



# TurboSaw

## OPERATORS MANUAL

2015 EDITION



RT2600HD, RT3000HD, RT3400HD, SB2600HD, SB3000HD, SB3400HD, TQ3000, TQ3000R, EX2600R







# DELIVERY RECORD

## PLEASE KEEP & FORWARD COPY

- The checklist is a reminder of very important information which should be conveyed to the customer at the time the Turbo Saw Skid steer saw unit is delivered. Check off each item as it is fully explained to the customer.
- Dougherty Forestry Manufacturing warranty.
- Safe and correct operation and service.
- Daily and periodic inspections.
- Servicing machine regularly and correctly.
- Explain proper cutting procedures.
- Give the Operator's Manual to the customer and encourage customer to read entire manual.
- Advise customer of safety precautions that must be observed while using the skid steer saw.
- Review information on how to maintain the skid steer saw (See Maintenance section.)
- Review recommended procedures for attaching to or detaching from skid steer (See Attaching and Detaching section.)
- Recommended transporting information. (See Transporting section.)
- Review equipment safety features (i.e. pushing bar, blade shield).
- Review skid steer saw operation. (See Operating the Cutter section.)
- Review service intervals and lubrication points. (See Lubrication and Maintenance section.)
- Review all adjustments. (See Service section.)
- Recommended machine storage.
- Have customer record machine serial number in the Introduction section.
- Dougherty Forestry parts and service.
- Remove and file this page.



DATE DELIVERED \_\_\_\_\_

SIGNATURE \_\_\_\_\_







# \*DATE OF PURCHASE/WARRANTY CERTIFICATE

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MODEL NUMBER \_\_\_\_\_ UNIT SERIAL NUMBER \_\_\_\_\_

PURCHASE DATE \_\_\_\_\_

DEALER (if purchased through dealer) \_\_\_\_\_

ORIGINAL PURCHASER (PRINT) \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

FAX \_\_\_\_\_

EMAIL \_\_\_\_\_

SIGNATURE \_\_\_\_\_

PLEASE COPY, AND MAIL OR FAX TO:  
Dougherty Forestry Manufacturing LTD Co.  
211 W. Canyon Run,  
Hinton, OK 73047  
FAX: (405) 542-6928

**\*WARRANTY WILL BE VOID IF NOT RECEIVED WITHIN 15 DAYS OF THE PURCHASE DATE**





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# INTRODUCTION

**PLEASE READ THE TURBO SAW SKID STEER SAW OPERATOR'S MANUAL BEFORE OPERATING THE SKID STEER SAW. THIS MANUAL MUST ACCOMPANY YOUR TURBO SAW UNIT AT ALL TIMES.**



## **SAFETY IS THE FOREMOST PRIORITY OF DOUGHERTY FORESTRY MANUFACTURING.**

The *RT2600HD*, *RT3000HD*, and *RT3400HD* (referenced as "rotating saw" ) and *SB2600HD*, *SB3000HD*, and *SB3400HD* (referenced as "swing boom saw") and *TQ3000*, *TQ3000R* (referenced as "torque saw"), and *EX2600R* (referenced as "excavator saw") have been designed with operator safety in mind and we have specific guidelines to ensure that safety. Please read the Turbo Saw operator's manual before operating the skid steer saw. Safety depends upon the operator thoroughly reading, understanding, and using the techniques and maintenance requirements specified in the Turbo Saw operator's manual. This manual shows proper techniques and precautions for the Turbo Saw. The Turbo Saw must always be operated by the instructions outlined in this manual. The operator must always act responsibly. Dougherty Forestry Manufacturing can not be held liable for an operator's carelessness, recklessness, or misuse of its products. Do not use this product if it has been modified in any manner. If a Turbo Saw owner has additional questions about operating or maintaining their skid steer saw, please contact our service center at (405) 542 3520.

## 1 YEAR FRAME & COMPONENT WARRANTY POLICY

A. GENERAL PROVISIONS – The warranties described below are provided by Dougherty Forestry Manufacturing (“DFM”) to the original purchasers of new Tree Clearing Equipment from DFM or authorized DFM dealers. *Warranty begins on the date of product delivery to the original purchaser. Rental coverage begins (90 days) upon date of initial rental.* Under these warranties, DFM will repair or replace, at its option, any covered part which is found to be defective in material or workmanship during the applicable warranty term. Warranty service must be performed by a dealer or service center authorized by DFM to sell and/or service the type of product involved, which will use only new or remanufactured parts or components furnished by DFM. Warranty service will be performed without charge to the purchaser for parts or labor. The purchaser will be responsible, however, for any service call and/or transportation of product to and from the dealer’s or service center’s place of business, for any premium charged for overtime labor requested by the purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranties below.

*All claims for this warranty policy must be accompanied by a copy of the original sales receipt and must be made to dougherty forestry manufacturing in writing within eight (8) days after the occurrence. Any claim after the eight (8) days will automatically invalidate the warranty claim.*

**FRAME & COMPONENTS COVERAGE:** Dougherty Forestry Manufacturing offers a twelve (12) month warranty from date of purchase by the original purchaser. Components may also be warranted by their original manufacturers which may vary from this warranty.

Coverage has the following exclusions: The original purchaser is responsible for and must bear the cost of: Normal maintenance of the machine such as greasing, minor adjustments, etc. Transportation of defective part(s) to and from Dougherty Forestry Manufacturing or such place where warranty work is being performed. This warranty does not cover any damage to the machine the DFM product is attached to nor subjected to falling trees or limbs, flying debris, hydraulic component damage.

B. WARRANTY COVERAGE: All metal housing, fabrication, and components of any new DFM product against manufactured defects and workmanship.

C. NON-WARRANTY COVERAGE: DFM is not responsible for the following: (1) Used Products: (2) Any product that has been altered or modified in ways not approved by DFM (3) Depreciation or damage caused by normal wear and tear, lack of reasonable and proper maintenance, failure to follow operating instructions, damage due to improper use, abuse or neglect or conditions caused by abuse or neglect, misuse, lack of proper protection during storage, or accident (4) Normal maintenance parts and service. **This warranty does not cover normal wear items. Such items would include, but not be limited to: blades, carbide inserts, backing blocks, bolts in wear areas, bearings or seals.**

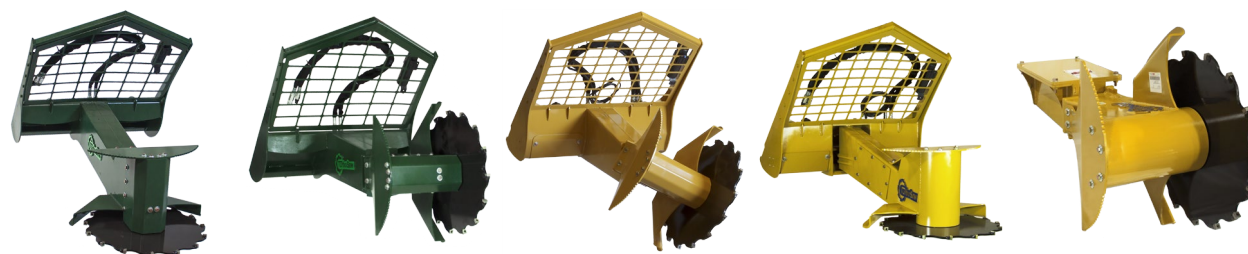
D. SECURING WARRANTY SERVICE: To secure warranty service, the purchaser must (1) Report the product defect to an authorized dealer and request repair within the applicable warranty term, (2) Present evidence of the warranty start date, and (3) Make the product available to the dealer or service center within a reasonable period of time.

G. LIMITATION OF IMPLIED WARRANTIES AND OTHER REMEDIES: DFM’s Tree Clearing Equipment, to the extent permitted by law, neither DFM nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of DFM’s Tree Clearing Equipment covered by this warranty. Implied warranties or merchantability and fitness for a particular purpose, to the extent applicable, shall be limited in duration to the applicable period of warranty set forth on this page. The purchaser’s only remedies in connection with the breach or performance of any warranty on the DFM Tree Clearing Equipment are those set forth on this page. In no event will the dealer, DFM, or any company affiliated with DFM be liable for incidental or consequential damages. (Note: some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

H. NO DEALER WARRANTY: The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of DFM, or to modify the terms or limitations of this warranty in any way.

This warranty does not cover damage caused by the operator due to improper use of the turbo saw or by using the attachment in a manner other than recommended in the operator’s manual.

## UNIT SPECS



Model:	TQ3000	TQ3000R	RT2600HD RT3000HD RT3400HD	SB2600HD SB3000HD SB3400HD	EX2600R
For Use On:	Skid steer 40+hp	Skid steer 40+hp	Skid steer 40+hp	Skid steer 40+hp	Excavators under 25k lbs.
Hydraulic Flow:	15-23gpm	15-23gpm	RT2600HD 15-23gpm RT3000HD & RT3400HD 24-41gpm	SB2600HD 15-23gpm SB3000HD & SB2400HD 24-41gpm	15-23gpm
Cutting Rate:	1-3" per sec.	1-3" per sec.	SF 5" per sec. HF 10" per sec.	SF 5" per sec. HF 10" per sec.	5" per sec.
Cutting Disc:	30" x 3/8" 15 TS3 Teeth	30" x 3/8" 15 TS3 Teeth	30" x 1/2" 10 TS3 Teeth	30" x 1/2" 10 TS3 Teeth	30" x 1/2" 10 TS3 Teeth
Stump Diameter:	11" one pass 30" max	11" one pass 30" max	18" one pass 30" max	18" one pass 30" max	18" one pass 30" max
Dimensions	L84" W46" H48"	L84" W46" H48"	L84" W46" H48"	L84" W46" H48"	L60" W36" H20"
Weight:	625lbs	650lbs	950lbs	1050lbs	600lbs
Included Items:	<ul style="list-style-type: none"> <li>· Hydraulic Hoses</li> <li>· Flat Face Couplers</li> <li>· Hardened Skid Plate</li> <li>· Pushing Guard</li> <li>· Disc Shield</li> <li>· Operator's Manual</li> </ul>	<ul style="list-style-type: none"> <li>· Hydraulic Hoses</li> <li>· Flat Face Couplers</li> <li>· Hardened Skid Plate</li> <li>· Pushing Guard</li> <li>· Disc Shield</li> <li>· Operator's Manual</li> </ul>	<ul style="list-style-type: none"> <li>· Hydraulic Hoses</li> <li>· Flat Face Couplers</li> <li>· Hardened Skid Plate</li> <li>· Pushing Guard</li> <li>· Disc Shield</li> <li>· 5 Gallon Sprayer Tank with 12 Volt Pump &amp; Wiring</li> <li>· Operator's Manual</li> </ul>	<ul style="list-style-type: none"> <li>· Hydraulic Hoses</li> <li>· Flat Face Couplers</li> <li>· Hardened Skid Plate</li> <li>· Pushing Guard</li> <li>· Disc Shield</li> <li>· 5 Gallon Sprayer Tank with 12 Volt Pump &amp; Wiring</li> <li>· Operator's Manual</li> </ul>	<ul style="list-style-type: none"> <li>· Hydraulic Hoses</li> <li>· Flat Face Couplers</li> <li>· Hardened Skid Plate</li> <li>· Pushing Guard</li> <li>· Disc Shield</li> <li>· Operator's Manual</li> </ul>



# SAFETY

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## **FOLLOW SAFETY INSTRUCTIONS**

Carefully read all safety instructions in this manual and on your attachment prior to operation. Learn how to operate the machine and how to use your machines controls properly. Do not let anyone operate without instruction. Keep your machine in proper working condition. Do not operate a modified Turbo Saw attachment. If you do not understand any part of this manual and need assistance, contact your Turbo Saw dealer.

## **RECOGNIZE SAFETY INFORMATION**

A signal word-DANGER, WARNING, or CAUTION are used along with the Safety Alert Symbol to alert you to important details.



### **DANGER**

Immediate danger which, if not avoided will result in injury or death.



### **WARNING**

Potential hazard which, if not avoided, could result in injury or death.

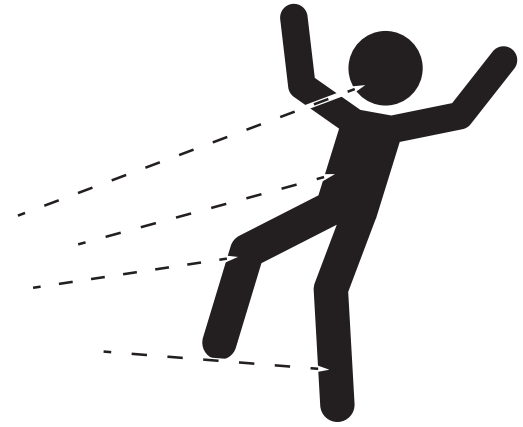


### **CAUTION**

If not avoided could result in minor injuries or property damage.

## PROTECT BYSTANDERS

Never operate the Turbo Saw near people or animals. Debris can be thrown hundreds of feet. Flying debris can cause serious injury or death. Never operate a modified Turbo Saw. The Turbo Saw must have its protective features intact. **DO NOT** allow children to operate the Turbo Saw attachment. Keep bystanders 500 feet away from machine. Never operate when impaired!



## ENVIRONMENT & LOCATION

Be aware of your environment and location. Do not cut trees in unsafe weather conditions. Rain, snow, wind, and other weather variables can cause vehicles, attachments, and cut material to behave uncontrollably. Do not cut trees near electrical lines. A cut tree could fall, break an electrical line, and cause serious injury or death. Do not cut near cliffs, canyons, or other dangerous terrain. A collapsed embankment could result in a fatal rollover. Avoid uneven terrain and steep slopes as these could result in a fatal rollover.

## WEAR APPROPRIATE CLOTHING

1. Wear a mask to prevent inhalation of dust during operation. Wear a mask during maintenance to prevent inhalation of potentially hazardous fumes.
2. Wear safety goggles during operation and maintenance to prevent injury from dust and flying debris.
3. Wear welding goggles if welding. **Only a licensed welder should perform welds on any Turbo Saw units.**
4. Wear earmuffs during operation and maintenance since sudden or prolonged exposure to loud noise can cause impairment or loss of hearing.
5. Wear gloves, boots, hard hat, and safety vest if operation or maintenance job requires it.



# GENERAL SAFETY

## SAFETY REQUIRES AN ATTENTIVE AND KNOWLEDGEABLE OPERATOR.

Operators should be aware of their surroundings, equipment gauges, and controls. Radios and music headphones should not be turned on during maintenance and operation. Read the Turbo Saw manual before operating or maintaining your Turbo Saw.

## BE PREPARED

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

## ATTENTION OPERATORS

NO PASSENGERS. Passengers may impair or distract the operator, resulting in unsafe operation. Passengers may also fall out of off the skid steer and be put in extreme danger. DO NOT OPERATE NEAR BYSTANDERS. Flying debris, falling limb, trees, and heavy machinery can cause serious injury or death. NEVER OPERATE HEAVY EQUIPMENT WHEN IMPAIRED!

The Turbo Saw attachments are designed for a single operator: no passengers. They impair and distract the operator, resulting in unsafe operation. No riders or by-standers: flying debris, falling limb, trees, and heavy machinery could cause life threatening injuries. Keep bystanders 500 feet away from machine. Never operate when impaired!

## HYDRAULIC PRESSURE

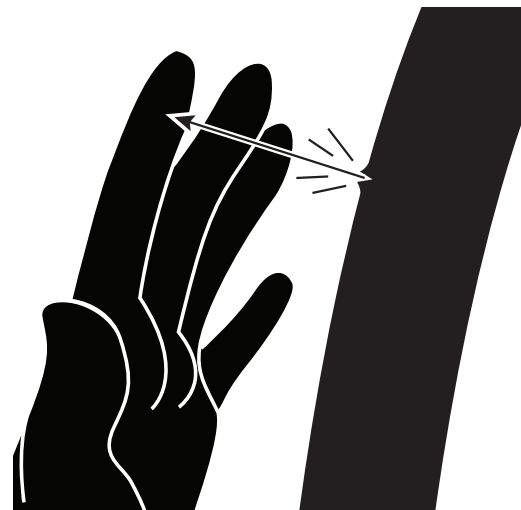
Hydraulic motors, lines, and machines can build up and carry high volumes of pressure. Hydraulic pressure can cause serious injury. Turn off skid steer before hydraulic maintenance. Relieve pressure before unhooking hydraulic lines. Tighten all connections before applying pressure.

Any fluid injected into the skin must be surgically removed immediately by a medical profession familiar with this type of injury.

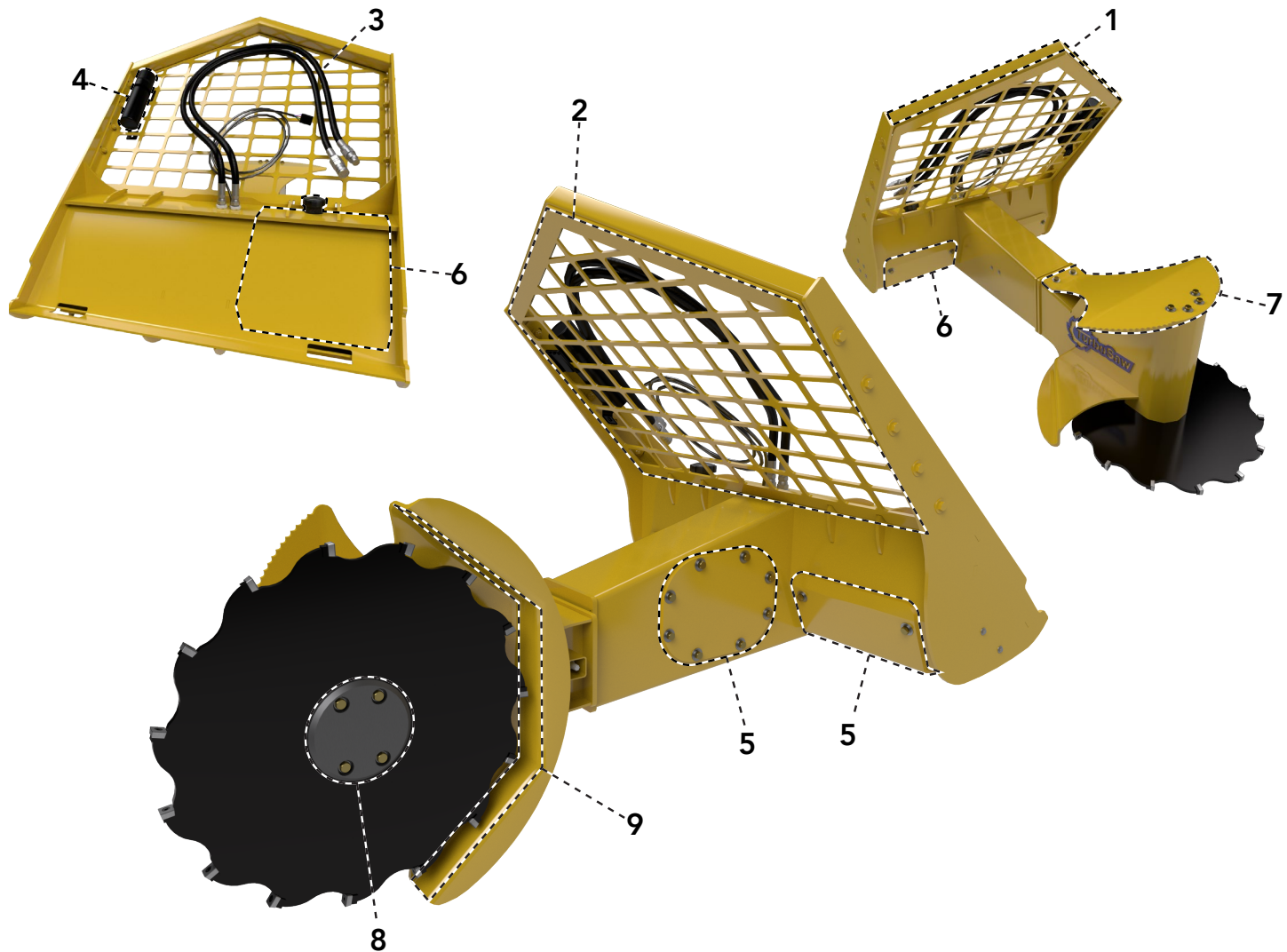
Keep all guards in place and do not operate a saw that has been altered in any way.

## WHEN NOT IN USE

Lower and place attachment upon the ground, disconnect it from the skid steer. Always store the skid steer saw away from trafficked areas.



## SAFETY FEATURES



1. Limb Deflector: Helps deflect limbs away from cab.
  2. Limb Shield: Prevents limbs and debris from entering the cab.
  3. Hydraulic Hose Sleeve: Protects hydraulic hoses and in case of a leak, defuses the hydraulic stream before it can cause injury.
  4. Manual Canister: Houses manual in a waterproof canister.
  5. All hydraulic components (motor, hoses, solenoid and valves) are protected inside the frame.
  6. Sprayer System: All sprayer system components are also protected inside the frame.
  7. Pushing Guard: Helps guide the directional fall of cut material.
  8. Skid Plate: Protects the cutting disc fasteners during ground contact.
  9. Blade Shield: Helps deflect thrown objects and cutting debris away from the operator.
- Hydraulic Shutdown Valve: All high-flow saws are equipped with case drain and a hydraulic pop-off valve which relieves hydraulic pressure should the system exceed maximum operating pressure to ensure no hydraulic components are damaged. **The case drain must be plugged in during operation!**

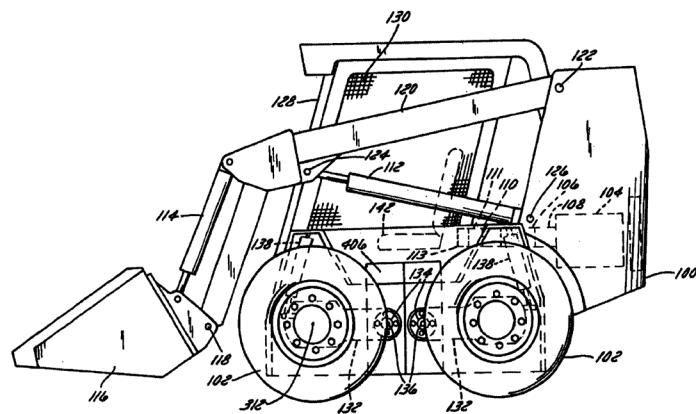
If any of these safety features are altered or rendered inoperable **DO NOT OPERATE** the ATTACHMENT! The operator is the primary safety feature of any machine.

# BASIC OPERATION

## FOREWORD FOR OPERATING THE TURBO SAW

Cutting brush and trees has inherent risks and hazards. To reduce those risks and hazards read the operator's manual, follow the safety precautions, and appropriately operate your Turbo Saw attachment. The methods and techniques in the operator's manual are designed to maximize your protection while cutting brush and trees.

Before starting your attachment, be familiar with your skid steer & Turbo Saw attachment's basic operating controls. Each model of skid steer has unique operating controls that activate and utilize your Turbo Saw's capabilities. Your Turbo Saw service specialist should have shown you how to properly operate your attachment. If you have any question regarding this, or any other Turbo Saw related question, please contact your Turbo Saw specialist.



## PER-OPERATIONS CHECK LIST

Perform the following inspection before operating the Turbo Saw. Check the Turbo Saw for any structural damage: fix or replace damaged parts. Do not use damaged parts or accessories of the Turbo Saw.

- Check the limb shield, limb deflector, blade shield, and the rest of the frame for bends, breaks, cracks or excessive wear.
- Inspect the cutting disc for wear, cracks damage, bending, or warping.
- Inspect all the teeth and backing blocks. Make sure all teeth are securely fastened. If a tooth is worn or chipped, rotate or replace it (more on page 19). If a backing block damaged, it will need ground off and a new one welded on.
- If the blade can be moved 1/8" up or down, the bearings may worn and need to be replaced, or the blade fasteners may be loose.  
**DO NOT ALLOW BEARINGS TO EXCEED SERVICE LIMIT, DAMAGE TO DRIVE-TRAIN MAY RESULT**
- Inspect the skid plate for excessive wear and insure that all fasteners are tight. (If fasteners are loose, re-tighten the bolts and lock-washers)
- Make a visual inspection of the hydraulic components (more on page 9)
- Check decals for readability.
- If you plan to use the sprayer system, insure that the nozzle works and is free of debris and that there are no leaks in the tank or lines. Do an auditory inspection of the pump to insure it is functioning.
- **Remember! Follow all of your safety precautions!**



## OPERATE THE TURBOSAW ATTACHMENT SAFELY

Turbo Saw units are designed with operator safety in mind. Please familiarize yourself with Turbo Saw operator instructions and safety precautions. Become familiar with all controls. Keep the skid steer saw free of debris. Only operate with a skid steer that has a glass or Plexiglas cab. Travel cautiously near large objects or ditches in your machine's path.

## TRANSPORTING A SAW SAFELY

The skid steer saw must be disengaged and lowered in the upright horizontal position. **DO NOT LEAVE THE BLADE ENGAGED WHILE TRANSPORTING OVER LONG DISTANCES.** Proceed with caution. Anything the spinning blade contacts will be severely damaged. The saw blade should be sufficiently elevated above the terrain to prevent equipment damage. Reflectors should be clean and visible. **PROCEED WITH CAUTION.** Be aware of oncoming vehicles, and move slowly through uneven surfaces. Follow your typical safety precautions when driving a skid steer. Do not exceed skid steers' balance ratio which could result in flipping your machine. When transporting the skid steer saw be aware of the total length the attachment adds to your machine.

## EXITING

Lower the attachment to the ground.  
Engage skid steer parking brake or place transmission in "Park".  
Shut off engine and remove key.  
Make certain cutting disc has completely stopped before exiting the cab of your machine.

## SPRAYER TANK

5 gallon polyurethane sprayer tank with 12 volt electric pump is standard on most skid mounted Turbo Saw.

An adjustable spray tip is located behind the blade shield. The spray tip is recessed into the frame to limit damage. The sprayer pump is rated for all water and petroleum based herbicides.



## WARNING

- Do not allow the blade to contact gravel, rocks or metal. The carbide inserts will be damaged if the blade comes in contact with anything other than wood. Contacting material other than wood can cause severe injury or death.
- When the blade is turning there should not be excessive vibration. If excessive vibration occurs, turn off the saw immediately, follow safety precautions, and look for possible causes.
- If the hydraulic blade malfunctions (does not stop the disc in 3-4 seconds), do not operate the Turbo Saw until the problem has been fixed.
- Do not force the blade into a tree. If the blade does not remove enough wood as it cuts, damage to the drive train could occur.
- Do not exit the vehicle until the blade has come to a complete stop.
- Always have an exit strategy when cutting trees. Do not box yourself into a corner. When you cut, make sure you have a clear path to exit afterward.
- Do not exceed the rated gpm hydraulic flow for your Turbo Saw model. Exceeding the recommended hydraulic flow rate may damage hydraulic components. (Please see chart on Page 3)

# HYDRAULIC REQUIREMENTS

## HYDRAULIC COMPONENTS

If the hydraulic lines are leaking during operation, follow your safe maintenance precautions and re-tighten or replace hoses and fittings.

**DO NOT FORGET TO CONNECT THE CASE DRAIN LINE.** Failure to connect the case drain line on high-flow skid loaders (24-41gpm) will result in a broken shaft seal, a leaking motor, and a voided warranty.

Make a visual inspection of the hydraulic lines and check for cuts, abrasions, and signs of wear.

**\*Remember! Follow all of your safety precautions.**

## HYDRAULIC REQUIREMENTS

Make sure your skid steer has the hydraulic requirements for your Turbo Saw unit.

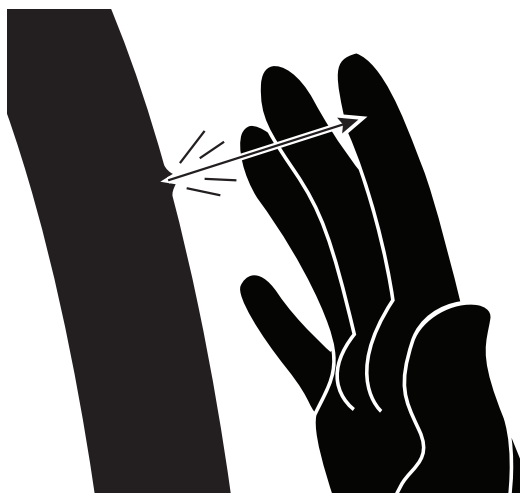
Do not exceed the rated hydraulic flow (GPM) for your Turbo Saw model. This would void your warranty, damage your unit, and endanger yourself.

Do not place your Turbo Saw on a different skid steer without consulting a Turbo Saw specialist first.

Do not operate a Turbo Saw that has been altered in any way. An altered unit may minimize & deactivate Turbo Saw's safety features and its performance.

## HYDRAULIC REQUIREMENTS CHART

Turbo Saw Model	Minimum Hydraulic Requirement (Gallons Per Minute)	Maximum Hydraulic Requirement (Gallons Per Minute)
EX2600R	15	23
TQ3000 & TQ3000R	15	23
RT2600HD, SB2600HD	15	23
RT3000HD & SB3000HD	24	41
RT3400HD & SB3400HD	33+	41



## HYDRAULIC PRESSURE

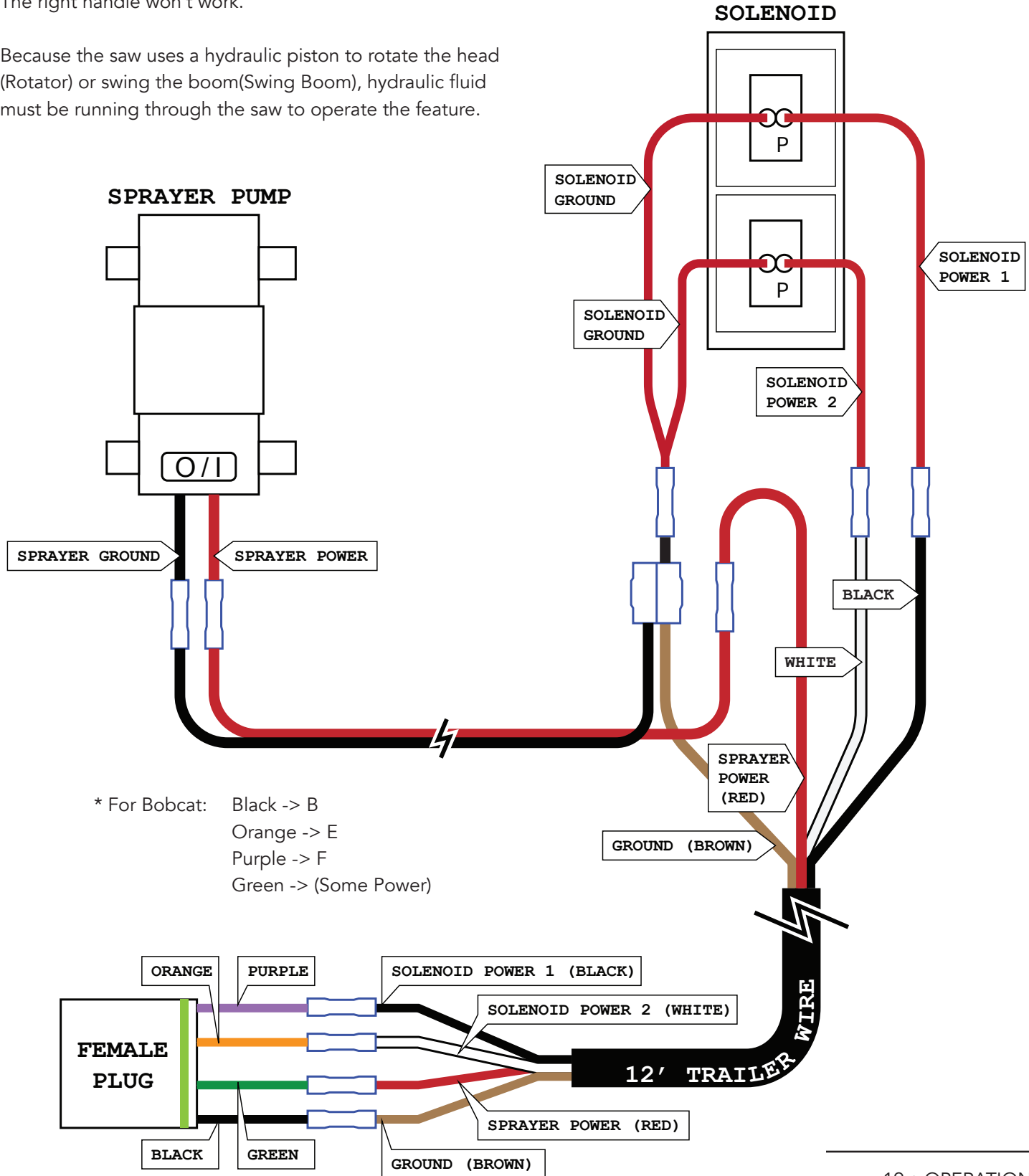
Hydraulic motors, lines, and machines can build up and carry high volumes of pressure. Hydraulic pressure can cause serious injury. Turn off skid steer before hydraulic maintenance. Relieve pressure before unhooking hydraulic lines. Tighten all connections before applying pressure. Make sure all sleeves on external hoses are intact. Any fluid injected into the skin must be surgically removed immediately by a medical profession familiar with this type of injury. Keep all guards in place and do not operate a saw that has been altered in any way.

# INSTALLATION & WIRING DIAGRAM

## \*BOBCAT WIRING INSTRUCTION

For Bobcat skid loaders, Wire the harness to the left handle.  
The right handle won't work.

Because the saw uses a hydraulic piston to rotate the head (Rotator) or swing the boom(Swing Boom), hydraulic fluid must be running through the saw to operate the feature.



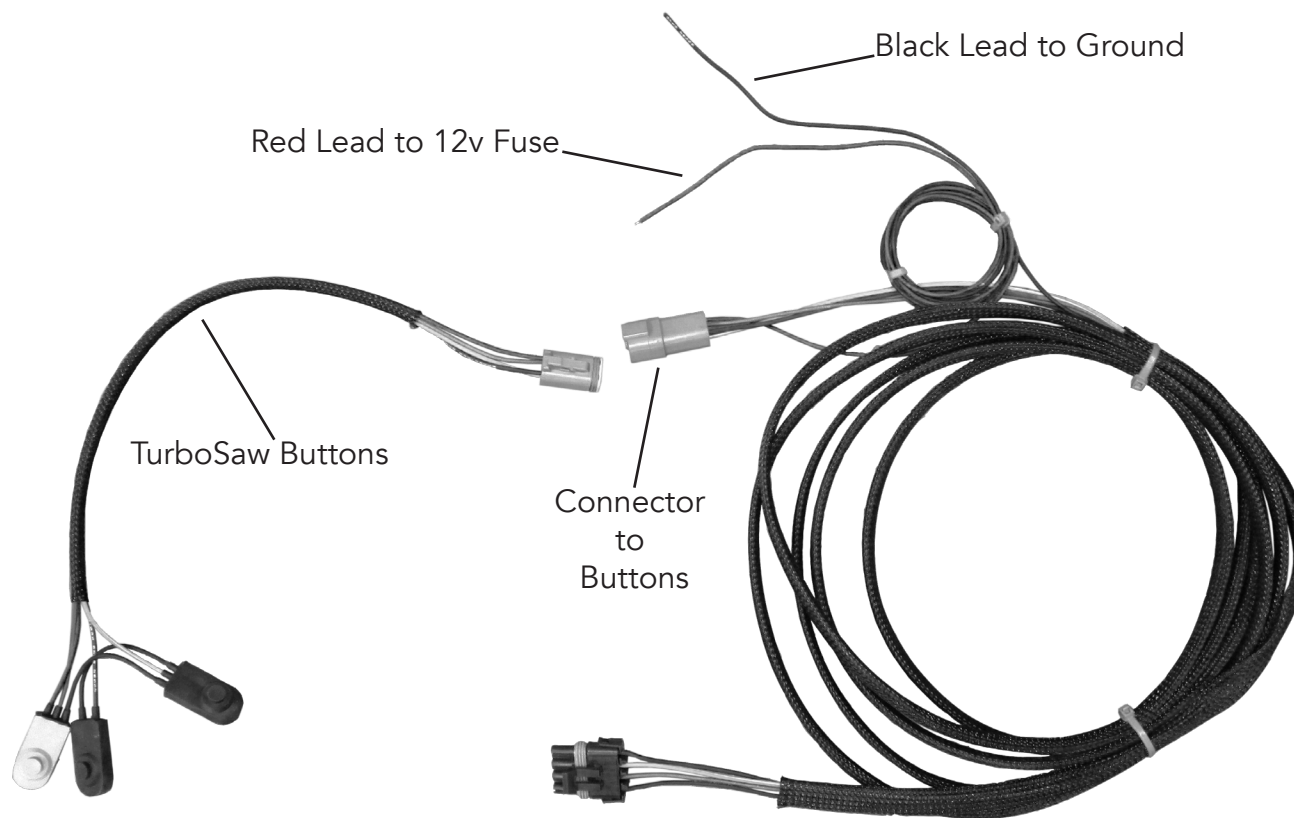
\* For Bobcat: Black -> B  
Orange -> E  
Purple -> F  
Green -> (Some Power)

# INSTALLATION & WIRING HARNESS DIAGRAM

The wiring harness consists of the waterproof buttons and a harness to supply momentary 12 volt power to the sprayer pump and swing or rotate feature. The three buttons supply power when pressed and no power is supplied when they are not in use.

NOTE: The system does NOT have any built in fuses and must have a 15 amp fuse installed on the power line.

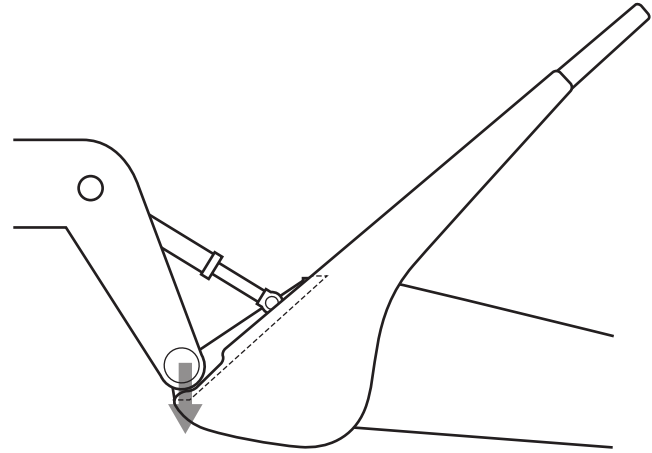
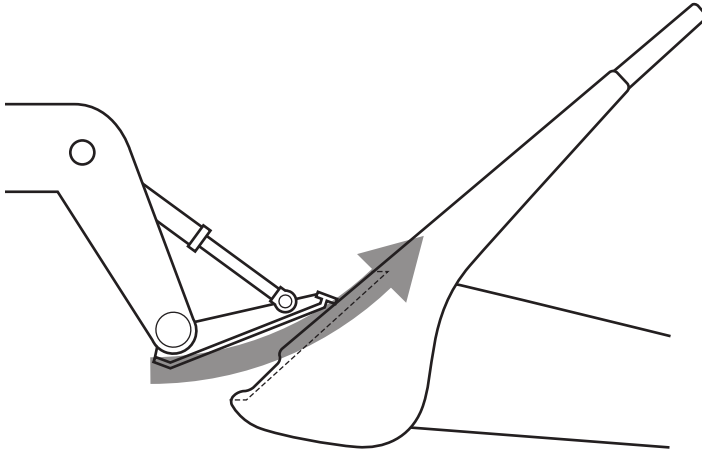
FROM		TO	TO	TO	TO
Harness Leads		TurboSaw Buttons	Caterpillar (8 Pin)	John Deere (14 Pin)	JCB
Black (Ground)	➔	Brown	A	A	B
Green (Sprayer)	➔	Red	B	F or G	H
Orange (Function)	➔	Black	D	D	E
Purple (Function)	➔	White	E	E	F



## ATTACHING / DETACHING

Attaching a Turbo Saw attachment varies with each skid-steer. Please refer to your machine's owner's manual for the proper way to attach your machine to the base plate of the Turbo Saw attachment. Check your surroundings before attaching a Turbo Saw attachment.

Care must be taken when attaching the Turbo Saw to the loader. The base end of the Turbo Saw should not be raised too high or the boom will lever on the shield and allow the blade to contact the ground. This could cause the blade to bend.



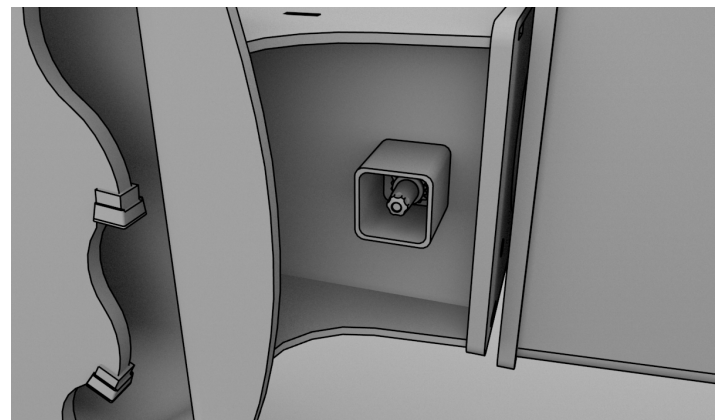
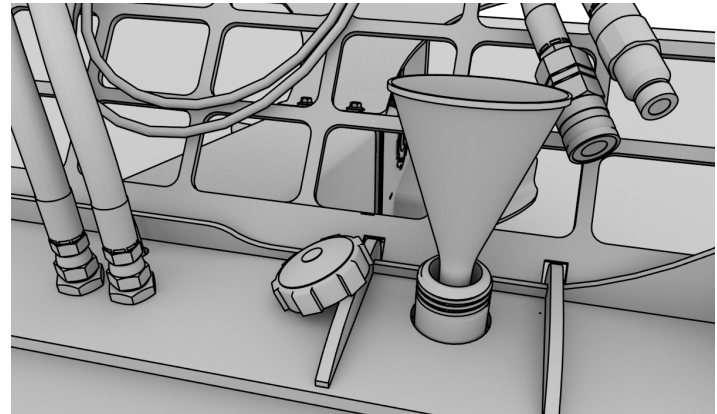
### INSTRUCTIONS FOR ATTACHING A TURBO SAW

Once the skid steer lines up and fits into the Turbo Saw base plate, lock the attachment in place. Always clean quick-release hydraulic couplers before connecting to prevent dust and debris from entering your hydraulic system. Then attach the hydraulic lines. Beware of hydraulic pressure. Wear proper attire like gloves, goggles, and appropriate clothing.

### SPRAYER TANK

5 gallon polyurethane sprayer tank with 12 volt electric pump is standard on most skid mounted Turbo Saw attachments.

An adjustable spray tip is located behind the blade shield. The spray tip is recessed into the frame to limit damage. The sprayer pump is rated for all water and petroleum based herbicides.



# BASIC CUTTING GUIDELINES

## BASIC CUTTING

Position the saw horizontally with the rear of the unit 8" off the ground and the blade on the ground. Move forward slowly.

## FEED RATE

Turbo Saw attachments' cutting discs must maintain speed to cut. Push the disc into the tree at a rate that the cutting disc maintains momentum. If the cutting disc is pushed into the tree too quickly, the cutting disc will lose momentum and stall out. If this happens, pull the saw out and allow cutting disc to rebuild momentum.

NOTE: To cut dense materials, take small bites by cutting then pausing to allow the cutting disc to rebuild momentum.

NOTE: When making a cut, run the skid steer at full throttle to provide the Turbo Saw with maximum hydraulic volume. Then throttle down when the cut is finished.

NOTE: If the cutting disc is raised or lowered during the cut or the cutting disc enters a too extreme an angle the blade will stall out.

## BELOW GROUND CUTTING

The best way to cut a tree without leaving a stump is the first cut the tree off at or just above ground level, then to angle the blade slightly downward and cut the stump off below the ground. **Be aware that cutting in gravelly or sandy terrain causes the teeth to wear faster.**

## STUMP DIAMETER

The Turbo Saw is designed to cut brush and small to medium size trees and stumps. The Turbo Saw is not designed to cut large diameter trees. The maximum trunk diameter of a standing tree the Turbo Saw can safely cut depends on the size of skid steer it is attached to, the experience of the operator and the weight of the tree. On average, the Turbo Saw can cut 11" in a single pass and 30" with multiple passes.

## THE OPERATOR MUST:

- Determine the diameter of the tree trunk
- Evaluate the surrounding terrain
- Establish an exit path in case the tree falls in the wrong

direction

## THE OPERATOR MUST NOT:

- Try to cut a tree too large to directionalize the fall
- Place the skid steer in danger from falling trees
- Operate the turbo saw in an unsafe manner



## CAUTION

### DO NOT LIFT YOUR BLADE WHILE CUTTING A TREE!

Lifting a blade inside a tree will bend your blade and damage your drive-train; this may cause tree to fall unexpectedly and cause injury or death.

**TAKE EXTRA PRECAUTIONS WHEN CUTTING DEAD MATERIAL. DEAD LIMBS MAY FALL WHILE CUTTING.**



## CAUTION

### IN CASE OPERATOR CUTS MATERIAL OTHER THAN WOOD

If operator cuts material other than wood, the Turbo Saw must be evaluated and repaired for damages. Once all of the operator's safety precautions have been met, examine the unit for damages. Note: If one tooth has been found to be damaged, then the blade could have sustained enough impact to damage or loosen all of the teeth.



**Action recommended:** Remove all of the teeth, replace damage parts if necessary.

## DIRECTING THE FALL OF A TREE

### PUSHING GUARD

The Turbo Saw is equipped with a pushing guard mounted above the disc. Smaller material is cut further to the right or left and larger material is cut closer to the center. The pushing must contact the tree before it is completely cut or it will be difficult to determine which direction the tree will fall. Only cut as much of the trunk as necessary to allow the tree to fall in a slow, controlled manner.

### WARNING

THE PUSHING GUARD CAN ONLY ENCOURAGE THE DIRECTION OF FALL. The operator must always have an escape route in case the tree falls in the wrong direction.

### WARNING

NEVER CUT OFF A TREE COMPLETELY WITHOUT THE PUSHING GUARD LEVERAGING AGAINST IT OR IT WILL BE DIFFICULT TO DETERMINE WHICH DIRECTION THE TREE WILL FALL.

### WARNING

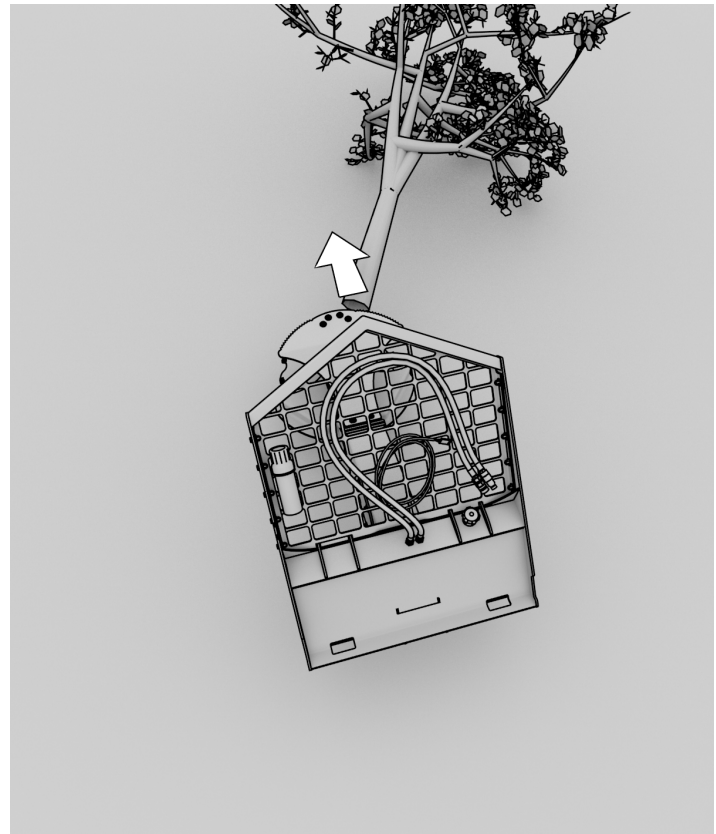
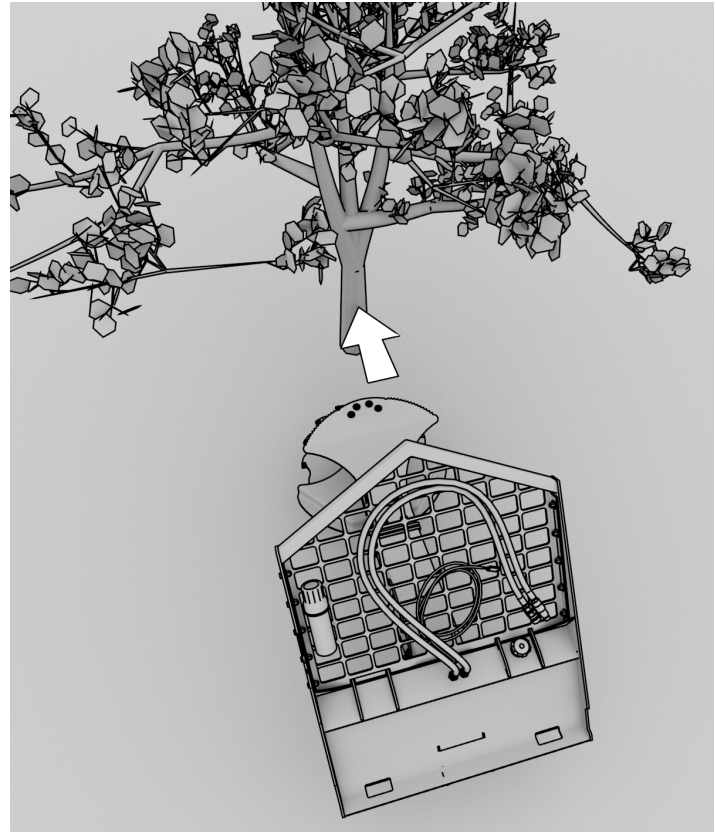
ALWAYS DIRECT THE TREE AWAY FROM THE OPERATOR.

### WARNING

IF THE TREE IS LEANING IN ANY DIRECTION CUT IT SO IT WILL CONTINUE IN THAT DIRECTION.

### WARNING

THE PUSHING GUARD WILL NOT WORK AS EFFECTIVELY ON A DEAD TREE AS A LIVE TREE



# TRIMMING LIMBS

## CUTTING LIMBS

The Turbo Saw can be positioned vertically to trim limbs. Bring the disc beside the limb and raise the V shaped portion of the brush shield under the part to be cut. This allows the cut limb to be directed to the side of the machine once cut.

## INSTRUCTION TO HYDRAULICALLY ROTATE THE CUTTING HEAD

To rotate the saw, **first** hold the rotation button down, **then** activate the hydraulics to turn on the saw blade.

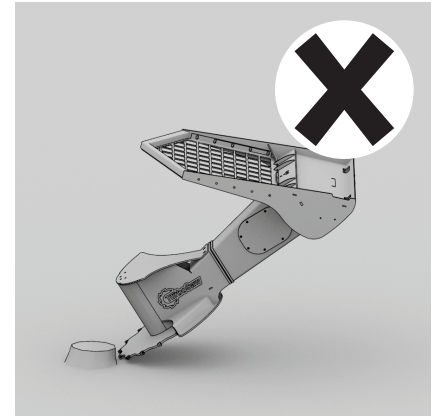
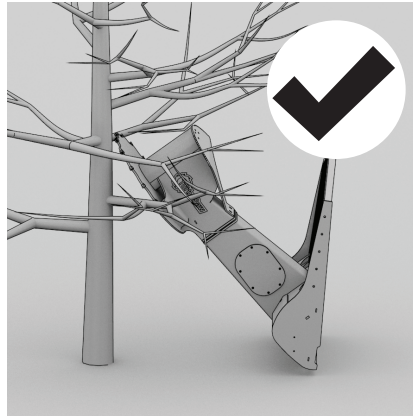
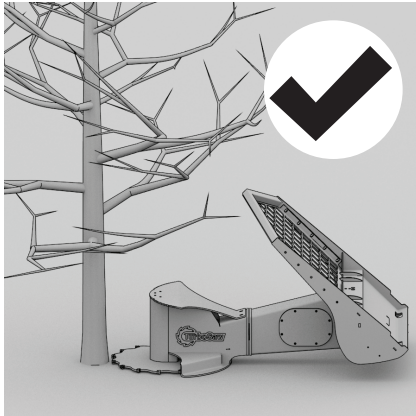
The rotation cylinder gets fluid from the line going to the saw motor and requires hydraulic pressure to rotate. When the blade is at full speed, the system doesn't have much pressure to rotate the blade.

To rotate back to horizontal repeat the process with the other button.

NOTE: If using a Rotating model, rotate the cutting disc to the vertical position. Position the cutting disc above the limb. Cut from the top down.

## WARNING

DO NOT ANGLE THE CUTTING DISC DOWNWARD. The safety shield behind the blade is designed to protect the operator in either the horizontal position or with the disc pointed upward to trim limbs. Cutting with the cutting disc facing downward can bend the cutting disc and/or throw debris at the operator. The safety shield is not designed to protect the operator with the blade pointed downward.



## WARNING

Do not cut off a limb that exceeds the weight capacity of the skid loader including the weight of the Turbo Saw.

## WARNING

Raising the loader arms on a skid loader changes the machine's center of gravity and can cause a rollover. Be aware of surrounding terrain.

## WARNING

Do not cut a limb that is beyond the weight capacity of the skid loader's cab in case the limb lands on it.

## WARNING

If using a rotating model, the head must be horizontal or vertical, not in-between. If the rotating head drifts while cutting, stop cutting and contact a service specialist.

## DANGER

WATCH FOR POWER LINES

When trimming limbs, especially along roadsides and near houses, be aware of power lines. Do not cut a limb that is entangled or may fall on a power line.





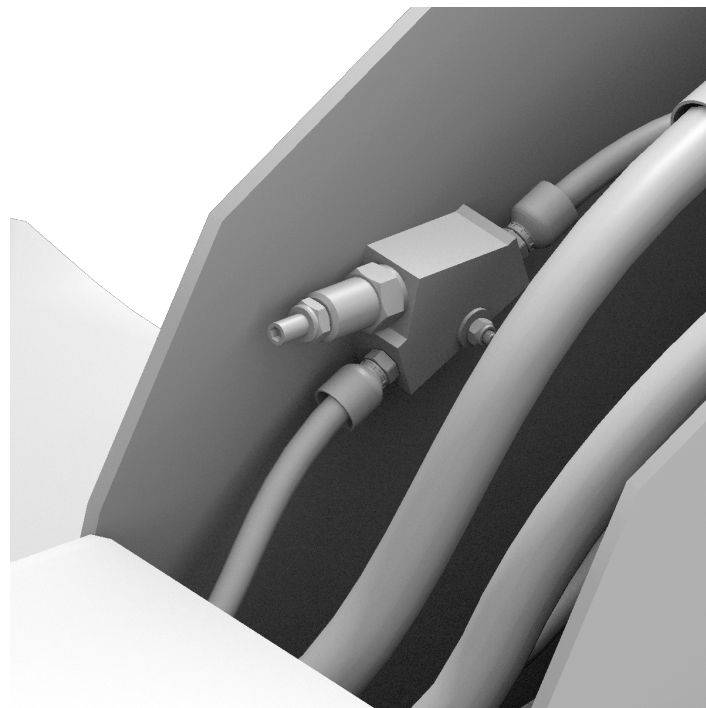
## OPERATING THE SWING BOOM

### SWINGING BOOM MODELS

Position the cutting disc beside the tree. Activate secondary hydraulic controls to swing the boom and disc into the tree. If the disc is angled to cut below ground level, slow the feed rate to compensate for the added friction of the dirt.



### SWING CONTROL VALVE



The speed of the boom swing can be set with the control valve located in the front of the Turbo Saw near the boom hinge. With the Turbo Saw and skid loader off and all pressure released, loosed locknut and screw inner bolt in (upwards) or out (downwards). Turning the bolt in decreases the flow to the swing cylinder and slows down the swing speed.



# BASIC MAINTENANCE



## PERFORMING MAINTENANCE

Lower and detach the skid steer saw from your skid steer when performing any type of maintenance work. Slippage on attachments may occur. Always place unit on sturdy blocks or servicing stands when replacing the cutting disc. Do not use wheel supports which rotate and may cause heavy material to fall upon the maintenance worker.

## PRACTICE SAFE MAINTENANCE

Always work in a clean and dry environment. Never work on a running machine or with a machine with moving parts. Disengage unit from skid steer; make sure machine is off, brake is engaged, and remove key. Lower skid steer saw to the ground, or place it upon service stands or blocks. Allow the skid steer saw to cool off before maintaining. Caution, parts may be hot, sharp, or hazardous. Follow guidelines on protective equipment and clothing.

\*If you are not a licensed welder or hydraulic specialist call your Turbo Saw dealer for maintenance assistance.

**Beware of toxic fumes when maintaining your skid steer saw. Weld, smolder, or torch in a well ventilated area. Metal, paint, and other materials can be toxic when heated. Please be mindful of your chemical environment and wear the proper equipment when maintaining your skid steer saw such as a breathing mask and/or welders mask.**

## ROTATING / CHANGING TEETH

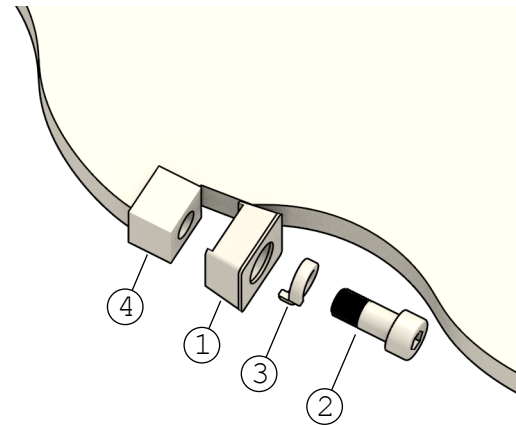
### ROTATING AND CHANGING THE TEETH

The carbide teeth should be rotated every 125 hours or when cutting rate has noticeably decreased. Depending on cutting conditions, the teeth may need to be rotated sooner or later. Most wear occurs on the outside edge of the tooth. A tooth needs to be rotated when the cutting edge becomes rounded. Rotate them 90° so that the top edge faces out.

NOTE: When the tooth comes in contact with the ground, the bottom edge will wear as well. If both the bottom and outside edges of the tooth are worn, rotate the tooth 180°. A 1/4" hex bit socket and a ratchet are needed to remove and fasten the teeth.

NOTE: Tighten to 40 to 50± Torque

**Do not run a cutting disc with teeth missing or broken**  
The backing block behind the tooth will wear very quickly without a tooth in front of it. If the backing block becomes worn do to a missing tooth, it will have to be cut off and a new backing block welded on.



- 1) TS3 carbide cutting tooth (TS1024)
- 2) TS3 tooth bolt (B1043)
- 3) TS3 lock washer (LW-1044)
- 4) TS3 backing block (BB-3439)





# MAINTENANCE SCHEDULE

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## MAINTENANCE TOOLS & SKILL REQUIREMENTS

\*Daily maintenance of your equipment requires basic tools, skill, and expertise.

Welding & hydraulic repair work should be done by a licensed professional. For a Turbo Saw maintenance specialist in your area please contact our service department at (405) 542-3520 or email [contact@doughertymfg.com](mailto:contact@doughertymfg.com)

## ROUTINE MAINTENANCE

### Every 8 Hours

- Grease hinge shaft on boom joint.
- Check cutting disc condition.
- Check carbide inserts and make certain the set bolts are tight.

### Every 100 Hours

- Rotate carbide inserts on cutting disc.

### Every 200 Hours

- Check bolts/ connections on drive train.

### Every 400 Hours

- Check/Replace teeth.

### Every 1500 Hours

- Check/Replace skid plate.

### Annually Check Oil Level in Gearbox:

Gearbox has fill port. Fill till gear port leaks oil. Do not overfill. This will reduce life of bearings. Fill with 85 W-140 Oil

\*Life of cutting teeth will vary depending on cutting conditions and operator technique.



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If you have any additional questions about TurboSaw™ maintenance and operation please contact your local dealer, or contact a Turbo Saw service specialist at (405) 542-3520, e-mail [contact@doughertymfg.com](mailto:contact@doughertymfg.com). We, at Dougherty Forestry Manufacturing, are dedicated to providing quality forestry products that we are proud to have the Dougherty name on. You are not just buying a tree saw, but a family owned business committed to your success.



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