

# GILL® **Super Turf Renovator & Seedbox**

**STR48S-2 STR60S-2 STR72S-2** 



Tested. Proven. Unbeatable.



### TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the online Product Registration form at the Woods Dealer Website which certifies that all Dealer Check List items have been completed. Please contact your dealer to complete this form. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

### Failure to register the product does not diminish customer's warranty rights.

### TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized Woods dealer has trained mechanics, genuine Woods service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine Woods service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model:

Date of Purchase:

### Serial Number: (see Safety Decal section for location)

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **NOTICE** is used to indicate that failure to observe can cause damage to equipment. The terms CAUTION, WARNING, and DANGER are used in conjunction with the Safety-Alert Symbol (a triangle with an exclamation mark) to indicate the degree of hazard for items of personal safety.





WAIN-ROY<sup>®</sup> WOODS<sup>®</sup>

**2** Introduction

Gen'l (Rev. 3/5/2010)

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### **ILEA EL INSTRUCTIVO!**

Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.



This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

### **SPECIFICATIONS**

Super Turf Renovator	STR48S	STR60S	STR72S
Working Width	47"	59"	71"
Overall Width	58"	70"	82"
Roller Pins	1/2" x 1-3/4"	1/2" x 1-3/4"	1/2" x 1-3/4"
Bearing (Self-Aligning)	Six 1"	Six 1"	Six 1"
Front Roller Positions		Adjustable for Increased	d Agitation
Roller Diameter: Front & Rear	8"	8"	8"
Hitch	Cat. I	Cat. I	Cat. I
Tractor HP Requirement	65 HP Max.	65 HP Max.	65 HP Max.
Weight	STR48: 565 lbs.	STR60: 710 lbs.	STR72: 855 lbs.
Weight w/Seedbox	STR48S: 820 lbs.	STR60S: 920 lbs.	STR72S: 1050 lbs.
Seedbox Capacity	3 Bushel	4 Bushel	5 Bushel
Seed Distribution Method		Metered gear with flow	adjustment lever

### **GENERAL INFORMATION**

The purpose of this manual is to assist you in operating and maintaining your Super Turf Renovator. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing but, due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

### \Lambda WARNING

### ■ Super Turf Renovator should never be operated with any safety shielding removed.

Throughout this manual, references are made to right and left direction. These are determined by standing behind the equipment facing the direction of forward travel.



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

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

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

### **TRAINING**

■ Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.

■ If you do not understand any part of this manual and need assistance, see your dealer.

■ Know your controls and how to stop engine and attachment quickly in an emergency.

• Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.

■ Never allow children or untrained persons to operate equipment.

### **PREPARATION**

■ Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.

■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

■ Make sure attachment is properly secured, adjusted, and in good operating condition.

Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

■ Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

■ A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a loader, front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.

### **OPERATION**

■ Keep bystanders away from equipment.

■ Do not operate or transport equipment while under the influence of alcohol or drugs.

Operate only in daylight or good artificial light.

■ Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.

Always comply with all state and local lighting and marking requirements.

■ Never allow riders on power unit or attachment.

■ Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

■ Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.

■ Look down and to the rear and make sure area is clear before operating in reverse.

■ Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.

Do not operate or transport on steep slopes.

■ Do not stop, start, or change directions suddenly on slopes.

■ Use extreme care and reduce ground speed on slopes and rough terrain.

(Safety Rules continued on next page)



### SAFETY RULES ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

■ Watch for hidden hazards on the terrain during operation.

■ Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

### **MAINTENANCE**

■ Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

■ NEVER GO UNDERNEATH EQUIPMENT. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak-down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.

• Service work does not require going underneath.

• Read Operator's Manual for service instructions or have service performed by a qualified dealer. ■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

■ Make sure attachment is properly secured, adjusted, and in good operating condition.

■ Keep all persons away from operator control area while performing adjustments, service, or maintenance.

■ Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.

■ Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)

### **STORAGE**

Block equipment securely for storage.

■ Keep children and bystanders away from storage area.







### **BE CAREFUL!**

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replacement safety decals can be ordered free from your Woods dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

(Safety Decals continued on next page)



SAFETY & INSTRUCTIONAL DECALS ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

**Replace Immediately If Damaged!** 

(Safety Decals continued from previous page)





### WARNING

### FALLING OFF CAN RESULT IN BEING RUN OVER.

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.

### RAISED IMPLEMENT CAN DROP AND CRUSH.

- Never go underneath raised implement which can drop from equipment or tractor 3-point hitch hydraulic leak down, hydraulic system failures, movement of control levers or mechanical linkage failures.
- Service work does not require going underneath implement. Read manual instructions.

FALLING OFF OR GOING UNDERNEATH IMPLEMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

55121-C

### 2 - PN 55122

### A WARNING

### TO AVOID SERIOUS INJURY OR DEATH:

- Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from dealer or call 1-800-319-6637.)
- Operate from tractor seat only.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting tractor.
- Never allow children or untrained persons to operate equipment.
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Keep all shields in place and in good condition.
- Do not transport towed or semi-mounted units over 20 mph.

8 - PN 1003750

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH. 55122-D 7 - PN 1003751



SERIOUS INJURY OR DEATH. 1003751-A



### FALLING HAZARD

Do not stand on rollers while machine is in operation or parked.

Failure to follow these instructions could result in serious injury or death. 1003750

8 Safety

MAN0101 (Rev. 9/15/2006)

### **OPERATION**

The operator is responsible for the safe operation of this renovator. The operator must be properly trained. Operators should be familiar with the equipment, the tractor, and all safety practices before starting operation. Read the safety rules and safety decals on page 5 through page 8.

Recommended tractor ground speed is from 2 to 5 mph.



■ Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.

■ Never allow children or untrained persons to operate equipment.

■ Keep bystanders away from equipment.

■ Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.

### 

■ Stop power unit and equipment immediately upon striking an obstruction. Turn off engine, remove key, inspect, and repair any damage before resuming operation.

■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

### **Super Turf Renovator Roller Operation**

The Super Turf Renovator is an excellent turf reconditioning tool. Its ground penetration promotes a healthy root system by allowing water, air, and sunlight to enter the roots.

For best results, adjust the renovator level front to back so that the front and rear rollers work together. Control forward and backward pitch by adjusting the tractor's top link length.

### **Front Rollers**

When the front rollers are straight (Figure 1) and the renovator is pulled forward, the large front pins will penetrate the soil in a straight pushing action, and little disturbance is caused to the turf.



Figure 1. Front Roller in Straight Position

The front rollers can be angled to promote a more aggressive tearing action of the turf. The more the angle, the more tearing action is applied by the front roller pins. For severe turf conditions, the maximum angle position may be desired (Figure 2).



Figure 2. Maximum Front Roller Position

### **Rear Rollers**

The rear roller firms and presses soil kicked up by the front roller. This creates a uniform seedbed with the loose soil necessary for ensuring proper seed germination. The spring tension on the rear roller can be adjusted to deliver the desired down pressure and roller action and achieve the desired seedbed appearance.

When the situation permits, making a second pass 90degrees to the first is an effective way for the roller pins to penetrate areas where uneven soil conditions exist.

In extremely compacted soil conditions, add extra weight to the renovator to help the roller pins penetrate the turf and soil sufficiently.

### Operation

The power for operating the renovator comes from contact between the renovator rollers and the turf.

Know how to stop the tractor and renovator quickly in an emergency.

Survey the area to be worked and remove any obstructions that may affect the performance of the equipment.

### **Tractor Stability**



■ A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.



Figure 3. Tractor Stability

### Attach Super Turf Renovator to Tractor

**NOTE:** Super Turf Renovator is designed for use on Category I, 3-point tractors. See page 4 for specifications.

1. Attach the tractor's lower lift arms to the renovator and secure with mounting pins (11) and klik pins. See Figure 4.



Figure 4. Lift Arms Attached to Renovator

2. Attach the tractor's top link to the upper mast of the renovator. Secure with high-strength top link pin and retaining pin provided with the tractor. See Figure 5.



Figure 5. Top Link Attached to Renovator

- **3.** Adjust top link as needed to level the renovator forward and backwards.
- Adjust the lower lift arm anti-sway device to prevent the renovator from excessive side-to-side movement.

**NOTE:** An optional Quick Hitch Mounting Kit is available.

### **Adjust Front Roller Angle**

- 1. Position tractor and renovator on a level surface.
- 2. Raise renovator slightly off the ground.
- 3. Stop engine and set parking brake.
- **4.** Remove klik pin (21), lock pin (15), and lock assembly (5) from front of renovator. See Figure 6.



Figure 6. Lock Pin and Lock Assembly

5. Raise the adjustment handle (16) and pivot it to the next adjustment hole. Move handle rearward, front roller will start to angle. Continue this process until front roller has the desired angle.



Figure 7. Adjustment Handle

- **6.** Install lock assembly (5), lock pin (15), and klik pin (21) to secure front roller into position.
- **7.** Reverse this procedure to move front roller back into normal position.

### **Seeding Operation**

Tractor speed and seed flow settings are critical for proper seed population. Check the seed control chart, on the inside of the seedbox lid (see page 11). Adjust the flow control handle (Figure 8) as needed for the seed being used and the population desired.

Tractor speed (normally 2-5 mph) should be established so that uniform seed incorporation occurs with the action of the rollers. The seed chart is based on a standard sprocket configuration. Any adjustments to this ratio will result in a change to the flow rate, as described in the chart.

**NOTE:** The **seed control chart** should be used as a general guide only.

Before seeding an area, check the attitude of the seeder and adjust the top link so that the front and rear rollers are level. Adjust the 3-point lower lift stop so that the roller spikes penetrate the ground at 3/4" or enough to remove the tracks left by the tractor tires.



Figure 8. Flow Control Handle

Operation **11** 

### **Operating Tips**

### **IMPORTANT**

■ Before closing down the cup (reducing rates), the operator should make certain that the cups are not full of seed. If cups are full of seed (especially small, round, hard seed), it may be necessary to cover the meter holes and run seeder a short distance to reduce level of seeds in meter. Failure to do so could result in damage to seed cup.

- 1. Do not allow dirt to build up on the roller sprockets. Clean sprockets and chain as needed. Excessive buildup of material can cause damage to the roller and idler shafts.
- **2.** Always run the drive chain with some slack in the chain. An extremely tight chain can damage the roller shaft, the roller bearings, and the idler shaft and bearing.
- **3.** When properly torqued, the hex lock nut (1) drives the seedbox roller chain. Disengage the seedbox chain, when not in use, by backing off a 1/4 turn on the lock nut.



Figure 9. Drive Chains

### **Pre-Operation Check List**

(OWNER'S RESPONSIBILITY)

- \_\_\_\_ Review and follow all safety rules and safety decal instructions on page 5 through page 8.
- \_\_\_\_ Check that equipment is properly and securely attached to tractor.
- \_\_\_\_ Check that all safety decals are installed and in good condition. Replace if damaged.
- \_\_\_\_ Do not allow riders.
- Check that all hardware is properly installed and secured.
- Check that shields and guards are properly installed and in good condition. Replace if damaged.
- \_\_\_\_ Check all lubrication points and grease as instructed in Lubrication Information, page 12.
- Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.



						S	SEEDING RATE CHART	RATE (	CHART							
	Alfalfa (uncoated)	fa ted)	Bermuda (hulled)	uda id)	Blue Grass (Kentucky)	rass cky)	Clover (sweet, red)	er red)	Fescue (creeping red)	ue g red)	Italian Rye	Rye	Timothy	hy		
Setting	Lbs per 1000 Sq Ft	Lbs per Acre	Lbs per 1000 Sq Ft	Lbs per Acre	Lbs per 1000 Sq Ft	Lbsper Acre	Lbs per 1000 Sq Ft	Lbs per Acre	Lbs per 1000 Sq Ft	Lbsper Acre	Lbs per 1000 Sq Ft	Lbs per Acre	Lbs per 1000 Sq Ft	Lbs per Acre	Lbs per 1000 Sq Ft	Lbsper Acre
1/4 Open*	1-1/4	52	1-1/4	52	1/2	22	1-1/2	67	1/2	18	1-1/4	50	-	45		
1/2 Open	3-1/4	142	3-1/2	149	1-1/4	52	3-1/4	142	1-1/4	50	2	83	2-3/4	119		
3/4 Open	S	216	5-1/4	224	2	82	5-1/4	224	1-3/4	74	2-3/4	116	4-1/2	194		
Full Open	6-3/4	291	7	298	2-1/2	104	6-1/2	298	2-1/4	66	3-3/4	165	6-1/4	268		
Rates are inte Check acreag *Seed cups w	Rates are intended as a guide only. Variation in seed size and cleanliness will affect rates. Check acreage and pounds of seed used and calibrate seeding rate per manual instructions for best *Seed cups will crack some seeds at this setting. Not recommended: Lentils, Sorghum, Sudan Grass	de only. Vi of seed u seeds at t	ariation in see sed and calibr his setting. No	d size and ate seedin( it recomme		rill affect ra nual instru Sorghum	iness will affect rates. per manual instructions for best results. . Lentils, Sorghum, Sudan Grass	t results. s								1001998

# Calibrating the STR for unlisted seed or seed blends

# Equipment

You will need the following equipment to calibrate your seeder.

- 1. Two jack stands.
- 2. One to two pound sample of seed.
- 3. One tarp or canvas approximately 48" x 84".
- 4. One scale capable of measuring ounces or tenths of a pound.

# Procedure

- 1. Evenly distribute seed in the bottom of seed box.
- 2. Raise STR just enough to lift rear roller spikes off the ground and securely block the rear corners of the frame with jack stands. Blocking up prevents hydraulic leak down or mechanical component failure.
- 3. Place a canvas or trap under STR to collect seed
- 4. Open seed cups half way and lock into position.
- 5. Turn rear roller in the direction of travel the number of revolutions as indicated in the Formula section.

- 6. Weigh the collected seed and calibrate.
- 7. If seed rate is not correct, repeat steps 1 through 6, after adjusting the seed cup opening.

# Formula

Revolutions per 1000 sq. ft. STR48 - 87 STR60 - 69 STR72 - 58 Weight of collected seed (\_\_\_\_\_oz. x .0625 = \_\_\_\_lbs.) Seed per acre (\_\_\_\_lbs. x 43.56 = \_\_\_lbs. per acre)

## Example

STR48 rear roller was rotated 87 complete revolutions in the direction of travel as specified above. Collected seed weighed 10 ounces or .63 pounds (10 oz. x .0625 = .63 lbs). Seed rate was calibrated at .63 lbs. x 43.56 = 27.4 lbs. of seed per acre.

### **OWNER SERVICE**

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual.

### **WARNING**

■ NEVER GO UNDERNEATH EQUIPMENT. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak-down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.

• Service work does not require going underneath.

• Read Operator's Manual for service instructions or have service performed by a qualified dealer.

■ Keep all persons away from operator control area while performing adjustments, service, or maintenance.

■ Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

### **A** CAUTION

■ Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.

### **Lubrication Information**

- Lubricate all six bearings housings every 8 hours. Bearing housing are located on each end of rollers as indicated by grease fitting (A). See Figure 10.
- 2. Lubricate grease fittings (B) & (C) every 8 hours.
- **3.** Clean fittings prior to lubrication. Do not let excessive grease build up around lubrication points.

**NOTE:** One pump of a good grade multi-purpose grease should be sufficient in most cases. Harsh or dry conditions may require more frequent lubrication.



Figure 10. Lubrication Points

### Cleaning

### After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

### Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove the remainder using a low-pressure water spray.
  - 1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
  - **2.** Be careful when spraying near chipped or scratched paint as water spray can lift paint.
  - **3.** If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
- Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).
- Replace any safety decals that are missing or not readable (supplied free by your Woods dealer).
  See Safety Decals section for location drawing.

14 Owner Service

### ASSEMBLY

### **DEALER SET-UP INSTRUCTIONS**

Assembly of this equipment is the responsibility of the Woods dealer. It should be delivered to the owner completely assembled, lubricated, and adjusted for normal operating conditions.

In most cases the Super Turf Renovator is shipped completely assembled from the factory. The seed box is an option that can be added to the Super Turf Renovator at a later time if desired.

### **Install Seedbox**

- **1.** Place seedbox on top of renovator mounting saddles.
- **2.** Install four carriage bolts (18) from underneath saddles and secure with flanged lock nuts (19). See Figure 11.
- 3. Do not tighten until all adjustments are completed.



- 18. 5/8 NC x 1-1/2 Carriage bolt GR5
- 19. 5/8 NC Flange lock nut

Figure 11. Seedbox Hardware Installed

### **Install Drive Sprocket**

- 1. Place washers (12), sprocket (13), and lock nut (15) on the left side of rear roller drive axle (Figure 12).
- 2. Do not tighten nut at this time.

**NOTE:** When properly torqued, the hex lock nut drives the seedbox roller chain. Disengage the seedbox chain when not in use by backing off a 1/4 turn on the lock nut.



- 12. 3/4 Flat washer
- 13. Drive sprocket, 18T w/bearing
- 15. 3/4 NC Nylok Jam nut

Figure 12. Drive Sprocket Installed

### **Install Idler Bracket**

- 1. Remove hex nuts (31) and hardened flat washers (30) from cap screws securing the spring bracket to the renovator. See Figure 13.
- 2. Place idler bracket assembly over cap screws and install washers (30) and hex nuts (31) previously removed. See Figure 14.



- 30. 5/8 Hardened flat washer
- 31. 5/8 NC Hex nut

Figure 13. Spring Bracket and Hardware



Figure 14. Idler Bracket Assembly Installed

### **Install Roller Chains**

- Place roller chain (A 35 link) around the seed box sprocket and the large inner sprocket on the idler bracket assembly. Secure chain using master link.
- Install roller chain (B 28 link) around the rear drive sprocket and smaller outer sprocket on the idler bracket assembly. Secure chain using master link.
- **3.** Align the seed box sprocket and large inner sprocket on the idler bracket by adjusting seed box side to side.
- **4.** Tighten hardware securing seed box to renovator frame.

- **5.** Slide idler bracket assembly forward to apply tension to the horizontal drive chain.
- **6.** Slide idler and spring bracket down to apply tension to the vertical drive chain.

**NOTE:** Do not over tighten. Allow some slack in chain.

**7.** Adjust opposite side of roller to level.



A. Roller chain 35-LK w/adjustable links B. Roller chain 28-LK w/adjustable links

Figure 15. Sprockets and Chains Installed



16 Assembly

MAN0101 (Rev.10/15/2004)

# **GILL**<sup>®</sup> Super Turf Renovator & Seedbox Kit

STR48S-2 STR60S-2 STR72S-2

Main Assembly
Seedbox Assembly
Drive Assembly 22
Quick Hitch Kit



MAN0101 (Rev. 9/15/2006)

### STR48S-2, STR60S-2 & STR72S-2 MAIN ASSEMBLY PARTS LIST

REF	STR 48-2	STR 60-2	STR72-2	QTY	DESCRIPTION
1				1	STR Frame
2	1000778	1000778	1000778	1	Rear roller arm, right
3	1000779	1000779	1000779	1	Rear roller arm, left
4	D2213	D2213	D2213	4	Bushing, 0.88 ID
5	1002912	1001716	1001716	1	Lock assembly
6	1001984	1001984	1001984	2	Spring pin, .75 x 11.8
7	20A125	20A125	20A125	2	Compression spring
8	20A920	20A920	20A920	6	Bearing w/housing
9	46483	46483	46483	2	Sleeve, .82 x 1.05 x .66
10	1002018	1002018	1002018	1	Sleeve, .81 x 1.25 x 2.06
11	SU105	SU105	SU105	2	Category 1 drawbar pin w/lynch pin
12	SU106	SU106	SU106	1	Spring bracket, left
13	SU107	SU107	SU107	1	Spring bracket, right
14				1	Slide plate
15	1002914	1002914	1002914	1	Lock pin
16	SU905	SU905	SU905	1	STR Handle
17	100292548	100292560	100292572	2	Roller retainer assembly
18	100290848	100290860	100290872	1	Rear roller assembly
19	100290948	100290960	100290972	2	Front roller assembly
20	13759*	13759*	13759*	2	3/4 NC x 2-1/4 Cap screw GR5
21	27542*	27542*	27542*	1	7/16 x 11/32 Klik pin HT
22	2864*	2864*	2864*	4	3/4 SAE Flat washer
23	14334*	14334*	14334*	2	3/4 NC x 3 Cap screw GR5
24	FA446	FA446	FA446	5	3/4 NC Nylok nut
25	835*	835*	835*	3	3/8 NC Hex nut
26	31207*	31207*	31207*	1	3/4 NC x 4 Cap screw GR5
27	29485*	29485*	29485*	4	3/4 Hex jam nut
28	3231*	3231*	3231*	1	3/8 NC x 2 Cap screw GR5
29	34473*	34473*	34473*	4	5/8 NC x 3 Cap screw GR5
30	57817	57817	57817	8	5/8 Hardened flat washer
31	230*	230*	230*	4	5/8 NC Hex nut
32	838*	838*	838*	29	3/8 Lock washer
33	976*	976*	976*	26	3/8 NC x 1-1/2 Cap screw GR5
34	300157*	300157*	300157*	2	3/8 NC x 2-1/4 Cap screw GR5
35	1002943	1002943	1002943	2	.82 x 1.06 x .407 Sleeve
36	1002942	1002942	1002942	4	.68 x 1.02 x .66 Sleeve
37	1003828	1003828	1003828	1	Manual tube
38	1002934	1002934	1002934		Safety decal set
39	1002935	1002935	1002935		Complete decal set
40	1002938	1002938	1002938		Replacement pins (25-pin set)
.0			1002000		* Obtain Locally
					Column Loodiny

### STR48-2, STR60S-2 & STR72S-2 SEEDBOX ASSEMBLY



20 Parts

MAN0101 (Rev. 9/15/2006)

### STR48-2, STR60S-2 & STR72S-2 SEEDBOX PARTS LIST

REF	STR 48-2	STR 60-2	STR72-2	QTY	DESCRIPTION
1	1000001	1000001	1000001	1	Seedbox support bracket, left
2	100001348	100001360	100001372	1	Shaft, .38 square w/holes
3				1	Center stiffener
4	1000766	1000766	1000766	1	Seedbox support bracket, right
5	100293248	100293260	100293272	1	Seedbox assembly complete
0	100000040	10000000	10000070		(3 & Decals)
6	100293348	100293360	100293372	1	Lid assembly complete (13, 32, 37, & decal)
7	1000782	1000782	1000782	2	Bearing double row, 17 x 40 x .5 mm
8	1000783	1000783	1000783	1	Bearing block
9	1000784	1000784	1000784	1	Agitator shaft assembly
10	1000787	1000787	1000787	1	Seedcup shaft assembly
11	1000790 (8)	1000790 (10)	1000790 (12)		Compression spring
12	1001705	1001705	1001705	1	Control lever
13	1001721	1001721	1001721	1	Seedbox hinge, 36"
14	100172248	100172260	100172272	1	Shaft, .38 square
15	46490 (8)	46490 (10)	46490 (12)		Seedcup kit
18	1001986	1001986	1001986	1	Spacer, 1.22
19	1001987	1001987	1001987	2	Spacer, 2.56
20	1001988 (6)	1001988 (8)	1001988 (10)		Spacer, 5.88
21	1001993	1001993	1001993	1	Spool assembly
22	1001992	1001992	1001992	1	Control plate
23	20A653	20A653	20A653	1	Spur gear agitator (28T)
24	20A654	20A654	20A654	1	Spur gear feed (30T)
25	20A656	20A656	20A656	1	Sprocket (15T)
26	1001997	1001997	1001997	2	Agitator bracket
27	20A663	20A663	20A663	2	Bushing, .5 x .75 x .75
28	20A664 (16)	20A664 (20)	20A664 (24)		Agitator washer
29	20A687	20A687	20A687	1	Collar
30	20A765	20A765	20A765	1	Spacer, .75
31	1001714 (8)	1001714 (10)	1001714 (12)		Washer, .44 square hole
32	20A635	20A635	20A635	1	Lid handle
33	1001978*	1001978*	1001978*	18	Blind rivet 3/16, #.63
34	1002016*	1002016*	1002016*	2	Chain, #2 double loop 9 link
35	FA159*	FA159*	FA159*	4	Eye bolt, 1/4 - 20 x 1
36	70065 (36)	70065 (40)	70065 (44)		1/4 NC Whiz nut
37	1001975	1001975	1001975	2	Flex draw latch
38	1001994*	1001994*	1001994*	6	Blind rivet 1/8, #.43
39	12169*	12169*	12169*	10	3/8 NC x 1-1/4 Cap screw GR5
40	14350*	14350*	14350*	11	3/8 NC Flange lock nut
41	3231*	3231*	3231*	2	3/8 NC x 2 Cap screw GR5
42	70067 (22)	70067 (26)	70067 (30)		1/4-20 x 1/2 Whiz bolt
43	70068	70068	70068	6	1/4-20 x 3/4 Whiz bolt
44	6697*	6697*	6697*	1	3/8 NC x 1 Carriage bolt
45	66840	66840	66840	1	3 Prong knob, 3/8 NC
47	1001995 (16)*	1001995 (20)*	1001995 (24)*		1/8 x 1 Roll pin
48	FA404*	FA404*	FA404*	2	1/8 x 1-1/2 Roll pin
49	FA405*	FA405*	FA405*	1	1/8 x 1-3/4 Roll pin
50	1006607	1006607	1006607	1	SMV Bracket
51	24611	24611	24611	1	Sign, (SMV) slow moving vehicle

\* Obtain Locally



\* Obtain Locally

### STR48-2, STR60S-2 & STR72S-2 QUICK HITCH KIT



REF PART QTY DESCRIPTIO
-------------------------

2 1001702 2 Quick hitch sleeve

### **BOLT TORQUE CHART**

Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.

	SAE SE TORQU CHART	E SAE (	SAE Bo Identifi Grade 2 ashes)	ication SAE (	Grade 5 Il Dashes)	SAE Gra (6 Radial D	
(A)	MARKING ON HEAD						
Diameter	Wrench	SA	E 2	SA	AE 5	SA	E 8
(Inches)	Size	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART



Metric Bolt Head Identification



Grade 10.9

			COARSE	THREAD		FINE THREAD				
A			MARKING	ON HEAD			MARKING	ON HEAD		(A)
Diameter & Thread Pitch	Wrench	Metr	ic 8.8	Metri	c 10.9	Metr	ic 8.8	Metri	c 10.9	Diameter & Thread Pitch
(Millimeters)	Size	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	(Millimeters)
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

Typical Washer Installations Bolt

Lock Washer

Flat Washer  $\mathcal{T}$ 



24 Appendix

Bolt Torque & Size Charts (Rev. 10/10/2005)

### **BOLT SIZE CHART**

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.



### **ABBREVIATIONS**

GAgricultur	е
TFAutomatic Transmission Flui	d
SPP British Standard Pipe Paralle	el
SPTMBritish Standard Pipe Tapered Mal	е
Constant Velocit	y
CCWCounter-Clockwis	е
Clockwis	е
Femal	е
Gaug	е
GR (5, etc.) Grade (5, etc.)	.)
IHCSHex Head Cap Screv	N
IT Heat-Treate	d
IC Joint Industry Council 37° Degree Flar	е
HLeft Han	d
TLe	ft
nMete	ŧ٢
nmMillimete	ŧ٢
1 Mal	е
IPaMega Pasca	al
INewto	n

NC	National Coarse
NF	National Fine
NPSM	National Pipe Straight Mechanical
NPT	National Pipe Tapered
NPT SWF N	ational Pipe Tapered Swivel Female
ORBM	O-Ring Boss - Male
Ρ	Pitch
PBY	Power-Beyond
psi	Pounds per Square Inch
РТО	Power Take Off
QD	Quick Disconnect
RH	Right Hand
ROPS	Roll-Over Protective Structure
RPM	Revolutions Per Minute
RT	Right
SAE	Society of Automotive Engineers
UNC	Unified Coarse
UNF	Unified Fine
UNS	Unified Special

Bolt Torque & Size Charts (Rev. 10/10/2005)

### WARRANTY

### (Replacement Parts For All Models Except Mow'n Machine<sup>™</sup> Zero-Turn Mowers and Woods Boundary<sup>™</sup> Utility Vehicles)

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser with the exception of V-belts, which will be free of defect in material and workmanship for a period of 12 months.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WOODS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/ OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

WOODS shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory. Without limiting the generality of the foregoing, Woods specifically disclaims any damages relating to (i) lost profits, business, revenues or goodwill; (ii) loss of crops; (iii) loss because of delay in harvesting; (iv) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (v) any other type of damage to property or economic loss.

This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, service person, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

Answers to any questions regarding warranty service and locations may be obtained by contacting:

ALITEC™ BMP® CENTRAL FABRICATORS® GANNON® GILL® WAIN-ROY® WOODS®

WOCDS.

Woods Equipment Company

2606 South Illinois Route 2 Post Office Box 1000 Oregon IL 61061

800-319-6637 tel 800-399-6637 fax www.WoodsEquipment.com



(All Models Except Mow'n Machine<sup>TM</sup> Zero-Turn Mowers and Woods Boundary<sup>TM</sup> Utility Vehicles)

Please Enter Information Below and Save for Future Reference.

Date Purchased:		From (Dealer):
-----------------	--	----------------

Model Number:

Serial Number:

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER.

All current model loaders and backhoes are warranted for two (2) years from the date of delivery to the original purchaser.

The warranty periods for specific parts or conditions are listed below:

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
Gearbox components	BW1260, BW1620, BW1800, BW2400	8 years
	BW240HD, BW180HD, BW180HB, BW126HB	7 years
	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DS01260, DS1440, TS1680, BW126-3, BW180-3, BW240	6 years
	PHD25, PHD35, PHD65, PHD95, 2162, 3240, DS96, DS120, RCC42, RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2, S15CD, S20CD, S22CD, S25CD, S27CD, BW180LH	5 years
	RDC54, RD60, RD72, TBW150C	3 years (1 year if used in rental or commercial applications)
Blade spindles	RM550-2, RM660-2, RM990-3, PRD6000, PRD7200, PRD8400, 7144RD-2, 9180RD-2, 9204RD-2	3 years
Rust-through	BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126-3, BW126HB, BW180-3, BW180HB, BW180HD, BW1260, BW1800, BW240, BW240HD, 2162, 3240, DS1260, DS01260, DS1440, TS1680	10 years

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not apply in the event that the product has been materially modified or repaired by someone other than WOODS, a WOODS authorized dealer or distributor, and/or a WOODS authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This Warranty also does not cover repairs made with parts other than those obtainable through WOODS.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by WOODS. Warranties for these items, if any, are provided separately by their respective manufacturers.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid. WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

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This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge

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# PART NO.



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