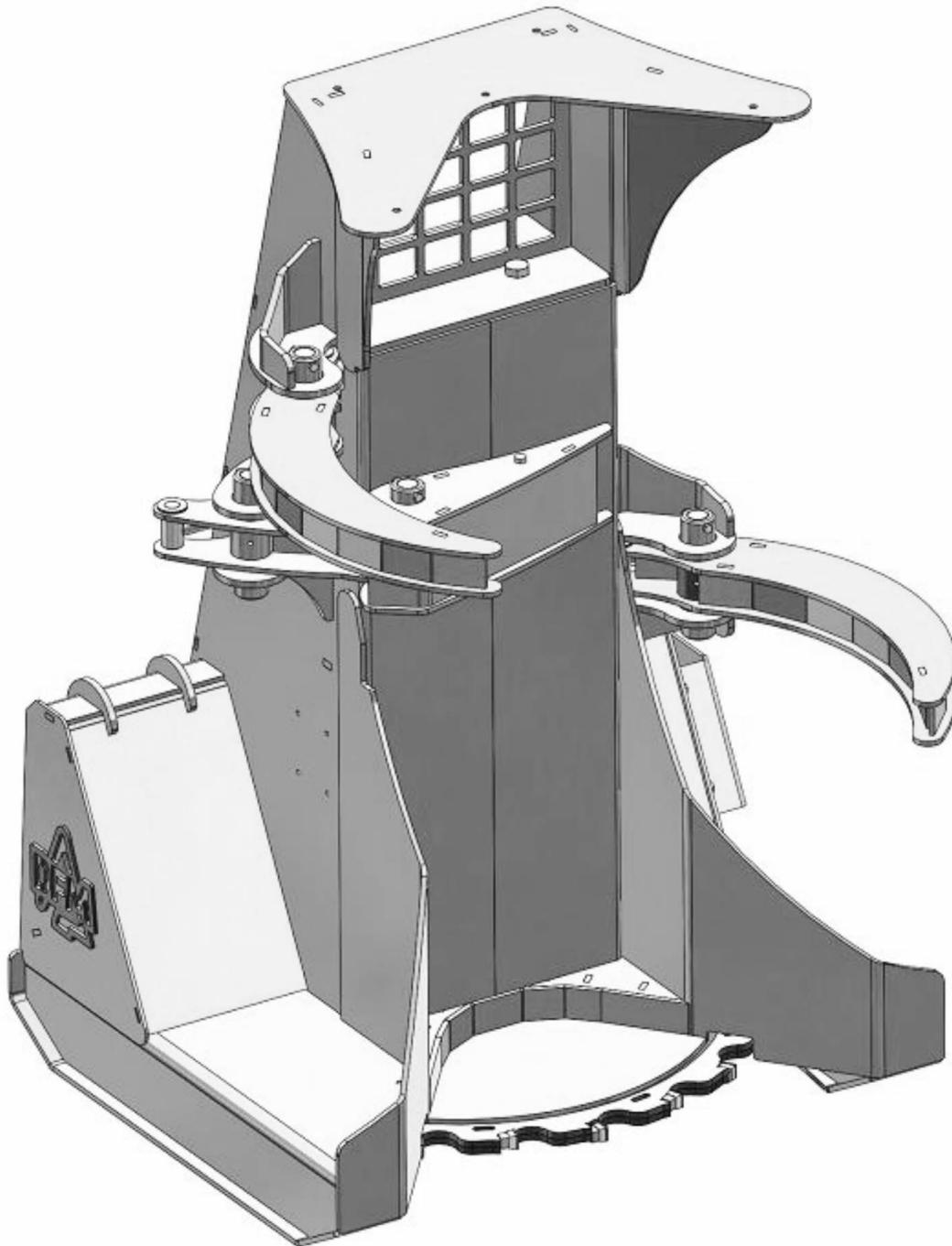


# Operators Manual

2019 Edition

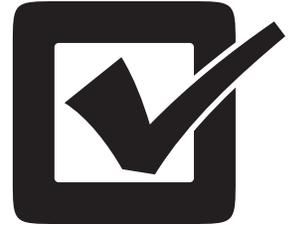




# Delivery Record

## Please Keep & Forward Copy

- The checklist is a reminder of very important information which should be conveyed to the customer at the time the 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 CFB16.
- Review information on how to maintain the CFB16 (See Maintenance section.)
- Review recommended procedures for attaching to or detaching from carrier (See Attaching and Detaching section.)
- Review equipment safety features
- Review carrier operation. (See basic operation)
- Review service intervals and lubrication points. (See Lubrication and Maintenance section.)
- Review all adjustments.
- 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**

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



# Table of Contents

<b>Warranty Policy .....</b>	<b>2</b>
<b>Introduction .....</b>	<b>3</b>
About the Manual.....	3
Overview .....	3
<b>Safe Maintenance &amp; Maintenance Schedule .....</b>	<b>4</b>
Daily maintenance .....	4
Tools & Skill Requirements .....	4
Daily maintenance checklist:.....	4
Practice Safe Maintenance .....	4
<b>Applying Grease.....</b>	<b>5</b>
<b>Rotating / Replacing Teeth .....</b>	<b>6</b>
Rotating & Changing The Teeth .....	6
Rotate.....	6
Replace.....	6
Tools.....	6
<b>Removing / Replacing the Blade.....</b>	<b>7</b>
Disengage Hydraulics and Electronics.....	7
Place the Unit on the Ground .....	7
Remove The Bolts.....	7
<b>Attaching the Feller Buncher .....</b>	<b>8</b>
The Mounting Plate .....	8
Connecting the Hydraulics .....	8
Connecting the Electronics.....	8
<b>Basic Operation .....</b>	<b>9</b>
Cutting .....	9
Holding.....	9
Accumulating.....	9
Carrying.....	10
Releasing .....	10

# 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 under warranty 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.

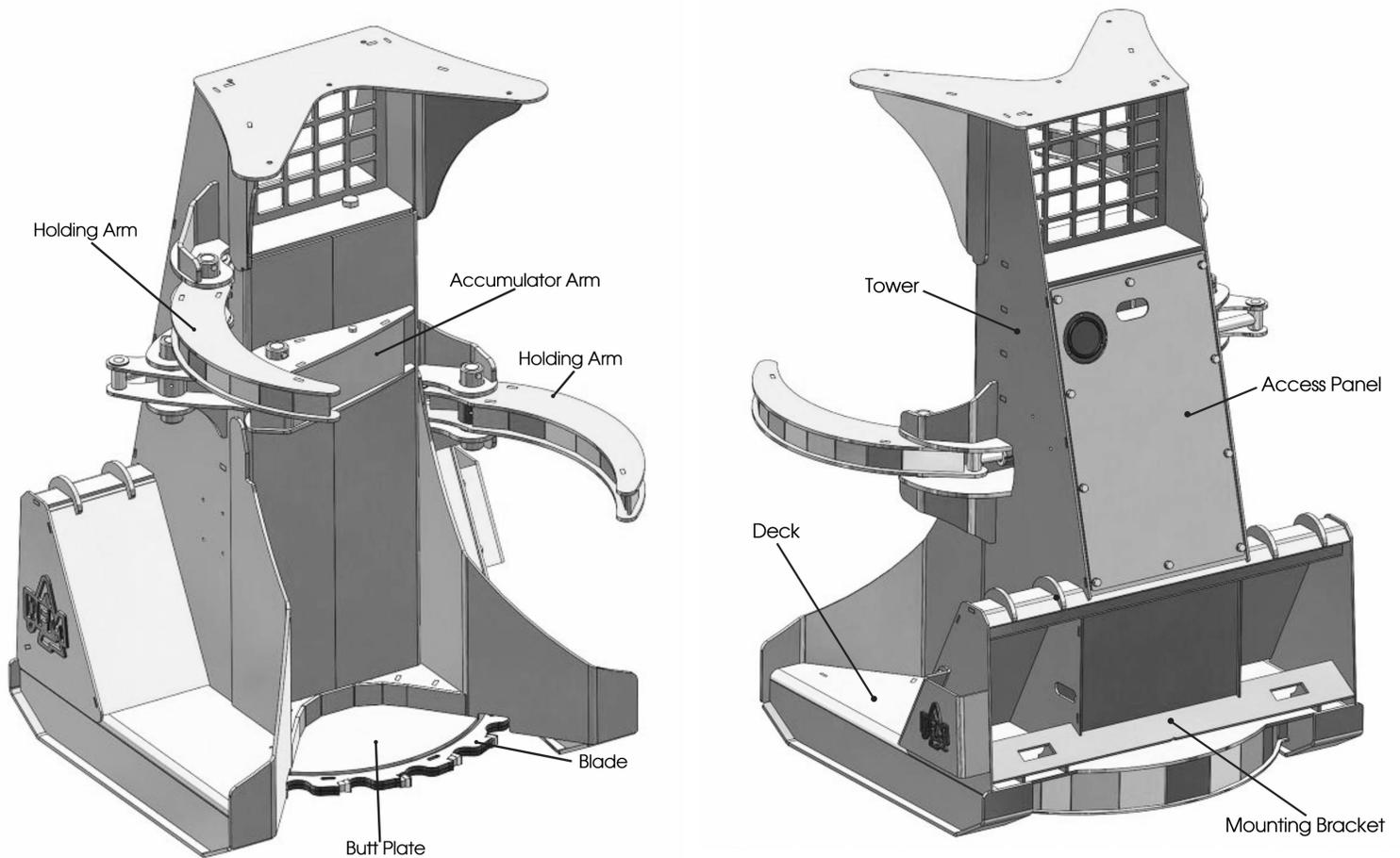
This warranty does not cover damage caused by the operator due to improper use of the CFB16 or by using the attachment in a manner other than recommended in the operator’s manual.

## About the Manual

This manual is intended as a basic outline for safely operating the CFB16. The practices within this manual are intended as a reference, and are not to be a substitute for conventional safety practices. DFM assumes no liability for any damage to persons or property as a result of misuse of its products. DFM assumes no liability for damage to persons or property due to lack of adherence to conventional safety practices in the CFB16's intended field of use. Owner/operator assumes all liability when operating this product in its intended use as outlined by this manual. The Owner/Operator of this product is strongly discouraged from operating this product outside of its intended use as outlined by this manual. DFM encourages owner/operator to fully read and understand this manual before attempting to use this product. Owner/operator should be aware of all risks in the forestry and land clearing industries before using this product.

## Overview

The CFB 16 is a compact hydraulic felling head designed to cut and carry single trees up to 16" in diameter. The CFB16 consists of a mounting plate, a deck, a tower, 2 conventional grapple arms powered by 2 cushioned hydraulic cylinders, a hydraulic motor, a bearing block, a disk hub, a cutting disk, multiple hoses, couplers, and valves. The CFB 16 makes use of 1 hinged accumulator arm, and an additional hydraulic cylinder, which allows operators to bunch multiple trees at the same time.



# Safe Maintenance & Maintenance Schedule

## Daily maintenance

Failure to inspect or maintain the CFB16 daily may cause premature wear of components, resulting in component failure. Failure of components may result in damage to unit, persons, and/or property. DFM accepts no liability on any damage to property or persons from failure to observe regular inspection and maintenance procedures.

## 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)

## Daily maintenance checklist:

Grease all pivot points

- Inspect all cutting teeth for tightness (tighten if necessary)
- Check cutting disk for vertical play (excessive vertical play is an indication of bearing failure)
- Inspect all hydraulic lines/couplers for leaks (replace if necessary)

## Practice Safe Maintenance

Always work in a clean and dry environment. Never work on a running machine or on a machine with moving parts. Lower unit onto hard surface, disengage unit from carrier, engage brake, turn off carrier and remove key. Allow the unit to cool off before maintaining. Caution, parts may be hot, sharp, or hazardous. Follow guidelines on protective equipment and clothing.

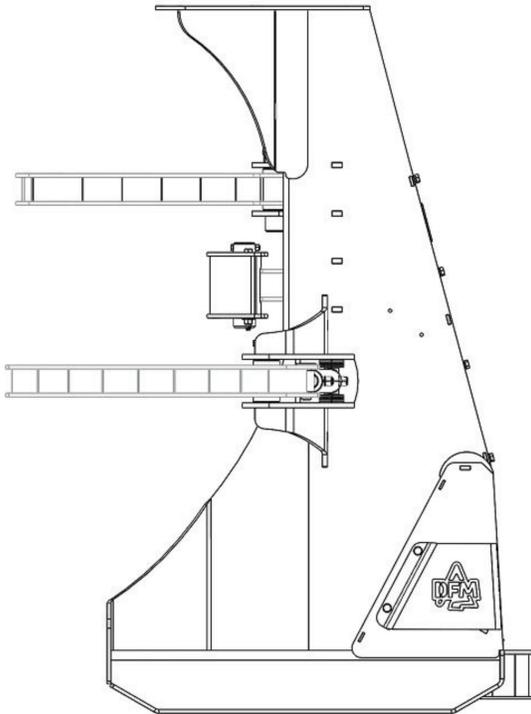
\*If you are not a licensed welder or hydraulic specialist call your DFM for maintenance assistance.

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.



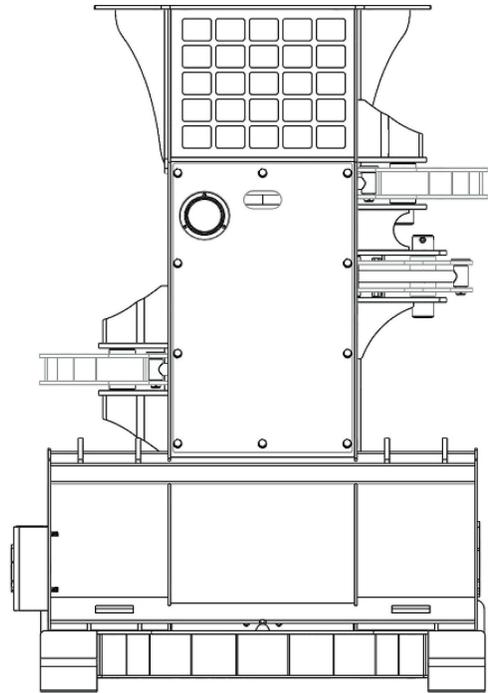
Open the arms and look for grease zerks, then close the arms and look for grease zerks.

**LEFT SIDE**

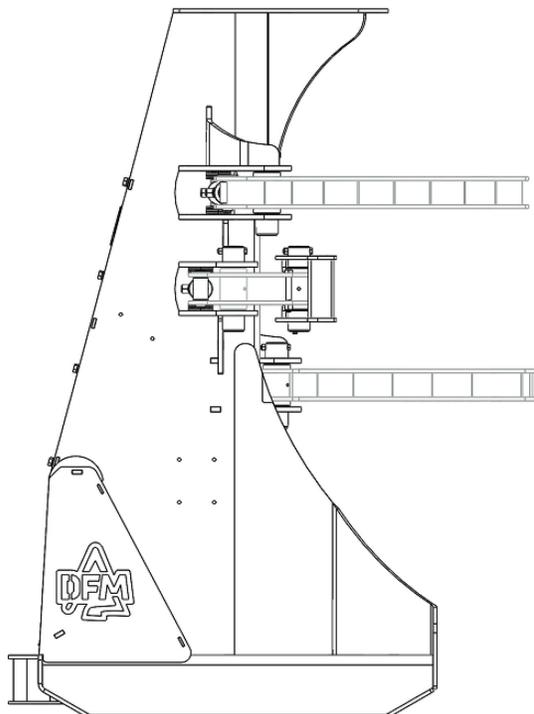


Remove the back panel to access the grease zerks on the base of the cylinders.

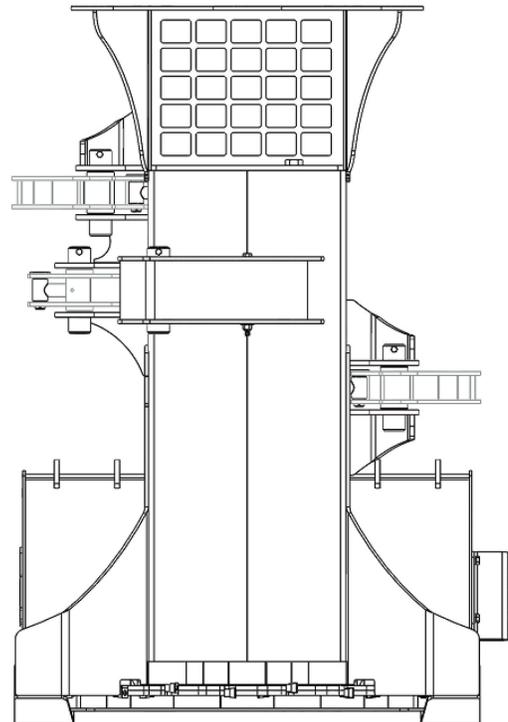
**BACK SIDE**



**RIGHT SIDE**



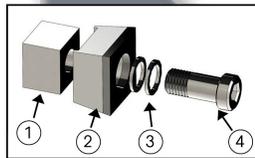
**FRONT SIDE**



## Rotating / Replacing Teeth



- 1) TS3 Backing Block (BB-3439)
- 2) TS3 Carbide Cutting Tooth (TS1024)
- 3) TS3 Lock Washer (LW-1044)
- 4) TS3 Tooth Bolt (B1043)



### Rotating & 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.

DO NOT RUN A CUTTING DISC WITH BROKEN OR MISSING TEETH. AN UNBALANCED LOAD COULD OTHERWISE OCCUR CAUSING EXCESSIVE WEAR ON THE BEARINGS.

IF THE SAW IS OPERATED WITH A TOOTH MISSING, THE BACKING BLOCK WILL WEAR QUICKLY. IF THE BACKING BLOCK IS WORN, IT MUST BE CUT OFF AND A NEW ONE WELDED ON.

### Rotate

Most wear occurs on the outside edge of the tooth.

A tooth needs to be rotated when cutting time has noticeably increased. 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 noticeably worn, rotate the tooth 180°.

### Replace

The following signs indicate that the disc saw teeth need to be replaced:

Damaged teeth

Missing segments of teeth

Unbalanced load

Worn cutting edges

### Tools

A 1/4" hex bit socket and a ratchet are needed to remove and fasten the teeth.

Note: Tighten to 30 to 40± Torque



**⚠ WARNING: The cutting disc is heavy. Be careful and use assistance.**

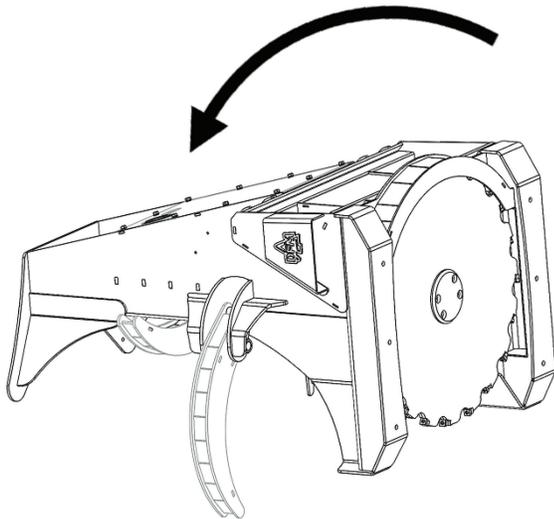
DISK REMOVAL: The cutting disc can be removed by simple hand tools, and can be done in the field. Blade removal must be done with unit off carrier.

## Step 1: Disengage Hydraulics and Electronics

Disengage all hoses and electric lines (use zip tie to coil them safely out of way)

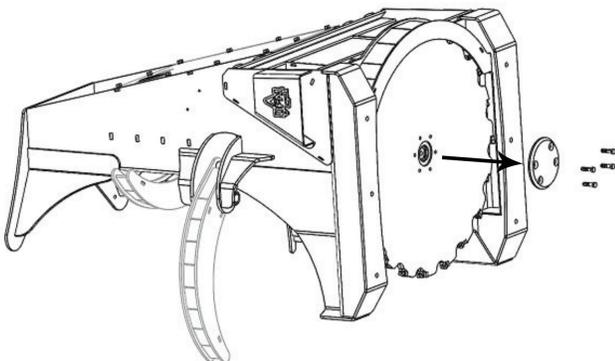
## Step 2: Place the Unit on the Ground

While the unit is attached to the carrier, roll the carrier arms completely forward until unit is horizontal; lower unit onto hard stable surface and disengage the carriers lock feature. Unit is now disengaged from carrier. Move carrier away from unit and work area.



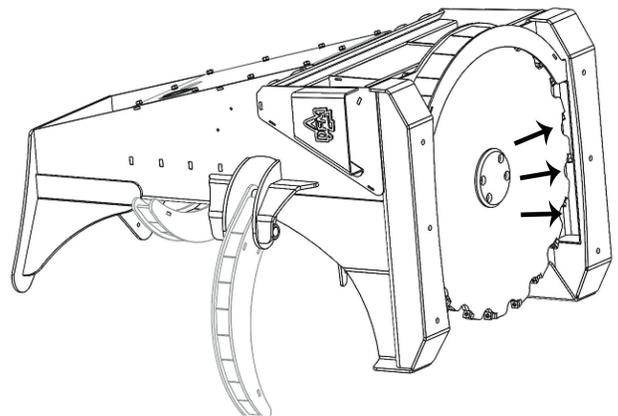
## Step 3: Remove The Bolts

Remove the 4 bolts that attach the skid plate using an impact wrench and a 3/4" socket. There are 2 more bolts underneath the skid plate; remove these bolts.

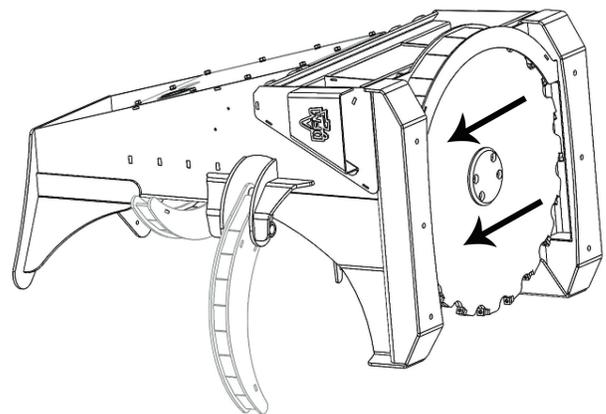


## Step 4: Remove the Blade

Once these bolts are removed the disk can be taken off the unit; in order to fully remove the disk, it needs be to be slipped past the slide rails. To do this, the disk is first pulled off the hub, then slide all the way to the right of the deck,



At this point it's pivoted allowing the left side of the disk to clear the rails.



To replace the disk back on the unit, repeat these steps in reverse.

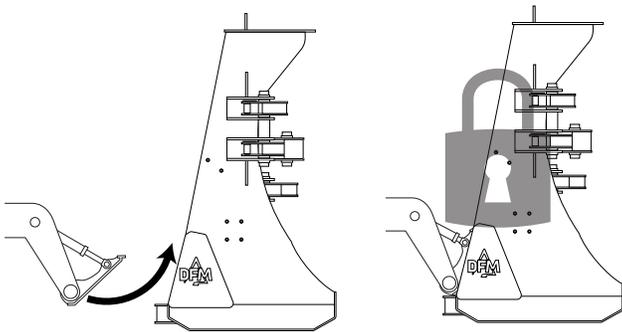
NOTE: Make sure to face the cutting edge of the teeth towards a clockwise rotation from the bottom.

# Attaching the Feller Buncher

Mounting the unit to the carrier consists of 3 steps; failure to follow these steps may result in the unit disengaging from the carrier, causing injury or death.

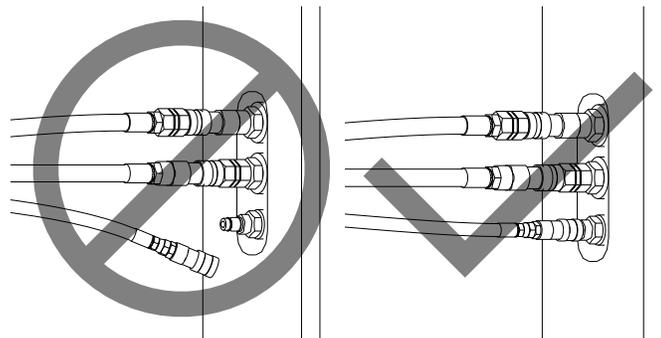
## STEP 1: The Mounting Plate

The CFB16 is equipped with a universal mounting plate; to attach the unit, drive the carrier toward the plate, hook the plate with the carriers brackets, and roll the carriers brackets backwards. After the operator has successfully "hooked" the brackets onto the plate, the operator then engages the brackets lock function. The operator must then visually confirm the lock function has been successfully engaged.



## STEP 2: Connecting the Hydraulics

The next step is to connect the hydraulic hoses from the unit to the carrier's auxiliary ports. CFB16 ships with the correct hydraulic couplers for use on the carrier specified. Standard flow units make use of 2 hoses to operate, high flow models require a 3rd hose, acting as a case drain to relieve excess back pressure. **CASE DRAIN LINE MUST BE ATTACHED AT ALL TIMES WHEN IN USE, FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE HYDRAULIC SYSTEM, AND VOID WARRANTY**



The operator must line up the units couplers with the correct couplers on the carrier side, and snap them into place; the operator then rotates the couplers collar 1/4

turn to engage the couplers lock function. Operator should then visually confirm the couplers are all attached, and the lock functions have been engaged.

## STEP 3: Connecting the Electronics

The 3rd step is to hook up the electrical system. The CFB16 makes use of an electric over hydraulic circuit to engage certain valves required to function properly, This unit will ship with one of two options. Option 1: for carriers with a pin connection system the unit will ship with a pin connector, and will utilize the carriers own joystick buttons to operate. To hook up this option, the operator will plug the pin connector into the carrier side socket. Option 2: for units not equipped with pin connection system; the unit will ship with a wiring harness; this wiring harness will contain 4 sealed buttons, connection plugs, and a length of electrical wire; to hook up this option the operator will need to tap into a 12 volt source, as well as attach the buttons in cab in a convenient location. (See Diagram)

### Wiring Diagram

Green ——— Accumulator Arm - Open Function

Yellow ——— Accumulator Arm - Close Function

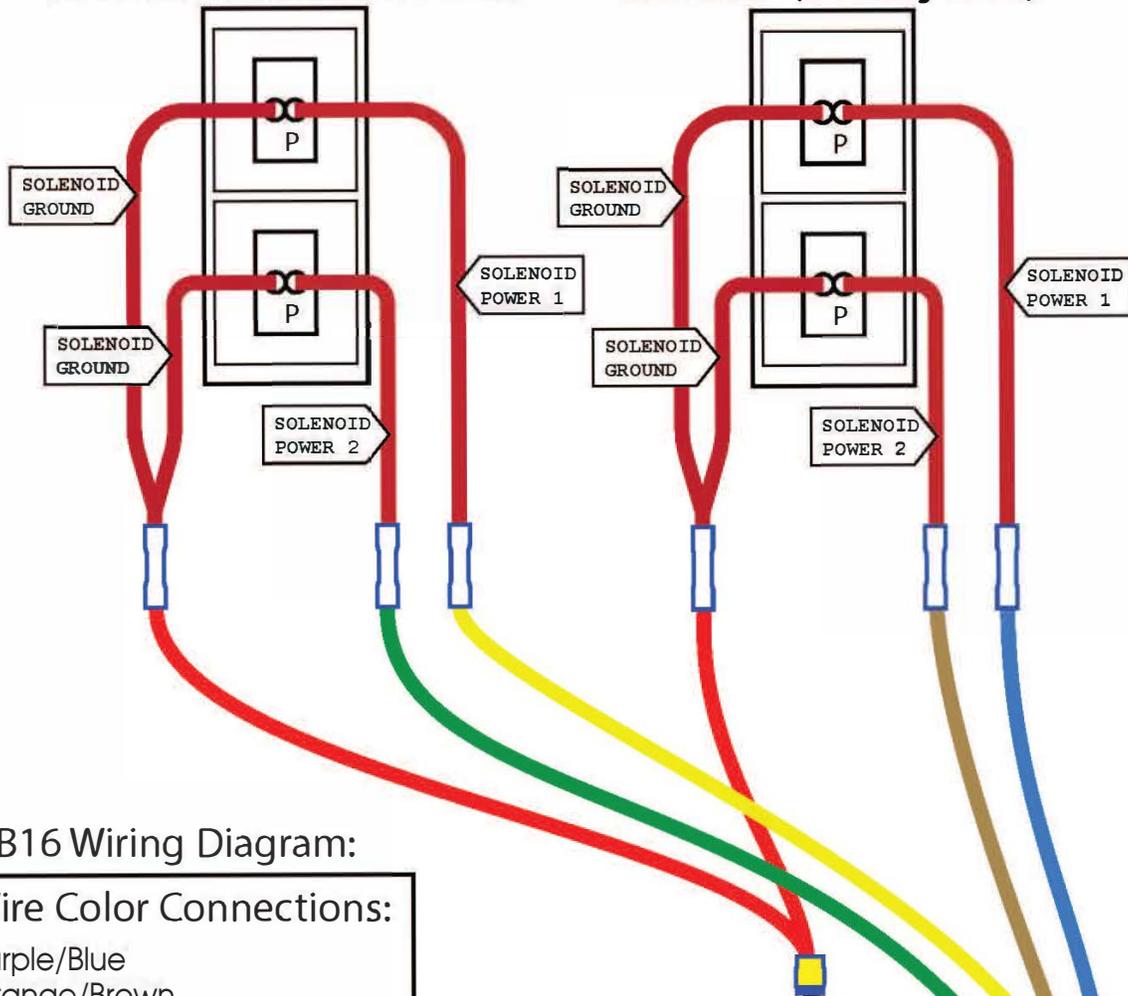
Brown ——— Grapple Arms - Open Function

Blue ——— Grapple Arms - Close Function

Black ——— Ground

**SOLENOID (Accumulator Arm)**

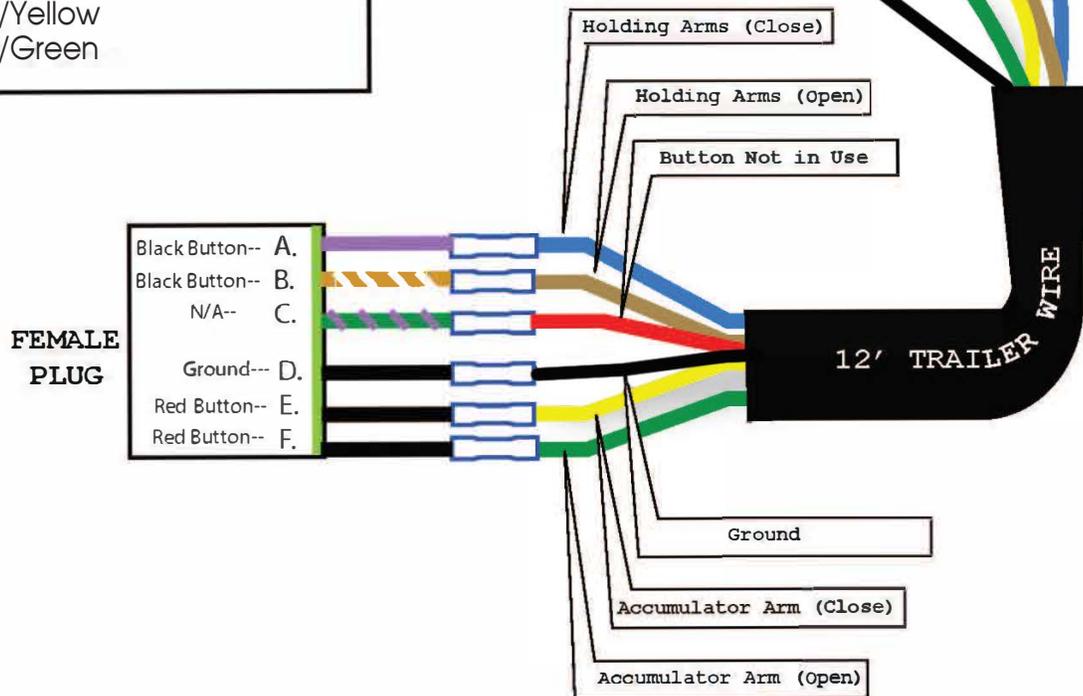
**SOLENOID (Holding Arms)**



**CFB16 Wiring Diagram:**

**Wire Color Connections:**

- Purple/Blue
- Orange/Brown
- Green/Red
- Black/Black
- Black/Yellow
- Black/Green

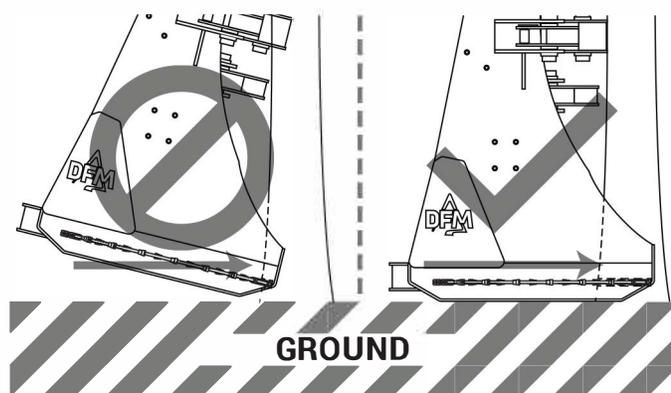


This unit utilizes a high speed cutting disk to fell trees, the speed of the disk results in clean and efficient cutting. Operation of this unit is broken in to 5 steps.

## STEP 1: Cutting

The operator should be safely seated in the carrier with all necessary safety equipment in place; carrier should be started and revved to  $\frac{3}{4}$  of maximum rpms, When the desired tree is chosen (16" or below diameter on CFB16) the carrier should be aligned in front of the tree. The Hydraulic system should then be engaged, upon engagement the cutting disk should be allowed to spin up to the maximum rpms; once max rpms have been achieved, the carrier should then be moved forward slowly, keeping the cutting disc level, allow the cutting disk to move into the tree at a steady feed rate. The feed rate of the unit is based on many factors including carrier size, and hydraulic flow. The correct feed rate can only be determined by the operator  
**FEEDING THE CUTTING DISK INTO A TREE TOO FAST WILL RESULT IN THE DISK BEING UNABLE TO RECOVER ITS RPMS AND STALLING OUT**

**⚠ WARNING: Cutting disk should be fed into tree in a level position. DO NOT feed cutting disk into tree at an angle. Doing so may result in bent blade and/or bearing damage.**



**⚠ WARNING: DO NOT attempt to raise or lower unit while disk is cutting tree. Doing so may result in bend blade and/or damage bearings.**

If the desire of the operator is to cut and drop, simply continue feeding the disk through the tree until the trunk of the tree contacts the top of the CFB16's tower at which point the tower will push the tree away from

the carrier and the tree will fall. If the desire is to cut and carry the tree, the operator will not push the tree over, but proceed to step 2.

## STEP 2: Holding

Holding tree(s) is achieved by the use of two grapple arms powered by two cushioned cylinders. The arm movements are controlled by two in cab buttons 1 for closing, 1 for opening, the holding function is used while transporting tree(s) to drop piles. To operate the hold feature while cutting, the operator must wait to start to engage until  $\frac{3}{4}$  of the way through a tree; At which point press and hold the closing control button until closing movement stops, when closing movement stops, tree is in held position; allowing operator to move the tree (see step 5)

**⚠ DANGER: Do not use arms to pull disk into tree, leveraging stalled blade into uncut tree, will result in bearing/cutting disk damage.**

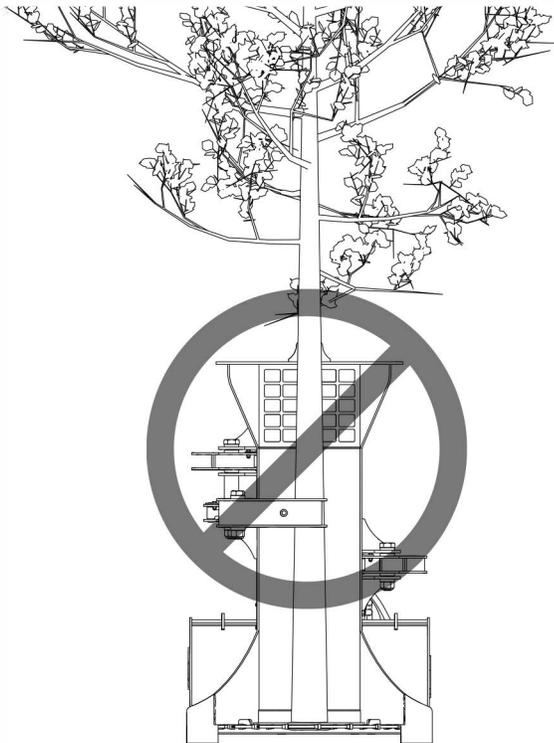
## STEP 3: accumulating

If the operator desires to cut multiple smaller diameter trees without having to drop them individually at the drop pile, the CFB16 has a built in accumulator arm. This arm is controlled by two in cab buttons; 1 for closing, 1 for opening. To operate the accumulator feature, the operator must have the first tree in the held position (see step 2). The operator then moves the carrier to the next desired tree, when the unit is in position to cut, no more than 2 feet away from the tree to be cut; the operator then engages the accumulator arm to temporarily keep the previously cut tree from falling off of the butt plate. The Holding arms can then be opened and the tree is cut as outlined in step 2; after both trees are in the held position, the accumulator arm can be safely opened\* ready to repeat the process.  
 \*NOTE: Once the accumulator arm slides out from between the trunks and back into the open position, the operator will need to press the close button once more on the holding arms, the space the accumulator arm occupied will be empty causing the load to be loose.

**⚠ DANGER: The accumulator arm (CFB16) is for temporarily retaining trees(s) it is not designed for holding, never attempt to carry trees without use of holding arms.**

## Basic Operation

---



### STEP 4: Carrying

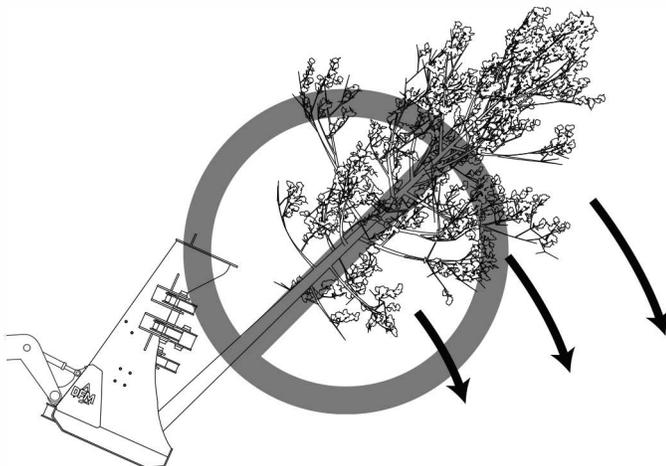
With the tree(s) cut and in the held position the operator can safely carry the trees to the drop pile, be aware that the carrying of large top-heavy loads has inherent dangers, exercise caution. The CFB16 is equipped with cushioned cylinders which protect the unit from damage if overloaded; overloading will result in the load being released.

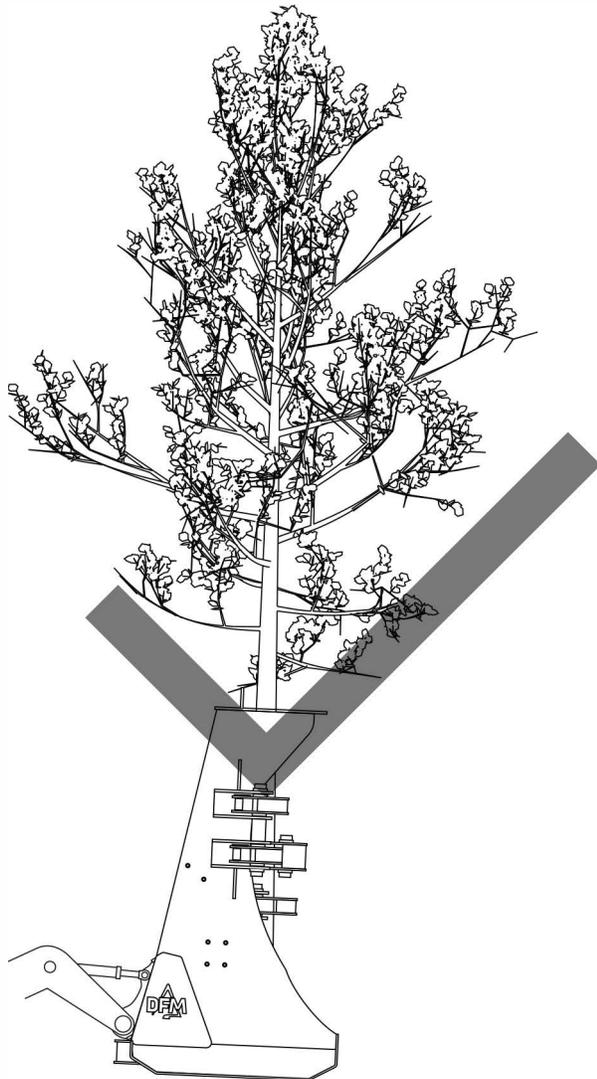
**⚠ DANGER: overloading will activate cylinder cushion, resulting load being released.**

**⚠ DANGER: do not roll back and tip the tree canopy towards the rear of the carrier.**



**KEEP THE TOWER TILTED SLIGHTLY FORWARD OF VERTICAL WHEN CARRYING LOADS**



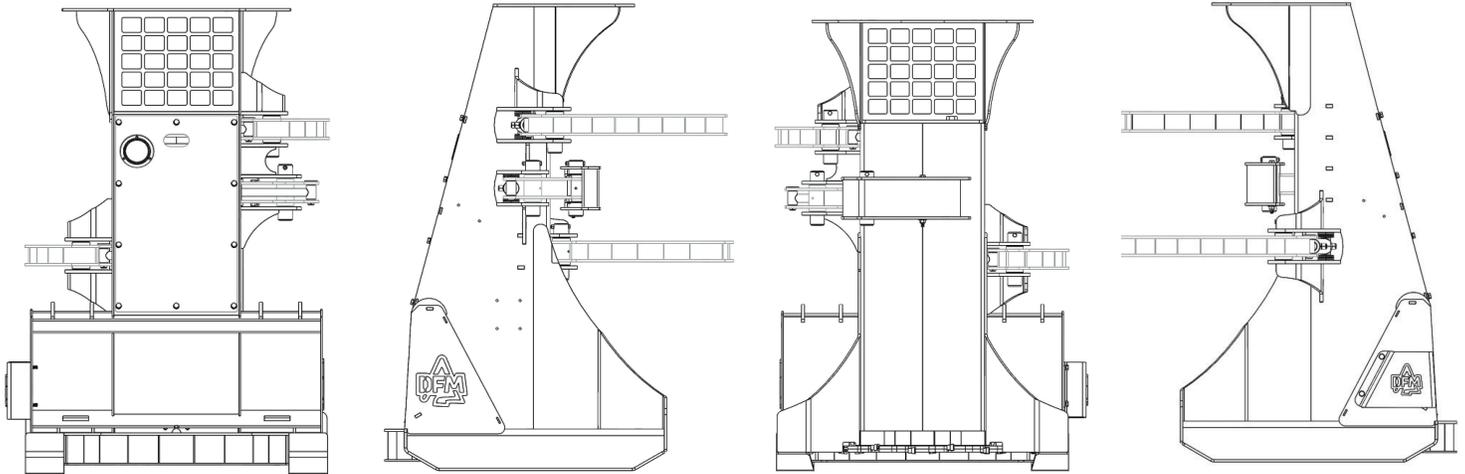


Keep loads low, and keep the tower tilted forward of the vertical position. Do not carry loads over long distances; do not carry loads over uneven terrain, do not attempt to carry loads over the maximum rated lift of the carrier. Factor in the weight of the CFB16 in the load calculations.

### **STEP 5: Releasing**

When operator has reached a desired drop location the release function can be activated by first lowering unit until the units skids contact the ground; then rolling forward on the hydraulic tilt pivoting unit forward until unit is in a horizontal position, then pressing the holding arms OPEN button.

# Specifications



## ***CFB16 High Flow***

Hydraulic Flow Requirements:	25 - 45 gpm
Operating Weight:	1,700 lbs
Dimensions:	Height: 75" Width: 46" Depth: 45"
Throat Opening at Teeth:	27"
Disc Diameter:	40"
Rated Cutting Disc Speed:	1,800 rpms
Number of Teeth:	20 TS3 Cutting Teeth
Saw Kerf:	1 1/2"
Disc Weight:	177 lbs



DOUGHERTY FORESTRY MANUFACTURING LTD Co.  
211 W. Canyon Run, Hinton, OK. 73047  
Call toll free: 1.888.444.2218 or 1.405.542.3520  
Email: [contact@doughertymfg.com](mailto:contact@doughertymfg.com)



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.



All rights reserved. No part of the Turbo Saw manual may be reproduced in any form without the expressed written permission of Dougherty Forestry Manufacturing, Ltd. Co. This manual provides information and instruction on the CBF16. Dougherty Forestry Manufacturing reserves the right to make changes to the Turbo Saw manual at any time without notice.