



# MARTATCH

## Operator's Manual

**MRT Series Rotary Tillers - 2018**



**[WWW.MARTATCH.COM](http://WWW.MARTATCH.COM)**

## **TABLE OF CONTENTS**

Introduction, General Information.....	3
Owner and Operator Safety Information .....	4-6
Specifications .....	9-10
Mounting and Setup.....	11-12
Operation .....	12
Maintenance	
Grease Points.....	13
Tine Replacement.....	14-15
Parts Illustrations.....	16
Trouble Shooting.....	17
Warranty Policy .....	18

## **MARTATCH ATTACHMENTS**

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

# **INTRODUCTION**

Congratulations on your purchase of a new Martatch MRT Series Rotary Tiller. 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 MRT Series Rotary Tillers

## **GENERAL INFORMATION**

The purpose of this manual is to assist in assembling, mounting, operating, and maintaining your MRT Series Rotary Tiller. 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.

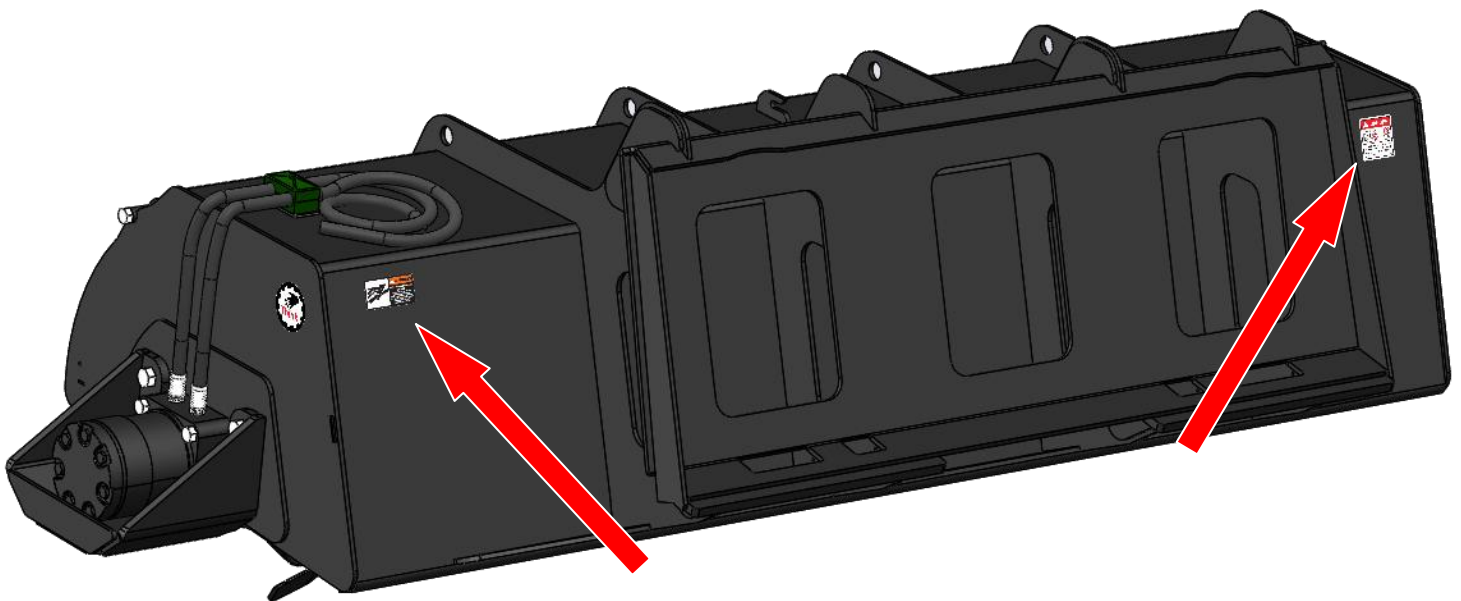
- Keep all step plates, grab bars, pedals, controls, etc. free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating..
- Do not allow riders on the attachment or the Power Source.
- Do not operate the equipment from anywhere other than the correct operators 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**

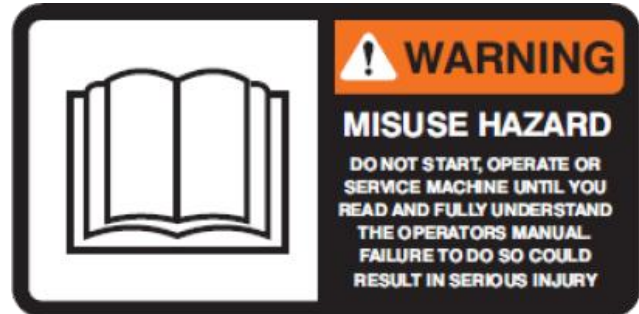
The diagram on this page shows the location of the decals. The decals are identified by their part numbers, with reductions of the actual decals located on the next page. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the attachment. 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.



## MRT SERIES - SAFETY DECALS





# 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**

- MRT-Series Rotary Tillers 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

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

## **MRT ROTARY TILLER SPECIFICATIONS**

Model	Overall Width	Overall Height	Replacement Tines (Qty.)	Shipping Weight	Recommended HP Rating
MURT48	57 1/4"	28"	30	360Lbs.	30 - 100
MRT54	63 1/4"	28"	36	472Lbs.	30 - 100
MRT60	69 1/4"	28"	42	587Lbs.	30 - 100
MRT66	75 1/4"	28"	42	608Lbs.	30 - 100
MRT72	81 1/4"	28"	48	629Lbs.	30 - 100
MRT78	87 1/4"	28"	48	670Lbs.	30 - 100
MRT84	93 1/4"	28"	54	708Lbs.	30 - 100

# **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	11	8
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	11	8
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 Tine 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.

## **ROTARY TILLER OPERATION**

### **Basic operation**

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

The MRT has bi-directional rotation and may be used in forward or reverse direction.

1. Begin with the tiller slightly above the ground before engaging the rotor.
2. Engage the rotor with the rotation direction turning against the direction of travel for the best results.

# **MAINTENANCE**

This section covers regular maintenance. Regular maintenance is required to insure that your rotary tiller 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)

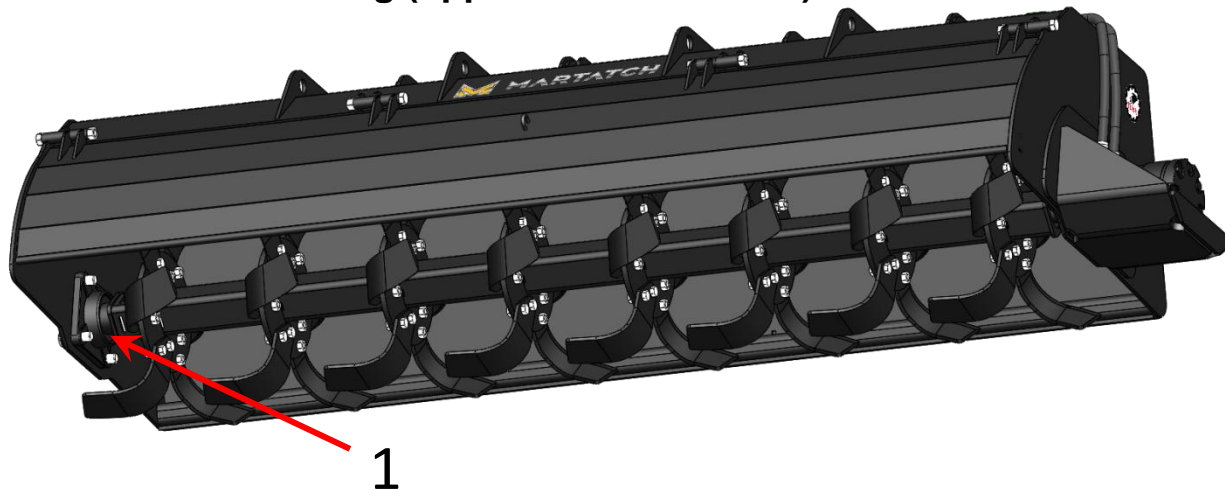
## **GREASE POINTS**

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 Below)

- 1. At sealed bearing (opposite of the motor)**



# **MAINTENANCE** (Cont.)

## **CLEANING**

The MRT Rotary Tiller is equipped with a front access shroud in order to access the tines should it get clogged with debris or clumped dirt. A chain is attached to keep the shroud up while cleaning.

**\* Always make sure the power source is disconnected when cleaning, dislodging dirt or hosing off the tines.**

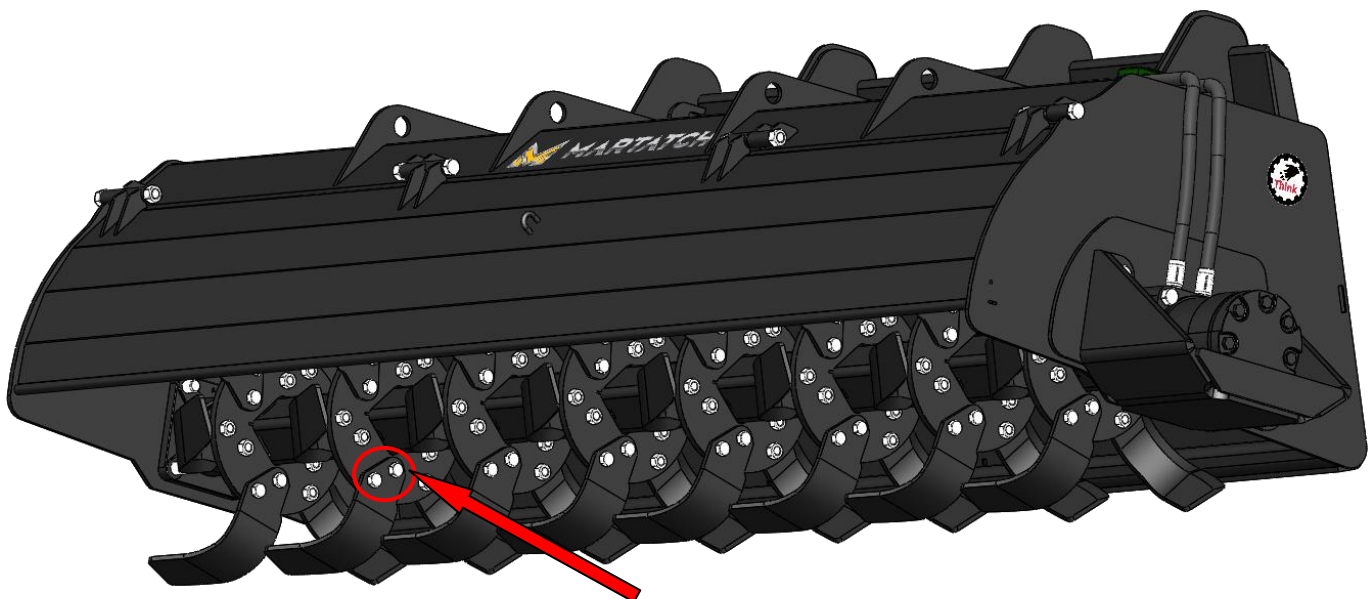
## **TINE REPLACEMENT**

The MRT Rotary Tiller is equipped with replaceable tines. After some time, the tines on your MRT Rotary Tiller may become worn or broken. Each tine is mounted by (2) bolts. Each tine can be replaced by removing the bolts and exchanging the tine for a new one. (See Diagram Below)

**\* Always make sure the power source is disconnected when changing tines.**

### **Tools Required -**

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



## **MAINTENANCE** (Cont.)

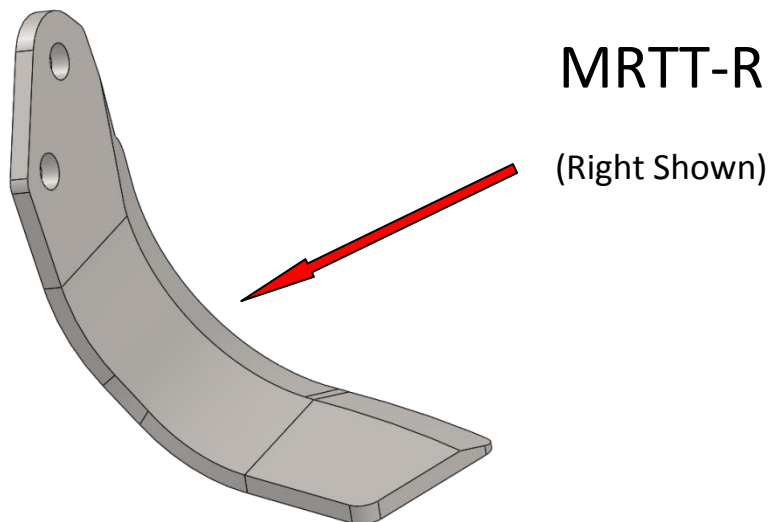
### **TINE REPLACEMENT**(Cont.)

MRT tines are sold individually in right and left configurations which must specified when ordering replacement tines.

Order code for Replacement tines:

MRTT-R (Right)

MRTT-L (Left)



For Tine replacement, Please contact **Martatch Attachments** at:

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

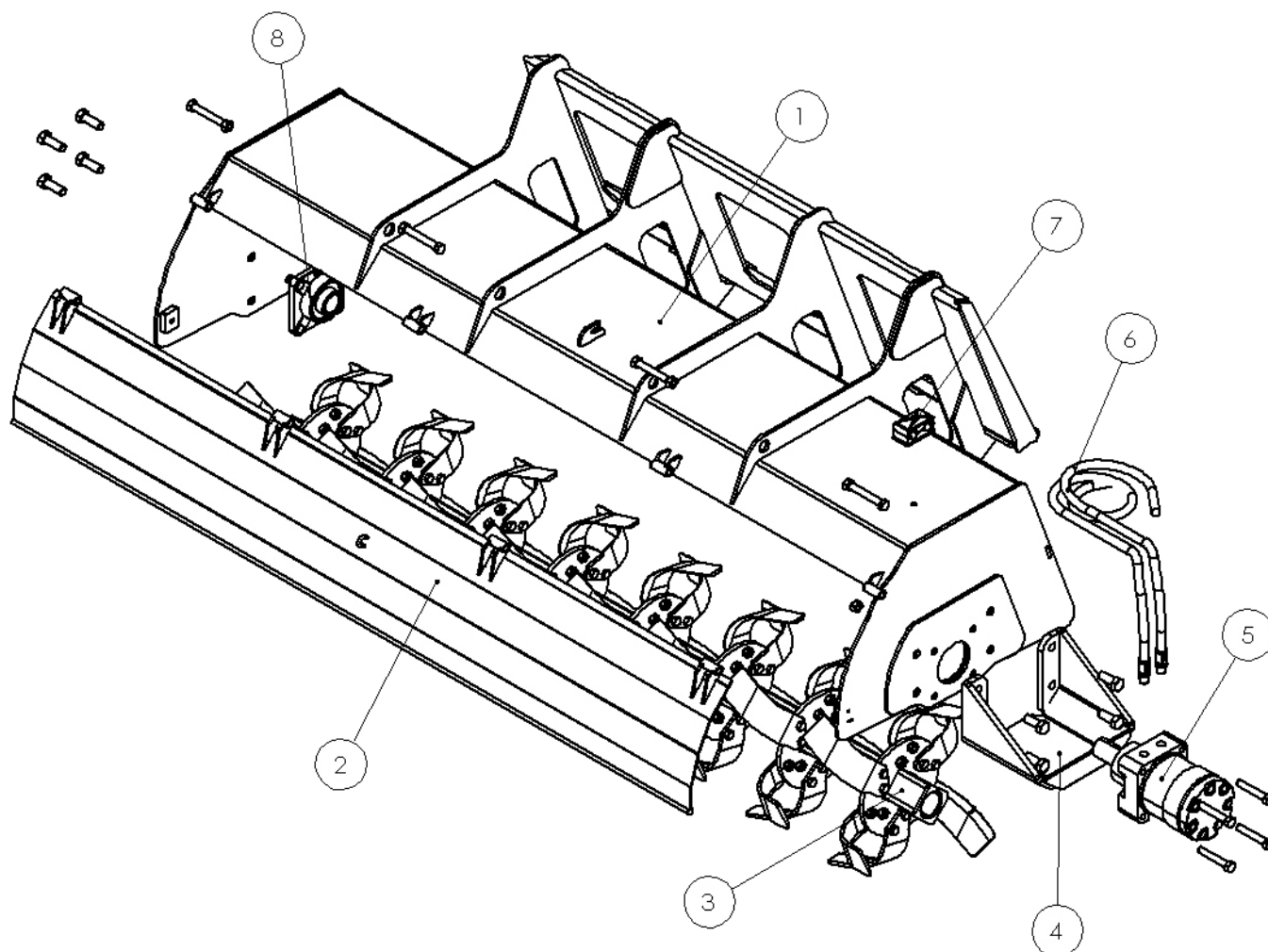


# PARTS ILLUSTRATIONS

The following diagrams are a breakdown of all major components, parts and hardware for the MRT Series Rotary Tillers (**MRT72 Shown**)

## Weldments & Sub-Assemblies

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MRT-001	Main Tiller shroud	1
2	MRT-002	Front tiller shroud	1
3	MRT72-RA	Rotor assembly	1
4	MRT-003	Motor guard	1
5	530350T3130AAAAA	Hydraulic motor	1
6	MRT72-HK	Hyd. Hose Kit	1
7	WOHB	Weld on hose clamp	1
8	F208-FLANGE BEARING	Flange Bearing	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
Not changing rotation direction	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](mailto:sales@martatch.com)  
Website: [www.martatch.com](http://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](mailto:sales@martatch.com)

Website: [www.martatch.com](http://www.martatch.com)