



# **ROTARY TILLER**

## **Assembly, Operation, Service & Parts Manual For Model XB48**

**April 2005**

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# INTRODUCTION

*We welcome you as a new owner of a Gearmore Rotary Tiller. Please read the following instructions and refer to them when required.*

This manual contains valuable information about your Tiller. It has been carefully prepared to give you helpful suggestions for operating, adjustments, 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 Tiller, but only by proper care and operation can you expect to receive the service and long life designed and built into it.

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 Gearmore 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.

Sometime in the future your Tiller 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.

## CUSTOMER INFORMATION

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

**PURCHASED FROM:** \_\_\_\_\_

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

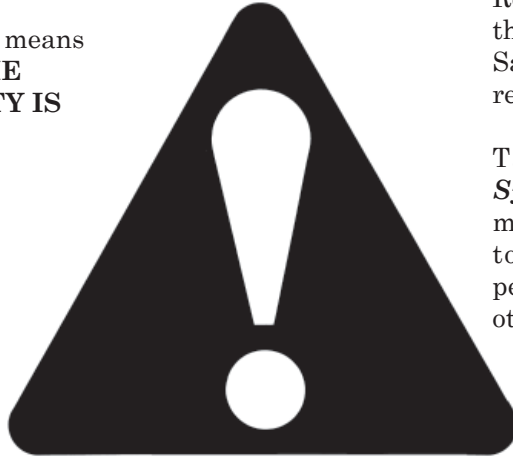
**MODEL NUMBER:** \_\_\_\_\_

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

# SAFETY

## SAFETY ALERT SYMBOL

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



Read and follow the instructions in this manual and especially in the Safety Section. Failure to do so can result in serious injury or death.

Take note! this *Safety Alert Symbol* found throughout this manual is used to call your attention to instructions involving your personal safety and the safety of others.

Why is SAFETY important to you?

### 3 Big Reasons

**Accidents Disable and Kill**  
**Accidents Cost**  
**Accidents Can Be Avoided**

### SIGNAL WORDS:

**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 local dealer.

# SAFETY



## TRAINING

Safety is a primary concern in the design and manufacturing of our product. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator. It is the operator's responsibility to read and understand all safety and operating instructions in the manual and to follow them. 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 you, or is loaned or rented, it is the Rotary Tiller owner's responsibility to make certain that the owner's manual be available to the operator prior to operating:

1. Reads and understands the operator's manuals.
2. Is instructed in safe and proper use.

Know your controls and how to stop the tractor, engine, and tiller 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.

# SAFETY



## EQUIPMENT SAFETY GUIDELINES

Safety of the operator and bystanders is one of the main concerns in designing and developing a tiller. However, every year 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 and insist those working with you, or for you, follow them.

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.

Replace any safety sign that is not readable or missing. Location of such safety signs are indicated in this manual.

Never use alcoholic beverages or drugs that can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.

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 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 System and seat belts. (ROPS)

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 could result in serious injury or death and may impair the function and life of the equipment.

In addition to the design and the confirmation 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 tiller manuals. Pay close attention to the safety signs affixed to the tractor and the tiller.

# SAFETY



## OPERATIONAL SAFETY

The use of this equipment is subject to certain hazards that cannot be protected against by the mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you.

Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders at least several hundred feet from an operating rotary tiller. Only properly trained people should operate this machine.

When machine is operated in populated areas where thrown objects could injure persons or property, **operation must be stopped when anyone comes within several hundred feet.**

The majority of the accidents involve entanglement on the driveline, injury of bystanders by the objects thrown by the rotating tines, and operators being knocked off the tractor by low hanging limbs and then being run over by the tiller. Accidents are most likely to occur with machines that are loaned or rented to someone who has not read the owner's manual and is not familiar with a rotary tiller.

The rotary tiller is designed for use only on tractors with the power take-off (PTO) turning at **540-RPM.**

Install and secure all guards and shields before starting or operating. The tiller tines, driveline guards and tractor shields should be used and maintained in good working condition. They should be inspected carefully, at least daily, for missing or broken chain links, shields, or guards. (Worn items must be replaced at once to reduce possibility of injury.)

Disengage power take-off (PTO) and place transmission in neutral before attempting to start engine.

Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the tiller. These items could then swing outside the housing at greater velocities than the tines. Such a situation is extremely hazardous. Inspect the cutting area for such objects before tilling. Remove any like objects from the site.

Never allow the tilling tines to contact such items. Never assume an area is clear. **ALWAYS CHECK!**

Always stop the tractor, disengage PTO, set brake, shut off the tractor engine, remove the ignition key, lower implement to the ground and allow rotating pieces to come to a complete stop before dismounting tractor. Never leave equipment unattended with the tractor running.

Never place hands or feet under tiller with tractor engine running or before you are sure all motion has stopped. Stay clear of all moving parts.

# SAFETY



## OPERATIONAL SAFETY

Do not reach or place any part of your body under equipment until it is blocked securely.

Do not allow riders on the rotary tiller or tractor at anytime. There is no safe place for any riders.

Do not operate unless all personnel, livestock, and pets are several hundred feet away to prevent injury by thrown objects.

Never operate tractor and rotary tiller under trees with low hanging limbs. Operators can be knocked off the tractor and then run over by the rotating tines.

The rotating parts of this machine have been designed and tested for rugged use. However, they could fail upon impact with heavy, solid objects such as steel guardrails and concrete abutment. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the tilling tines to contact such obstacles.

Stop rotary tiller and tractor immediately upon striking an obstruction. Turn engine off, remove key, inspect and repair any damage before resuming operation.

Stay alert for uneven terrain, holes, rocks, and roots and other hidden hazards. Keep away from drop-offs and hazards that could cause roll over. Use extreme care and maintain minimum ground speed when transporting or operating on hillsides, over rough ground and when operating close to ditches or fences. Be careful and slow down when turning sharp corners and changing direction on slopes. Do not start or stop suddenly on slopes. Avoid operation on steep slopes. In extremely uneven terrain, rear wheels weights, front tractor weight, and/or tire ballast should be used to improve stability.

Pass rotary tiller diagonally through sharp dips and avoid sharp drops to prevent "hanging up" tractor and rotary tiller. Practice will improve your skills in maneuvering on rough terrain. Always cut down slopes, never across the face. Always check tractor manual for proper use on slopes.

When using a unit, a minimum 20% of tractor and equipment weight must be on tractor front wheels. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a front end loader, front wheel weights, ballast in the tires or front tractor weights. When attaining a minimum 20% of tractor and equipment weight on the front wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. **DO NOT GUESS OR ESTIMATE!**



# SAFETY



## STARTING AND STOPPING SAFETY

- ❑ Check the tractor master shield over the PTO stub shaft. Make sure it is in good condition and fastened securely to the tractor. Purchase a new shield if old shield is damaged or missing.
- ❑ All tractors that are not equipped with a "live" power take-off (PTO) need to be equipped with an over-running PTO clutch. These are available through most farm equipment stores. **NOTE:** The addition of an over-running PTO clutch may change the length of the PTO driveline required. Pay extra attention to the instructions on the ***PTO Driveline Installation***. Be sure that the driveline system guarding is adequate.
- ❑ Tiller operating power is supplied from the tractor PTO. Refer to your tractor manual for PTO engagement and disengagement instructions. Know how to stop tractor and tiller quickly in case of an emergency.
- ❑ When engaging PTO, the engine RPM should always be at idle speed. Once engaged and ready to start tilling, raise PTO speed to 540-RPM and maintain throughout tilling operation.

# SAFETY



## TRANSPORT SAFETY

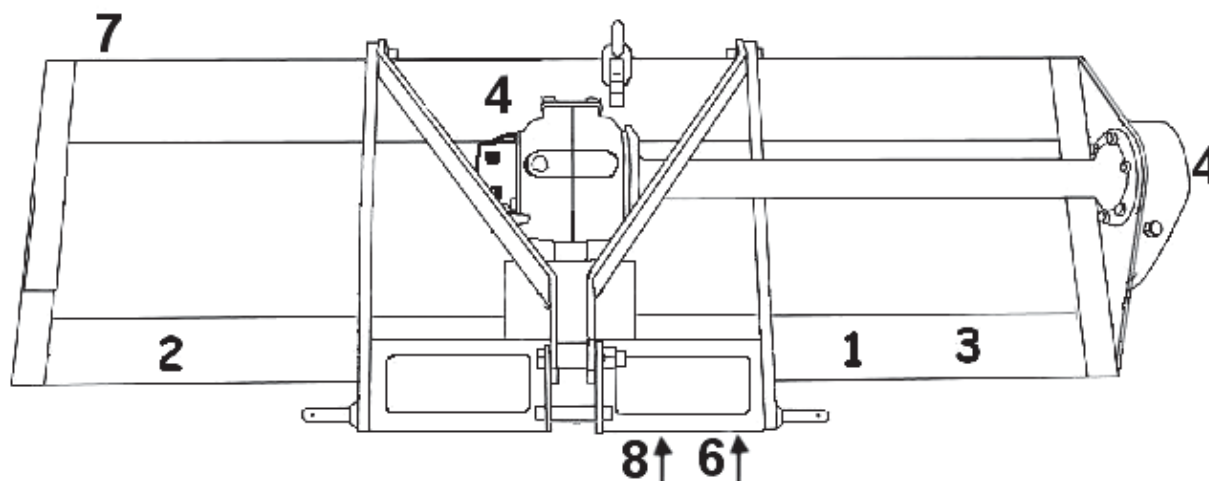
- ☐ Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- ☐ The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all lighting and marking requirements.
- ☐ At all times, when driving the tractor and equipment on the road or highway under 20 m.p.h. (32 KPH) use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem. Do not exceed 20 m.p.h. (32 KPH). Reduce speed on rough roads and surfaces.
- ☐ Plan your route to avoid heavy traffic.
- ☐ Always install transport locks, pins or brackets before transporting.
- ☐ Do not drink and drive.
- ☐ 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.
- ☐ Turn 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 steerage. Slow down on rough or uneven surfaces. Always check tractor manual for proper use on slopes.
- ☐ Use extreme care and maintain minimum ground and when operating close to ditches or fences. Be careful when turning sharp corners.
- ☐ Never allow riders on either tractor or tiller.

# SAFETY



## SAFETY SIGN LOCATIONS

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**.



**TOP VIEW**

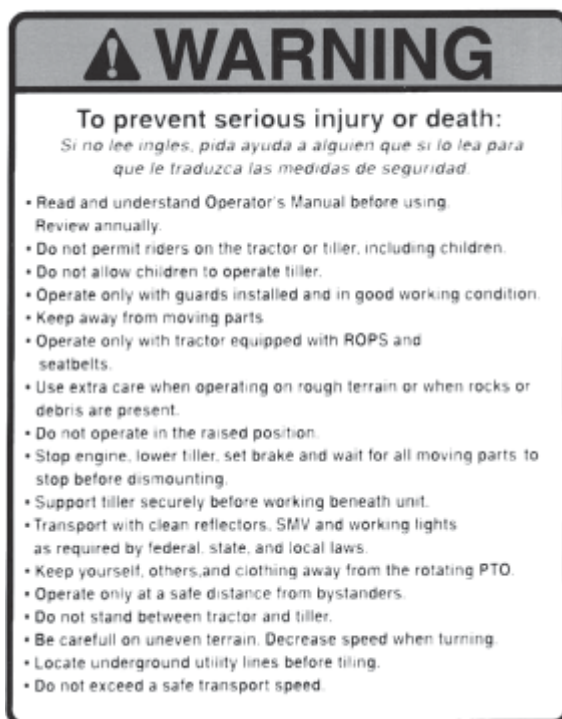
**NOTE:** The numbers represent the safety decals on the following pages.

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

# SAFETY



## SAFETY SIGN LOCATIONS



Safety Sign No. 1



Safety Sign No. 2



Safety Sign No. 3

# SAFETY



## SAFETY SIGN LOCATIONS

SHIPPED WITHOUT OIL IN GEAR BOX  
AND WITHOUT GREASE IN GREASE FITTINGS.  
"CONSULT OWNERS MANUAL FOR  
LUBRICATING AND OPERATING INSTRUCTIONS."

Safety Sign No. 4



MODEL NO.  
DESCRIPTION  
SN# XXXXXXXXXXX

Safety Sign No. 6

 **DANGER**



### ROTATING TINES HAZARD

- Keep away from rotating tines.
- Rotating tines may cause serious injury or death.

Safety Sign No. 7

**XB TILLERS**  
**Designed for**  
**Subcompact Tractors**  
**Up to**  
**25 H.P. Maximum**

Safety Sign No. 8

# **XB ROTARY TILLER ASSEMBLY**

## **ASSEMBLY INSTRUCTIONS**

### **STEP 1:**

With rotary tiller still in crate, lay flat on a level surface. Cut banding straps on the two (2) upright crate posts.

### **STEP 2:**

Remove the top and upper side sections of the crate, leaving the rotary tiller resting on the bottom section.

### **STEP 3:**

Remove tie wire holding the PTO shaft and set aside PTO.

### **STEP 4:**

Attach tiller according to your tractors manual and using the instructions on pages 16 and 17.

### **STEP 5:**

Install tail back plate chain.

### **STEP 6:**

Install PTO shaft as outlined in the *Attaching to Tractor Section*, Pgs 16-19.

**NOTE:** The safety chains on the PTO shaft should be attached to the tractor and tiller to prevent the plastic safety shield from rotating.

# XB ROTARY TILLER ASSEMBLY



## BEFORE PUTTING ROTARY TILLER INTO SERVICE



### IMPORTANT - INSTRUCTIONS PRIOR TO START UP

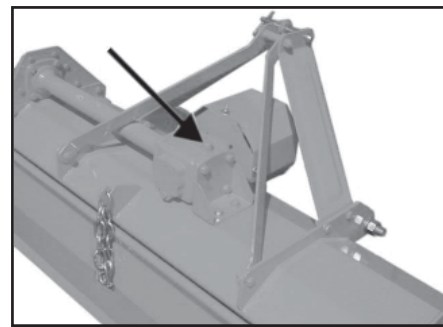
**SHIPPED WITHOUT OIL IN GEARBOXES AND WITHOUT GREASE IN GREASE FITTINGS. UNIT MUST BE SERVICED BEFORE USING.**

- ☐ Fill gearbox using gear oil (type SAE-EP-80W 90).
- ☐ For all grease fittings use TYPE/grade II tube grease.

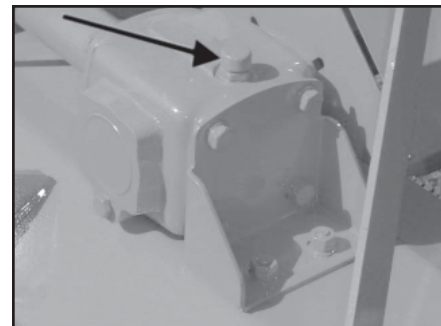
**STEP 1:** Place rotary tiller so that the deck is secure and level.

**STEP 2:** Remove oil plug located at top of transmission gearbox (*See Fig. A & B*).

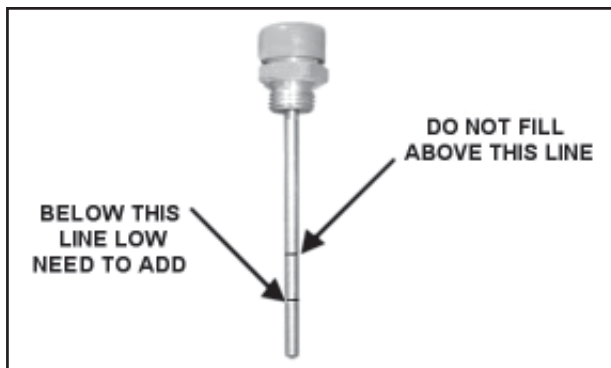
**STEP 3:** Fill gearbox using gear oil until gearbox is approximately  $\frac{1}{2}$  full (16 oz). The plug has marks on it. (*See Fig. C*) Make sure oil level is close to top line, but not over it.  
**DO NOT OVERFILL!**



*Fig. A*



*Fig. B*

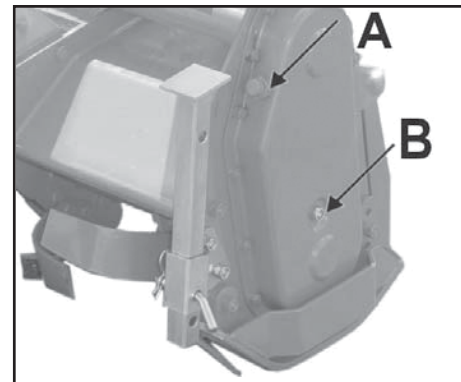


*Fig. C*

# XB ROTARY TILLER ASSEMBLY

**STEP 4:** Replace and tighten the oil plug and clean away any excess oil.

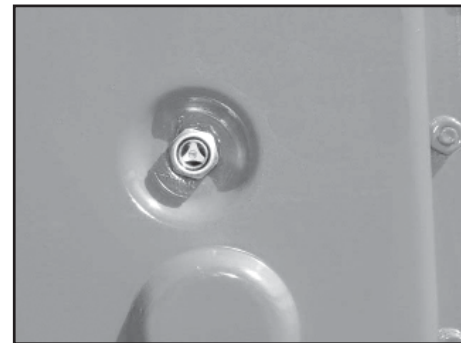
**STEP 5:** Remove oil plug located at top of side gearbox (*See Fig. D, ref. A*), there is a sight glass located in the side of the side gearbox (*Fig. D, ref. B and close-up Fig. E*). Fill oil until oil is to top of glass (20 oz).



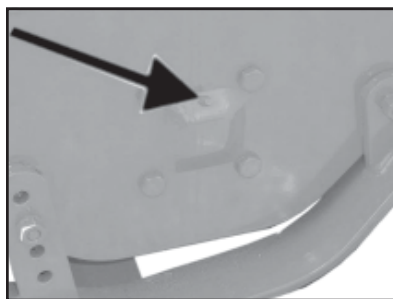
*Fig. D*

**STEP 6:** Replace and tighten the plug. Clean away any excess oil.

**STEP 7:** Grease the grease fitting on the "outboard hub", the two (2) grease fittings on the PTO universal joints, the two (2) grease fittings on the PTO safety shield, and the inner surface portion of the PTO shaft. (*See Fig. F, G, & H*).



*Fig. E*



*Fig. F*

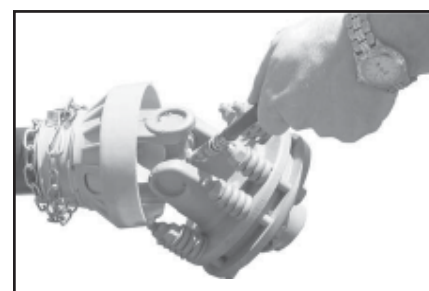


*Fig. G*



## CAUTION:

**DO NOT** overfill gearbox. This could cause damage to oil seals and can cause permanent damage to the gearbox. This issue will not be covered under warranty.



*Fig. H*



# PREPARATION

- ❑ Never operate the tractor and tiller until you have read and completely understand this manual, the Tractor Operator's Manual, and each of the safety messages found on the safety signs on the tractor and tiller.
- ❑ Personal protection equipment including hardhat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintenance, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing, or jewelry to be around equipment.
- ❑ **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!** Tractors with or without tillers 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 80 db. Noise over 80 db on a long-term basis can cause severe hearing loss. Noise over 90 db 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.
- ❑ Operate the tiller only with a tractor equipped with an approved Roll-Over Protection System (ROPS). Always wear your seat belt. Serious injury or even death could result from falling off the tractor - particularly during turnover when the operator could be pinned under the ROPS or the tractor.
- ❑ Clear area to be tilled of stones, branches or other debris that might be thrown or entangled in the tiller, causing injury or damage.
- ❑ Operate only in daylight or good artificial light.
- ❑ Ensure tiller is properly mounted, adjusted and in good operating condition.
- ❑ Ensure that all safety shielding and safety signs are properly installed and in good condition.

# ATTACHING TO TRACTOR

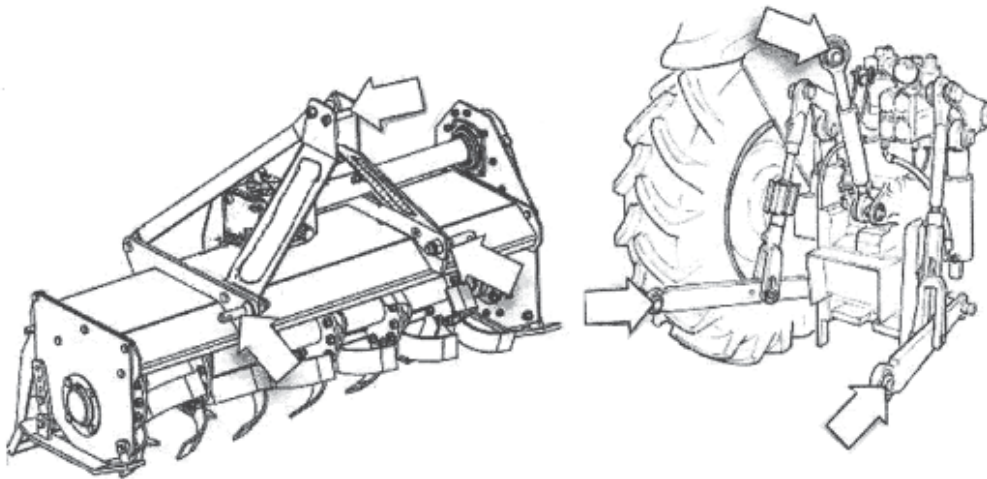


## WARNING

**Never stand between tractor and rotary tiller while backing up tractor to the hitch**



**STEP 1:** Attach to tractor's Cat. I, 3-point hitch as described in the Tractor's Operator's Manual.



**STEP 2:** Determine if the PTO shaft needs to be shortened.

**NOTE:** Due to the many variations in the tractor hitch points and distances between equipment gearbox input shaft and tractor PTO output shafts, some combinations may require PTO shafts to be shortened as described by the following steps.

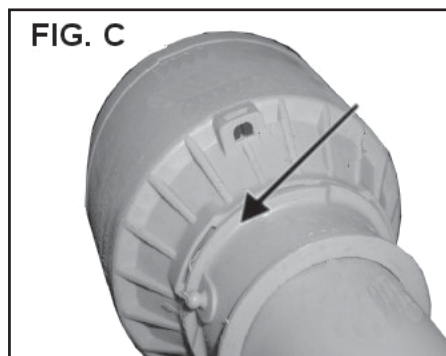
**STEP 3:** Raise and lower rotary tiller in order to locate the shortest distance between equipment gearbox input shaft and tractor PTO output shaft. With the rotary tiller in the shortest distance position, shut down the tractor and **SECURELY BLOCK ROTARY TILLER IN POSITION.**

**WARNING:** IF TILLER IS RAISED UP SO THAT PTO SHAFT IS AT AN ANGLE SHARPER THAN 35 DEGREES, PTO MUST BE STOPPED!

**STEP 4:** Pull apart PTO shaft and attach outer section to tractor PTO output shaft.  
**NOTE:** Be sure to pull on PTO shaft section to ensure yoke has locked into place.

# ATTACHING TO TRACTOR

- STEP 5:** Place and hold inner PTO shaft section next to outer section and check if PTO shaft is too long. Each section should end approximately 1" short of reaching u-joint shield on the opposite section. If the shaft is too long, measure 1" back from each u-joint shield and mark the other shaft section. (Measure 1" from arrow on *Fig. C*). Be sure to do this for both PTO shaft halves.



**NOTE: Do not cut PTO shaft sections at this time.**

- STEP 6:** Raise rotary tiller and remove blocking. Raise and lower rotary tiller in order to locate the longest distance between equipment input shaft and the tractor PTO output shaft. With the rotary tiller in the longest distance position shut down the tractor and **SECURELY BLOCK THE ROTARY TILLER IN POSITION.**

- STEP 7:** As in Step 5, hold PTO shaft sections together and check for a minimum of 6" of overlap. If PTO shaft has been marked for cutting the overlap is the distance measured between the two marks. If the PTO shaft has less than a 6" overlap, **DO NOT USE.** Contact your authorized Gearmore dealer.

**NOTE:** If the PTO shaft length is too long, go to *SIZING PTO SHAFT Pg. 18.*

- STEP 8:** Apply any multipurpose grease to the outside of the male (inner) PTO shaft section. Assemble PTO shaft and install on rotary tiller and tractor.

- STEP 9:** Pull on tractor side of PTO shaft yoke to be sure it has locked in place. Make certain PTO shaft shielding is in place and good working condition.

- STEP 10:** The PTO shaft shield is a non-rotating design and must be secured prior to equipment use. Using the chain on each yoke shield, attach to a fixed object on the tractor and equipment ends that will not allow the PTO shaft shield to rotate during operation.

# SIZING PTO SHAFT

## STEP 1:

Cutting the PTO shaft to length.

**NOTE:** Be sure to cut equal lengths of each PTO shaft section. Clamp end of PTO shaft in a vice and cut off shield where marked. (*Fig. 1-A & 1-B*)

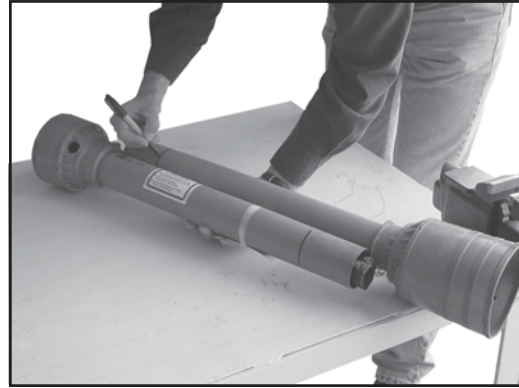


Figure 1-A

## STEP 2:

Using cut section of the shield as a guide, cut shaft off the same amount (*Fig. 2*)



Figure 1-B

## STEP 3:

Repeat steps 1 and 2 for other PTO shaft section.

## STEP 4:

Use a file to deburr PTO shafts. Clean up all chips, burrs, and fillings from both ends of the PTO shaft.



Figure 2

# OPERATING INSTRUCTIONS



## WARNING



**If tiller is raised up so that PTO shaft is at an angle sharper than 35 degrees, PTO must be STOPPED!**

**STEP 1:** Before each use, perform the maintenance described in *Maintenance Section* (pg. 20).

**STEP 2:** Read, understand, and follow the information on safety training, preparation, starting and stopping safety, operational safety, and transport safety warning sections of this manual.

**STEP 3:** With the rotary tiller positioned on level ground, adjust the tractor lift arms so that when lifted, the rotor bar remains parallel to the ground.

**STEP 4:** With the rotary tiller attached to the tractor, raise and support the tiller with suitable blocks. Adjust the skids, located on the sides of the tiller. The adjustment bolts for both right and left sides should be positioned in the same adjustment hole. This allows the tiller to till the same depth on each side. Adjust the back plate, with regulating chain, until the desired mulching effect is found.

**NOTE:** Never attempt to adjust the rotary tiller while the tractor is running.

**STEP 5:** Raise the tiller and remove the blocks. Lower the tiller to the ground.

**STEP 6:** With the tractor at idle RPM and the tiller lifted off of the ground, engage PTO and slowly advance throttle to 540 PTO RPM. **NOTE:** Rotary tiller is designed to run at 540 PTO RPM only.

**STEP 7:** Select a low gear for the tractor and begin to move forward. Tractor ground speed is to be controlled by gear selection only and not engine speed. As the tractor moves forward, slowly lower the tiller down. Allow the tiller tines to gradually engage the ground.

**NOTE:** Do not allow the tractor engine or rotary tiller to bog down or stall. This causes undue wear and tear on the tiller and tractor. If this continues to happen reduce ground speed and raise tilling depth of rotary tiller. Never attempt to remove objects from the rotor bar until the tractor has been shut down and the tiller tines have completely stopped.

**NEVER** travel at a fast ground speed while using the tiller, this could damage it. Never attempt to turn the tractor or travel in reverse with the PTO engaged and the tiller in the ground. Always raise the tiller out of the ground when backing up or attempting to turn. Failure to do so may cause damage to the tiller.

**STEP 8:** After each use, clean all debris from the tiller tines. Replace any missing or illegible safety decals. Inspect for any damaged or worn parts and replace before next use. Store rotary tiller in a dry environment.

# MAINTENANCE

1. Periodically check and maintain proper gear oil level.
2. Every 8 hours grease (1) "outboard hub", (2) PTO shaft universal joints, (3) PTO shaft safety shield and (4) PTO telescoping surface.

**NOTE: Use only a grade Type II tube grease.**

**NOTE: Do not grease the slip clutch assembly.**

3. Before each use, check to make sure all safety shields are installed and working properly.
4. Check tiller tines for cracks and breaks before every use.
5. Periodically check all nuts and bolts to insure they are tight and secure.
6. Periodically loosen torque spring bolts and allow slip clutch to slip for approximately two (2) revolutions. Loosen the bolts until the springs lose contact with the flange yoke. This ensures that the slip clutch is not in a "locked" position.
7. Make sure that the clutch slips.
8. Re-tighten the slip clutch, tighten the torque spring bolts until the nut makes contact with the flange yoke and further tighten one and a half turns ( $1\frac{1}{2}$ ). This is a good starting point, further adjustments may need to be made based on soil conditions.

**NOTE: Do not over or under tighten slip clutch assembly or damage may occur.**

# MAINTENANCE SAFETY

**GOOD MAINTENANCE IS YOUR RESPONSIBILITY. POOR MAINTENANCE IS AN INVITATION TO TROUBLE.**

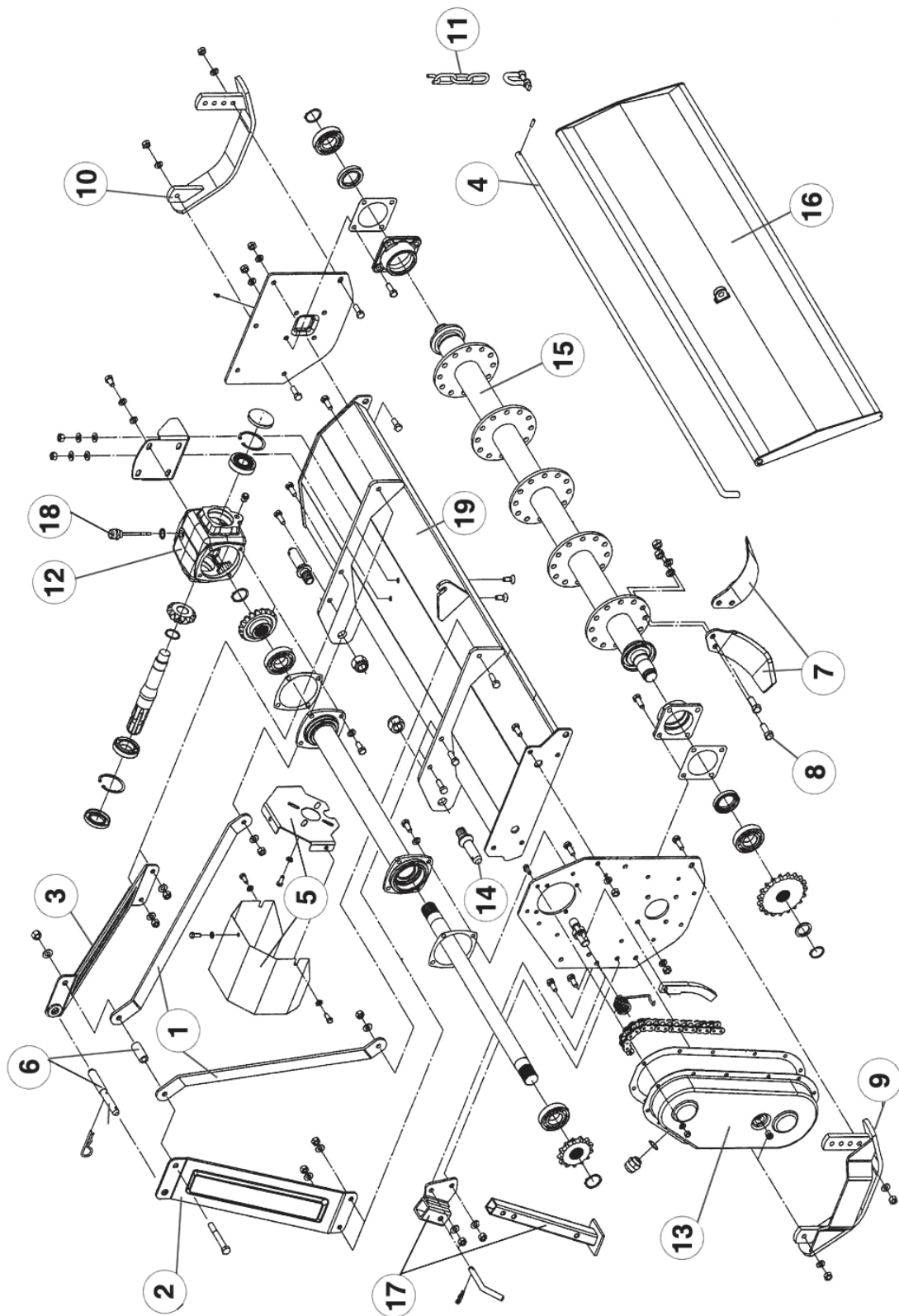
- ☐ Follow good shop practices:
  - ✓ Keep service area clean and dry.
  - ✓ Be sure electrical outlets and tools are properly grounded.
  - ✓ Use adequate light for the job at hand.
- ☐ Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- ☐ Before working on this machine, disengage the PTO, shut off the engine, set the brakes, and remove the ignition keys.
- ☐ Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.
- ☐ Never work under equipment unless it is securely blocked.
- ☐ Always use personal protection devices such as eye, hand, and hearing protectors, when performing any service or maintenance.
- ☐ Frequently check tiller tines. They should be sharp, free of nicks and cracks and securely fastened.
- ☐ Periodically tighten all bolts, nuts, and screws and check that all cotter pins are properly installed to ensure unit is in safe condition.
- ☐ When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.
- ☐ After servicing, be sure all tools, parts and service equipment are removed from tiller.
- ☐ Do not allow debris, grease or oil to build up on any deck or platform.
- ☐ Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications.
- ☐ The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- ☐ A fire extinguisher and the first aid kit should be kept readily accessible while performing maintenance on this equipment.

# STORAGE SAFETY

- ☐ Following operation, or when unhooking the tiller, stop the tractor, set the brakes, disengage the PTO, shut off the engine and remove the ignition keys.
- ☐ Store the unit in an area away from human activity.
- ☐ Store the unit in a dry environment.
- ☐ Do not park equipment where it can be exposed to direct contact to livestock for long periods of time. Damage and livestock injury could result.
- ☐ Make sure all parked machines are on a hard, level surface and engage all safety devices.



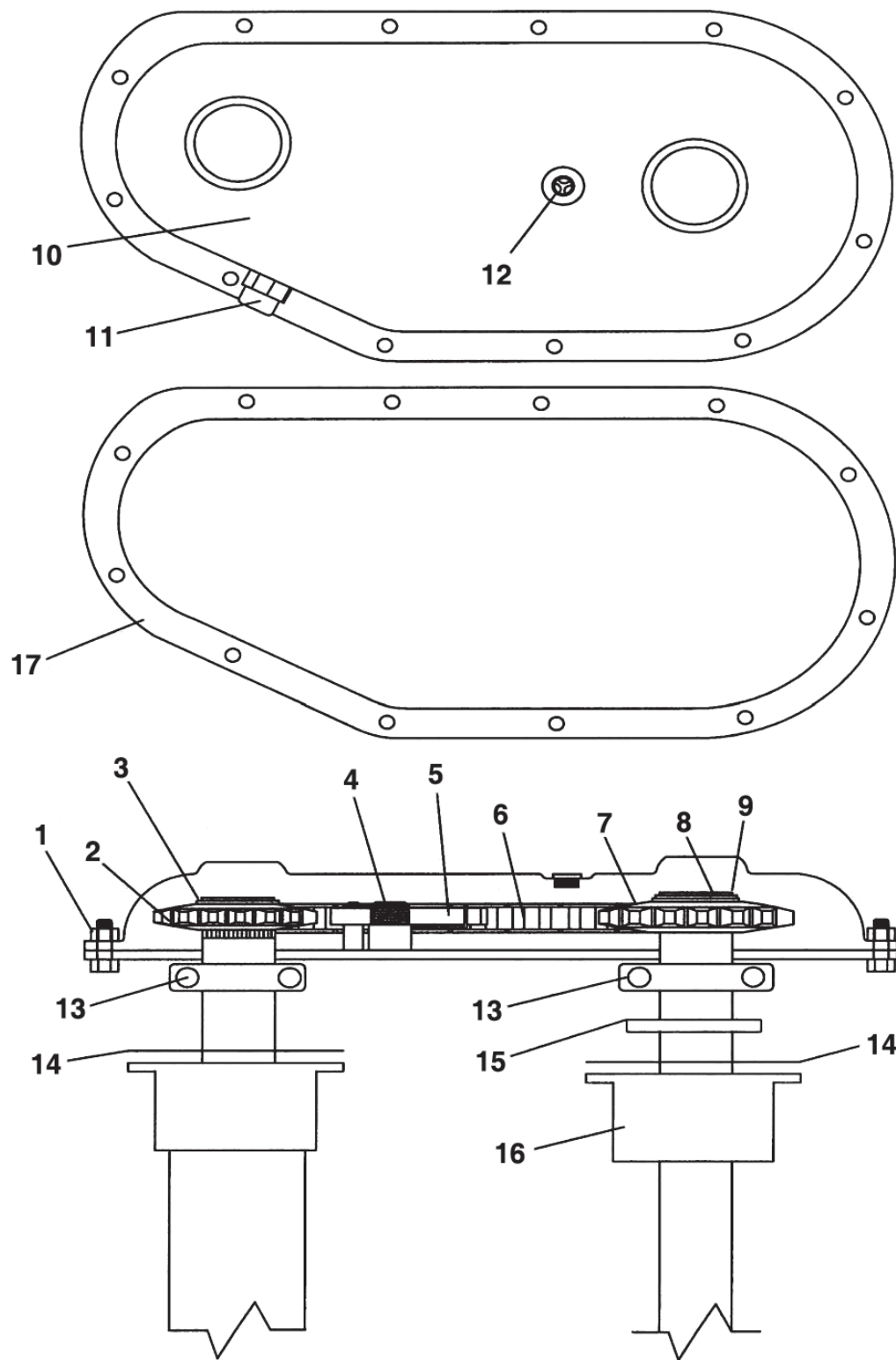
# TILLER ASSEMBLY



# TILLER ASSEMBLY

<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	904010	Lift Arm Brace
2	1	904002	Lift Arm L.H.
3	1	904005	Lift Arm R.H.
4	1	504200	Tail Rod Assembly
5	1	504201	Cover Assembly Kit
6	1	504202	Lift Arm Spacer Kit
7	1	504204	Tine Package (1 R.H. & 1 L.H.) w/Bolts
7	1	504205	Tine Package (3 R.H. & 3 L.H.) w/Bolts
7	1	604206	4' Complete Tine Package (30 pcs.)
8	1	504207	Tine Bolt Package (12 pcs.)
8	1	504208	Tine Bolt Package (60 pcs.)
9	1	904056	Skid Assembly L.H.
10	1	904051	Skid Assembly R.H.
11	1	504203	Chain & Shackle Kit
12	1	904100	Top Gearbox Assembly
13	1	904200	Side Gearbox Assembly]
14	1	500001	Lift Pins Cat. I (2 pk.)
15	1	904065	Rotor Assembly
16	1	904070	Back Plate Assembly
17	1	504209	Support Stand Assembly
18	1	904021	Oil Plug/Gauge
19	1	904047	Frame Assembly

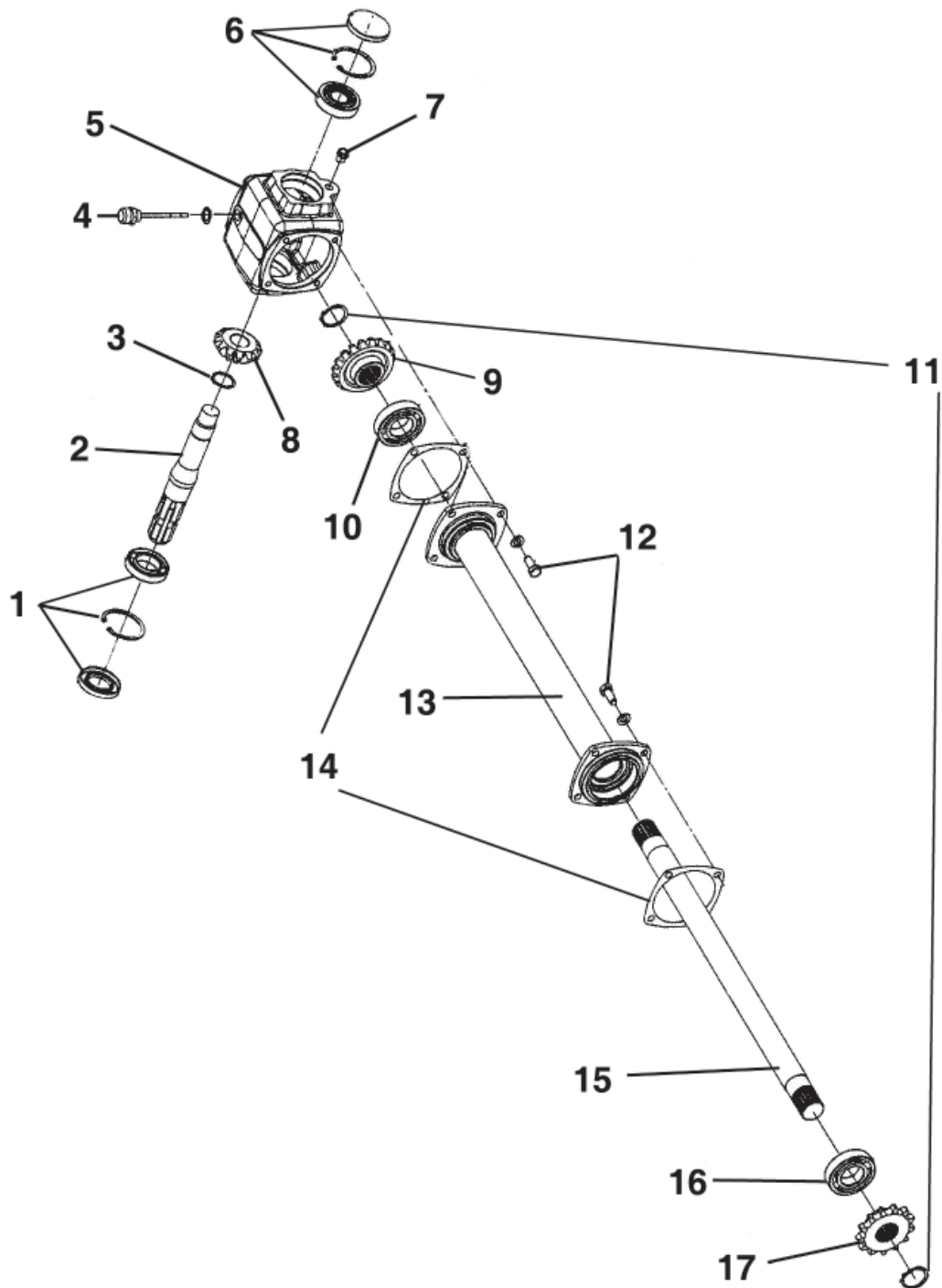
# SIDE GEARBOX 904200 ASSEMBLY



# SIDE GEARBOX 904200 ASSEMBLY

<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	504210	Bolt M-8-20 (Pkg. of 13)
2	1	904034	Driving Gear Z13
3	1	904029	Retaining Ring 35mm
4	1	904044	Chain Adjust Spring
5	1	904054	Chain Adjuster
6	1	904043	Chain ASA 60 HE 46MG
7	1	904058	Driven Gear Z19
8	1	904057	Shim
9	1	904019	Retaining Ring 30mm
10	1	904040	Cover
11	1	901015	Oil Plug M22 x 1.5
12	1	904039	Oil Plug M14
13	2	155010	Bearing 6207
14	2	904031	Gasket
15	1	904059	Oil Seal 40 x 62 x 10 PP
16	1	904061	Bearing Housing
17	1	904060	Gasket
18	1	904055	Chain Drive Cover Gasket

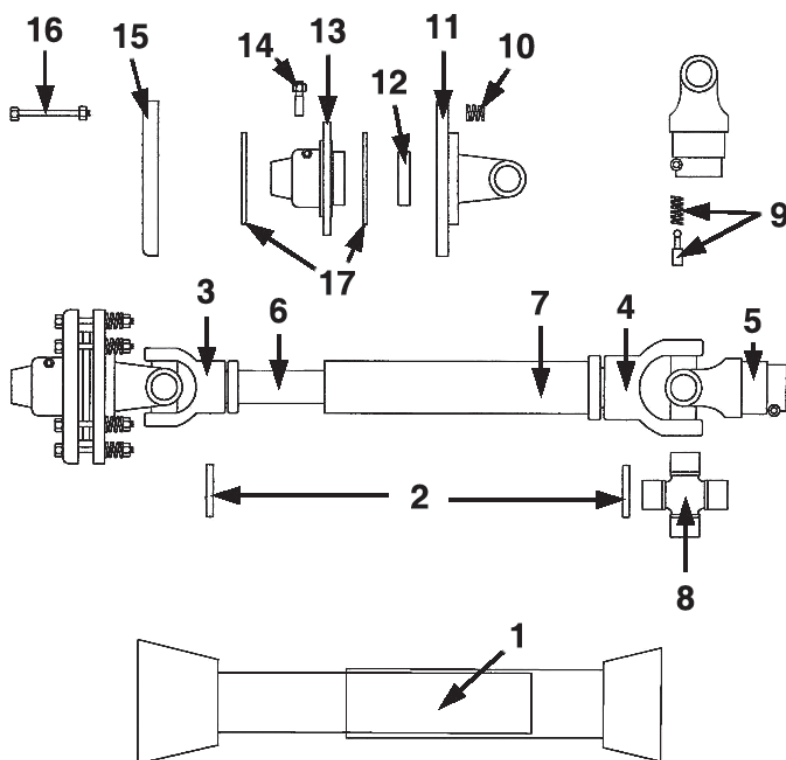
# TOP GEARBOX ASSEMBLY 904100



# TOP GEARBOX ASSEMBLY 904100

<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	504211	Bearing Pkg. (1 ea. Seal, 6007 Bearing, & Retaining Ring 62mm)
2	1	904018	Input Shaft
3	1	904019	Retaining Ring 30mm
4	1	904021	Oil Plug/Gauge
5	1	904023	Housing
6	1	504212	Bearing Pkg. (1 ea. 30305 Bearing, Retaining Ring, & Cap)
7	1	901017	Plug M14 x 1.5
8	1	904020	Bevel Gear Z13
9	1	904030	Bevel Gear Z19
10	1	902323	Bearing 6207 2RS
11	1	504215	External Retaining Ring 35mm (Pkg. of 2)
12	1	504214	Bolt M10 x 25 (Pkg. of 8)
13	1	904032	Output Shaft Support 600mm
14	1	504213	Gasket (Pkg. of 2)
15	1	904033	Output Shaft 600mm
16	1	155010	Bearing 6207
17	1	904034	Driving Gear Z13

# DRIVELINE ASSEMBLY 22" PTO 147122



<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	124310	Series 14 Safety Shield
2	2	170120	Roll Pin
3	1	151045	Male Tube End Yoke
4	1	151050	Female Tube End Yoke
5	1	151035	Tractor End Yoke
6	1	151090	Inner Tube 14 Series
7	1	151091	Outer Tube 14 Series
8	1	170015	Cross Kit #4
9	2	170110	Quick Disconnect Pin
10	1	140218	Torque Spring
11	1	140226	Flanged Yoke
12	1	140221	Bushing
13	1	140220	Friction Hub
14	1	140224	Bolt 10 x 70
15	1	140216	Pressure Plate Outer
16	1	140023	Slip Clutch Bolt
17	1	140219	Friction Disc

# 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.*