

BXH42 SKID STEER CHIPPER



FHM

**FARMER-HELPER
MACHINERY COMPANY**



OPERATION & PARTS MANUAL

**Please read these instructions carefully before using!
Always grease all fittings and be sure to always check nuts
and bolts before operating! Retain this manual for future
reference.**

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BETSTCO

Toll Free: 877-876-7895, E-mail: sales@betstco.com
83371 Melton Rd, Creswell OR 97426



RUGGED LABOR SAVING EQUIPMENT SINCE 1995

Specifications subject to change without notice.

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1 INTRODUCTION

Congratulations on your choice of a FHM Skid Steer Loader Wood Chipper to compliment your operation.

This equipment has been designed and manufactured to meet the needs of a discerning timber or landscaping industry.

Safe, efficient and trouble free operation of your FHM Wood Chipper requires that you and anyone else who will be using or maintaining the chipper, read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within the Operator's Manual.



This manual covers the FHM Skid Steer Loader Wood Chipper BXH42. Use the Table of Contents or Index as a guide to locate required information.

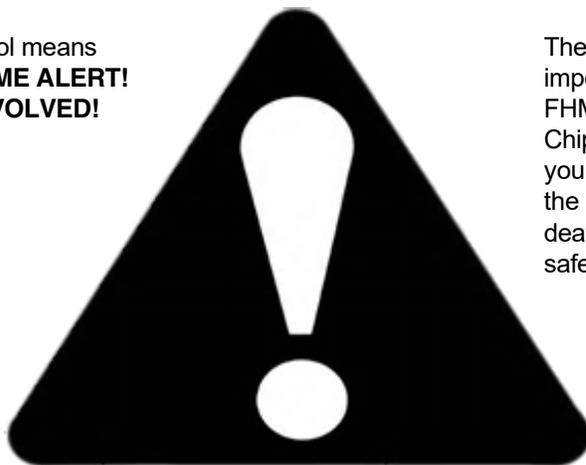
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your FHM Distributer Betstco if you need assistance, information or additional copies of the manuals.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are determined when sitting in the tractor driver's seat and facing in the direction of travel.

2 SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means
ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!



The Safety Alert symbol identifies important safety messages on the FHM Skid Steer Loader Wood Chipper and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or FHM.

SAFETY

YOU are responsible for the SAFE operation and maintenance of your FHM Skid Steer Loader Wood Chipper. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the Skid Steer Loader Wood Chipper be familiar with the using and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used while using the Skid Steer Loader Wood Chipper.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** using this equipment is familiar with the recommended use and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Skid Steer Loader Wood Chipper owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all using and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before using, maintaining, adjusting or cleaning the 3 Point Hitch Wood Chipper.



2. Have a first-aid kit available for use should the need arise and know how to use it.



3. Have a fire extinguisher available for use should the need arise and know how to use it.



4. Do not allow riders.

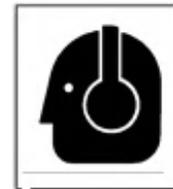
5. Wear appropriate protective gear. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses, goggles or face shield
- Heavy gloves
- Wet weather gear
- Hearing Protection
- Respirator or filter mask



6. Install and secure all guards before starting.

7. Wear suitable ear protection for prolonged exposure to excessive noise.



8. Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

9. Clear the area of people, especially small children, before using the unit.

10. Review safety related items annually with all personnel who will be operating or maintaining the Skid Steer Loader Wood Chipper.

2.2 EQUIPMENT SAFETY GUIDELINES

1. Safety of the operator and bystanders is one of the main concerns in designing and developing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you to follow them.
2. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be used in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
3. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
4. Never use alcoholic beverages or drugs which can hinder alertness or coordination while using this equipment. Consult your doctor about using this machine while taking prescription medications.
5. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to use or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
6. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and trained in this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
7. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**
8. Do not modify the equipment in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the equipment.
9. In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the tractor and machine manuals. Pay close attention to the Safety Signs affixed to the tractor and the machine.

2.3 SAFETY TRAINING

1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Using instructions in the manual and to follow these. Accidents can be avoided.
4. **Working with unfamiliar equipment can lead to careless injuries. Read this manual before assembly or using, to acquaint yourself with the machine. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to using:**
 - a. **Reads and understands the operator's manuals.**
 - b. **Is instructed in safe and proper use.**
5. Know your controls and how to stop tractor and machine quickly in an emergency. Read this manual and the one provided with tractor.
6. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will use the machinery. A person who has not read and understood all using and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.

2.4 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs displayed in Section 3 each have a part number in the lower right hand corner. Use this part number when ordering replacement parts.
5. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Determine exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

2.5 PREPARATION

1. Never use the machine until you have read and completely understand this manual, the tractor Operator's Manual and each of the Safety Messages found on the safety signs on the tractor and machine.

2. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the unit. Do not allow long hair, loose fitting clothing or jewellery to be around equipment.



3. **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Power equipment with or without equipment attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the Operator's position exceeds 80db. Noise over 85db on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.



4. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
5. Use only in daylight or good artificial light.
6. Be sure machine is properly mounted, adjusted and in good operating condition.
7. Ensure that all safety shielding and safety signs are properly installed and in good condition.

2.6 MAINTENANCE SAFETY

1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



3. Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
4. Before working on this machine, shut off the engine, set the brake, and turn fuel valve off.
5. Never work under equipment unless it is blocked securely.
6. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy or leather gloves when handling blades.
7. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

8. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.



9. Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a safe condition.
10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

2.7 OPERATING SAFETY

1. Please remember it is important that you read and heed the safety signs on the Skid Steer Loader Wood Chipper. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
2. All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this Skid Steer Loader Wood Chipper to be used with all its safety equipment properly attached, to minimize the chance of accidents. Study this manual to make sure you have all safety equipment attached.
3. Close and secure rotor cover before operating.
4. Close and secure all guards, deflectors and shields before starting and operating.
5. Read and understand operator's manual before starting. Review safety instructions annually.
6. Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
7. Keep hydraulic lines and fittings tight, in good condition and free of leaks.
8. Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintenance, repairing, unplugging or moving.
9. Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
10. Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
11. Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
12. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
13. Do not allow riders on this machine at any time. There is no safe place for any riders.
14. Never allow children or unauthorized people to operate or be around this machine.
15. Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.
16. Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
17. Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.
18. Do not move or transport chipper when the rotor is turning.
19. Do not exceed a safe travel speed when transporting.

2.8 HYDRAULIC SAFETY

1. Make sure that all the components in the hydraulic system are kept in good condition and are clean.
2. Before applying pressure to the system, make sure all components are tight, and that lines, hoses and couplings are not damaged.
3. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tapes, clamps or cements. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

4. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.



5. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
6. Relieve pressure on hydraulic system before maintaining or working on system.

2.9 STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. Do not children to play on or around the stored machine.
3. Store the unit in a dry, level area. Support the frame with planks if required.

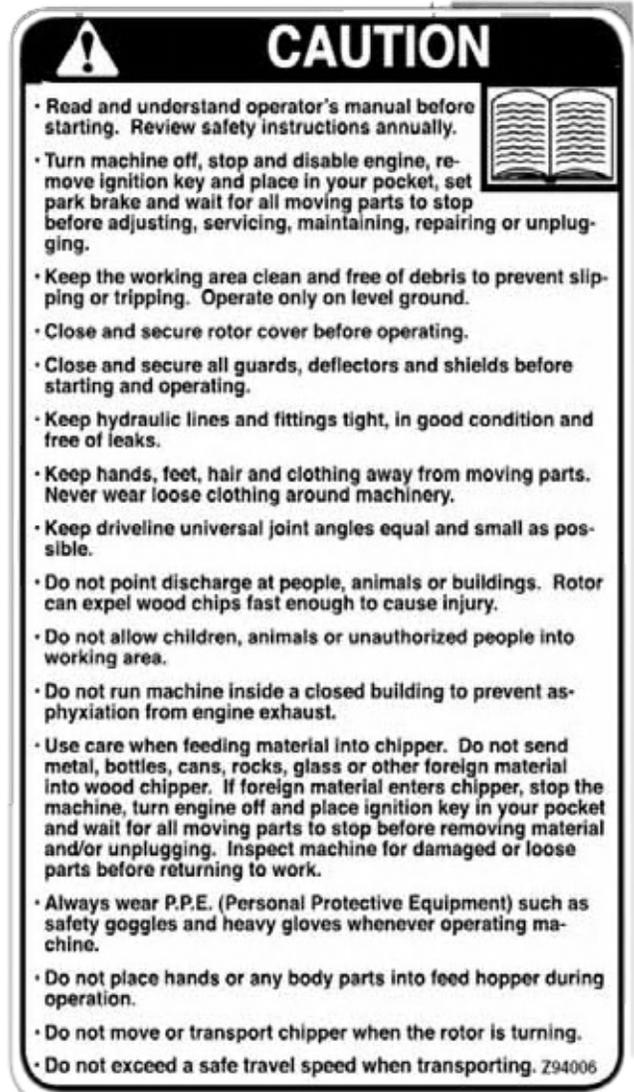
2.10 TRANSPORT SAFETY

1. Comply with state and local laws governing safety and transporting of machinery on public roads.
2. Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
3. Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
4. Fold up and secure feed hopper before moving or transporting.
5. Be sure the machine is hitched positively to the tractor and a retainer is used through the mounting pins.
6. Do not drink and drive.
7. Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.
8. Never allow riders on the machine.

3 SAFETY SIGN LOCATIONS

Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



! DANGER



THROWN OBJECT HAZARD

To prevent serious injury or death from thrown objects:

- Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before adjusting, servicing, maintaining, repairing or unplugging.
- Do not direct discharge duct towards people, animals or property. Always wear appropriate safety gear. Keep hands and feet out of discharge openings.
- Keep others away.

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! DANGER

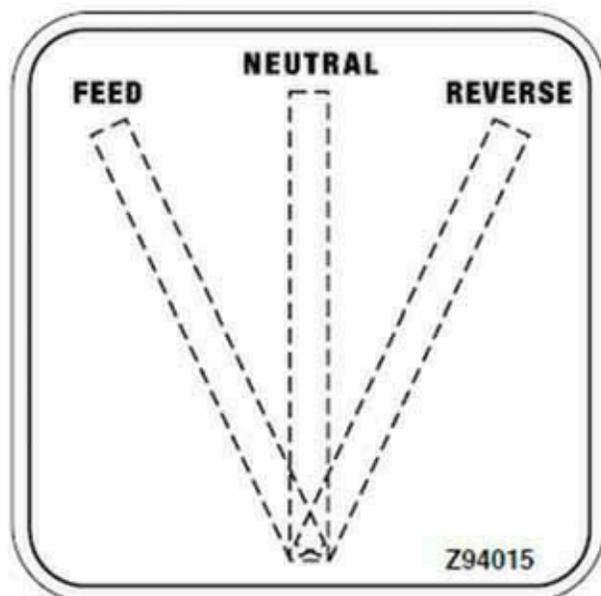
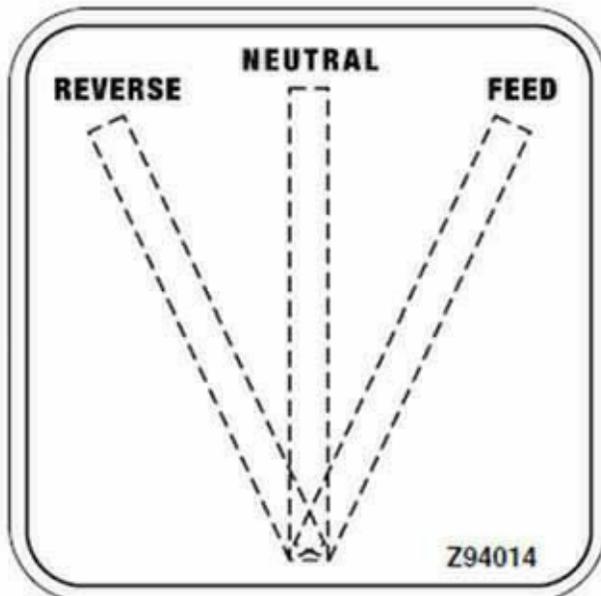


**ROTATING DRIVELINE HAZARD
KEEP AWAY**

To prevent serious injury or death from rotating driveline:

- Keep all guards in place when operating.
- Operate only at 540 RPM.
- Keep hands, feet, hair and clothing away from moving parts.
- Keep U-joint angles equal and small as possible.
- Do not exceed driveline manufacturers recommended operating length.

Z94010



REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

4 ASSEMBLING

The machine comes from the factory in a shipping configuration. Always use tools equipment and forklifts of appropriate size and capacity for the job. Always use 2 men when lifting, moving and assembling the machine.

When the machine is shipped, follow this procedure when preparing for the customer:

Check Betstco.com for a link to the latest assembly Video. Or call 1-877-867-7895 for an email copy.

1. Clear the area of bystanders especially small children before starting.
2. Use a forklift to lift the pallet/machine from the truck. Carry the load close to the ground.
3. Move the machine to the assembly area. Be sure there is sufficient clearance to access the machine from all sides.
4. Cut the tie-down straps and remove unit from crate.
5. Lay-out components next to machine.
6. Use a forklift to raise and lift the frame.
7. Or alternatively attach a lifting device to the lifting bracket on top of the frame.
8. Remove pallet and place machine on the ground.
9. Release feed hopper transport latch and lower hopper into the working position. Stow anchor latch.

5 OPERATION



OPERATING SAFETY

- Please remember it is important that you read the operator's manual and heed the safety signs on the Skid Steer Loader Wood Chipper. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
- Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, or plugging. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
- Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
- Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
- Do not allow riders on this machine at any time. There is no safe place for any riders.
- Never allow children or unauthorized persons to operate or be around this machine.
- Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.
- Do not move or transport chipper when the rotor is turning.
- Do not exceed a safe travel speed when transporting.
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

5.1 TO THE NEW OPERATOR OR OWNER

The FHM Skid Steer Loader Wood Chippers are designed to chip or chop scrap lumber, small trees, brush, limbs and other wood debris. The chipped material is fine enough to be composted or used in a variety of ways.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to use the machine.

Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to use the chipper safely and how to set it to provide maximum field efficiency. By following the using instructions in conjunction with a good maintenance program, your Skid Steer Loader Wood Chipper will provide many years of trouble-free service.

As with any other piece of outdoor equipment, getting the feel for how your machine operates and getting to know the best techniques for particular jobs are important to overall good performance.

CHIPPING OPERATION

The chipping operation takes place on the front of the machine, where hardened steel chipper blades are mounted on a rotating disk assembly. Material fed into the chipper chute is sliced into small chips and propelled out through a discharge tube.

3. Drive the skid steer forward until the top edge of the coupler is completely under the top flange on the chipper.
4. Tilt the unit backward until the chipper is slightly off the ground.
5. Kill the engine and exit the machine to push down the wedges using the universal skid steer mount levers (Figures 4.1 and 4.2). On automated models, stay in the machine and engage the wedges.

WARNING

Before operating your machine, be sure you read and understand all safety, controls and operating instructions in this owner's manual and on your machine. Failure to follow these instructions can result in serious injury or property damage.

WARNING

The wedges must extend through the holes in the mounting frame of the chipper to securely fasten the chipper to the universal skid steer mount. Failure to secure wedges can allow attachment to come off and cause injury or death.

WARNING

Move machine to a clear, level area outdoors before starting. Do not operate in the vicinity of bystanders. Make sure cutting chamber is empty before starting.



Figure 4.1 - Connecting the Skid Steer

4.1 HYDRAULIC FLOW RATES

HYDRAULIC FLOW RATES		
	MINIMUM	MAXIMUM
CH500H	15 gallons/min	22 gallons/min
CH800H	25 gallons/min	38 gallons/min

WARNING

Exceeding the recommended flow rates can cause severe damage and void the chipper warranty!

5.2 MOUNTING CHIPPER TO SKID STEER

The chipper can be mounted to the skid steer in two locations. The recommended location is with the feed chute sitting at the front of the loader. However, if space is a concern, the unit can be mounted with the feed table sitting to the left of the machine.

1. Tilt the universal skid steer mount forward.
2. Make sure that the wedges are fully raised.

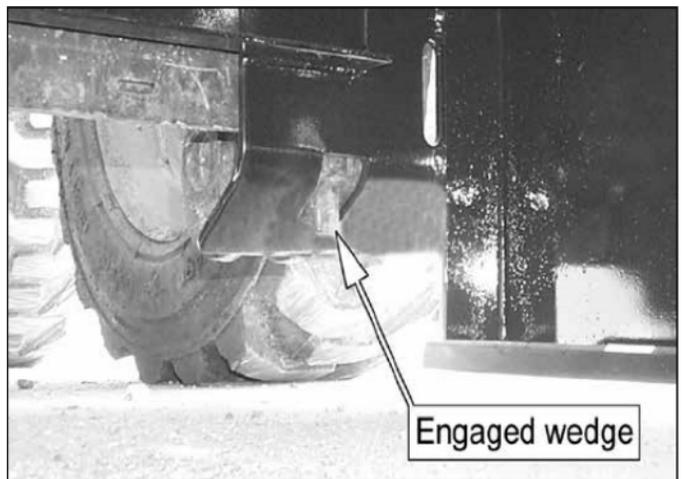


Figure 4.2 - Securing the Wedges

5.3 INSTALL FLUSH FACE COUPLERS



WARNING



Hydraulic lines may be under pressure due to testing done at the factory.

The skid steer chipper is equipped to attach to flush face couplers (Figure 4.3). The chipper is shipped with -12 sized hydraulic couplers fitted on the hoses. A tie wrap is used to indicate the pressure line. Be sure to connect the hydraulic hoses to the proper ports.

If the skid steer is fitted with anything other than -12 sized flush face couplers on the main lines, it will be necessary to replace the couplers supplied with the chipper.

The chippers are also equipped with a case drain hose. The case drain is used to eliminate pressure on the chipper's hydraulic motor. The motor is rated for 250 to 300 psi of back pressure.

Most high flow skid steer loaders are equipped with a case drain line. Standard flow skid steer loaders typically are not. **If the back pressure is over 300 psi, a case drain line will have to be added. Contact your skid steer dealer for details.**



IMPORTANT



NOT ADDING A CASE DRAIN LINE VOIDS THE CHIPPER WARRANTY!

TO CONNECT:

1. Before connecting, make sure to relieve the hydraulic pressure in the skid steer using the skid steer system.
2. Remove dirt and debris from the surface of the couplers.
3. Visually check the couplers for damage; replace if damage is found.
4. Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler.
5. Turn the sleeve so that it is rotated away from the locking pin to prevent accidental disconnection.
6. Repeat the procedure for all hoses, including the smaller case drain hose.

TO DISCONNECT:

1. Relieve the hydraulic pressure in the skid steer using the skid steer system.
2. Rotate the ball sleeve so the grooves are aligned with the pins in the female coupler.
3. Retract the sleeve on the female coupler until the couplers disconnect.
4. Repeat the procedure for all hoses.

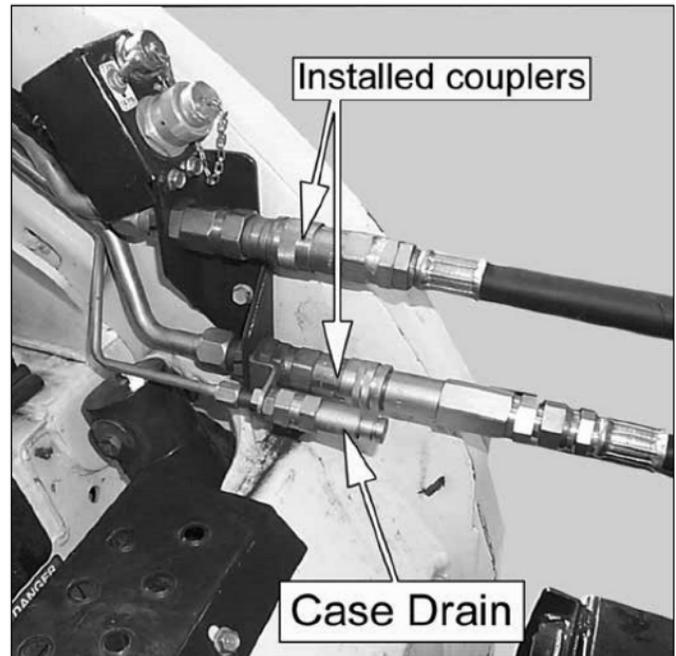


Figure 4.3 - Installed Couplers

5.4 PRE-OPERATION



WARNING



Do not attempt to bypass the safety systems of the skid steer loader.

1. Wear appropriate eye, face, and hearing protection. Wear gloves that fit tight against the wrist.
2. Lower the chipper feed table.
3. Check that the feed roller is clear of material.
4. Place the feed roller control into the "stop" position.
5. Rotate discharge chute into desired position and secure with the lock pin.

5.5 STARTING THE CHIPPER

Running the skid steer chipper is a one- or two-man operation. If the system mandates an operator in the driveseat, two people are needed. The chipper engages with the hydraulics of the skid steer, as do most skid steer powered attachments.

1. Set parking brake.
2. Ensure the feed roller is in the neutral position.
3. Engage the hydraulics of the skid steer to supply power to the unit. The chipper will start to spin.
4. Place the feed roller in the operating position and bring the unit up to speed.
5. The chipper is ready to chip.

5.6 STOPPING THE CHIPPER

1. Disengage the feed roller after all material has been cleared from the chipper.
2. Slow down the engine of the skid steer to idle and after several seconds disengage the skid steer hydraulics.

5.7 OPERATING THE CHIPPER



WARNING



Never lean over the chipper chute to push objects into the cutting device. Use a push stick or brush paddle.

Never use shovels or forks to feed brush. They can cause extensive damage if they contact the blades. In addition, metal pieces can be ejected from the chipper chute and cause serious injury or death.

Never feed brush into the chute with your feet.

Never use hands or feet to clear materials that build up in the chute.



CAUTION



Obtain and wear safety glasses at all times when operating the machine.

Do not wear loose fitting clothing.

The operator should always wear heavy boots, gloves, pants and a long-sleeved shirt.

Use common sense and practice safety to protect yourself from branches, sharp objects, and other harmful objects.



WARNING



Read and follow all safety instructions in this manual. Failure to operate the machine in accordance with the safety instructions **MAY RESULT IN PERSONAL INJURY!**



WARNING



To prevent personal injury or property damage: shut off engine and make sure that all moving parts have come to a complete stop before, servicing, adjusting or repairing. Disconnect the battery and remove ignition key where applicable.

The machine chips a variety of materials into a more readily decomposed or handled condition. The following guidelines will help you get started.

1. **Run unit at full operating speed** before starting to chip material.
2. **Limbs fed in to the chipper chute must be less than 5 inches in diameter for model CH500H and 8 inches for model CH800H.** The CH500H is most effective when chipping 3-inch material. For material 4-5 inches, adjust the feed rate if the chipper starts to bog down. The CH800H is most effective when chipping 5-inch material. When feeding materials that are 6-8 inches in diameter, adjust the feed rate if the chipper starts to bog down.
3. **Trim side branches** that cannot be bent enough to feed into the chipper chute. Hold small diameter branches together in a bundle and feed in simultaneously.
4. **Exclude pieces of metal, rocks, bottles, cans, and other foreign objects** when feeding material into the machine.
5. **Feed brush from the side of the chipper chute**, rather than from the front. Step aside to avoid being hit by the brush moving into the chipper.
6. **Place limb, butt end first, into the chipper chute until it contacts the chipper blades.** The actual feed rate of the limb into the chipper will depend on the type of material fed and sharpness of the cutting blades.
7. **If the engine slows to where it may stall**, stop feeding material and allow the engine to recover. Feed material more evenly.
8. **If the chipper jams**, remove the branch and rotate it before reinserting it into the chute. Alternately insert and retract the limb or insert continuously at a rate that will not kill the engine.
9. **Do not use the hydraulic system to clear a plugged rotor.** Raise the feed roller with the jack. Refer to Section 5.7.
10. **Alternate greener material with dry material** to lubricate the chipping blades for longer life and better performance. Chipping dead, dry material will create heat and dull the chipping blades quickly.
11. **Sharpen the chipping blades periodically.** Check the sharpness of the blades every 5-15 hours. Refer to the Service and Maintenance section for sharpening instructions.

5.3 MACHINE BREAK-IN

Although there are no operational restrictions on the Wood Chipper when used for the first time, it is recommended that the following mechanical items be checked:

A. After operating for 1 hour:

1. Torque all fasteners and hardware.
2. Check condition of rotor bearings.
3. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
4. Check for entangled material. Remove all entangled material before resuming work.
5. Lubricate all grease fittings.

B. After operating for 10 hours:

1. Repeat steps 1 through 5 listed above. (Section A)
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

5.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the FHM 3 Point Hitch Wood Chipper requires that each operator reads and understands the using procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining good mechanical condition that this checklist is followed.

Before operating the Wood Chipper and each time thereafter, the following areas should be checked off:

1. Lubricate the machine per the schedule outline in the Maintenance Section.
2. Check the rotor, blades and twig-breaker. Remove any twine, wire or other material that has become entangled.
3. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
4. Check that all bearings turn freely. Replace any that are rough or seized.
5. Make sure that all guards and shields are in place, secured and functioning as designed.
6. Check the condition of the curtain in the feed hopper. It must be in good condition to prevent chips from flying out.

6 SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, shut off the engine, set the brake, and turn fuel valve off.
- Never work under equipment unless it is blocked securely.
- Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy gloves when handling sharp components.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a safe condition.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

6.0 SERVICE

6.0.1 FLUIDS AND LUBRICANTS

1. **Grease:**
Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium base grease.
2. **Storing Lubricants:**
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

6.0.2 GREASING

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fittings if necessary.

6.1 MAINTENANCE SCHEDULE

The items listed in this service and maintenance schedule are to be checked, and if necessary, corrective action taken. This schedule is designed for units operating under normal conditions. If the unit is operating in adverse or severe conditions, it may be necessary for the items to be checked and serviced more frequently.

SEE ENGINE OWNER'S MANUAL FOR FURTHER ENGINE MAINTENANCE AND TROUBLESHOOTING INFORMATION.



WARNING



To prevent personal injury or property damage: shut off engine and make sure that all moving parts have come to a complete stop before, servicing, adjusting or repairing. Disconnect the battery and remove ignition key where applicable.

SERVICE AND MAINTENANCE SCHEDULE

COMPONENT	MAINTENANCE REQUIRED	FREQUENCY			
		BEFORE EACH USE	EVERY 8 HOURS	EVERY 50 HOURS	EVERY 200 HOURS
ALL INTERNAL AND EXTERNAL NUTS AND BOLTS	CHECK TIGHTNESS	●			
CHIPPER ANVIL	CHECK CLEARANCE AND RE-TORQUE TO 75 FT-LBS. (1)		●		
CHIPPER BLADES	CHECK SHARPNESS AND RE-TORQUE TO 25 FT-LBS FOR 5" AND 120 FT-LBS FOR 8"(1)		●		
ENTIRE MACHINE	CLEAN		●		
GREASE ZERKS	LUBE			●	
HYDRAULIC OIL FILTER	REPLACE				●

(1) PERFORM MORE FREQUENTLY WHEN CHIPPING DRY OR DIRTY WOOD.

As the Limited Warranty states, failure by the Owner to perform normal maintenance will void the machine's warranty. The aggressive, high-speed nature of chipping REQUIRES THE OWNER TO PERFORM THE ABOVE LISTED NORMAL MAINTENANCE. Special consideration to maintain and re-torque the CHIPPER ANVIL, CHIPPER BLADES, AND ALL INTERNAL AND EXTERNAL NUTS AND BOLTS is the sole responsibility of the Owner. Failure by the Owner to do so shall be cause for denial of warranty.

6.2 REMOVING THE BLADES



WARNING



Chipping blades are sharp! Use caution when working on machine to avoid injury.

1. Disconnect the hydraulic hoses from the skid steer.
2. Position the discharge chute to the side of the chipper.
3. Remove the two bolts on the chipper blade access cover.
4. Tip the chute and housing away from the chipper to expose the rotor and the blades.
5. Use a pry bar between two of the fan blades to prevent the chipper from rotating during blade removal and installation.
6. Remove the blades making sure not to slip the wrench, the chipper blades are sharp.
7. The chipper blades are reversible. If the blades have not been reversed, flip the blades 180 degrees and reinstall.
8. If the chipper blades need to be sharpened refer to Section 5.4 of the manual.
9. Inspect all components of the chipper for damage and replace if necessary.

⚠ WARNING ⚠

BEFORE INSPECTING OR SERVICING ANY PART OF THIS MACHINE, SHUT OFF POWER SOURCE, DISENGAGE THE HYDRAULICS AND MAKE SURE ALL MOVING PARTS HAVE COME TO A COMPLETE STOP.

6.3 CHIPPER BLADE MAINTENANCE

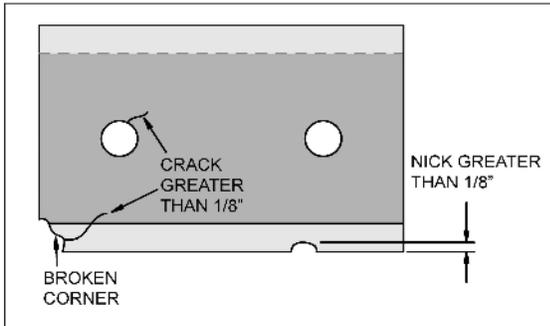
The chipper blades will eventually become dull, making chipping difficult and adding extra strain on the machine. **CHECK THE SHARPNESS OF THE BLADES EVERY 5 - 15 HOURS OF OPERATION AND SHARPEN AS NEEDED.**

Your blades need to be sharpened if:

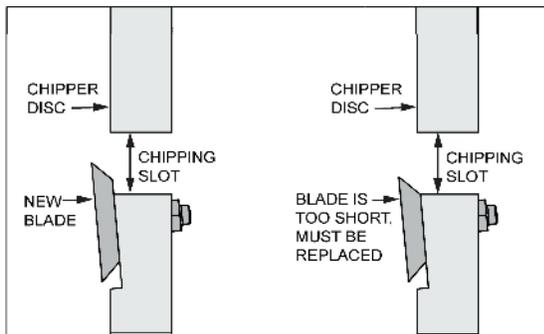
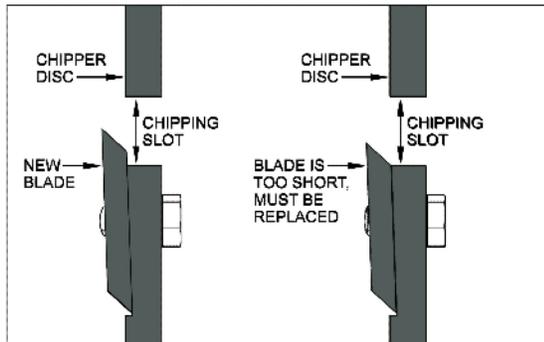
- Machine vibrates severely when material is fed into the chipper.
- Small diameter branches do not self-feed.
- Chips discharge unevenly or have stringy tails, especially when chipping green branches.

Before you sharpen the chipping blades, check for permanent damage. Replace the blade if:

- There are cracks, broken corners or nicks greater than 1/8" (see below).



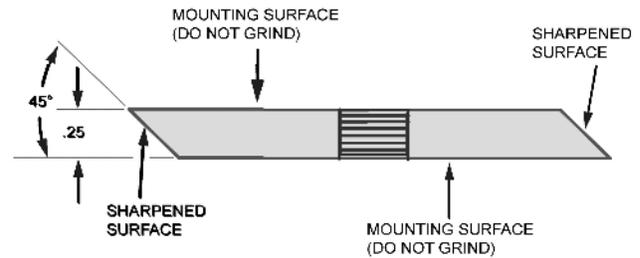
- The base of the cutting edge is worn or has been re-sharpened so that it no longer extends past the chipping slot (see below).



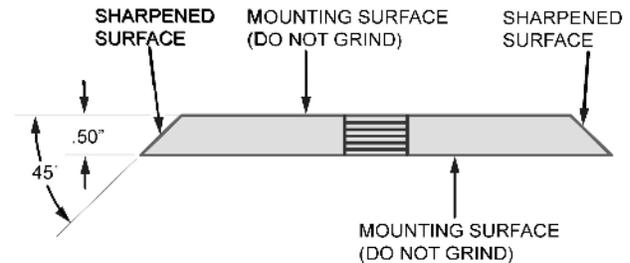
6.4 SHARPENING THE BLADES

The blades can be ground on a bench grinder or by a professional.

1. Never sharpen or grind the mounting surfaces of the blades. This will cause the edge to roll and the blade will be damaged, resulting in poor chipping performance.
2. Regrind the angled edge of the chipping blades to 45 degrees (Figure 5.1). Make sure some type of fixture is used to correctly hold the blade at the proper angle.
3. Be careful when grinding so that the blade does not become overheated and change color. This will remove the heat-treated properties.
4. Use short grinding times and cool with water or some type of liquid coolant.
5. Remove an equal amount off each blade to maintain rotor balance.
6. Small imperfections such as nicks and burrs on the flat side of the blade will not affect the chipping performance of the machine.
7. For blades that have been repeatedly sharpened, ensure that the sharpened surface extends past the chipping slot opening. If it does not extend past the opening, the blades should be replaced.



Model CH500H



Model CH800H

Figure 5.1

SERVICE & MAINTENANCE



WARNING



BEFORE INSPECTING OR SERVICING ANY PART OF THIS MACHINE, SHUT OFF POWER SOURCE, DISENGAGE THE HYDRAULICS AND MAKE SURE ALL MOVING PARTS HAVE COME TO A COMPLETE STOP.

6.5 INSTALLING THE BLADES

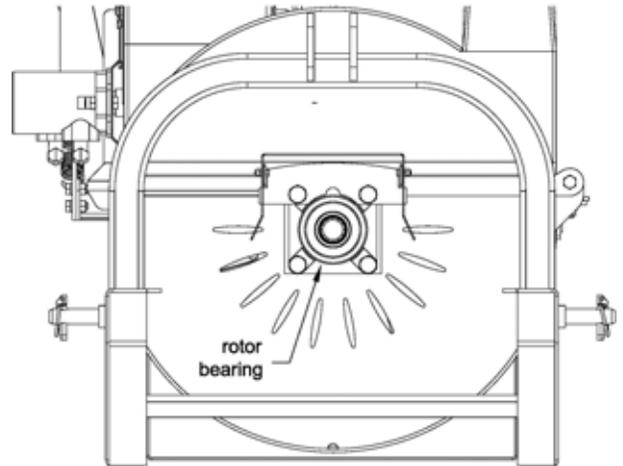
1. Remove any accumulated material from the blade pocket and the bottom of the chipper blade.
2. Reinstall the chipper blades and tighten the bolts to a torque of 25 Ft-lbs. (CH500H) or 120 Ft-lbs. (CH800H).
3. Check the blade/anvil clearance and adjust if necessary.
4. Close the chipper housing and secure with removed bolts to a torque of 25-28 Ft-lbs.
5. Reconnect machine hydraulics.

6.6 SETTING BLADE CLEARANCE

The chipping blades should clear the anvil by 1/16 to 1/8 inch. To adjust the blade clearance, proceed as follows:

1. Loosen the two bed blade bolts located underneath feed chute housing
2. Open the chipper blade access cover to view the gap between the blades and bed blade
3. With the bed blade bolts loosened, move the bed blade in or out to obtain the desired position and tighten the bolts.
4. It is important to ensure that the minimum gap between the chipping bed blade and All chipping blades is 1/16". All chipping blades should be rotated until even with the chipping and and then measured. Failure to do so can result in the chipping blades striking the bed blade and causing serious risk of injury or death.
5. If the bed blade cannot be moved to specifications due to wear, rotate the bed blade or replace the bed blade.

Secure all hardware and adjust to torque.



7 TROUBLE SHOOTING

The FHM Skid Steer Loader Wood Chipper is designed with blades on a rotor to cut, shear and chip wooden material. It is a simple and reliable system that requires minimal maintenance.

In the following section, we have listed many of the problems, causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual from your unit and serial number ready.

PROBLEM	CAUSE	SOLUTION
Rotor does not turn.	Obstructed discharge.	Shut down and clear debris.
	Rotor plugged.	Clear rotor.
Slow feeding.	Knives are dull.	Sharpen knives.
	Blade angle wrong, improper angle.	Re-sharpen knives to specified angle.
	Discharge hood clogged.	Clear discharge hood.
Chipper requires excessive power or stalls.	Obstructed discharge.	Clear discharge hood.
	Rotor plugged.	Clear rotor.
	Green material will not discharge.	Allow material to dry or alternately feed in dry material.
	Dull knives.	Sharpen knives.
High power required	Plugged rotor.	Clear rotor.
	Dull knives.	Sharpen knives.
Vibration while running.	Driveline vibration.	Check driveline phasing. Yokes must be aligned.
		Check rotor to see if it wobbles. Check to see if rotor is assembled correctly.

8 SPECIFICATIONS

8.1 MECHANICAL

MODEL	FH- BXH42
Maximum Feed Capacity	4" x 10" material
Min. Operation Flow	14 GPM (2" dia)
Max Capacity Flow	24 GPM (4" dia)
Attach type	Tracor/Skidsteer Universal
Feed Design	Self Feed / Pinch & Pull
Size w/ Hopper Folded	42" L x 42" W 60" H
Feed Hopper	20" x 20" Hinged
Flywheel	25" Diameter, 80 lbs. - 1/2" Thick w/ Extrator-Wings
Cutting Blades	4 Reversible
Bed Blades	1 Reversible
Discharge Chute	360°
Discharge Height	60" sitting on ground
Drive	Direct
PTO Drive Line	04 series 30" Included w/Shear
Hitch Type	Standard Cat I
PTO Operating Speed	540 RPM
Net Weight	565 lbs
Shipping Weight	600 lbs

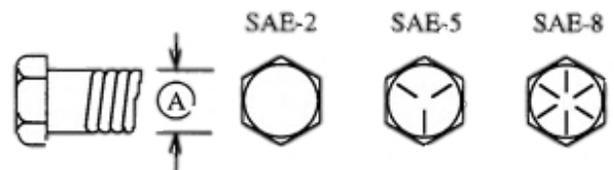
8.2 BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

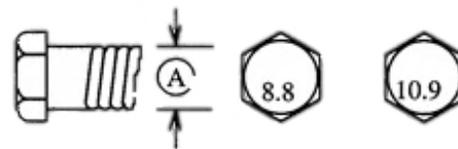
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2		SAE 5		SAE 8	
	(N.m)	(lb-ft)	(N.m)	(lb-ft)	(N.m)	(lb-ft)
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*			
	8.8		10.9	
	(N.m)	(lb-ft)	(N.m)	(lb-ft)
M3	.5	.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

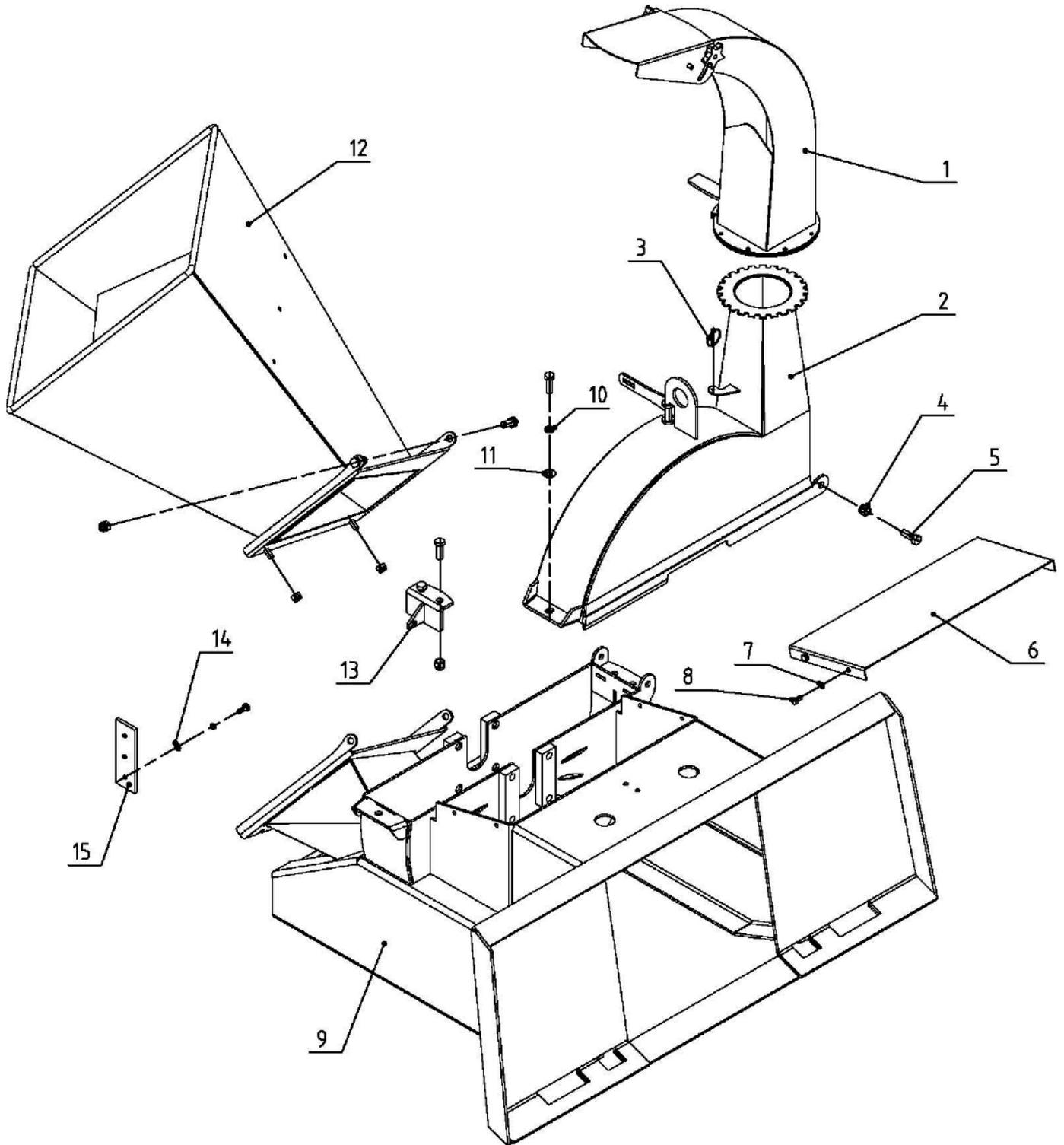
8.3 HYDRAULIC FITTING TORQUE

Tightening Flare Type Tube Fittings *

1. Check flare and flare seat for defects that might cause leakage.
 2. Align tube with fitting before tightening.
 3. Lubricate connection and hand tighten swivel nut until snug.
 4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.
- The torque values shown are based on lubricated connections as in reassembly.

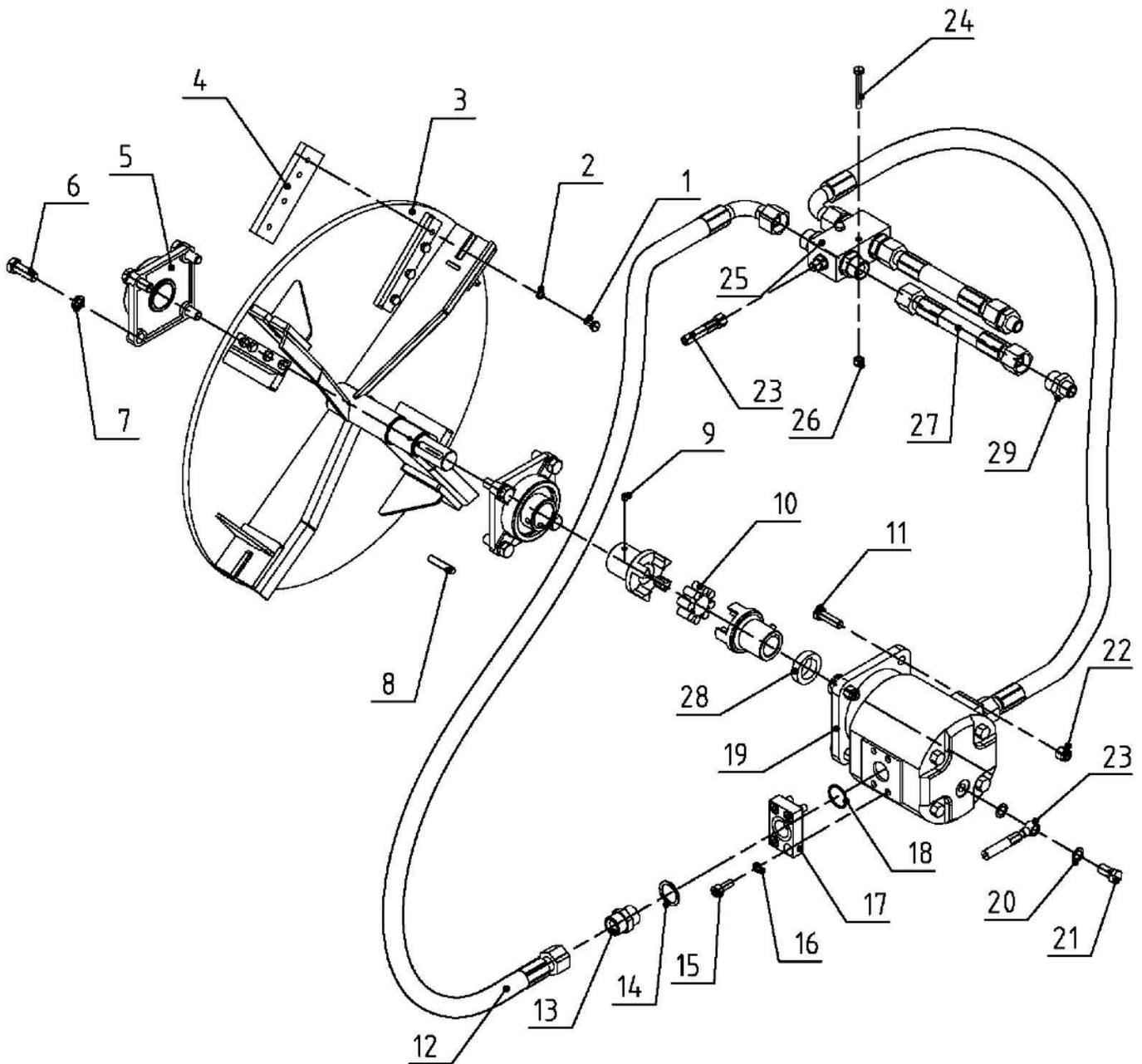
Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(N.m)	(lb-ft)	(Flats)	(Turn)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

BXH42.01.001
Frame Assembly



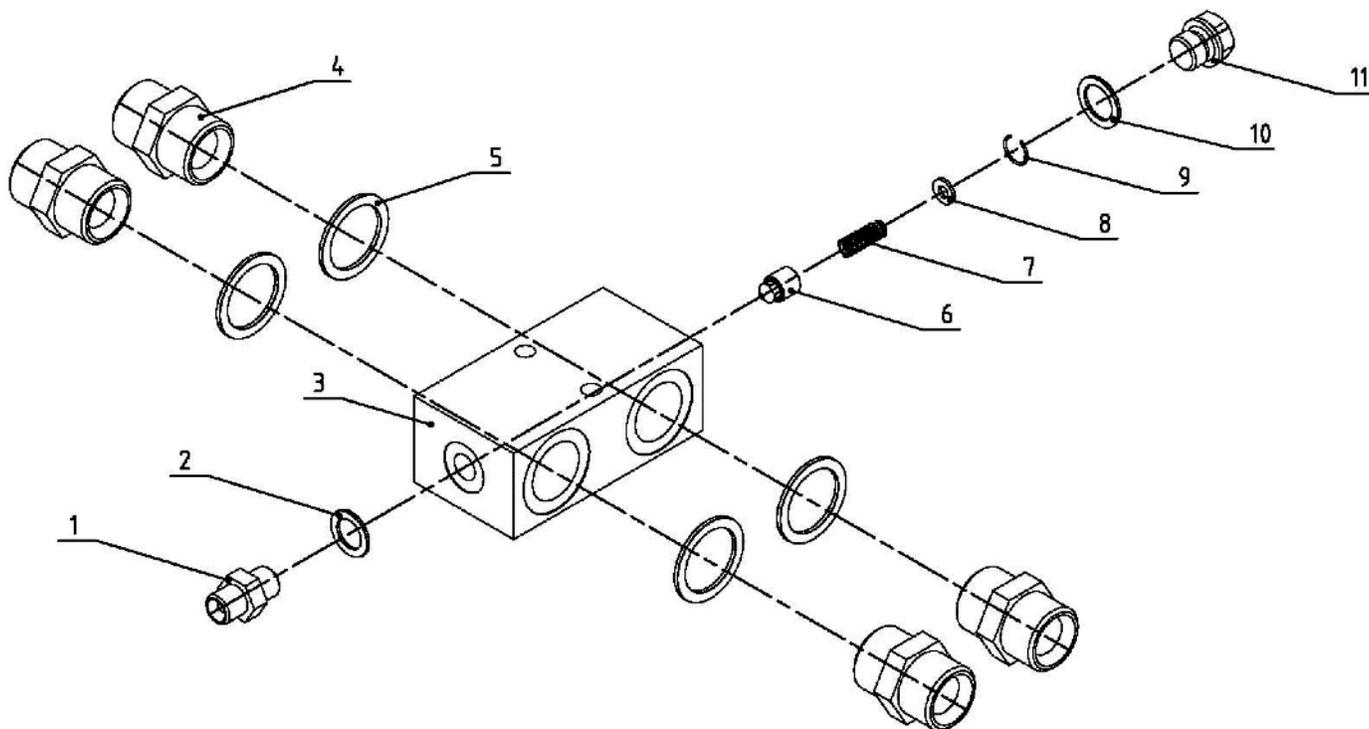
NO.	PART NO.	Name & Specifications	名称	Quantity
1	1011A101	Assembly, Discharge Chute	出料口总成	1
2	1011W102	Housing, Upper Rotor	上罩焊合件	1
3	Z12110	Latch Pin	插销	1
4	GB / T889. 1-2000	Locking Nut M12	锁紧螺母 M12	8
5	GB / T5783-2000	Bolt M12×35	螺栓 M12×35	7
6	BXH42.01.101	Cover	盖板	1
7	GB/ T93-1987	Spring washer 8	弹垫圈 8	7
8	GB / T5783-2000	Bolt M8×20	螺栓 M8×20	7
9	BXH42.01.011	Housing, Bottom Rotor	底座焊合件	1
10	GB/ T93-1987	Spring washer 12	弹垫圈 12	1
11	GB / T97. 1-2002	Plain washer 12	平垫圈 12	1
12	1011A102	Self-Feed Hopper	加料斗总成	1
13	1011W104	Twig Breaker	侧刀焊合件	1
14	GB / T97. 1-2002	Plain washer 8	平垫圈 8	3
15	1011M104	Knife, Ledger	定刀	1

BXH42.02.001
Transmission Assembly



NO.	PART NO.	Name & Specifications	名称	Quantity
1	GB / T5786-2000	Bolt M8*1.5*20	螺栓 M8*1.5*20	16
2	GB/ T93-1987	Spring washer 8	弹垫圈 8	16
3	BXH42.02.011	Rotor	刀盘焊合件	1
4	1011M103	Knife, Rotor	刀片	4
5	Z25204	Bearing F208	带座轴承 F208	2
6	GB / T5786-2000	Bolt M14*1.5*40	螺栓 M14*1.5*40	8
7	GB/ T93-1987	Spring washer 14	弹垫圈 14	8
8	GB / T1096-197	Key A10×45	普通平键 A 型 10×40	1
9	GB / T77-2000	Set screws M8×8	内六角半端紧定螺钉 M8×8	2
10	BXH42.02.012	ML(LM) Plum elastic coupling	ML(LM)型梅花弹性联轴器	1
11	GB / T5783-2000	Bolt M12*40	螺栓 M12*40	4
12	BXH42.02.013	Hose, Motor	马达油管	2
13	BXH42.02.103	Adapter 30-30	接头 30-30	2
14	JB/ZQ4454	Gasket 30	密封垫 30	2
15	GB / T70. 1-2000	Six screws M10×25	内六角圆柱头螺钉 M10×25	8
16	GB/ T93-1987	Spring washer 10	弹垫圈 10	8
17	BX1142.02.101	Nipple	方接头	2
18	GB3452. 1-92	O-ring 32. 5×2. 65	O 型圈 32. 5×2. 65	2
19	CMZ2050-BFPS	Motor	齿轮马达	1
20	JB/ZQ4454	Gasket 14	密封垫 14	2
21	AM80.04.104	Hollow bolt 14	空心螺栓 14	1
22	GB / T889. 1-2000	Locking Nut M12	锁紧螺母 M12	4
23	BXH42.02.014	Hose, back	回油管	1
24	GB / T5782-2000	Bolt M8*65	螺栓 M8*65	2
25	BX1142.03.001	Check valve	单向阀总成	1
26	GB / T889. 1-2000	Locking Nut M8	锁紧螺母 M8	2
27	BX1142.02.015	Hose	进出油管	2
28	BXH42.02.102	Washer	垫圈	1
29	BXH42.02.104	Adapter 30-R1/2	接头 30-R1/2	2

BXH42.02.001 Check valve Assembly



NO.	PART NO.	Name & Specifications	名称	Quantity
1	BH5.60.109	Adapter 14-14	接头 14-14	1
2	JB/ZQ4454	Gasket 14	密封垫 14	1
3	BXH42.03.101	Valve body	单向阀体	1
4	BXH42.02.103	Adapter 30-30	接头 30-30	4
5	JB/ZQ4454	Gasket 30	密封垫 30	4
6	FLP180.505	Spool	单向阀芯	1
7	FLP180.506	Spring	弹簧	1
8	FLP180.504	Plain washer	挡圈	1
9	GB895.1	The wire ring 12	孔用钢丝挡圈 12	1
10	JB/ZQ4454	Gasket 16	密封垫 16	1
11	JB/ZQ4451	Plug M16x1.5	螺塞 M16x1.5	1



FHM
FARMER-HELPER
MACHINERY COMPANY

Parts Request Form

Fax to 541-895-2756 or E-mail

Name: _____

Address: _____

City State Zip: _____

Phone: _____

E-mail: _____

Model Number: _____

Serial Number: _____

Purchased From: _____

Purchase Date: _____

Item No.	Description	Qty	Price	Amount

Comments:



SKID STEER ATTACHMENT LIMITED WARRANTY

*Model FH-BXH42. is classified as Consumer grade product and will not qualify for warranty coverage if used for Commercial or Rental purposes. "Consumer" defined as: complete unit for personal, residential or non-income producing use. "Commercial" defined as: complete unit for commercial, institutional, property management, agricultural, horticultural or income producing use. "Rental" defined as: complete unit for rental purposes to produce income.

This warranty applies to all Skid Steer Attachments manufactured by/for and sold by Betstco. Betstco warrants to the original owner of each new Skid Steer Attachment (product) to be free from defects in material and workmanship, under normal use and service. The warranty shall extend, from date of purchase, for 1 years to U.S. and Canada customers and only for Consumer use of the product. There is no warranty for Commercial applications and no warranty for Rental applications. Replacement parts and accessories are warranted for (90) days from date of installation.

The product is warranted to the original owner by a completed warranty registration on file at Betstco and proof of purchase. Warranty coverage begins on the date of purchase. The warranty registration can be registered on-line by visiting Betstco.com or the paper registration in this manual completed and returned to Betstco.

In the event of a failure, return the product, at your cost, along with proof of purchase to Betstco and Bestco will, at its option, repair or replace any parts found to be defective in material or workmanship. Or contact Bestco Support and with Betstco approval perform the labor necessary to repair or replace any parts found to be defective. Warranty on any repairs will not extend beyond the product warranty. Repair or attempted repair by anyone other than Betstco deems subsequent failure or damage that may occur as a result of work performed by owner anyone other than Betstco will not be covered under this warranty. Betstco does not warrant replacement components not manufactured or sold by Betstco. Any modifications to the product by owner voids all warranty.

1. This warranty applies only to parts or components that are defective in material or workmanship.
2. This warranty does not cover normal wear items including, but not limited to: batteries, bearings, belts, hoses, filters, chipper blades, shredder flails or knives.
3. This warranty does not cover normal maintenance, service or adjustments.
4. This warranty does not cover depreciation or damage due to misuse, negligence, accident or improper maintenance.
5. This warranty does not cover damage due to improper setup, installation or adjustment.
6. This warranty does not cover damage due to unauthorized modifications of the product. .

Betstco is not liable for any property damage, personal injury or death resulting from the unauthorized modification or alteration of an Farmer-Helper product or from the owner's failure to assemble, install, maintain or operate the product in accordance with the provisions of the Owner's manual.

Betstco is not liable for indirect, incidental or consequential damages or injuries including but not limited to loss of crops, loss of profits, rental of substitute equipment or other commercial loss.

This warranty gives you specific legal rights. You may have other rights that may vary from area to area.

Betstco makes no warranties, representations or promises, expressed or implied as to the performance of its products other than those set forth in this warranty. Neither the distributor, dealer nor any other person has any authority to make any representations, warranties or promises on behalf of Betstco or to modify the terms or limitations of this warranty in any way. Betstco at its discretion, may periodically offer limited, written enhancements to this warranty.

BETSTCO RESERVES THE RIGHT TO CHANGE THE DESIGN AND/OR SPECIFICATIONS OF ITS PRODUCTS AT ANY TIME WITHOUT OBLIGATION TO PREVIOUS PURCHASERS OF ITS PRODUCTS.

Betstco, 83371 Melton Rd, Creswell OR 97426, 1-541-895-3083. Email cservice@betstco.com



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

REGISTRATION

Item _____ Model # _____ Purchase Date ____ / ____ / ____

Purchased From: _____ Gift Inv#/Order# _____

Owner Name: _____ Serial # (if Applicable) _____

Owner Address: _____

City: _____ County: _____ ST: _____ Zip Code: _____

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 Ste 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 I 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 copy to Betstco, 83371 Melton Rd, Creswell OR 97426. If you prefer you may complete your registration on line. This warranty is not effective unless the Purchaser completes Registration and Warranty Form within 30 days of purchase or ship date whichever is later.

Email: cservice@betstproducts.com

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 Betstco.

Email: cservice@betstproducts.com