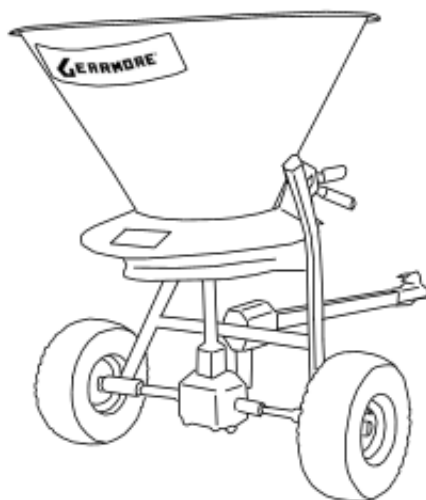




# **TRAILER MOUNTED SEEDER / SPREADER**



## **ASSEMBLY, PARTS & OPERATOR'S MANUAL FOR MODEL S-ATV-180**

**February 2007**



# TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	General Information .....	2
<b>2</b>	<b>Safety .....</b>	<b>3</b>
2.1	General Safety .....	4
2.2	Equipment Safety Guidelines .....	5
2.3	Safety Training .....	6
2.4	Safety Signs .....	6
2.5	Preparation .....	7
2.6	Operating Safety .....	8
2.7	Transport Safety .....	9
2.8	Storage Safety .....	9
2.9	Maintenance Safety .....	9
<b>3</b>	<b>Safety Sign Locations .....</b>	<b>1</b>
<b>4</b>	<b>Machine Information .....</b>	<b>11</b>
4.1	To The New Owner .....	11
4.2	Name Plate .....	11
4.3	Spreader Characteristics .....	12
4.4	Pre-Operation Checklist .....	12
4.5	Field Operation .....	13
4.6	Connection .....	14
4.7	Adjustments .....	14-15
4.8	Hopper Loading & Spreading .....	16-17
4.9	Spreading Mistakes .....	17
4.10	Storage .....	17
<b>5</b>	<b>Service and Maintenance .....</b>	<b>18</b>
5.1	Service .....	18
5.1.1	Fluids and Lubricants .....	19
5.1.2	Greasing .....	19
5.1.3	Servicing Intervals .....	19
5.2	Maintenance .....	19
5.2.1	Replacement of Spreader Vanes .....	19
5.3	Ordering Parts .....	19
<b>6</b>	<b>Specifications .....</b>	<b>20</b>
6.1	Mechanical .....	20
6.2	Technical Specifications .....	20
6.2	Bolt Torque .....	21
<b>7</b>	<b>Parts Breakdown .....</b>	<b>22</b>
7.1	Hopper .....	22
7.2	Frame .....	23
<b>8</b>	<b>Limited Warranty .....</b>	<b>24</b>



# 1 INTRODUCTION

Congratulations on your choice of a Trailer Mounted Seeder / Spreader. This equipment has been designed and manufactured to meet the needs of a discriminating buyer for efficient spreading of seed, fertilizer, sand, and salt.

This manual contains valuable information about your new Gearmore Spreader. It has been carefully prepared to give you helpful suggestions for operating, adjusting, servicing and ordering repair parts.

Keep this manual in a convenient place for quick and easy reference. Study it carefully. You have purchased a dependable and sturdy spreader, but only by proper care and operation can you expect to receive the service and long life designed and built into it.

Sometime in the future your spreader may need new parts to replace those that are worn or broken. If so, go to your dealer and provide him with the model and part number.

**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.

**NOTE:** Gearmore reserves the right to discontinue models at any time, change specifications, and improve design without notice and without incurring obligation on goods previously purchased and to discontinue supplying any part listed, when the demand does not warrant production.

## CUSTOMER INFORMATION:

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

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

Date Purchased: \_\_\_\_\_

Model No: \_\_\_\_\_

Serial No: \_\_\_\_\_



## 1.1 GENERAL INFORMATION

It is the purchaser and/or operator's responsibility to.....

- ☐ Read and understand the information contained in this manual.
- ☐ Operate, lubricate, assemble and maintain the equipment in accordance with all instructions and safety procedures in this manual.
- ☐ Inspect the equipment and replace or repair any parts that are damaged or worn which under continued operation would cause damage, wear to other parts, or cause a safety hazard.
- ☐ Return the equipment or parts to the authorized dealer, from where it was purchased, for service or replacement of defective parts that are covered by warranty. (Gearmore may inspect equipment or parts before warranty claims are honored.)



## 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 Gearmore Seeder/Spreader 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.



## SAFETY

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

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.

- Implement 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!**

## 2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or unclogging the Seeder/Spreader.



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. Do not allow riders.
6. Wear suitable ear protection for prolonged exposure to excessive noise.



7. 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, repairing or unclogging.
8. Clear the area of people, especially small children, before starting.
9. Review safety related items annually with all personnel who will operating or maintaining the Seeder/Spreader.



## 2.2 EQUIPMENT SAFETY GUIDELINES

1. Safety of the operator and bystanders is one of the main concerns in designing and developing a spreader. 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.
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 operated 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 operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
5. **Under no circumstances should children under the age of 18 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.
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 farm 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. Use a tractor equipped with a Roll Over Protective Structure (ROPS) and a seat belt.
8. 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.**
9. **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.
10. 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 seeder/spreader manuals. Pay close attention to the Safety Signs affixed to the tractor and the seeder.



## 2.3 SAFETY TRAINING



### **THE FOLLOWING SAFETY RECOMMENDATIONS ARE FOR YOUR**

**SAFETY. THEREFORE IT IS  
NECESSARY TO READ THEM  
CAREFULLY, MEMORIZING AND  
ALWAYS APPLYING THEM.**

The present warnings in this manual regard exclusively the allowed uses and reasonably foreseeable dangers. All below instructions must be integrated by a common sense, experience worker to prevent accidents.

The spreader must be used by a single operator. The use of the spreader is forbidden to youngsters. All the listed instructions must be carefully respected. Changes to the spreader are not authorized by the manufacturer and exclude his responsibility.

**Check the correct operation of the machine prior to each use.**

#### **GENERAL ADVICES:**

Read carefully this manual before proceeding to start, operate, or to perform maintenance on the spreader. Watch, in addition to the warnings in this manual, all the safety, accident prevention rules and general rules.

The manual must always be handy, so as to consult it, in order to check the working cycle and safety information. In case of loss or damage, it will be necessary to get another copy.



#### **ATTENTION**

Any work of maintenance, regulation and cleaning must be done with the machine on the ground (in stable conditions), turning off pulling vehicle engine and removing the key.

## 2.4 SAFETY SIGNS

Read carefully the safety signal words applied on the spreader and follow the instructions. In case of wear and tear or insufficient readability of the safety signal words, clean them up or replace them, placing the signal words in the right position.

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 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. (See Section 3).
- 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 operate the tractor/ATV and machine until you have read and completely understand this manual, the Tractor/ATV Operator's Manual, and each of the Safety Messages found on the safety signs on the tractor/ATV and machine.

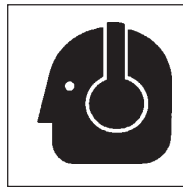
2. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended



during assembly, installation, operation, adjustment, maintaining, repairing, removal, 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/ATVs 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 turnover when the operator could be pinned under the ROPS or the tractor.



5. Operate 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.
8. Never place hands or objects into the hopper with the spreader / seeder operating.
9. During loading phase, there is the danger of powders inhalation produced by fertilizer mixing. It is suggested to use tractors with filters on the ventilation system of the cabin, and to use suitable safety systems of breathing, like powder masks or masks with a filter.
10. The spreader is designed to be used by one operator at a time, who during the use must always stay in the pulling vehicle seat.
11. Never work with this machine if you are tired, sick, or after having taken drinks, drugs or medication.

◆ **Think Safety, Work Safely!!**



### **ATTENTION! WARNING!**

The operator, during the period of use, maintenance, repair, handling or storage of the machine, must wear safety shoes and safety gloves. Moreover, if it is necessary, the operator must wear suitable hearing protection such as ear muffs, or earplugs, dust masks and protective glasses.



## 2.6 OPERATING SAFETY

1. Please remember it is important that you read and heed the safety signs on the Seeder/Spreader. 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.
3. Safety is our first concern at Gearmore. Safety must also be first in the mind of the operator of the Seeder/Spreader. Proper maintenance is necessary to complete the safety cycle.
4. Personal protection equipment including hard hat, safety glasses, hearing protection, safety shoes, and tight gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving. Do not allow long hair, loose fitting clothing, or jewelry to be around moving parts.
5. Always use two people to handle heavy, unwieldy components during assembly, installation, removal or moving.
6. The machine must never be unattended while moving.
7. Never place any part of your body, fingers, hands, feet, etc. where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal or moving. Keep others away.
8. 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.
9. Do not allow riders on the machine or tractor/ATV at any time. There is no safe place for any riders.
10. Make a check of the spreader before switching it on. Start to work only if spreader is in perfect condition.
11. Before using the spreader, please be sure that all safety devices are correctly in place and in good working condition; in case of breakdowns or damages to the guards, please replace them immediately.
12. Before every use of the spreader, please always check the wear of the vanes and the spreader disc. Check that all screw and bolts are in and tight.
13. Always keep the machine in good operating condition and perform maintenance regularly.



### ATTENTION!

During work, please be sure there is no person or animals within 50 meters. When you work close to roads or public places, it is **ABSOLUTELY NECESSARY** to keep people away and to increase precautions.



### ATTENTION!

Anybody who comes up to the spreader while in use is in a danger area, therefore they become "AN EXPOSED PERSON". The operator must prevent anyone from coming into the danger area and work with maximum caution. If someone comes up, stop spreader immediately.



### DANGER!

It is forbidden to climb or to transport someone when the spreader is in motion. Do not let anyone inside the hopper for any reason.



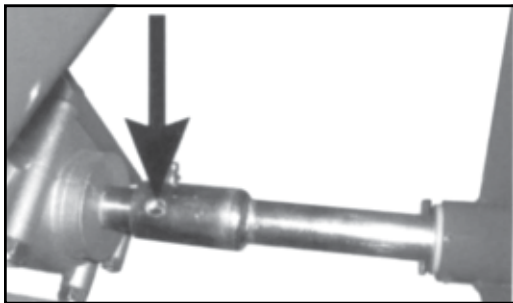
## 2.7 TRANSPORT SAFETY



### ATTENTION!

Please follow the Highway Code carefully that is in force for the country or state you are using spreader in. During transport on public roads it is necessary to empty the hopper.

1. Comply with state and local laws governing highway safety and movement of machinery on public roads.
2. Remember that during moving on public roads, special attention must be taken. Refer to possible and special regulations noted in pulling vehicle manual, choosing the proper speed especially when the street is crowded, winding or sloping. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steering.
4. Always install transport locks, pins or brackets before transporting. For transporting it is advisable to disconnect drive thereby disengaging the spreading disc. The gearbox must not be engaged. Switch off the mechanical block from the axle as shown in the picture below.



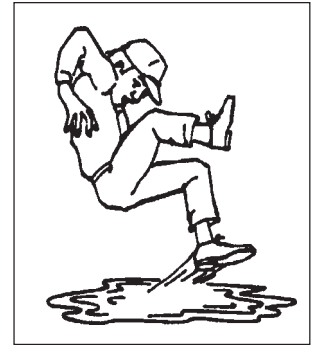
5. Do not drink and drive.
6. If the spreader hides the back signal lights of pulling vehicle, it is necessary to put a light bar and/or some back signaling signs.
7. Never allow riders on either tractor/ATV or implement.

## 2.8 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 implement with planks if required.

## 2.9 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 tractor/ATV 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 keys. Unhook the machine from pulling vehicle only on level, compact ground (with hopper empty), checking that the spreader is stable.
6. Never work under equipment unless it is blocked securely.
7. Keep the spreader clean from foreign bodies (debris, tools, etc.), as they could damage the operations or the operator. Generally the fertilizers are rather corrosive. For this reason, it is important that no particle of fertilizer stay in the spreader for a long period of time. Clean the hopper and distributor after each use. If during cleaning operations you use air or water with pressure, it is necessary to wear glasses and safety masks and keep animals and other people away during cleaning.
8. 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.
9. Before connecting machine to the pulling vehicle, check that it is in good condition and that the brakes work properly, especially if working on sloping ground.





### 3 SAFETY SIGN LOCATIONS



ALWAYS REPLACE  
MISSING OR  
DAMAGED DECALS



#### **WARNING!**

During transport, operating, loading and spreading of fertilizers, the operator must follow all the label indications and particularly to the content of the written risks and precautions.



#### **ATTENTION!**

The manufacturer does not cover damages caused by improper use of the spreader.

The types of safety signs and locations on the equipment are shown in the illustration below. 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. Make sure that all safety labels are readable. Clean them up using a cloth, water and soap. Replace damaged labels placing them in the right position.



#### **1. ATTENTION!**

Before doing any work or repair on the spreader, stop the engine of the pulling vehicle, remove the key, put on the parking brake and read the operator's manual carefully.



#### **2. ATTENTION! - DANGER!**

Possibility of throwing of material and/or objects, please do not come up to machine. Keep a safe distance of at least 50 meters (165 ft.) from the machine.



#### **3. ATTENTION! - DANGER!**

It is forbidden to get inside the hopper or to transport someone with the machine.



#### **4. ATTENTION!**

Use the devices of individual protection required.

The manufacturer is not responsible in case of:

- Improper use of spreader, used by non trained person.
- Serious deficiencies in the maintenance of spreader.
- Changes or modifications that are not allowed.
- Use of anything except original replacement parts.
- Not observing partial or all of instructions.
- Unusual cases

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





## 4 MACHINE INFORMATION

### 4.1 TO THE NEW OWNER

The models in this manual have been designed and made exclusively allowing the distribution of solid, granular fertilizers and seeds in the field. Their use is particularly made for gardening and golf courses, but can be used in many more places. These machines are usually used in daylight. If you need to use the spreader at night or in poor visibility, you must use the lighting system of your tractor or some other source to operate safely.

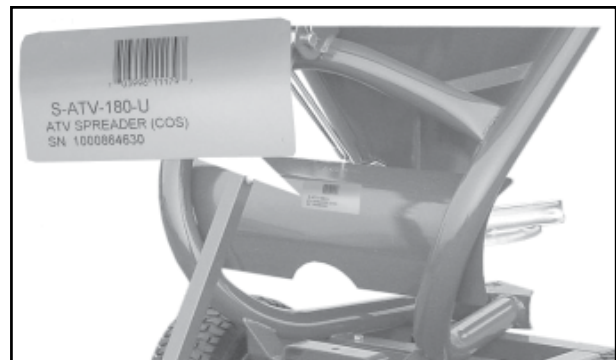
A use different from described above is considered improper. Any modification made to the machine relieves the manufacturer from any responsibility of damages or injury that can be caused to operators, third parties, objects, or the spreader.

**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 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 operate the machine safely and how to set it to provide maximum field efficiency. By following the operating instructions in conjunction with a good maintenance program, your Seeder/Spreader will provide many years of trouble-free service.

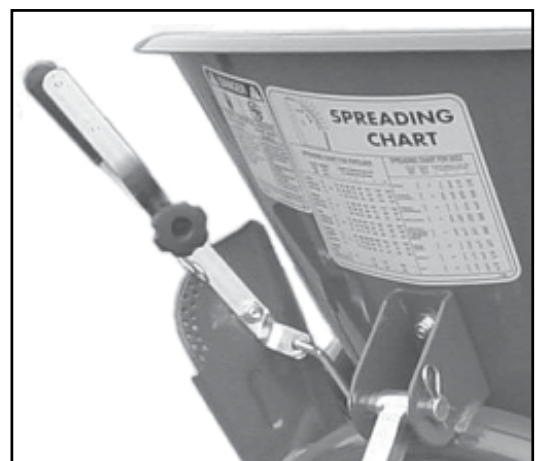
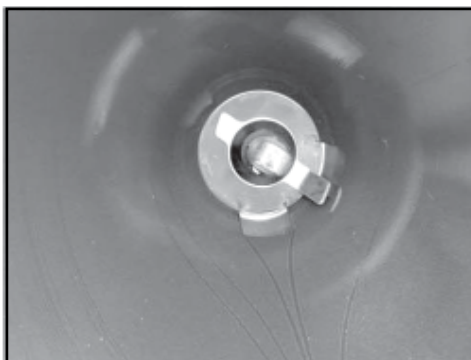
### 4.2 NAME PLATE

On the hopper of every spreader is a nameplate, which has the model number, serial number, and bar code of your machine. When parts are required, it is necessary to refer to the plate for the model of spreader.



### 4.3 SPREADER CHARACTERISTICS

The pull type spreader has a fertilizer distributor made of stainless steel, a spreader disc with (4) adjustable vanes with (4) different settings, in order to obtain the maximum spreading precision and uniformity in the distribution, depending on the material to be spread.





### 4.3 SPREADER CHARACTERISTICS (CONT.)

The feeding of the disc is by gravity through an opening located at the bottom of the hopper, inside of which a mix/agitator is applied, in order to prevent formation of lumps in the fertilizer. A plate is put in front of the disc to prevent the spreading to the front side of the machine.

The fertilizer delivery is controlled by properly opening the shutters in the hopper bottom, through locking devices operated by levers. The fertilizer spreader and the agitator are connected through a gearbox with the wheels, so the speed of the disc is proportionate to the speed of the machine. The switching off and on of the spreading disc is made by putting or removing the split pin on the axle. The machine is connected with a ball hitch 1-7/8". There is an adjustable tongue so the height can be adjusted to keep the spreader parallel with the ground.

The hardness of the steel welded frame, together with the remarkable life of the hopper, helps to obtain a highest quality level of the pull type spreaders. The painting is made by an epoxy varnish with successive backing at 150 degrees celsius with the application of the primer bath, assuring great protection and long life of the machine.



### 4.4 PRE-OPERATION CHECKLIST

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

#### A. Before Operation:

1. Check all nuts, bolts and other fasteners. Tighten to their specified torque level.
2. Lubricate all grease fittings every eight (8) hours of operation.
3. Make sure that spreading discs and vanes are firmly mounted.
4. Check the condition of wheel type agitator.
5. Check the tire pressure.
6. Verify the level of oil in the gearbox and that the geardrive is working.

***Remember that well-maintained equipment is safer, will perform better, and provide longer service life!***

Efficient and safe operation of the Seeder/Spreader requires that each operator reads and understands the operating 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 the good mechanical condition of the Seeder/Spreader that this checklist is followed.

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

1. Use only a small Agricultural tractor/ATV.
2. Check that the machine is properly attached to the tractor/ATV.
3. Check all pivot pins and fasteners; replace them as needed.
4. Lubricate all grease fittings every eight (8) hours of operation.





# OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing or unclogging.
2. Do not allow riders.
3. Keep hands, feet, hair and clothing away from moving parts.
4. Place all controls in neutral, stop tractor/ATV engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unclogging.
5. Place all tractor/ATV and machine controls in neutral before starting.
6. Always wear the appropriate personal safety equipment when operating equipment including but not limited to hard hat, safety shoes, face shield and heavy gloves.
7. Clear the area of bystanders, especially small children, before starting.
8. Do not operate on slopes or sidehills.
9. Keep all mechanical components in good condition. Do not operate with damaged components.
10. Before beginning operation, check that spreading discs and vanes are firmly mounted.
11. Check the tire pressure regularly.
12. Check the level of oil in the gearbox and make sure the geardrive is working.
13. Review safety instructions with all operators annually.



## ATTENTION!

Before use, please check that zerks are adequately greased (see lubrication section)



## ATTENTION!

During the use of the spreader, please be sure there are not any persons or animals within 50 meters (165 ft.). If someone comes up, please stop immediately

Recommendations for correct distribution:

1. Please always test lbs/acre you want to spread before starting to work.
2. Use a fertilizer or seeds in perfect condition; a humid fertilizer cannot be spread uniformly and correctly.
3. Avoid spreading fertilizer or seeds on windy days, in order to improve the uniformity of the distribution.

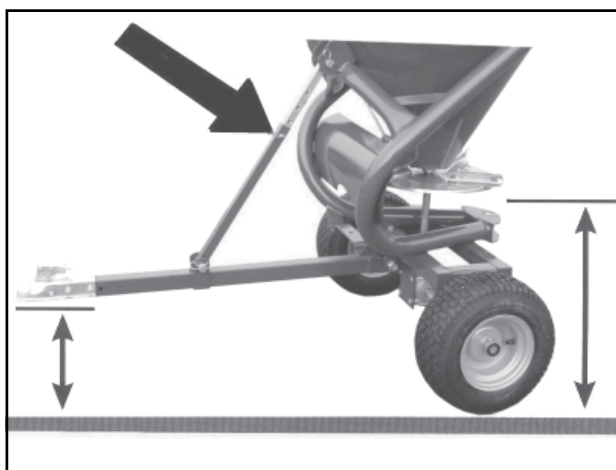


## 4.6 CONNECTION

The pull type spreader can be hitched to every type of tractor or ATV with 1 <sup>7</sup>/<sub>8</sub>" ball hitch, providing it has the horsepower to pull it. To make the connection, it is necessary to put the ball hitch in the coupler on the pull type spreader, locking it by pushing the lock handle towards the bottom. Check and regulate the length of the regulation tongue rod so that the spreader disc is as parallel as possible to the ground in order to get a uniform distribution of the fertilizer or seed. Unscrew the locking bolt, as shown with the arrow in the picture below, and move the rod to the position making unit parallel and lock the bolt in the new position.



*Shaft Regulation Bar*



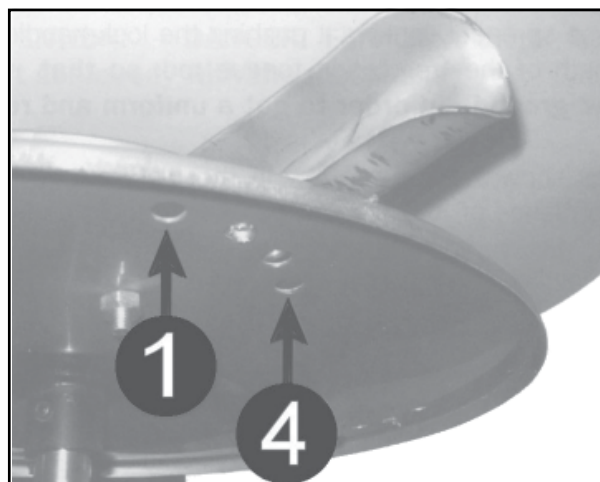
*Correct position of the spreading disc*

## 4.7 ADJUSTMENTS

It is not possible to have an exact spreading chart for equipment that makes use of the centrifugal force principle. The distributed quantity depends on the speed, on the radius of distribution, on the quality and humidity of the fertilizer or seed, and the roughness of the land. The fertilizer must always be stored and conserved adequately, so as to keep its physical characteristics unchanged. It is necessary to set the speed of the pull spreader before starting the operation of distribution, trying in the possible limits, to keep it constant for the total duration. The spreading chart contains the information, in order to determine the quantity to spread in a field; these must be completed by an experienced and competent operator.

### ADJUSTING THE SPREADER VANES:

In order to assure an even distribution on both sides of the spreader, depending on the different specific weight of the material used, the vanes on the disc can be set to different positions. When all the vanes are put in hole 1 (shown in picture below), the distribution of the material is increased towards the left compared to the way the tractor is moving. But if you put the vanes in hole 4, the distribution will be more towards right. Moving vanes from position 1 to 4 on same speed, there will be an increase in the distributing width. This regulation must be made compared to the type of material you are spreading and from experience.



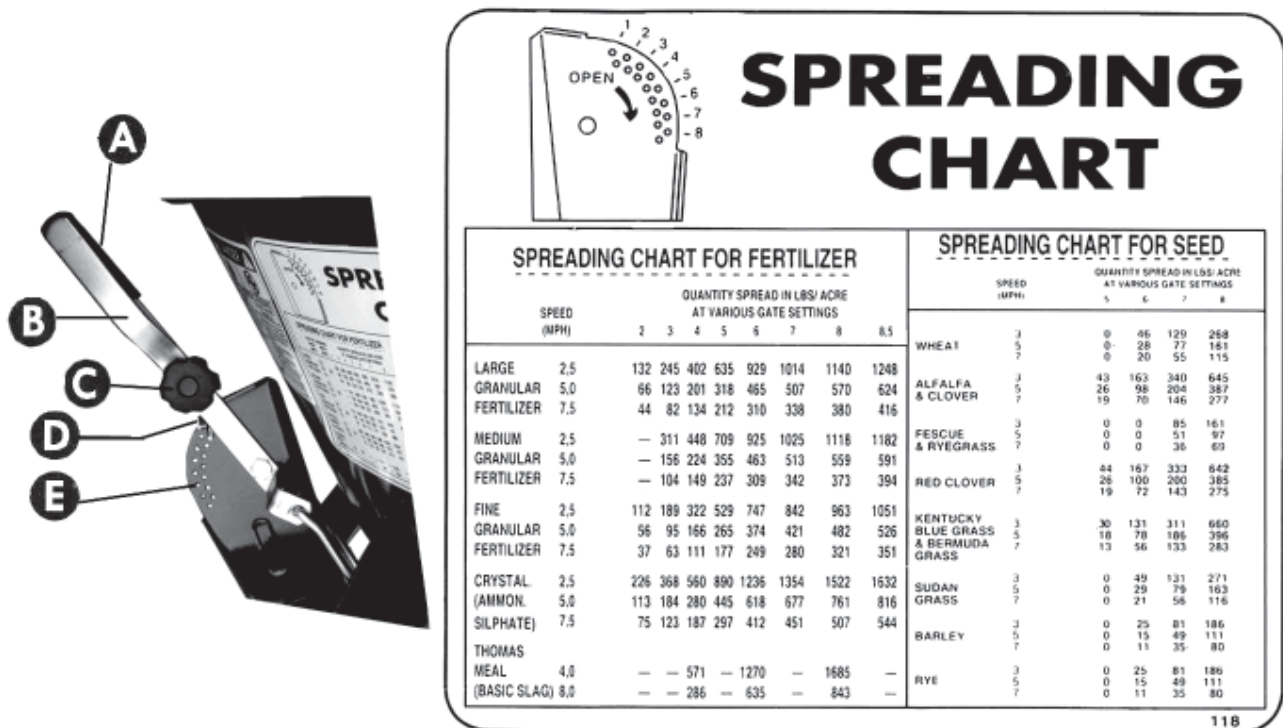
Such regulation must be done in accordance with the material type that is used and the operators experience.



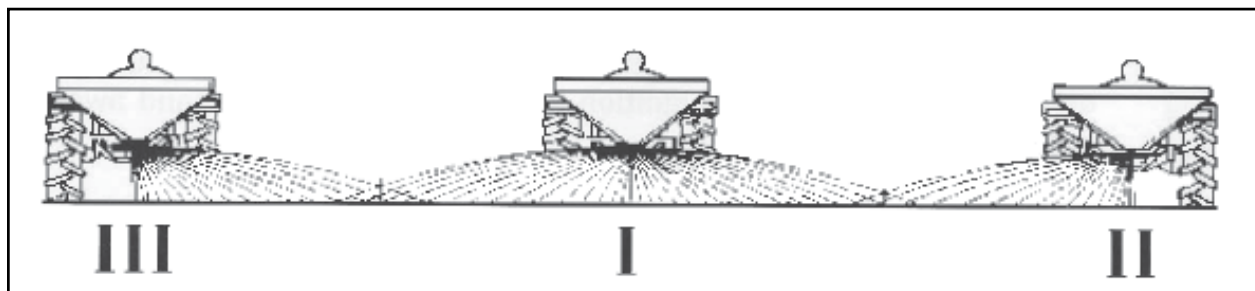
## 4.7 ADJUSTMENTS (CONTINUED)

### ADJUST THE SPREADING:

The material spreading is regulated through the regulation lever that moves the opening section on the bottom of the hopper. In order to carry out the regulation, after having consulted the spreading table, according to the type of material to spread and to the speed of pulling vehicle, it is necessary to move the lever "A" along the graduated scale "E" and locking it in the chosen position with pin "D".



In order to spread from both sides (ref. I), "A" and "B" levers must be in the same position, connected through grip handle "C". In order to carry out the spreading only through the left side (ref. II), it is necessary to disconnect the two levers, removing the "C" grip handle, to set the lever "B" in the chosen position given by spreading chart, and to bring the lever "A" towards the higher part (position 1) in order to close the shutter of the right side. In order to spread only to the right side (ref. III) you have to move lever "B" up, (in position 1) and regulate the quantity to spread with lever "A".





## 4.8 HOPPER LOADING & SPREADING

It is advised not to load the hopper manually, but by using a lift or suitable mechanical means.



### ATTENTION!

The hopper must be loaded only after having hitched the spreader to a pull vehicle.

Do not drive for very long distances with a full load and do not put full bags of the material in the hopper during transport to the field or during working, in order not to overload the capacity of the machine and compress the material.



### WARNING!

During the operations of transport, loading and use of spreading materials, the operator must behave in compliance with the instructions on the labels of the product and in particular with the content of the sentences of risk and the precaution advices.



## SPREADING OF THE MATERIAL IN THE FIELD

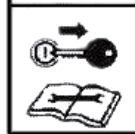


### ATTENTION! - WARNING!

The operator, during the period of use, maintenance, repair, transport or storing the machine, must wear accident prevention shoes and gloves. If it is necessary, operator must wear headset, mask, and glasses.

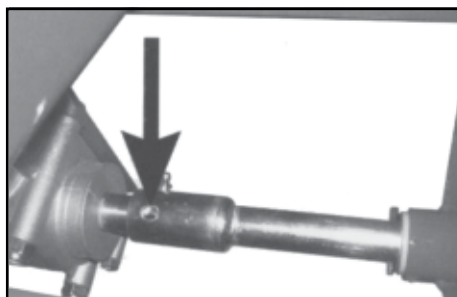
After having hitched spreader to pulling vehicle and carried out necessary precautions, it is now possible to begin work.

### ATTENTION!



Before getting off of pulling vehicle and before every operation of maintenance, set the parking brake, turn off the engine and remove ignition key and wait until all moving parts have completely stopped.

Engage the axle with the pin, so that the spreader can be set in action by the turning wheels, only when you are ready to start spreading.



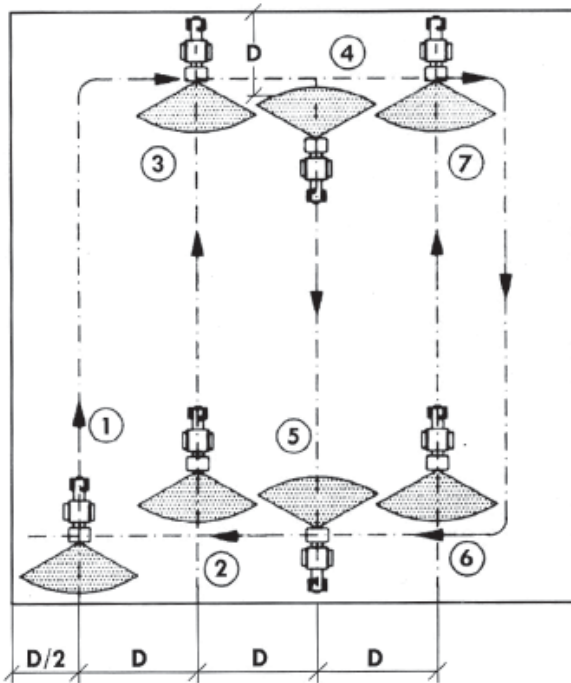
Various ways exist to spread the material in the field. One of the simplest methods is as follows:

1. Position spreader at the beginning of the field you intend to fertilize or seed, to a distance  $(D/2)$  (see chart on page 17) that is half of the working width that is used (point 1).
2. Drive into the field distributing the fertilizer or seed on all the perimeter.



3. Stop at one distance (D) from the point 1, equivalent to the set working width (point 2).
4. Begin the spreading proceeding in line, straight to point 3.
5. Turn and drive a (D) distance, equal to the working width (point 4).

Repeat such procedure until all the field is covered.



## 4.9 SPREADING MISTAKES

### Mistakes of Use:

1. Drive speed
2. Incorrect spreading width
3. The spreading disc is not in a horizontal position compared to the land
4. Drive speed is different to those suggested by the spreading tables, or speed is not suitable for that particular type of material
5. Drive mistakes (lack of overlap of the spreading surfaces)
6. Lack of cleaning of distributing vanes and disc

### Mistakes due to fertilizer:

1. Fertilizer of poor quality
2. Wet or excessively humid fertilizer

3. Incorrect fertilizer composition or it doesn't correspond to what is declared from the vendor
4. Presence of excessive lumps in fertilizer or with dimensions too large to go through exit
5. Foreign body in the fertilizer

### Mistakes due to the spreader:

1. Spreading exits clogged
2. Parts of the spreading disc worn or damaged

## 4.10 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.

Don't wait until you are ready to use the spreader to do the repairs and maintenance. It is best to repair and replace the damaged and broken parts before storing after last use, then it will be ready for next use.

Store the spreader in a sheltered place away from atmospheric agents and protect it in order to avoid deteriorations. The fertilizers are generally corrosive. For this reason, it is important that no particles of fertilizer remain on any part of the spreader for long periods of time.

### Before storing for long periods:

1. Thoroughly wash the spreader, especially inside the hopper and spreading disc
2. Look over the spreader thoroughly and check for structural damages, looking for deep abrasions in the paint
3. Verify that the safety signs are on the spreader and readable. In case they are torn and unreadable, replace with new ones
4. Grease all mechanical parts
5. Store spreader in a sheltered, dry place if possible



## 5 SERVICE AND MAINTENANCE



### MAINTENANCE SAFETY

1. Follow ALL the operating, maintenance and safety information in the manual.
2. Support the machine with blocks or safety stands when working beneath it.
3. 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 tractor/ATV in a closed building. The exhaust fumes may cause asphyxiation.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. Clear the area of bystanders, especially small children, when carrying out any maintenance and repairs or making any adjustments.
6. Never perform maintenance or service work such as lubricating, inspecting, clearing debris, etc., while the tractor/ATV engine is running. Shut off the tractor/ATV engine and remove the key before performing these functions

The ordinary maintenance criteria we suggest are based on the company experience and on the advice and suggestions from customers. A good maintenance schedule keeps the operating costs of the spreader low and allows for a long spreader life.



### ATTENTION!

Whichever work of maintenance, regulation and cleaning must be carried out on the spreader on the ground (in stable conditions), engine turned off, brake on, ignition key off and removed.

In case of damage, the operator must stop the machine immediately, assess the problem and proceed only after problems are repaired. If pressured water or compressed air is used for the cleaning of the machine, it is necessary to protect yourself with proper glasses and/or protection masks and to remove people and/or animals from near machine. Do not use flammable liquids

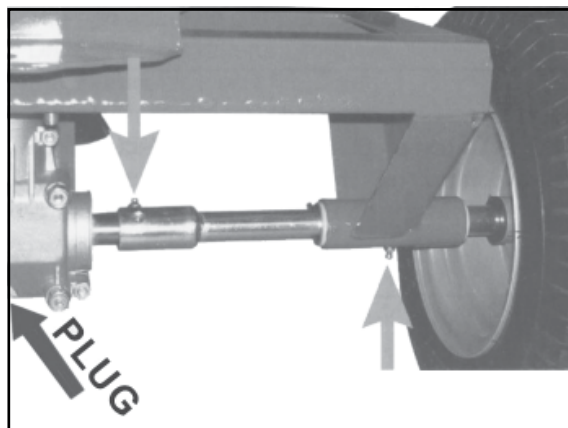


### ATTENTION!

For maintenance operations, always use the proper individual protection devices (safety shoes and gloves) and to take all the accident protection steps for the type of operation to be performed

## 5.1 SERVICE

Before every use and after every 8 hours of use, grease the spreader. Be sure that the grease zerks are clean from dirt and debris before injecting with grease. Lubricate with a grade II type tube grease at the points shown in the picture, both sides of axle. The unit comes with grease in the gearbox, there is a plug (see picture) on the bottom of the gearbox that a flathead screwdriver will fit if you ever need to add grease. When adding grease to gearbox, remove plug and pump full of grease.





### 5.1.1 LUBRICANTS

1. **Grease:**  
Use an SAE multi-purpose 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.

### 5.1.2 GREASING

Use a Maintenance Checklist 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 passage. Replace fitting if necessary.

### 5.1.3 SERVICING INTERVALS

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent servicing.

#### Daily or 8 Hours

1. Check bolts for tightness after 30 minutes of use the first time used.
2. Lubricate all grease fittings and check all bolts for tightness before each use.
3. Empty the hopper then clean and wash thoroughly after every use.

## 5.2 MAINTENANCE

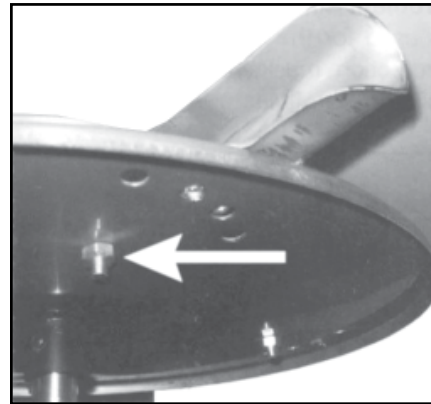
By following a good maintenance program, your equipment will last for many years.

Every 8 hours of operation, check the tightness of all nuts and bolts. In case of unusual vibrations, check the wear of the vanes and spreading disc, the tightness of all nuts and bolts and lubrication of gearbox. The excessive vibration of the spreader, besides being annoying, is dangerous and damaging for the entire structure, subjecting the mechanical parts to more and more stress. It may be necessary to seek the help of specialized personnel regarding some broken parts replacement that are not shown in this manual.

**REMINDER:** Never perform maintenance or service work such as lubricating, inspecting, clearing debris, etc., while the tractor/ATV engine is running. Shut off the tractor/ATV engine and remove the key before performing these functions.

### 5.2.1 SPREADER VANE REPLACEMENT

In case the spreader vanes break or get damaged, it is necessary to replace them with new ones. Unscrew the nut and replace the damaged vane. The nuts and bolts must be of the same type as those used by the manufacturer.



## 5.3 ORDERING PARTS

For the replacement of parts, the customer must use original parts, ordering them from an authorized dealer. When ordering parts, it is necessary to have your model number.

***All replacement parts must meet manufacturer's specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.***



## 6 SPECIFICATIONS

### 6.1 MECHANICAL

- A. Regulating Lever
- B. Hopper
- C. Distributor Vanes
- D. Spreader Disc
- E. Steel Frame
- F. Tires
- G. Rod for tongue adjustment
- H. Tongue
- I. 1 7/8" Ball hitch



### 6.2 TECHNICAL DATA



Hopper Capacity: (liters/gallons)	<b>165 / 43.6</b>
Weight of Unit: (kgs/lbs)	<b>80 / 175</b>
Width (wheel-wheel, outside): (meters/inches)	<b>1.05 / 41"</b>
Loading Height: (meters/inches)	<b>1.30 / 51"</b>
Length: (meters/inches)	<b>1.50 / 59"</b>
Hopper Width: (meters/inches)	<b>0.90 / 35"</b>
Ball Hitch Diameter: (cms/inches)	<b>4,7625 / 1 7/8"</b>
Tires: (type/bar)	<b>6,5 / 3,2</b>
Spreading Width: (meters/feet)	<b>8 - 12 / 26' - 40'</b>
Ground Cover per Hour:	<b>from 27 to 55 ha/h from 7 to 15 acres/h</b>

***SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE***



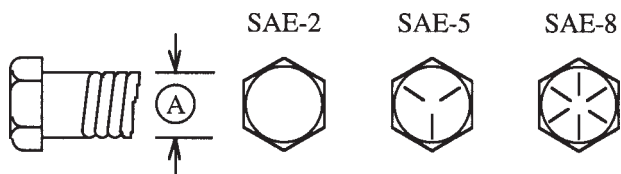
## 6.3 BOLT TORQUE

### 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"	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	(70)	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)



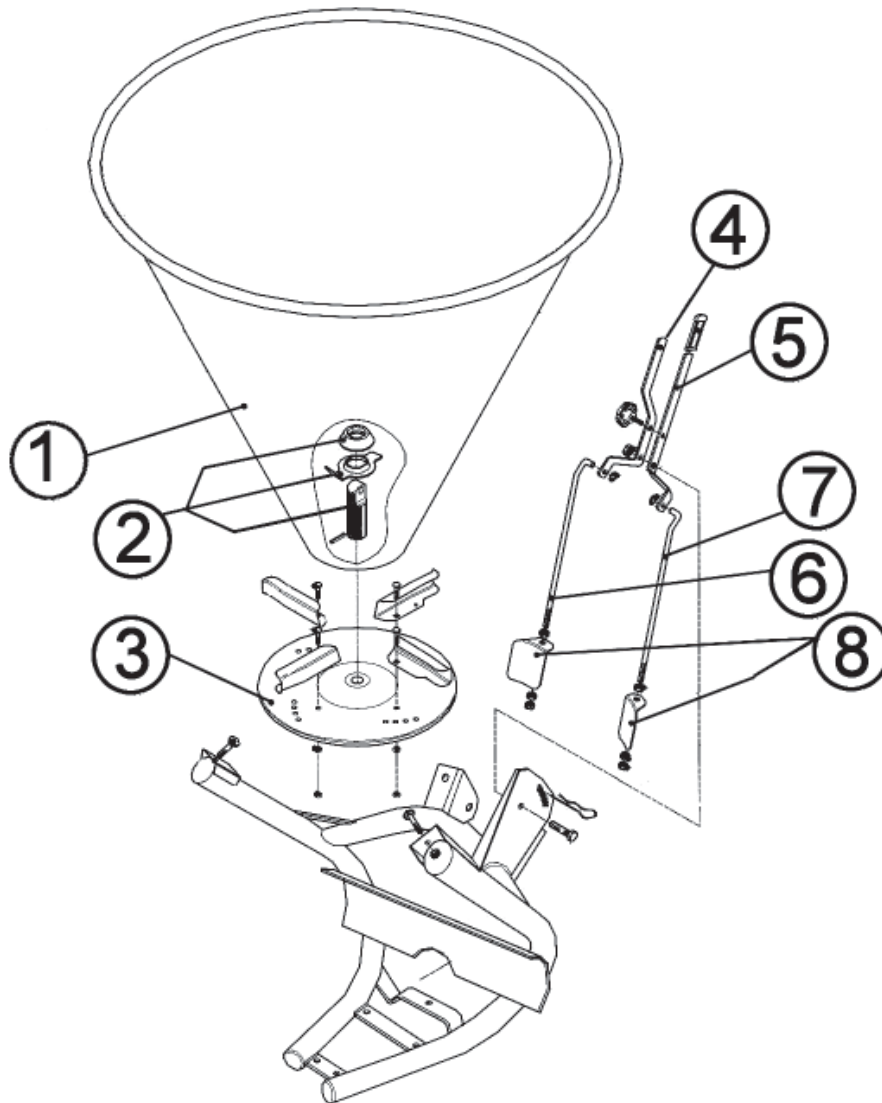
Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

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



## 7 PARTS BREAKDOWN

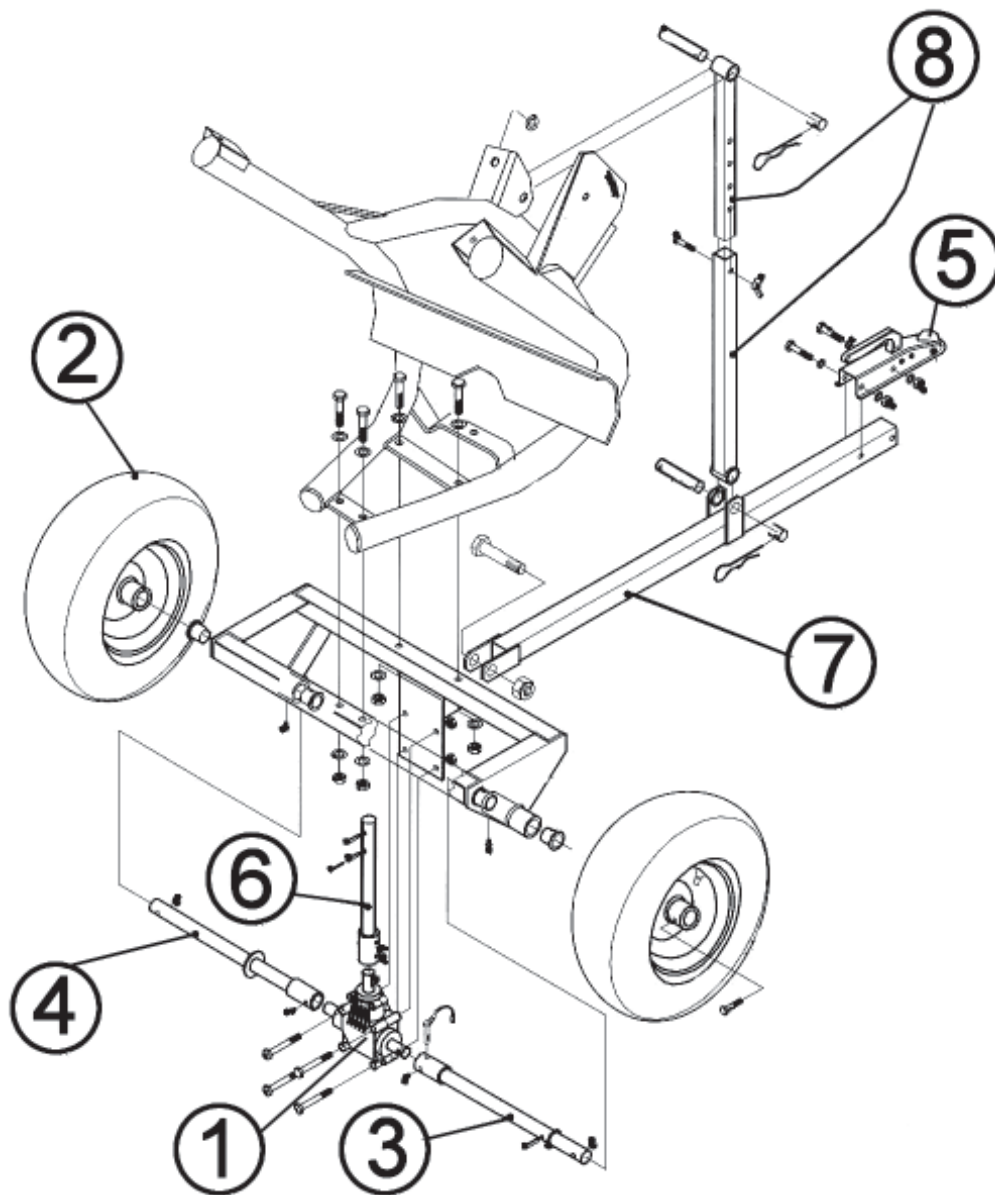
### 7.1 HOPPER



<u>REF #</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	900124	Hopper
2	509000	Lower Agitator Kit
3	900004	Spreader Disc with Blades
4	900132	Right Hand Shutter Lever - Long
5	900131	Left Hand Shutter Lever - Long
6	900123	Right Hand Lever Tie Rod
7	900121	Left Hand Lever Tie Rod
8	509001	Shutters (1) Left & (1) Right



## 7.2 FRAME & GEARBOX



<u>REF #</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	900125	Gearbox
2	900126	Tire 16 x 6.50-8
3	900127	Left Axle
4	900128	Right Axle
5	195169	1 7/8" Ball Hitch
6	900129	Output Shaft with Bushing
7	900118	Tow Bar for 1 7/8" Hitch
8	900119	Tongue Rod



## 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.*