
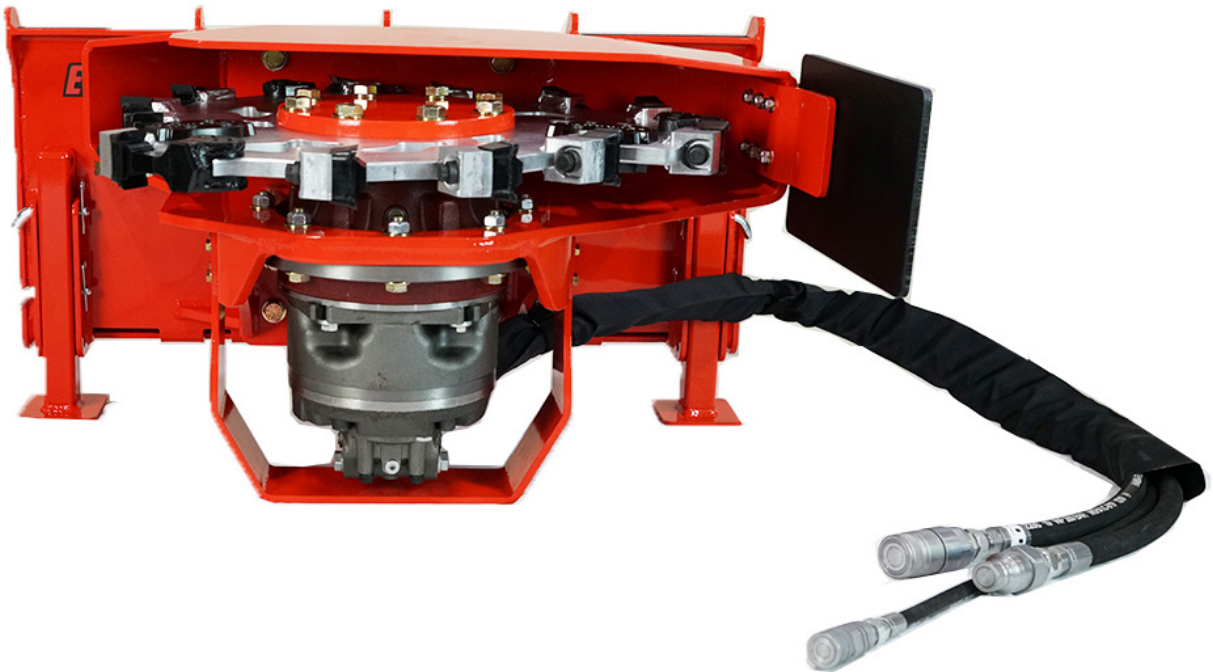


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# Vortex Stump Grinder



<p>A Product By:</p> <p><b>Eterra, LLC.</b> A Skid Steer Solutions, Inc. Company</p> <p>Bellingham, Washington USA</p> <p><a href="http://www.etterra-usa.com">www.etterra-usa.com</a></p>	<h2>Operators &amp; Parts Manual</h2> <p>For information and customer support – speak with your dealer or visit our website <a href="http://www.etterra-usa.com">www.etterra-usa.com</a></p>
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# 1. Introduction

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## 1.1 Purpose

The Eterra Stump Grinders are designed to be used with skid steer loaders or excavators of the appropriate weight class. They are intended to be used by operators of all experience levels. To accomplish this feat, a very simple design has been used which is unlike anything else found in the industry. By turning the wheel 90 degrees, the operator gains excellent visibility and does not have material thrown back at them during operation. The safety and construction features of the Eterra Stump Grinders are second to none.

We also use fewer parts than other stump grinders. This gives you a much longer life expectancy and a much more reliable grinder because there are fewer things to go wrong with it.

You must read and understand the theory of operation so that you can operate these stump grinders safely and so you can maintain the safety of the people, animals and property around you.

This product was designed to be sold online and out of the box ready to operate.

### **This Document:**

The sole purpose of this manual is to help you train yourself to be a responsible operator and trouble-shooter of the operation of the Eterra Stump Grinder so that you can identify safety issues before anything serious can happen. Failure to follow the directives noted in this document may lead to serious injury or death.

## 1.2 Scope

Please read and understand all safety directives prior to operation and follow the initial start-up procedure before ever powering up the Stump Grinder. It is extremely important that the attachment is checked and re-checked prior to each operation and after any unexpected impact to the grinder wheel.

## 1.3 Safety Marking

Safety Alert Symbols are used throughout this manual and on decals on your Stump Grinder. When you see symbols become alert to safety information and adhere to it to prevent injury or death.

**SIGNAL WORDS** - There are signal words that are used in conjunction with the safety alert symbol; these signal words have been selected using the following guidelines:

**DANGER** – An immediate and specific hazard **WILL** result in severe personal injury or death if the proper precautions are not taken.

**WARNING** – A specific hazard or unsafe practice which **COULD** result in severe personal injury or death if proper precautions are not taken.

CAUTION – Unsafe practices which could result in personal injury if proper practices are not taken, or as a reminder of good safety practices.

You, as the owner of a Skid Steer Solutions Vortex Stump Grinder are responsible for its safe operation and maintenance. You need to make sure anyone working with, maintaining or working around the stump grinder is familiar with the operation and maintenance of the unit. Be alert, know all safety information in this manual and adhere to safety practices at all times.

Remember a safe operator is the key to avoiding most accidents. Most accidents can be avoided by – THINKING SAFETY AND WORKING SAFELY.

IMPORTANT: You must provide proper cab protection when operating this attachment as material can deflect back at the operator. Be aware of the material you are cutting and its' deflection properties. You assume all risk when operating this stump grinder to the public, property and the operator.

## **1.4 General Safety**

- Read, study and understand your Operator's Manual.
- Understand all safety symbols before operating or maintaining the Vortex Stump Grinder.
- Never operate this machine in an area with people present. You should maintain at least 100 yards of distance between the stump grinder and people, animals or property.
- After maintaining or adjusting, make sure all tools and foreign objects are removed.
- Review all safety rules with all operators just prior to when the operation starts.
- Stop Skid Steer, set park brake and remove the key from ignition. Make sure all moving parts have been stopped before dismounting your Skid Steer for any reason.
- Make sure all guards and shields are properly installed and secure.
- NEVER leave stump grinder lifted off the ground and stand under it for any reason.

## **1.5 Operational Safety**

- Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting or unplugging.
- Do not allow riders on the Skid Steer during field operation or transport.
- Install and secure all guards and shields before starting and operating.
- Never wear ill-fitting, baggy or frayed clothing when working around or on any of the drive system components.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Never operate the machine inside a closed building.
- Stop Skid Steer engine, place hydraulic controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- NEVER EVER Climb out of your machine with the boom raised. Serious injury or death can occur.
- Ensure that all Skid Steer controls are in neutral before starting.
- Clear the area of all bystanders, especially children, before starting.
- Be careful when working around or maintaining a high-pressure hydraulic system. Wear proper eye and hand protection when searching for a high-pressure leak. Use a piece of wood or cardboard as a backstop when searching for a pin-hole leak in a hose or line.
- Before applying pressure to the hydraulic system, make sure all components are tight and that steel lines, hoses and couplings are not damaged.
- Take care when working on steep ground, particularly when turning, and especially with mounted stump grinders.
- Stay away from overhead obstructions and power lines during set-up and operation. Electrocutation can occur without direct contact.
- Review all safety instructions annually

## **1.6 Maintenance & Transport Safety**

- Review the Operator's Manual and all related Maintenance, Operating and SAFETY information annually with all personnel who will be working with, maintaining or operating the Stump grinder.
- Be careful when working around or maintaining high-pressure hydraulic systems. Wear proper eye and hand protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop when searching for a pin-hole leak in a hose or steel line. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will

fail suddenly and create a hazardous and unsafe condition.

- Before applying pressure to a hydraulic system, make sure all components are tight and that steel lines, hoses and couplings are not damaged.
- Seek immediate medical attention if a high-pressure concentrated stream of hydraulic fluid pierces the skin, as a toxic reaction and infection could develop.
- Keep hands, feet, clothing and hair away from all moving and/or rotating parts.
- Never wear ill-fitting, baggy or frayed clothing when working around or on any of the drive system components.
- Clear the area of all bystanders, especially children, when carrying out any maintenance or making adjustments on the systems components.
- Lower boom to the ground before servicing, adjusting or repairing the machine.
- When moving on or near roadways, make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
- Never transport with the boom arms extended upward. Boom arms should be in the stowed position in towards the Skid Steer when transporting.
- Do not allow riders on any parts of the machine during either field operation or road and highway travel.
- Attach the stump grinder to the Skid Steer using the skid mounting plate. Always use warning flashers (hazard) on the Skid Steer when transporting unless prohibited by law.

## **2. Operation**

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### **2.1 Introduction**

The Eterra Stump Grinders were designed to be a highly effective grinding solution. If maintained properly, it will provide the owner with many years of service with no damage to property or people. If not maintained properly, the Vortex can easily injure people or property and will not last as long as the design allows. You must visually inspect and test the Vortex before and after each use to insure nothing has come loose or is badly worn. The Owner's Manual is designed to help you be a safe and knowledgeable operator of this stump grinder.

## **2.2 Theory of Operation**

The Eterra Vortex is a hydraulically operated grinder that uses your existing controls and hydraulics to effectively grind stumps. The Eterra Stump Grinder consists of a direct drive grinder head that is mounted on a forward facing mount. The head is powered by connecting directly into the skid steer hydraulic auxiliary system. The skid steer hydraulics provide the oil flow and pressure necessary to operate the stump grinder.

The minimum hydraulic system requirements should be 18GPM (12 GPM for the Mini Vortex) at 2500PSI for this series of stump grinders to work effectively. Too low of flow and/or pressure will cause the stump grinder to stall and run slowly. Be sure to maintain proper system filtration of your skid steer loader.

By lifting your boom arms and moving the grinder teeth into the stump, you can effectively grind more material in a much faster means than with any other stump grinder. When pushing against the stump and keeping the wheel under constant tension, the right amount of force is applied to the wheel for the power exerted, which will allow the cutter teeth to bite off just the right amount of material. As long as you keep it within the range of the tooth depth, you will limit the amount of stalling experienced by the wheel even in the toughest material.

There are special blocks fitted to the wheel in front of the cutters called rakers. These rakers protect the cutters from damage should you hit a solid object. They may be replaced when worn so that the cutters maintain maximum protection. This is an easy process that will enable your cutters to last much longer than if they were to be removed.

## **2.3 Pre-Operation Checklist**

- The Eterra Stump Grinder is designed to ensure years of trouble free use. A poorly maintained machine is an invitation to expenses and trouble. We recommend that before operation that this checklist be followed to ensure trouble free operation.
- Give the machine a “once-over” for any loose bolts, worn parts, cracked welds, hydraulic leaks, frayed hoses etc. and make necessary repairs. **DOUBLE CHECK** the Stump grinder bolts and coupler as well as mounts to insure nothing has come loose as you risk the stump grinder head falling off if not properly inspected.
- Check for excessive wear as well as cracks in the cutter wheel. Replace as needed.
- Be sure that there are no tools lying on or in the machine..
- Make sure all hoses are clear of cuts, abrasions, worn spots and pinch points before operating. Check that hoses do not get caught in the pinch areas of your skid steer boom.
- Check the tire pressure and make sure they are inflated to their recommended pressures. Connect to Skid Steer and check mechanical Skid Steer connection point for wear that could cause Vortex to fall off. Repair any damage as needed.
- Connect all three hydraulic lines to Skid Steer.



## 2.4 Hydraulic Connections

Your Stump Grinder will come with hydraulic quick couplers. The hose ends are furnished with fittings that will screw either directly into the back of the hydraulic couplers or a 90 degree fitting depending on your specific machine requirements. You should check the best hose routing for your machine prior to use and adjust accordingly. The stump grinder operates only in one direction. If the opposite flow direction is set, the stump grinder will not operate. If your controls do not work, swap the couplers as your machine may have a detent position with a reverse flow to the way your stump grinder was tested and shipped. Couplers can be alternated on hose ends easily by the operator. Angled fitting either 45 degree or 90 degree may be used to alter the length and angle of hoses for a more optimal sweep of the hoses.

Once the couplers are installed, you may connect them to your machine by pushing the male coupler into the female coupler on the Skid Steer and the female coupler of the attachment into the male coupler on the Skid Steer. Attach the case drain line to the case drain coupler as well.

## 2.5 Hose Routing

It is important that you check and recheck your hose routing each time you connect the attachment to your Skid Steer. Each machine is different so you need to make sure that you have routed the hoses away from any potential pinch points. Check that there are no pinch points around the main skid steer pivot. Average hose lengths are shipped at no-charge with each stump grinder. Try to route the hoses towards the front bottom of the mount and away from the back pinch zone.

It is the customers' responsibility to modify these hose lengths locally as required for your specific machine. Hose lengths can be varied by using or not using a 45 or 90 degree fitting. **There is no warranty either expressed or implied with regards to hose damage due to improper routing or length.**

## 2.6 Deflection Shield

The Eterra Stump Grinders are fitted with a rubber deflection shield. These shields are provided to allow escaping material to be deflected downward and to the left side. If you remove the deflectors, a lot more material will be projected to the outside of the stump grinder making it very dangerous. Do not operate without the deflection shield in place.

## 2.7 Initial Operation

- Approach Stump Grinder with quick attach tilted slightly forward and your locking levers lifted upward.
- As the leading edge comes up to the stump grinder mount, roll your tilt cylinders back so the quick attach will pull the stump onto the mount.

- Push your quick attach locking levers down so that the Vortex is attached firmly to the quick attach. Connect hydraulic hoses.
- The Eterra Stump Grinders are designed for use with most modern skid steer loaders. It is protected from over stress with a unique pressure bypass valve. When you turn your hydraulics on and off, the stump grinder will become a pump and try to put pressure back into the lines. Our valve allows the pressure to re-circulate back into the motor and the wheel to spin down slowly.
- After you have connected your hoses to your machine, you will want to start the skid steer, and turn on your auxiliary hydraulics. Run the stump grinder up for just a few seconds and turn off the skid steer. Check for leaks at all hose fittings. Tighten as needed and test again.
- Run the machine and do some test cutting to familiarize your self with the stump grinder and how it handles different types of material. Stop and check for leaks. Check the cutters to insure nothing has come loose.
- Do not wear loose fitting clothing or jewelry. Hearing and eye protection are highly recommended even if you are inside an enclosed cab. Wear heavy gloves whenever you are handling the wheel.
- Before leaving the skid steer, make sure that the hydraulic power has been turned off and the wheel has spun down to a complete stop. THINK before you walk anywhere near the front of the stump grinder.
  - » If you hit a solid object, you should immediately stop the stump grinder and inspect for damage. Check cutters and bolts/nuts. If there is any kind of excess vibration, stop using the Stump Grinder at once until this has been remedied. Replace damaged parts immediately.
  - » To prevent tipping or control losses, reduce your speed when making turns or transitioning onto or off of slopes.
  - » Stump grinders can be extremely dangerous. It is strongly recommended that you use a cab shield made from a polycarbonate material for operator protection.
  - » Keep everything and everyone you care about at least 100 yards as material can be thrown at high velocity.
  - » Never allow children to be near or operate this equipment.

## 3. Stump Grinder Use Guidelines

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### 3.1 First Time Users

#### **Step One:**

Connect the stump grinder to your skid steer and check hydraulic connections. Connect hoses and check that the hoses run easily up to your connection points and are not kinked or pinched in any way. Check that your stump grinder is properly connected to your machine by lightly pushing the nose down into the ground to see if it will become dislodged. If there is any excessive movement in the connection point – STOP! Try to figure out why it is not mating properly and/or contact us 24/7 prior to operation. You do not want the stump grinder to fall off while in use so you must establish a positive connection to your skid steer.

#### **Step Two:**

Start your skid steer, press the auxiliary flow switch and activate your trigger switch to lock the flow on. Insure you are in a clear area and with the stump grinder head off the ground 12 inches, test the fore/aft functions to see that machine it connected properly and that the spring is holding pressure against the cutting wheel. Again, making sure you are in a clear area, with no bystanders, turn on the stump grinder head and observe it spinning. Stop the flow to the stump grinder and wait for it to spin down to a stopped position. Exit your cab and inspect the hoses and couplers for any leaks. Adjust as needed.

#### **Step Three:**

Enter your cab, start your machine, turn on auxiliary flow and start the stump grinder. Perform a few test passes on an easy stump so that you feel confident with what the stump grinder is capable of grinding and the direction the material will exit the stump grinder. Because of the side mounted nature of the Vortex, the material ground will not act like it would with other stump grinders. There is a high degree of certainty that most material will exit the right side of the stump grinder however care should be exercised as material can be deflected from the side and towards the operator. This side mounting of the Vortex makes it much safer to use because very little material is ever directed towards the operator.

#### **Step Four:**

Progress towards larger material and try full passes and below the ground surface so that you can see where your blind spots may occur. It is important to maintain visibility with the cutter portion of the stump grinder so that you do not inadvertently strike a fixed object and possibly damage your stump grinder. Your cutters will last much longer if you are careful to not strike fixed items or rocks. Always wait until the wheel stops before inspecting the stump grinder as material can become dislodged and thrown towards you when the wheel is spinning down. Always be aware of your surroundings and those around you. Maintain at least 100 yards of buffer between you and anything or anyone.

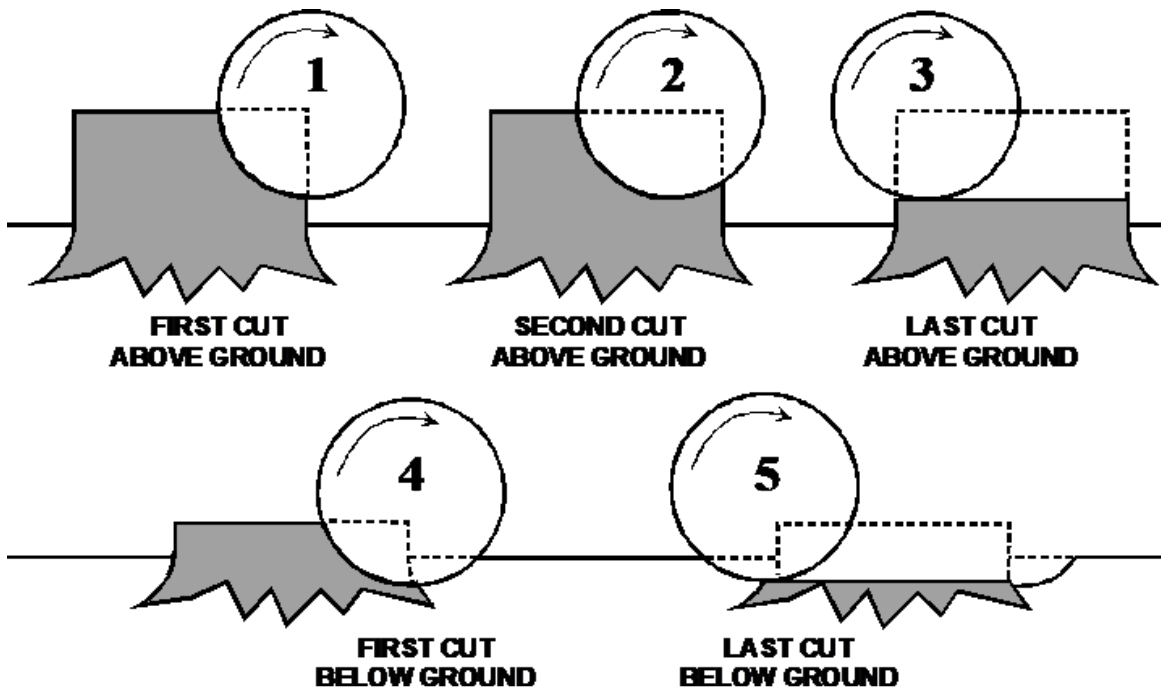
## 3.2 How to Grind Stumps

Align the cutter wheel with the right side of the stump (viewed from the Skid Steer control area) and position the machine so that it will cut about 4-6 inches off the top of the stump and 8-12 inches from the left side of the stump. See diagram below.

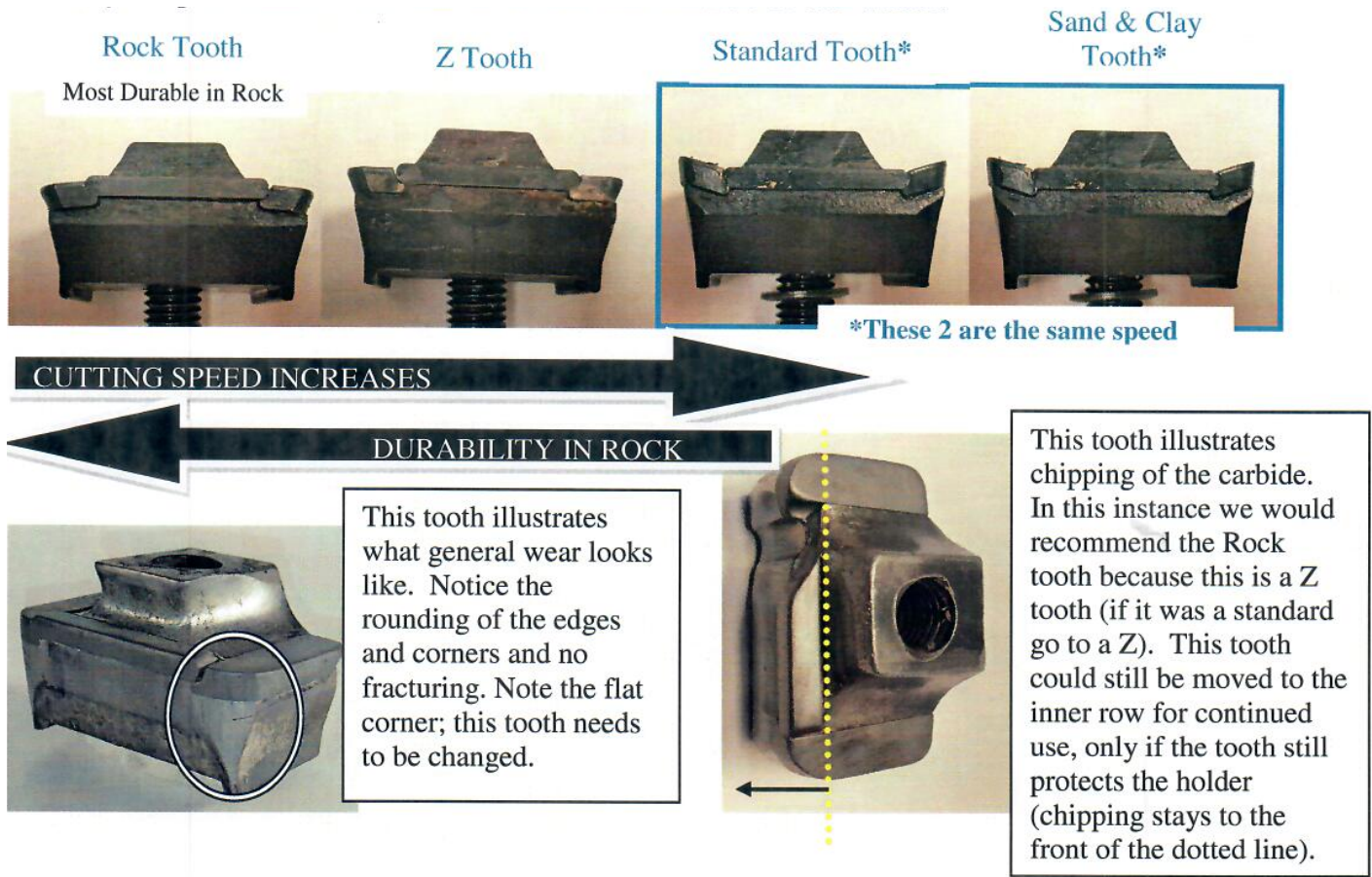
The rate of cut will depend on the type of tree, condition of the wood, and the condition of the cutters. Too light a feed will produce sawdust. The ideal feeding rate produces heavy wood-chips, some of which may be about 1/16" thick by approximately 6 to 8 inches long as well as chunks of wood. After completing the first cut through the stump, move the skid steer to the left (again as viewed from the control area) so the wheel can cut another 8-12 inches. Proceed with another cut. Additional passes, when the tree stump is very large, are made in the same manner as described above. Repeat the procedure until the stump is cut to ground level.

Before cutting below the ground level, make certain that all rock or stone are removed from the immediate area of the cutting wheel. When you are cutting below the ground level, the feed rate should be reduced and the operator should be alert to the possibility of cutting hidden rock. Extra care used in this part of the operation can avoid costly tooth damage.

The wheel is so designed that it can "saw" or cut its way into solid wood by dropping straight down on it. This operation works well for cutting off large roots.



### 3.3 Cutting Wheel Teeth and Installation



- Always use anti-seize on the bolts and torque them properly.
- Try to pay attention to the cutting speed. Really dull teeth cut a lot slower and can add a lot of time to grind a stump.



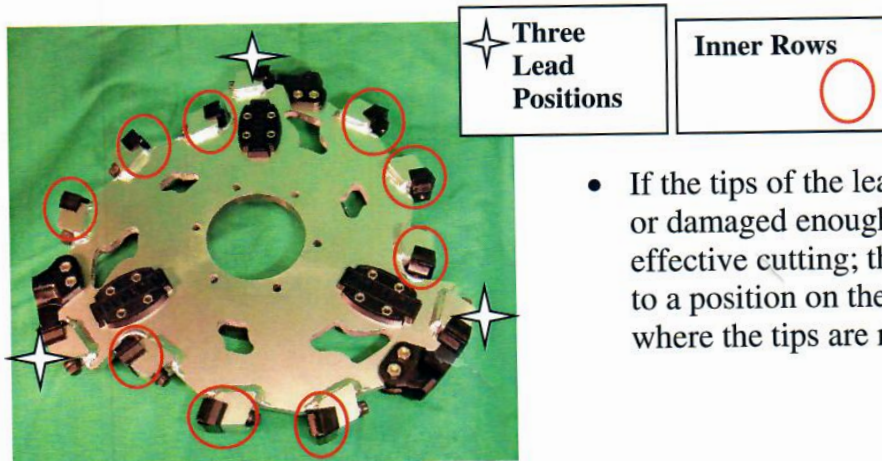
### Tooth Installation Instructions:



- Make sure seat is clean.
- Apply Anti-seize to bolt (Note: New teeth will come with Anti-seize already applied.)
- Install bolt with washer in from the back/bottom of the holder and torque to 100 ft./lbs. (Re-check the bolts after grinding the first stump after installation.)

### Proper Tooth Care and Maintenance:

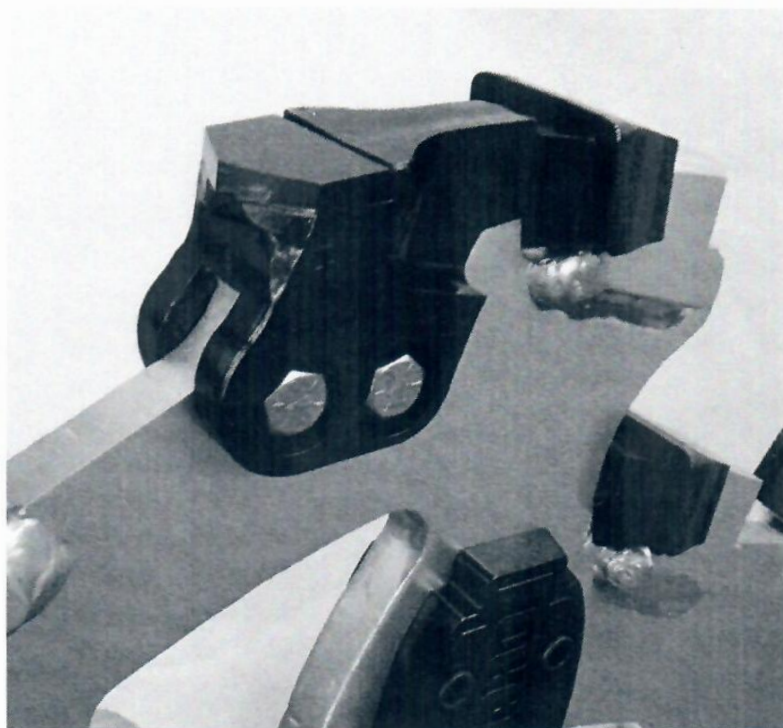
- Replace teeth that are worn or have been damaged enough to wear into the holder.



- If the tips of the lead teeth are worn or damaged enough to prevent effective cutting; then move them to a position on the inner holders where the tips are not used.

### **Installation of the M1 Rock Guards:**

1. Place Rock guards on the wheel as shown (ahead of the lead tooth)
2. Insert Bolts as shown with Blue loctite. Torque to 80 ft/lbs.



Note: Bolts have been replaced with 12 pt head bolts for an easier installation.

3. Always check parts after severe or repeated impacts.

### **Change Rock Guards when:**

- You see any cracking or damage to the part.

Leonardi does offer an option to have your Rock Guards rebuilt.

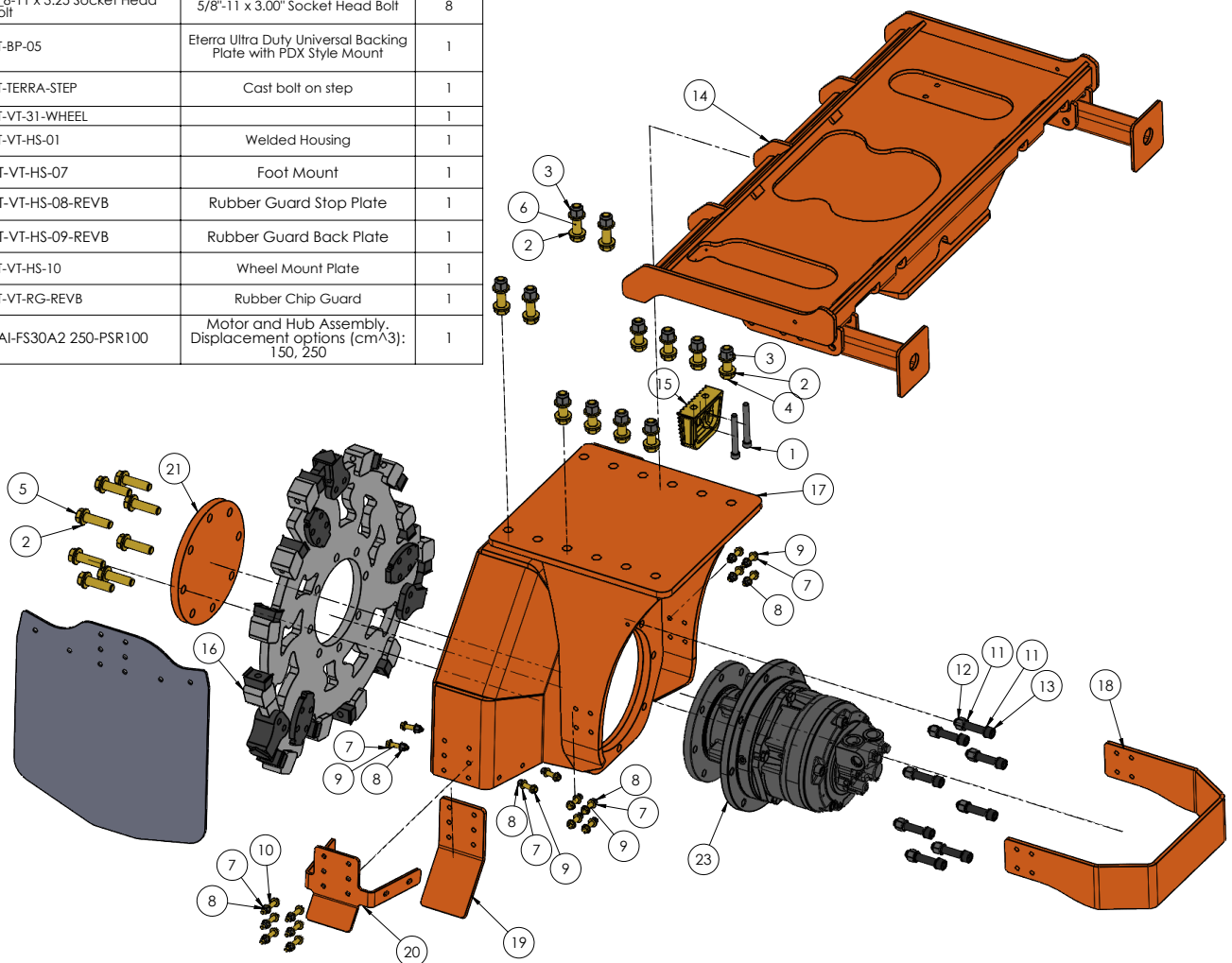
# 4. Maintenance & Parts Lists

## 4.1 Parts/Assembly Diagram

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1_2-13 x 4.00 Socket Head Bolt	1/2"-13 x 4.00" Socket Head Bolt	2
2	3_4 Flat Washer	3/4" Flat Washer Steel SAE Yellow Zinc Finish	32
3	3_4-10 Lock Nut	Steel Top Lock Grade C Zinc Finish	12
4	3_4-10 x 2.50 Hex Bolt	Grade 8 Yellow Zinc Finish	8
5	3_4-10 x 2.75 Hex Bolt	Grade 8 Yellow Zinc Finish	8
6	3_4-10 x 3.00 Hex Bolt	Grade 8 Yellow Zinc Finish	4
7	3_8 Flat Washer	3/8" Flat Washer Steel SAE Yellow Zinc Finish	36
8	3_8-16 Lock Nut	Steel Top Lock Grade C Zinc Finish	18
9	3_8-16 x 1.75 Hex Bolt	Grade 8 Yellow Zinc Finish	12
10	3_8-16 x 2.25 Hex Bolt	Grade 8 Yellow Zinc Finish	6
11	5_8 Nord Lock Washer	5/8" Nord Lock Washer	16
12	5_8-11 Lock Nut	Top Lock Grade C Zinc Finish Steel	8
13	5_8-11 x 3.25 Socket Head Bolt	5/8"-11 x 3.00" Socket Head Bolt	8
14	ET-BP-05	Eterra Ultra Duty Universal Backing Plate with PDX Style Mount	1
15	ET-TERRA-STEP	Cast bolt on step	1
16	ET-VT-31-WHEEL		1
17	ET-VT-HS-01	Welded Housing	1
18	ET-VT-HS-07	Foot Mount	1
19	ET-VT-HS-08-REVB	Rubber Guard Stop Plate	1
20	ET-VT-HS-09-REVB	Rubber Guard Back Plate	1
21	ET-VT-HS-10	Wheel Mount Plate	1
22	ET-VT-RG-REVB	Rubber Chip Guard	1
23	SAI-FS30A2 250-PSR100	Motor and Hub Assembly, Displacement options (cm <sup>3</sup> ): 150, 250	1

Tooth/Rock Guard Part Numbers - Black is Standard

Part #	Description	Qty
LI-M1-2011-00-FP-BLACK	Eterra - Part - Stump Grinder - Standard Tooth	12
LI-M1-2011-00-FP-GOLD	Eterra - Part - Stump Grinder - Rock Tooth - Gold	12
LI-M1-2011-00-FP-RED	Eterra - Part - Stump Grinder - Sand & Clay Tooth - Red	12
LI-M1-2011-00-FP-Z	Eterra - Part - Stump Grinder - Mixed Soil Tooth	12
LI-M1-RG2	Eterra - Part - Stump Grinder - Rock Guard and hardware.	3
LI-M1-WB-1916	Eterra - Part - Stump Grinder - Leonardi Logo Block Set (2 Pieces-Front/Back) with hardware.	3





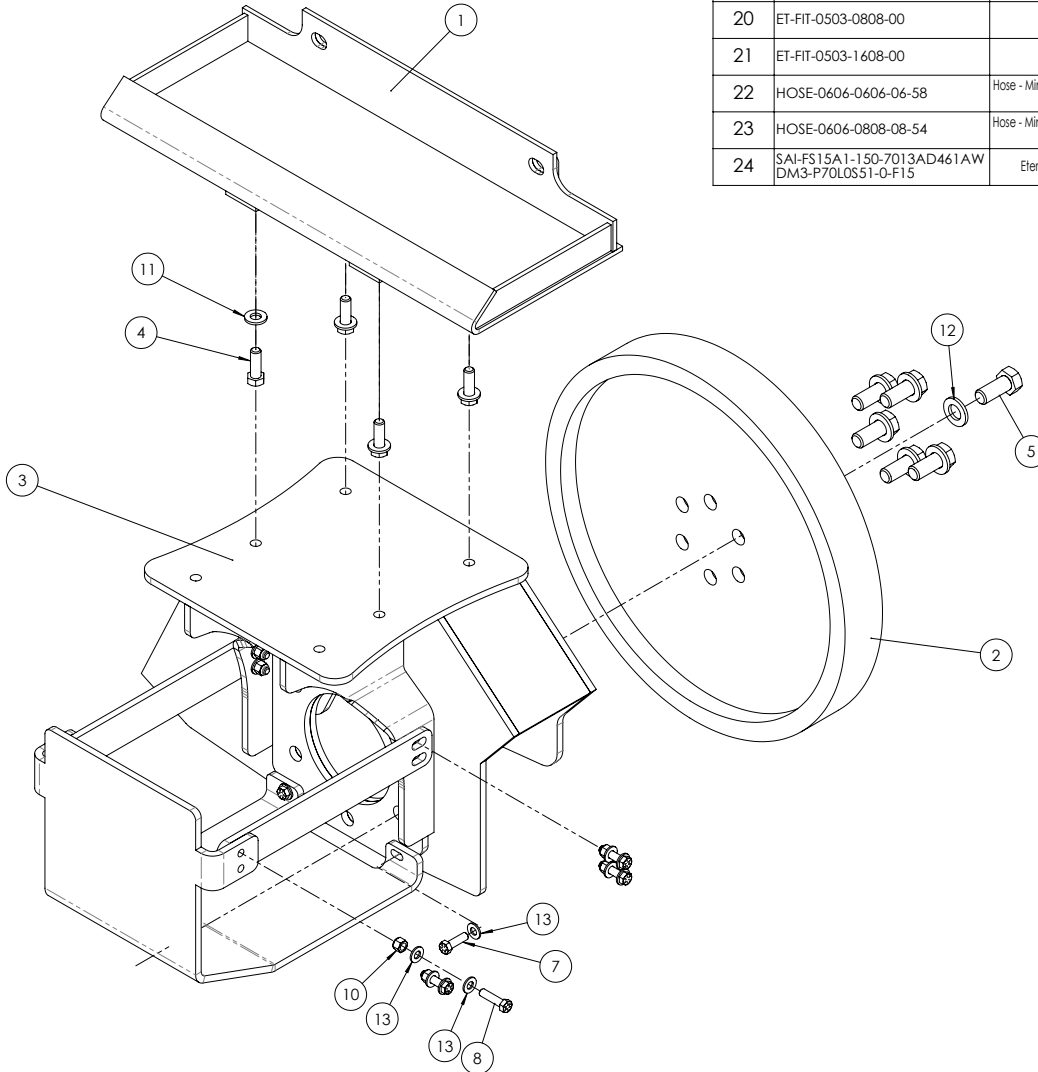
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## Vortex Mini Parts Diagram

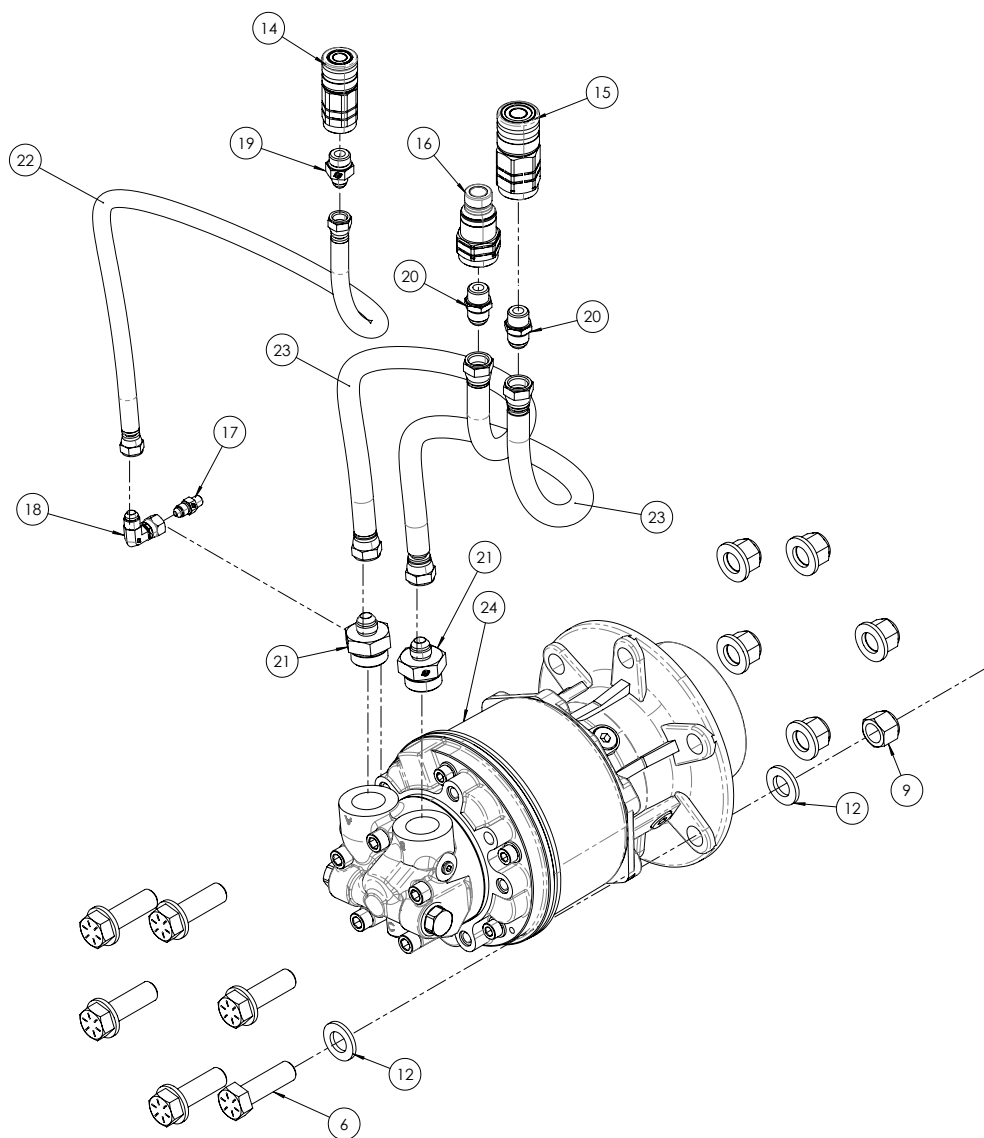
### Wheel Parts

Part Number	Description	Qty
LI-M1BS-1793-00-BLACK	Eterra - Part - Mini Vortex Stump Grinder - Tooth - Standard Soil - Black	9
LI-M1BS-1793-00-GOLD	Eterra - Part - Mini Vortex Stump Grinder - Tooth - Rocky Soil - Gold	9
LI-M1BS-1793-00-RED	Eterra - Part - Mini Vortex Stump Grinder - Tooth - Sand and Clay Soil - Red	9
LI-M1BS-RG	Eterra - Part - Mini Vortex Stump Grinder - Rock Guard - Single - includes hardware	3

Note: Teeth are indexable with 3 sides. Loosen and turn tooth for a fresh sharp edge. Torque to 60 ft/lbs



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ET-16H001-P002-61	Eterra - Mini Skid Steer Universal Mount Plate - Twin Rail 2 Bolt - Powdercoated Black	1
2	ET-22M020-P004-10	Eterra - Part - Vortex Mini Stump Grinder Wheel 20" - Leonardi Blueshark	1
3	ET-22M020-S001-63	Eterra - Subassembly - Mini Vortex Stump Grinder Housing w/Motor Guard and 2x Support Arms - Powdercoated Orange	1
4	ET-98H102-P150-02	Eterra - Part - 1/2"-13 x 1.50" Hex Bolt Grade 8 Yellow Zinc Finish	4
5	ET-98H304-P175-02	Eterra - Part - Hex Bolt 3/4"-10x 1.75" - Gold Zinc Coated	6
6	ET-98H304-P250-02	Eterra - Part - Hex Bolt 3/4"-10x 2.50" - Gold Zinc Coated	6
7	ET-98H308-P125-02	Eterra - Part - 3/8"-16 x 1.25" Hex Bolt Grade 8 Yellow Zinc Finish	2
8	ET-98H308-P150-02	Eterra - Part - 3/8"-16 x 1.50" Hex Bolt Grade 8 Yellow Zinc Finish	8
9	ET-98N304-P002-02	Eterra - Part - 3/4"-10 Top Lock Nut	6
10	ET-98N308-P002-01	Eterra - Part - 3/8"-16 Top Lock Nut	8
11	ET-98W102-P001-02	Eterra - Part - 1/2" Flat Washer - Gold Zinc Coated	4
12	ET-98W304-P001-02	Eterra - Part - 3/4" Plain Washer - Yellow Zinc Coated	18
13	ET-98W308-P001-02	Eterra - Part - 3/8" SAE Flat Washer - Yellow Zinc	18
14	ET-FFF-6-8-SAE	Female Flat Face Coupler 3/8" Body -8 Female ORB Threads	1
15	ET-FFF-8-8-SAE	Female Flat Face Coupler 1/2" Body -8 Female ORB Threads	1
16	ET-FFM-8-8-SAE	Male Flat Face Coupler 1/2" Body -8 Female ORB Threads	1
17	ET-FIT-0103-0204-00	-2 Male NPT to -4 Male JIC Straight Fitting	1
18	ET-FIT-0306-0606-90	-6 Female JIC to -6 Male JIC 90 Degree Fitting	1
19	ET-FIT-0503-0806-00	-8 Male ORB to -6 Male JIC Straight Fitting	1
20	ET-FIT-0503-0808-00	-8 Male ORB to -8 Male JIC Straight Fitting	2
21	ET-FIT-0503-1608-00	-16 Male ORB > -8 Male JIC Straight Fitting	2
22	HOSE-0606-0606-06-58	Hose - Mini Stump Grinder Case Drain - 3/8" Diameter x 58" Long - #6 Female JIC Both Ends	1
23	HOSE-0606-0808-08-54	Hose - Mini Stump Grinder - 1/2" Diameter x 54" Long - #8 Female JIC Straight Both Ends	2
24	SAI-FS15A1-150-7013AD461AW DM3-P70LOS51-O-F15	Eterra - Part - Motor/Hub - Mini Stump Grinder - 150cm³	1



## 5. Warranty

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### Eterra, LLC.'s Limited Product Warranty

If you find physical defects in the materials or the workmanship used in making the product described in this document, Eterra, LLC. will repair, or at its option, replace, the product at no charge to you, provided you return it (freight prepaid, with proof of your purchase from the original reseller) during the 1 Year period after the date of your original purchase of the product.

### Eterra, LLC.'s RMA Replacement Product Warranty

If you find physical defects in the materials or the workmanship used in the refurbishment of an RMA product replacement, we will repair, or at our option replace, the product at no charge to you for a period of 90-days from the date the RMA was created, or until the end of your original warranty period (whichever is greater).

### Eterra, LLC.'s Refurbished Product Warranty

If you find physical defects in the materials or the workmanship used in a product sold as a refurbished unit, we will repair, or at our option replace, the product at no charge to you for a period of 90-days from the date of purchase.

Eterra, LLC. WARRANTS THAT THE EQUIPMENT DELIVERED BY SELLER WILL BE OF THE KIND AND QUALITY DESCRIBED IN THE ORDER OR CONTRACT AND WILL BE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIAL.

SHOULD ANY FAILURE TO CONFORM WITH THIS WARRANTY OCCUR, AND THE BUYER HAVING GIVEN WRITTEN NOTICE TO SELLER WITHIN 180 DAYS FROM THE DATE OF SHIPPING, SELLER SHALL CORRECT SUCH NONCONFORMITY AT ITS OPTION BY EITHER REPAIRING THE DEFECTIVE PART OR PARTS OR MAKING AVAILABLE F.O.B. AT SELLERS LOCATION A REPAIR OR REPLACEMENT PART.

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE OR ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. CORRECTION AND NONCONFORMITIES IN THE MANNER AND FOR THE PERIOD OF TIME PROVIDED ABOVE, SHALL CONSTITUTE FULFILLMENT OF ALL LIABILITIES OF SELLER TO BUYER, WHETHER BASED ON CONTRACT, NEGLIGENCE OR OTHERWISE RESPECT TO OR ARISING OUT OF SUCH GOODS.

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All exclusions and limitations of this warranty are made only to the extent permitted by applicable law and shall be of no effect to the extent in conflict with the express requirements of applicable law.