

# **OWNERS'S MANUAL**

## **ROTARY TILLER**

**(FORWARD ROTATION OR REVERSE ROTATION)**



**AG-MEIER IND. LLC**

**THIS MANUAL MUST BE READ AND UNDERSTOOD BEFORE ANYONE OPERATES THIS MACHINE!**  
**PLEASE CONTACT YOUR DEALER FOR PARTS AND ADDITIONAL INFORMATION**



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# TO THE PURCHASER

This manual contains valuable information about your new AG - MEIER II Rotary Tiller. 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 tiller, 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 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 Purchased \_\_\_\_\_

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

# INTRODUCTION

This tiller is designed with care and built with quality materials by skilled workers. Proper assembly, maintenance, and operating practices, as described in this manual, will help the owner/operator get years of satisfactory service from the machine.

The purpose of this manual is to familiarize, instruct, and train. The Assembly section instructs the owner/operator in the correct assembly of the tiller using standard and optional equipment. The Parts List section is designed to familiarize the owner/operator with replaceable parts on the tiller. This section provides exploded assembly drawings of each tiller component illustrating each piece and the corresponding part number.

Careful use and timely service saves extensive repairs and costly downtime losses. The Operation and Maintenance sections of the manual instruct the owner/operator how to operate the tiller correctly and attend to appropriate maintenance. The Trouble Shooting Guide helps diagnose difficulties with the tiller and offers possible solutions to the problem.

Safety is of primary importance to the owner/operator and to the manufacturer. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Many of the safety messages will be repeated throughout the manual. The owner/operator should know these Safety Messages before assembly and be aware of the hazards of operating this tiller during assembly, use, and maintenance. The Safety Alert Symbol Combined with a Signal Word, as seen below, is intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this machine.

## WARNING



Serious injury or possible death!  
Decals are Red and White

## DANGER



Imminent death/critical injury  
Decals are Red and White

### ATTENTION OWNER/OPERATOR, BEFORE OPERATING THIS MACHINE

1. Carefully read the Operator's Manual, completely understand the Safety Messages and instructions, and know how to operate correctly both the tractor and tiller
2. Record the tiller Model and Serial Numbers on the Warranty page at the end of the Operator's Manual. Keep this as part of the permanent maintenance file for the tiller

# PARTS ORDERING GUIDE

The following instructions are offered to help eliminate needless delays and errors in purchasing parts.

1. The parts list is prepared in a logical sequence according to the basic machine drawings in the parts listing section of this manual. Part numbers and descriptions are given to help locate the parts and quantities required.
2. When ordering parts contact the AG-MEIER INDUSTRIES LLC dealer nearest you, or the dealer from whom you purchased your equipment.
3. When ordering parts have the model and serial numbers of the equipment, part number, quantity and description of the machine for which parts are being ordered.

For maximum safety and to guarantee optimum product reliability, always use genuine **AG-MEIER INDUSTRIES LLC** parts. The use of replacement parts manufactured by companies other than **AG-MEIER INDUSTRIES LLC** invalidates the warranty and may cause premature or which could result in serious injury or death. Direct any questions concerning repair parts to the dealer from whom the machine was purchased, the nearest **AG-MEIER INDUSTRIES LLC** dealer or:

## AG-MEIER INDUSTRIES LLC

AG-MEIER INDUSTRIES LLC  
920 E. 6<sup>TH</sup> AVENUE  
BELTON, TX 76513  
(254) 939-3731 FAX: (800) 634-3597  
<http://www.ag-meier.net>

# SAFETY RULES

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.



THIS SYMBOL MEANS ATTENTION!  
BECOME ALERT! YOUR SAFETY IS INVOLVED

## SIGNAL WORDS:

The signal words DANGER, WARNING and CAUTION are used with the safety messages in this manual and with each safety signs. They are defined as follows:

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

**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death, 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 practice.

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

AG-MEIER INDUSTRIES LLC  
920 E. 6TH AVENUE  
BELTON, TX 76513  
1-800-446-7319 FAX 254-939-0721

## 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.



## **ROTARY TILLER ASSEMBLY INSTRUCTIONS**

### **STEP 1**

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

### **STEP 2**

Remove the top & 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, pg 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.**

## **BEFORE PUTTING ROTARY TILLER INTO SERVICE**

(IMPORTANT- INSTRUCTIONS PRIOR TO START UP)  
SHIPPED WITHOUT OIL IN GEAR BOXES AND WITHOUT GREASE IN GREASE FITTINGS. UNIT MUST BE SERVICED BEFORE USING.

Fill Gearbox using gear oil (type GL5-85W 140 or Triple Zero Grease; which can be poured and has "EP" i.e. "Extreme Pressure" additives.)  
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 1/2" Pipe Plug (Located at top of transmission gearbox). See Figure A.

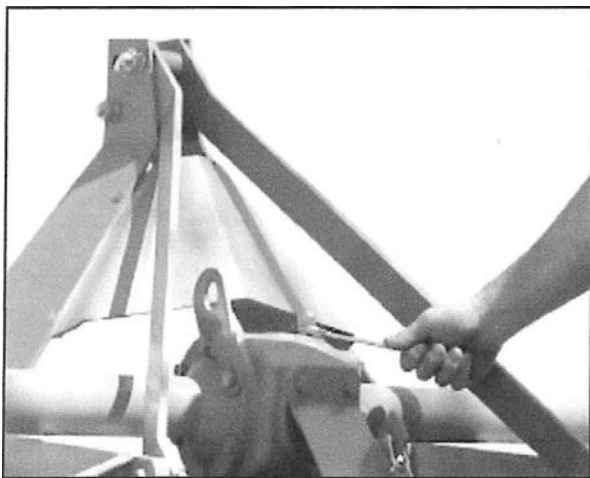
### **STEP 3**

Fill gearbox using gear oil until gearbox is approximately 1/2 full. See Figure B.

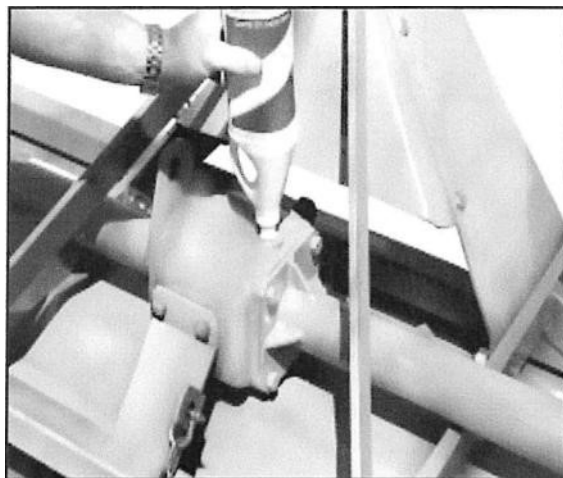
- STEP 4** Replace and tighten the 1/2" pipe plug and clean away any excess oil. See Figure C.
- STEP 5** Remove 1/2" Pipe Plug (Located at top of side gearbox, See Figure D on next page) and the 1/8" check plug (Located in side of the side gearbox).
- STEP 6** Fill side gearbox using gear oil until the oil begins to overflow from the check plug hole. See Figure E on next page.
- STEP 7** Replace and tighten the 1/2" vent plug and the 1/8" check plug. Clean away any excess oil. See Figure F on next page.
- STEP 8** Grease the grease fitting on the "out-board 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 Figures G, H and I on next page.

**CAUTION:**

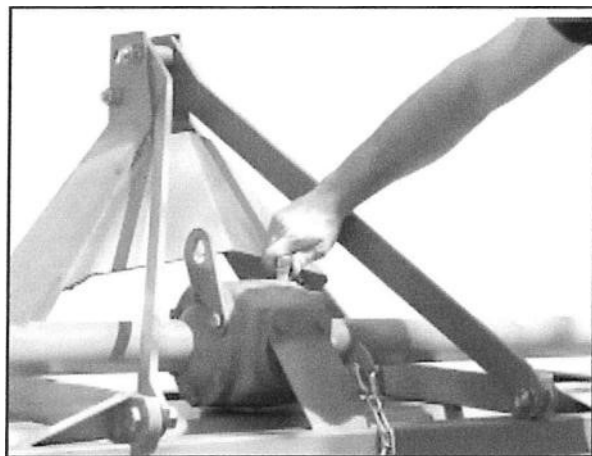
**DO NOT** over fill gearbox. This could cause damage to oil seals and can cause permanent damage to the gearbox. This issue will not be covered under warranty.



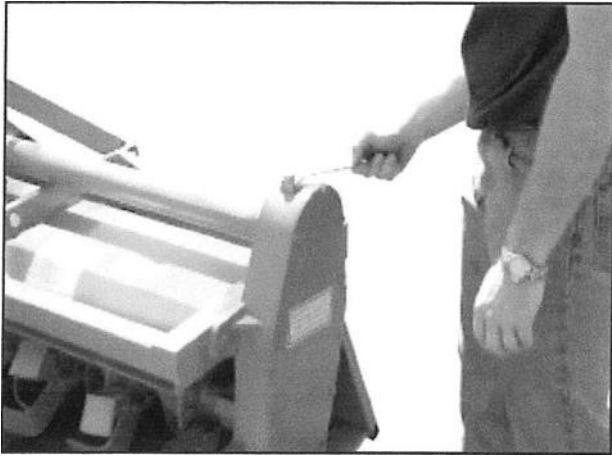
**Figure A**



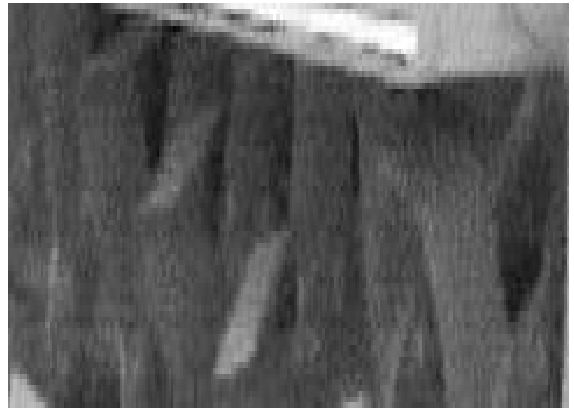
**Figure B**



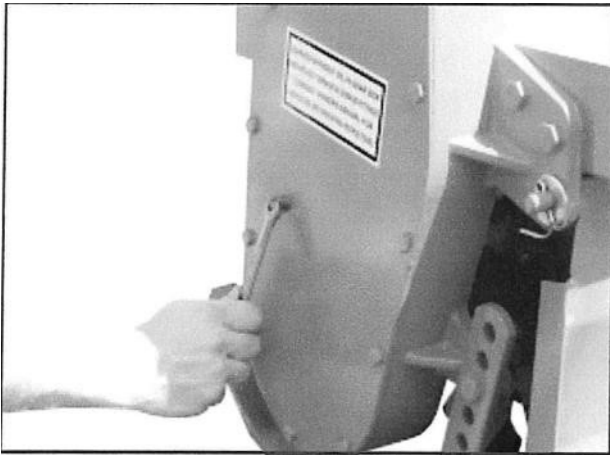
**Figure C**



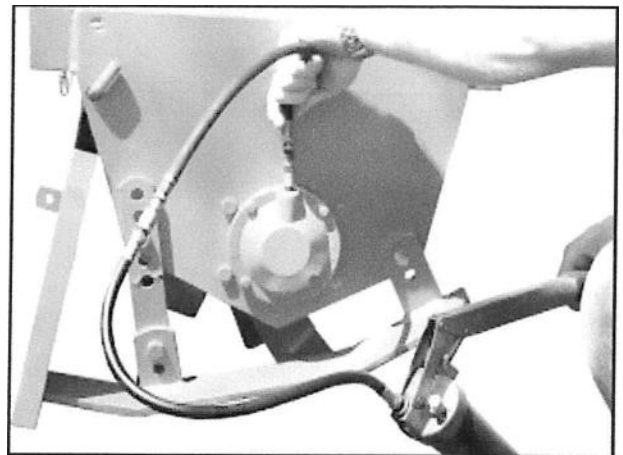
**Figure D**



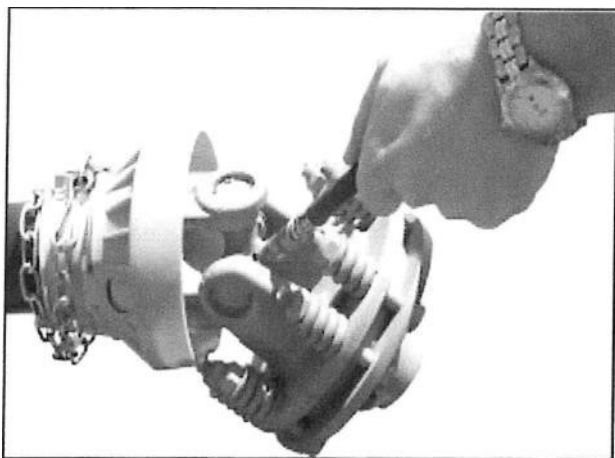
**Figure E**



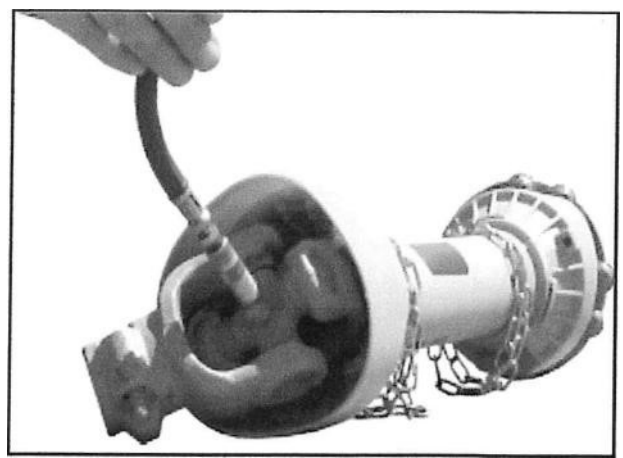
**Figure F**



**Figure G**



**Figure H**



**Figure I**

## 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.

## P R E P A R T I O N

- 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-Protective System (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.
- 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.

## S T A R T I N G A N D S T O P P I N G S A F E T Y

- 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 takeoff (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.

## 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 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.**
- Most 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 takeoff (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.
- 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.

## OPERATIONAL SAFETY *continued...*

- 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 esti**

## TRANSPORT SAFETY

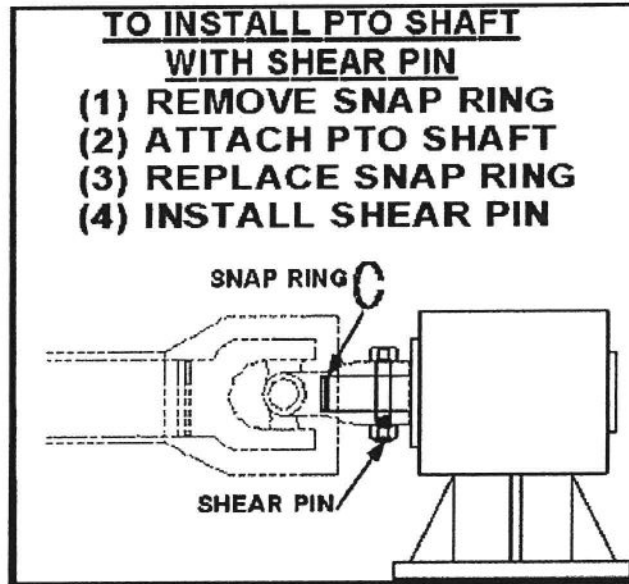
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all lighting and marking requirements.
- At all times, when driving the tractor and equipment on the road or highway under 20mph (32kph) 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.
- 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 a least 20% of the tractor's weight is on the front wheels to maintain safe steering. Slow down on rough or uneven surface. 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.

## ATTACHING TO TRACTOR

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

### STEP 1

Attach to tractor's category 1 three-point hitch as described in the Tractor's Operator's Manual.



**WARNING**



Failure to install retaining clip on gearbox input shaft would allow driveline to swing freely if bolt is sheared causing possible injury or death.

### 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.**

### 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** *continued...*

### **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 3 inches short of reaching u-joint shield on the opposite section. If the shaft is too long measure 3 inches back from each u-joint shield and mark the other shaft section. 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 inches 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 inch overlap, DO NOT USE.

### **NOTE**

If the PTO shaft length is too long go to **SIZING PTO SHAFT (pg. )**

### **STEP 8**

Apply any multi-purpose 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. **(Figure 1-A & 1-B)**

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

### STEP 3

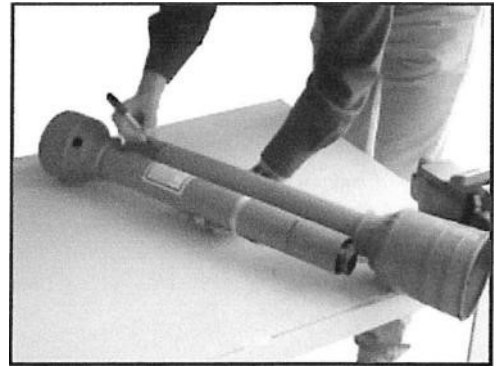
Repeat steps 1 and 2 for other PTO shaft section.

### STEP 4

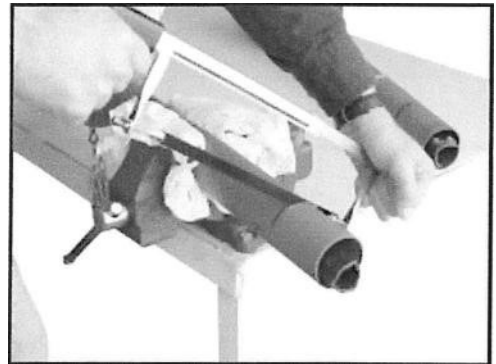
Use a file to deburr PTO shafts. Clean up all chips, burrs and filings from both ends of the PTO shaft.

### **Note:**

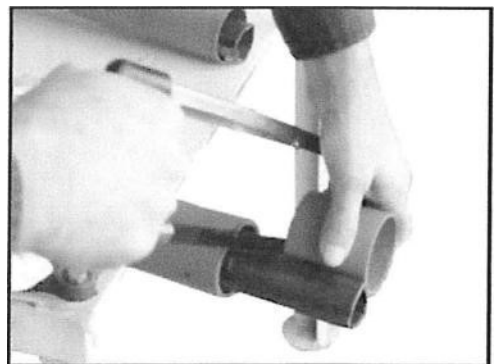
If you shear the bolt that attaches the PTO shaft to the gearbox replace with a grade 2 bolt only. Replacement with another grade of bolt will void your warranty and may cause terminal damage to the PTO shaft, gearbox, or tractor.



**Figure 1-A**



**Figure 1-B**



**Figure 2**

## **OPERATING INSTRUCTIONS**

### **STEP 1**

Before each use perform the maintenance described in maintenance section (Page 20)

### **STEP 2**

Read, understand, and follow the information in safety training, preparation, starting and stopping safety, operational safety, transport safety warning sections of this manual (Pages 12 thru 15).

### **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 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, (1) grease "out-board 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). To retighten 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 (1-1/2). 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 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 blocked securely.
- 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.
- 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.

# ROTARY TILLER SAFETY DECALS



Decal 1



Decal 2

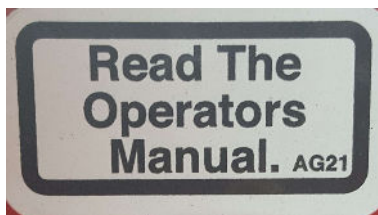


Decal 3

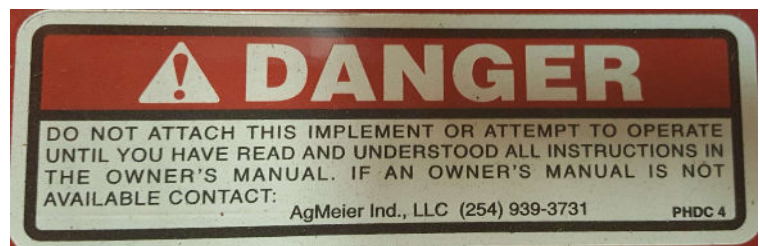
## LOCATED ON REAR DECK



Decal 4



Decal 5



Decal 6



## TILLER SAFETY DECALS

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 **SAFTY AWARENESS**.



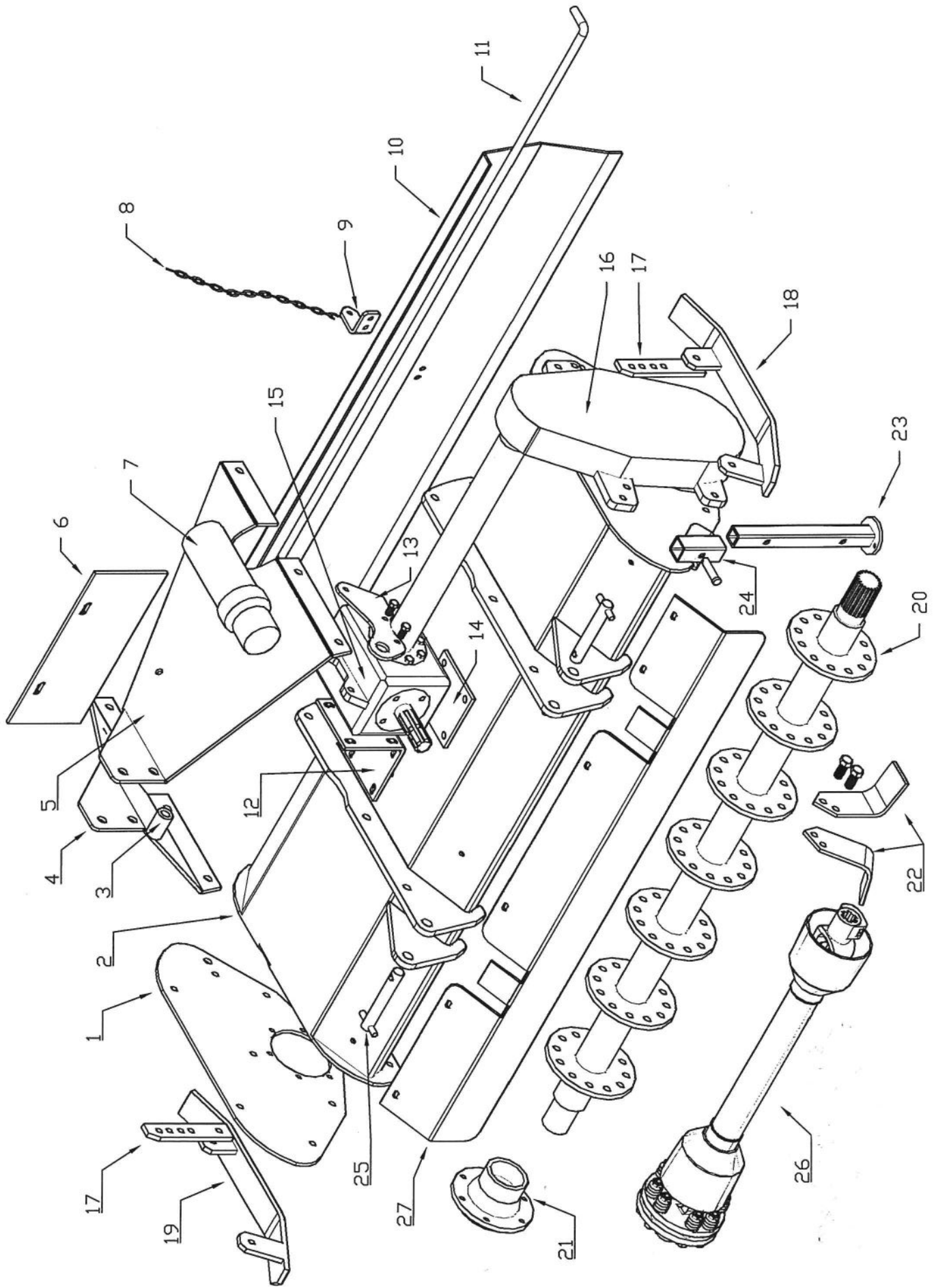
**Note:** The numbers represent the safety decals on the following pages.

**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, distributor or factory.

# TILLER ASSEMBLY

REF.	DESCRIPTION	RT48	RT60	RT72	RT84	QTY.
		RT48R	RT60R	RT72R	RT84R	
1.	RIGHT MOUNT PLATE	31100113	31100113	31100113	31100113	1
2.	HOOD WELD ASSEMBLY	31100125	31100116	31100117	31100126	1
3.	TOP SPACER BUSHING	31100107	31100107	31100107	31100107	1
	BOLT, 3/4" X 4"	10100638	10100638	10100638	10100638	1
	LOCK NUT, 3/4"	30032	30032	30032	30032	1
4.	RIGHT HITCH PLATE	31100101	31100101	31100101	31100101	1
5.	LEFT HITCH PLATE	31100102	31100102	31100102	31100102	1
6.	GEARBOX GUARD, RUBBER	30900521	30900521	30900521	30900521	1
7.	OWNERS MANUAL CANISTER	OMC-1	OMC-1	OMC-1	OMC-1	1
8.	CHAIN & CLEVISES	50400022	50400022	50400022	50400022	1
9.	CHAIN MOUNT, REAR SHIELD	31100127	31100127	31100127	31100127	1
10.	REAR SHIELD	31100121	31100114	31100115	31100122	1
11.	SHIELD HINGE ROD	31100119	31100104	31100105	31100120	1
12.	MOUNTING PLATE FOR GEARBOX	31100103	31100103	31100103	31100103	1
13.	HANGER PLATE	31100118	31100118	31100118	31100118	1
14.	BACKUP/SPACER PLATE	31100106	31100106	31100106	31100106	2
15.	CENTER GEARBOX, FORWARD ROTATION	50200292	50200250	50200251	50200295	1
	CENTER GEARBOX, REVERSE ROTATION	50200311	50200312	50200313	50200314	1
16.	SIDE GEARBOX	50200252	50200252	50200252	50200252	1
17.	SKID SHOE ADJUSTMENT PLATE	31100100	31100100	31100100	31100100	2
18.	SKID SHOE, LEFT	31100109	31100109	31100109	31100109	1
19.	SKID SHOE, RIGHT	31100108	31100108	31100108	31100108	1
20.	TINE DRUM	31100123	31100110	31100111	31100124	1
21.	HUB ASSEMBLY	50200253	50200253	50200253	50200253	2
22.	TINE PKG. (1-RH & 1 LH)	50800080				18
22.	TINE PKG. (1-RH & 1 LH)		50800080			21
22.	TINE PKG. (1-RH & 1 LH)			50800080		27
22.	TINE PKG. (1-RH & 1 LH)				50800080	30
	BOLT, 14MM X 35MM	10101027	10101027	10101027	10101027	VAR
	LOCK WASHER, 14MM	10201025	10201025	10201025	10201025	VAR
	NUT, 14MM	10201024	10201024	10201024	10201024	VAR
23.	LEG STAND	31100132	31100132	31100132	31100132	1
24.	LEG STAND MOUNT	31100133	31100133	31100133	31100133	1
	CLEVIS PIN	10300080	10300080	10300080	10300080	1
	HAIR PIN	30152	30152	30152	30152	1
25.	CAT. 1 DRAW PIN		50900006	50900006	50900006	2
	CAT. 1 SHOULDER PIN	KTR 161				2
26.	DRIVELINE, SERIES 4	50100600	50100600	50100600	50100600	1
27.	FRONT DEFLECTOR, FOR REVERSE ROTATION TILLER	31100128	31100129	31100130	31100131	1

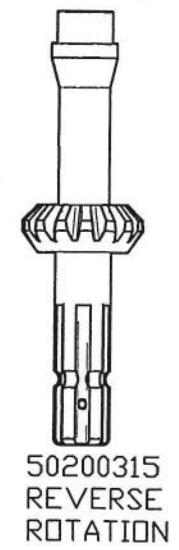
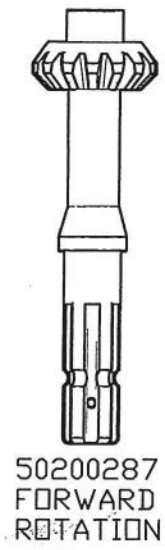
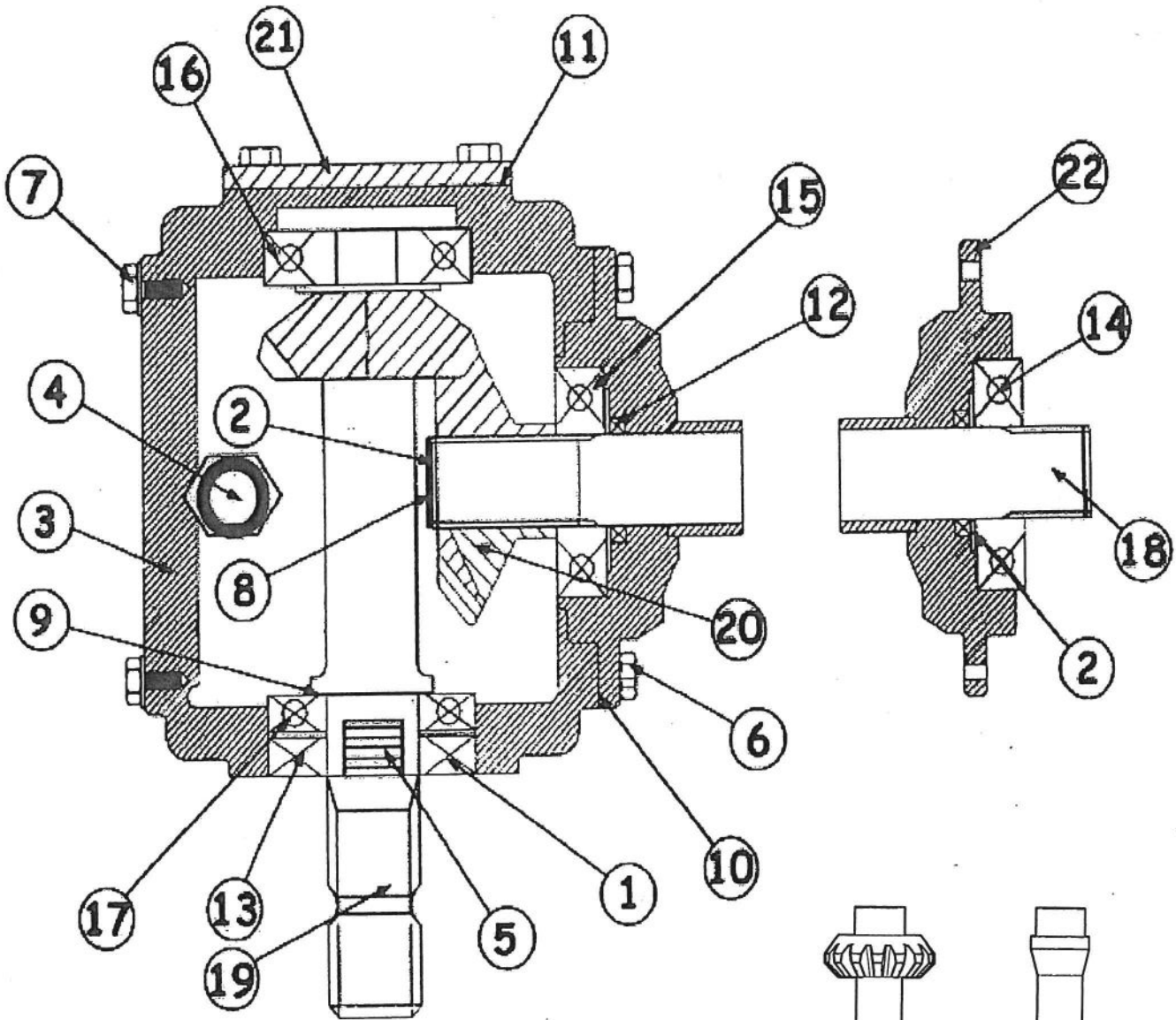




# TILLER CENTER GEARBOX

REF.	PART NO.	DESCRIPTION	QTY.
1.	50200271	RETAINING RING 72mm	1
2.	50200270	RETAINING RING 40mm	1
3.	50200272	HOUSING, CENTER	1
4.	33329	BREATHER PLUG	1
5.	FS47	CHECK PLUG 1/4"	1
6.	10101025	BOLT M - 10 - 25	6
7.	10101030	BOLT M-10 - 30	4
8.	50200273	SPACER	1
9.	50200274	SHIM PACK	1
10.	50200275	OUTPUT GASKET, 0.8mm	1
	50200276	OUTPUT GASKET, 0.5mm	1
11.	50200277	INPUT GASKET, 0.4mm	1
	50200278	INPUT GASKET, 0.2mm	1
12.	50200279	OUTPUT SEAL, DOUBLE LIP	1
13.	50200280	INPUT SEAL, DOUBLE LIP	1
14.	50200281	SEALED BALL BEARING, 6308	1
15.	50200282	BALL BEARING, 6308	1
16.	50200283	BALL BEARING, 6307	1
17.	50200284	BALL BEARING, 6207	1
18.	50200293	OUTPUT SHAFT, RT48 & RT48R	1
	50200285	OUTPUT SHAFT, RT60 & RT60R	1
	50200286	OUTPUT SHAFT, RT72 & RT72R	1
	50200296	OUTPUT SHAFT, RT84 & RT84R	1
19.	50200287	INPUT PINION SHAFT, 13 TOOTH, SHOWN FORWARD ROTATION (GEAR ON BACK SIDE)	1
	50200315	INPUT PINION SHAFT, 13 TOOTH, REVERSE ROATION (GEAR ON FRONT SIDE)	1
20.	50200288	OUTPUT GEAR, 19 TOOTH	1
21.	50200289	REAR CAP	1
22.	50200294	CAP HUB, RT48 & RT48R	1
	50200290	CAP HUB, RT60 & RT60R	1
	50200291	CAP HUB, RT72 & RT72R	1
	50200297	CAP HUB, RT84 & RT84R	1

# TILLER CENTER GEARBOX

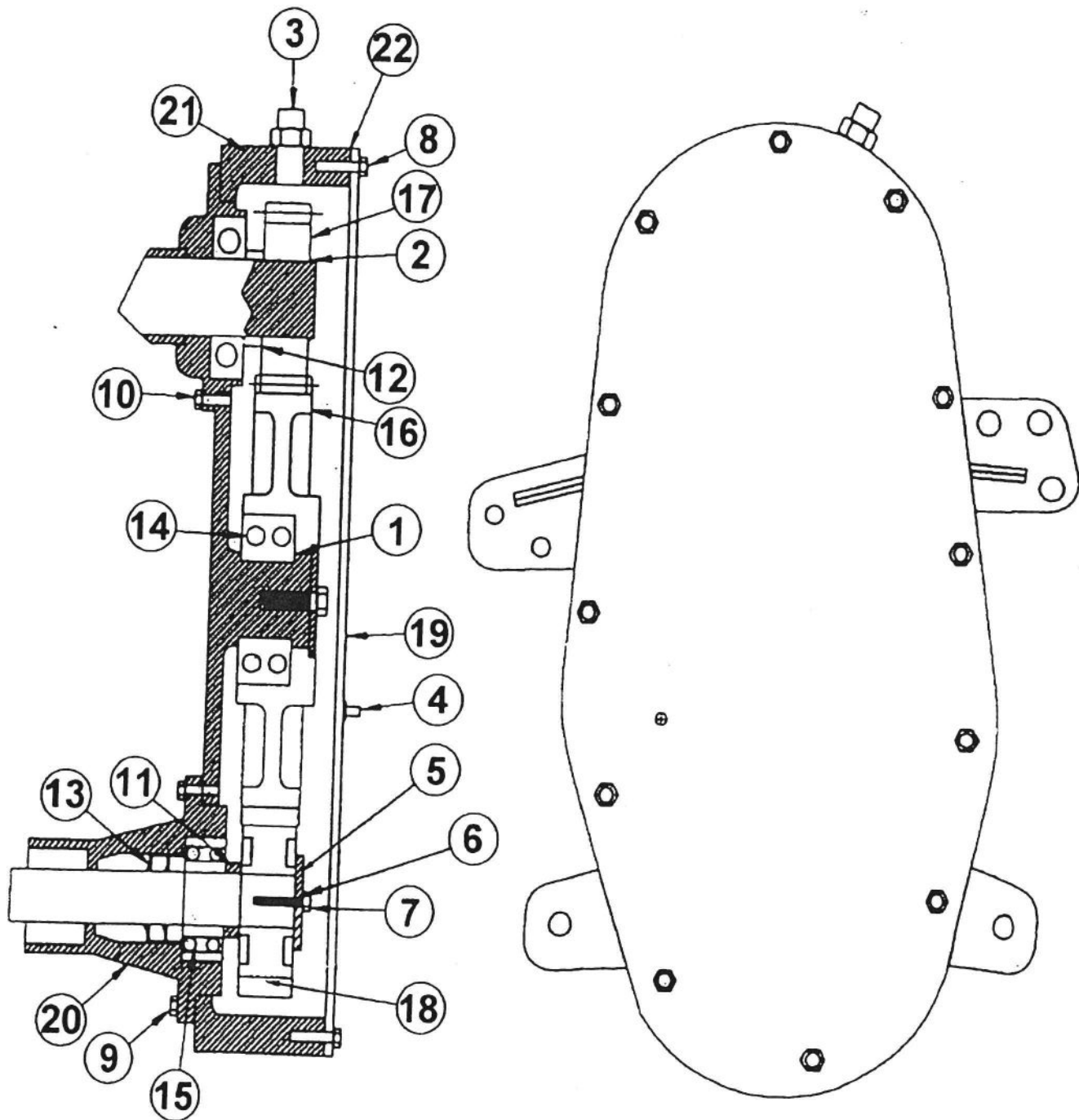


# TILLER SIDE GEARBOX 50200252

REF.	PART NO.	DESCRIPTION	QTY.
1.	50200269	RETAINING RING 90mm	1
2.	50200270	RETAINING RING 40mm	1
3.	33329	BREATHER PLUG	1
4.	FS47	CHECK PLUG 1/4"	1
5.	50200258	FLAT WASHER	2
6.	10201012	LOCKWASHER M - 12	2
7.	10101225	BOLT M-12 - 25	2
8.	10101015	BOLT M-8 -16	12
9.	10101025	BOLT M - 10 - 25	6
10.	10101020	BOLT M - 10 - 20	6
11.	50200259	SPACER (OUTPUT)	1
12.	50200260	SPACER (INPUT)	1
13.	50200257	SEAL, DOUBLE LIP	2
14.	50200261	DOUBLE BALL BEARING (3210)	1
15.	50200256	SELF ALIGNING BALL BEARING (1310)	1
16.	50200262	GEAR, 34 TOOTH	1
17.	50200263	GEAR, 16 TOOTH	1
18.	50200264	GEAR, 28 TOOTH	1
19.	50200265	COVER	1
20.	50200254	HUB HOUSING	1
21.	50200266	HOUSING	1
22.	50200267	GASKET, COVER	1
23.	50200268	GASKET, HUB	1

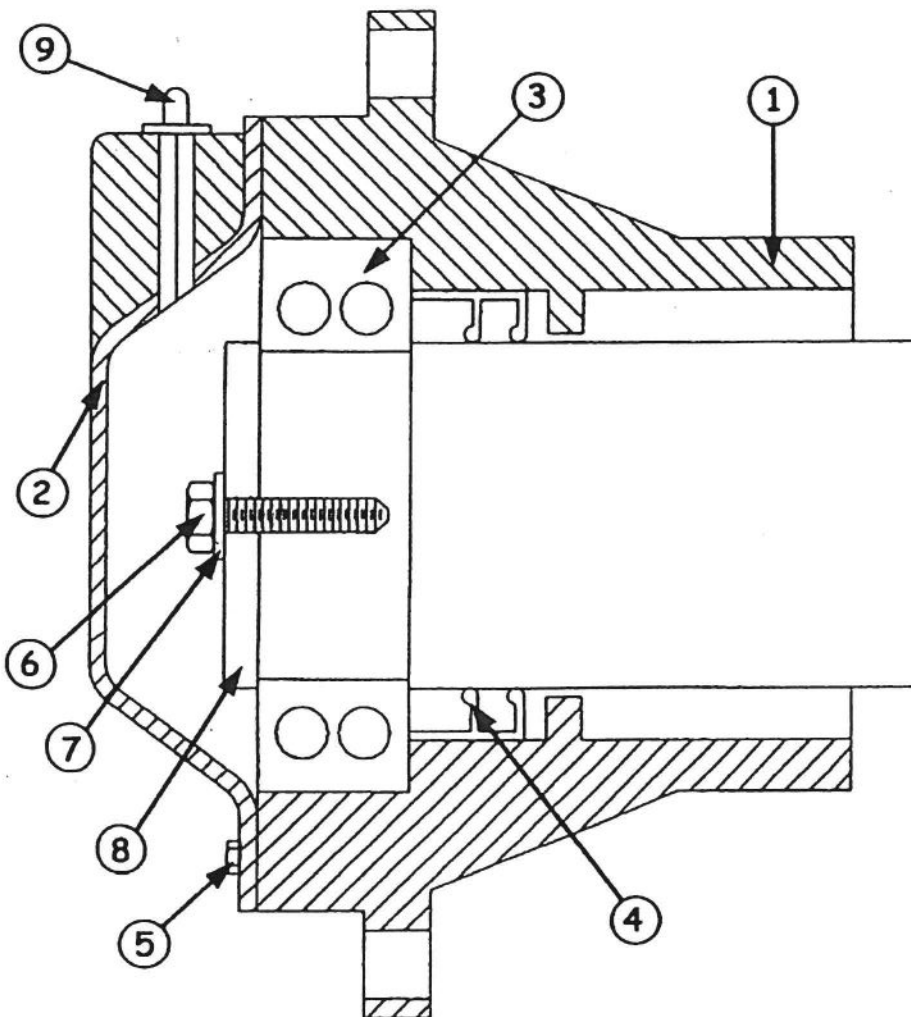
# TILLER SIDE GEARBOX

50200252



# TILLER HUB 50200253

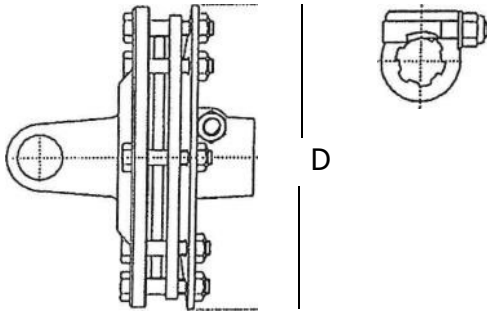
REF.	PART NO.	DESCRIPTION	QTY.
1.	50200254	HUB HOUSING	1
2.	50200255	CAP	1
3.	50200256	SELF ALIGNING BALL BEARING (1310)	1
4.	50200257	SEAL DOUBLE LIP	2
5.	10100616	BOLT M-6 - 16	4
	10201006	LOCKWASHER M - 6	4
6.	10101225	BOLT M-12 - 25	1
7.	10201012	LOCKWASHER M - 12	1
8.	50200258	WASHER	1
9.	33017	GREASE ZERK 1/4" - 28	1



(Tiller Shaft uses FV22 set at 800 NM)

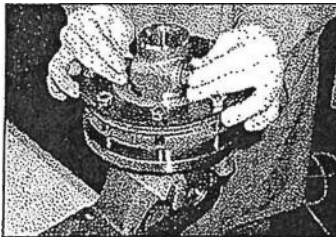
# FV FRICTION CLUTCH

## TYPES and DIMENSIONS

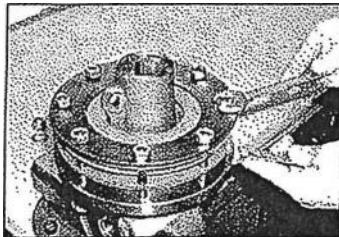


	D = 155 mm (6.10")	D = 180 mm (7.08")	D = 202 mm (7.95")
2 LININGS	FV22 FV22R	FV32 FV32R	FV42 FV42R
4 LININGS	-	FV34 FV34R	FV44 FV44R

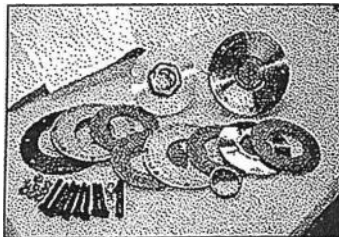
## DISASSEMBLY



Remove the taper pin.

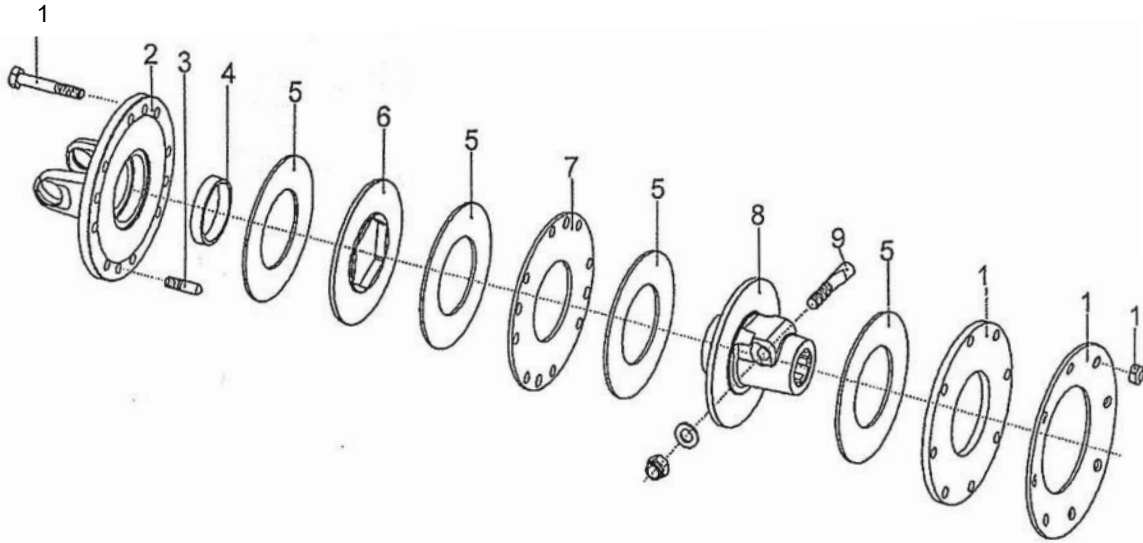


Loosen the bolts progressively (not one a time completely) to reduce the spring deformation uniformly.

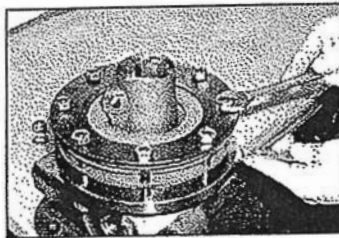


Disassemble the clutch completely.  
 Check the condition of the friction linings and the other parts.  
 Original thickness of friction linings is 3.2 mm: it is recommended to replace them when the wear reduces thickness to 2.5 mm.  
 Clean up all contact surfaces and replace any damaged components before assembly.

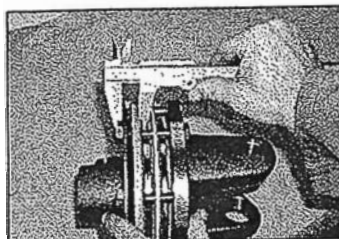
**ASSEMBLY**



Apply a grease film on the bushing (4) and install it in the flange yoke (2). Assemble the other parts of the clutch as shown in the picture above. Clean up all contact surfaces and replace any damaged components before assembly.



Install the eight bolts. Tighten the nuts until they get in contact with the spring. Tighten the bolts progressively (i.e. half a turn each at a time) in order to deform the spring uniformly to the proper height. The table in the following page shows the spring height corresponding to the torque setting for each type of clutch.

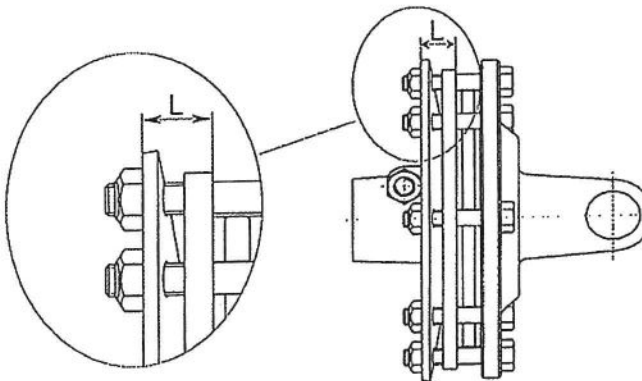


Check the spring height as shown in the picture. Measure the dimension L using a sliding gauge near each bolt and tighten or loosen the bolt to achieve the dimension L listed in the table. The spring height L listed in the table is the average of the measures taken near each bolt. The spring height can be included in a tolerance range between L and L-0.4 mm.



**TORQUE SETTING – SPRING HEIGHT TABLE.**

Clutch Type	Torque Setting		Belleville Spring Thickness			Height L	
	Nm	In.lb	Part Number	mm	in	mm	in
FV22=FV22R	400	3450	367003850	3.25	0.13"	16.3	0.64"
	500	4430				15.8	0.62"
	600	5310	367004850	4.00	0.16"	16.2	0.64"
	700	6200				16.0	0.63"
	800	7080				15.5	0.61"
FV32-FV32R	500	4430	367009860	3.50	0.14"	17.7	0.70"
	600	5310				17.2	0.68"
	750	6640				16.4	0.64"
	800	7080	367006860	4.00	0.16"	18.5	0.73"
	900	7970				18.2	0.72"
	1000	850				17.8	0.70"
FV34-FV34R	800	7080	367009860	3.50	0.14"	18.0	0.71"
	1000	8850				17.7	0.70"
	1200	10650				17.2	0.68"
	1500	13280				16.4	0.65"
	1600	14160	367008860	4.00	0.16"	18.5	0.73"
	1800	15930				18.2	0.72"
	2000	17700				17.8	0.70"
FV42-FV42R	650	5750	367009870	4.25	0.17"	19.1	0.75"
	750	6640				18.7	0.73"
	850	7530				18.4	0.72"
	900	7970				18.2	0.71"
	1000	8850	367006870	4.50	0.18"	20.1	0.79"
	1100	9740				19.9	0.78"
	1200	10620				19.7	0.77"
	1300	11510				19.4	0.76"
	1400	12390				19.1	0.75"
FV44-FV44R	1300	11510	367009870	4.25	0.17"	19.1	0.75"
	1450	12830				18.7	0.73"
	1700	15050				18.4	0.72"
	1800	15930				18.2	0.71"
	5000	17700	367006870	4.50	0.18"	20.1	0.79"
	2200	19470				19.9	0.78"
	2400	21240				19.7	0.77"



Detail of the spring height L.

The spring height L listed in the table is the Average of the measured taken near each bolt

The spring height can be included in a Tolerance range between L and L-0.4 mm.

# WARRANTY

AG-MEIER INDUSTRIES LLC warrants to the original purchaser of new AG-MEIER INDUSTRIES LLC Product, that they are free for defects in material and workmanship. This warranty is applicable only for normal life expectancy of the unit or individual components for a period of one year from the date of original purchase if for personal use; 90 days for commercial or rental purposes. Warranty coverage is limited to replace any part, at no charge to the original purchaser that, in our judgment, shows evidence of defect: provided that upon written request, any such defective part is returned to AG-MEIER INDUSTRIES LLC within 30 days of failure.

This Warranty does not apply to any part or product which in AG-MEIER INDUSTRIES LLC judgment has been subjected to negligence, alteration, or modification. Equipment that has been damaged due to lack of proper maintenance or use of wrong oil or lubricants, or that has been used for a purpose for which the product is not designed is also excluded from the Warranty.

For maximum safety and to guarantee optimum product reliability, always use genuine AG-MEIER INDUSTRIES LLC parts. **The use of replacement parts manufactured by companies other than AG-MEIER INDUSTRIES LLC invalidates this Warranty.**

Claims under the warranty must be made to the dealer which originally sold the product. AG-MEIER INDUSTRIES LLC reserves the right to make changes in material or design of the product at any time without notice.

This Warranty shall not be interpreted to render AG-MEIER INDUSTRIES LLC liable for damages of any kind; direct, consequential, or contingent, to property. Furthermore, AG-MEIER INDUSTRIES LLC shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to any expense due to loss for labor, supplies, rental machinery or for any other reason. This Warranty does not apply to any part of any internal combustion engine, driveline component, or expendable items such as blades, shields, guards, or tires as specifically found in the Operator's Manual.

Except as provided herein, no employee, agent, Dealer or other person is authorized to give any warranties of any nature on behalf of AG-MEIER INDUSTRIES LLC. This Warranty is not effective unless the Purchaser returns the Registration Form to the Manufacturer within 30 days of purchase.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for particular purpose which exceed the obligations set forth in this written Warranty are hereby disclaimed and excluded from this sale.

If any provision of this limited Warranty shall violate any applicable law, and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provision herein.

**MODEL #** \_\_\_\_\_

**SERIAL MODEL #** \_\_\_\_\_

# WARRANTY REGISTRATION FORM & INSPECTION REPORT

## WARRANTY REGISTRATION

This form must be filled out by the dealer and signed by both the dealer and the customer at time of delivery. Mail back to AG-Meier Ind.

Customer name \_\_\_\_\_ Dealer name \_\_\_\_\_

Address \_\_\_\_\_ Address \_\_\_\_\_

City, state, code \_\_\_\_\_ City, state, code \_\_\_\_\_

Phone number \_\_\_\_\_

Model \_\_\_\_\_ Serial Number \_\_\_\_\_ Delivery date \_\_\_\_\_

DEALER: I hereby certify that:

I have thoroughly instructed the buyer on the above-described equipment; review including the operator's manual content, equipment care, adjustments, safe operation and applicable warranty policy.

All decals are installed and are in good repair.

Driveline, gearbox, and shields are in good repair and fastened securely in place to prevent injuries from entanglement or thrown objects.

All bolts have been checked and tightened.

Date \_\_\_\_\_ Dealer's signature \_\_\_\_\_

The above equipment and operators manual have been received by me, and I have been thoroughly instructed as to the care, adjustments, safe operation and applicable warranty policy

I have examined the equipment and accept it in complete and satisfactory condition

I have also examined all the warning/safety decals and understand the dangers of unauthorized repairs and alterations of the product

I further understand that attempting to operate this product outside of the specified design parameter will void the warranty as stated in the operating manual

I also understand that this warranty is considered null and void if I use any replacement parts other than those approved by AG-MEIER IND.

All warranty work **MUST BE APPROVED** by AG-MEIER IND. **BEFORE** any replacement or labor costs will be reimbursed.

Date \_\_\_\_\_ Owner's signature \_\_\_\_\_

**AG-MEIER INDUSTRIES, LLC  
920 E. 6<sup>TH</sup> AVE.  
BELTON, TX 76513**