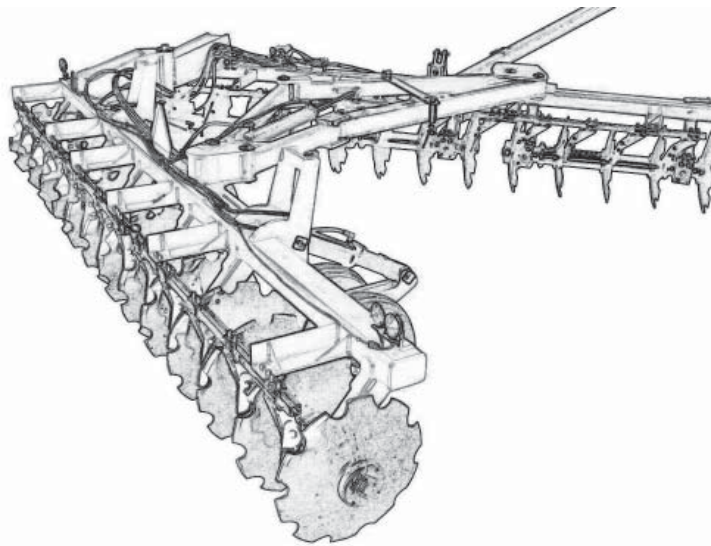


**GEARMORE INC.**

# **OFFSET SCISSOR DISCS**



**Assembly, Operation,  
Service, & Parts  
Manual For G1000 Series**

**May 2010**

# TABLE OF CONTENTS

| <b>SECTION</b> | <b>DESCRIPTION</b>                              | <b>PAGE</b>    |
|----------------|---|----------------|
| <b>1</b>       | <b>Introduction .....</b>                       | <b>1</b>       |
| 1.1            | Operator's Responsibility .....                 | 1              |
| 1.2            | Serial Number Location .....                    | 1              |
| <b>2</b>       | <b>Safety .....</b>                             | <b>2-6</b>     |
| 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              |
| <b>3</b>       | <b>Assembly .....</b>                           | <b>7</b>       |
| <b>4</b>       | <b>Preparation to Operate .....</b>             | <b>8 - 9</b>   |
| 4.1            | Important Recommendations .....                 | 8              |
| 4.2            | Preparing The Tractor .....                     | 9              |
| 4.3            | Hitching to Tractor .....                       | 9              |
| <b>5</b>       | <b>Field Operations &amp; Adjustments .....</b> | <b>10 - 14</b> |
| 5.1            | Tractor Preparation .....                       | 10             |
| 5.2            | Adjustments .....                               | 11             |
| 5.2.1          | Adjusting Holes For Offset Bar .....            | 11             |
| 5.2.2          | Adjusting Leveling Cylinder .....               | 11             |
| 5.2.3          | Adjusting Hydraulic Cylinder .....              | 11             |
| 5.3            | Operations .....                                | 12             |
| 5.4            | Position of Tractor .....                       | 13             |
| 5.5            | Depth of Cut .....                              | 14             |
| <b>6</b>       | <b>Maintenance .....</b>                        | <b>15</b>      |
| 6.1            | Lubrication .....                               | 15             |
| 6.2            | Gang Bolts .....                                | 15             |
| 6.3            | Grease Points .....                             | 16 - 17        |
| <b>7</b>       | <b>Review .....</b>                             | <b>18</b>      |
| 7.1            | Review of Important Operation Points .....      | 18             |
| <b>8</b>       | <b>Limited Warranty .....</b>                   | <b>19</b>      |

# 1 INTRODUCTION

Congratulations on your choice of our pull type offset stubble disc. 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 Disc 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.

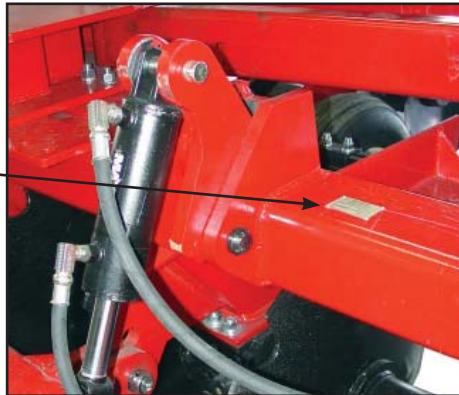
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Gearmore dealer if you need assistance, information or additional copies of the manuals.

**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 SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Disc when ordering parts or requesting service or other information. The serial number plate is located where indicated. Please mark the number in the space provided for easy reference.

Serial Number  
Plate



DATE OF PURCHASE: \_\_\_\_\_

MODEL NUMBER: \_\_\_\_\_

SERIAL NUMBER: \_\_\_\_\_

### 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 Arena-Comb 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 SAFETY (CONTINUED)

### 2.1 GENERAL SAFETY

**YOU** are responsible for the **SAFE** operation and maintenance of your Disc. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Disc 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 Disc.

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.

- Disc owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually there after 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 disc.



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

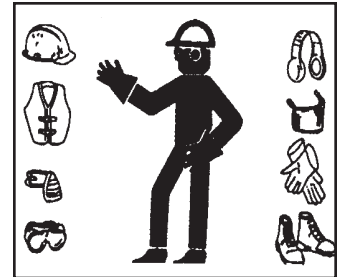


3. Have a fire extinguisher available for use should the need arise and know how to use it.



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 Disc.

## 2 SAFETY (CONTINUED)

### 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 SAFETY (CONTINUED)

### 2.4 PREPARATION

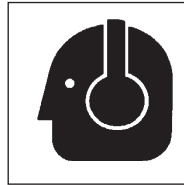
1. Never operate the tractor and machine until you have read and completely understand this manual, and the Tractor Operator's Manual.

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 SAFETY (CONTINUED)

### 2.6 TRANSPORT SAFETY

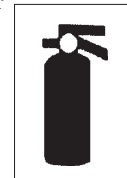
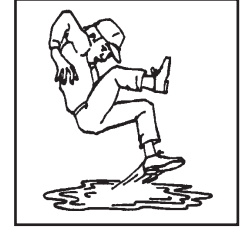
1. Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
2. The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
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



9. Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed 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.



### 3 ASSEMBLY

Your Scissor Disc G1000 Series is assembled at the factory and tested to make sure the hydraulics are operating correctly. The disc gangs are set in the straight position and the tongue is removed for shipping.



## 4 PREPARATION TO OPERATE

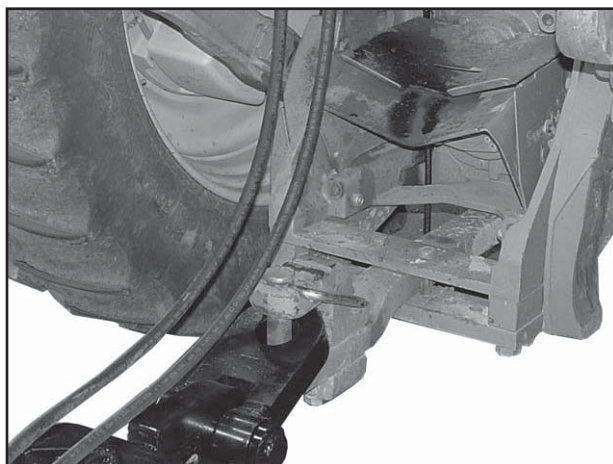
### 4.1 IMPORTANT RECOMMENDATIONS

- A. The tractor drawbar should stay swing during discing and fixed when transporting.
- B. To transport the disc long distances, it is necessary to place the transport safety lock out brackets to the cylinder rods.
- C. The disc's wheels are for transport only and thus retracted when discing.



**CAUTION:** Never remove the hoses without lowering the disc gangs on the ground to relieve the control valve pressure.

**A**



**B**



**C**



## 4 PREPARATION TO OPERATE (CONTINUED)

### 4.2 PREPARING THE TRACTOR

To increase the traction of the tractor make sure there is ballast in the tires and add front weights.

### 4.3 HITCHING TO THE TRACTOR

Adjust the height of tongue with the tongue jack to align with the tractor hitch.

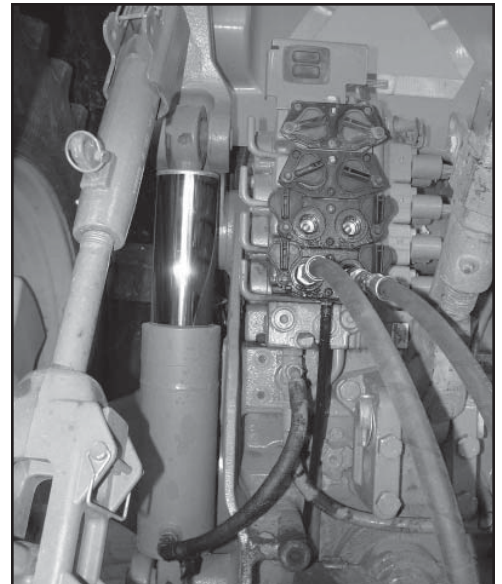
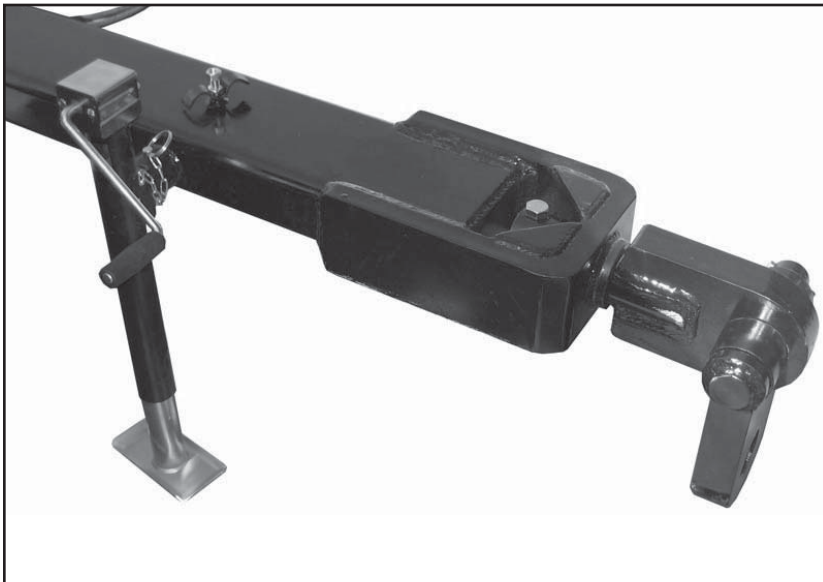
Hitch the tongue eyelet to the tractor hitch and make sure the locking pin is secure.

Then connect the disc hoses to the tractor outlets making sure the quick couplers are clean.



**CAUTION:** *Before raising or lowering the wheels, make sure people are standing clear of the disc.*

**NEVER** *loosen or remove the hydraulic hoses before relieving the control valve pressure.*



## 5 FIELD OPERATIONS & ADJUSTMENTS

### 5.1 TRACTOR PREPARATION

1. Drawbar Clevis
2. Drawbar Bale Pins  
(Removed)
3. Remote Hydraulic Outlets
4. Hitch Pin
5. Disc Tongue
6. Tongue Clevis

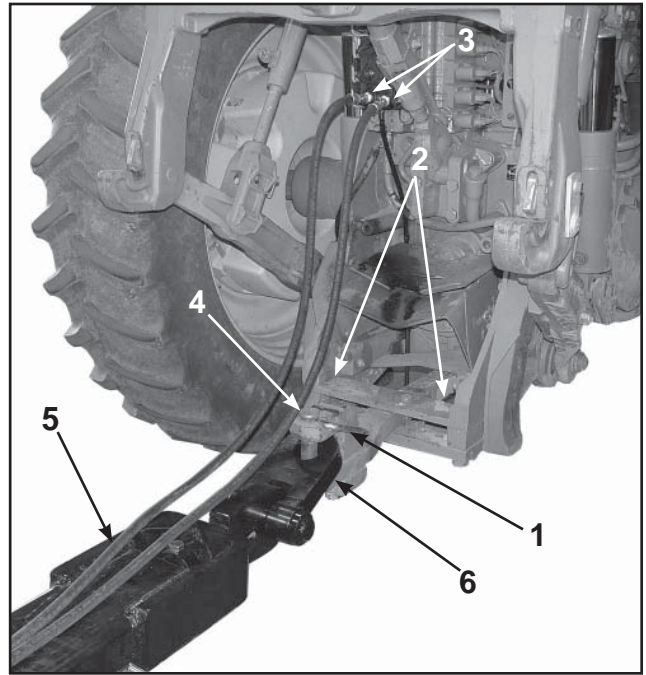


Figure 10 - Hitching the Tractor

#### DRAWBAR CLEVIS (Figure 10)

The tractor must be of the clevis (1) type for hitching to the disc. If tractor is not equipped with a drawbar clevis (1) it may be purchased from the tractor dealer.

NOTE: On some of the new, larger 4WD tractors it may be advantageous to lower the tractor hitch point to obtain improved front disc gang penetration. To lower the hitch point assemble the tractor drawbar clevis on the bottom side of the drawbar. The reverse of this condition might be encountered on some of the older crawler tractors where the hitch point should be raised.

#### DRAWBAR BALE PINS (Figure 10)

The drawbar bale pins (2) should be removed for field operation with the disc. This allows the tractor drawbar to swing on the bale for both wheel and crawler tractors, which aids in steering the tractor.



**WARNING:** Always pin the drawbar so it cannot swing on the bale when transporting the disc. Also always be sure the safety tow chain is properly connected between unit and the towing vehicle.

#### WHEEL WIDTH SETTING

On wheel type tractors, the wheel width setting should be as narrow as possible and still provide stability for hillside operation.

#### TRACTOR WEIGHTS

Add front end weights to the tractor to maintain tractor stability and also steerability, especially when additional rear wheel weights are added.

#### HYDRAULIC SYSTEM

The tractor must be equipped with a two way remote hydraulic outlet (3) for operating the two way cylinders on the disc.

#### HITCH PIN (4)

The hitch pin (4) should be of adequate size to pull the disc and should be equipped with a safety device to prevent pin from coming out of tractor drawbar.



## 5 FIELD OPERATIONS & ADJUSTMENTS (CONTINUED)

### 5.2 ADJUSTMENTS

#### 5.2.1 ADJUSTING HOLES FOR THE DRAWBAR

The 3 hole, 4 brackets are for mounting the disc to the adjustable height drawbar. The top hole obtains maximum penetration of the front disc gang. The bottom hole gives the minimum amount of penetration.



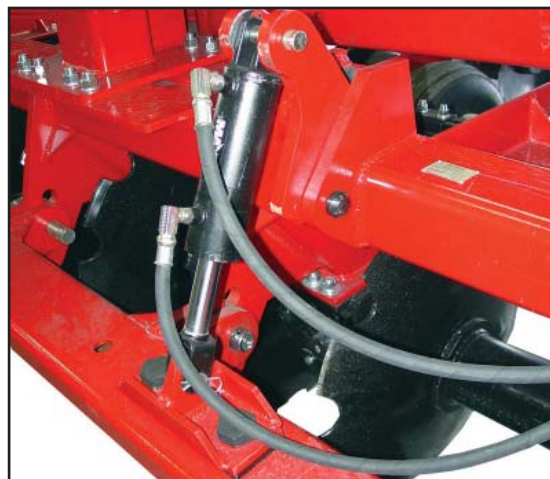
#### 5.2.2 ADJUSTING LEVELING DISC DRAWBAR

This picture shows how the drawbar is pinned to the 4 disc brackets.



#### 5.2.3 ADJUSTING HYDRAULIC CYLINDER

When using tractors with different height of the drawbar, it may be necessary to adjust the hydraulic cylinder.



## 5 FIELD OPERATIONS & ADJUSTMENTS (CONTINUED)

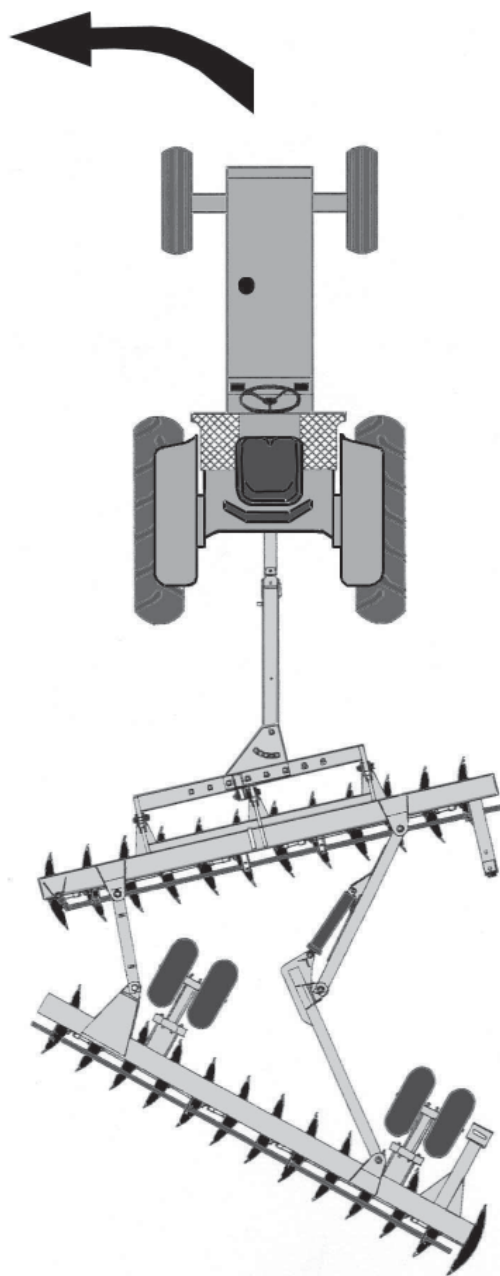
### 5.3 OPERATIONS

This disc is designed to work in heavy soils with high horsepower tractors. However, care must be taken when in operation, such as never making turns to the right.



**WARNING:** Always make turns to the left to avoid overloading the disc, which could cause damage.

**LEFT TURNS ONLY**





## 5 FIELD OPERATIONS & ADJUSTMENTS (CONTINUED)



**IMPORTANT:** To start discing we suggest to use a medium adjustment of the gang angle. Then increase the angle to obtain the best results.

Try to drive the tractor in order to get fine finishing work among the disc passes thus avoiding ridges or valleys.

Both disc and tractor drawbar should be aligned as much as possible in relation to the moving direction.

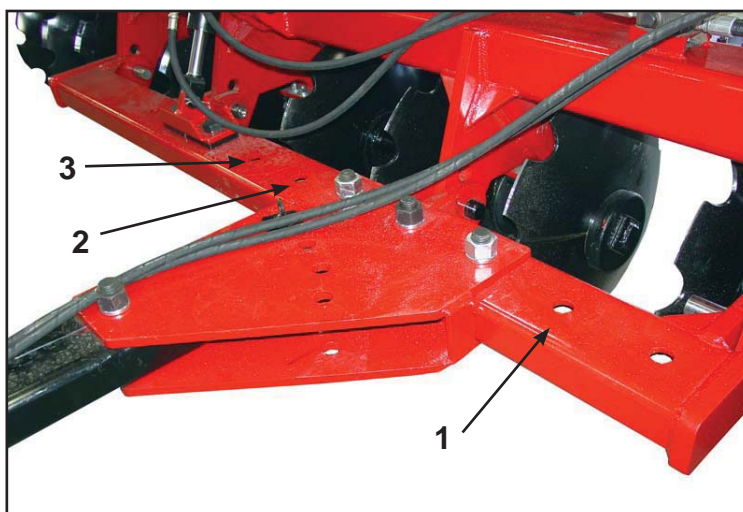
### 5.4 POSITION OF TRACTOR IN RELATION TO PREVIOUS PASS - OFFSETTING

Offsetting is used for better positioning the tractor in relation to the furrow of the previous pass, avoiding to leave track and giving a reference to the operator.

This positioning is obtained in function of tractor tires tread and the harrow width of cut.

Whenever possible, the tractor should move on the untilled soil and close to the previous furrow.

The displacement is made by moving the drawbar in the offset bar, as follows.



Normal Position (According to above illustrated). Utilized in most situations.

**Position 1** - Approaches the tractor to previous furrow

**Position 2 & 3** - Keeps the tractor away from previous furrow.

## 5 FIELD OPERATIONS & ADJUSTMENTS (CONTINUED)

### 5.5 DEPTH OF CUT

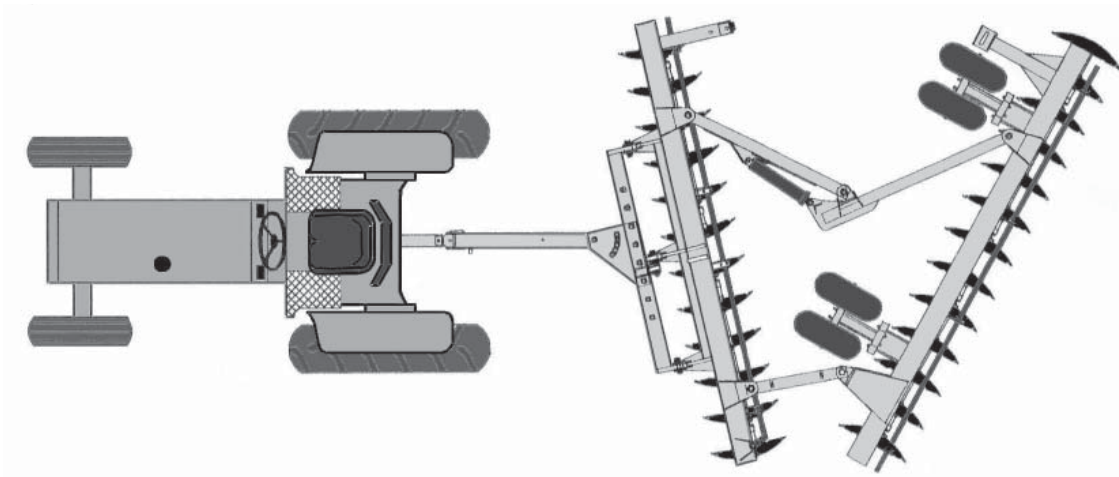
The Scissor Disc is "Offset" type, and it is properly adjusted when, at work, the disc blades from rear gang pass right in the center of the front disc gang spaces, and when both rotation are equivalent, that is, result in the same number of rotations in a certain distance.

The depth of cut is adjusted by the following ways and means:

#### 1. *Angle of the Disc Gangs*

The largest angle shown between the gangs is suitable for working in fields with great difficulty on discs penetration. In light and loosened soils, it is enough to reduce the working angle.

Notice that the disc gangs angle adjustment modify only the cutting angle of rear disc gangs.

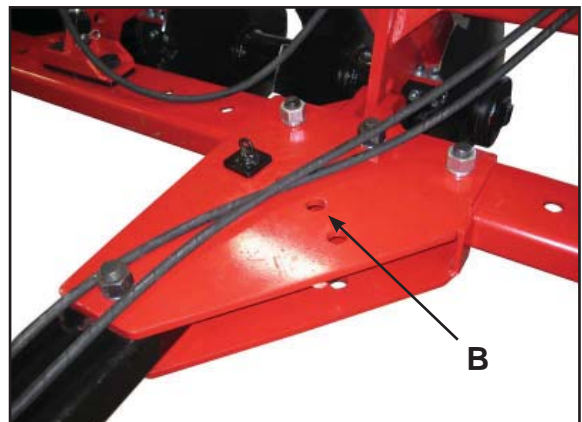


**NOTE:** *The use of the rod stops determines smaller disc gangs angle, always maintaining the same depth adjustment of the disc blades.*

#### 2. *Drawbar Working Angle*

The holes (B) of the upper and lower plates determine larger or smaller depth of cut, besides they make small lateral displacements of the disc.

At normal working conditions the tractor drawbar should operate in the central hole of the upper and lower plates.



## 6 MAINTENANCE

Your offset scissor disc should be inspected **after the discing 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**, the gang 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 all pins and lynch pins to make sure they are in place.
- ✓ Check scraper blades and replace as needed.
- ✓ If bearing dirt shields are used, check and replace as needed.
- ✓ Discs are equipped with greaseable sealed ball bearings. Regularly check bearings and make sure gang turns freely. Replace bearing if needed.
- ✓ Store disc out of weather.

Scraper blades and mounts were assembled on the disc at the factory. Each scraper is individually mounted and adjusted. To adjust the scraper, loosen the nut on the mount arm, slide the scraper in or out until it is approximately  $\frac{3}{8}$ " away from the disc blade, and tighten nut.

### 6.1 LUBRICATION

Your disc is equipped with prelubricated, greaseable gang bearings. No additional lubricant is required for start up. However, they should be **greased daily** when using the disc. When greasing, rotate the gangs to insure even distribution of grease in the bearing. Always use a hand powered pump as air or electric powered pumps provide too much pressure and result in ruptured seals. Ruptured seals are not covered by warranty. Use enough grease to fill each bearing.

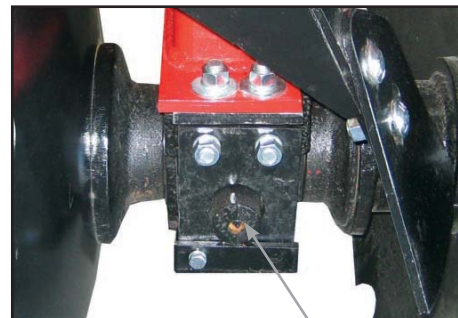
The axle bearings and hydraulic pins require multi-purpose grease and should be greased **every 10 hours of operation**.

The wheel hub bearings should be checked for endplay and repacked with SAE multi-purpose grease **before operation and every 200 hours** thereafter. Should endplay occur in the hub, remove hubcap and cotter pin. Tighten the spindle nut until the bearing binds. Loosen spindle nut until bearing turns free with no endplay and reinstall cotter pin (nut may be tightened slightly for hole alignment). Replace hubcap.

### 6.2 GANG BOLTS

After **first 8 hours of use**, check gang bolts for correct tightness. Gang bolts nuts should be tightened to a pull of approximately 100 lbs. with a five-foot extension on the wrench for correct tightness.

**Be sure to only press against the outer race of the bearing to avoid damage to the bearing.**



Grease Zerk

*Special Note: The axle bearings are lubricated at the factory with "HIGH TEMPERATURE" heat reducing grease. You must then grease daily using "HIGH TEMPERATURE" grease, as at tractor speeds of over 4 MPH excessive heat builds up on the bearings.*

## 6 MAINTENANCE (CONTINUED)

### 6.3 GREASE POINTS

*Top view of scissor disc showing the circled grease points.*





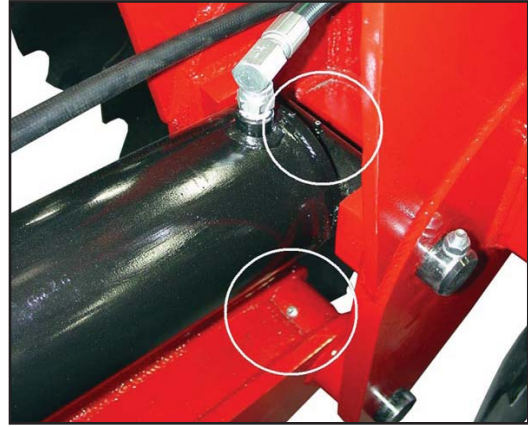
## 6 MAINTENANCE (CONTINUED)

### 6.3 GREASE POINTS

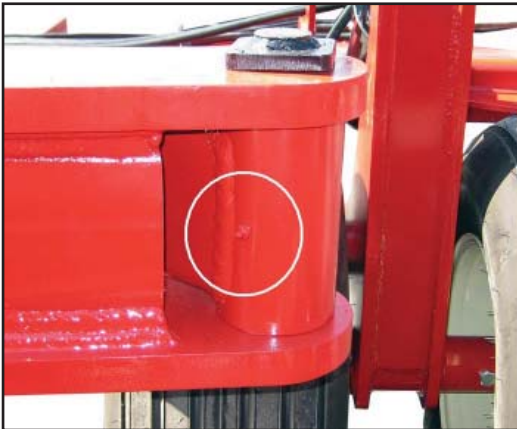
*Close up views of many of the grease zerks. Please make sure you indentify and grease all zerks.*



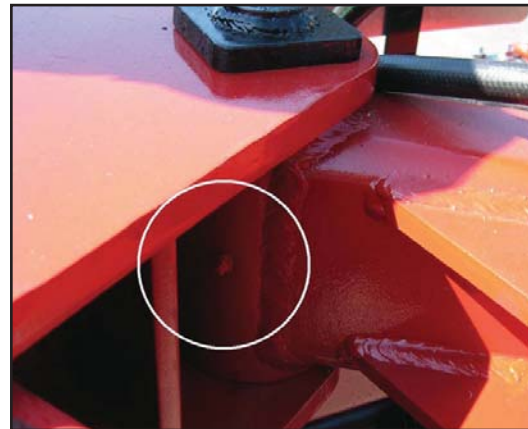
*Gauge Wheel Mount*



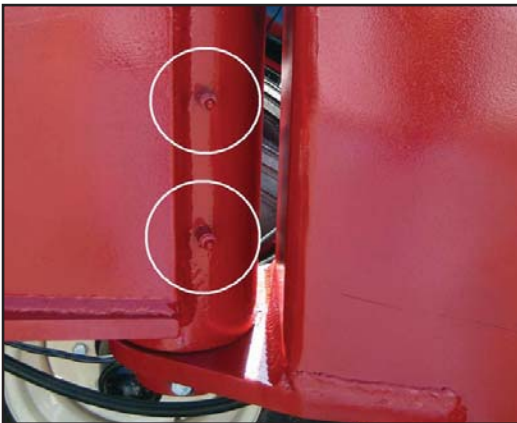
*Gauge Wheel Mount*



*Cylinder Arm - Mid Hinge Point*



*Cylinder Arm - Rear Hinge Point*



*Main Pivot Hinge Point*



*Stabilizer Rear Hinge Point*

## 7 REVIEW

### 7.1 REVIEW OF IMPORTANT OPERATION POINTS

- Before starting each days work, verify the condition of all components.
- Tighten all bolts and nuts.
- Take special care to tighten the disc gangs, as loose gangs can damage bearing assemblies and axles.
- Make sure the disc is lubricated. (*See Lubrication pages*)
- Only use tractors with adequate horsepower.
- Choose a speed of 3 to 4.5 M.P.H.
- Only make ***left turns*** with the disc.
- Keep tires inflated at 50 P.S.I.
- Remove any debris that becomes attached to the disc.
- Relieve the control valve pressure before disconnecting the quick couplers.
- The final adjustment of the disc will depend on your soil condition.
- When transporting the disc make sure the wheel cylinder lock out brackets are in place.



## 8 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.