

# FH-FFM Forestry Mulcher Series



# FHM

**FARMER-HELPER  
MACHINERY COMPANY**



## OPERATION & PARTS MANUAL

*Please read these instructions before using. Always grease all fittings and be sure to always check and fill with oil before operating! Retain this manual for future use.*

**BETSTCO** 

[www.Betstco.com](http://www.Betstco.com)

541-895-3083 M-F 7am-4pm PST

RUGGED LABOR SAVING EQUIPMENT SINCE 1995 83371 Melton Rd, Creswell OR 97426



## General Safety Information

Ensure all potential operators read this manual thoroughly before using the machine

**Safety:** Ensure tractor and machine is stopped & keys out of ignition before set-up/maintenance

**Safety:** Failure to follow good safety standards could result in severe injury or even death

**Misuse:** This machine is designed for use with compact tractors, and should be used only for the indicated purpose. We do not take responsibility if the machine is used for any one purpose. Children must not operate the machine under any circumstance.

**Modification:** Do not modify equipment in any way. This may impair the operation and overall safety of the machine.

Tractor requirements: Use only with compact tractors within power range specified.

**Misuse transport:** Do not use machinery to transport personnel or livestock.

**Condition:** For the safety of personnel and optimum performance of the machine, you should check the condition of the machine and the tractor before starting. Before use check all nuts and bolts are tight.

**Spatial awareness:** Always check the operating area is safe before starting machinery.

**Operator clothing:** The operator should not wear loose clothing while operating machinery.

**Safety wear:** Always use appropriate ear protection when running a tractor and machinery. Ensure you are wearing protective gloves when servicing and using machinery.

**Bystander safety:** Ensure bystanders keep away from the machine when it is in use. Do not touch moving parts when the machine is at work.

**Public places:** When traveling on the road/public places, always keep the PTO turned off

**Maintenance:** Always keep the machine maintained and in a good state. Where necessary repair or replace any defective parts. Do not modify the machine.

**Sharp objects:** Pay attention to the sharp/pointed parts while servicing the machine.

**Safety guards:** All protective parts should be in good condition before operating machinery.

**Safety signs/stickers:** Keep all safety signs clean and legible. Replace any which are missing or illegible. If a component with safety sign(s) is replaced, make sure new safety sign(s) are attached in the same locations.

**Operating speeds:** Machinery and PTO should be operated at the recommended speed at all times.

**Safety awareness:** Good safety requires that you familiarise yourself with various safety signs, the type of warning and the area, or particular function related to that area.

**Alertness:** Never consume alcohol or drugs these can hinder alertness/coordination. Consult your doctor about using this machine while taking prescription medications.

***WARNING! WE SHIP ALL OUR MACHINES DRY. THIS IS A SAFETY PRECAUTION AND ALSO PREVENTS OIL OR GAS FROM LEAKING DURING TRANSPORTATION.***

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### **Machinery Pre-Use Checks**

On receipt of your new machine and again within the first 4 hours of use, or the 'brake in' period as we like to call it, we always recommend checking over the machine.

- Check all bolts, Nuts and Screws are tight on the unit.
- Tighten/Check any bolts and nuts securing blades.
- If your machine has belts, check the tension and adjust the belts or the pulleys necessary.
- Apply greese to greese points if necessary.
- Check gear oil level. Do not overfill

### **Tractor Pre-Use Checks**

- Check that the machine is properly attached to the tractor. Ensure that secure pins are used on the linkage mountaing pins.
  - Be sure to add extra weights to the front of the tractor or add wheel weights if required.
  - Check that the tractor PTO shaft turns freely and that the machines PTO drive shaft can extend easily. Grease the PTO drive shaft using the grease points.
  - The chain on the PTO shaft should be checked and in a good condition. The universal joints installed should be in a good state with proper protective parts.
  - Before installing the PTO shaft, the tractor and machine should be stopped and remove the key.
  - Install and secure all saftey gaurdds, doors and covers before starting
  - Bystanders should leave the immediate area berfore connecting the drive from the tractor.

### **Running/Operating Checks**

- Always keep the PTO output from the tractor at 540 RPM when running machinery.

### **Post-Use Regular Checks**

- Check blades, belts and wearing parts. Be sure they are not damaged and blades



# WARNING

**READ MANUAL BEFORE OPERATING**



**DO NOT OPERATE OR PERFORM MAINTENANCE ON YOUR FORESTRY MULCHER WITHOUT READING AND UNDERSTANDING THIS ENTIRE MANUAL FIRST.**

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**IF THIS MANUAL IS LOST OR IF YOU HAVE ANY QUESTIONS, CONTACT FARMER-HELPER OR YOUR DEALER BEFORE YOU PROCEED.**

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**Understand the written instructions, rules and safety precautions:**

- The written instructions rules and safety precautions are outlined in this operation and safety manual.
- Check the rules and regulations at your location. The rules include employer's work safety regulations and local government guidelines and restrictions for safe operation of the equipment.

**Perform application training with operator:**

- Conduct field instruction with a trained Operator. Application training should include complete vehicle safety, operation training, complete mulching safety and application training.
- Know and understand your work conditions; hazards should be reviewed and terrain surveyed at this time as well as with all new work sites.
- Verify that the machine is in complete safe working order and prepared for your application.

# 1. SAFETY

## 1.1 General

The forestry mulcher is designed to process heavy organic material such as branches, stumps, heavy timber and brush.

## 1.2 Safety Instructions



This symbol is used throughout this manual to call attention to safety procedures.

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The word **DANGER** indicates an immediate hazardous situation, which if not avoided, will result in death or serious injury.

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The word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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The word **CAUTION** preceded with a safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

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# CAUTION

The word **CAUTION** without a safety alert symbol means there is possibility of a hazards that can result in equipment damage.

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# NOTICE

Indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.

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## SAFETY FIRST

With any piece of equipment, new or used, the most important part of its operation is **SAFETY!** FARMER-HELPER Inc.

encourages you and your employees to familiarize yourselves with your new equipment and to **STRESS SAFE OPERATION!!**


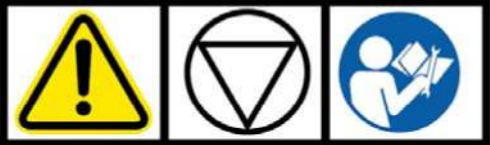

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### Prior To Operation:


- Read the owner's manual in its entirety and follow all safety procedures.
  - Check all grease points per the owner's manual
  - Inspect all fasteners for tightness with power off.
  - Manually turn rotor to inspect tool bolts with engine off.
  - Check gearbox oil (PTO models) for proper level per owner is manual.
-

Obey all safety labels on the forestry mulcher. They are provided for your protection. If any labels are removed, damaged, or made unreadable in any way, call your FARMER-HELPER dealer for a replacement.

### 1.3 Safety Regulations

	<p>Tag the engine operating area to show that the machine is being serviced. Use lockout/tagout procedure (29CFR 1910.147) during any inspection or maintenance.</p>
	<p>Stop action and read and observe the operation and safety manual in its entirety following all safety procedures before operating or performing maintenance.</p>
	<p>Wait until all machine components have completely stopped before touching them.</p> <p>Perform maintenance only after the carrier has been shut-off.</p> <p><b>DO NOT EXIT CAB</b> while rotor is still turning.</p>

	<p><b>Danger flying objects; stay back 300 ft (90m) from the machine as long as the engine is running.</b></p> <p><b>Keep Safe Distance</b></p> <p><b>Keep Hands and Feet clear of rotor.</b></p>
	<p><b>Hydraulic fluid under pressure. Use safe operating procedures at all times.</b></p>

	<p><b>Do not operate the Mulcher without all guards in place. Side and rear access panels must be installed prior to running.</b></p>
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	<p><b>Secure lifting cylinder with locking device before getting in hazardous area.</b></p> <p><b>Insert safety lock before getting in hazardous area.</b></p> <p><b>Attach support before getting into hazardous area.</b></p>
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**Keep sufficient distance away from electrical power lines.**

#### **1.4 FARMER-HELPER Forestry Mulcher – Description and Applications**

Forestry	Orchard Removal	Land Clearing
Transfer Stations	Stump Grinding	ROW Maintenance
Yard Waste Process	Forest Fire Prevention	Brush and Slash Piles

The versatile forestry mulcher was designed for shredding woody materials. The forestry mulcher excels at processing yard waste, land preparation and slash reduction. It has multiple uses for farmers, parks, golf courses, loggers, land clearing companies, ranchers, foresters and silvaculturists.

The mulchers fixed tools are designed to withstand daily brush shredding, land clearing, and stump grinding operations.

The forestry mulch shreds material into a fine particle size by going over the shredded material until the desired texture is achieved.

If left on the ground the shredded material is beneficial to the soil. On steep slopes the output from the mulcher is ideal for interim erosion control.

## 1.5 Operational Safety The Work Area:

For the sake of this manual, the front of the mulcher is the side with the rotor exposed. The rear has deflection chains. For crawlers and rubber tire machines, when the mulcher is mounted on the front of the machine, the front of the mulcher is facing the same forward direction. If mounted on the rear, the front of the mulcher is facing away from the rear of the carrier. Mounting for excavators and other boom-type installations may vary but references to the front and rear of the mulcher remain the same

## 1.6 The Hazard Zone



**FLYING DEBRIS OR OBJECTS AND FALLING OBJECTS CAN  
CAUSE SERIOUS INJURY OR DEATH**



**Improper operation and failure to follow safety precautions can cause serious injury or death. All personnel must be clear of the hazard zone while the Mulcher is in operation.**

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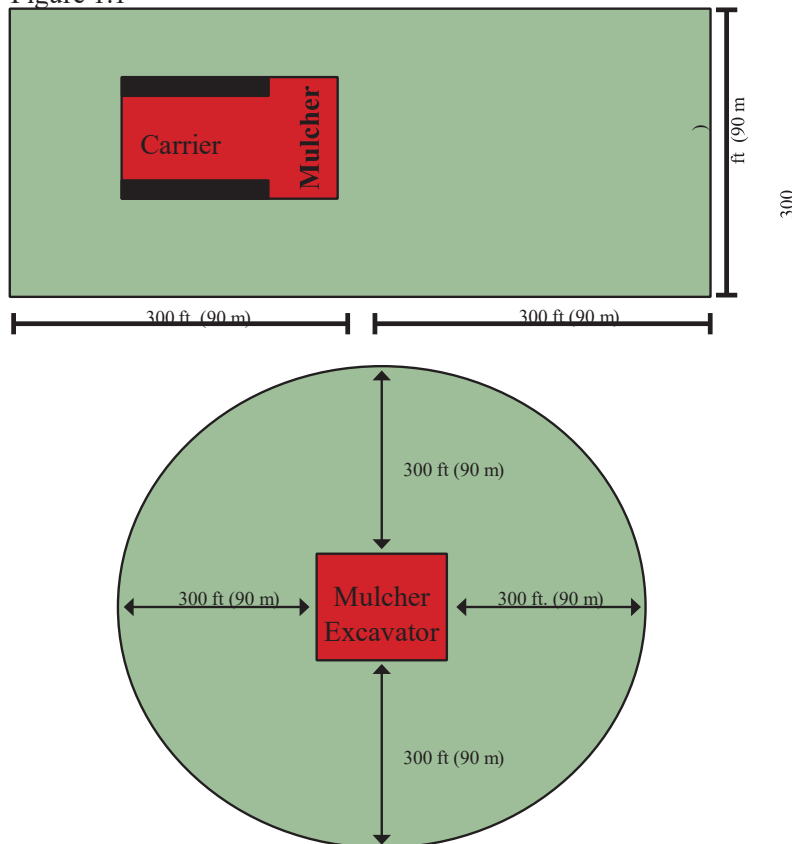
The Hazard Zone is illustrated in Figure 1.1 on the following page. All personnel should be kept clear of this zone while the mulcher is operating.

The shaded area in the Hazard Zone must be considered **OFF LIMITS TO ALL INDIVIDUALS!** The operator should follow the PRECAUTIONS below before and during operation of the mulcher.

## Hazard Zone Precautions

- It is the **OPERATORS RESPONSIBILITY** to ensure that **NO ONE ENTERS THE HAZARD ZONE!**  
**WARN all persons in the area of the HAZARD ZONE**
- **STAY ALERT** for outsiders entering the work area who may not be aware of the **HAZARD ZONE**.
- Land clearing operations generally involve other machinery and people on the site. **MAINTAIN** an **AWARENESS** of all working traffic within 150 ft (45 m) (to each side) and 300 ft (90 m) (in front and behind) of the Mulcher operation.

Figure 1.1



## 1.7 Dangerous Locations



**FLYING DEBRIS OR OBJECTS AND FALLING OBJECTS CAN  
CAUSE SERIOUS INJURY OR DEATH**



**Improper operation and failure to follow safety precautions can cause serious injury or death. All personnel must be clear of the hazard zone while the Mulcher is in operation.**

**DANGER EXISTS MOST PROMINENTLY IN FRONT OF AND  
BEHIND THE MULCHER.**

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Pieces of wood and rock can project from the mulcher. This condition is dangerous. This will occur when the mulcher is raised high enough to allow material to escape.

### **FOLLOW THESE PRECAUTIONS:**

- NEVER allow anyone to enter the Safety Zone of the mulcher while it is in operation.
- INSPECT the Carrier and mulcher daily for damaged or missing deflection chains and flaps

### ***Be especially CAREFUL when:***

- When the mulcher is being raised up and out of the material that it is working in.
- When the mulcher is lowered into new material.

- **CLOSE** the hydraulic trap door (if equipped) while pull-working to better contain material. This also increases the fineness of the shredded product.

*(See section 5.2, Mulcher Operation – Pull-working).*

## **1.8 Urban Precautions**

**A STEP-UP of SAFETY PROCEDURES and PRECAUTIONS is required when working:**

- Near streets
- Near highways
- In parks, on golf courses or other inhabited areas
- Near buildings

### **ESTABLISH SAFETY PARAMETERS THAT FIT THE SITE:**

- String colored warning tape to secure the work area.
- Place signs warning of mowing zone (if working along side of highway) 1,000 ft (300 m) (minimum) before edge of Hazard Zone is breached.
- Utilize a traffic director when the hazard zone impinges on pedestrian or vehicular traffic.
- Erect barriers

## 2.0 OPERATIONAL SAFETY/ THE OPERATOR



# WARNING

### 2.1 Sound Levels/ Hearing Protection

**HEARING PROTECTION MUST BE USED IN THIS AREA!**



**Take the following precautions:**

- Always keep doors and windows of carrier closed.
- Use ANSI S3.19-1975 approved hearing protectors with a noise reduction rating (NRR) of 25dB (A)
- Ear muffs
- Ear plugs (disposable or reusable)

### 2.2 Dust Protection

**Prolonged and excess exposure to dust can cause complications of your Respiratory System. Prolonged and excess exposure to dust can cause chronic and acute health problems.**



# WARNING



**Take the following precautions:**

- Keep the door shut and windows of carrier closed.
- Utilize a NIOSH approved respirator with replaceable filters rated for dust collection.

### 2.3 Protection from Flying or Falling Objects

**BE ALERT** of the possibility of projectiles exiting the machine. Falling brush, branches, and trees also present a potential hazard to the operator. As illustrated in Section 1

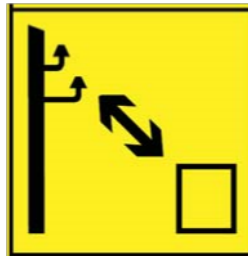
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### 2.4 Avoid Power Lines



Serious injury or death can result from contact with electric lines. Never move any part of the equipment or the tree it's carrying, closer than 3 meters plus twice the line insulator length to an electric line. Use a signal person to guide operator. Use shrouds or insulators as necessary.

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**BE AWARE OF THE DIRECTION THAT TREES ARE FELLING!  
ALWAYS DIRECT AWAY FROM POWER LINES!**

### 2.5 Operator Protection



# DANGER

**FLYING DEBRIS OR OBJECTS AND FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH**



- **Install minimum of 1/2" thick (1.25cm) Lexan™ Polycarbonate cab windows.**
- **Install approved FOPS falling Object Protection.**
- **Replace damaged or missing Polycarbonate windows or falling object protection components.**

**Improper operation and failure to follow safety precautions can cause serious injury or death. All personnel must be clear of the hazard zone while the mulcher is in operation.**

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## **Take the following precautions!**

The following precautions are recommended for operator protection. Additional guarding may be required to protect the carrier, such as belly pans or skid plates, etc. Always follow safety regulations and certifications for your specific industry. Check with the manufacturer of your carrier for recommended operator protection.

### **For PTO Carriers:**

- A 1/2" (1.25cm) thick polycarbonate or equal, should be installed in place of or outside of the cab glass between the operator and the mulcher.
- A steel mesh screen of 2" (5cm) maximum openings and 1/4" (.6cm) diameter wire is recommended outside of the cab between the mulcher and the operator to protect Polycarbonate from scratches.



### **For Forestry Prime Movers with Enclosed Cab:**

- A 1/2" (1.25cm) thick polycarbonate or equal, should be installed in place of or outside of the cab glass between the operator and the mulcher.
- A steel mesh screen of 2" (5cm) maximum openings and 1/4" (.6cm) diameter wire is recommended outside of the cab between the mulcher and the operator.

### **For Excavators and Boom type Carriers with Enclosed Cab:** ●

Front of cab facing boom should have a 1/2" (1.25cm) thick polycarbonate or equal, should be installed in place of or outside of the cab glass between the operator and the mulcher. ● A steel mesh screen of 2" (5cm) maximum openings and 1/4" (.6cm) diameter wire is recommended outside of the cab between the mulcher and the operator to protect Polycarbonate from scratches.

### **For Mini-Track Loads and Skidsteers:**

- Do not operate without enclosed cab.
- Cab door should have a 1/2" (1.25cm) thick polycarbonate or equal, should be installed in place of or outside of the cab glass between the operator and the mulcher.
- A steel mesh screen of 2" (5cm) maximum openings and 1/4" (.6cm) diameter wire is recommended outside of the cab between the mulcher and the operator to protect Polycarbonate from scratches.

### **Take the following precautions!**

- Make sure that the carrier vehicle has proper protection between the operator and the mulcher. This will protect the operator as well as the carrier control area. ● Wear ANSI approved

protective eyewear such as: Safety Glasses, Goggles, Face shield.

- Wear an ANSI approved hard hat.
- Wear appropriate ear protection.
- Steel toe shoes are an excellent safeguard for anyone on or around machinery.



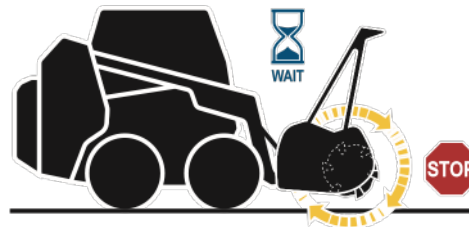
## 2.6 Stopping the Rotor Before Exiting the Carrier



Contact with moving rotor can cause serious injury or death. Do not exit the vehicle before the rotor stops.

To stop rotor:

1. Lower the engine speed to Idle
2. Shut off the mulcher circuit
3. Push the rotor into the ground or other debris until rotor stops



If there is no place to stop the rotor, wait for the rotor to stop before exiting the cab.

## 3.0 CARRIER VEHICLE PREPARATION/MAINTENANCE

**3.1 Shielding** • Shielding is essential for protecting the Carrier and the operator. All parts of the carrier closest to the mulcher are most susceptible to damage.

- Use appropriate material as brush guards.
- The operator area should be protected as noted in Section 2.5
- Shielding must allow good access to service machine, clean and remove debris.

### 3.2 Carrier Vehicle Preparation/Maintenance



#### AVOID INJURY OR DEATH

- Shut-off the engine. Put carrier in depressurized state.



- Wait until all machine components have completely stopped before touching them.
  - Use lockout/tagout procedure (29CFR 1910.147) during any inspection or maintenance.
  - Secure lifting cylinder with locking device before entering a hazardous area.
  - Insert safety lock before entering a hazardous area.
  - Attach support before entering a hazardous area.
- Refer to the Safety Section in this manual for more information.

**3.3 Carrier Clean-up** • Periodic removal of debris and dust from the carrier vehicle is essential to continued successful operation and **FIRE PREVENTION.**

- Open all compartments and remove all flammable debris such as leaves, twigs, pine needles, wood chips, dust and any leaking or spilt oil or fuel.
- Upon discovery of oil or fuel leaks, repair and clean up immediately. Oil attracts dust and creates a fire hazard by insulating lines causing excess heat generation. Inspect and clean all dust from fittings and lines.
- Provisions should be made for removal of shredded wood buildup between hoses, lift arms, lines, and other “nooks and crannies.”
- A blower should be used to knock the dust and wood chips off the entire carrier at least twice per day, wherever permissible by the carrier manufacturer.
- Clean the radiator as required to avoid overheating.
- Use water only if it can dry thoroughly before operating. Dust clings to anything wet and a wet radiator can quickly restrict air flow.
- Contain and dispose of any petro-chemical runoff through a licensed processing facility.
- Do not dispose of petro-chemical runoff into municipal waste.
- Do not use high pressure washer directly on electrical contacts.

**Be careful using high-pressure washers, which may bend and split the radiator fins.**

## 4.0 POLICING THE WORK AREA

Before starting, a visual survey of the area to be worked is helpful in identifying any undesirable items that may be present. Remove them as much as is practical before proceeding:

### 4.1 Avoid Metal and Wire

Metal can break the tools' carbide tips. Wire seeks to wrap itself around the rotor shaft, especially near the bearings. The wire can tighten and squeeze past the grease seals causing **BEARING DAMAGE IF NOT REMOVED.**

### 4.2 Use Caution with Stringy Vegetation

Shredding material like Palmetto, Bird of Paradise, and yard waste tied with plastic can damage the rotor bearings. The mulcher readily handles this material but the operator should exercise additional caution while working it.

**4.3 Avoid Plastics** • Hoses, bags, tarps and ropes must be removed as soon as they are seen.

- Mattresses, rugs, clothes, and cloth will plug the machine and cause the rotor to stall.
- Periodical rotor inspection for foreign debris is required.

### 4.4 Depth Shoe Adjustment

- On models equipped with adjustable depth shoes, adjust distance of the mulching rotor to the ground by moving shoes up/down.
- Remove bolts from each foot and reposition on the mulcher body as desired.
- Adjust up to move cutting action closer to the ground.
- Adjust shoes down to create more space between the cutting action and the ground.

- Be sure to locate both feet in the same position.



## **5.0 MULCHER OPERATION**

The following instructions will help to assure that your forestry mulcher is operated safely and effectively. Read this section carefully and use extreme caution at all times.



**FLYING DEBRIS OR OBJECTS AND FALLING OBJECTS CAN  
CAUSE SERIOUS INJURY OR DEATH**

**Exercise extreme caution to assure that all personnel are  
outside of the HAZARD ZONE as described in Section 1.6.**

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### **5.1 Pushworking**

Raise the head above the work to be done or as high as possible. The hydraulic top link of the three-point hitch carriers or the tilt cylinders of loader arms on most hydraulic carriers are retracted to its innermost position. This rotates the entire machine and trap door upwards to maximize the rotor area to the work. Move the carrier forward to engage the work.

**Position the Mulcher so that:**

- If equipped with a trap door put it in the open position to allow maximum exposure of the mulcher tools to the work.
- Engage the work fully.
- Lower the head as the work allows. When RPM begins to drop, move carrier slowly back while continuing to lower the head. Rotate the head downward as the head approaches the ground using care not to rotate the head too quickly.

Gauge carrier speed and shredding depth by monitoring the engine RPM's in response to the mulcher tools contacting and grinding the work. Do not allow the engine to slow below its torque curve or beyond the engines ability to quickly recover when the load is removed.

## 5.2 Pullworking



**HAZARD ZONE**



**FLYING DEBRIS OR OBJECTS AND FALLING OBJECTS CAN  
CAUSE SERIOUS INJURY OR DEATH**

**Before changing direction, make sure that all personnel are  
outside of the Hazard Zone as described in Section 1.5.**

Now the head is positioned properly for shredding the work you have taken down. A major factor in successful operation is learning how soon to start going back the way you came. It is in this mode that the finish work is performed.

- Begin shredding pullback when chains are slightly off the ground and the front corner of the mulcher shoes contact the ground. Note: for fine grind raise head slightly off ground AFTER contact.
- The mulcher is moved slowly back grinding the material repeatedly against the counter combs inside the body. Closing the trap door (if equipped) will retain as much material as possible within the mulcher shroud for safe operation and maximum shredding.

Just as in the Take Down Mode, work the lift slightly up and down in response to the carriers engine RPM's and proceed in low speed gear.

### **5.3 Stump Grinding**

#### **Out of Ground (loose) stumps**

- The tilted-back cutter head is raised up and slowly brought down to plane a layer off the stump. Raise up and plane down. • As a general rule, do not rotate the cutter head forward because the rotor might catch the loose stump and eject it towards the tractor.
- Sometimes it is better to dig a hole with the rotor to roll the stump into so that it can be pinned in one place to be ground down. • Lower the mulcher to keep the stump engaged and pinned to the ground. Proceed grinding downward with the mulcher's tools climbing up and over the stump.
- Repeat this process as the mulcher works through the stump an inch or two at a time, taking great care not to eject the shrinking stump under the carrier.



### **Fixed (in ground) stumps**

- Grinding off stumps still in the ground simply requires the backand-forth motion of the tractor while the cutter head is being incrementally lowered.
- Stump grinding is most effective in the forward direction. This allows the rotor to walk over the stump as it grinds with the added force of gravity and positive kinetic energy in its favor.

**Notice:** *A rotor that moves back and forth changes the angle of attack, changes the tool arc, has less total friction to overcome, tears the fiber laterally, and helps split the tree fibers horizontally.*

### **5.4 Finishing the Work**

Now that the Material has been taken down, shredded and stumps have been removed you can do the finishing grind.

- All final grinding should be done in the backward direction. Raise the head clear of the materials and move forward to begin each finishing pass.
- Begin shredding pullback when chains are slightly off the ground and the front corner of the mulcher shoes contact the ground. Note: for final grind raise head slightly off ground AFTER contact.

- The slower the carrier speed, the finer the grind.

## **5.5 Hydraulic Push Bar Operation (Optional Equipment)**

### **For smaller trees:**

- The push bar leans small trees over so that when they engage the mulching rotor, they do not fall on the carrier.

### **For larger trees:**

- Retract the hydraulic top link or hydraulic cylinders of loader arms to rotate the mulcher back far enough so that all the tools contact the tree and begin to cut through it.
- When a majority portion of the trunk has been cut (e.g. 7" (18cm) of a 12" (30cm) tree) extend the push bar cylinders to push the tree away from the carrier as the rest of the tree is cut through.

### **The Optional Rake Teeth:**

- Rake Teeth attach to the hydraulic tilting push bar (optional).
- Rake teeth are rotated down to near ground level when lowering push bar.
- Rake teeth are helpful when material lies on inaccessible or uneven areas, e.g. slopes, embankments, etc., and pulls it to level ground for shredding.
- Rake teeth can be used to disengage piles of brush, making it possible to cut and build up mulch layers neatly, one layer at a time.

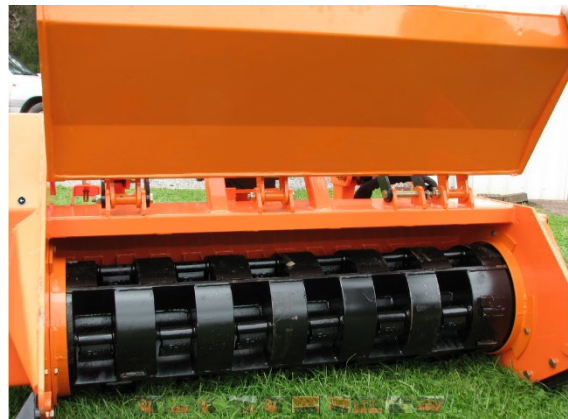
## 5.6 Trap Door (Optional Equipment)

### The Trap Door:

- Opens to maximize exposure of the mulching tools while in the takedown mode.
- Closes to contain the whirling brush within the mulcher shroud for maximized shredding in the pull-working and finishing modes.



Closed Trap Door



Opened Trap Door



**TRAP DOOR MUST BE OPEN WHEN TAKING DOWN TREES AND HEAVY BRUSH! THE DOOR WILL BE DAMAGED IF RAMMED**


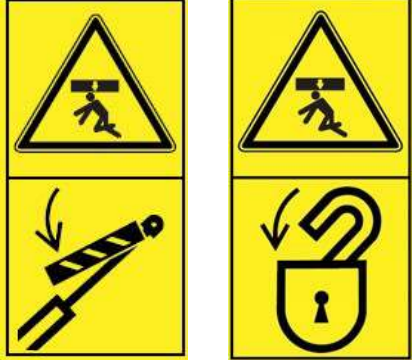

## 6.0 PREVENTATIVE MAINTENANCE

Proper preventive maintenance will help ensure that the Mulcher will perform to its full capabilities and eliminate unnecessary breakdowns due to neglect.

***The manufacturers warranty is conditional upon following all maintenance recommendations.***

### 6.1 Safety First!

	<p><b>Tag the engine operating area to show that the machine is being serviced. Use lockout/tagout procedure (29CFR 1910.147). Read the owners manual in its entirety and follow all safety procedures before operating or performing maintenance.</b></p>
	<p><b>Perform maintenance only after the carrier has been shut-off. Wait until all machine components have completely stopped before touching them.</b></p>

	<p><b>Do not operate the Mulcher without all guards in place. Side and rear access panels must be installed prior to running.</b></p>
	<ul style="list-style-type: none"> <li>• <b>Secure lifting cylinder with locking device before getting in hazardous area.</b></li> <li>• <b>Insert safety lock before getting in hazardous area.</b></li> <li>• <b>Attach support before getting into hazardous area.</b></li> </ul>
	<p><b>Hydraulic fluid under pressure. Use safe operating procedures at all times.</b></p>

- Dismantle the machine only on flat and firm ground.
- Uncouple the cardan shaft and place it in the holding chain. (On PTO drive machines only.)
- To elevate the rotor above ground level, adjust the depth shoes down or position the depth shoes on firm blocks. This will allow the rotor to be rotated for cleaning, replacing belts, and replacing tools. While performing maintenance, only rotate the rotor manually!
- Always double-check the stability of the mulcher before reaching under or into the machine!

- The weight of the mulcher lightens the carriers rear wheel weight. When transporting the unit, at least 20% of the carriers unladen weight has to lie on the front axle to assure reliable steering and avoid tipping backwards. Weight the carrier front accordingly.
- Use only original replacement parts for repairs

## 6.2 Rotor Power Belts

(The mulching rotor is driven by power drive belts.)



- **Shut-off the engine. Put carrier in depressurized state.**
- **Wait until all machine components have completely stopped before touching them.**
- **Use lockout/tagout procedure (29CFR 1910.147) during any inspection or maintenance.**
- **Secure lifting cylinder with locking device before getting in hazardous area.**
- **Insert safety lock before getting in hazardous area.**
- **Attach support before getting into hazardous area. Refer to the Safety Section in this manual for more information.**

### **Adjusting Rotor Drive Belt Tension:** (See Figure 6.1)

- After first 8 hours of operation re-tension belts. • Should be checked every 10-20 working hours and more frequently in the first 24 to 48 hours of operation.

- Remove the inspection plates from the side access panels to check belt tension.
- Open the access doors at the rear of the mulcher to expose the adjustment bolt and fixing screws.
- Loosen the fixing screws until the bearing housing can be moved with the adjusting bolt.
  1. Ideal tension is the lowest tension at which the belt will not slip under peak load conditions. Refer to Figure 6.1 for belt deflection at the center of the span between pulleys.
  2. Over tensioning shortens belt and bearing life.
  3. Keep belts free from foreign material, which may cause slippage.
  4. Never apply belt dressing as this will damage the belt and cause early failure.
- When proper tension is achieved:
  - Lock the adjusting bolt.
  - Tighten the fixing screws.

- To Replace Drive Belts

Follow the same procedure as stated above for adjusting belts except:

- Remove entire side access panels.
- It is not necessary to remove side inspection plates, which are mounted to the access panels.

**Figure 6.1**



**DO NOT OPERATE WITHOUT GUARDS**

**DO NOT OPERATE THE MULCHER WITHOUT ALL GUARDS  
IN PLACE. SIDE ACCESS PANELS MUST BE RE-INSTALLED  
PRIOR TO RUNNING! SEE SAFETY PANEL IDENTIFICATION  
IN SECTION 1.5.**

---



### 6.3 Lubrication Points

## NOTICE

### LUBRICATION TYPE

*The manufacturer's warranty is conditional upon using a quality #2 lithium based grease.*

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## WARNING



- **Shut-off the engine. Put carrier in depressurized state.**
  - **Wait until all machine components have completely stopped before touching them.**
  - **Use lockout/tag out procedure (29CFR 1910.147) during any inspection or maintenance.**
  - **Secure lifting cylinder with locking device before getting in hazardous area.**
  - **Insert safety lock before getting in hazardous area.**
  - **Attach support before getting into hazardous area. Refer to the Safety Section in this manual for more information.**
- 
- **Rotor Bearings – Grease Daily.** Use 1 pump of grease for each hour of operation. For best results and to ensure long component life grease 4 pumps after every 4 hours of operation.

*Notice: If grease is noticed inside the belt housing, decrease the frequency of lubrication.*

- Drive Shaft Bearing Housing – Every 50 hours (1-2 pumps max). Open front access panels on each side. Use hand pump only. **Notice:** *Excess lubrication can elevate the operating temperature of the bearing housing.*

**Acceptable levels at housing are:**

- Minimum- 50% full (Add 1 pump and recheck)
- Maximum 75% at assembly

**OVER LUBRICATING DRIVE BEARING**

**CAUTION**

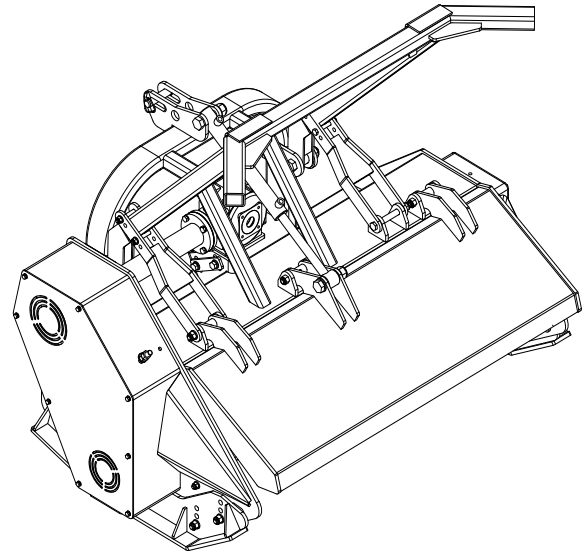
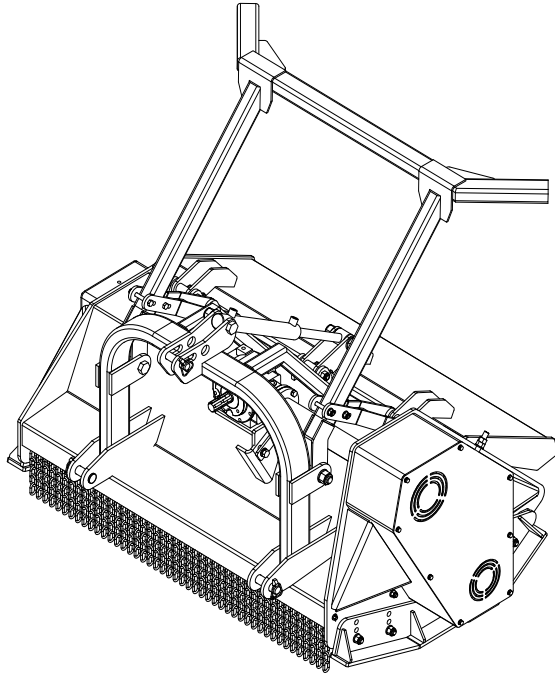
**Over-lubricating sealed drive bearings will cause premature seal failure resulting in bearing failure, premature shaft wear and/or hydraulic motor shaft failure.**

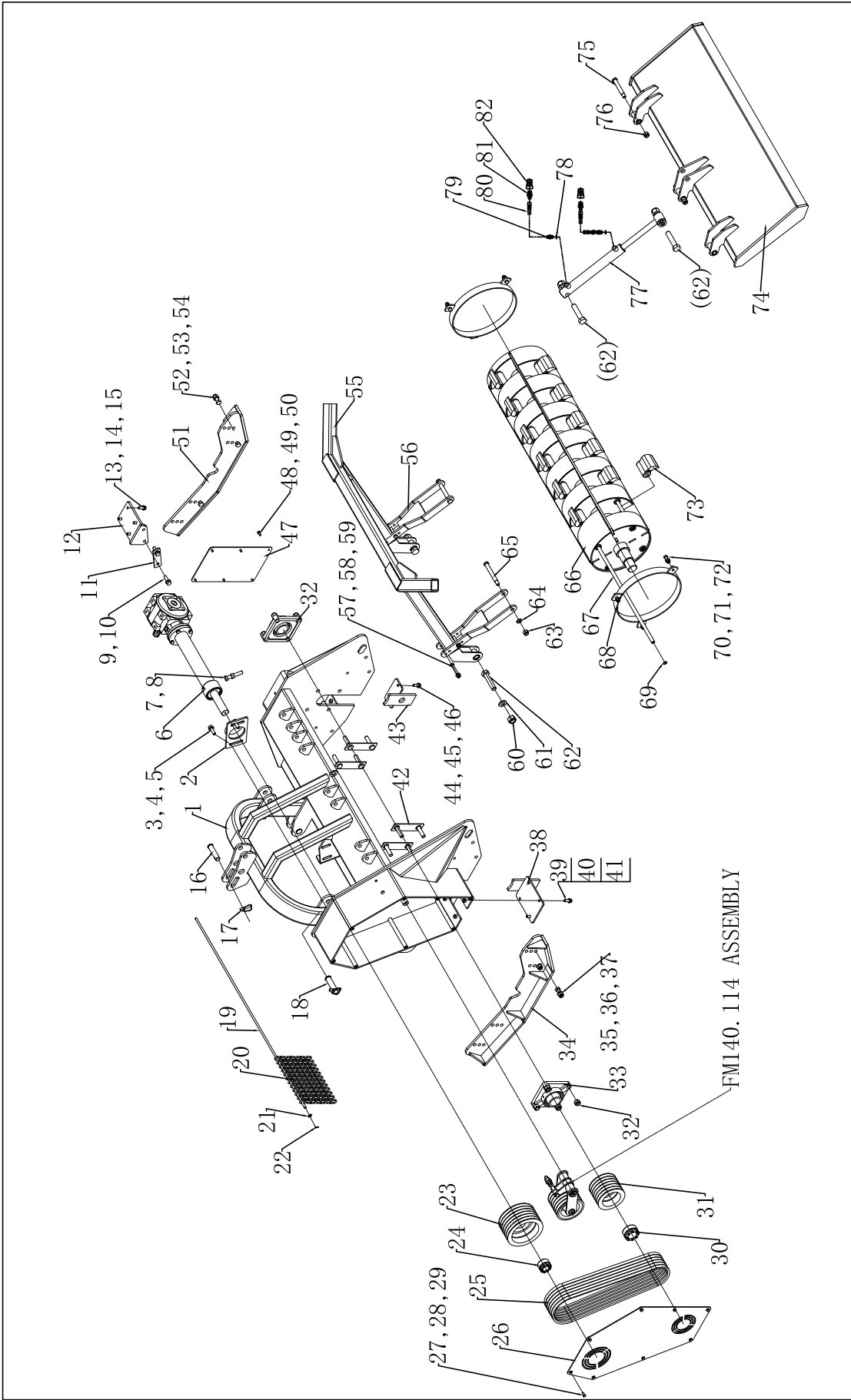
**6.4 Tighten All Bolts!**

The mulcher is assembled with superior grade fasteners with locking nuts where applicable and torqued to their proper range. All precautions are taken to keep bolts tight but with the forces exerted by the mulcher the potential for loosening bolts exists.

- Go over the machine and check all bolts for tightness after the first 10 hours.
- Check all bolts daily thereafter

# FFM140 PARTSLIST

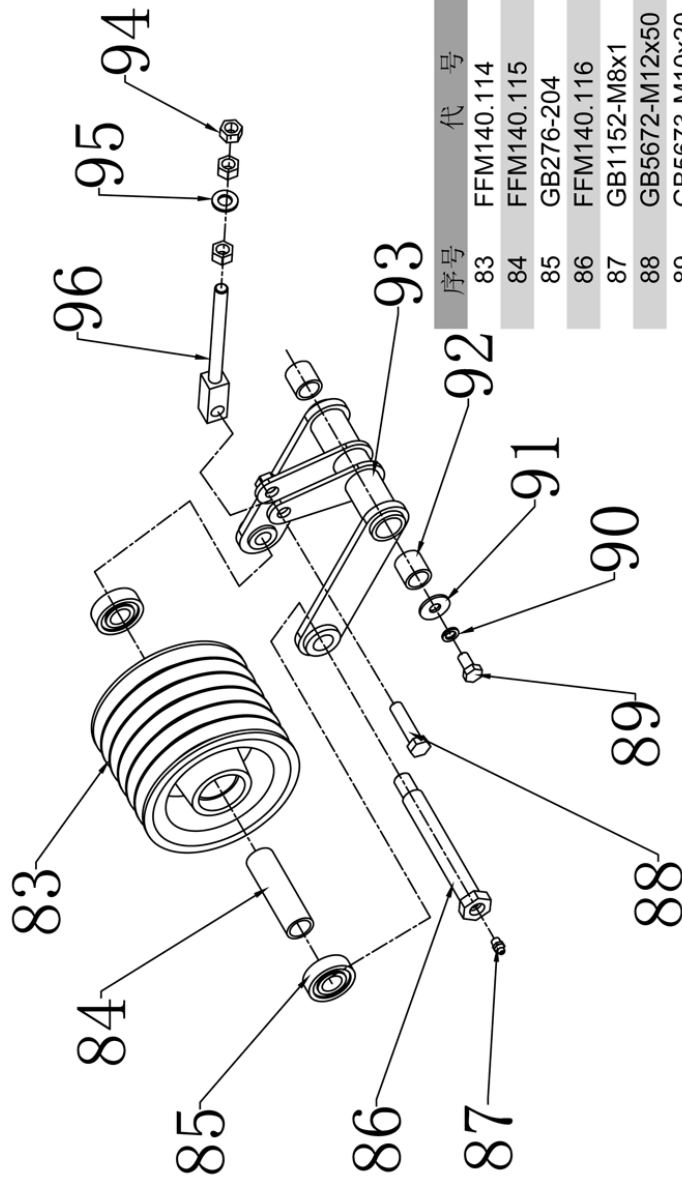




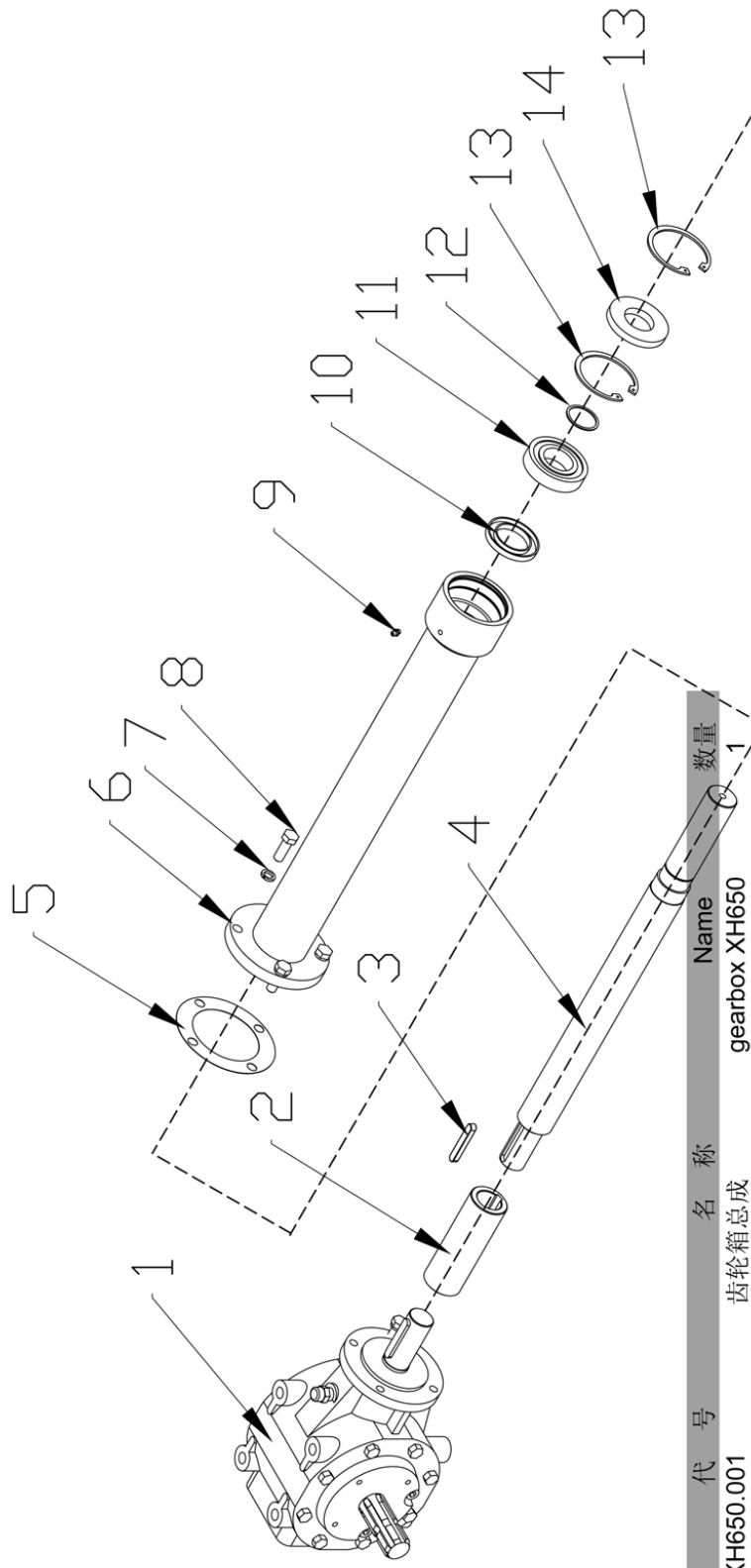
FMI40.114 ASSEMBLY

序号	代号	名称	Name	数量	序号	代号	名称	Name	数量
1	FFM140.011	机罩焊合件	body weldment	1	42	FFM140.016	垫板螺栓焊合件	bolt weldment	4
2	D220.018	调节座焊合件	adjust seat	1	43	FFM140.015	右封板焊合件	right plate	1
3	GB97.1-14	平垫圈14	washer 14	2	44	GB97.1-12	平垫圈12	washer 12	2
4	GB93-14	弹垫圈14	spring washer14	2	45	GB93-12	弹垫圈12	spring washer 12	2
5	GB5783-M14x45	螺栓M14x45	bolt M14X45	2	46	GB5783-M12x35	螺栓M12x35	bolt M12X35	2
6	FFM140.004	传动箱总成	gearbox assy	1	47	FFM140.107	右盖板	right cover	1
7	GB5783-M16x90	螺栓M16x90	bolt M16X90	1	48	GB97.1-8	平垫圈8	washer 8	6
8	GB6170-M16	螺母M16	nut M16	1	49	GB93-8	弹垫圈8	spring washer 8	6
9	GB5783-M14x50	螺栓M14x50	bolt M14X50	2	50	GB5783-M8x20	螺栓M8x20	bolt M8X20	6
10	GB93-14	弹垫圈14	spring washer14	2	51	FFM140.017	右滑板焊合件	right skid	1
11	FFM140.101	垫板	plate	1	52	GB5783-M16x50	螺栓M16x50	bolt M16X50	4
12	FFM140.012	齿轮箱座焊合件	gearbox seat	1	53	GB97.1-16	平垫圈16	washer 16	4
13	GB97.1-16	平垫圈16	washer 16	4	54	GB889.1-M16	锁紧螺母M16	lock nut M16	4
14	GB93-16	弹垫圈16	spring washer16	4	55	FFM140.018	防护架焊合件	saft frame	1
15	GB5783-M16x1.5x40	螺栓M16x1.5x40	bolt M16X1.5X40	4	56	FFM140.019	支撑架焊合件	saft frame support	2
16	FFM140.102	上悬挂销	top pin	1	57	GB5782-M12x90	螺栓M12x90	bolt M12X90	4
17	LP 12	锁销12	lock pin 12	3	58	GB97.1-12	平垫圈12	washer 12	4
18	FFM140.103	下悬挂销	bottom pin	2	59	GB889.1-M12	锁紧螺母M12	lock nut M12	4
19	FFM140.104	链条挂杆	rod	1	60	GB889.1-M24	锁紧螺母M24	lock nut M24	4
20	FFM140.105	链条组合件	chain	46	61	GB97.1-24	平垫圈24	washer 24	4
21	GB97.1-10	平垫圈10	washer 10	2	62	GB5782-M24x110	螺栓M24x110	bolt M24X110	4
22	GB91-3.2x16	开口销3.2x16	split pin 3.2X16	2	63	GB889.1-M16	锁紧螺母M16	lock nut M16	2
23	FFM140.112	大带轮	bigger pulley	1	64	GB97.1-16	平垫圈16	washer 16	2
24	REACH 04-4065	胀套4065	power lock 4065	1	65	FFM140.108	长销轴	long pin	2
25	GB11544-SPB1550	V带SPB1550	V-belt SPB1550	6	66	FFM140.020	转子焊合件	roller	1
26	FFM140.106	左盖板	left cover	1	67	FFM140.109	刀轴	knife pin	4
27	GB97.1-8	平垫圈8	washer 8	8	68	FFM140.021	挡圈焊合件	ring	2
28	GB93-8	弹垫圈8	spring washer 8	8	69	GB893.1-19	孔用挡圈19	internal circlip 19	8
29	GB5783-M8x20	螺栓M8x20	bolt M8X20	8	70	GB889.1-M12	锁紧螺母M12	lock nut M12	6
30	REACH 04-5080	胀套5080	power lock 5080	1	71	GB97.1-12	平垫圈12	washer 12	6
31	FFM140.113	小带轮	small pulley	1	72	GB5783-M12x40	螺栓M12x40	bolt M12X40	6
32	GB889.1-M18	锁紧螺母M18	lock nut M18	8	73	FFM140.110	锄刀	hammer	24
33	UCF212	带座轴承UCF212	bear with seat UCF212	2	74	FFM140.022	后挡板焊合件	rear plate	1
34	FFM140.013	左滑板焊合件	left skid	1	75	FFM140.111	短销轴	short pin	2
35	GB889.1-M16	锁紧螺母M16	lock nut M16	4	76	GB889.1-M16	锁紧螺母M16	lock nut M16	2
36	GB97.1-16	平垫圈16	washer 16	4	77	FFM140.023	油缸组合件	hydraulic cylinder	1
37	GB5783-M16x50	螺栓M16x50	bolt M16X50	4	78	JB/ZQ4454-14	密封垫14	seal washer 14	2
38	FFM140.014	左封板焊合件	left plate	1	79	BH5.60.109	接头14-14	Adapter 14-14	2
39	GB97.1-12	平垫圈12	washer 12	4	80	FFM140.024	油管组合件	hose assy	2
40	GB93-12	弹垫圈12	spring washer 12	4	81	BV160.00.114	过渡接头	Adapter	2
41	GB5783-M12x35	螺栓M12x35	bolt M12X35	4	82	QC-R1/2-M	快换接头R1/2-阳	quickly adapter R1/2 male	2

# FM140.114 ASSEMBLY



序号	代号	名称	Name	数量
83	FFM140.114	张紧轮	Tensioner	1
84	FFM140.115	衬套	bush	1
85	GB276-204	轴承204	bearing 204	2
86	FFM140.116	带轮轴	axle	1
87	GB1152-M8x1	油杯M8x1	grease nipple	1
88	GB5672-M12x50	螺栓M12x50	bolt M12X55	1
89	GB5673-M10x20	螺栓M10x20	bolt M10X20	1
90	GB93-10	弹垫圈10	spring washer 10	1
91	GB5287-10	大垫圈10	washer 10	1
92	FFM140.117	衬套	bush	2
93	FFM140.025	张紧轮座焊合件	tensioner seat	1
94	GB6170-M12	螺母M16	nut M16	3
95	GB97.1-12	平垫圈16	washer 16	1
96	FFM140.026	拉杆焊合件	pull rod	1



序号	代号	名称	Name	数量
1	XH650.001	齿轮箱总成	gearbox XH650	1
2	FFM140.402	连接套	connector	1
3	GB1096-A10x65	键A10x65	key A10X65	1
4	FFM140.401	轴	axle	1
5	EFGC125.166	纸垫	paper	1
6	FFM140.041	轴管焊合件	axle pipe	1
7	GB93-12	弹垫圈12	spring washer 12	4
8	GB5786-M12x1.25x35	螺栓M12x1.25x35	bolt M12X1.25X35	4
9	GB1152-89	油嘴M6	grease nipple	1
10	GB13871	油封FB45x70x8	seal FB45X70X8	1
11	GB276-6208	轴承6208	bearing 6208	1
12	GB894.1-40	轴用挡圈40	external circlip 40	1
13	GB893.1-80	孔用挡圈80	internal circlip 80	2
14	GB13871	油封FB40x80x10	seal FB40X80X10	1

## Trouble Shooting

<i>PROBLEM</i>	<i>SOLUTION</i>
Slow or No Operation of Lift Arm Raising and Blade Tilling	<p>Replace damaged oil seals in cylinders.</p> <p>Check and repair oil leakage in pipe lines.</p> <p>Check the pump for severe inner leakage and repair or replace right away.</p> <p>Adjust the system pressure.</p> <p>Clean the filter or replace the oil suction pipe if air is entering or filter is blocked.</p> <p>Repair or replace the valve</p>
Empty Suction of Oil or Foams in Oil	<p>Check oil level and fill to the required level.</p> <p>Clean the filter if it is blocked.</p> <p>Repair or replace a damaged oil pump.</p> <p>Check for damaged seals in the pump or air leakage of the oil suction pipes.</p> <p>Replace bad or deteriorated oil.</p>
Over High Oil Temperature	<p>Stop for cooling after a long working period.</p> <p>Adjust to system pressure if its ove high system pressure.</p> <p>Fill oil to required level if low.</p> <p>Repair or replace the pump if it is damaged.</p> <p>Repair or clean blocked pipe lines.</p>





# PARTS REQUEST FORM

fax to 541-895-2756 or Email  
cservice@betstco.com

Name: \_\_\_\_\_

Model Number: \_\_\_\_\_

Address \_\_\_\_\_

Serial Number: \_\_\_\_\_

City State Zip: \_\_\_\_\_

Purchased From: \_\_\_\_\_

Phone: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Email: \_\_\_\_\_

Item #	Description	QTY	Price	Amount

Comments:

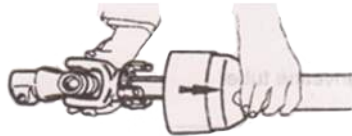
# PTO Shaft Resizing

**Safety:** Ensure tractor & machine is stopped and keys are out of the ignition before carrying out any work. If you are not confident in carrying out the work, consult your local supplier or mechanic.

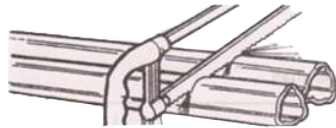
Most PTO driven implements are supplied with a standard size PTO shaft. As all tractors vary, this often means cutting it down to size. Always replace worn or damaged PTO shafts.

Attach the machine to the tractor without the PTO shaft, raise the linkage so the PTO shaft is level/horizontal. Measure the length between tractor PTO and the machine's shaft. If the compressed (closed) PTO shaft length exceeds the one measured here then the driveline will need to be cut.

## 1. PTO length adjustment, First remove shaft shielding



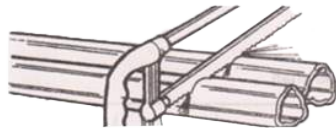
## 2. Shorten the driveline tubes to proper equal lengths



## 3. Tidy edges of the drive tube with a file and clean all fillings from the tubes



## 4. Shorten the equally long guard tubes to the same length as the driveline tubes



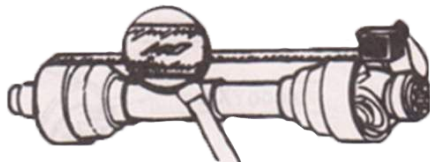
## 5. Grease the internal driveline tube



## 6. Fit the guard on the shaft



## 7. Make sure that the length allows for at least 6 inches of overlap



## **FARMER-HELPER Limited Warranty**

Unless otherwise stated on purchase invoice, Betstco warrants to original Purchaser that Farmer-Helper products are free from major defects in material under normal use and service for a period of 90 Days from the date the product is purchased or shipped, whichever is later. Commercial use 90 days. Use at address that is not yours, is considered commercial use. Consumable, Expendable, Wear Items (Rubber plastic parts, hydraulic hoses, belts, tires, cables, blades, tines, wedges, teeth, tiups, chains, pins, brushes, filters, etc) and cracked hydraulic pumps, bent or broken cylinder rods are not covered under this warranty. Warranty does not cover items that have been modified, damaged by abuse or usage not in accordance with design or maintenance.

Betstco obligation under this warranty is to repair or replace defective upon approval by; Betstco, 83371 Melton Rd. N, Creswell OR 97426 that Warranty Claim is valid. Product shall be returned upon request of Betstco. Transportation charges to be prepaid by user.

**Gasoline or diesel engines used to powered Farmer-Helper products are covered by the warranty of the appropriate engine manufacturean Purchaser must look to the engine manufacture for all issues relating to engine operation.**

***Betstco assumes no responsibility for outside labor.***

***PERMISSABLE BY APPLICABLE LAW, BETSTCO HEREBY DISCLAIMS ALL WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, ANY IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT PURCHASED, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, BETSTCO HEREBY EXPRESSLY DISCLAIMS ALL LIABILITY FOR PRODUCT DEFECT OR FAILURE, CLAIMS THAT ARE DUE TO NORMAL WEAR, PRODUCT MISUSE, ABUSE, PRODUCT MODIFICATION, IMPROPER PRODUCT SELECTION, NON-COMPLIANCE WITH ANY CODES, OR MISAPPROPRIATION. BETSTCO MAKES NO WARRANTIES TO THOSE DEFINED AS "CONSUMERS" IN THE MAGNUSON-MOSS WARRANTY FEDERAL TRADE COMMISION IMPROVEMENTS ACT. THE FOREGOING EXCLUSION OF IMPLIED WARRANTIES DO NOT APPLY TO THE EXTENT PROHIBITED BY LAW. PLEASE REFER TO YOUR LOCAL LAWS FOR ANY SUCH PROHIBITIONS.***

***THERE SHALL BE NO LIABILITY FOR PRODUCT LIABILITY OR LIABILITY ON THE PART OF BETSTCO FOR ANY GENERAL SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE SALE OR USE OF ANY PRODUCTS SOLD BY BETSTCO OR AN AGENT THEREOF, BETSTCO MAKES NO WARRANTIES, EXPRESS OR IMPLIED, (INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS OF THE PRODUCTS FOR ANY PURPOSE) WITH RESPECT TO THE PRODUCTS COVERED BY THIS AGREEMENT EXCEPT AS IN THIS PARAGRAPH OTHERWISE EXPRESSLY PROVIDED.***

***THIS IS THE SOLE AND ONLY WARRANTY OF VALUE-LEADER PRODUCTS, NO OTHER WARRANTY IS APPLICABLE, EITHE EXPRESSED OR IMPLIED, IN FACT BY LAW.***

This warranty shall not be interpreted to render Betstco, or any authorized agent liable for injury or damages of any kind or nature, direct, consequential, or contingent, to a person or property.

The sole and only remedy in regard to any defective product shall be the repair or replacement thereof as herein provided, Betstco, agent(s) of Betstco shall not be liable for any consequential, special, incidental or punitive damages resulting from or caused by any such defects

Betstco reserves the rights to make improvements in design or changes in specifacations at any time, without incurring any obligations to owners of the units previously sold.

WARRANTY VOID IF REGISTRATION IS NOT RECEIVED OR RECORDED ONLINE WITHIN 30 DAYS OF PURCHASE DATE OR SHIP DATE, WHICHEVER IS LATER.



ITEM: \_\_\_\_\_ MODEL# \_\_\_\_\_ PURCHASE DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

PURCHASED FROM: \_\_\_\_\_ GIFT INV# ORDER# \_\_\_\_\_

OWNER NAME: \_\_\_\_\_ SERIAL # \_\_\_\_\_

OWNER ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ ST: \_\_\_\_\_ ZIP: \_\_\_\_\_

PHONE: \_\_\_\_\_ EMAIL: \_\_\_\_\_

**ACCEPTANCE OF RESPONSIBILITY:**

I (PURCHASER) HAVE READ OPERATORS MANUAL AND LIMITED WARRANTY OR SOMEONE HAS READ/AND EXPLAINED ALL INSTRUCTIONS TO ME. I UNDERSTAND THIS WARRANTY DOES NOT COVER ANY LABOR AND THAT ALL DISPUTES WILL BE SETTLED BY BINDING ARBITRATION. BINDING ARBITRATION IS CONDUCTED BY THE BETTER BUSINESS BUREAU (BBB) LOCATED AT 4004 SW KRUSE WAY PLACE ST 375 LAKE OSWEGO OR 97035 OR THE CURRENT BBB LOCATION CLOSEST TO BETSTCO. I ACKNOWLEDGE MY LIMITED WARRANTY IS VOID IF ANY ATTEMPT TO REPAIR OR REPLACE DEFECTIVE PARTS HAS BEEN MADE BY UNAUTHORIZED PERSONNEL. I ACKNOWLEDGE RECEIPT OF MY OPERATORS MANUAL AND HAVE READ THE SAFE OPERATION SECTION. I ACKNOWLEDGE UNDERSTANDING MAINTENANCE AND SAFE OPERATION REQUIREMENTS, ITEM SPECIFICATIONS, OPERATION, CONTROLS AND STORAGE REQUIREMENTS. **I UNDERSTAND THAT IS ALONE AM RESPONSIBLE FOR PROPER MAINTENANCE, CARE AND SAFE OPERATION OF THIS FARMER-HELPER ITEM**

I (PURCHASER) AGREE THAT PERSONS NOT FAMILIAR WITH THE OPERATION OF THIS ITEM SHOULD NOT BE ALLOWED TO USE IT. CHILDREN ESPECIALLY SHOULD NOT OPERATE OR BE NEAR POWER PRODUCTS WHEN IN USE. ANYONE OPERATING VALUE-LEADER PRODUCTS SHOULD HAVE READ OPERATIONS MANUALS AND SAFETY MANUALS.

OWNERS SIGNATURE: x \_\_\_\_\_ DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

YOU MUST SIGN THIS WARRANTY AND MAIL OR FAX A COPY TO BETSTCO, 83371 MELTON RD, CRESWELL OR, 97426. IF YOU PREFER YOU MAY COMPLETE YOUR REGISTRATION ONLINE AT <https://betstco.com/product-registration/>. THIS WARRANTY IS NOT EFFECTIVE UNLESS PURCHASER COMPLETE REGISTRATION AND WARRANTY FOR WITHIN 30 DAYS OF PURCHASE OR SHIP DATE WHICHEVER IS LATER.

NOTE: WE MAY REFUSE WARRANTY OF ANY KIND UNLESS BETSTCO, RECEIVES A COMPLETED, LEGIBLE AND SIGNED WARRANTY REGISTRATION. IT IS THE RESPONSIBILITY OF THE PURCHASER TO ASSURE THAT REGISTRATION DOCUMENT IS RECEIVED BY

**1 YEAR EXTENDED WARRANTY & REGISTRATION  
FARMER-HELPER IMPLEMENTS  
BRANDED PRODUCTS  
1 YEAR EXTENDED WARRANTY**

1 Year Extended Warranty amends to original Recorded Warranty Registration the time period of described coverage. Extended Warranty does not apply to consumable and Expendable Item as described in Product Warranty Registration.

This amendment does not affect any other part of recorded Warranty Registration or policy.

No one is authorized to alter, modify, or enlarge this Amendment to original recorded Warranty Registration

**EXTENDED REGISTRATION & PAYMENT MUST BE RECEIVED  
WITHIN 30 DAYS OF PURCHASE DATE**

*EXTENDED WARRANTY REGISTRATION*

**PRODUCT & MODEL #** \_\_\_\_\_

**SERIAL #** \_\_\_\_\_

**OWNER NAME :** \_\_\_\_\_

**BETSTCO INVOICE #** \_\_\_\_\_

**ACCEPTANCE OF RESPONSIBILITY:**

I (PURCHASER) HAVE READ AND UNDERSTAND THE EXTENDED WARRANTY OR SOMEONE HAS READ AND EXPLAINED ALL THE ABOVE TO ME. I UNDERSTAND THIS EXTENDED WARRANTY DOES NOT COVER ANY LABOR. I HAVE FILED MY ORIGINAL WARRANTY REGISTRATION AND FULLY UNDERSTAND MY REQUIREMENTS. ***I UNDERSTAND THAT I ALONE AM RESPONSIBLE FOR PROPER MAINTENANCE, CARE AND SAFE OPERATION OF THIS TRACTOR IMPLEMENT.***

**OWNERS SIGNATURE: x** \_\_\_\_\_

**DATE:** \_\_\_\_/\_\_\_\_/\_\_\_\_

FAX TO 1-541-895-2756

YOU MUST SIGN THIS WARRANTY AND MAIL OR FAX A COPY TO BETSTCO, 83371 MELTON RD, CRESWELL OR. IF YOU PREFER YOU MAY COMPLETE YOUR REGISTRATION ONLINE AT <https://betstco.com/product-registration/>. THIS WARRANTY IS NOT EFFECTIVE UNLESS PURCHASER COMPLETE REGISTRATION AND WARRANTY FOR WITHIN 30 DAYS OF PURCHASE OR SHIP DATE WHICHEVER IS LATER.

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