

**TYPHOON 60" & 74"
OPERATORS MANUAL**



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INTRODUCTION

Eterra thanks you for purchasing a new Eterra product. This operating manual has been prepared to enable you to operate your equipment in a safe manner and provide proper care & maintenance.

NOTE:

This operating manual should be used in conjunction with the parent machine's operating instructions.

Instruction books should be regarded as part of the machine. They should always be kept safe with the machine for easy and quick reference.

New or extra copies can be obtained from your Eterra dealer or directly from Eterra.

Eterra continually strives to improve and increase their range of products and therefore reserves the right to alter their specifications at any time without notice or obligation. The company accepts no responsibility for discrepancies which may occur between specifications of their machines and descriptions thereof contained in their publications.

Purpose

This Eterra product is intended to be used with skid steer loaders or mini skid steer loaders or excavators in the appropriate weight class. It is 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.

You must read and understand the theory of operation so that you can operate this attachment safely and so you can maintain the safety of the operators and bystanders.

This product was designed to be sold online and out of the box ready to operate with a minimal amount of assembly.

This Document:

The sole purpose of this manual is to help you train yourself to be a responsible operator and troubleshooter of the operation of the attachment 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.

SAFETY NOTES

Protect Yourself

Make sure you wear protective clothing and personal safety items. **DO NOT** wear items of loose clothing, jewellery or other items and tie up any long hair which could entangle in the controls or other parts of the machine.

You May Need

- A Hard Hat
- Safety Goggles
- Hearing Protection
- Foul Weather Clothing
- Reflective Clothing
- Protective Gloves
- Safety Boots

Know Your Equipment

Get to know all you how to operate all controls on the machine and the attachments
IF THERE IS SOMETHING IN THE MANUAL WHICH YOU DO NOT UNDERSTAND, CONTACT THE MACHINE AGENT OR MANUFACTURER AND ASK THEM TO EXPLAIN IT TO YOU.

Danger, Warning And Caution

This symbol below has 3 important meanings when used with the following captions.



DANGER: An IMMEDIATELY HAZARDOUS situation that WILL result in DEATH or VERY SERIOUS INJURY

WARNING: A POTENTIALLY HAZARDOUS situation that COULD result in DEATH or VERY SERIOUS INJURY

CAUTION: A POTENTIALLY HAZARDOUS situation that MAY result in MINOR INJURY

Protective And Safety Devices

Keep all protective devices in place and securely fastened. Make sure all guards, shields and safety signs are properly installed and are in good condition.

Check The Equipment

Before you operate the equipment, take time to check your machine and ensure that all systems are in good operational order.

- Never operate the equipment with worn, damaged or missing parts. Use only genuine replacement parts.
- Always ensure that the parent machine is secure and stable with its engine switched off and hydraulic lines disconnected before carrying out any maintenance work.
- Check for loose, broken, missing or damaged parts. Ensure all items are in good repair and make sure all safety devices are in place.
- Perform all maintenance procedures outlined for the equipment.
- Always protect hands. Select appropriate gloves when handling the equipment during fitting, removing or adjusting
- Always protect feet with safety boots.

Safety Precautions

WARNING: Hydraulic fluid under pressure can penetrate the skin or eyes and cause serious PERSONAL INJURY, BLINDNESS OR DEATH.
Fluid leaks under pressure may not be visible. Use a piece of wood or thick cardboard to find leaks. DO NOT USE YOUR BARE HANDS.



Wear safety goggles for eye protection.

If any fluid is injected into the skin, it MUST be surgically removed.

SEE A DOCTOR IMMEDIATELY

Make sure all hydraulic lines are correctly installed

Before applying pressure to the hydraulic system be sure all connections are tight and that lines, pipes and hoses are not damaged. Before disconnecting hydraulic lines, be sure to relieve all pressure.

ETERRA recommends you receive dealer or factory instruction before operating the unit.

NEVER operate or assemble the equipment without **fully** understanding the operating instructions of both the equipment unit and the parent machine.

NEVER operate the equipment unless you are in good physical condition and mental health.

NEVER operate the equipment under the influence of any substance (including drugs & alcohol) which might impair vision.

NEVER proceed with works before completing a site risks assessment immediately before commencing work. Nominating the safe work exclusion zone radius for persons and animals as part of identifying risks and implementing controls.

NEVER allow minors to operate the equipment.

ALWAYS survey the work area before commencing operations. Check for potential hazards. E.G. Electricity or communication cables etc.

ALWAYS ensure that the parent machine is secure and stable with it's engine switched off before carrying out any maintenance work.

ALWAYS ensure the hydraulic oil supply to the attachment is disconnected by uncoupling the hydraulic hose connectors before fitting, removing or adjusting the equipment

ALWAYS wear head protection and eye protection when working on the unit.

ALWAYS protect hands. Select appropriate when handling the equipment during fitting, removing or adjusting the unit.

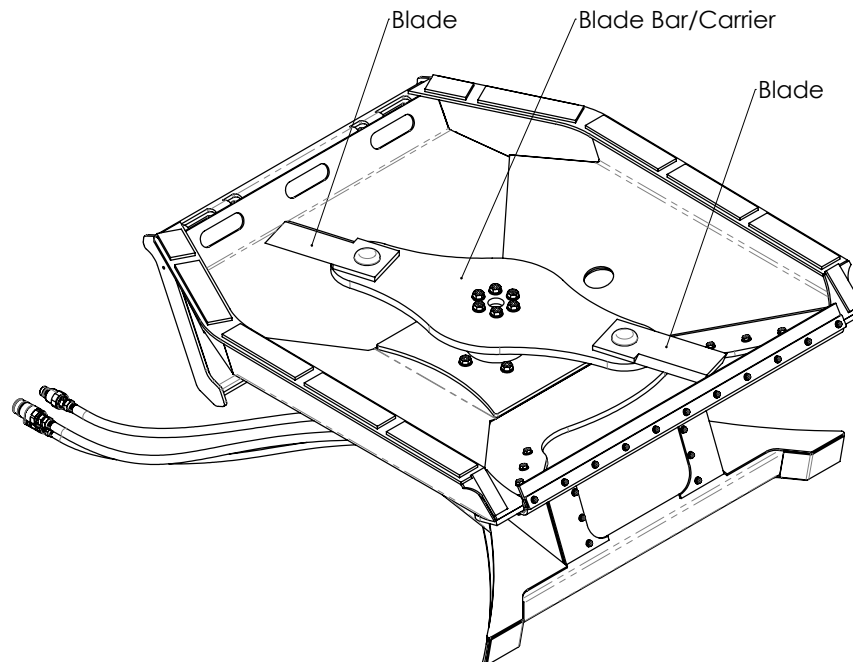
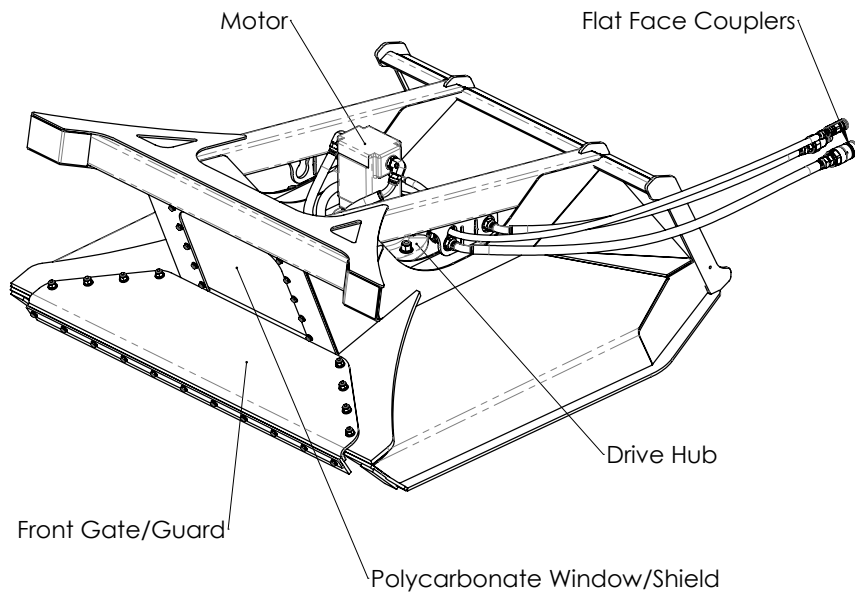
ALWAYS protect feet. Wear approved safety boots.

ALWAYS follow the parent machine instructions regarding noise protection.

STAY ALERT. Should something break, come loose or fail to operate on your equipment, STOP WORK, lower equipment to the ground, shut off the engine and lock out hydraulic supply, inspect the machine and have repairs or adjustments made before resuming operation.

COMPONENT IDENTIFICATION

Typhoon 60" & 74"



MOUNTING

SAFETY FIRST



ALWAYS Always check the weight of the attachment and ensure you have the correct equipment for handling it.

ALWAYS check parent machine:

- Is in correct working order
- Is parked correctly on flat ground
- Has its hand brake **ON**, its hydraulic circuit locked out and its engine switched **OFF**.



Attaching to Skid Steer

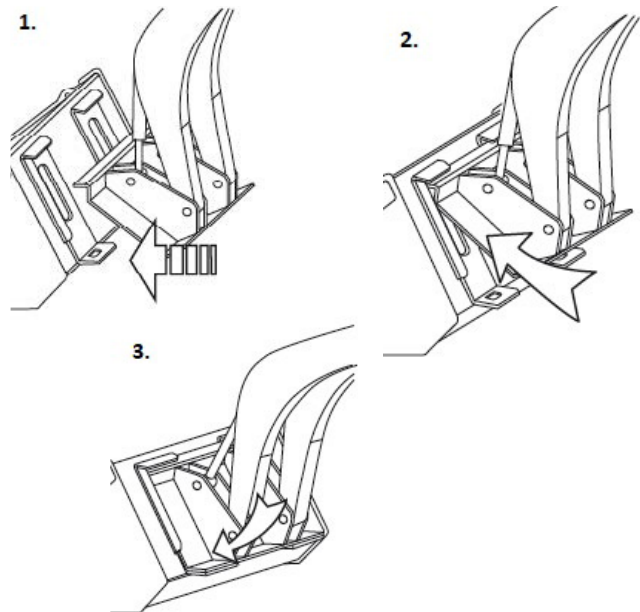
Check that the skid steer mounting plate fits properly and allows the locking pins to be engaged. You **MUST** engage your locking pins before operation to prevent the mower from coming off. If your locking pins do not stay locked down they may need to be adjusted or repaired before continuing.

1. Slowly position your skid steer loader towards the rear of the mounting plate.

2. Slowly insert the top edge of your quick attach into the top rail of the backhoe from underneath.

3. As the top of the quick attach aligns into the mounting plate, slowly roll your quick attach back towards the machine until the entire quick attach locks into the mount.

4. Using either your power attach or manual levers, lock the mounting plate in place and check for proper pin engagement.



HYDRAULIC CONNECTIONS

WARNING:



Hydraulic fluid under pressure can penetrate the skin or eyes and cause serious personal injury, blindness or death. Fluid leaks under pressure may not be visible. Use a piece of card or wood to find leaks. **DO NOT** use your bare hands. Wear safety goggles to protect your eyes. If any fluid is injected into the skin, it **MUST** be surgically removed. Seek immediate medical attention.

Standard Flat Face Couplers required for connection to the parent machine, are included for all attachments. Non-standard couplers are not supplied with the unit. These should be sourced locally and should be compatible with the auxiliary hydraulic Quick Release Couplers on the parent machine. The parent machine auxiliary hydraulic connections are normally located near the end of the loader arms, excavator dipper or truck crane booms.

Hose Routing

You should check the best hose routing for your machine prior to use and adjust accordingly. Damage to hydraulic hoses due to improper length or routing is not covered under warranty.

Flat Face Coupler Connections

Attach all lines supplied from the mower by pushing the flat face couplers on the lines to the ones on your machine. If connection is difficult, you may need to release pressure from the couplers on your machine side. See your machine user manual for how to do this.

When the flat face couplers are attached, spin the collar away from the ball detent in order to “lock” the coupler in place. This will prevent a line from accidentally getting pulled off by brush/debris. If a line becomes detached during operation, you will damage the hydraulic motor, so take care to ensure your hydraulic connections are secure before operating.

The mowers operate in only one direction. If pressure/flow is applied to the opposite direction, then the mower will not operate. If your mower does not spin when flow/pressure is applied to it, then the connections may be backwards. Simply swap the Male and Female couplers on the hose ends, and try again.

Most manufacturers use the male connector on their machine as the output. This means on the attachment, the female coupler will correspond to the pressure/input line. If you have a Bobcat brand machine, they are the opposite, and they use the female on the machine as the output.

OPERATION

Pre-Operation Checklist

- 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 Typhoon Mower pins and mounts to insure nothing has come loose as you risk the mower head falling off if not properly inspected.
- Ensure that the pressure and return hoses **AND** the case drain line are all connected properly. Not connecting all hoses will result in damage to the motor which is not covered under warranty.
- Check for excessive blade & bolt wear as well as cracks in the rear of the blades. Replace as needed. Generally when the blades are worn out, so are the bolts so you should be replacing as a set. If you only replace the blades, the bolts may fail and allow the blades to fly away uncontrollably. This is not a situation you want to find yourself in and you should do everything to make sure this will never happen.
- If you feel any kind of vibration from the mower head, it is likely one of the mower blades has been broken. Stop using the mower and do not use until the blade has been changed.
- Lubricate the main bearings daily or after each 8 hours of use. There is a greasing Zerk located on the front of the drive housing. We recommend Sta-Plex Extreme Pressure Red Grease.
- 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 machine boom.
- Be sure that there are no tools lying on or in the machine.
- Check that your mower 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 mower to fall off while in use so you must establish a positive connection to your Machine.
- It is imperative that your loader be equipped with penetration proof protection for skid steers.

First Time Use Guide

Step One:

Connect the mower to your machine and connect hydraulic connections. Follow the pre-operation checklist to check for potential problems before continuing. Once this is complete, you are ready to spin-up the mower.

Step Two:

Start your skid steer, and orient the mower to a safe position off the ground where it will not contact anything when starting up.

Step Three:

Activate your auxillary hydraulics (High Flow if equipped) and lock them on in the forward direction. The mower should spin up when this is done. If it does not you may have activated your hydraulics in reverse, or the flat face couplers may be swapped on the hoses.

Once the mower is spinning, monitor the hydraulic hoses and connections for leaks. Once it has run for a short time, shut down your hydraulics and wait for the mower to spin down to a complete stop. Now you can exit the cab and check closely for any leaks. Tighten any fittings as needed if they leak.

Step Four:

Once everything has been checked and tightened if needed, and there are no leaks, go ahead and enter the cab and start up the mower again.

Perform a few test cuts on light material so that you feel confident with the operation, and direction the material will exit the mower. Because of the aggressive nature of the Typhoon mower, the material cut (especially heavier material) will not act like it would with other mowers. There is a high chance that the material may exit the front of the mower and rebound back towards the operator. This is why penetration proof protection of the cab is necessary.

Step Five:

Progress towards larger material and try the push bar. The push bar should be used in conjunction with the cutter to push the tree away from you while exposing more of the tree to cut. This will allow you to cut larger material and control the fall of the tree away from you. It is important to maintain visibility with the cutter portion of the mower. If the viewing window becomes obscured with material, stop the mower, exit the cab, and clear any obstructions. Always wait until the blades stop as any material can become dislodged and thrown back at you when the blades are spinning down.

General Use Guide

General Cutting Guidelines:

When you are cutting, you can cut a tree and push it out of the way. You can then come back, tilt the blades slightly forward and use the mower like a stump grinder to cut the stump down into the ground.

The Typhoon is capable of cutting up to 8" of material, but by using the push bar, you can achieve up to a 12" cut. Care must be taken that the bar is being used properly so the tree is falling away from you as a 12" tree can be quite tall and have branches weighed back towards you. Always try to avoid cutting on the bushy side of the tree as all of those branches can cause the tree to fall backwards.

Rocky areas and areas known to be debris fields can be effectively cut using the Typhoon, but if you sustain a hard impact, you should stop the mower and inspect the blades for cracking.

Never cut within 100 yards of human or animal activity or anything that you do not want damaged. For added safety, you can install the supplied housing cover. It is designed to rebound the material downward so items cannot project from the front of the mower. This should be installed when you are performing regular mowing activities where you do not want to have cut product from coming out of the front of the Typhoon.

Mower Operational Safety

- 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 blades. Understand how to use the deflection shield and when you should use it.
- Before leaving the skid steer, make sure that the hydraulic power has been turned off and the blades have spun down to a complete stop. THINK before you walk anywhere near the front of the mower.
- Never lift the mower up above 3 feet or lift in such a way that the operator can fall within the operational path of the mower. Severe injury or death can occur if a blade comes off while in this position.
If you hit a solid object, you should immediately stop the mower and inspect for damage. Check blades and blade bolts/nuts/locking pin. If there is any kind of strange vibration, stop using the TYPHOON at once until this has been remedied. Replace damaged parts immediately. Do not attempt to repair blades or bolts and re-use.
- To prevent tipping or control losses, reduce your speed when making turns or transitioning onto or off of slopes.
- Never lift the mower above 3 feet and start as any material lodged in the mower can be thrown at the operator at high velocity causing serious injury or death.
- Rotary mowers are 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.
- Be especially careful around coconuts, loose rocks and gravel.
- Never allow children to be near or operate this equipment.
- When mowing deep grass, you should always pre-inspect the area for solid objects that may be natural or man made.
- Keep away at least 10 feet from electrical lines.

TRANSPORTATION & STORAGE

Transportation Within The Job Site

- Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when operating the TYPHOON Mower in the field or on the road.
- 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 TYPHOON Mower to the Skid Steer using the skid mounting plate. Always use warning flashers (hazard) on the Skid Steer when transporting unless prohibited by law.



Storage

- Store unit in an area away from human activity.
- Do not permit children to play around the stored unit.
- Make sure boom is lowered to the ground.
- If removing unit from skid steer make sure that the hoses are stored safely tucked away from the ground and mounting plate to prevent damage.



MAINTENANCE & LUBRICATION

Safety at all times



Ensure environmentally safe disposal of waste oil:

Do not pour down drain!



Avoid Fire or Explosion:



Do not smoke near, or expose lubricants to, any possible sources of ignition (e.g. fire, electrical sparks or heat sources.)



All lubricants are toxic and potentially carcinogenic (cancer causing).



Avoid contact with skin and eyes:

Wear suitable protective clothing and gloves.



Always use a suitable barrier cream in case of skin contact.



Always wear eye protection:

In the event of skin contact wash with soap and water.



In the event of eye contact wash with water and seek medical advice.

Do not ingest:

If swallowed seek medical advice immediately.

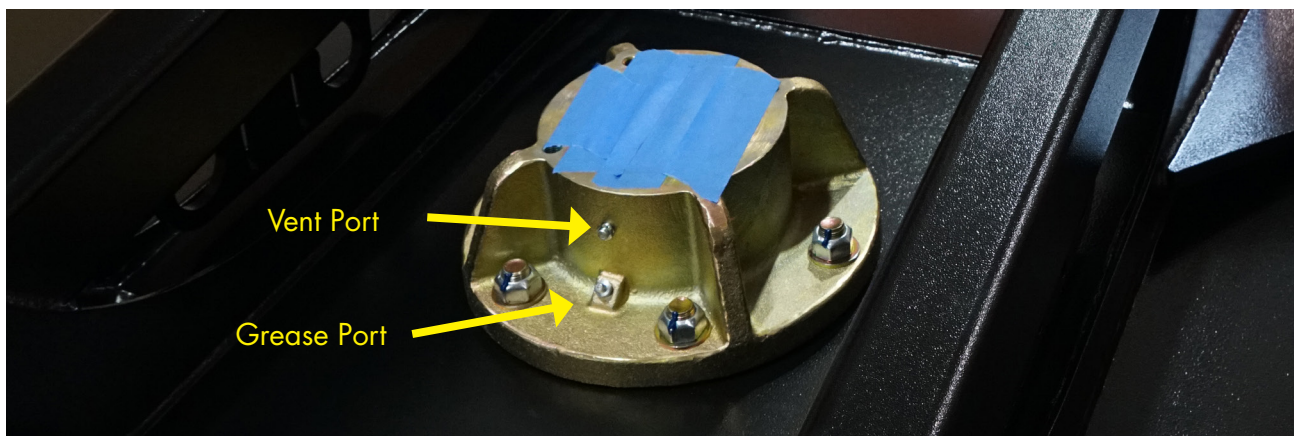
Lubrication

Lubrication of the Typhoon must be done ~every 8 hours of operation, and should be done in the morning before use. We recommend Sta-Plex Extreme Pressure Red Grease or equivalent.

Grease the main bearing housing until grease is seen coming from the overflow vent. Wipe off excess grease. Run the mower for a few seconds and wipe more grease away if the vent starts to overflow. Replace broken or missing fittings immediately.

If a fitting will not take grease, remove fitting and clean. Replace fitting and grease. If fitting still will not take grease, replace with a new fitting.

It is typical to see some grease come out of this vent during operation. If over-greased, you may see a lot come out of the vent. This is OK, it just makes a bit of a mess. If you do not see any grease coming out of this vent, then you should be adding more to it.



Maintenance

Blade Inspection

If your mower is shaking, then the most likely cause is the blades. Remove and inspect for excessive wear and/or cracks on the blades. You should change both blades and bolts together if they are worn or cracked and reinstall. We keep these parts priced as low as possible in an effort to encourage you to change these items regularly and not wait until there is a disaster. Run the mower and check for balance. If there is still shaking, then you have most likely damaged your blade bar. You should not use the mower until you have remedied the blade bar issues either by sending it back to us for repair or replacing it altogether.

Blade Replacement

- Set the Skid Steer on flat ground and turn the skid loader engine off.
- Move the blades forward so you can see the top castle nut from the front of the TYPHOON.
- Drive the spring loaded locking pin out of the top of the castle nut. Repeat process for the second blade.
- Loosen the nut on the slot on the access cover plate on the top of deck. Rotate the access cover plate to expose the access hole in the upper deck.
- Rotate the blade bar until the blade bolt nut is aligned in the access hole. From the top of the deck, insert a socket thru the access hole onto the blade nut.
- Remove the nut and insure that the blade falls to the ground.
- After the blade nuts have been removed and the blades are on the ground, backup the skid steer loader to retrieve the blades.
- Installation is the reverse of removal. Torque blade bolt nuts to 200 ft/lbs and rotate to the next slot in nut for alignment of the roll pin.

Always changed blades and bolts in pairs to maintain dynamic balancing.

Blade Bar Removal/Installation

Removal:

Ensure that the mower is engaged to the skid steer quick attach securely.

- Tilt the front of the mower upward using your skid steer tilt control.
- Position a wooden post under the front of the Skid Steer. The mower must be blocked to avoid injury, as many loader arms will slowly relieve pressure allowing the mower to gradually move towards the ground. Many loader arms will slowly relieve pressure allowing the mower to gradually move towards the ground.
- Turn off the skid steer loader engine. Drive the pin through the gearbox shaft and castle nut from beneath the cutter deck.
- Loosen the castle nut at this time. If the blade bar does not slide off easily, a wedge bar may be placed between the bottom of the gearbox and the top surface of the hub on the blade carrier. Strike the wedge to break the blade carrier free of the gearbox shaft. The castle nut will keep the blade bar from falling off.
- Hold the blade bar onto the gearbox shaft while removing the castle nut.

Installation:

Securely block mower and turn off engine of skid loader.

- Slide blade bar hub onto gearbox shaft. Hold blade bar in position while installing the castle nut.
- Torque to a minimum of 200ft. lbs., and tighten until the slots in the castle nut align with the hole in the gearbox shaft. Hammer the spring pin through until it is even with the sides of the castle nut.
- Remove the support post and lower unit to the ground.

Rotary Drive Removal & Disassembly

Safety of the person performing these procedures is our first priority. Failure to perform any repairs in a safe manner may result in serious injury or death. Prior to removing the rotary drives, see blade bar removal instructions first. Do not try to remove the rotary drive without first removing the blade bar.

First remove the motor by removing the 4 bolts and nord-lock washers holding the motor down. Now use a strap or other method of pulling up on the motor while hitting the motor back and forth with a rubber mallet to loosen the motor and remove it. When re-installing motor, torque these bolts to 100 ft/lbs. When the motor is removed you should wipe all grease clear from around the spindle nut as this will aid in locating two ¼" x 28 x ¾" set screws locking the nut in position as shown in illustration #1.

With the blade bar and motor removed, use a 1-1/8" wrench and 1-1/8" socket with an impact gun (900 ft. lbs. reverse torque recommended.) Secure bolt head on bottom of unit with a wrench and use the impact gun on the nut on the top side of the unit. This is easier to do with two people. Remove nuts and bolts as required. Installation process is in the reverse order of above. Re-installation torque is 325 ft/lbs.

To disassemble the drive hub, loosen the two set-screws from the spindle nut until they are clear from the keyway and the threads of the spindle. (Failure to do so will result in damaged spindle threads). With the set screws loosed, remove the special retaining nut from the spindle as shown in illustration #2. You may need to make a special tool as shown for this.

Now you can remove upper bearing from rotary housing. Then, turn upside down and remove spindle. The lower hub seal will need to be removed before lower bearing removal.

Rotary Drive Housing Assembly

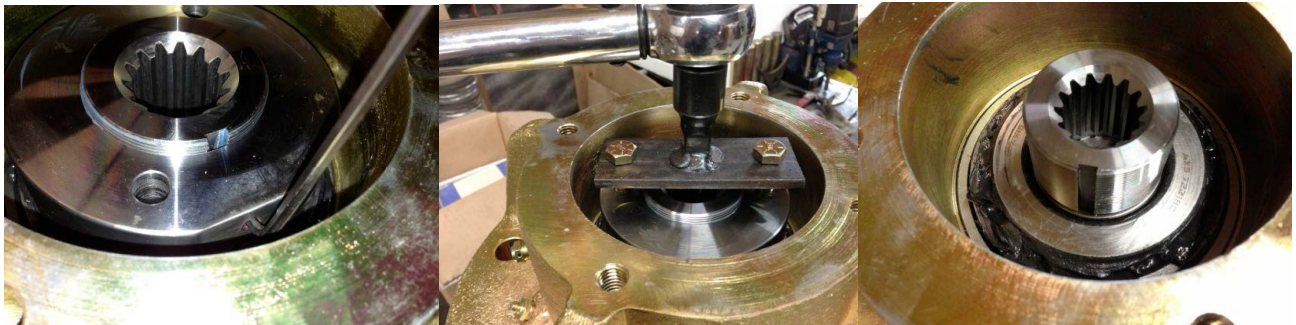
Clean all excess grease from spindle, housing, bearings & nut. Use brake cleaner, wipe and blow off using compressed air to insure the surfaces are contaminate free.

Inspect, replace if needed, and re-pack upper & lower bearings. (Wipe all grease off of the inner bearing race to prevent grease from getting on the spindle threads. Re-install spindle seal and then install the spindle.

Avoid getting any grease on the spindle threads, install upper bearing. (See illustration #3)
Clean old grease and Loctite from the spindle nut, remove set screws and thoroughly clean all components. Re-install into nut using Loctite 262 (keep set screw back from thread surface of nut until the nut is installed. Apply Blue 242 Loctite onto the threads of the spindle nut.

Install spindle nut and torque to 35ft/lbs. Rotate assembly 5 revolutions and then re-torque to 45 ft/lbs.

Tighten set screws down into the keyway in shaft as shown in illustration #1.



TROUBLESHOOTING

IF IN DOUBT ASK! - Seek Eterra / parent machine dealer for advice & repair.

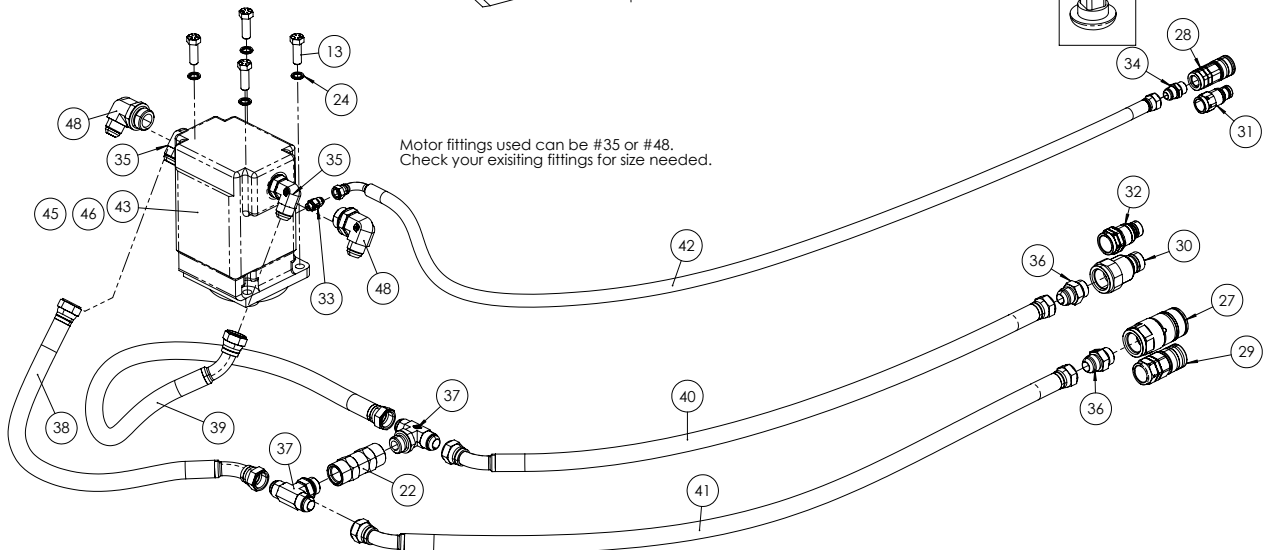
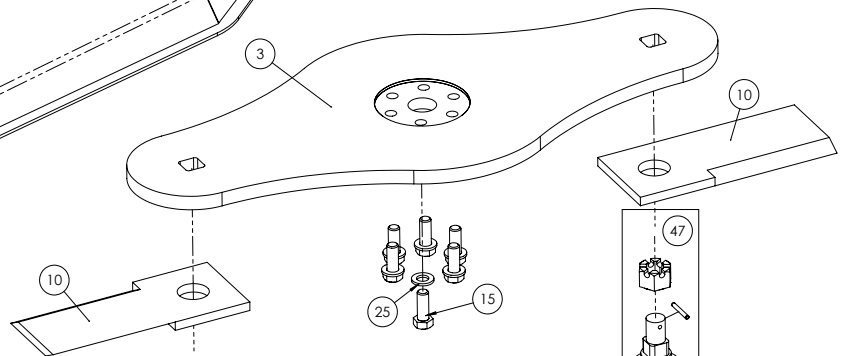
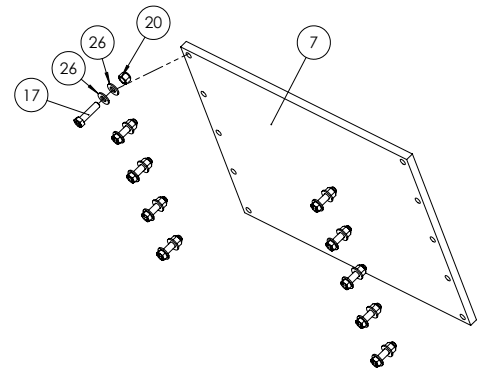
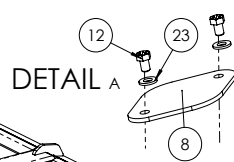
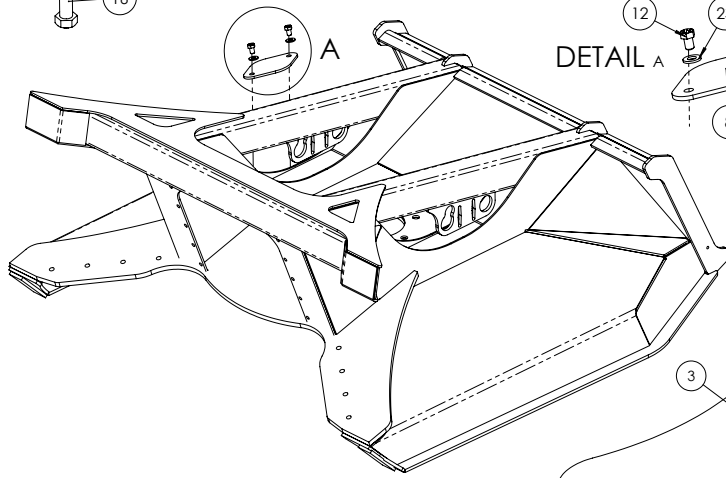
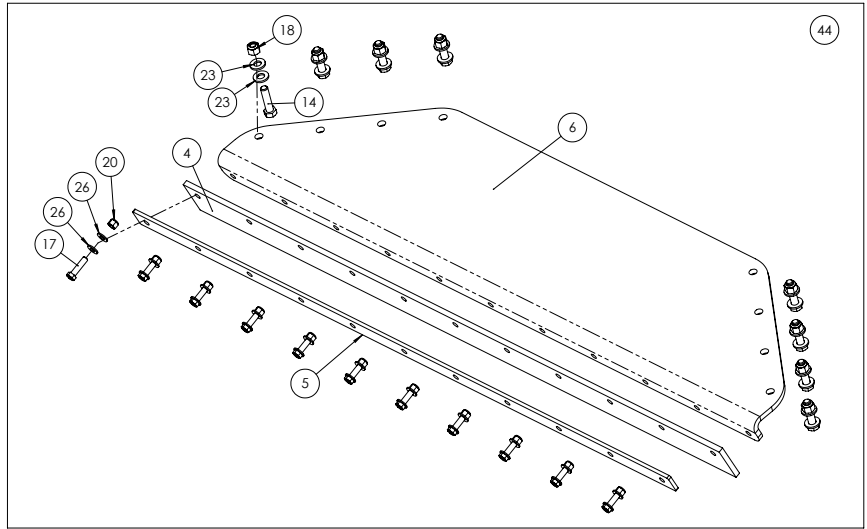
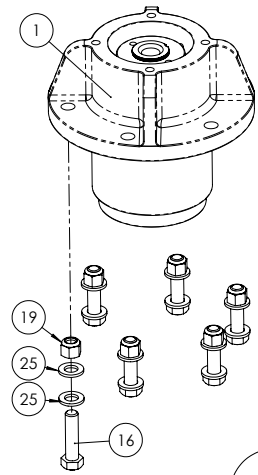
BE SAFE - only use genuine Eterra / parent machine spare parts.

Poor or Uneven Cutting		Excessive Vibration	
POSSIBLE CAUSE	ACTION	POSSIBLE CAUSE	ACTION
Dull Blades	Sharpen blades, rotate blades to new edge, or replace blades	Bent Blades Debris on blade carrier Damaged blade carrier	Check for damage / debris and replace/repair as necessary
Oil leaking from drive hub vent			
POSSIBLE CAUSE	ACTION		
Blown Motor Seal	Replace hydraulic motor seal (see parts diagram)		

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PARTS DIAGRAMS

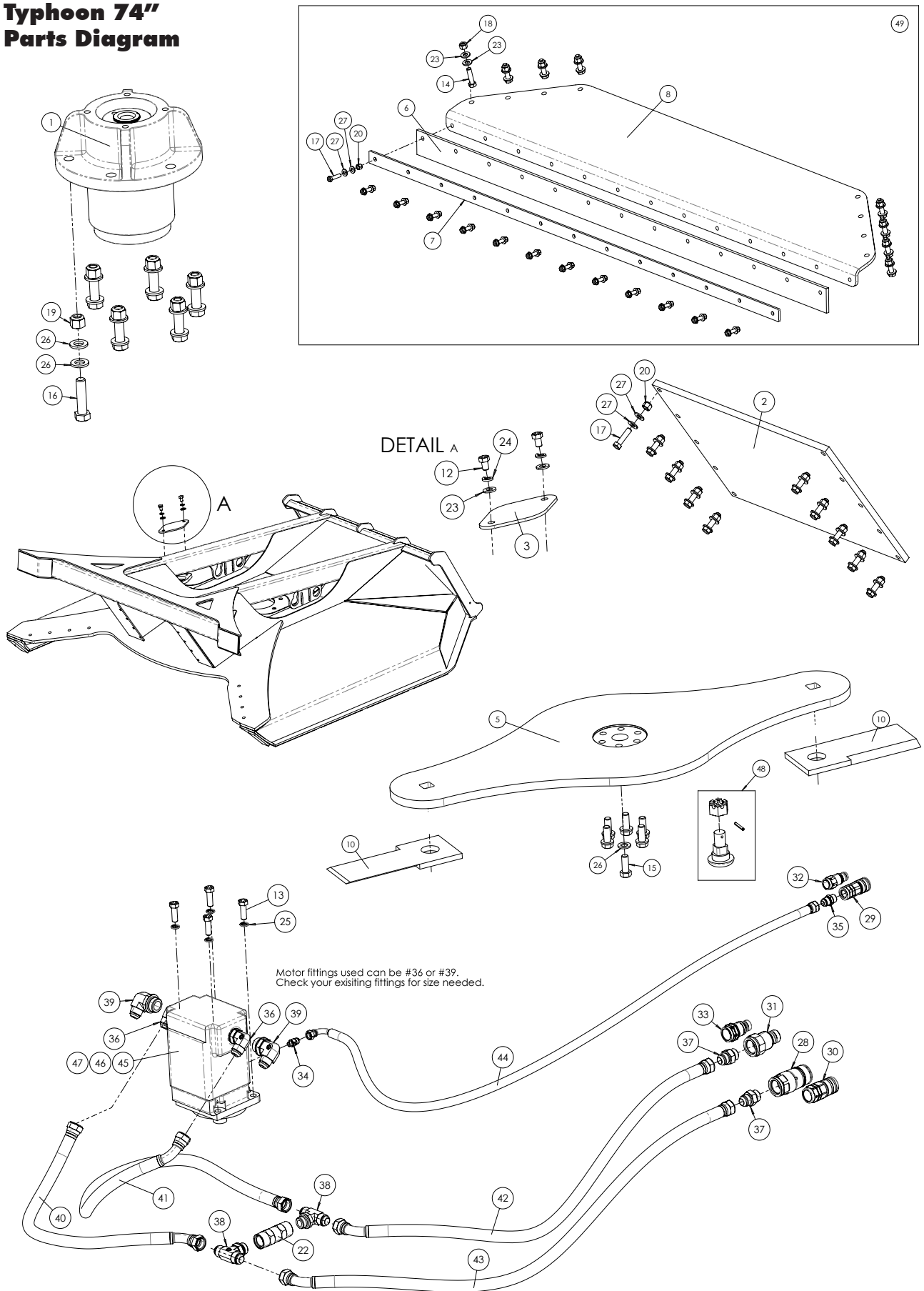
Typhoon 60" Parts Diagram



Motor fittings used can be #35 or #48.
Check your existing fittings for size needed.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ET-09R001-A001-10	Eterra - Part - Large Rotary Drive Hub - Assembled Complete	1
2	ET-18T060-P001-63	Eterra - Part - Typhoon 60 Frame - Powdercoated Orange	1
3	ET-18T060-P002-00	Eterra - Part - Typhoon/Cyclone 60" Blade Carrier - No Finish	1
4	ET-18T060-P004-10	Eterra - Part - Typhoon 60 Rubber Guard	1
5	ET-18T060-P005-61	Eterra - Part - Typhoon 60 Rubber Guard Mount Plate - Powdercoated Black	1
6	ET-18T060-P006-61	Eterra - Part - Typhoon 60" Gate - Formed Metal Piece Only - Powdercoated Black	1
7	ET-18T000-P001-10	Eterra - Part - Polycarbonate Front Guard	1
8	ET-18T060-P008-61	Eterra - Part - Typhoon Blade Access Cover Plate - Powdercoated Black	1
10	ET-18Z000-P002-00	Eterra - Part - Large Rotary Blade - Typhoon 60, 72, Cyclone 60 - No Finish	2
12	ET-98H102-P075-02	Eterra - Part - 1/2"-13 x .750" Hex Bolt Grade 8 Yellow Zinc Finish	2
13	ET-98H102-P150-02	Eterra - Part - 1/2"-13 x 1.50" Hex Bolt Grade 8 Yellow Zinc Finish	4
14	ET-98H102-P200-02	Eterra - Part - 1/2"-13 x 2.00" Hex Bolt Grade 8 Yellow Zinc Finish	8
15	ET-98H304-P200-02	Eterra - Part - 3/4"-10x 2.00" Hex Bolt Grade 8 Yellow Zinc Finish	6
16	ET-98H304-P300-02	Eterra - Part - 3/4"-10x 3.00" Hex Bolt Grade 8 Yellow Zinc Finish	6
17	ET-98H308-P150-02	Eterra - Part - 3/8"-16 x 1.50" Hex Bolt Grade 8 Yellow Zinc Finish	21
18	ET-98N102-P002-02	Eterra - Part - 1/2"-13 Top Lock Nut	8
19	ET-98N304-P002-02	Eterra - Part - 3/4"-10 Top Lock Nut	6
20	ET-98N308-P002-01	Eterra - Part - 3/8"-16 Top Lock Nut	21
22	ET-98V304-P001-01	Check Valve 3/4" SAE Threads - VU34 SAE 5 PSI	1
23	ET-98W102-P001-02	Eterra - Part - 1/2" Flat Washer - Gold Zinc Coated	18
24	ET-98W102-P004-10	Eterra - Part - 1/2" Nord-Lock Washer - Standard OD	4
25	ET-98W304-P001-02	Eterra - Part - 3/4" Plain Washer - Yellow Zinc Coated	18
26	ET-98W308-P001-02	Eterra - Part - 3/8" SAE Flat Washer - Yellow Zinc	42
27	ET-FFF-12-12-SAE	Female Flat Face Coupler 3/4" Body -12 Female ORB Threads	1
28	ET-FFF-6-8-SAE	Female Flat Face Coupler 3/8" Body -8 Female ORB Threads	1
29	ET-FFF-8-12-SAE	Female Flat Face Coupler 1/2" Body -12 Female ORB Threads	1
30	ET-FFM-12-12-SAE	Male Flat Face Coupler 3/4" Body -12 Female ORB Threads	1
31	ET-FFM-6-8-SAE	Male Flat Face Coupler 3/8" Body -8 Female ORB Threads	1
32	ET-FFM-8-12-SAE	Male Flat Face Coupler 1/2" Body -12 Female ORB Threads	1
33	ET-FIT-0503-0406-00	-4 Male ORB to -6 Male JIC Straight Fitting	1
34	ET-FIT-0503-0808-00	-8 Male ORB to -8 Male JIC Straight Fitting	1
35	ET-FIT-0503-1212-90	-12 Male ORB to -12 Male JIC 90 Degree Fitting	2
36	ET-FIT-0503-1212-00	-12 Male ORB to -12 Male JIC Straight Fitting	2
37	ET-FIT-0503-1212-BRT	-12 Male ORB to -12 Male JIC Branch Tee Fitting	2
38	HOSE-0637-1212-12-27	Typhoon 60" (Int) - 3/4" Diameter x 27" Long. -12 FJIC Straight x -12 FJIC 45°.	1
39	HOSE-0637-1212-12-43	Typhoon 60" (Int) - 3/4" Diameter x 43" Long. -12 FJIC Straight x -12 FJIC 45°.	1
40	HOSE-0637-1212-12-84	Typhoon 60" (Ext) - 3/4" Diameter x 84" Long. -12 FJIC Straight x -12 FJIC 45°.	1
41	HOSE-0637-1212-12-90	Typhoon 60" (Ext) - 3/4" Diameter x 90" Long. -12 FJIC Straight x -12 FJIC 45°.	1
42	HOSE-0639-0806-08-108	Typhoon 60" (Ext) - case drain - 3/8" Diameter x 108" Long. -8 FJIC Straight x -6 FJIC 90°.	1
43	PC-M257A767QQZA17-6	P/N based on size - Find part number on your current motor for direct replacement or call for other sizing	1
44	ET-18T060-S002-61	Eterra - Typhoon 60 - Gate - Complete - Powdercoated Black	
45	PC-M257-S	Permco - Part - Complete Seal Kit for M257 Series Motors - Includes standard 150psi lip seal	
46	PC-249-01536	Permco - Part - Lip Seal Only for M257 Series Motors - Severe Duty 500psi	
47	ET-18Z000-K900-10	Eterra - Kit - Heavy Duty Rotary Flail Blade Bolt Kit - Used on Typhoon 60", 74", Cyclone 60" - Includes 1x Bolt, Castle Nut, Roll Pin	2
48	ET-FIT-0503-1612-90	-16 Male ORB to -12 Male JIC 90 Degree Fitting	2

Typhoon 74" Parts Diagram



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ET-09R001-A001-10	Eterra - Part - Large Rotary Drive Hub - Assembled Complete	1
2	ET-18T000-P001-10	Eterra - Part - Polycarbonate Front Guard	1
3	ET-18T060-P008-61	Eterra - Part - Typhoon Blade Access Cover Plate - Powdercoated Black	1
4	ET-18T074-P001-63	Eterra - Part - Typhoon 74" Main Frame - Powdercoated Orange	1
5	ET-18T074-P002-00	Eterra - Part - Typhoon 74" Disk Blade - No Finish	1
6	ET-18T074-P003-10	Eterra - Part - Typhoon 74" Rubber Guard - Manufacturer Finish	1
7	ET-18T074-P004-61	Eterra - Part - Typhoon 74" Rubber Guard Plate - Powdercoated Black	1
8	ET-18T074-P005-61	Eterra - Part - Typhoon 74" Gate - Formed Metal Piece Only - Powdercoated Black	1
10	ET-18Z000-P002-00	Eterra - Part - Large Rotary Blade - Typhoon 60, 72, Cyclone 60 - No Finish	2
12	ET-98H102-P075-02	Eterra - Part - 1/2"-13 x .750" Hex Bolt Grade 8 Yellow Zinc Finish	2
13	ET-98H102-P150-02	Eterra - Part - 1/2"-13 x 1.50" Hex Bolt Grade 8 Yellow Zinc Finish	4
14	ET-98H102-P200-02	Eterra - Part - 1/2"-13 x 2.00" Hex Bolt Grade 8 Yellow Zinc Finish	8
15	ET-98H304-P200-02	Eterra - Part - 3/4"-10x 2.00" Hex Bolt Grade 8 Yellow Zinc Finish	6
16	ET-98H304-P300-02	Eterra - Part - 3/4"-10x 3.00" Hex Bolt Grade 8 Yellow Zinc Finish	6
17	ET-98H308-P150-02	Eterra - Part - 3/8"-16 x 1.50" Hex Bolt Grade 8 Yellow Zinc Finish	23
18	ET-98N102-P002-02	Eterra - Part - 1/2"-13 Top Lock Nut	8
19	ET-98N304-P002-02	Eterra - Part - 3/4"-10 Top Lock Nut	6
20	ET-98N308-P002-01	Eterra - Part - 3/8"-16 Top Lock Nut	23
22	ET-98V304-P001-01	Check Valve 3/4" SAE Threads - VU34 SAE 5 PSI	1
23	ET-98W102-P001-02	Eterra - Part - 1/2" Flat Washer - Gold Zinc Coated	18
24	ET-98W102-P002-02	Eterra - Part - 1/2" Lock Washer - Gold Zinc Coated	2
25	ET-98W102-P004-10	Eterra - Part - 1/2" Nord-Lock Washer - Standard OD	4
26	ET-98W304-P001-02	Eterra - Part - 3/4" Plain Washer - Yellow Zinc Coated	18
27	ET-98W308-P001-02	Eterra - Part - 3/8" SAE Flat Washer - Yellow Zinc	46
28	ET-FFF-12-12-SAE	Female Flat Face Coupler 3/4" Body -12 Female ORB Threads	1
29	ET-FFF-6-8-SAE	Female Flat Face Coupler 3/8" Body -8 Female ORB Threads	1
30	ET-FFF-8-12-SAE	Female Flat Face Coupler 1/2" Body -12 Female ORB Threads	1
31	ET-FFM-12-12-SAE	Male Flat Face Coupler 3/4" Body -12 Female ORB Threads	1
32	ET-FFM-6-8-SAE	Male Flat Face Coupler 3/8" Body -8 Female ORB Threads	1
33	ET-FFM-8-12-SAE	Male Flat Face Coupler 1/2" Body -12 Female ORB Threads	1
34	ET-FIT-0503-0406-00	-4 Male ORB to -6 Male JIC Straight Fitting	1
35	ET-FIT-0503-0808-00	-8 Male ORB to -8 Male JIC Straight Fitting	1
36	ET-FIT-0503-1212-90	-12 Male ORB to -12 Male JIC 90 Degree Fitting	2
37	ET-FIT-0503-1212-00	-12 Male ORB to -12 Male JIC Straight Fitting	2
38	ET-FIT-0503-1212-BRT	-12 Male ORB to -12 Male JIC Branch Tee Fitting	2
39	ET-FIT-0503-1612-90	-16 Male ORB to -12 Male JIC 90 Degree Fitting	2
40	HOSE-0637-1212-12-28	Typhoon 74" (Int) - 3/4" Diameter x 28" Long --12 FJIC Straight x -12 FJIC 45°.	1
41	HOSE-0637-1212-12-44	Typhoon 74" (Int) - 3/4" Diameter x 44" Long. -12 FJIC Straight x -12 FJIC 45°.	1
42	HOSE-0637-1212-12-92	Typhoon 74" (Ext) - 3/4" Diameter x 92" Long. -12 FJIC Straight x -12 FJIC 45°.	1
43	HOSE-0637-1212-12-98	Typhoon 74" (Ext) - 3/4" Diameter x 98" Long. -12 FJIC Straight x -12 FJIC 45°.	1
44	HOSE-0639-0806-06-116	Typhoon 74" (Ext) - 3/8" Diameter x 116" Long. -8 FJIC Straight x -6 FJIC 90°.	1
45	PC-M257A767QQZA17-6	P/N based on size - Find part number on your current motor for direct replacement or call for other sizing	1
46	PC-M257-S	Permco - Part - Complete Seal Kit for M257 Series Motors - Includes standard 150psi lip seal	
47	PC-249-01536	Permco - Part - Lip Seal Only for M257 Series Motors - Severe Duty 500psi	
48	ET-18Z000-K900-10	Eterra - Kit - Heavy Duty Rotary Flail Blade Bolt Kit - Used on Typhoon 60", 74", Cyclone 60" - Includes Bolt, Castle Nut, Roll Pin	
49	ET-18T074-S002-61	Eterra - Typhoon 74 - Gate - Complete - Powdercoated Black	

ETERRA WARRANTY STATEMENT

LIMITED PRODUCT WARRANTY

If you find physical defects in the materials or the workmanship used in making the product described in this document; Eterra will repair, or at its option, replace, the product at no charge to you, provided it is returned (freight prepaid, with proof of your purchase from the original reseller) within 1 year of the date of original purchase. Some Eterra products may have longer, partial, or more specific additional warranties, please contact your dealer for more information.

RMA REPLACEMENT PRODUCT WARRANTY

If you find physical defects in the materials or the workmanship used in the refurbishment of an RMA (Return Merchandise Authorization) product replacement; Eterra 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).

REFURBISHED PRODUCT WARRANTY

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

LEGAL TERMS

Eterra 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 purchase, the manufacturer shall correct such nonconformity at its option by either repairing the defective part(s) or making available F.O.B. at sellers locations.

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.

Neither party shall be liable for special, indirect, or consequential damages. The remedy set forth in this instrument are exclusive, and the liability of seller with respect to any contract or sale of anything done in connection with the same, whether in contract, in tort, under warranty, or otherwise, shall not exceed the price of the goods or part upon which such liability is allegedly based.

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 of conflict with the express requirements of applicable Washington State law.



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