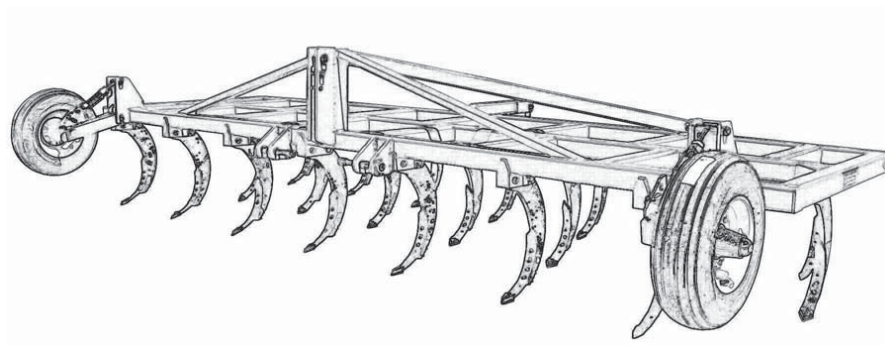




RIPPING CHISEL GRC Series



Operation, Service & Parts Manual For GRC Series Ripping Chisels

March 2011

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
1	Introduction	1
1.1	Operator's Responsibility	1
1.2	Chisel Information.....	1
2	Safety.....	2-6
2.1	General Safety	3
2.2	Equipment Safety Guidelines	4
2.3	Safety Training	4
2.4	Preparation	5
2.5	Operating Safety.....	5
2.6	Transport Safety	6
2.7	Storage Safety.....	6
2.8	Maintenance Safety	6
3	Assembly.....	7
3.1	Adjustment.....	7
4	Trouble Shooting.....	8
5	Maintenance	9
5.1	Regular Maintenance	9
5.2	Storage	9
6	Parts List.....	10-11
6.1	Main Frame.....	10
6.2	Gauge Wheel Assembly	11
7	Limited Warranty.....	12

1 INTRODUCTION

Congratulations on your choice of a GRC Ripping Chisel. This equipment is manufactured to precise specifications using the best quality parts and materials available. With proper care and maintenance, this piece of equipment should last for many years. Before operating this machine, thoroughly read and become familiar with this manual.

1.1 OPERATOR'S RESPONSIBILITY

Safe, efficient and trouble free operation of your Ripping Chisel requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, Maintenance and Troubleshooting information contained within the Operator's Manual.

It is the responsibility of the user/purchaser to lubricate and maintain this product according to the schedule in this manual. The user is responsible for inspecting the machine, and for having parts repaired or replaced when continued use of the product would cause damage or excessive wear to other parts. All fasteners should be checked and tightened periodically and as necessary. When supporting the frame or the machine, use stands that are capable of handling the weight of the assembly. Insure that the supports are on a clean, dry surface. It is the user's responsibility to deliver this product to the dealer when repairs that are covered by the standard warranty need to be made.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Gearmore dealer 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 as seen from the driver's seat and facing in the direction of travel.

1.2 CHISEL INFORMATION

DATE OF PURCHASE: _____

MODEL NUMBER: _____

SERIAL NUMBER: _____

SHANKS: _____ 1 ¼" x 30"

SHANK SPACING: _____ 12"

REAR HITCH: _____ Yes

GAUGE WHEELS: _____ Single

HITCH CATEGORY: _____ Cat. 3 & 4

Always give your dealer the serial number of your Ripping Chisel when ordering parts or requesting service or other information.

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 Ripping Chisel 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:

SI NO LEE INGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MIDIDAS DE SEGURIDAD.

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.

2.1 GENERAL SAFETY

YOU are responsible for the **SAFE** operation and maintenance of your Ripping Chisel. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Ripping Chisel be familiar with the operating 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 adhered to while operating the Ripping Chisel.

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** operating this equipment is familiar with the recommended operating 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.

- Ripping Chisel owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- The most important safety feature 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 operating and safety instructions is not qualified to operate 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!**

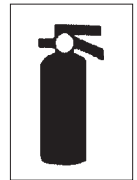
1. Read and understand the Operator's Manual and all safety signs before operating, maintaining or adjusting the Ripping Chisel.



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

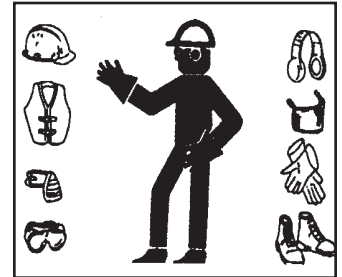


3. Have a fire extinguisher available for use should the need arise and know how to use it.



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

- A hard hat
- Protective shoes with slip resistant soles
- Protective goggles, glasses or face shield
- Heavy gloves
- Protective clothing



5. Install and secure all guards before starting.

6. **DO NOT** allow riders.

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



8. Place all controls in neutral, stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, or repairing.

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

10. Review safety related items annually with all personnel who will be operating or maintaining the Ripping Chisel.

2.2 EQUIPMENT SAFETY GUIDELINES

Safety of the operator and bystanders is one of the main concerns in designing and developing a machine. 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, follow them.

- **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.
- **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to operate 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.
- 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 farm machinery and trained in this equipment's operations. If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.
- Use a tractor equipped with a Roll Over Protective Structure (ROPS) and a seat belt.
- **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.**
- 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.

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.

Think SAFETY! Work SAFELY!

2.3 SAFETY TRAINING

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.

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 Operating instructions

in the manual and to follow these. Accidents can be avoided.



Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machines. 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 operating:

- a. Reads and understands the operator's manuals.
- b. Is instructed in safe and proper use.

Know your controls and how to stop tractor, engine and machine quickly in an emergency. Read this manual and the one provided with your tractor. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.

2.4 PREPARATION

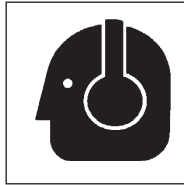
1. Never operate the tractor and machine until you have read and completely understand this manual, and the Tractor Operator's Manual.

2. Personal protection equipment, including hard hat, safety glasses, safety shoes and gloves are recommended during assembly,



installation, operation, adjustment, maintaining, repairing, removal or moving the implement. **DO NOT** allow long hair, loose fitting clothing or jewelry to be around equipment.

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



Tractors 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. Operate the machine only with a tractor equipped with an approved Roll-Over Protective Structure (ROPS). Always wear your seat belt. Serious injury or even death could result from falling off the tractor particularly during a turn-over when the operator could be pinned under the ROPS or the tractor.



5. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
6. Operate only in daylight or good artificial light.
7. Be sure machine is properly mounted, adjusted and in good operating condition.

2.5 OPERATING SAFETY

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.

If a safety shield or guard is removed for any reason, it must be replaced before the machine is again operated.

When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing, removal, or moving, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.

Always use two people to handle heavy, unwieldy components during assembly, installation, removal, or moving.

Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal, or moving.

Never place yourself between the tractor and machine while implement is in operation.

Do not walk or work under a raised machine or attachment unless it is securely blocked or held in position. Do not depend on the tractor hydraulic system to hold the machine or attachment in place.

A heavy load can cause instability of the tractor. Use extreme care during travel. Slow down on turns and watch out for bumps. The tractor may need front counterweights to counterbalance the weight of the machine.

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 the machine or tractor at any time. There is no safe place for any riders.

Before you operate the machine, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.

Clear the work area of objects which might be picked up and snagged or entangled in the machine.

Keep hands, feet, hair, jewelry, and clothing away from all moving and/or rotating parts.

2.6 TRANSPORT SAFETY

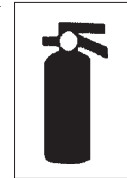
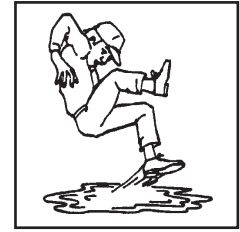
1. Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
2. The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
3. At all times, when driving the tractor and equipment on the road or highway under 20 mph (32 kph) use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem. Do not exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
4. Plan your route to avoid heavy traffic.
5. To transport the machine, extend the axle cylinders and place the transport pin into the transport slots.
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. Turn into curves or go up or down hills only at a low speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steering. Slow down on rough or uneven surfaces.
9. Never allow riders on either tractor or machine.

2.7 STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. Do not permit 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.

2.8 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 in a closed building. The exhaust fumes may cause asphyxiation.
4. Before working on this machine, shut off the engine, set the brakes, and remove the ignition key.
5. Never work under equipment unless it is blocked securely.
6. Use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work.
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



3 ASSEMBLY

Your Ripping Chisel was assembled at the factory or at your local dealer location. Before using this Ripping Chisel, check all nuts and bolts to make sure everything is tightened.

3.1 ADJUSTMENT

The working depth of your 3-point mounted Chisel without gauge wheels, is determined by the depth stop control on your tractor. For models with gauge wheels, the depth of your machine is determined by the height of the gauge wheels. The depth can also be controlled to some extent by the top link on your tractor's 3-point hitch. However, optimum soil penetration and fracturing will occur when the machine is operated as level as possible, as the shanks are designed to give maximum results when operated in a level position.

Improper adjustments can cause problems. If problems should occur after following instructions in the manual, check the Trouble Shooting Chart on the following page for possible remedies.

The warranty obligations shall be terminated if equipment is modified or altered and such modification or alteration has not been approved by the manufacturer, or if the equipment has been equipped with an attachment not approved by the manufacturer.

4 TROUBLE SHOOTING CHART

3 POINT MODELS	
PROBLEM:	POSSIBLE REMEDY:
Poor Penetration	<ul style="list-style-type: none"> ● Level the chisel by tightening the top link on the tractor. ● Check shank points, replace if needed.
Excessive Penetration	<ul style="list-style-type: none"> ● Level the Chisel by adjusting the tractor top link and lift arms.
Uneven Penetration	<ul style="list-style-type: none"> ● Level from front to rear by adjusting the top link and laterally by adjusting the lift arms on the tractor.
Side Draft	<ul style="list-style-type: none"> ● Equalize the tractor weight and tire inflation. ● Make sure the Chisel is level. Adjust if necessary.
Excessive Tractor Wheel Slippage	<ul style="list-style-type: none"> ● Reduce shank penetration. ● Reduce ground speed. ● Add tractor wheel weights.
3 POINT MODELS WITH GAUGE WHEELS	
PROBLEM:	POSSIBLE REMEDY:
Poor Penetration	<ul style="list-style-type: none"> ● Raise gauge wheels by retracting the cylinder rod to the depth desired for penetration. Use the cylinder depth stop if required. ● Check shank points, replace if needed.
Excessive Penetration	<ul style="list-style-type: none"> ● Lower gauge wheels by adjusting the turnbuckle for less shank penetration.
Uneven Penetration	<ul style="list-style-type: none"> ● Adjust gauge wheels so they are at the same height. ● Make sure the lift arms on the tractor are the same length. ● Check the tractor and Chisel wheels for the correct tire inflation.
Side Draft	<ul style="list-style-type: none"> ● Adjust the gauge wheels to make sure they are the same height. ● Equalize the tractor weight and tire inflation. ● Check the Chisel to make sure that it is level. Adjust if needed.
Excessive Tractor Wheel Slippage	<ul style="list-style-type: none"> ● Reduce shank penetration. ● Reduce ground speed. ● Add tractor wheel weights.

5 MAINTENANCE

5.1 REGULAR MAINTENANCE

The Ripping Chisel should be inspected **after every season**. Note excessively worn or broken parts and replace during the off-season. That way it is ready for use when needed.

After a **few hours of operation**, all bolts should be checked for tightness. To insure correct performance and avoid needless wear and breakage, these bolts must be tight at all times.

- √ Regularly check all nuts and bolts and make sure they are tight.
- √ Regularly check shank shin guard and points, replace as needed.
- √ Make sure all shanks have the correct shear bolts.
- √ Check hydraulic hoses, replace if needed.
- √ Check pins for grease fittings and grease all pins daily.
- √ For equipment with gauge wheels, regularly check tires for correct air pressure and inflate them to specifications given on the side of the tire.
- √ Regularly check wheel lug nuts, and tighten when necessary.
- √ Check wheel bearings and tighten when necessary.
- √ Grease and tighten bearings before season start-up and then every 200 working hours thereafter.
- √ Store implement out of weather if possible.

5.2 STORAGE

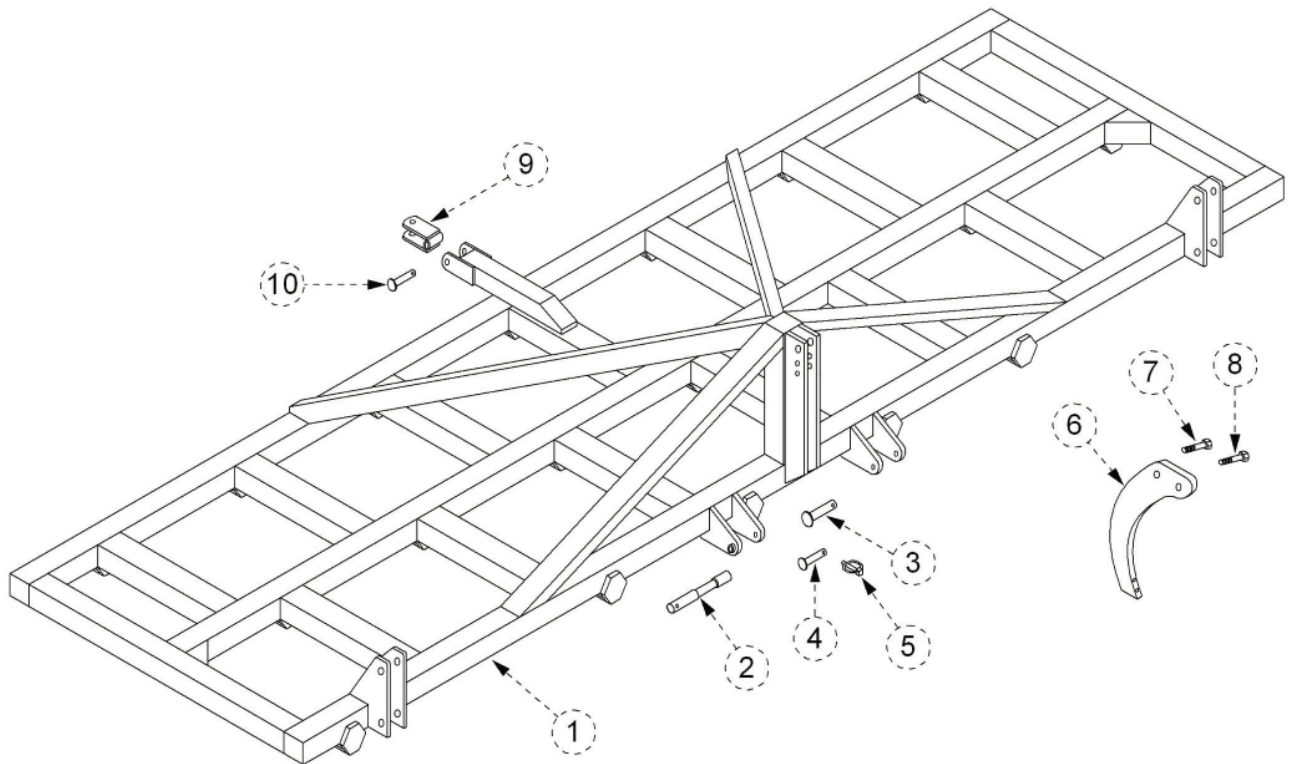


STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. Do not permit 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.

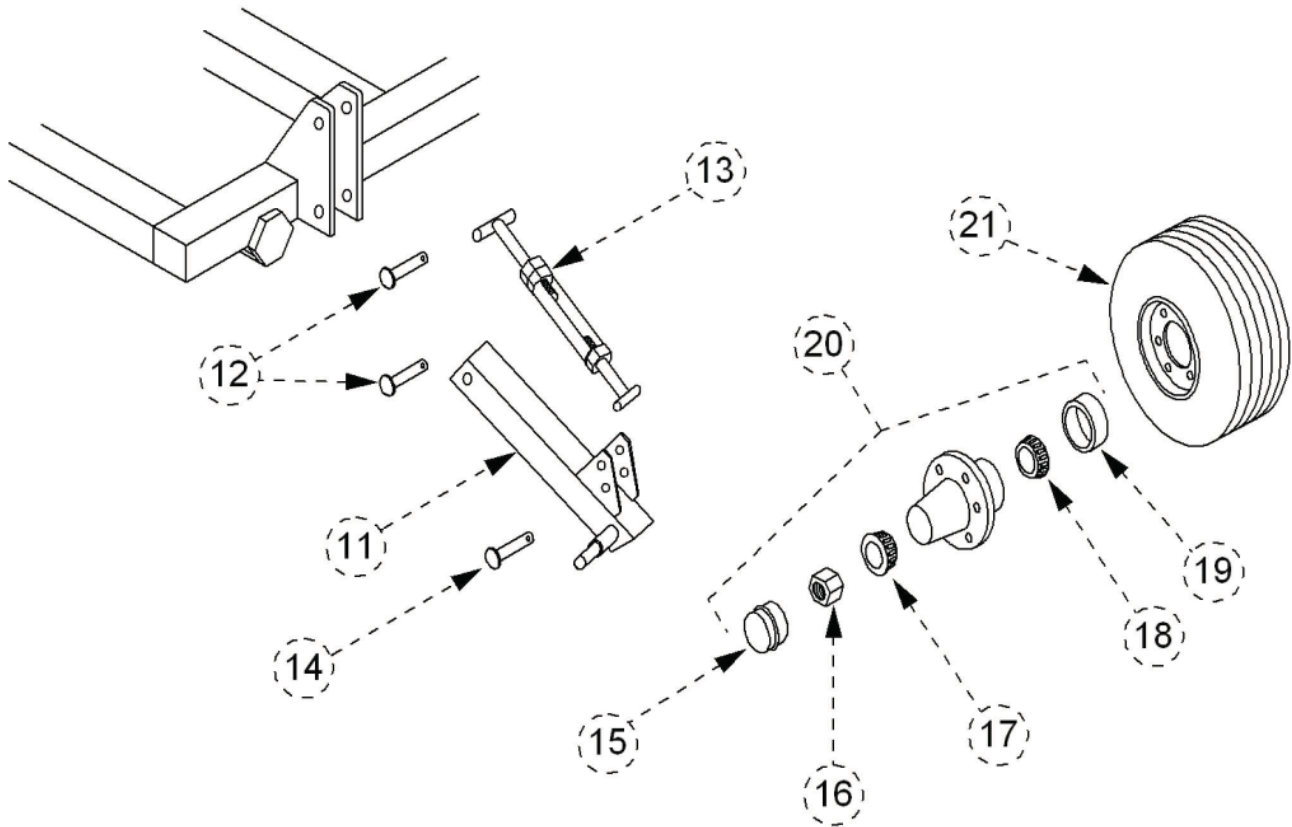
6 PARTS LIST

6.1 MAIN FRAME ASSEMBLY



<u>REF.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	FCR3002	Main Frame - 15 Shanks
1	FCR3003	Main Frame - 17 Shanks
1	FCR3004	Main Frame - 19 Shanks
1	FCR3005	Main Frame - 21 Shanks
2	BE9007	Pull Pin - Cat. 3 & 4
3	BE9006	Upper Link Pin - Cat. 4
4	P7711	Lower Link Pin - Cat. 3
5	DKLP91	1/16" Lynch Pin
6	FCR12530	Shank - 1 1/4" x 30"
7		Pivot Bolt - 1" x 4 1/2" Hex, Grade 5
8		Shear Bolt - 7/8" x 4 1/2" Hex, Grade 2
9	WO6010004	Double Lip Clevis
10	185115	Clevis Pin

6.2 GAUGE WHEEL ASSEMBLY



<u>REF.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
11	BE9020ALC	Single Gauge Wheel Frame - LH
11	BE9020ARC	Single Gauge Wheel Frame - RH
12	BE9028	Strut & Upper Turnbuckle Pin
13	BE9012	Turnbuckle - Standard
13	BE9012XL	Turnbuckle - Optional Extra Long
14	BE9029	Lower Turnbuckle Pin
15	770046	Dust Cap
16	770045	Spindle Nut
17	770043	Outer Bearing
18	770041	Inner Bearing
19	770040	Hub Seal
20	770038	Hub & Bearing Assembly Complete
21	770047B	Tire & Wheel
	*770047A	*Tire - 11L x 15", 8 Ply Tire
	*770047	*Wheel - 15" x 8

7 LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of twelve (12) months from date of purchase to the original purchaser. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

GEARMORE, INC.
13477 Benson Ave.
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

The serial number of this product is stored in our computer database, thus submitting a warranty registration card is not required.