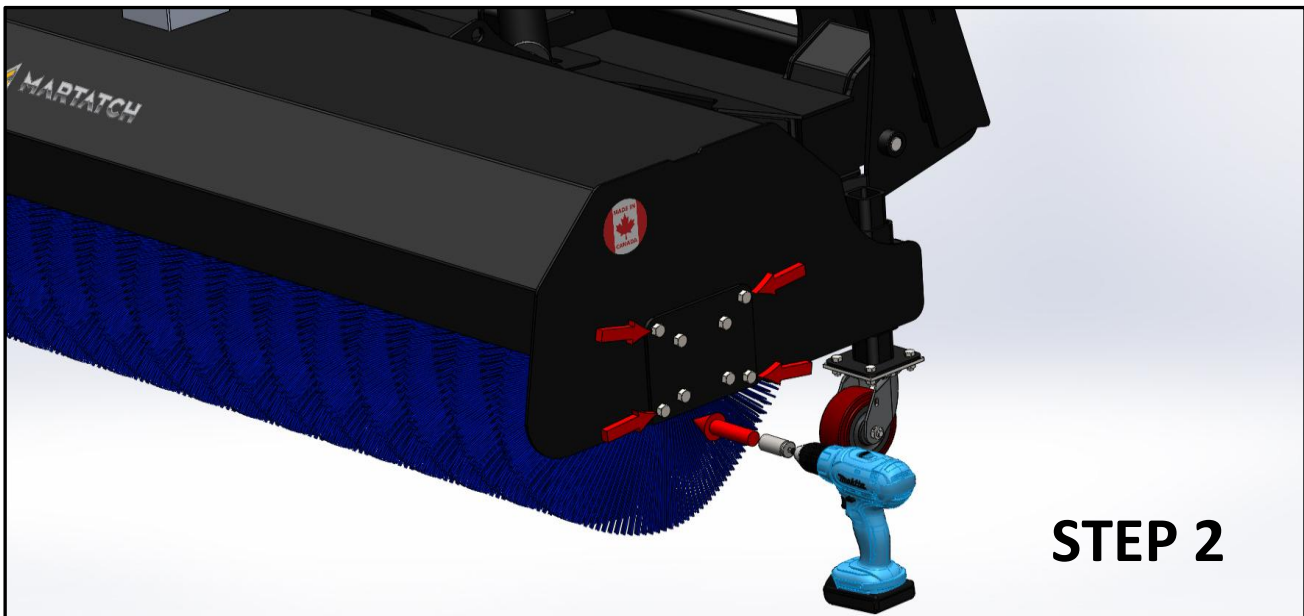
WAFER REPLACEMENT (Cont.)

STEP 1

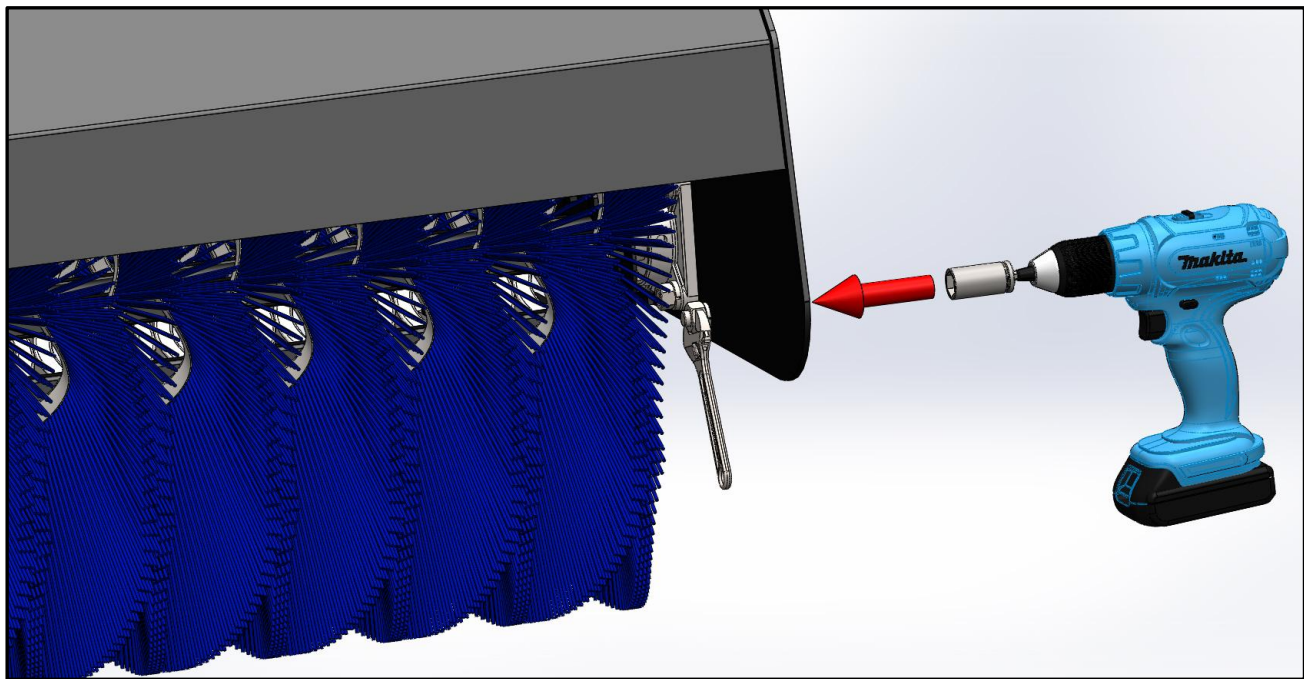


Mount sweeper as detailed on Pg. 12-13. Position the sweeper on an even surface so that it is resting on the casters and the brush head is elevated roughly 1/2" above the ground. Allowing a little space will prevent any tension during the removal of the brush head.

WAFER REPLACEMENT (Cont.)

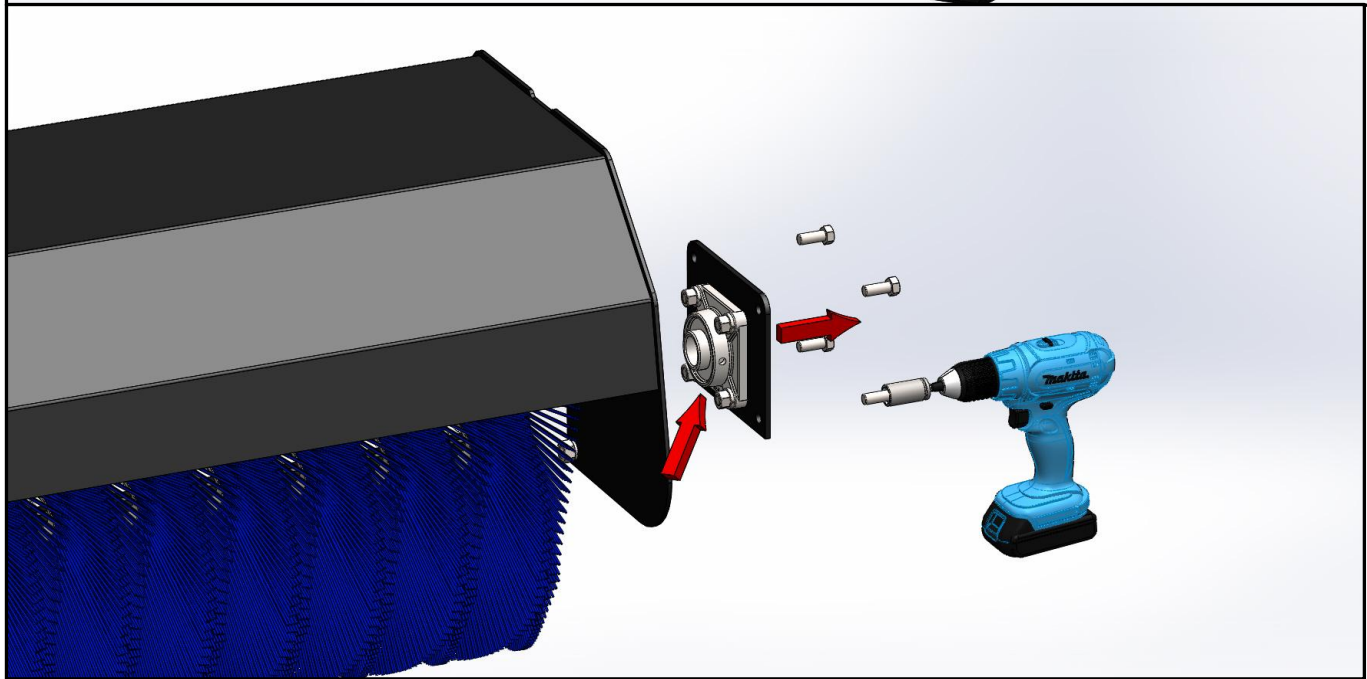
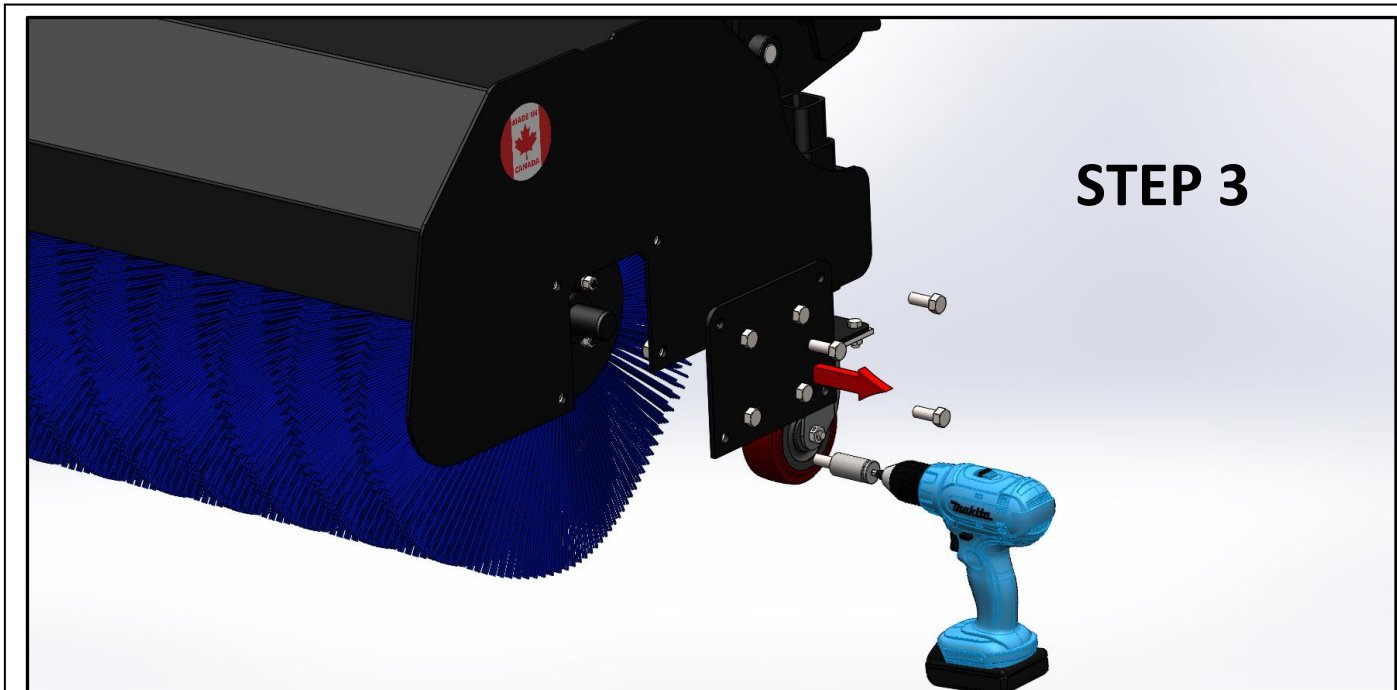


On end opposite the motor (bearing side); Locate the 4 outside hex bolt heads. Set up your drill or equivalent with an appropriately sized socket and driver adapter.



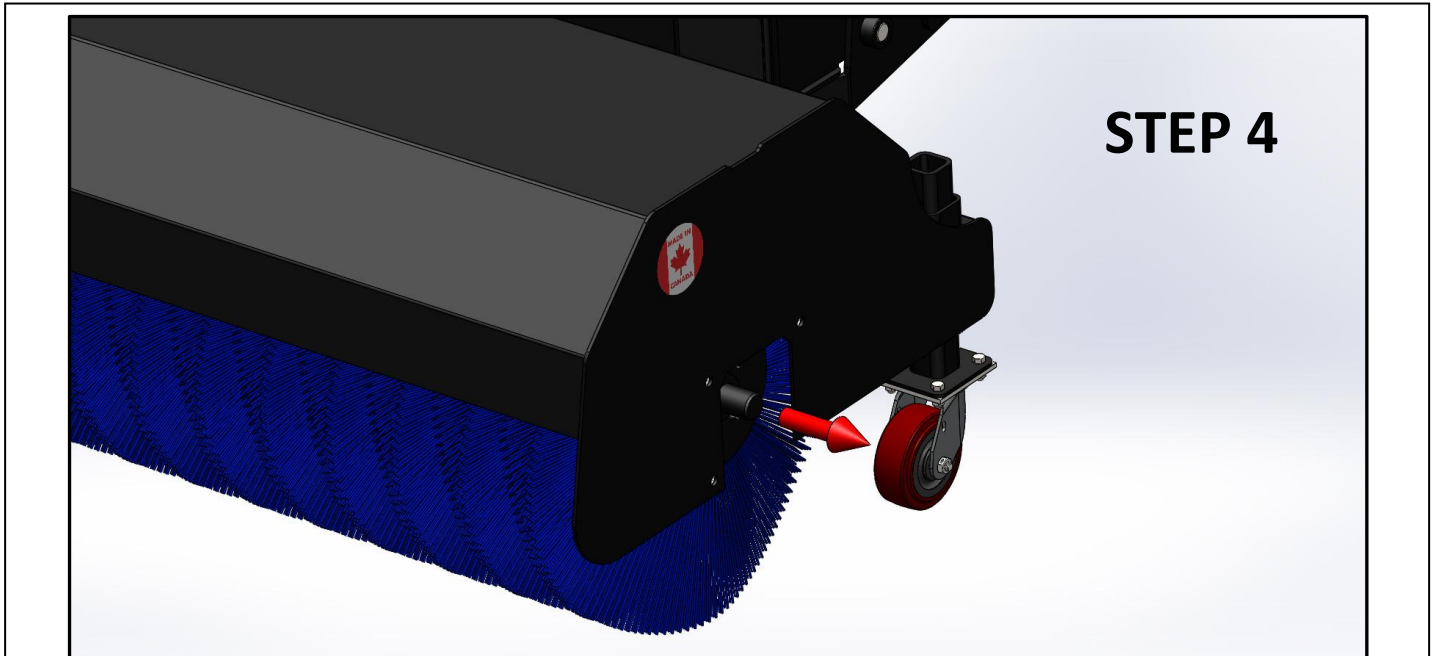
Undo each 4 outside bolts on endplate while using a box end or adjustable wrench to prevent corresponding nut from spinning in place.

WAFER REPLACEMENT (Cont.)

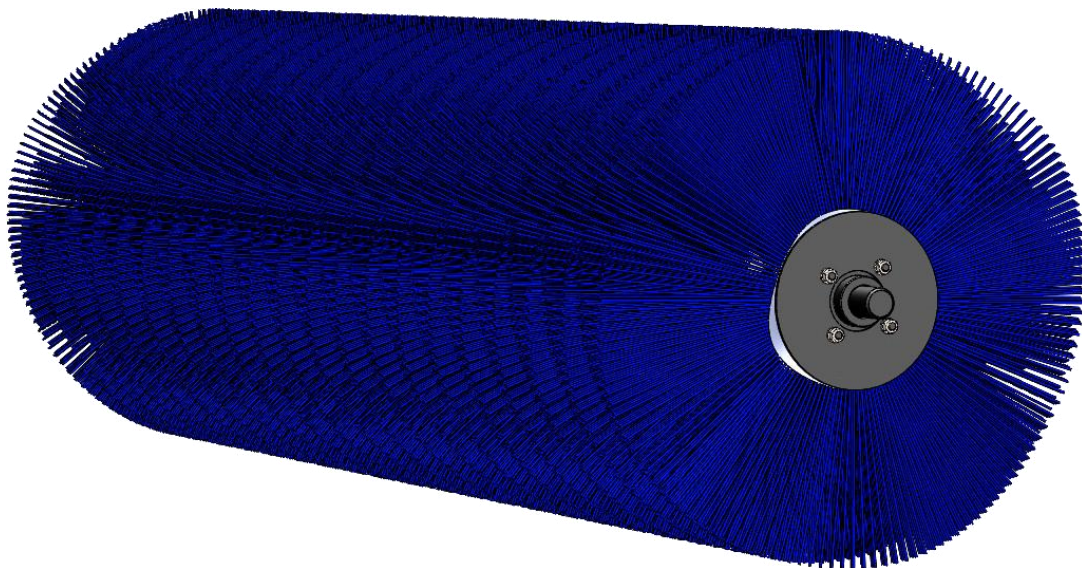


Once you get to the last remaining bolts, you will feel the brush head begin to drop. Let it rest on the ground as it becomes free. Remove the end plate leaving the bearing attached. It's removal is not necessary for this procedure.

WAFER REPLACEMENT (Cont.)



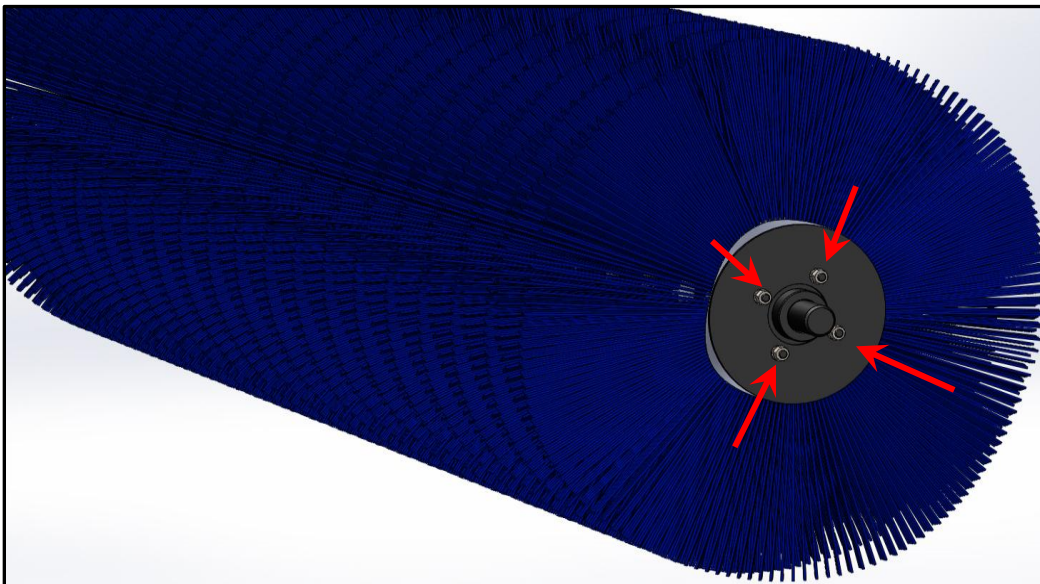
With the endplate and bearing removed. Grab the exposed shaft and pull it towards you. The entire brush head should come free from the motor shaft and rest on the ground. While checking for obstructions and making sure everything is free, the Sweeper housing can now be lifted or moved to give you room to work on the brush head.



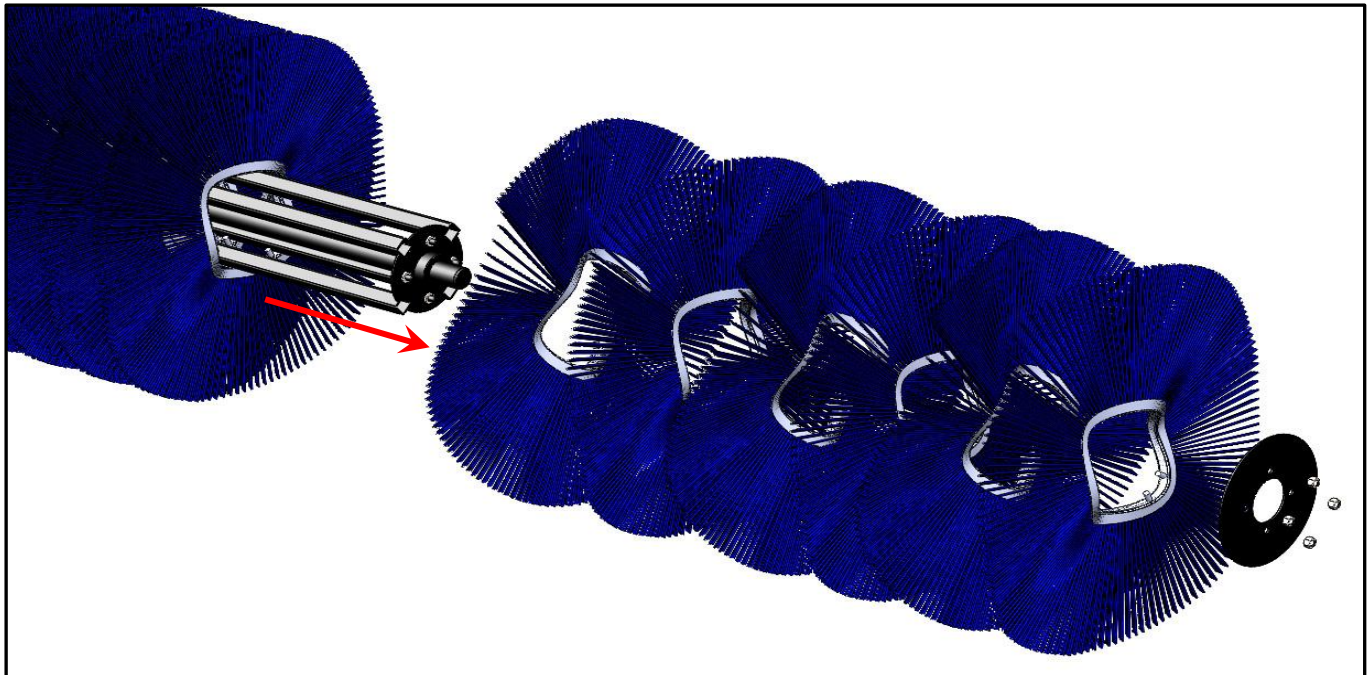
Continue to Step 5

WAFER REPLACEMENT (Cont.)

STEP 5

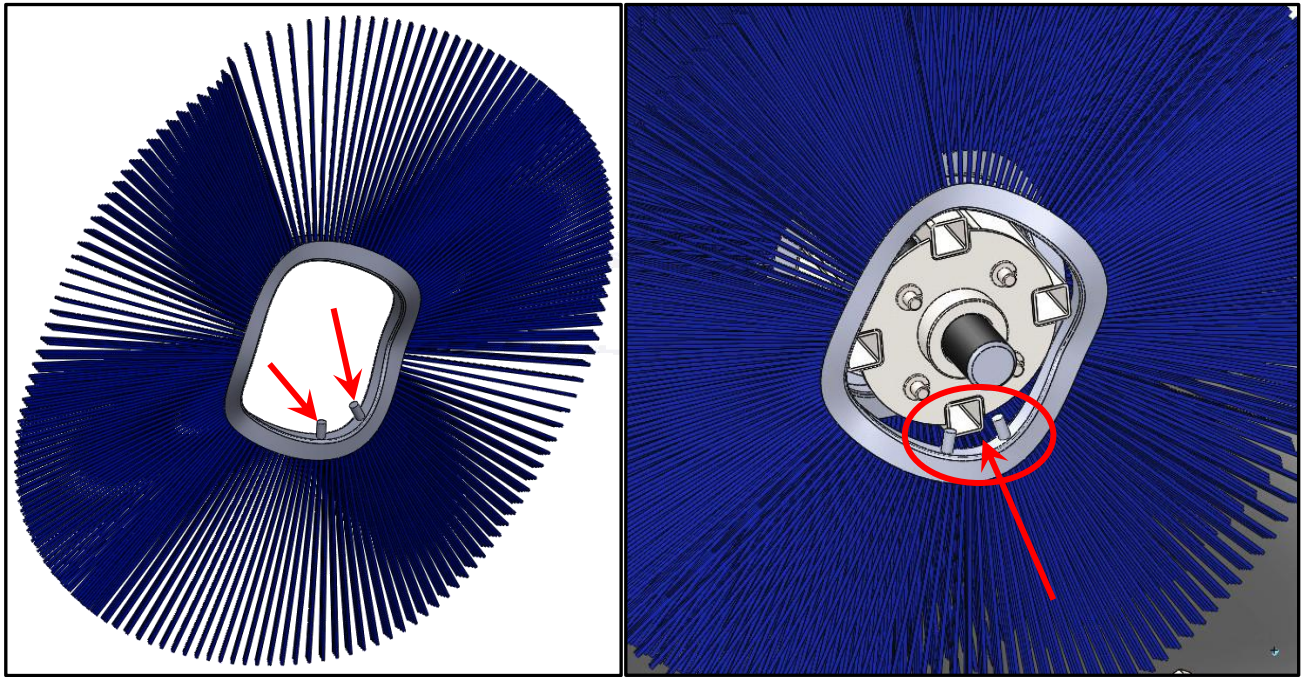


Undo each 4 nuts shown and remove endplate.

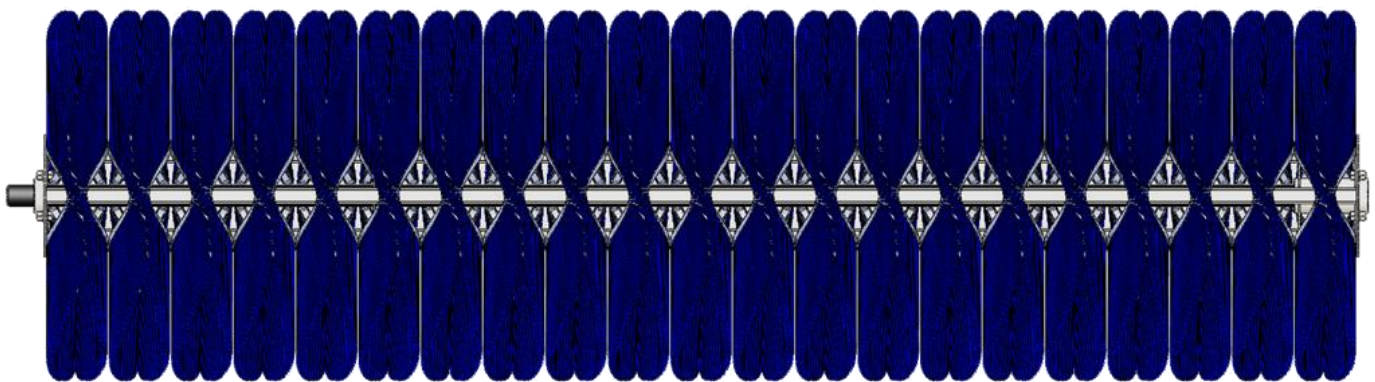


Remove flat end wafer & convoluted wafers by sliding them to the end of the shaft. *Take note of how the wafers are alternated and keyed in to the shaft as the replacement wafers will need to be organized in the same manner. (Shown on next page.)

WAFER REPLACEMENT (Cont.)



With all of the old wafers removed and discarded. You can now begin to install your new wafers. Making sure to line up the studs on the wafers with 1 of the 4 channels on the shaft. Begin with 1 Flat wafer and continue with the convoluted wafers until you reach the last one in your replacement kit. The last wafer should be a flat one to close off the end. ***Note - Every other wafer should be alternated 180 degrees. Each piece should mirror the next.**



Alternating pattern

WAFER REPLACEMENT (Cont.)

Finishing up

Once you've finished installing all of your wafers as instructed, you can close off the brush head and re-attach the end plate with the 4 nuts as before.

***See specifications section for bolt torque specification.**

Repeat Steps 1 through 4 in reverse succession to reinstall the brush head making sure to properly align the keyway on the motor shaft.

Once all your bolts have been tightened as per specification; Your sweeper is ready to get back to work.

Wafer replacement kits

Model	50/50 poly wire kit	Poly Only kit	Wire Only kit	Replacement Wafers (Amount)
MRS2448	MWK2448PW	MWK2448PO	MWK2448WO	24 Convo. + 2 Flat
MRS2454	MWK2454PW	MWK2454PO	MWK2454WO	27 Convo. + 2 Flat
MRS2460	MWK2460PW	MWK2460PO	MWK2460WO	30 Convo. + 2 Flat
MRS2466	MWK2466PW	MWK2466PO	MWK2466WO	33 Convo. + 2 Flat
MRS2472	MWK2472PW	MWK2472PO	MWK2472WO	36 Convo. + 2 Flat
MRS2478	MWK2478PW	MWK2478PO	MWK2478WO	39 Convo. + 2 Flat
MRS2484	MWK2484PW	MWK2484PO	MWK2484WO	42 Convo. + 2 Flat

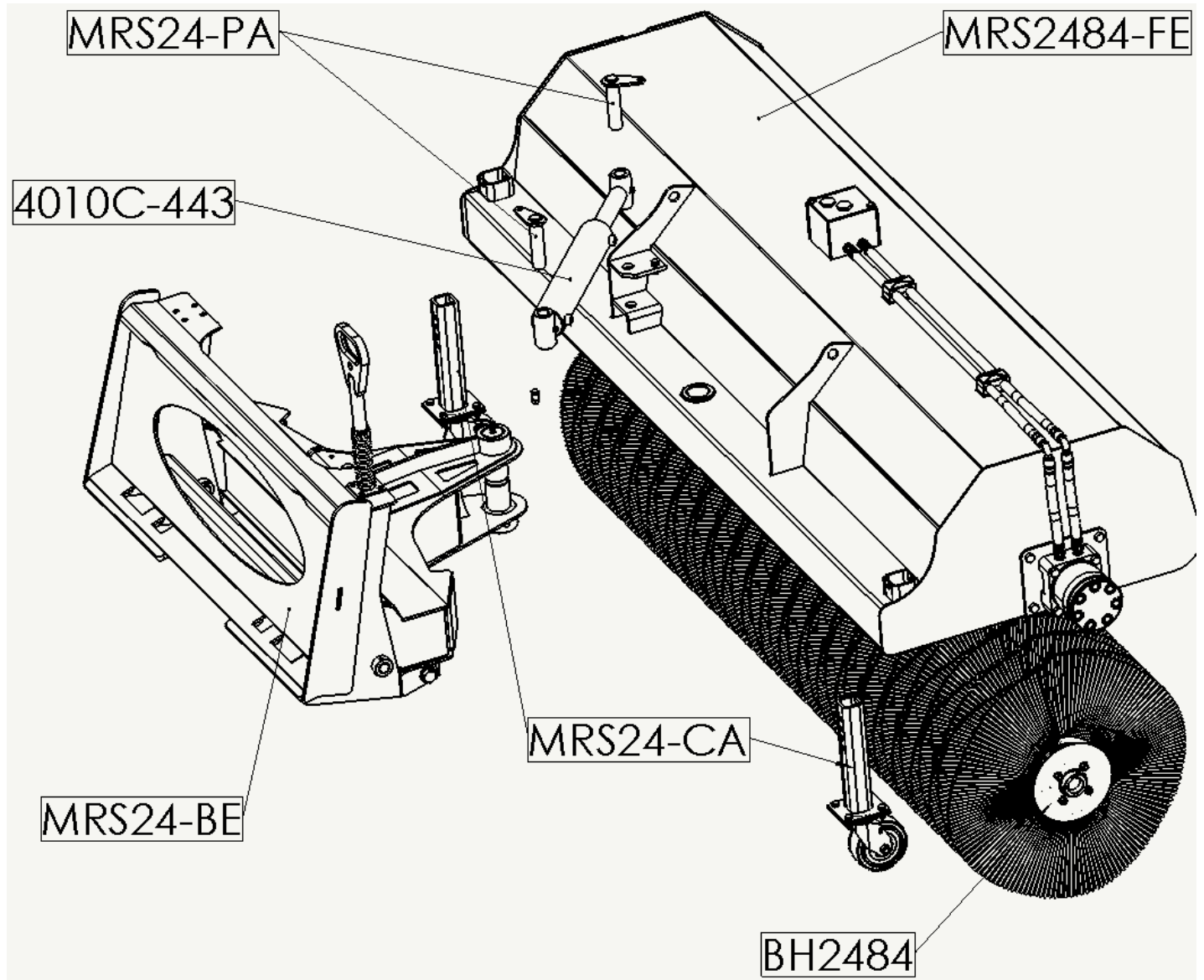
For Wafer replacement kits, Please contact **Martatch Attachments** at:

1-800-698-5510 or **sales@martatch.com**

PARTS ILLUSTRATIONS

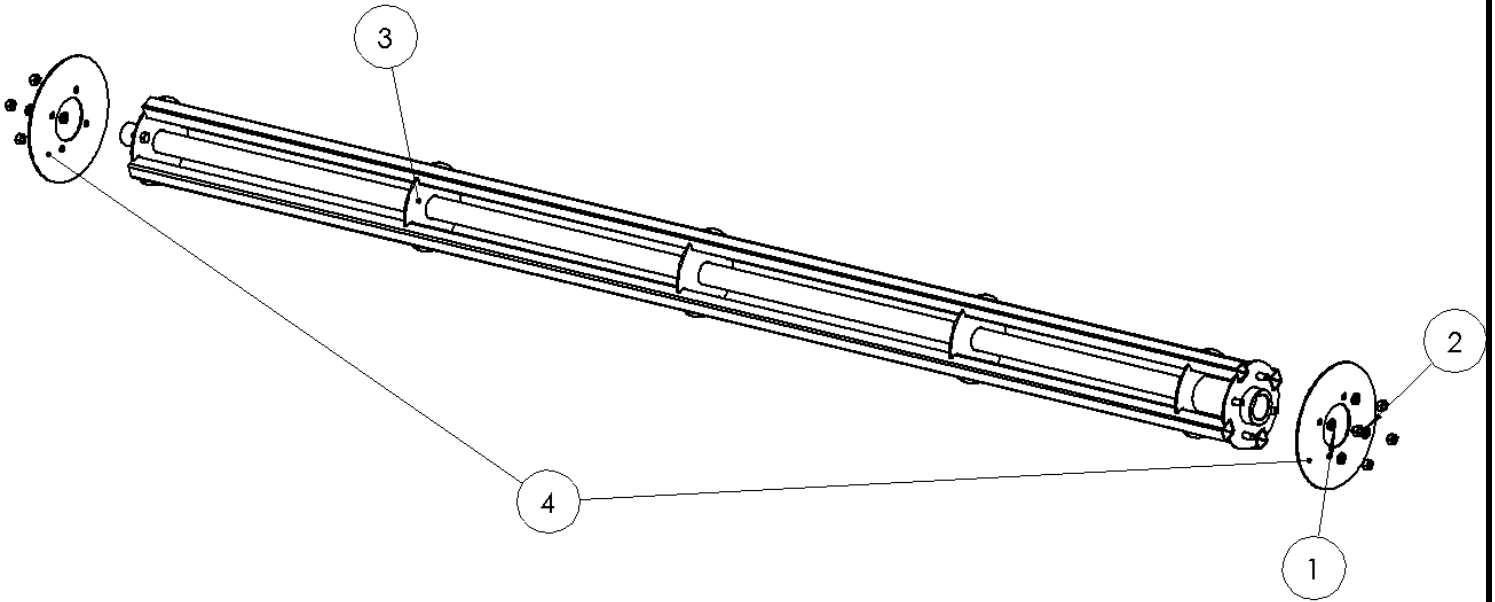
The following diagrams are a breakdown of all major components, parts and hardware for the MRS24 Series Rotary Sweepers (**MRS2484 Shown**)

Weldments & Sub-Assemblies



Weldments & Sub-Assemblies (Cont.)

BH2484

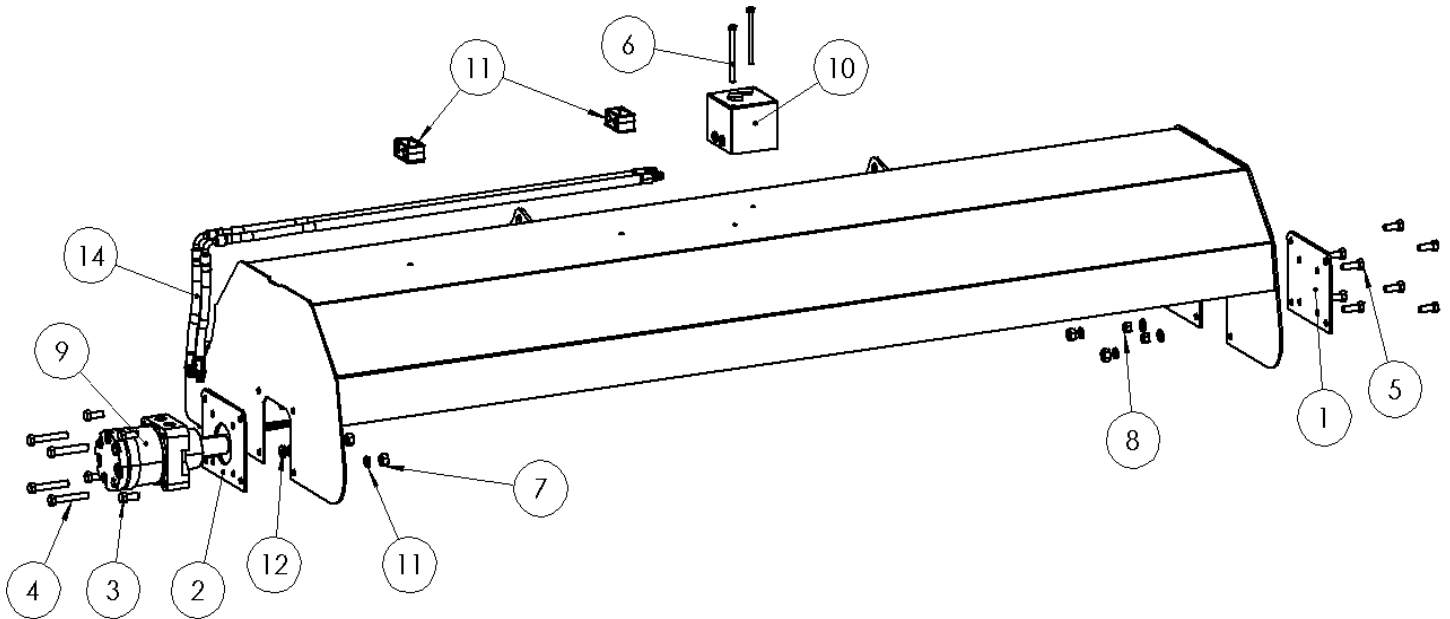


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Regular LW 0.375	Lock washers	8
2	HNUT 0.3750-16-D-N	Imperial Hex nut	8
3	BH2484-001	Main shaft weldment	3
4	BH2484-002	Main shaft end plates	2

*BH2484 Shown without brushes/wafers

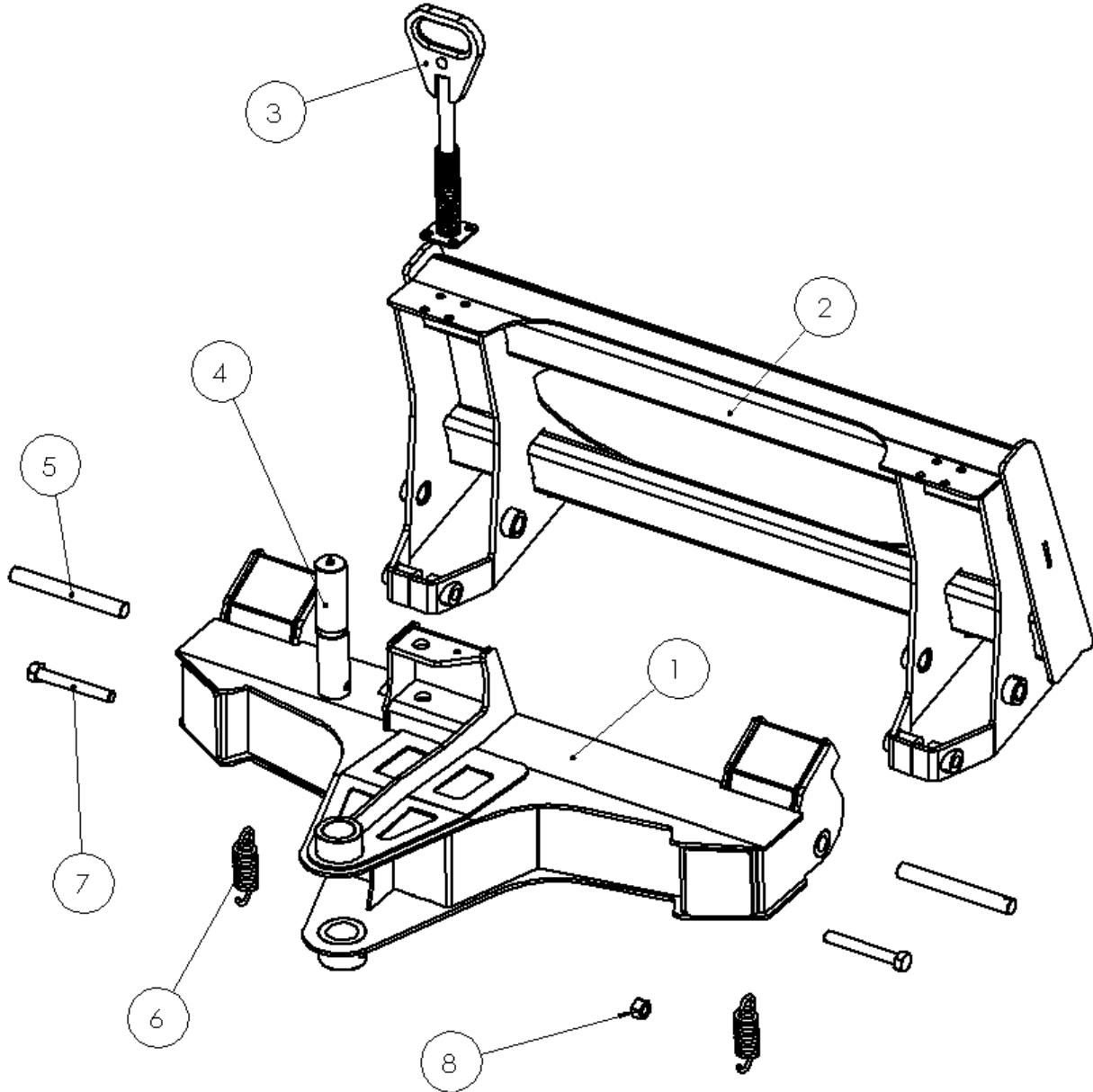
For information on Wafer Kits See Page. 24

MRS2484-FE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MRS2484-004	Bearing End Plate	1
2	MRS2484-004-B	Motor End Plate	1
3	HBOLT 0.5000-20x1.25x1.25-N	Fastener	8
4	HBOLT 0.5000-13x3.25x1.25-N	Fastener	4
5	HBOLT 0.5000-13x1.5x1.25-N	Fastener	4
6	HBOLT 0.3750-16x4.5x1-N	Fastener	2
7	HNUT 0.5625-12-D-N	Fastener	8
8	HNUT 0.5000-13-D-N	Fastener	8
9	WHITE-530260W3130AAAAA-MRS-L MOTOR	Hyd. Motor	1
10	MRS24-VALVE	Hyd. Valve	1
11	weld on hose block	Hose Restraint	2
12	Extra Duty LW 0.5	Hardware	8
13	Preferred Narrow FW 0.375	Hardware	2
14	MRS2484-HK	Hose Kit	1

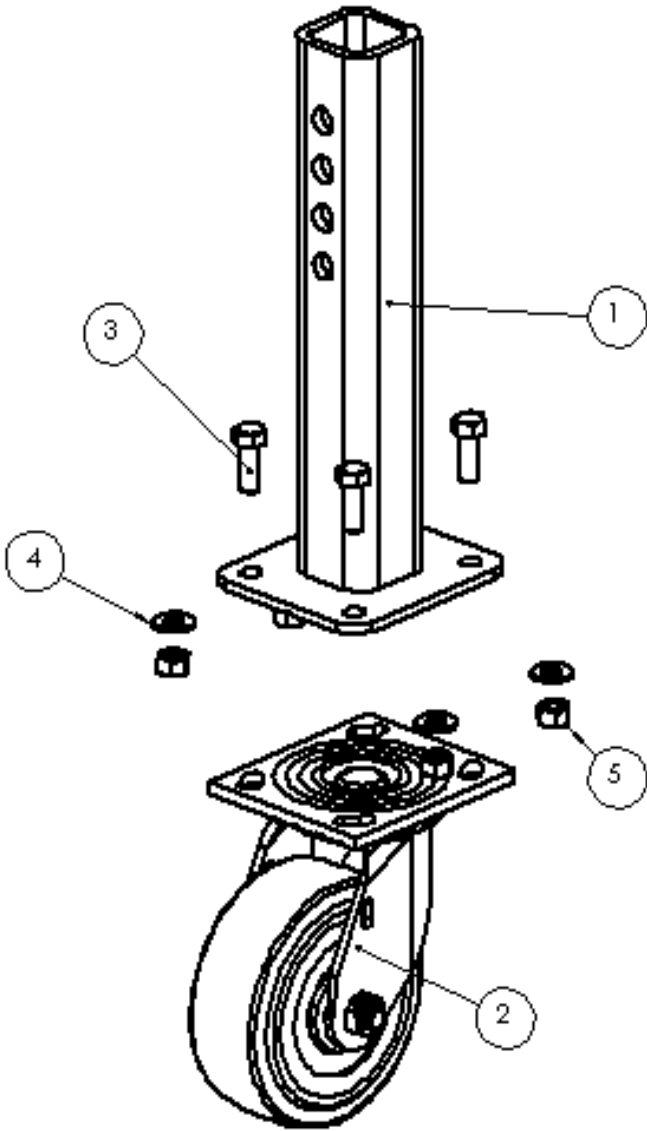
MRS2484-BE



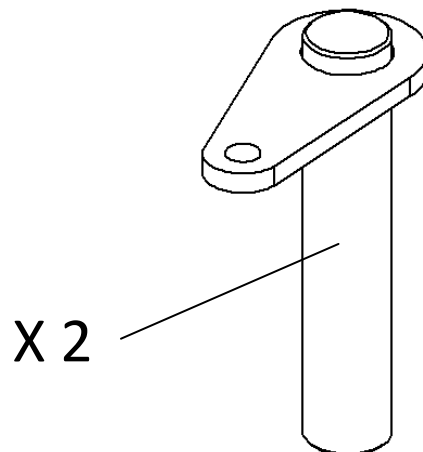
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MRS2484-BE-MS	Back end Mid. Swivel	1
2	MRS2484-BE-HU	Back End Hook Up	1
3	MSHH	Hose Holder	1
4	MRS2484-BE-011	2" Center Pivot Pin	1
5	MRS2484-BE-013	1" Rear Tilt Pin	2
6	MRS2484-BE-SPRING	Extension Spring	2
7	HBOLT 0.7500-10x5.5x1.75-N	Imperial Hex Bolt	2
8	HNUT 0.7500-10-B-N	Imperial Hex Nut	2

MRS2484-CA

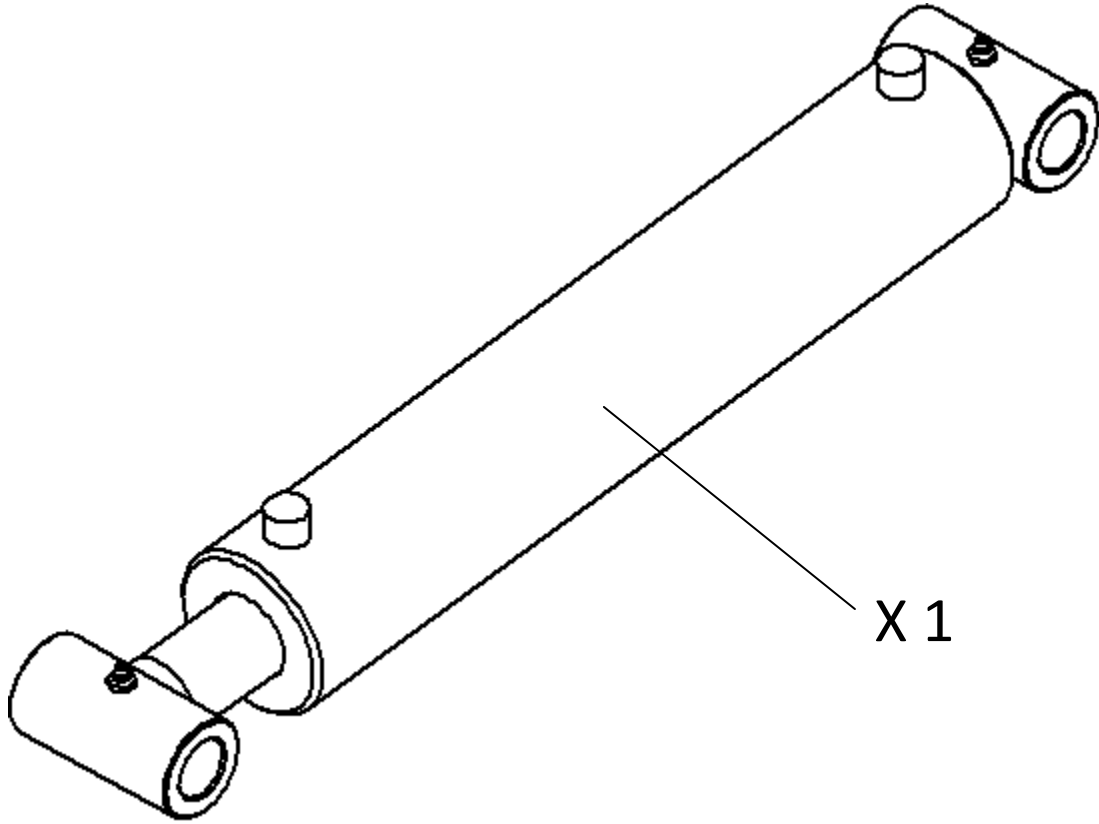
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MRS24-CA-001	Adj. Caster Shaft	1
2	Colson-4.05109.929	Swivel Caster	1
3	HBOLT 0.3750-16x1x1-N	Hex Bolt	4
4	Preferred Narrow FW 0.375	Hardware	4
5	HNUT 0.3750-16-D-N	Hex Nut	4



MRS2484-PA



4010C- 443



X 1

TROUBLESHOOTING

Problem	Possible Cause	Solution
Hydraulic Malfunction	Low fluid level	Check/Add hydraulic fluid
	Improper hose hook-up	Check and correct line connection
	Broken or damage hydraulic line	Replace damaged line
	Cylinder leaking	Replace cylinder seals
	Fluid heating	Check for restricted fluid flow
	Cold hydraulic fluid	Allow fluid to warm up to operated temperature
Wafers/Brushes Wear Prematurely	Too much pressure on sweeper/Brush head	Tip sweeper back to ride on casters
Not angling	Damaged, disconnected wire/Line	Check and correct line/wire connection

If you have problems not listed here please contact Martatch Attachments.

MARTATCH ATTACHMENTS

4350 HESSEN STRASSE
R.R. #3
WELLESLEY, ON N0B 2T0
Canada
Phone: 1-800-698-5510
Email: sales@martatch.com
Website: www.martatch.com

Martatch Attachments **Warranty Policy**

All equipment sold by MARTATCH ATTACHMENTS is warranted to be free from defects of material and workmanship. The company will not be liable for indirect or consequential damages. The company's liability will be limited exclusively to replacing or repairing without charge, at its factory or elsewhere, at its discretion. Any material or workmanship defects that becomes apparent within one year from the date which the equipment was purchased. The buyer by the acceptance of the equipment will assume all liability for any damages that may result from the use or misuse by his employees or others.

All claims must be reported to a MARTATCH ATTACHMENTS representative prior to any repairs or modification.

All claims are subject to a MARTATCH ATTACHMENTS representative approval.

All claims must be accompanied by pictures of the faulty product.

MARTATCH ATTACHMENTS Warranty will not cover product that has been misused or modified in an unauthorized manner.

MARTATCH ATTACHMENTS Warranty will not cover normal wear on Attachments.

MARTATCH ATTACHMENTS

4350 HESSEN STRASSE

R.R. #3

WELLESLEY, ON N0B 2T0

Canada

Phone: 1-800-698-5510

Email: sales@martatch.com

Website: www.martatch.com